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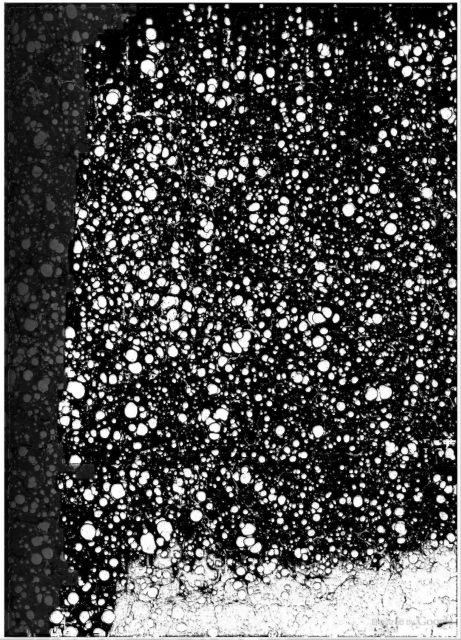

DEVOTED TO

THE PRACTICE AND SCIENCE

OF

AGRICULTURE AND HORTICULTURE AT LARGE,

AND TO ALL THE VARIOUS

DEPARTMENTS OF RURAL AND DOMESTIC ECONOMY.

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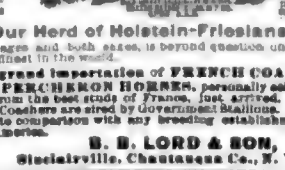

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—— I have had more help from your paper than from three others combined. G. A. SCHMITT, *Wellesley, Mass.*

—— The best agricultural paper; could not do without it.—E. W. PELTON, *South Windsor, Conn.*

—— I take six papers, but none is as welcome and as eagerly perused as the COUNTRY GENTLEMAN. T. C. VAN ARSDALE, *Cedar Creek, N. J.*

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THE CULTIVATOR AND Country Gentleman

Albany, Jan. 3, 1889.

Rye as a Green Crop.

EDS. COUNTRY GENTLEMAN—In September, 1887, I sowed a field in rye for the purpose of turning it under in the spring as a fertilizer, which I did in the last week in April. The rye then had a good growth, from 15 to 20 inches high, and was very thick on the ground. The rye was sown in a field where corn shocks stood. Of course where the shocks stood there was no rye. I planted the corn immediately after turning the rye under, in fact was plowing, harrowing and planting at the same time, using a check sower. The corn all came up well, but I noticed as soon as it was through the ground that the places where the corn shocks stood, (and of course no rye turned under,) the corn was a better color, and grew faster, and by the time the corn on the rest of the field was knee high, that where the shocks stood was up to my waist (and I measure 6 feet and over) and of a deep rich color. The rest was not looking well. The first part of the season was favorable, but became too dry the latter part of July. Then it began to rain, and on August 4th a storm laid the corn almost flat, excepting that which grew where the shocks stood. That resisted the wind, grew up and made good corn. The corn where the shocks stood, both before and after the storm, could readily be distinguished and at considerable distance by its growth and upright position, and when shucking time came it was equally as apparent. I called the attention of several of my neighboring farmers to it, and they suggested that I report it to your paper, and draw forth some discussion on the subject. What caused the difference? R. *Mason County, W. V.*

This is an interesting statement, and it shows the importance of not laying down unconditional rules. Rye has been found a valuable green crop to plow under, but it is usually not till the second year that much of its benefit is experienced for the crop which follows it, as it does not rot and disintegrate as rapidly as clover. In the instance mentioned by our correspondent, the summer was dry, the rye was of no benefit, and increased the drouth to the corn by rendering, mechanically, the soil drier and the crop was positively injured by its presence,—in the same way that coarse manure often injures the crop in dry summers when plowed under in large lumps, preventing the passage of moisture from below and making the earth drier which rests on it.—EDS.

Spreading Manure in Winter.

EDS. COUNTRY GENTLEMAN—In a recent issue, replying to an inquiring correspondent, you say:

"It is a good practice to draw out and spread manure as it is made in winter, saving both time and labor. As soon as rain or melting snow would act on it, enough of the soil is thawed to absorb and hold the soluble manure. The manure should be very evenly spread, and not left in lumps."

Assuming that there is little danger of depreciation from "washing," there is yet the question of loss in manurial value by weeks of exposure to cold bleak winds when, as sometimes happens in this part of Ontario, there is little snow or rain. "Evenly spread," on the field under these conditions, would it not suffer injury, and do you consider the plan suggested the best for the treatment of ordinary stable manure, or could you propose a better one, easily managed and not too expensive. At times our winter weather is severe, with heavy snow storms, but occasionally we have "spells" like those referred to above. CANADIAN READER.

London, Ont., Dec. 12.

There is very little danger of waste when spread in winter, as merely freezing does not decompose the fertilizing ingredients, and no chemical change goes on in that condition. The only way that you may lose a portion, it occurs to us, would be when the manure is spread on snow, for the fine manure to be blown off with the drifting snow on to some neighbor's land, and you may judge best from your local knowledge of the weather if there would be any serious danger in this respect. We know of no other easy and simple way to apply manure in winter. It saves the labor of handling but once, is done at a comparatively leisure time, does not cut up and poach the soil, and is commonly attended with the diffusion of the soluble matter into the soil more perfectly than could be done in spring by mechanical means.—EDS.

Failure in Cooking Corn Fodder.

EDS. COUNTRY GENTLEMAN—Your highly valued correspondent J. G., page 943, makes the statement that although he took extra pains in cocking his corn, still the rain would find its way in, and the experiment was a partial failure. He says that possibly I can state where he has failed. He is situated in a warmer climate than we have in Lewis county, N. Y., and can plant the B. & W. corn with fair prospect of glazed ears, which are now thought to be almost indispensable for the best results. But this corn, with only eight quarts of seed to the acre, will on his farm produce large, tall, heavily-eared stalks, and no amount of care would insure success in cocking. There is not as large a proportion of leaves as in the variety that I raised, and the large amount of ears would form interstices so that the water would penetrate and the corn be damaged.

Although when I first gave an account of the success that I had met with in saving corn in this way I had no thought that it would attract attention as it did; still I stated my method of raising the crop, that there might be no misapprehension as to the kind of fodder so cocked and stacked. As stated more than a year ago, I used nearly a bushel of seed to the acre, and do not care to have it grow more than 7 or 8 feet high on an average, as such corn can be readily cut with a reaper and handled with a fork. I have cocked evergreen sweet corn, well-eared, and it kept perfectly, but perhaps the fall was not as wet as this year.

We have cold, late springs in this county, and there is usually nothing gained by putting in fodder corn before the 25th of May, and several times in the last few years there has been a killing frost before the 10th of September, so that the chance for glazed ears is good only when an early variety is used that will not yield more than half as much fodder as the kind that I raise. I do not think that success will be as great if the attempt is made to raise a thin crop with ears for ensilage in this vicinity, as with the use of more seed.

That corn with ears is somewhat better than stalks alone no one will dispute, but after as careful observation as I could make in feeding quite an amount of each during the fall of different years, I fully believe that an attempt to cultivate for ears in this locality will not result as satisfactorily as the method now pursued, of using a bushel of seed to the acre. Of course in a favorable year there will be some ears with this amount of seed. The ensilage of six or eight years ago did not contain ears, or at least I saw no mention of ears at that time, but no owner of a silo can be more enthusiastic over the product of to-day than the earlier converts were in their praise of what is now thought by some to be of little value.

Although I consider that in this county we are in a measure limited to what is thought to be the less valuable product, still we are by no means debarred from such a use of corn as will result in a greater increase of dairy productions and also improvement in the quality of the same. We had 7½ acres in corn fodder this year, and had fed perhaps 3 acres before the frost of September 6th, which killed the leaves and a portion of the stalk. The 5 acres remaining were cut the same day of the frost and immediately cocked. The leaves had been killed by frost, and on the outside of the cocks would become dry and inclined to curl up, and did not look as if they would shed rain, so after a few days when the bottom of the cocks had become matted together, two men working together turned them the other side up without tearing them in pieces. The matted bottom now on top remained without curling and would shed rain perfectly, and the fodder was saved in excellent condition. We never made better butter in November than this year while feeding largely of this corn. We fed bran and cotton-seed meal with it, and our customers were well satisfied. Notwithstanding some reports of failure in curing, in this year of early frost and excessive rain, I would not hesitate to sow 15 or 20 acres to corn if I thought I would need that much for my stock next year, and rely wholly on curing in the cock and stack. Growing only from 6 to 10 feet high by my method of raising, it is still an economical and highly valuable feed when used with clover and a suitable grain ration. I never would build a silo for use from September to January, but may for late winter use, and if practicable for help in partial soiling in summer. If any of your readers have had experience in feeding ensilage in summer before the growing corn was mature enough to use, I would be thankful for any information given through the COUNTRY GENTLEMAN. We now use clover and peas and oats for partial soiling, and make it a success and very profitable compared with the old way with a large pasture, and cows shrinking badly in midsummer. C. S. RICE.

Lewis County, N. Y.

From Northwest Georgia.

EDS. COUNTRY GENTLEMAN—The question is being discussed in Georgia, why is farming so depressed? The answer is plain and simple—the depression is only with such farmers as do not raise their own food supplies, and have to pay out all their cotton money for their provisions. Farmers who diversify their crops and make their own corn, wheat, oats, rye, clover and grass, and raise their own horses, mules, cattle, hogs and poultry; who have gardens, and fruit, and are well supplied with their own butter, milk and eggs, and in addition, make a cotton crop of 30 or 40 bales, are doing just as well as any farmers in any part of the United States, and fortunately there are a large part of them now farming on this plan. The fault is not in the land, but in farmers who do not farm right. We can plant and raise successfully any crops we see proper to grow, and it is those who confine themselves to the one crop, cotton, that are depressed, and they are so many that it is said "southern farming is depressed."

Georgia farmers are said to have sold "one thousand million dollars of cotton since the war." If so, had crops been diversified that immense amount of money would have been made in various products, and necessarily benefited the farmers instead of having been paid out for horses and mules, bacon and corn, flour and other supplies, which the farmers could, and should, have raised on their own farms. The money has been made and all paid to the merchants, which has so rapidly built up our cities and towns, to the neglect of farm improvements. This is a true statement of facts, and a correct answer to the inquiry, "Why is southern farming so depressed?" I do not know what is the condition of the northern farmers generally, but presume, as at the South, some are prosperous, and some not so. All depends on good or bad management. But independent of their own management, the farmers have burdens to bear by being taxed by government (a high protective tariff) and by their States and counties, and the indirect tax that merchants place on their goods in the way of cost; this all comes out of the farmers. With us we may recall the old saying, "The king rules all, the priest prays for all, and the farmer pays for all." Is there any occupation in life that can stand the strain and pressure that farming does, and were it as closely managed in all its details as merchants and bankers manage theirs, we should hear but little of depression among farmers. The least fraction of taxation merchants and bankers will resist, but when it comes to the farmers it is heaped upon them from all quarters, without a word of complaint or protestation. Almost any farm properly managed will make a comfortable and independent support for the farmer. The trouble is, details are too much neglected, and there come in the losses; and very often one lets his expenditures, knowingly, exceed his income. So the fault is more in the man than the farm. I quote from the Alliance Advocate of Montezuma, Ga., which adverts to the cause of failure most sensibly: "As stated above, the Georgia farmers have made nearly one thousand million dollars worth of cotton since 1865. If they have saved from this vast (almost incomprehensible) sum no more than barely enough to support life, and not enough to keep their farms from under mortgage; if they have been growing poorer, while

out of this enormous wealth which they created others have been growing richer, then assuredly there is something wrong in their own methods, or in the adjustment of their relations with others. What is it, and, no matter what, how can it best be remedied?" The answer is plain and simple—raise their own food supplies, beans, meats, butter, fruits and vegetables, let their cotton be a surplus crop, and pay as they go, and they will soon become prosperous and independent. JNO. H. DENT.

Floyd County.

A Farmer's Earth Closet.

EDS. COUNTRY GENTLEMAN—When our farms were first settled, from 50 to 100 years ago, little or no attention was paid to sanitary matters. For a few years it probably made no difference, as the earth would absorb a good deal of filth before the air would become dangerously impure, or the well water unfit to drink. Now, it is becoming a serious matter, and one that every farmer should look into promptly. The contents of closet vaults will in time work into the well water. Foul drains, or slops thrown always in one place, have sent many children to the other world.

At this time I want to write you about managing the closet. I say only what I know when I tell you that the accumulations in the great majority of farmers' out-houses soak away into the earth unobstructed. Sometimes they are 50 or more feet from the well and sometimes they are not. In the light of the present day it is a strange thing that any reading man can use a place year after year, that is almost directly over his drinking water; but I can show you too many such cases. When I came on this farm, this was pretty nearly the condition of affairs here, and some previous residents paid a terrible penalty for it, too. Doubtless the doctor and the minister did not ascribe their trouble to filthiness; but if I should truly narrate just how things were around the house I think you would.

When I came here the well was promptly closed up, for years, although we had to go 40 rods for water. A new out-house was built, and instead of a vault in the earth we got an oil barrel, sawed it in two and set it on top of ground. Then muck was used freely, as an absorbent. No more filth went into the earth. As far as sanitary conditions are concerned this was all right; but it was not handy. A half barrel is an awkward thing to take away and empty. The muck had to be got up in a dry time and put away in barrels in the barn. It was in the way, and a bothersome chore to have to go and get a large pailful every few days. I tried putting in a barrel at a time; but it was not handy getting the muck out of the barrel.

All this time I have been studying how I would have it when I got able and had time to attend to it. The good time has come. We have built a new closet, with a place to store the muck right in it, where it will be handy to get at with a little shovel. And we have something which we think will be much handier to empty than a half barrel, as well as cleaner.

Fig. 1 shows a cross section of privy at top of seat; *a* is the seat, which is hung on hinges

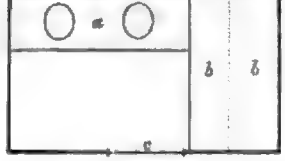


Fig. 1.

so as to lift up; *b b*, on the same level, is the bottom of muck box; *c* is the door which swings around against the muck-box. Now look at fig. 2 which shows a perpendicular section lengthwise, one foot from the back side of building. You will notice the muck box A, which runs clear across from front to rear, over *b b*, (fig. 1). The front of this box, *g*, falls back at the bottom so the muck lies only over the back part of *b*. From the dotted line forward is a shelf to shovel on. The muck can be put in over the top of *g*, filling to the roof.

Where one has it, there is nothing better to use as an absorbent than dry muck. Where one can not get this, road dust or dry earth can be used. This box will hold some 30 or 40 bushels, enough we think for a year. When the first dry spell comes, in the summer, we hope to fill it once for all, for a year, and have no more bother. It will be as handy as possible to get it to use, daily, even to the last shovelful; *d d* are galvanized iron pails. They are 14½ inches high (cast 15), 10 inches in diameter at the bottom and 13 at the top. They are made of the best iron and have handles, of course, that shut over outside the pails. One can lift up *e* very easily and take them out, when they can be carried to any point desired and emptied. The pails were made largest at the top so the contents could be got out easier in cold weather. A little hot water poured on the outside of pails will probably make them empty easily.

In fig. 2, *f* is the floor which goes right across the building, all tight. The size of building

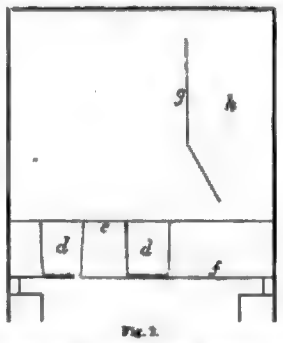


Fig. 2.

is 4½ feet by 7, and scale of drawings four feet to inch. I built entirely of matched flooring, planed on both sides except that 2 by 4 pieces were used for sills and plates and rafters. This makes a cheap, neat, tight job. The building is painted all over, outside and in. The floor and roof boards (planed) are painted. Entire cost about $65, which includes carpenter's bill, pails and all.

The muck box arrangement, so far as I know, is original. For the idea of using pails I am greatly indebted to the New-York Tribune, which some years ago gave the experience of some gentleman who had used them. I made a note of it, right then, that they were just what I wanted as soon as I could get around to it.

A ventilating pipe of tin may be found useful, leading from a hole in the back part of *b* down under the seat, and then up out of top of building. T. B. TERRY.

Summit County, O.

Some Questions about Fertility.

Live Stock Sometimes Not Useful.

EDS. COUNTRY GENTLEMAN—There is no question of greater importance to the farmer than that of maintaining the fertility of the soil, and none which calls for more careful thought and experiment. We have had some heated discussions by the advocates of manure and of clover, and yet the question has had but little light thrown upon it. There is no occasion for heat or bad temper, because we disagree on a question relating to farm management, and none of us are likely to be altogether in the right, while those who think differently are entirely wrong. I like rich land and heavy crops, and would be glad to have enough manure to keep my farm up to a high state of fertility, but if I cannot do this profitably then I must try and see what is the next best thing for me to do. It is now thirty-five years since I began farming for myself, and for the first fifteen years I bought in the village two miles distant large amounts of manure, and put on my land. I have always had to pay an average of $5 cents a load for manure, and to draw four loads is a long and hard day's work. Often in winter the land is so soft that we cannot take the manure to the fields where it will be needed, but must unload it at the barn, and then when the ground is frozen rehandle it, and this adds considerable to the expense of fertilizing my land. As long as I followed truck farming and grew crops which brought from $50 to $100 per acre, I found this profitable, but later, when for good reasons, I gave up marketing and followed regular farming, growing corn, wheat and potatoes, I found that I could not afford to buy manure at the prices I must pay, and draw it the distance which I must.

There are millions of acres of rich bottom and prairie lands which grow bountiful crops of corn without manure of any kind, and we must sell our corn, whether we sell direct or in the form of meat, just as low as the owners of these rich lands do, and if we must spend five dollars an acre even for manure it eats up all the profit, and if I manure my land once in four years with dung bought in the village, it will cost me at least that amount per year.

Now, Mr. Terry's plan of farming, practically without manure, has set me to thinking and investigating, and I am asking myself the question—and I also ask it of your readers—can we not, on our best soils which are underlain with clay so that we lose nothing by leaching, maintain the fertility of our land by a system of rotation which keeps all unoccupied land covered with some growing crop, and makes available plant food in the soil by filling it with organic matter? I do not assert that we can farm without manure, but I will tell what I have observed during my life as a farmer. Thousands of farmers work hard all the year and are not one dollar richer at the end, because it takes about all they grow to feed the horses and cattle, which are so poorly bred and fed as to give no profit whatever, and at the same time their farms are so overstocked that they must keep too much land under the plow in order to raise enough grain to keep their stock. One who had not investigated the matter would be surprised to see how common such management is. I know farmers by the score, living on farms containing from 50 to 80 acres, who keep four horses and an average of ten or twelve head of cattle all of common breed, and who in years of good crops feed all the products of the farm except wheat, and in years of short crops are always obliged to buy feed. One might suppose that this plan would furnish so much manure as to make their farms productive, but the fact is that the cattle are rarely stabled or even confined in the barn yard, but are allowed to roam over the farm the entire year, and the pastures are gnawed so close as to soon be burned out by the sun or killed by freezing, and the lands deteriorate rapidly. In fact, I think there is no plan of management by which a farm can be so rapidly exhausted as by overstocking, so that the pastures are always short, and the young grass and clover cropped down as soon as the wheat is taken off, and then the fields tramped during the open weather of winter and spring. The prices at which the small farmer (who has but a half dozen cattle a year to sell) must dispose of them have not been remunerative for several years, even for first-class cattle, and for such as the class of farmers I describe put on the market they will not average above three cents a pound, and this will not pay one dollar a month for their keep until sold. It is evident that these farmers cannot afford to keep cattle for the manure they will make.

Another thing I know to be true is that a large percentage of the land in Ohio and Indiana that has been under cultivation for more than a half century has never been manured at all, except as the cattle drop manure on it when it is pastured, and on level field where there has been no loss from washing, and the farmers have followed a rotation which has kept the land as much as one-third of the time in grass and clover, these farms are producing as good crops now as they did fifty years ago. I speak of Ohio and Indiana because I have lived in both States, and within a few miles of the State line, since 1836, and have seen the crops and been familiar with the management of many of these farms during this entire period. Some experiments of my own have extended over more than fifteen years on land which has had no manure, but has produced a crop of grain every year, each alternate year being wheat, and has been fertilized by the growth of clover after the wheat was cut, this clover being allowed to cover the land until the following spring, and then plowed under and either corn or potatoes planted, and I see no evidence of deterioration of soil here. What I have stated may not be true of other soils, but it certainly is of this locality, and it is a comfort to me to know that when the cost of manure is so great and of grain so low that I cannot buy the former to produce the latter without loss, that I can reduce expenses and maintain fertility by cultivating less land and keeping less stock. Where clover flourishes it is the best plant I have ever found for this purpose, but if the time should come that it fails on my land, I shall try other plants for plowing down. I do not mean that we should not save all the manure that our stock makes, for it will pay to do this, but I do mean to say that few farmers are so situated that they can afford to keep common stock and feed it for the manure, when the grain and hay an animal will eat would sell for considerably more than the animal will at maturity. In many cases it might be more profit to spread a stack of straw over a field, and leave it to decay rather than to feed it to cattle to be sold at less than cost. I believe that our land deteriorates more rapidly when naked and unoccupied than when growing a crop, and that the way to maintain fertility is by keeping it covered with a growing crop as much of the time as possible. It is often the case that the farmer will attain success more readily by reducing expenses than by attempting to increase his income by keeping a large stock and cultivating a large area.

WALDO F. BROWN.

Experience in Florida.

Aid from a Good Farm Paper.

EDS. COUNTRY GENTLEMAN—It is now over twenty years since a nurseryman in Indiana asked me what agricultural paper I took. I told him. "Why don't you take the COUNTRY GENTLEMAN?" said he. "Don't know anything about it; you know I am new on the farm and just out of the office." "Best paper in the whole country," said he; "practical, reliable, full of good square common sense." I became a subscriber at once, and have read it almost constantly since. I have eight volumes of RURAL AFFAIRS, which constitute a sort of encyclopedia of useful articles, and how to make them, with practical hints on almost every subject pertaining to the farm or village home.

Now I am away down in Florida, where many of your articles do not apply, and yet they are so practical that they set one to thinking, and after all can be, in many cases, made applicable. Aside from this, he who reads the COUNTRY GENTLEMAN feels that he is abreast of the times, and knows the pulse-beat of the agricultural world—knows the very latest on ensilage from J. G., or on potato-growing from T. B. Terry, or on feeding stock from Prof. Stewart (whose book is in my library and regarded as indispensable—no book in my collection has been read and reread with half the care and interest this one has), and other writers of equal interest; to all of whom every intelligent reader of its pages must feel under obligations. Its advertising pages represent the very best manufacturers, breeders, implements, and one feels that he knows that such a firm or article or implement is reliable—because it is advertised in its columns.

Now, of course this may seem uncalled for to many of your old readers, and yet they may not have taken the time to think of it as I have down in this country of infinite leisure. Occasionally I would think I would write something about our crops, soil, &c., but this is my first year here, and I am hardly sure that my ideas are quite correct. It is so unlike anything I have encountered before, that I do not know that I am surely correct in anything. Little farming is done in my part of the State, and there is no settled or known *best* method of cultivating an orange grove. The native cultivates clean until it gets too hot, and the grass grows like mad, when he knocks under and retires to the shade. The emigrant from the North cultivates clean the year around. One man says muck is indispensable; the next tells you it will ruin your grove, and points you an example. One tells you that chickens are the fellows to make trees grow, and points to his own grove, and you are convinced, and are casting about to buy chickens. You hear of a man who has plenty for sale, and you are about to purchase, when the man tells you they have nearly ruined his trees, and points you to his grove. A hundred growers will give you ninety-nine different "best" ways to fertilize and cultivate an orange grove. So you settle down, and do not believe you or anybody else know anything. After a while your thoughts and observations begin to take form, and if you read a good, practical agricultural paper every week, you will perceive that there is much that is good in this multitude of ideas. I think I shall buy a Clark's cutaway harrow, which I first saw advertised in your paper, and take care of my grove with one-third the labor I did this year—do it better decidedly—and not expend half so much money for commercial fertilizers.

Our native crab grass is a wonder, and the hotter the weather the more it grows. It defies all implements we have had thus far, unless by dint of application, early and late, it is kept under; and yet keeping it under, the na-

tives say (and with much truth, I believe), is death to the soil during those heated months. Some, of late years, have adopted what they call "half-clean culture," and to good effect, as their groves show; but this, with our present implements, is almost an impossibility. One week of rainy weather will make a meadow of your grove, and force you to the use of the plow—which is certainly not good—or to the hoe, which is very expensive. Now I believe that the cutaway will enable us to chop up this rapidly growing plant, and to so mix it with our soil as to enrich the ground, leave the earth partially shaded all the time, and yet prevent the forming of any turf sufficient to draw from the soil at a time when the tree needs everything in the nature of food. Cow peas, too, can be sown and chopped under with the cutaway; also mulch of grasses, leaves, anything we can obtain, can be chopped into the soil, thus hastening its decomposition, and yet leaving it as a partial shade. While the mercury seldom indicates 100°, yet the sandy soil gets hot, and partial shade during June, July and August seems indispensable to plant growth in perfection. In this view I believe I have reached a correct conclusion, and that great harm has been done to my own and other groves by clean culture. Another year I may have to modify these views.

One thing I do know, that Florida has the best climate for twelve months in the year I have ever found—no mud, no dust, no cyclones or blizzards, no extreme heat or cold; diseases are few and never malignant, and when once understood what to plant and how to cultivate, it will be the easiest and cheapest place to live in our country. As you understand it North, hard work is unknown down here. *J. B. P. Putnam County, Dec. 5.*

An Indiana Institute.

The first of a number of institutes to be held in this State has just taken place here, with good attendance.

Granville Cowing read a paper on "Desirable New Potatoes."

D. L. Thomas, president of the National Swine Breeders' Association, talked about the pig in a very practical way, treating of the need of careful selection in breeding—to breed for strong constitutions—advocated a mixed feed—said it was cruel and hurtful to confine hogs on clover for months with no change, subjecting their stomachs to the acidity arising from such diet. Mr. Thomas said there should be a mixture of grasses growing in the field—that they should have feeds of corn, bran and shorts, or other feeds—a frequent change of diet is necessary to the health and best growth of the pig. He said that much of the loss arising from what is commonly called cholera may be avoided by care and a mixed or change of diet—that the man who waited to see the buzzards flying around before he looked after his hogs, except occasionally to see them on Sunday, will have much trouble with hog cholera in all probability.

John B. Conner read a practical paper on "Dairy Farming."

Dr. A. Furnas, president of the State Horticultural Society, addressed the institute on the "Orchard and Fruit Lot." He impressed the audience with the thought that to succeed in fruit-growing on a large or small scale requires thought, care and intelligent cultivation. That the selection must suit the soil and the climate—that the best varieties should be relied upon to form the base of the business—that new varieties may be tested in a small way.

Mrs. Prof. Ewing of Purdue University read a paper on "Our Kitchen Interests," and gave a practical talk on bread-making and other things.

Prof. Carl L. Wulff of Purdue (a Swede) spoke of milking, tests of milk and the care necessary to be observed to get the best results. A number of tests determining the amount of butter fat were made from milk taken from the herd of Mr. Cary, the president of the county farmers' club. At the conclusion of the tests, Mr. Cary verified their correctness from a practical knowledge of the respective merits of the cows.

Pres. Smart of Purdue invited the farmers to cooperate with the university in its efforts to get down to bottom facts in farming by sending seeds and plants to be tested at the various experiment stations in the State, conducted under the supervision of the university, seventeen in all.

W. H. Lawrence read a paper on "Horticulture," urging farmers and others to beautify their homes with flowers at all seasons of the year.

J. J. W. Billingsley of the Drainage Journal read a story entitled "Miss May Maberly, her Short-Hand Report of the Talk of Two Farmers, and What Came of It." The story outlined the benefits of farm drainage, awakening in the young lady an interest in small-fruit culture that resulted in her undertaking the management of a little fruit farm of 2½ acres, which proved a gratifying success.

Those having the institute in charge deserve much credit for their labors, and especially the attention bestowed upon visitors and those having parts upon the programme. If any criticism is in order, it is that they provided too much, and that sufficient time was not allotted for the full discussion of the various subjects. *J. J. W. B. Anderson, Ind., Dec. 20.*

The New-York Farmers' Institutes.

Notes at Cortland and Norwich.

Since the illness of Secretary Woodward, the institutes have been continued under the able management of Col. F. D. Curtis, who had previously been assisting. The meetings thus far during the winter have been very successful, not only as regards the quality of the addresses and papers, but in drawing a large attendance.

Most farmers now realize that in order to make money they must leave the ruts in which their grandfathers traveled and adapt their methods to this age of improvement. As a result of this feeling the speakers are thoroughly cross-questioned after each address, in regard to details of their subject which may have been overlooked, and in this way the topic is fully drawn out.

The question box also is an important feature of each institute, and is duly appreciated by the farmers as a means of giving each one an opportunity to get the opinions and advice of experienced and practical men.

On the printed programme is the following: "These institutes are run solely in the interests of farmers, particularly young farmers," and there is usually a good percentage of young men in the audience; also of ladies, who are especially invited to attend and who have representatives among the speakers at the evening sessions. As one of the lady speakers said: "It is not good for man to be alone, especially if he is a farmer."

Each institute is attended by members of the Cornell and Geneva Experiment Stations, who are frequently called on to explain the scientific side of any question which may be under discussion and are looked on by some as "traveling encyclopedias."

At the meetings at Cortland and Norwich, the discussions were mainly on the dairy and kindred topics, Cortland and Chenango being among the leading dairy counties in the State. Besides supplying a great number of cheese and butter factories, much cream and sweet milk is shipped to New-York City.

At Cortland the first speaker was E. C. Rindge, on the "Feeding and Management of Dairy Cattle." He said:

"The comfort of cows is indispensable for success in dairying. My cows are mostly put in for the winter, and are watered in the stable. In mild weather they are turned out to water in lots of about ten at a time, and are left out only long enough to drink. By actual test my cows shrink more by standing out in the storm for a few hours than by remaining in the barn and going without a feed. Keep half your cows in a warm stable and turn out the other half and note the result. Always give feed enough for a full flow of milk. All that the cow can digest, above what is required to keep her alive, is where the profit comes in. In running an engine, if you furnish just enough fuel to keep it in motion and not enough to run the machinery, the fuel will be wasted. It is the same principle exactly in feeding cows. I am feeding 33 cows, and give each cow 15 lbs. of beets and 10 lbs. of corn meal and wheat middlings, equal parts of each, and give half at night and half in the morning. Towards calving time the middlings are substituted for corn meal, so that when the cow calves she is getting no meal at all. Do not always expect to get returns the next day from feeding grain. I do not expect to get the best returns from a cow the first year after buying her, unless in prime condition at the time of buying.

"Ripe hay will not make a large flow of milk. If it were possible I would cut all my hay between June 15 and July 1. Milk can be produced almost if not quite as cheaply in winter as in summer, if the increased cost of help in summer is considered. Give each cow a pinch of salt daily. It tends to keep the bowels regular and prevents constipation."

In the discussion following, the fact was emphasized that cows kept out in cold weather were obliged to use most of their feed as fuel, instead of making a profit in milk or flesh.

Hog Cholera—Hay Raising—Ensilage.

Col. Curtis followed with an address on "Pork Raising," stating that the probable cause of hog cholera in the West was a lack of constitutional vigor caused by an excessive feeding of corn. Corn does not contain the proper proportion of bone and muscle-forming elements, and should be fed moderately to growing pigs or to breeding sows.

The direct cause of hog cholera is the presence of bacteria or disease germs on the grass and in the water. These cause inflammation of the stomach and bowels. By feeding an abundance of bone and muscle-forming foods, such as wheat middlings, clover, peas and oats we can raise strong, healthy pigs which will not readily succumb to disease. Sugar cane was mentioned as a good food for cows and pigs. Plant in drills and pack in the mow with alternate layers of straw. The colonel cited the experiment of Prof. Henry at the Wisconsin Experiment Station, in which one lot of pigs was fed on carbonaceous foods, as corn and an equal lot on nitrogenous or flesh-forming foods, as wheat bran, dried blood and skimmed milk. The latter were decidedly healthier, larger and more profitably raised. The same principles can be profitably applied in feeding all kinds of animals as well as in the human family. Milk, oatmeal and fruit are perfect foods for young children when fed in connection with each other. Corn ensilage, from well ripened corn which is thinly planted so that each stalk and ear are well developed, was also highly recommended. A cow fed partly on ensilage will be healthier and make more butter than on dry feed.

The following opinions were given in answer to questions:

A man with a good herd of cows had much better buy hay than sell his cows. A better way would be to feed half the usual ration of hay, and supply the deficiency by feeding grain, *e. g.*, bran and cottonseed meal, thus getting more valuable manure.

To raise apples free from worms, pasture the orchard with sheep or hogs to eat the green apples which fall, or spray the trees when the apples are as large as walnuts, with London purple ½ lb. to 100 gallons of water, and applied from a wagon with a force pump.

Barbed wire was said to make the cheapest fence if it did not injure stock. Col. Curtis uses two boards at the bottom and two wires above.

Ira Crandall gave a brief talk on raising and marketing hay:

The land must be thoroughly tilled and fertilized, as grass is susceptible of the highest cultivation of any crop we have. In his opinion it was much more profitable to apply manure to grass than to corn land. The market for hay increases with the growth of our cities and towns. Manure plowed under to a depth of six or eight inches will not trouble the farmer for the next ten years. By applying your manure to newly-seeded meadows and harrowing in, a good crop of hay can be cut for five years. Then the crop grows finer on account of the exclusion of the air from the soil by the turf. To afford protection from the grass during the winter, the aftermath should be left upon the meadows. In this way the land can be kept in better condition than by plowing under manure.

A paper on "Ensilage in the Dairy" was read by Alvin Devereaux as follows:

The problem of our eastern dairyman is how to compete with the Western States. They can send their butter here for a very small cost. The grasses and waters of Illinois are far inferior to ours. The dairymen of Southern New-York need have no fear in summer of western butter. Can we not learn a lesson from these facts?

1. How can we make more and better butter than the Elgin creameries?

2. How can we winter more cows, and at a less expense, and make them pay a profit at the same time?

The work of the State Dairymen's Association in trying to establish dairy schools will answer the first question.

The silo will answer the second question. The average hay crop in this State is 1¼ tons per acre. The average number of acres required to winter a cow in this State is 3½. One acre properly prepared will produce 15 tons of corn, which will winter three cows. It is cheaper on most soils than roots, and may be fed without hay. The men who would bawl "sour-krout" when ensilage was mentioned are fast disappearing.

The proper time to cut corn for a silo is just as the ears begin to glaze. Formerly we used to pay 1-10th for husking, 1-10th for shelling, and 1-10th for grinding. At one operation put the corn, stalks and all into the silo. This solves the question of producing corn profitably in this State.

Cattle Feeding—Dishorning.

The next speaker was Prof. Ladd—subject, "Rational Cattle Feeding;" by the use of charts, showing the proportion of the various food elements in a perfect ration, and in different combinations, such as are usually fed. Some combinations favor the production of milk and butter, and some the laying on of fat. A ration should be furnished in which each part is given a chance to do its full share. Farmers generally should feed more bran, cottonseed meal or linseed meal instead of corn. Either roots or ensilage should be a part of each ration, at least as an appetizer. A farmer feeding linseed meal would be in less need of roots or ensilage than one feeding corn or cottonseed meal, which are more constipating. In feeding meadow hay, straw or corn stover, some of the nitrogenous foods, like cottonseed, linseed and gluten meal, or bran, should be fed also. In feeding clover hay, which is itself largely nitrogenous, not so good results would be obtained by feeding in connection with these meals. Dr. Sturtevant at the Geneva Station fed corn meal with timothy hay to milch cows, and the increase of milk was very slight, but by the addition of cottonseed meal there was a marked increase in the milk flow.

An elaborate paper on the "Horns in Relation to Milk and Butter" was presented by Dr. James Law of Cornell University. He stated that cows and steers which are kept indoors summer and winter do not form the usual rings on the horns with any degree of regularity. The same is true of cattle kept on sloppy food; cows which have not regular periods of calving and giving milk; and of steers.

The lecture was illustrated by a chart showing the various shaped horns of the different breeds of cattle. After showing that the growth of the horns coincides with an abundance of rich blood, thus making the same requisites for growth of horn and for flow of milk, he proceeded:

"But it is folly to say that the removal of horns will stop the forming of an abundance of rich blood. When the horn is not required to be nourished there should be more blood for the secretion of milk. There is a tendency in the pregnant animal to fatten, also to a growth of horn. The horn itself contains no nerves and cannot exert a reflex influence. Horn is made of gelatine, the same substance making hair and a part of the bone and sinews. Large bones and sinews are certainly not required for good dairy cattle. Nor is long hair a requisite of a good cow. In autumn and winter is the greatest growth of hair, but the greatest flow of milk is in the spring."

He showed conclusively, by a comparison of the horns of the various breeds, that the conditions which indicate the milk and butter yield must be looked for elsewhere.

The following points were given as belonging to a good dairy cow: Development of abdomen, depth and breadth of body posteriorly, evidences of large blood vessels, fineness of the bony structure, looseness, pliancy and elasticity of the skin, abundance of sebaceous secretions, &c. He continued:

"The shock of dishorning depends largely on the nervous temperament of the animal. Exposure to cold or bad air may make it slow to heal. A dishorned cow in a herd of horned cattle would be nervous, and in rapid breathing would lose some carbonaceous matter which would otherwise go to milk. In fact, to use a homely phrase, it would be well to "go the whole hog or none" in dishorning. It removes a disposition to disturb other cattle and he gets a quiet disposition, making less expenditure of the milk and butter producing elements. We must not avoid cattle having a quiet disposition and good digestion. In other words, it is a compliment to the dishorned cow to say that she has a tendency to lay on fat. I strongly

advocate preventing in some way the damage done by horns."

"Breeding of Domestic Animals" was then discussed by G. P. Squiers. He advised selecting some one breed suited to your soil, climate, surroundings, &c. This, in time, would give a uniform herd by simply breeding to a thoroughbred male. The great difficulty with the horses of America is their inability to reproduce their own characteristics with any degree of certainty. Our present horses are too frail for farm use. Good coach, carriage and driving horses are readily salable at high prices, and in supplying this demand we would add prosperity and happiness to our homes.

Robert Parvis spoke briefly on "Potato Culture." New York State leads the Union in the production of the potato. Germany is the greatest potato-growing country in the world. Plant on sod plowed either early in spring or late in the fall. Thoroughly harrow, and mark three or four inches deep and three feet apart each way. Plant May 20 or earlier, where a frost is not liable. The more seed we can use without making too many stalks, the better. Gravelly land needs less seed than heavy land. Keep the seed cool to prevent sprouting. Cultivate thoroughly until time for hilling. I put about 1 to 1¼ days work hoeing per acre. As they are an exhaustive crop I would not plant a field oftener than once in from five to eight years.

Mr. Seth Fenner of Erie county said that at his home potatoes were planted and raised without any hand labor and that he had this season raised, dug and in the cellar a large crop at a cost of ten cents per bushel.

The last paper of the meeting was read by G. A. Smith, of the State Dairy Commission, and was entitled "Quality the Essential in Cheese-Making." The speaker dwelt largely on the fact that it is impossible to make good cheese out of poor milk and gave the proper details in regard to the feed and care of the cows and milk before taking to the factory. Good feed, cleanliness, setting the milk where it would be free from bad odors and kind treatment of cows, were emphasized. Then the best method of manufacturing the cheese was discussed. He said that the reason Canada was taking away our English market was because they are making a better article. We should skim less and make more solid, meaty cheese. There is plenty of room at the top of the ladder, but a crowd at the bottom. C. H. S.

From Northern Dakota.

Eds. Country Gentleman—Since last report we have had fine weather for outdoor work. Twice, early in the month, the mercury registered 10° to 15° below zero; in last ten days range has been 10° to 30° above; to night 10° above with stiff breeze from the north, and only one-half inch of snow on the ground. Farmers busy hauling wood from the timber along the banks of Red River, while those who have it are hauling the balance of their wheat to market. Much dissatisfaction exists just now with the way buyers are grading down the wheat. That which in the early fall stood No. 1 hard, now grades No. 1; No. 1 only No. 2 and 3, and so on down.

Our wheat markets are not conducted as at the East. Instead of driving on to a market square the farmer goes direct to an elevator; the prices are the same at each elevator, the only difference being that the seller may get a grade better at one than the other—a grade means five cents on the bushel—but even this seldom occurs. Farmers also claim that there is little use procuring cars and shipping their own wheat, for they are check-mated before their wheat is put on the market at Minneapolis or Duluth, in this way. When a car has been loaded and shipped, it is an easy matter to find out to whom the car has been consigned; a letter goes forward to the party stating that "a carload has been shipped by a kicker—look out for it." The consequence is that nine times out of ten the farmer is the loser.

One farmer in my neighborhood shipped a carload after the grades began to lower; when his returns came back he was minus $125 from what he was offered on the local market. Of course a transaction like the above frightens other farmers from trying the same thing, hence they are to a great extent at the mercy of the elevator men. It has been demonstrated in years past that the facts above stated have occurred at both Minneapolis and Duluth, but an institution is at work that will remedy these wrongs, to wit, the Farmers' Alliance. This is building elevators, putting in its own buyers and having its own sellers on the different markets, so that it is only a question of time when the farmers of the Red River Valley will let the monopolist elevators severely alone.

Times are hard and money scarce, but farmers who have lost nearly their whole crop and cannot pay their current liabilities are being carried over by their creditors; the banks are also extending time on monies due them; there are fewer chattel mortgage sales this fall, so far, than in any fall for years past—in fact, there is little use in selling a man out, for very few have the cash to buy, so that both creditor and debtor would lose in the transaction.

Markets in Grafton: Wheat on the 19th, No. 1 hard, 81 per bush.; No. 1, 85c.; No. 2, 90c., graded down to 85c.; oats, 25c; barley, 35c to 40c.; potatoes, 45c.; turnips, 25c.; apples, $2.50 to $3 per bbl.; beef, $5.50 to $6, hindquarter; $4 to $4.50 forequarter; pork, $7 to $7.50 per cwt., dressed; butter, 25c. to 30c. per lb; wood, $5 per cord; hay, $5 per ton. George Park.

Washington County, Dec. 24.

From Northern Utah.

Eds. Country Gentleman.—The fall of 1888 will long be remembered by the people of Utah as one of the most pleasant they ever knew. To-day, December 18th, was a clear, cloudless day, comfortably warm in the bright sun at noon. There is no frost in the ground and roads are quite muddy. The latter part of summer was very dry, but in October and November we had occasional showers, and two snow storms, that wet the ground thoroughly for a foot deep. There has been very little hard frost—only a few nights early in November, and most of the time plowing has been possible and generally good. Those who have not prepared for spring cannot blame the weather this time.

The past two years have been very dry even for our climate. Your eastern farms would be burnt out with no heavy rain from June until September. Yet we have had two such seasons, and have raised crops above the average, where they could be irrigated. Grass has suffered most, many good pastures being nearly bare, and hay in some places not one-tenth of a crop. Nature always has some compensation for losses, and it is the result of experience here that the very dry seasons—where there is rain in the spring to bring grain up—produce better wheat, the grains solid and dry, making a superior quality of flour. The great difference in the hay crop is due not so much to the absence of rain, as to the light fall of snow in the mountains not melting fast enough to raise the streams that usually overflow the bottom lands. Along the Logan river, within a few miles of Logan City, land that in good seasons has given 100 tons of hay, this year gave about five tons. While this is an extreme case there were others nearly as bad, and many stockmen, who depended upon their hay crop for this winter's feed, had to look elsewhere for a supply.

Another source of loss this year is the lack of a market for potatoes. Last fall potatoes sold readily at thirty cents per bushel, and in the spring as high as forty cents. At such prices this crop pays well, as almost any of our land with very ordinary cultivation and care will yield from 200 to 300 bushels per acre. On account of the high price last season, many farmers put five or ten acres in potatoes this year and now find themselves with one to three thousand bushels which they cannot sell at any price. Our potatoes, too, are always good, the general verdict of travelers being that Utah can beat the world on them. Early in October I saw a load—probably forty bushels—of a large white variety, Peerless, I think, that would have averaged one pound and a half to each potato. They were smooth, firm, dry and almost without fault of any kind. They cook well now, but will keep until spring and improve with age.

In spite however, of the poor crops in some sections, and the extremely low price of cattle, our farmers have enjoyed a fairly prosperous year. Wheat has for many years ranged in price from 45c. to 65c. per bushel, but this season has rapidly risen to 90c. It is not probable that there will be any great reduction as none of the mills in this or Salt Lake valleys have a large stock on hand. They must continue to buy, and since there will be no new crop for nine months, the supply in private granaries must be drawn out and that can be done only by tempting prices.

The ruling prices on our leading products are: Stock cattle—cows, $20; steers three and four year olds, $25, two-year olds, $20; calves and yearlings, $6 to $8; milch cows, native fresh, $35 to $40; beef cattle, 2c. per lb, and sheep 2 to 2½c. per lb., live weight; hogs, 6½c. per lb., dressed; chickens, 9c. per lb; turkeys, 10c. to 12c. per lb., dressed; wheat, 85c. to 90c. per bushel; oats, 31 per cwt.; corn, shelled, $1.25 per cwt.; onions, $1.25 per cwt.; flour, $2.80 to $3.40 per cwt.; bran, 80c., shorts, 90c. per cwt.; molasses—sorghum, 60c. per gallon; apples, 50c. to 60c. per bushel; potatoes, 30c. per bushel; butter, 20c. to 25c. per lb., and scarce; eggs, 27½c. per dozen; hay—lucern, $5 per ton, wild grass, $5 to $6, red top and timothy, $7 to $8 per ton. Live stock are at a stand still. No sales can be made except at very low figures, as most owners are keeping and hoping for better times; poultry and hogs are ready sale; wheat is in active demand, with upward tendency; hay is not moving much yet, because of the extremely open season.

Clarke County. J. T. C., Jr.

Our Illinois Correspondence.

Champaign County, Dec. 24.

For the first time for years we have had a green Christmas, and a month of December so far with no severe frosts. It rained here a part of the 24th, most of the 25th, and was showery this morning up to eleven o'clock. Then a change set in from the west and northwest, and with the barometer at the low figure of 29.50, we are looking for heavy gales and temperature below zero by the 27th.

The roads have been nearly uniformly good for months, and now we may look for roads hard and rough till they have been smoothed by traffic. In country and city both, the poultry market has been overstocked, nice dressed chickens selling as low as five cents a pound, and good turkeys for eight and nine cents.

The price for No. 2 fat cattle is discouragingly low, smooth steers not quite up to the export mark selling in Chicago for 4½c., or less, live weight. Inferior stock has so crowded the markets that the great canning establishments have secured supplies for less than two cents a pound, live weight—figures that reduce the cost of the meat canned to almost nothing, because the hide, rough tallow and offal sell for nearly enough to pay for the original cost of the animal. There must be something wrong in that condition of things which compels the farmer and feeder at one end of the transaction to furnish the raw material at less than cost, while at the other end the manufacturers secure enormous profits. It is not hard to understand some of the causes which operate to reduce the number and increase the size of farms—to drive the sons and daughters of farmers into the cities, and finally to force the farmer himself to abandon his ancient and honorable calling, and follow his children in a desertion that oftener proves ruinous than fortunate. S. F. A.

Inquiries and Answers.

An Unknown Book.—I wish to purchase the American Farmer's Pictorial Cyclopedia of Live Stock and Complete Stock Doctor, by Hon. Jona. Periam and Baker. Please advise me where I can get one. S. S. I. [We know nothing of this book.]

Plans of Houses.—Will you please inform me where I can get house plans for building purposes? O. G. *Montezuma, N. Y.* [The best work to which we can recommend you, for houses of moderate expense, and for farm and village residences, without working drawings, are the several articles in Rural Affairs; in vol. i, pp. 21, 131 and 345; vol. ii, pp. 42, 143, 262; vol. iii, p. 91; vol. iv, p. 129: with plans and perspective views or elevations—over fifty designs in all. For more expensive dwellings, suited to persons of wealth, and for suburban residences, several works have been published, but we infer from your inquiry that these are not the ones wanted.]

Seeding to Grass.—I have a field which I want to get to pasture—blue-grass, timothy and clover. I sowed part of the field to wheat and grass, but owing to dry weather could not get it all plowed; have it plowed now. Shall I sow the grass seed now, or shall I wait till spring to sow it? Will the seed freeze and spoil if sown now? W. T. *Wabash County, Ind.* [Without knowing the soil and its condition, and the character of the weather during the rest of the winter, it would be safest to as early sow in spring as the ground is in fit condition. If the surface of the soil is smooth, and the seed can be brushed or rolled in, and the work properly done, you will be likely to have a good growth of new grass by midsummer.]

Botanical.—I send you a plant of the pea variety. It grows very abundantly, and has a blue flower. Can you give its name, use or value as a crop? S. S. *Buffalo, N. Y.* [It is scarcely possible, from the material sent, to identify the species satisfactorily. It is always desirable to have the flowers and leaves as well as the fruit, for the determination of species of plants. C. H. P.]

Planting an Orchard.—I wish an article on "planting apple trees," stating how old trees should be when transplanted (1), how far apart they should be planted (2), the best six varieties for market in fall (3), &c. Also, if practicable, recommending two or three reliable nursery firms (4). S. J. D. *Johnstown, N. Y.* [For ample directions, our correspondent is referred to various articles in the different volumes of Rural Affairs, and to Thomas's American Fruit Culturist; and in the meantime we may state briefly, in answer to his inquiry, 1. that young and vigorous trees are better than older and larger ones which receive more check in removal, which have the roots more mutilated than young trees, and do not stand so securely in the ground where they are set. As a general rule, two years from the graft or bud of vigorous growth is better than older and larger. 2. A common and good distance apart in two rods or 33 feet each way, but if land is not high-priced a distance of 40 feet is better for large-growing varieties. 3. Orchardists differ in a selection of the best autumn varieties, and some are better in certain localities than in others; but the following six have received a large vote in their favor in different parts of the country—Twenty-Ounce, Gravenstein, Oldenburg, Fall Orange, Fameuse, Lowell. In some places, the Maiden's Blush would stand at the head, others would not omit the Autumn Strawberry nor the Fall Pippin, although the latter is rather a winter apple at the further north. 4. We think that the nurserymen who have largely advertised for some years in our columns can be fully relied on; their advertisements will be found in autumn and spring in past years, during the selling and planting season.]

Ensilage as a Complete Ration.—I have been using corn ensilage for my 30 cows the past three years, and am so well pleased with the result that I am anxious to experiment more in the line of ensilage, and have now in preparation plans for adding pea-vine clover and hardegrass to common meadow corn as a compound for ensilage. Please advise me as to the fair proportion of each of these, to be cut together, so as to give a perfect milk and butter ration for my Jersey cows without the necessity of adding grain. R. *Miller's Falls, Mass.* [R. does well to inquire concerning the mixing of various green foods into a compound ensilage. This we have often mentioned as perhaps attainable under certain circumstances. One great difficulty is to get a nitrogenous green fodder which is ready to go into the silo with corn. Second-crop medium clover is sometimes ready to be ensilaged with corn. Pea-vine clover matures at the same time with timothy or hardegrass, but this is too early for the usual ensilage corn crop. Peas and oats mature for ensilage about the same time with corn, and the compound of peas and oats when the pea is in the milk, is about as rich in nitrogen as clover. Timothy or hardegrass has too low a nutritive ratio to make a good balance for corn ensilage. In situations where alfalfa or lucern is a successful crop, this may be very appropriately used to compound with ensilage corn. The English use this as ensilage by itself. Alfalfa is slightly more nitrogenous than red clover. If R. has the book on "Feeding Animals," let him turn to page 234, on which, and a few pages following, he will find the subject discussed of compounding green crops for ensilage, resulting in a well balanced ration for milk. If he has not the book, he will find it profitable to send $2 to the Country Gentleman for a copy. The difficulty experienced in most localities of finding various green crops that mature for ensilage at the same time, may be obviated by dividing the silo into compartments, filling one with ensilage corn, peas and oats, another with red clover or peavine clover. Alsike clover and

timothy mature together, and may be ensilaged together. Two of these compartments may be opened and fed from at the same time, thus combining the elements of both. We believe that ensilage is to undergo a great improvement by a system similar to this. The better balanced the ensilage, the less grain will be required to be fed with it, and in some cases, as here mentioned, the ration of ensilage may be made complete without the addition of grain. E. W. S.]

Horticultural Terms.—In addition to the answer, in part, to the inquiry of C. C. P., of Brooklyn in our last number p. 960, the following additional answers may be given, taken from Thomas' American Fruit Culturist, p. 587: "Maiden plant, a tree of one year's growth from the bud or graft." "Standard, a fruit tree in open ground, or not trained to a wall or trellis." It is also applied to trees with a main stem four or five feet high up to the head, in contradistinction from dwarfs branching out near the ground. A "feathered" tree or branch is one clothed with shoots instead of being bare.

Composition of Plants—Grasses.—I am in search of a book or pamphlet in which is given a list of farm products, with the elements and relative amounts of food required for best development. Such a book would be of great value to any one that wishes to get the best result in developing both plant and soil. I mean by farm products, corn, oats, wheat, barley, clover, turnips, mangel wurzel, carrots, grasses, potatoes (sweet and Irish), and such like. (1) Where can I obtain the charts? I want to plant them for hogs. (2) What mixture of grasses makes the quickest growth for mowing? (3) Is there any grass that can be planted in spring on good rich soil that will give a first-class crop by fall? Our season is longer here than with you. (4) C. A. S. *Greenville, S. C.* [1. Our correspondent will find in the appendix of Prof. Johnson's "How Crops Grow," copious tables giving the composition of the principal agricultural plants, under one head of the organic constituents, and under another of the ash or mineral ingredients. Other ample tables will be found in Harris's "Talks on Manures" of the exhausting effect of growing plants on soils. 2. We cannot inform you where to obtain the charts. 3. Red clover, lucern and orchard grass. 4. These and other early grasses, sown very early in spring, in fine, rich, well-prepared ground, ought to cut at least two moderate or good crops by October, in your locality.]

Nutritive Ratio—Peas and Flaxseed.—I have been looking at tables in "Feeding Animals," and see this is a poorly balanced ration, 1 to 5.5, as near as I can get at it. How do they get at the ratio? I added carbohydrates and fat and divided by albuminoids; this does not quite agree with tables. Should like to understand this so I could balance rations with such grain as I happen to have. Peas are rich in albuminoids, but are they not binding? Would it be better to pay a big price for oilmeal? Is there any feeding value in buckwheat hulls and bits of kernels if ground fine? L. E. C. *Otsego County, N. Y.* [To find the nutritive ratio of a food, multiply the digestible fat by 2.4, add the carbohydrates to this and divide by the digestible albuminoids. This will give the real nutritive ratio. See page 141, "Feeding Animals." L. E. C. is fortunate to have peas to balance other food; they are slightly constipating, but he can buy flaxseed for about $1.50 per bushel, and then let him grind 1 bushel of flaxseed with 11 bushels of peas, and this will render the food slightly laxative. He can then mix this ground peas and flaxseed with his carbonaceous foods, and balance them very completely. The digestible nutrients of the peas and flaxseed will be: Albuminoids, 20.0; carbohydrates, 52.03; fat, 3.93, having a nutritive ratio of 1 to 3.1. Let us suppose that C. wishes to balance oat straw so as to make it take the place of hay. The digestible nutrients of oat straw are: Albuminoids, 1.4; carbohydrates, 40.1; fat, 0.6. Now, to 20 lbs. oat straw let us add 4 lbs. ground peas and flaxseed, and the digestible nutrients stand: Albuminoids, 4.5; carbohydrates, 42.41; fat, 1.15. This has a nutritive ratio of 1 to 10, is better than average timothy hay, and will winter stock in good condition. Let us suppose that the pea mixture is worth $1.25 per 100 lbs., then 4 lbs. would cost 5c., which added to 20 lbs. of straw gives us the feeding value of 24 lbs. of hay, worth say 13c. C. will understand how a good milk ration can be made with straw or corn-fodder, bran and this ground peas and flaxseed to balance it. 3. He asks about buckwheat hulls and bits of kernels ground fine. I answered very recently concerning the value of the hulls alone, which he will no doubt see. But what change the "bits of kernels" will make cannot be told without knowing the proportion of the kernels. E. W. S.]

The Veterinarian.

Answers to Correspondents.

(By Dr. EDWARD MOORE, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.)

LARGE BELLY.—A colt, 11 months old, has too large a belly. Has always been so. Can it be improved by feeding a half ration of hay and the other half a moderate feed of oats? C. B. *East Bloomfield, N. Y.* [Give colt 1 oz. spirits of turpentine and 8 oz. raw linseed oil as a drench. Feed Moore Bros.' worm and tonic powders. Give a gill of raw linseed oil in feed or otherwise twice a week.]

WARTS ON MARE.—My mare, six years old, has a wart, size of large cocoanut, on her hind foot in front above hoof; also several smaller ones on different parts of her body. Large one seems to hang by a small neck. Mare in good condition every way except the warts. J. S. *South Rockwood, Mich.* [Have a veterinary surgeon remove it with an ecraseur and afterwards treat it as a simple wound.]

KNEE SPRUNG.—Seven-year-mare; was not knee-sprung last spring, but is quite markedly so now—off fore knee bends diagonally outward as well as forward. Hoofs are inclined to contract; travels close, sometimes interfering. What should be done? F. J. *Albany County, N. Y.* [Have feet pared down and heels well opened; put shoes on fore feet with heels twice as high as toes. Then apply golden blister around feet and on both sides, also the back of legs to the bottom of the knees. Give a month's rest. When the animal is used the raised heels must be preserved.]

DISCHARGE FROM NAVEL AND VAGINA.—A heifer calf when two to three (now ten) months old had an occasional discharge from navel, which would swell slightly until the discharge, which was a thick whitish opaque mucilage rather than a pus. This trouble disappeared so as not to attract notice. Latterly her vaginal discharges have become very offensive to the smell and of a turbid white color. G. W. T. *Stetson, N. J.* [Give 1 oz. spirits of turpentine in 8 oz. of raw linseed oil. Repeat in 3 or 4 days. Give large tablespoonful of the following powders in feed 3 times a day: Powdered bicarbonate of potass., 8 oz; powdered colchicum root, 4 oz.; bicarbonate of soda, 6 oz.; mix. Write again and refer to this page.]

DIFFICULT BREATHING.—A heifer 17 months old has appeared to be troubled with loud breathing since three or four months old, with frequent spells of coughing; since last spring not regular or severe. Of late the coughing is harder and more frequent, seemingly aggravated by eating dry hay. Last week I found her one night coughing very hard and for a long time, and between the spells she stood with her tongue hanging out, breathing as though choking, making a noise that could be heard rods away. Water relieved her; but the coughing comes on at varying intervals. She eats heartily, drinks naturally and is thrifty. A. T. C., JR. *Logan, Utah.* [The case is so chronic that there is little hope of a cure. Inject nostrils once a day with some of the lotion. Tincture iodine, 2 oz.; carbolic acid, 4 dr.; water, 1 qt. Mix. Apply golden blister to throat around larynx. Repeat the blister in two to three weeks. Write again in two weeks.]

FISTULOUS JAW.—A colt, four years old, has a running sore on his jawbone about two-thirds of the way between his mouth and the junction of his head and neck; a hard lump formed first, supposed to have been occasioned by a blow more than a year ago. Lump was lanced and discharged freely; still continues to discharge more or less; pus is sometimes tinged with blood; odor more offensive now than a year ago. Seat of trouble seems to be above the outside of the jawbone above the point of discharge; a pressure on this part of the flesh of cheek causing the horse to flinch. Flesh has shrunk a little, not noticed except by the touch; have given no treatment, only washing occasionally. Horse eats well and general health is good. J. J. M'C. *Leeds, Md.* [Probe the fistula and note the depth of it, then examine as to whether bone is bare. Enlarge the external opening so that you can easily insert your finger. Inject once a day with some of the following and use a hard rubber infant syringe: Spirits of turpentine, 8 oz.; linseed oil, 8 oz.; compound tincture of aloes, 4 oz.; carbolic acid, 2 dr.; mix. We shall change the dressings from time to time. Write every two weeks and refer to this page; clip hair away from parts.]

HIP LAME.—A yearling colt, rangy and in good condition, was cast two weeks ago; seems to be lame in hips, cannot get up without help, but moves around smart when up; eats well. Had some swelling in stifles, but there is none now. Have bathed with saltpetre and vinegar, and given 15 drops of tincture of aconite three times a day. Does not seem to improve or get worse. Would it be better to sling him up? L. *Alfred Centre, N. Y.* [At his age slinging would be apt to do him a great deal of damage. Give him a laxative such as a gill of raw linseed oil in feed every few days. Rub his stifles and hip joints once a day with some of the following liniment: Tincture of cantharis, 8 oz.; spirits of camphor, 4 oz.; mix.]

LUMP ON JAW.—A young cow has had a lump on her jaw for six months; is now as large as a tea-saucer. It was cut out in September and treated, as directed, with carbolic acid and water, but did not heal; has since spread and is much larger; coats over with a brown substance which peals off and looks red and angry; is fast to the bone. W. H. H. *Huntsville, N. Y.* [Sponge or wash sore off, then dry it with damp sponge and apply some of the following. If there is a cavity it should be syringed also with the following medicine: Tincture of iodine, 8 oz.; carbolic acid, 4 oz.; mix. Dress as above daily. Give cow an ounce of chlorate of potash in feed daily for three weeks; then write again; refer to this page.]

HOOF SHRUNKEN—HYDROPHOBIA.—A mare 13 years old, recently bought, is badly sunken in chest and is very lame, especially in mornings or after standing. Rim of hoof is but little lower than the center, all appears very dry and hard; after traveling some her foot appears very hot and feverish. I got her for a brood mare. (1) What is a cure for hydrophobia in cattle, dogs and pigs? (2) C. H. *Grinnins, Neb.* [1. Soak feet in warm salt water two hours a day for a week, then have a pair of bar shoes put on, rasp hoofs thin all the way around top, just below hair about half an inch down from hair. Afterwards clip feet from top of hoofs to fetlocks and apply golden blister. After blister has been washed off soak three times a week, and repeat the blister every thirty days until two or three applications have been made. Improvement will be slow but certain. 2. See rabies and hydrophobia in back numbers.]

PREVIOUS IMPREGNATION.—A fine Jersey heifer 16 months ago was served by a Holstein bull. Last spring she dropped a black and white calf. She is now in calf by a registered Jersey bull. A. asserts that she is ruined as a breeder. I hold that though instances do occur where the first service exerts an influence on the future offspring, still it does not occur often enough to be accepted as a rule. Which of us is right? S. H. A. *Gaylordsville, Ct.* [I am of the opinion that rule in this case has little bearing on the question. It is generally conceded that the first impregnation of a female by a male of different blood is apt to leave an impression that is prone to crop out in successive generations from such a dam, even though she be bred to animals of her own kind of unbroken pedigree. The Holstein men may smilingly tell you that your "critter" is enhanced by the cross, but the Jersey man will be very slow to believe it. Dr. Trall in "Sexual Physiology," says: "One of the most wonderful phenomena of generation is the effect of one impregnation of the female on the offspring by succeeding males. This has been observed in animals and plants, and the law is known to extend to man also." Numerous cases of most striking resemblances of offspring to males that previously impregnated their dams are on record. Such as a mare being impregnated by a jack, and producing a mule, and afterwards when bred to a stallion of her own kind or breed, she has brought forth colts that looked more like mules than horses. Pure Berkshire sow was bred to a Poland-China boar; next year was bred to a pure Berkshire boar, and more than half the pigs were Poland-China in appearance. Pure Aberdeenshire heifer was served by a pure Teeswater bull by which she had a first cross calf. The following year the cow was served by a pure Aberdeenshire bull; produce was a cross calf, which, when 2 years old, had very long horns, the parents being both polled or horneless. I trust that we may have the views of all breeders who take the COUNTRY GENTLEMAN on this subject, and reports of cases that have come within their observation. If our readers will contribute such facts, they will be very valuable.]

LUMP ON KNEE.—A mare 6 years old, having stumbled and fallen upon one knee on stone pavements of street, a hard lump half the size of a man's fist has formed, and been there three months; used liniment, and took swelling out of joint, but the lump is hard—a lump similar to knee-cap on man's leg. Can it be removed? A. J. D. *Frederick, Md.* [It is an exostic growth I fear, and will probably never be entirely removed. Apply golden blister and repeat every three weeks. The horse may be used moderately every day.]

OUT OF CONDITION.—A yoke of oxen have worked hard on the road drawing sand, have made as many trips per day as my horse teams, have eaten nine quarts of corn meal per day; now they refuse to eat grain of any kind and eat little hay; are gaunt and quite thin and not able to work much. Would like to get them to eat grain so as to fatten them. D. F. [Give them each a dose of general cow drink and half a can every three days until several of the latter doses are used. Whole flaxseed steeped and given as drink will be excellent for two or three weeks. Also give each an ounce of powdered nitrate potass. in drink per day. Write again in a week.]

CONSTITUTIONAL OPHTHALMIA.—The eyes of two mules at intervals will run freely and become covered with white film. Treated them with a tincture of opium and belladonna, a few drops put into the eyes with a camel's hair brush as prescribed in a back number. This apparently makes a cure for the time, but the trouble returns in a month or so. In fact I have treated one mule seven times during the past year. A local veterinarian says the trouble will result in total blindness in a year or so. The mules are eight and nine years of age, in fine condition. C. A. C. *Glyndon, Md.* [See articles on constitutional or specific ophthalmia in back numbers, and treat the animals accordingly.]

FALLING AWAY AFTER CALVING.—A heifer two years old last spring, dropped her first calf early in April. Man in charge says he milked from her all that the calf did not take, but she did not thrive, lost flesh, and milk fell off so much that we weaned the calf. Since that time she has become "foundered," and can hardly walk to the field and back again. Have had her dried off. Ought she to breed again, or can I fat her into beef, or shall I put her into the dung heap? W. H. *Islip, N. Y.* [Give 2 oz. of spirits of turpentine with a pint of raw linseed oil; repeat in 24 hours. Feed her liberally on ground oats, whole flaxseed steeped and bran. Give her half a can of cow drink every three days, and repeat in one week. I am not sure that it is wise to kill the cow. Let us see what can be done. I think it would have paid you to attend to this matter long ago. Refer to this page when writing again.]

EPIDEMIC ABORTION.—A year ago a large number of mares (I know of over a hundred) dropped their foals before their time. Some of them were out in the fields all the time, and got their water in creeks, &c.; some were out through the day and stabled at night; some were stabled all the time (except a little run in a lot in good weather for exercise), and had fresh water from the well regularly; while others were used for the winter's driving and hauling. The foals were from heavy draft coachers, fine trotters and grade stallions. They were dropped from five months to a week before time. It is beginning again this winter. A. C. *Lewis, Ill.* [While epidemic abortion is common in cattle it is comparatively rare in mares. Mares are more subject to sporadic abortion, such as results from blows, falls and other injuries. Epidemic abortion, such as you describe, is due in the majority of instances to germs obtained from animals that have aborted—not from injuries, but because of infection. The only plan in such cases is to treat the pregnant animals before they show any signs of abortion. Such cases require full information and considerable correspondence.]

Horticultural Department.

Notes on Pears.

Since the general introduction of the many excellent varieties of the pear, and the increased number of years in testing their character and value, new qualities have been more or less developed, rendering additional notes interesting to cultivators. In connection with a few statements of this kind, we give some figures representing their form and appearance, so far as this can be done by portraits only one half or one third of the common life size in diameter, our limited space not admitting their full magnitude. Most of these figures we have drawn from the living specimens, and a few are taken from Gardening Illustrated.

Summer Doyenné—Still remains the most popular very early pear. The tree is hardy, a free grower and a very abundant bearer every year. But unless the fruit is thinned on the tree, it will be reduced both in size and quality, and specimens from heavily loaded trees would be classed as decidedly poor in flavor. Give them more room on the branches and they will become double in size, with a hand-

Summer Doyenne.

some red cheek and with very good quality. The rich yellow color which the ripening fruit begins to assume, shows that it is quite time they were gathered, which should be three or four days before they fully ripen. Picked more than a week or ten days before maturity they do not attain their best quality, as is the case with some other summer pears.

Giffard—Follows Summer Doyenne, is larger in size and superior in quality. But its slender and crooked growth renders it unpopular with nurserymen and with purchasers who require

Beurre Giffard.

straight and handsome trees. It may however be grafted at the standard height on upright stocks, and a symmetrical form be thus given.

Flemish Beauty.—This fine handsome pear gave great promise during the early years of its cultivation, but subsequently its value was

Flemish Beauty.

greatly diminished by the black mildew and cracking of the fruit, and on this account it was entirely discarded in many localities More recently the fruit has become quite fair in places where it was formerly nearly worthless, and it has been sold in markets at prices among our best varieties. The same change has taken place with some other pears, and among them the Virgalieu or White Doyenne. This pear was regarded in the neighborhood of Boston half a century ago (where it was known as St. Michael,) as perfectly worthless from the black scab and cracking. About the same time it was perfectly fair in Western New-York and was then at the head of the list as a market variety. But in a few years the same disease attacked the fruit as at Boston, and nearly all the trees were grafted with other pears. More recently however it has become quite fair again, and possesses its original excellence. These changes show conclusively that the difficulty was not the result of the old age of the variety, as many cultivators and writers believed; nor from the exhaustion of the soil by the extending roots as others insisted, for the same trees are standing in the ground where the fruit was once so excellent, then scabby and worthless, and now as fair as ever. How long it will remain so, no one of course will venture to predict.

Grey Doyenné—Known also as Red Doyenne, which much resembles White Doyenne, except in being covered with a fine cinnamon russet, has been affected with the same disease, and from which it has partly or wholly recovered. When at its best, it is decidedly superior to the White

Grey Doyenne.

Doyenne in delicious flavor, and some good judges have placed it at the head of all pears for excellence. The tree, however, is not a strong grower, and as it is not proof against cracking, it will not be extensively planted.

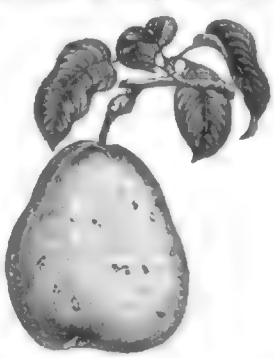
Frederic Clapp—Is one of the newer pears which promises high value. It was produced from seeds of the Urbaniste crossed with Superfin, resembling the latter in quality, being juicy, melting, with a high aromatic flavor. It originated in the neighborhood of Boston.

Superfin—Is of French origin. It is large in size, and rather handsome in appearance, the flesh buttery and very melting, rich, and some-

Beurre Superfin.

what brisk in flavor. P. Barry of Rochester places this pear about at the head of the list for excellence of quality. The tree grows well on quince stocks.

Angoulême—Properly called the Duchess, although four other pears have the name Duchess, has been long and widely known as the best grower on the quince, and for its strong growth and hardy character, and its



Duchesse d'Angoulême.

slight liability to blight. It still maintains its high reputation.

Duhamel du Monceau—From Angers, in France, has a buttery, melting and slightly granular flesh, of an agreeable and excellent flavor. It is a firm mid-winter variety, and excellent specimens have been raised by Ellwanger & Barry of Rochester.

Growing Mushrooms.

Your correspondent "M," page 980, asks: "How can I grow mushrooms successfully in winter without the aid of artificial heat?" Also information on other practical points in connection with it.

I am very much interested in the cultivation of mushrooms, and grow them extensively, and I often wonder why it is that farmers, who have such good facilities for growing mushrooms, so completely ignore this crop.

In answer to M, I may say that in a shed, cellar, or any other frost-proof structure which is dry overhead and on the floor, mushrooms can be grown successfully all winter long; in fact, it is not necessary that the building be quite frost-proof, but it is imperative that it be a snug, warmish place, and not an open, airy, drafty one. Although for two years—1872-3—I was identified with mushroom-growing in the open fields in the London market gardens, I never considered that method feasible enough to be profitable in this country. Here, in winter, mushroom-growing must be practiced in-doors.

In order to get mushrooms, we must maintain a surface temperature of 50°; 55° to 57° is regarded as the best temperature. I get capital crops at a temperature of 60°, and the only harm I find in 65° is that it draws up and hurries off the crop quicker than would a lower temperature. And as we cannot maintain an equable temperature of 50° or 55° in a shed or cellar in winter without artificial means, such as a stove or hot-water heater, we must cover over our beds with hay or straw, and preserve the heat that is inside the beds. When well covered with hay, the surface of the bed is nearly as warm as the inside of it, and the temperature equable, and the mushrooms come up as well under the heavy mulchings as they would were no mulching used; furthermore, under a heavy mulching the beds do not get so dry as they are apt to do when not mulched, and the mushrooms are whiter, and last a little longer in good condition before cutting, and they are less liable to disease. The great drawback to this system is the bother of uncovering and covering in gathering the mushrooms, and the likelihood of breaking off or pulling out a few good buttons that may get tangled in the hay. But if a European market gardener, with an acre of out-door beds, covered over in this way, can uncover, gather and cover up again three times a week and make money by it, we, with a few beds in a shed or cellar, should not have much cause of complaint.

While capital mushrooms can be grown in totally dark cellars, darkness is not at all necessary to their successful cultivation. The heaviest crop of mushrooms I ever saw was grown by John Cullen, one of my old foremen, at South Bethlehem, Pa., in a disused old cistern under his green-houses, and in which the darkness is absolute. About a month ago I visited John G. Gardner at Jobstown, N. J., who grows mushrooms extensively for the Philadelphia, New-York and Boston markets, and in addition to a very large, dark cellar, he has range after range—hundreds of running feet of green-houses, which are used for fruit-forcing in spring and summer—now filled with string after string of frames devoted to mushroom culture, and this is in the full daylight, except that the sunshine is intercepted by other crops growing on stages above the mushroom frames. And in my own case I find the mushrooms almost always come thickest near the doors of the cellars.

Horse-stable manure is what we use for the beds. Get it as fresh as you can, and if it has been pretty well moistened under the horses' feet in the stable, so much the better. Shake out and throw aside all the dry straw part. Throw the manure into a heap to heat. When it gets warm, turn it and pile it as before, then turn it every day or two till the violent heat subsides—say in three weeks. Many growers mix loam with the manure. Some mix the loam with the manure at first—I do this; others do not add the loam till a day or two before the beds are to be made up. Mr. Denton of Woodhaven does this; and in many cases (several of my own beds, too) no loam at all is used in the manure. Manure alone is capital for floor beds, but for shelf beds I like the loam mixture best. Common field loam is what I use.

Make the beds on the floor, any length and breadth convenient, and—as you will have no artificial heat—18 or 20 inches deep, and in building them tread them as firm as a turnpike road. In a few days the heat will run up to about 120° or more. Wait till it declines to 90°, then spawn the bed. And as you have no artificial heat, cover the bed over with some hay or straw, the same day you spawn it, and leave it there for ten days. Then remove this covering, and add a 2-inch lining of loam all over the bed, firming it well with the back of the spade, and at once replace the straw covering, whose thickness—4 or 12 inches—will depend on the lowness of the atmospheric temperature. Five weeks after this—that is, in six to seven weeks after spawning—you may hope to see mushrooms. All that will now be necessary is to keep the place as close and warm as possible, and change the inside lining of straw once, maybe twice, should it get wet from condensed moisture from the beds.

But it is now near New-Year's and pretty late to prepare for mushroom beds this season. To get and prepare the manure will take over three weeks; from making the bed up till spawning time will be some two weeks; and from spawning till mushrooms appear will be six to seven weeks—in all some three months. Then you will have only about a month's cutting before the maggots will render the crop worthless. WM. FALCONER.

Queens County, N. Y., Dec. 13.

The Ohio Society.

Meeting at Troy in December--II.

The subject of "Commercial Fruit-Growing" was discussed at some length by F. R. Palmer, a practical horticulturist of Mansfield. Among the more important points elicited by this discussion were the following: Where the soil and location are favorable and where a good market can be conveniently reached the growing of choice fruit for market is a paying industry, but the measure of success attained will depend upon the practical knowledge and skill of the operator. He must not only be able to make a judicious selection of varieties adapted to his soil and climate and to the markets for which they are grown, but he must understand and practice the proper modes of culture, and also of gathering and marketing the fruit.

A majority of the failures in fruit-growing are made by farmers who try to farm extensively at the same time. The time and attention that should be given to the fruit is put upon the farm crops, and the fruit fails through lack of care. Not one farmer in fifty knows how to grow and market fruit so as to get the most money out of it. Successful fruit growing requires more scientific knowledge reducible to practice, as well as more skill in the performance of the work required, than is necessary for the same measure of success in the growing of ordinary farm crops. It is blind folly to think of success in commercial fruit-growing by mere guess-work and blundering in the dark; it is a useless waste of time and labor.

An apple orchard for commercial purposes should comprise but few varieties, and they should be such as are known to be hardy, productive, and adapted to the soil and locality of the grower. The fruit should be of good size, handsome appearance, of good keeping qualities, and firm enough to ship well. Apples when gathered should be handled as carefully as eggs. Apples for shipping should be gathered earlier than is customary with most growers. They will not only ship better but keep better. When gathered and left in the orchard until barreled, they should be piled on clean wheat straw, and covered with cornfodder, to protect them from sunshine and to carry off the rain. Never cover with straw; the chaff falls down among the apples, sticks to them, and greatly injures their appearance.

To make a success of peach-growing, one should select elevated sites, and warm sandy soils, or localities near large bodies of water. In most situations a peach orchard should be well cultivated. Keep down all weeds and grass, in order to repel the borer, so destructive to peach trees. Wash the trunk of the tree with strong suds made of soap and carbolic acid, and scatter wood or coal ashes around the roots of the tree.

Quince culture can be made profitable if proper care and attention be given. The best soil is a rich, moist (not wet), clay loam. The ground should be well manured and cultivated in some hoed crop previous to planting, in order to get it in good condition. No fruit

tree is more benefited by liberal manuring and good culture than the quince. This careful treatment is absolutely essential to success. The greatest drawback to quince culture is the borer. It can be kept in check by washing the body of the tree with a suds made from whale-oil soap and carbolic acid.

Where the grape succeeds, there is more money in it at two cents a pound than in almost any other crop grown. The small fruit grower should have easy access to either a good home market or a good shipping point, and also be near a town or city where he can secure help to gather his fruit. Small-fruit culture has of late years become an important branch of commercial fruit-growing. This is so much so that the people in our large towns and cities are better supplied with these wholesome luxuries than the majority of the people in the rural districts. The average farmer does not appear to consider himself entitled to any of the luxuries of life. The practice of many fruit growers to be constantly finding fault with railroads and express companies is one to be deprecated. They are not only a great convenience, but a necessity. The percentage of fruit lost either by delay in transportation or careless handling *en route* is exceedingly small, and as a rule, the agents are gentlemanly and obliging.

How to Exhibit Fruit.

The discussion of this topic was interesting and timely. It is a fact that cannot be denied that many of our most intelligent and industrious horticulturists do not show the products of their skill at the various fruit exhibits held throughout the country. Probably the main reason is that they do not believe they can successfully compete with other exhibitors who though less expert in growing the fruit may be more skillful in exhibiting it. Others sometime refuse to enter the list for the same reason that many who consider themselves among our best citizens refuse to take any part whatever in the political affairs of the country lest they contaminate themselves thereby.

The leading objects in all public displays of fruit should be instruction and entertainment. The mere act of beholding a fine exhibit of fruit is in itself beneficial, but if in addition to this we are enabled to learn just how it was produced, whether grown on clay or sand, high land or low land, drained or undrained, in sod, with clean culture or mulching, whether from young trees or old, pruned or unpruned, sprayed or unsprayed, etc., we have not only delighted our eyes but have gained some information that can scarcely fail to be of value. As a rule, the only one well qualified to give reliable information in regard to a collection of fruit is the grower. An exhibitor who simply collects his specimens here and there cannot get at the true inwardness of a variety like one who has planted, pruned and cared for the tree or fruit plant. Exhibits of fruit should be considered as object lessons in Pomona's school, encouraging and aiding a spirit of friendly emulation and an effort to excel. "What man has done man can do," and to see a very fine sample of fruit of every variety seems proof positive that others can do the same, and it is not unreasonable to hope that with the proper knowledge and skill the whole crop may be brought to this state of perfection.

A given quantity of fruit shown by a large number of exhibitors is of more benefit than an equal amount shown by a much less number, because so many more are interested. Wherever possible, it would greatly add to the interest and value of our fruit exhibits to have an appointed hour of each day or days devoted to the discussion of the fruit displayed. It would also add much to the attractiveness of the exhibit if premiums were offered for the most artistic and beautiful arrangement of fruit in plates or in baskets. The most troublesome question that presents itself in fruit exhibitions for premiums is the election of disinterested committees of award, men of ability and integrity. The practice of calling in experts who are not exhibitors themselves, is, perhaps, the best solution of the difficulty.

Another great and crying evil is the lack of strict integrity on the part of many exhibitors. Perhaps those who practice questionable methods ought not to be charged with downright dishonesty, but it is so common for competitors to indulge in some slight breach of the spirit, if not the letter, of the regulations that they have drifted almost imperceptibly into the habit of taking questionable advantages. Horticultural competitive exhibits should be so free from fraud, or even a suspicion of fraud, that the very innermost workings can be revealed without the slightest blush of shame, or tending in any way to lessen the love and respect in which the great art of horticulture should be held.

"Some Lessons from the Chemical Composition of Fruit and Fruit Plants," was the topic presented in a short paper by Prof. W. E Lazenby of the Ohio Agricultural College The art of horticulture consists in transforming, by means of cultivation, crude and worthless materials into substances mainly useful as wholesome food products. These raw materials are furnished by the soil and such substances as may be added thereto, together with certain elements of the air and water. Progress in the art of horticulture means an ever increasing insight into, and a better understanding of, those laws which govern the desired tranformations. It means a better knowledge of how plants grow and how they feed. The sciences of botany, chemistry and geology have all contributed much toward this end. Of the three sciences named, perhaps chemistry plays the most important part, being intimately connected with, and concerned in those changes in material substances which the horticulturist is constantly endeavoring to effect. Three practical lessons drawn from the chemical analysis of fruit and fruit plants are as follows:

1. "The Needs of the Soil for Profitable Fruit Production" It is well known that every plant is composed of certain elements or compounds whereof by far the larger portion comes from the atmosphere; a much smaller, though constant, and no less essential part, coming from the soil. What comes from the atmosphere is yielded freely and is generally found in abundance; hence the really important question is: Are the necessary substances furnished by the soil usually present in such quantities, and under such conditions that the wants of the plant are supplied? Can chemistry help us to an answer? We may not have much to hope from the analysis of soils, and it is doubtful if this will ever do more than furnish hints as to what may or may not be required. We do know, however, that the analysis of plants and fruits furnish oftentimes reliable guides as to what can be profitably added to different soils as fertilizers. To illustrate: The stems, branches and leaves of different fruit trees contain comparatively large quantities of lime and potash, and few orchards have ever been seen, the productive capacity of which could not be improved by the application of one or both of these compounds. Chemistry tells us that our fruits, especially those producing much seed, contain a considerable amount of phosphoric acid, which is often lacking in the soil.

An average of several trustworthy analyses of the seeds of the grape, give in every 100 parts of the ash 29 parts of potash, 34 parts of lime, and 24 parts of phosphoric acid. The farmer's, gardener's and fruit culturist's partiality for barnyard manure, in preference to most commercial fertilizers, is because it is, when well made and preserved, an almost complete fertilizer. Next to the barnyard manure, according to the teachings of chemistry, unleached wood ashes is probably the best fertilizer for fruit, gardens and orchards. Then comes lime, where the soil is deficient in this element, and phosphates or ground bone wherever the soil has been despoiled of phosphoric acid.

2. "The Ulterior Advantages of Thinning Fruit." The most direct and palpable gain from thinning is in the increased size and enhanced market value of the fruit. Chemistry, however, informs us of another benefit that ought not to be overlooked. By increasing the size of the fruit, we diminish the weight of the seeds. A given measure of a variety of apples containing one hundred specimens has but little more than one-half as much seed as a similar measured quantity of the same apple that contains two hundred specimens. A large per cent. of the mineral ingredients of the apple is found in the ash of the seed.

It is obvious, therefore, that if we wish to make as slight a draft upon the soil as upon the vitality of our fruit plants, as possible, we should aim not so much to diminish the total weight as to diminish the amount of seed by increasing the size of the individual specimens.

In the case of our small fruits a selection of varieties with a comparatively small seed product would probably give the same result. An analysis of the Turner and Ohio raspberries made at the Ohio Experiment Station gave the following interesting results: The Turner was found to contain 84¼ per cent. of water and 15¾ per cent. of solid matter. The Ohio contained 80 per cent. of water and 20 per cent. of solid matter. Of the solid matter in the Turner a little less than 34 per cent. was seeds. In the larger amount of solid matter in the Ohio over 55 per cent. was seeds. In other words, the Turner had less than one-half the amount of seed found in the Ohio. These figures may not show which variety of the raspberry in question is the more profitable in the market, but it does show which is the more exhausting to the soil, and which is the more profitable for the consumer.

It seems more than probable that the judicious thinning of our small fruits by more radical pruning, or by the removal of a portion of the young fruit as soon as it is set, would not only give better immediate results, but would delay the exhaustion of the soil and prolong the life of the plant.

3. "The Advantages of Fruit as a Part of an Every-Day Diet." On this topic chemistry sheds much light. Most of the substances found in fruit are essential constituents of human food. The two qualities that render fruits especially wholesome and cause us to crave them for their taste is juiciness and flavor The juice is mainly water, but it comes in a grateful and refreshing form. The flavor is due to the presence of certain organic acids together with certain volatile oils and ethers. Chemistry and physiology both teach us the important distic effects of these substances. When taken into the body they undergo oxidation, which process tends to lower the temperature of the blood, thus correcting any slight tendency toward a feverish condition which often exists. They also tend to keep the organs of secretion, liver, kidneys, &c., in healthy condition in our climate, subject as we are to great extremes of temperature, having an arctic winter and a tropical summer, and passing as we often do abruptly from one to the other, the system is naturally debilitated, and in this condition we are predisposed to malarial troubles Fruit, on account of the free acid it contains, is a great corrective for this general debility, the acids being antiseptic.

Unripe fruit is not wholesome—it does not digest readily, but ferments and decomposes in the stomach, giving rise to serious gastric disorders. The same is true of over-ripe or partially decayed fruit. It is unwise to take into our bodies that which will decay and ferment rather than digest; it is certainly no less unwise to use fruit in which these changes have already begun. The question is often asked whether such or such a fruit is "healthy." This is bad English unless you have special reference to the condition of the fruit itself. It is safe to say, however, that the teachings of chemistry, as well as our own experience, show that nearly all "healthy" fruits are wholesome. W. E. L.

The Poultry-Yard.

Indian Game.

In trying to be fair to every breed, there is always a danger of not pleasing either the adherents or the opponents of any variety, and I appear unconsciously to have stimulated Mr. Babcock because I have not done justice to the Indian Game. That this complaint is made by an American writer because an English writer had not said enough in favor of an English fowl, is a little surprising. Generally the complaint is more the other way, and I have been charged once or twice with exalting unduly the virtues of English breeds. I have tried to be fair, and think one complaint is as incorrect as the other.

At the same time, I think Mr. Babcock is justified in saying that I have somewhat underrated the weight of these birds, for in them there is a great variety. The efforts of the Indian Game Club in its standard are helping toward this end The weights I gave may be taken to mean cockerels and pullets, with adult birds heavier. But this, of course, means birds which are kept in hard condition—not in any way fatted. Still I think it may be taken that adult birds average 9 and 7 lbs. when in ordinary condition, for cocks and hens respectively.

This is, however, the only exception to be made in my statement with respect to the Indian Game fowl. A re-reading of it will show that I gave it full credit for high qualities. It cannot be said that I "damn'd it with faint praise;" for if Mr. Babcock reads my article again, he will see that I gave it a high position for its table qualities. That it is one of the most valuable fowls we have in this respect cannot be doubted, and so much do I think of it, that I am doing my best on this side to spread it abroad among farmers and others who produce fowls for the table. It is interesting to note that at the recent Birmingham Show a pair of Indian Games won the cup for the best table fowls in the dead classes, beating Dorkings, Game and the French varieties. Certainly such a beautiful pair of birds have seldom been seen. They were large, broad and deep in flesh, with a lovely-colored skin and flesh. They deservedly occupied the leading position, and their success will undoubtedly do much to popularize them. Personally, I prefer the Indian Game crossed with the Dorking or one of the French varieties, as the flesh is just a little hard, but this can be overcome if they are properly fattened and kept dead for a few days. The Indian Game-Dorking cross produces one of the finest table fowls it is possible to desire—the combination of flavors and the development of breast formation making it both large and perfect in form and color.

Thus it will be seen that I do not in any way depreciate this fowl for table purposes, but at the same time I do not pretend it to be perfect in *every* respect. That would be a misleading statement. I am glad to hear Mr. Babcock has taken up the breed, for with his influence and experience it ought to obtain a good place in America. Hardy, handsome, and excellent in its table qualities, it should be spread broadcast over the country, and in the hands of farmers would prove an invaluable breed for improving the present stocks where table fowls are required.

As layers, I must maintain what I said before. When I quote the statement that "they are not abundant layers, laying from twenty to thirty eggs in a batch, after which they generally go to nest and sit well," this did not mean that they only lay this number in the year, but that they do so before wanting to sit. These words were written by Mr. John Frayn of Launceston, the most successful breeder in Indian Game we have, whose birds have this year swept everything before them at the various shows in England, taking cups both at the Crystal Palace and Birmingham.

This same gentleman emphasizes his statement in another journal by saying that the Indian Game is "a moderate-laying fowl." As to size of egg, eight to the pound for pullets and seven for hens, are larger than the average of English eggs, and I have not in that direction done the Indian Game an injustice. But Mr. Babcock must know that size of egg is largely influenced by feeding, and also that a change of condition and of food often induces an increase in the weight of eggs laid. The weights I gave referred to fowls kept under natural conditions, without any special feeding—in fact, the average egg of the breed.

It is surely doing a fowl no injustice to accord it a high place for one quality and deny it the possession of another and incompatible one. No fowl I know of can claim to be at once great in table properties—as great as is the Indian Game—and a heavy layer, and to ask or expect such a thing is as unreasonable as it is impossible. I should have thought Mr. Babcock would not have built up a case on what any fowl does under new conditions. But I hope he will be successful with the Indian Game—successful in making it popular in America—for it well deserves his efforts.

Kent, England, Dec. 12. STEPHEN BEALE.

January Management.—The extra food fed to fowls in winter, in comparison to the meagre amount to keep them alive, is not so great as one would expect, if the fowls have a comfortable place. Fowls consume less food when they are warm than when shivering with cold. It is profitable to feed well in winter, not by any means to surfeit or pamper them, but just what will keep them in good condition of health and flesh. There are many ways, too, in preparing the food, and in using coarse or cheap kinds of food with the more substantial and costly, that would be a saving and still better for the fowls. Those selected for breeding should not be encouraged to lay too early, as there is no demand in mid-winter, except for artificial hatching and rearing. Exercise and ample space for the breeders greatly aid them in vigor and fertility, and favor reliance and mutual attachment, as they can move about without hindrance, and enjoy each other's company scratching, dusting and all manner of flirtations. It is on the physical qualities as well as the plumage and other fancy points one has to depend for good results in spring.—*Poultry Monthly.*

New Advertisements.

Burpee & Co., W. Atlee.. *Burpee's Farm Annual.*
Browne, Jacob & Co. .... *Farm for Sale.*
Benedict, E. F. ..... *Dog Trainer Wanted.*
Cobb, N. S. ..... *Jersey Bull.*
C. ..... *Farm for Sale.*
Collins, John S. ..... *Nursery Stock.*
Clarkson, R. L. ..... *Jersey Cows.*
do. ..... *St. Lambert Bull.*
Cloud, Dr. ..... *Chester White Boars.*
Dutcher & Son, J. B. .... *Holstein-Friesian Cattle.*
Davenport, N. ..... *Farms for Sale or Rent.*
Earl, J. Horatio ..... *Jersey Calves.*
Everitt, Chas. W. ..... *Situation Wanted.*
Ferry & Co., D. M. ..... *Seed Annual.*
Gray, J. P. ..... *Gentleman's Roadsters.*
Gregory, James J. H. .... *Seed Catalogue.*
Hill, P. L. ..... *Bull Arabie.*
Horton, S. H. ..... *Pioneer Wanted.*
Hawks, R. M. ..... *Farm for Sale.*
Jerrard, George W. P. .... *Seed Potato Catalogue.*
Livingston's Sons, A. W.. *Seed Annual.*
Leonard, S. F. ..... *Seed Catalogue.*
Moseley & Stoddard Co.. *Stoddard Cyclometer.*
Manet Perry, Guano Co.. *Liberal Gold Prizes.*
Morse, L. B. ..... *Choice Bulls.*
P. O. Box 31 ..... *Partner and Wife Wanted.*
Rogers, Sarah F. ..... *Stock Farm for Sale.*
Sedgwick Bros. ..... *Steel Wire Fence.*
Spalding, Edward ..... *Land for Sale.*
Tucker, L. A. ..... *Brown Turkeys.*
The Dingee & Conard Co.. *Roses and Seeds.*
The Housekeeper ..... *$20 Given Away.*
Thompson, U. E. ..... *Flower and Grass Seeder.*
Taylor, S. G. ..... *Holstein Bull.*
Voorhees, D. E. ..... *Farm for Sale.*
Nick, James. ..... *Rose Striped Goat.*
Wilson, Samuel ..... *New Seed Potato, &c.*
Wood, Francis ..... *Veterinary Book.*
Williamson & Greasam.... *Farm for Sale or Exch'ge.*
Winter, Langhorne ..... *Guernsey Heifers.*
Westlake, H. G. ..... *Bull Calf.*
Young, Campbell H. ..... *Holstein Heifer.*

Subscribers' Wants.

CHAS. P. ROE, 37 *Fifth Ave., New-York.* Polled Cattle (Aberdeen-Angus or Galloway.)

S. BIGELOW, *Sumner, Mich.* Hampshire-Down Sheep.

CHAS. E. PARNELL, *Queens, L. I.* Back numbers and volumes of Agricultural or Horticultural papers—Magazines.

Pamphlets, &c., Received.

BARTELDES & Co., *F., Lawrence, Kas.* Seed Catalogue; pp. 36, with woodcuts and colored plate.

CLARKSON, R. L., 14 W. 28th St., *New-York.* Elaborated Tabulated Pedigree, with full notes, of Jersey bull Lord Victor Pogis 1489.

GRIMM MFG. Co., *Hudson, O.* Circular of Champion Evaporator, Regulator and Siphon; pp. 20, illustrated.

HILLS, E. L., *West Upton, Worcester Co., Mass.* Circular of Milk Aerator—see advertisement.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, *Boston, Mass.* Twenty-fourth Annual Catalogue.

SETTLE & TAYLOR, *Nashville, Tenn.* Catalogue of Belair Jerseys, giving full information, very elegantly printed.

Inquiries and Answers.

Stable Floors.—Of the different kinds of stable floors, particularly for cattle, which kind do you put down as best—best for the man who does the work, and best for the beast? [You will have to decide partly according to circumstances, between earth floors, or paved with cobble stones, flag stones, cement, durable plank, or plank and iron grating. Earth will answer only where there is perfect natural drainage or careful artificial drainage, with enough litter or bedding at hand to absorb all the liquid manure; otherwise the stable will become muddy. Stones or flagging will answer only where there will always be plenty of straw litter to make the floor soft and warm. Cement has partly the same objection, and is liable, if in horse stables, to be more or less broken up by the sharp horseshoes; but with plenty of litter this objection is obviated. Plank has several advantages; it is less hard and cold than stone and cement; is easily kept clean; and if well soaked, when made, with crude petroleum, and with a coat of gas tar between the two layers of plank, it will be quite durable. The manure gutter is easily made and managed. The best of all, for those who can afford it, is Prof. STEWART'S patent floor, described in the COUNTRY GENTLEMAN a few weeks ago, and advertised in its columns.]

Trapping Foxes.—Can you give me a good prescription for baiting foxes? We have an abundance of them, and I wish to trap a few. There is some composition, the ingredients of which I do not know, which trappers grease their boots with, and make a large circuit coming to the trap, and foxes crossing this circuit take the scent and follow to the trap. R. F. C. *St. Hilaire, P. Q.* [Newhouse, in his Trapper's Guide, says the trap should be smeared with blood, or heated and covered with beeswax, fastened to a six or eight-pound clog of wood and concealed with ashes, chaff or light earth, wool, moss or leaves being packed under pan and around jaws. Scatter scraps of meat rolled in honey over bed of trap, except where pan is, and smooth all marks. Earth from the urinating spot of the kennel of a tame fox is excellent to set the trap in. Some trappers obtain the matrix of the female dog, fox or wolf, in the coition season, preserve it in alcohol, and leave a small portion on the trap; also putting some on the soles of their boots from time to time, as they strike two large circles in different directions leading to the trap. A piece of bloody meat may be drawn in the circles at the same time. This is a sure allurement.]

Sandy Soil, p. 927.—Scotch dent grass, *Aremaria arenaia*, is the best of all if inquirer can get the roots. Seeding is uncertain; Bermuda does pretty well in places; also *Dactylis cæspitosa* of the Falkland Islands. Let him look up the conditions most favorable for the growth of these and see if they will apply to his case. C. H. E.

Buckwheat Hulls.—Have buckwheat hulls or bran any feeding or manurial value? Large quantities of it can be had within two miles of my farm for the hauling. A. B. S. *Robinson, Ill.* [On page 336, April 26th last, I gave the manurial value of buckwheat hulls, when used as bedding, as a little over $3.50 per ton. It contains 18 lbs. nitrogen, 15 lbs. potash and 8 lbs. phosphoric acid per ton. S. might haul it and use it as bedding for his cows and horses, and let it go to the field with the manure. It is certainly worth hauling for this purpose, as it will make about as good bedding as sawdust. If a farmer was very short of fodder, he might mix it in with his other foods, as it would be worth about as much as oat straw for fodder, and he would still have the largest part of it as manure. It would answer as a large part of the food for young stock or dry cows, by feeding 3 lbs. of bran mixed with 10 lbs. of buckwheat hulls. This would winter them as well as good hay alone. E. W. S.]

Concrete Wall.—Where can I obtain a reliable cement in its fresh state, which will harden up and make a good, strong, concrete wall in the proportions advised by Prof. Stewart? A number of trials with brands kept and recommended by dealers here have resulted in a miserable failure, either on account of poorness or age, and those who handle cement positively decline to place a farmer in communication with the manufacturers themselves, whose advertisements we fail to find. L. W. U. *Bradford County, Pa.* [L. W. U., living only 23 miles southwest of Binghamton, N. Y., would do well to direct a letter to "Any Cement Dealer" at that place, asking the postmaster to deliver it to some one, and he will find who can sell him fresh Akron or Rosendale cement, or water lime. In laying concrete wall, if the cement was good when fresh, but is rather old when used, give a longer time for it to set or harden. It will become very hard after it sets, but requires much more time. The laying of concrete wall is so easily done that everybody in the vicinity of the writer is successful in building it, and always build it without the aid of a mason. E. W. S.]

Sows—Pigs—Boar.—Is it safe to feed ground rye to breeding sows, and how best to feed it? (1) How can I best feed it to pigs two months old to grow and fatten them for spring market? (2) I have been told that rye was not a safe food for breeding animals, and a neighbour's boar failed to get pigs after he began eating rye middlings, shipped from Chicago—he had been a sure getter before. (3) I. J. *Galesburg, Mich.* [1. If I. J. means by ground rye, the meal of the whole grain, then the greatest danger in feeding it to breed sows would be the ergot it might contain. But perhaps his question is intended to reach also the broader point of nutriment proper for a breeding sow. Rye is a grain very rich in starch and other carbohydrates, like corn meal, and its nutritive ratio is too low, if used as a principal food. It would be nearly as bad as corn meal. The breeding sow should be fed on more nitrogenous, muscle forming and bone growing food. It should be mixed with wheat bran to be as appropriate food for breeding sows. 2. The same criticism will apply to it as food for pigs two months old. It has not got the elements necessary to grow the muscle, bones and frame of the pigs. Pigs of that age should be fed 2 lbs. of wheat bran to one pound of ground rye, and especially if it were rye flour or middlings. Success will depend largely upon a rangy frame. 3. In the care he mentions of feeding the boar pig, it was what is probably called rye flour with the bran all separated from it. The digestible nutrients of this are, albuminoids 5.25, carbohydrates 66.54, fat 0.71, having a nutritive ratio of 1 to 12.9. This is too fattening food and would be likely to have the effect which he mentions, of rendering the boar impotent. Wheat bran and rye bran have much more muscle-forming food, and four times as much bone-growing food as rye flour or corn meal. The writer experimented upon a bull, which was no longer desired for use, and, although he had been an active and sure getter, after feeding him three months upon timothy hay and refuse sorghum molasses, he became entirely impotent and would not notice a cow in heat. It was the excess of fattening carbohydrates that destroyed his masculine power. E. W. S.]

Periodicals.—Is the Tribune and Farmer of Greenfield, Mass., published now? Who are the editors or publishers of Our Country Home, or has the paper suspended publication? C. E. P. [We do not think either paper is now published.]

Horse Hay-Forks.—On page 778, Mr. Chapman says that a horse-fork with ropes and pulleys can be bought for $5. Is that correct? I supposed the price was much higher. G. C.

To Our Readers!!

When the subscription price of THE COUNTRY GENTLEMAN is remembered—in clubs only two postage stamps per week, and to others but little more—in comparison with the correspondence thus secured from all parts of the country, as well as from abroad; in comparison with the opportunities given for obtaining information through our columns of inquiries and answers, general, veterinary and miscellaneous; in comparison with the means of judging from our advertising pages of the state of the market in all classes of improved stock, and of learning from them all that is new in the improvement of machinery, seeds and plants—not to speak of the scientific and popular discussion of important problems in farming, gardening and stock raising—the equivalent demanded for the return given is absolutely trifling—so small that it would seem wholly unnecessary to ask attention to the matter from any one willing to give it a moment's serious consideration.

These remarks include, very briefly, a few of many reasons or arguments which will suggest themselves to those of our long standing friends who may kindly endeavor to gather in some of their neighbors and associates as subscribers for our coming volume. When we consider that our present circulation, large as it is, bears so small a proportion to the aggregate number of farmers in the Middle States alone, not to speak of the entire country, it is more and more a matter of surprise that a field so vast is as yet so imperfectly occupied.

The demand for sample copies and other purposes always necessitates enlarged editions during the winter months. We should invite the attention of advertisers more particularly to this but for the fact that the space we care to devote to advertising appears to be called for from week to week without stimulus or solicitation on our part; and the position of the COUNTRY GENTLEMAN at the head of journals of its kind, as an advertising medium, as well as in other respects, needs no other proof than is readily afforded by an intelligent inspection of its columns.

We shall be happy to mail sample copies with circulars, &c., to any addresses sent us for the purpose, and particularly invite applications of the kind just now.

Buckthorn Wire for Lightning Rods.—The dialogue about lightning rods on page 881 is very readable, and contains a good deal of enlightening sense. To my mind, the best rodded building that I ever saw was made so with buckthorn fence wire, the kind that has no scratchers along the edges. This strand of wire was cut so as to go double along the ridge of the barn, parted at the gable peak, then one strand down each edge of the roof to the eaves, and thence to the ground. For ground connections for each end, a hole was made as deep as could be with a "chuck" post-hole auger, and then made a few feet deeper with a long bar of iron. The additions to the barn were rodded the same way, and altogether about 800 feet of wire was used on all the buildings, costing about $9.25. Ordinary fencing staples were used to fasten on this steel fencing. The idea of glass as an insulator was discarded, and the wire put on and stapled down where it would show the least. With four ways to reach the ground, the owner argued that lightning would not leave the steel galvanized conductor for wood. It was certainly a cheap and expeditious way to ward off the lightning's stroke; and so well was I pleased with it that, on completing my new barn and its annexes, I shall rod them according to this new plan, unless in the meantime it can be shown that it is "dangerous." J. O. *Western Reserve, O.*

Acknowledgments.

Communications for publication have been received during the week ending Dec. 31, from T. C. Grooms—Geo. H. Elliott—Wm. H. Bonner—R. A.—O. C. Thayer—C. B. Strong—Prof F. W. Stewart—Jonathan Talcott (2)—Critic—Stephen Beale—Prof. Chas. H. Peck—W. P. Smith—D. A. Pierpont—S. C. Drew—E. L. Travis—G. H. Kellogg—S. F. C.—John Strong—B. D. Gilbert—T. B. Terry—I. H. Butterfield—Lucy C. Crehore—J. J. W. Billingsley—B. W. J.—John T. Caine, Jr.—T. S. Webb—J. B.—J. F. Bobon—J. M. Gorrish—A Farmer's Daughter—A. B. C.—John Gould (2)—Geo. Parr—Geo. Clendon—A. N. Curry—Garry Owen Gaines—A. L. Potter—W. Horne—G. F. Weeks—W. E. Hotchinson—Henry Stewart—Morehouse & Annis—Eugene Davenport—Chas. L. Hill—S.—P. H. M.—James Wood—A. C. Gibbon—Prof. F. W. Stewart—Waldo F. Brown—Wm. H. Hopkins—T. R. Proctor—Frank B. Hartlank—C. L. Peacock—Thomas Bowick.

. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Jan. 3, 1880.

Farmers' Institutes.—Three meetings in this State next week—Pawling, Jan. 7-8; Cobleskill, Jan. 9-10; Delhi, Jan. 11-12. Week after next, Jan. 16-19, the great Albany meeting, with special attractions.

Horticultural Conventions.—The 23d Biennial Session of the American Pomological Society will be held at Ocala, Fla., Feb. 20-23. Ocala is in the central part of the peninsula, in the midst of the orange region, nine-tenths of all the oranges grown in the State being produced within a radius of eighty miles. The climate is healthful. No cases of yellow fever have occurred in that region, and the direct railroads leading to Ocala from the North pass through none of the districts where it has existed. No fear, however, need be entertained of visiting any portion of the State on this account. Since the occurrence of severe frosts the last quarantine, that of Jacksonville, has been raised, and the tide of winter travel has now set in. Among the attractions offered by Ocala is the Florida Sub-Tropical Exposition, which opens in January, the commodious buildings of which are tendered for the use of the society. It is hoped that all pomological, horticultural and agricultural societies in the United States and British Provinces will send delegates, and all persons interested in the cultivation of fruit are invited to become members. The society offers no premiums for exhibits of fruit. Several special prizes, however, are offered by the Florida Horticultural Society for exhibits to be made at the meeting, the awards to be made by a committee appointed from the American Society. The usual awards of Wilder medals will be made for objects of special merit. Packages intended for exhibition should be addressed, freight or express charges prepaid, to J. O. Clark, Ocala, Fla. PHOEBUS J. BENCKMANS, president, Augusta, Ga.; A. A. Crozier, secretary, Department of Agriculture, Washington, D. C.

—— The following papers are to be presented at the 34th annual meeting of the Western New-York Horticultural, which opens at Rochester, Jan. 23, 11 A. M.: Prof. A. N. Prentiss, "Fungus Diseases of Fruits;" S. D. Willard, "Cultivation of the Plum for Market;" S. G. Curtis, "The Canning Industry;" M. J. Doyle, "The Evaporating Industry;" A. S. Watson, "The Chautauqua Vineyards;" Wm. Webster, "Improvement of Farm Homes;" Joseph Harris, "Manures for the Orchard and Garden;" George Savage, "Roses for Winter Forcing." In addition to these, there will be interesting reports from Prof. Caldwell of the Committee on Chemistry; Geo. Ellwanger, on "Ornamental Plants;" E. S. Goff, on "Garden Vegetables" and others of the standing committees. P. BARRY, president; P. C. Reynolds, secretary, both of Rochester.

Minnesota.—The Twenty-second Annual Winter Meeting of the Minnesota State Horticultural Society will be held at Minneapolis, Jan. 15th to 16th, the State Amber Cane Association occupying the afternoon of Wednesday for its Twelfth Annual Session. A cordial invitation is extended to kindred organizations in other States as well as to local societies, to send delegates to the meetings. Fewer papers will be read than usual and more time given to discussion. Liberal premiums will be given for

exhibit, breeds regardless, etc. The Society offers special prizes for sweepstakes, and for the best exhibit of cattle, sheep, or swine. The date for receiving the entries is Nov. 20th, and the exhibition will be held Dec. 6th and 7th. Secretary Wm. Dryden, Brampton, Ont., Manager Thos. Graham, Toronto, Ont.

Ayr and Ward.—At last meeting of the Directors it was decided to hold a fair this year at Cargo. Will include a directors race, and cooking by general. Lady cook to be appointed. Directors to meet on the 2nd inst. Secretary, Kenneth Dunn, Jamestown, Ont.

Canada Atlantic.—Mr. Graham Browne of Ogdensburg, N.Y., has sold Dorris Dale to Mr. Hamilton, Ottawa, and Dorris Dale is a handsome, well-mannered saddler, better a possible of 90 pages on the subject, which will be published in the near future.

"If you plan to leave that 80 thrower tank, or that 40 thrower tank, or that 20 thrower to fertilizer a thoroughly good article, and, what is more than much more than it costs to

Hare Shows in Michigan.—At the annual meeting of the Michigan Hare and Hound Association, held in Lansing, Jan. 11-12, President Jerome selected his advisory committee, and appointed the following men having the care of Pen, Letter and Tax, Whitbeck. The General had unanimously elected Secretary-Treasurer Fred L. Maltby, who has been acting in that capacity for several years, and whose untiring efforts to place the Association upon a firm financial basis have been crowned with success. The Secretary reports that the Association has a balance in the treasury of $1,000, and that the Association's membership is growing rapidly. The Secretary was instructed to secure a charter for the Association, and empowered the Secretary to secure the necessary blanks for the same. The meeting was held at which time it was decided that the occasion of a special State show in connection with the Association's annual meeting, the Association's Executive Committee to act. The Secretary reported that the Association's membership is growing rapidly. The Secretary was instructed to secure a charter for the Association, and empowered the Secretary to secure the necessary blanks for the same. The meeting was held at which time it was decided that the occasion of a special State show in connection with the Association's annual meeting, the Association's Executive Committee to act.

Fall Fairs.—Following are the dates for fall fairs in Ontario, as far as reported:

Sept. 6—Bracebridge, Dunnville, Fergus, Gananoque, Hamilton Horticultural, Kemptville, Lanark, Lindsay, Mount Forest, Orangeville, Owen Sound, Parkhill, Perth, Port Hope, Prescott, Renfrew, Richmond Hill, Simcoe, Stratford, Tamworth, Tilsonburg, Toronto Industrial, Trenton, Walkerton, Wellington, Woodstock.

Sept. 7—Alliston, Arthur, Aylmer, Barrie, Belleville, Bowmanville, Brantford, Brockville, Burford, Caledonia, Carleton Place, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 8—Acton, Ailsa Craig, Alexandria, Almonte, Ancaster, Ayr, Bancroft, Beamsville, Beaverton, Blyth, Bobcaygeon, Bolton, Bothwell, Bradford, Brampton, Brighton, Campbellford, Carleton, Cayuga, Chesley, Clifford, Cookstown, Corbyville, Deseronto, Dorchester, Dresden, Drumbo, Dutton, Elora, Embro, Fenelon Falls, Fonthill, Forest Hill, Glencoe, Gravenhurst, Hamilton Central, Harrow, Hensall, Huntsville, Ilderton, Iroquois, Jarvis, Kemble, Kemptville, Kenilworth, Kilsyth, Lakefield, Lambeth, Lansdowne, Lucknow, Lyn, Madoc, Markdale, Marmora, Martintown, Melbourne, Merlin, Metcalfe, Middleville, Midland, Millbrook, Minden, Monkton, Morpeth, Mount Albert, Mount Brydges, Mount Elgin, Mount Pleasant, Nanticoke, Newboro, Newburgh, Newcastle, Newmarket, North Augusta, Norwood, Omemee, Orono, Osgoode, Otterville, Owen Sound Horticultural, Palmerston, Parkhill, Pembroke, Penetanguishene, Perth, Petrolia, Plattsville, Port Arthur, Port Colborne, Port Dover, Port Hope, Port Perry, Port Rowan, Powassan, Princeton, Queensville, Rockwood, Rodney, Rosseau, Sarnia, Scarboro, Shannonville, Simcoe, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 9—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 10—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 11—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 12—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 13—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 14—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 15—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 16—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 17—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 18—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

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Sept. 22—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

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Sept. 25—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

Sept. 26—Alvinston, Amherstburg, Arkona, Arnprior, Athens, Aurora, Avonmore, Bayfield, Beachburg, Belmont, Berlin, Bloomfield, Bond Head, Bracebridge, Brussels, Burgessville, Burk's Falls, Cannington, Carleton Place, Carlisle, Carp, Casselman, Chapleau, Chatham, Chesterville, Clinton, Cobourg, Colborne, Cornwall, Delhi, Dundas, Durham, Elmira, Essex, Exeter, Forest, Galt, Georgetown, Glanford, Goderich, Grimsby, Guelph, Hagersville, Hanover, Harriston, Hespeler, Ingersoll, Kincardine, Kingston, Leamington, Listowel, Markham, Meaford, Merrickville, Milton, Mitchell, Morrisburg, Napanee, Newcastle, Niagara, Norwich, Oakville, Orillia, Oshawa, Ottawa, Paris, Peterboro, Picton, Pickering, Port Elgin, Port Perry, Ridgetown, Sarnia, Seaforth, Shelburne, Smithville, Southampton, Stayner, Stouffville, Strathroy, Thamesville, Thornbury, Tillsonburg, Tweed, Uxbridge, Vankleek Hill, Wallaceburg, Waterdown, Waterford, Watford, Welland, Whitby, Wiarton, Williamstown, Windsor, Wingham, Woodbridge, Woodville, Wroxeter.

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The Grazier and Breeder.

Developing a Pig Farm.

Can It Be Profitable?

Eds. Country Gentleman—I contemplate to occupy a farm of about 200 acres, now devoted to summer butter-making from fifteen cows. From information I have gathered it seems to me that raising pigs, annually, from 100 to 150, would pay better; especially after growing some of the fullest possible weight (say 400 lbs. dressed) would after a few years' experience be brought down to a fine art. I propose to use no other but grain ground, mixed with other feeding material and steamed—at least during the fall and winter.

Several months ago one of your readers in the center of New Jersey reported the weight of about 75 pigs he raised—should he see this, would he for one favor me with a reply?

I propose to make use of sweet corn to be cut up with the ears, field peas, corn, pumpkins and roots, and understand that, until these mature in their natural rotation, clover soiled or pastured would be the thing to have most advantageously for the pigs after weaning, or shoats, with which ever I begin. There happens to be, however, no clover on this farm and I feel desirous to bring about the specialty of farming I have in mind as speedily as possible. There being then timothy and natural pasture in abundance, to what extent could these be utilized with a readiness to buy bran, middlings and cottonseed meal? I am inclined to look especially favorably upon the latter as something to make up any deficiency that the foods first named may have in nitrogenous matter.

I believe to have explicitly stated my condition as one who would on such a farm as described hope to realize more from raising the greatest number of hogs economically advisable, than from making butter in the summer from 15 cows, and would be pleased to be advised how to proceed in reference to the particulars referred to. A. B.

A. B. has mentioned the number of acres in his proposed farm, and the fact that it has been devoted to summer butter-making, with only 7½ cows to the 100 acres, from which it would be inferred that the farm is principally in pasture. But B. should have gone farther and stated the soil, the facilities for natural drainage, and its capacity for raising crops, which might be used on a big farm. Its adaptability to clover would be very important in this case, as well as its capacity for raising the best sweet corn and field corn, which he proposes.

This scheme is practicable with certain modifications, and might, after some experience, prove profitable. But if he had studied the laws of animal growth, he would not propose to feed pigs to 400 lbs. dressed weight, with a view to profit. The last 100 lbs. would cost more food than the first 300 lbs. Those of most experience in pig feeding do not now think it profitable to go beyond 250 to 300 lbs. weight.

2. The crops which he proposes—sweet corn, field corn, pumpkins, peas, roots, &c.—may all be properly used in a way similar to the one he mentions. Bran, middlings, cottonseed meal (but the latter is not as good as linseed meal), are excellent to grow the muscle and frame of the pig, and prepare it for the fattening stage. As he supposes, cottonseed meal contains a very large proportion of nitrogenous matter to balance the other foods, but unfortunately it needs to be used with great care because it is constipating, rather than relaxing, in its nature, while linseed meal is very soothing to the digestive organs, slightly relaxing and a promoter of health; besides, it can buy it at about the same price as cottonseed meal.

3. The scheme B. has laid out, to be successful, would require the production of the pigs upon the farm. Because where shoats are purchased in market a great risk of disease is taken, and the whole herd might be swept off in a few weeks, while pigs raised upon the farm under proper precautions would not be liable to such epidemic diseases. The plan would, therefore, be much more likely to be successful, when conducted entirely isolated from all other hogs.

4. If B. enters into a system like this, of raising his own pigs, he will necessarily begin with brood sows, and he is referred to page 199 of March 8 last, where he will find the cost of pigs at 18 months considered, in answer to H. This will give him some points regarding cost after weaning.

Brood sows need to be fed very much on the same plan as pigs after weaning, for they require to be fed for muscle and bone, and not for fat. The brood sow is developing her litter before farrowing, and requires food very similar to that mentioned in answer to H. This food is also adapted to sows suckling pigs.

In cooking food, it is far preferable to steam than to boil it, because steaming cannot burn or injure it, while boiling is very difficult to perform without injury from burning.

Let us suppose that B.'s food for brood sows is made up somewhat on the plan he mentions—bran, middlings, linseed meal, a little corn meal, clover hay, or early-cut common hay. Let it be mixed in the following proportions: 4 lbs. bran and middlings, 1 lb. linseed meal, and 1 lb. corn meal, or in quantity, say, 100 lbs. bran and middlings, 25 lbs. linseed meal, 25 lbs. corn meal, 15 lbs. clover hay, or the best common hay.

The hay is cut one-quarter inch long. In this case the bran and middlings, linseed meal, corn meal are mixed together and then well mixed with the wet short cut hay. It is now placed in the steam box and made wet enough for a thick slop.

When cooked with steam, it is prepared for feeding the brood sows or the weaned pigs. To the latter, it should always be given warm, better also to be given warm when fed to the sows.

5. Let us suppose that B. has got his system so far into operation, that he has sweet corn or field corn and pumpkins, beets, carrots, turnips, with a proportion of field peas. If he fed much roots or pumpkins he would have a pulper or slicer to prepare them. His sweet corn may be run through a cutter, or rather the ears snapped off and run through the cutter, with the shortest cut, when it would do to mix in with the other food for steaming.

We will suppose his peas ground into meal, and then that the following mixture is made up for steaming: Four bushels cut sweet corn ears, 4 bushels of sliced pumpkin, 4 bushels of pulped roots with which should be mixed 12 lbs. pea meal, 12 lbs. bran or middlings, 6 lbs. linseed meal. Let this all be steamed together as before, or fed warm to pigs. They would certainly make a thrifty growth upon it.

B. will see from this statement how he may raise and grow pigs, and he might calculate safely, that at 10 months to one year old they would dress 300 lbs, the weight that brings the highest price in market, and the pork would be of excellent quality. The answer to H., on page 192, will show him the additional cost of putting on weight as the pigs grow older, and will show the inevitable loss of feeding to greater weight. R. W. S.

Careful Feeding of Calves.

Eds. Country Gentleman—I have often had a calf that it was actually impossible to make drink until it had gone twenty-four hours or more without food. If a calf will not suck your fin ers, or attempt to swallow, you can do nothing but wait. The last ten calves I have raised I have left with the cows for three days, and I have not had a particle of trouble to teach them to drink. Usually they put their noses in the pail and drink the first time the milk is offered them, and I have concluded that all my former trouble was occasioned by taking the calves from the mothers before they had been physicked sufficiently by the "colostrum," and had developed a healthy appetite. I think there is more loss, if not more cruelty, from the treatment calves get after they are taught to drink, than from starving them to teach them to drink.

A large per cent. of the calves raised by hand are long-haired, pot-bellied and unthrifty, from irregular feeding, giving the food in varying quantities, now too much, then too little; sometimes warm, and again cold; sometimes rich, and again more gruel, and neglecting to furnish coarse food early enough. A winter calf will begin to eat hay regularly at four weeks old, and will grow and thrive much better for having it. It should have bran or ground oats regularly after it is a month old, beginning with a tablespoonful and increasing gradually until it eats a quart at a feed, which it can safely do at three months old, if all changes in diet are made gradually.

It is sudden changes in diet, and over-feeding, that produces scours, and, unless checked at once, scours will very soon ruin the calf. You can detect the trouble by the smell as soon as you enter the stable. The stall should at once be thoroughly cleaned and disinfected, and the calf put on half rations of new milk for a day or two. I have never known this to fail of a cure. If you teach the calf to eat early, and furnish it a variety of wholesome food, its milk may be reduced to one gallon a day at three months old, and the calf kept thrifty and growing. Waldo F. Brown.

Butler County, Ohio.

Feeding a Lot of Steers.

Eds. Country Gentleman—I am feeding about 140 steers, half of this number two-year-old, weighing about 1,200 lbs. each; the rest yearlings 750 to 800. I have between 300 and 400 tons of well matured ensilage, wheat bran and corn chop. Oil cake meal bought from Mann Bros.' & Co., by the car; I have plenty of hay. Will you give a proper ration of the same for feeding? W. C. *Bethlehem, Pa.*

W. C. having 140 steers of different ages, he should have stated whether those year-old past were intended to be carried over next summer and fed the following winter, or whether they were intended to be marketed next summer; the latter course will no doubt be most profitable. The two-year-old past are undoubtedly intended to be sold in the spring or early summer. To these the following ration may be given: 40 lbs. ensilage, 4 lbs. common hay, cut, 3 lbs. wheat bran, 6 lbs. corn chop, 3 lbs. O. P. linseed meal. In analytical formula this shows the following digestible nutrients:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
40 lbs. ensilage	0.60	4.80	0.32
4 lbs. common hay, cut	0.20	1.60	0.05
3 lbs. wheat bran	0.42	1.68	0.30
6 lbs. corn chop	0.36	3.96	0.21
3 lbs. O. P. linseed meal	0.84	2.00	0.13
Total	2.42	14.24	0.86

This has a nutritive ratio of 1 to 5 7. This is intended as a combination of food and not strictly as a ration per head. In mixing this it may be considered in larger form, as 2,400 lbs. ensilage, 240 lbs. cut hay, 480 lbs. wheat bran, 360 lbs. corn chop, 180 lbs. O. P. linseed meal. This would be about one day's ration for the 140 head, and this is precisely the same combination as in the formula. These figures might be convenient in mixing. It is presumed that W. C. will feed all these steers in a warm stable, and that he has a warm room to mix it in.

The hay and the ensilage should be thoroughly mixed together, the bran, corn chop and linseed meal should be well mixed together, dry, and then spread evenly over the mixed ensilage and hay, and then all worked in together. In case there should not be moisture enough in the ensilage, which is probable, more water should be sprinkled on to moisten it before the ground feed is mixed in. When this is all thoroughly mixed together the feeder must apportion to each animal the right amount. It will probably be given in two feeds per day, say 7 A. M. and 4 P. M. To the larger animals it will probably be a heaping bushel-basketful of the mixture at each feed, and something less to the younger steers. But to be successful, the feeder must have judgment in determining just how much an animal requires. If skillfully given, these steers should make rapid progress on this ration—make a gain of from 2 to 3 lbs. per day.

It will be noticed that the corn chop is given in relatively small quantity. This is because the ensilage contains largely the elements of the corn chop, and the wheat bran and linseed meal are used to make a proper balance of constituents.

In feeding so large a number of cattle, the mixing may economically be made by machinery, but as W. C. does not give any information about the construction of his barn, no definite advice can be given upon this point. R. W. S.

The Smithfield Fat Stock Show.

The 91st Annual Show of the Smithfield Club is held this week at Agricultural Hall, Islington, and for quality of stock may be regarded as the best ever held by the society. The entries (much larger than last year) are: Cattle, 330; sheep, 197; pigs, 86; total, 603. The competition throughout has been very keen, and the west-country men are considerably elated over the fact that a Devon has been accorded the champion prize, though many prefer the cross-bred heifer which stands as reserve. Unfortunately, the weather has not been at all good. London has, both yesterday and to-day, been enveloped in fog, which, though not nearly so bad as that which killed some of the prize animals a few years ago, is sufficient to make everything uncomfortable.

The show opens with Devons, which are not so numerous as usual, nor (though the champion is in this section) can the quality be spoken of as equal to the average. Mr. Risdon wins in the class for young steers, and the Queen is second for an animal bred at Windsor. For steers between two and three years, the winner is the champion of the show-yard, winning also the breed cup, and that for the best male. This is an animal 3 years, 11 months and 4 weeks old, bred by Mr. Sickle of Bradstone Hall, Tavistock, and exhibited by Mr. John Wortley of Prettenham, Norwick. He is a son of Gladstone 1737, out of Queen 2d 3850, by Leviathan 1143. He is a fairly good specimen of a Devon, but in some respects might be better, and weighs 15¼ cwt. Mr. A. C. Skinner of Bishop's Lydeard wins in old steers, and the Queen is second, this being an exact reversal of the awards at Birmingham last week, where her Majesty was first and Mr. Skinner second. But the Windsor herd is compensated by taking first prize both for cows and heifers.

Herefords, as usual, are not very numerous, but the quality is good. Lord Coventry wins in young steers with Brutus, and Mr. Robt. Wortley in the 2 and 3-year-old males, the Queen being second in each class, and in the oldest class of steers Mr. F. Platt is victorious. Mr. J. H. Arkwright is first in cows, and the winning heifer is found in Primrose, a daughter of Lord Wilton, out of Gertrude by Rodney. She was bred by her exhibitor, Mr. Edward Caddick of Caradoc. She is 3 years, 8 months and 4 days old, and scales 15 cwt., 1 qr. 1 lb.

Short-Horns make a very fine show, and in this section Sir John Swinburne, Bt., is the most successful exhibitor, though he does not obtain the breed cup, which is won by Mr. James Bruce of Inverquhomery for a son of Duke of Edinburgh 31114, out of Beauty 9th by Privy Seal. This is the winner in 2 and 3-year-old steers, and is a shapely animal, weighing 17¾ cwt. The first-prize winners in this section are Sir John Swinburne (young steers), Mr. J. Bruce (2 and 3-year-old steers), and Mr. R. Wright (old steers).

Red Polls are a small but good collection. Mr. J. J. Colman, M. P., wins in young steers, taking also the breed cup with a nice, well-formed animal, 2 years, 11 months and 21 days old, and a son of Falstaff 309, out of Isabelle by Norfolk Duke. Sir H. Ballard wins in old steers, and Mr. John Hammond of Dereham for cows.

Sussex are a strong lot, and one of the best collections of this breed seen at Smithfield. Major Best wins in young steers, Mr. A. Agate in 2 and 3 year-olds, and Mr. J. Kirkpatrick in old steers, the last named exhibitor taking the breed cup with Careless C., by Stella's Oxford 651, a very substantial and fleshy animal, 5¼ years old, and scaling, at 2 years, 20 lbs. over the ton. Mr. E. E. Bruby wins in heifers, and Sir F. F. Montefiore in cows.

Welsh and Highland are small classes. Col. Platt, as usual, sweeps the deck in the former, and Messrs. J. Maxwell and A. Pease being respectively at top in the latter.

The Aberdeen-Angus are a strong section, but there is witnessed a complete reversal of the Birmingham awards. Mr. Geo. Wilkens' Bingley Hall champion and Mr. Owen Wallis's animal, which ran it so close there, are both present, but they are placed behind Mr. J. Lee Barker's Pride of Cullen 11704, bred by the Countess of Seafield, and by Elcho's Favorite, out of Peeress of Cullen by Devonion Lad. This animal also won the breed cup. She is just upon 3 years old, and weighs 16 cwt., 2 qrs., 16 lbs., and, though a fine, massive, level animal, the award was much canvassed.

Two of the most remarkable animals of the show are to be found in the cross-bred classes. One is the wonderful heifer which takes the breed cup, the £50 cup for the best female, and stands reserve for the championship, many preferring her above the Devon. She was bred and is exhibited by Mr. J. S. MacGregor of Fearn, Ross-shire, and is named Pride of Fearn. She is by the Polled Aberdeen Angus Champagne 4565, her dam being by a pure Short-Horn bull from a cross-bred Short-Horn cow. She is a rich black, magnificent in form, very level, and a really wonderful example of early maturity, her age being only 1 year, 8 months, 1 week and 5 days, and her weight 13 cwt., 3 qrs., 4 lbs. She was soon bought by Mr. J. J. Colman, M. P., who gave $750 for her to take into his herd. The other feature of the show is a steer exhibited by the Earl of Tankerville, and the produce of one of the Wild White Chillingham cows by a pure Short-Horn bull. At the Kilburn show of 1879 a bull was exhibited bred the reverse way, and this fine animal is generally admired.

There is also a very fine steer shown by Mr. Geo. Wilkes, being out of a Hereford cow by a Polled Aberdeen bull. This has the latter's

hide, but resembles the mother in face, chest and head.

Sheep are remarkably good, the champion plate going to the Shropshires exhibited by Mr. A. S. Berry, and in pigs, the Duke of Hamilton wins the champion prize for his blacks.

London, Eng., Dec. 11. S. D.

Reforming a Ration.

Feeding Calves—Inducing Breeding.

EDS. COUNTRY GENTLEMAN—I have seven Jersey cows, now milking, one having just had a calf; two others, five years old each, that have not calved for nearly two years; a good vigorous bull, six years old, that I am about to dispose of on account of age; a young bull to replace him, two years old; a bull calf three months old, and a heifer calf three weeks. Having read the COUNTRY GENTLEMAN for the last two or three years, I now desire to change my rule of thumb method of feeding for a more exact and scientific one.

I had my feed measured to-day and find I am giving to the milking cows, 16 lbs. mixed clover and timothy hay, uncut, 10 lbs. uncut corn fodder, 5 lbs. corn meal, 4 lbs. bran, and 3 lbs. of mixed mangels and carrots. To the two dry cows I feed very little, to keep them thin, and am using Moore Bros'. injection.

I propose hereafter to have the hay and fodder cut and to add to the rations cotton-seed meal. Will you indicate—first, the proportions by weight that should be given of each of the above foods to the milking cows; second, what should be given to the two calves; third, what may be done to the two dry cows which were formerly the best of the herd; fourth what variations should be made in the food to the cows immediately before and after calving? M. D. R.

Chester County, Pa.

M. D. R. has been feeding a very large amount of mixed hay and corn fodder uncut. It is to be regretted that he did not state the amount of milk or butter produced by his cows. He feeds 26 lbs. of coarse fodder when 15 or 16 lbs. is as much as should be given of such fodder when the best milk is to be produced.

His grain ration was small for cows in full milk and contains too large a proportion of carbonaceous food when his ration which he has been feeding is analyzed, even supposing it to be all properly digested, contains only 2.20 albuminoids, 14.29 carbohydrates, .61 fat. This has a nutritive ratio, of 1 to 7, too low for the production of rich milk.

This ration would probably have produced a better result had he simply fed the 16 lbs. of clover and timothy hay with the corn meal and bran. The following would be a proper ration for full milk, using this amount of clover and timothy hay; we give it in analyzed formula:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
16 lbs. clover and timothy..	1.65	5.55	0.22
4 lbs. corn meal.....	0.30	2.68	0.10
6 lbs. wheat bran.....	0.70	2.76	0.15
10 lbs. mangels.....	0.11	1.50	0.01
2 lbs. linseed meal.....	0.49	0.06	0.19
Total	2.75	12.49	0.69

This has a nutritive ratio of 1 to 5. But as he says he wants a ration from the foods given, we therefore give the following analytical formula:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
16 lbs. clover and timothy..	2.65	5.55	0.22
5 lbs. corn fodder	0.13	2.97	0.03
10 lbs. mangels and carrots.	0.11	1.50	0.01
5 lbs. corn meal.....	0.43	3.15	0.24
10 lbs. wheat bran.....	1.17	4.60	0.25
Total.....	2.49	16.77	0.75

This has a nutritive ratio of 1 to 6.3. Rather too wide a nutritive ratio—is better adapted to a large quantity than to the richest milk, but it would no doubt be a successful ration. It would be a better ration to substitute 2 lbs. of linseed meal for 2 lbs. of the bran.

2. The two calves should be fed upon sweet skim-milk warmed, with some wheat middlings and a little flaxseed jelly. The flaxseed jelly is made by boiling flaxseed in six times its bulk of water, until it forms a thin jelly. The youngest calf should be given about 12 to 15 lbs. of warm skim-milk, and at first two tablespoonfuls of this jelly; increase gradually to one-half pint with 1 lb. of wheat middlings stirred in. This is for two feeds. The half will be taken for each feed. The milk will be increased as the calf grows older and also the middlings and flaxseed jelly. The bull calf should have about 20 lbs. of skim-milk warmed, per day, 2 lbs. of middlings and 1 pint of this flaxseed jelly. It will be seen that a pint of this flaxseed jelly would contain only about a tablespoonful of flaxseed, but the feeder of the calves must have judgment enough not to feed too much.

3. It is difficult to give any definite advice as to the dry cows. They should be fed sparingly with cut clover hay and wheat bran—using no cornmeal or other heating or very fattening food. It might also be beneficial to give them exercise by leading them a mile or two behind a wagon. This feeding and exercise would be as likely to cause them to breed again as anything that occurs to me.

4. Cows for the two months before calving should not be given heating food, such as corn meal. The best feed for them is clover hay and wheat bran. They should be fed very sparingly after calving until they get over its effects E. W. S.

The Dairy Department.

Ripening Cream.

EDS. COUNTRY GENTLEMAN—What is the best "starter" for ripening cream, and where can I get it? F. G. TRACY. *Long Island, N. Y.*

This question is an evidence that the now commonly used term "ripening," as applied to cream, is not properly understood and is apt to mislead. It was first used by the late L. B. Arnold as a term to indicate a condition of the cream in which it is in the best state for churning for the production of the largest quantity and the best quality of butter. By common consent of all expert dairymen, this condition of the cream is produced by a certain degree of acidity. Prof. Arnold thought it was produced by exposure to oxygen or a process of oxidation; but this is no more and no less than exposure to the influence of the atmosphere by which the oxygen of the air exerts a certain effect upon the cream. And this effect is simply acidification. It follows then that ripeness of the cream is that degree of acidification which fits it most perfectly for making the best quality of butter in the largest quantity. In my practice in the dairy, in which I have made a great many experiments and tests in this direction, I have found that when milk is set in shallow pans at a temperature of 60° to 62° for 36 hours, and then skimmed every 12 hours, the cream may be kept to the end of 36 hours at the same temperature, to arrive at the best condition of ripeness. And cream taken from deep pails skimmed every 12 hours after 24 hours setting at 45°, may be kept 48 hours at a temperature of 62° to get the proper degree of ripeness.

To reach this perfectly, the cream must be gently stirred from the bottom to the top and thoroughly mixed when new cream is added, by which the fresh cream is soon brought to the same degree of acidity as the older cream, the acidity of which is partly neutralized by the sweet cream added. This thorough mixing is important, as it equalizes the acidity or ripeness of the whole quantity.

It follows, and is a matter of fact well known, that as the sour cream in the jar mixes with the fresh cream a mutual reaction takes place between the old and fresh creams, the old and acid cream acts as an acidifying or ripening agent upon the fresh cream, and if a "starter" is required to ripen sweet cream for churning, sour cream is the best that can be procured.

It has been maintained that there is a loss of butter in the sweet cream by this mixing, and that to get all the butter, or the largest quantity of it from cream, it must be kept or exposed to the air, or ripened, or oxidized (all these mean the same thing), by itself and churned by itself. This, however, is a mistake, and I ever most confidently that the mixture of the cream as above stated will be equally effective for butter product, and the results of the churning will be the same as if every skimming be kept and churned by itself. I am very glad to have this fact, which I have proved by many years' experience, verified scientifically by Prof. Babcock of the Wisconsin station, and formerly of the New-York station, who has been reputed (I doubt not correctly) to have stated that the mixture of acid cream with sweet cream causes no apparent loss of butter in the churning, or words to that effect. I quote from memory.

So if the term used by Mr. Tracy may be correctly applied, and I do not see why its use is not admissible, the best "starter" for ripening cream is sour cream, or even sour milk, if it is not desirable to afford the requisite time and exposure to the air in the usual way in which cream is kept. I have found that six hours time is ample for perfecting the equilization of the cream after the last addition of sweet cream has been made, and has been well mixed by stirring with a large spoon or a broad wooden spatula; the last cream having been skimmed at 6 or 7 o'clock in the morning, and the cream being churned about 1 P. M. on the same day.

H. STEWART.

Slowness to Improve.

EDS. COUNTRY GENTLEMAN—The more I look about our State among the dairymen, the more I am convinced that the first lesson the average dairyman wants to learn is adaptation for a purpose. Things are too mixed on the average dairy farm. I mean ideas and notions, ways of doing things, and blood in the cows. No man can now succeed in the dairy business by letting things run, or in having no system. Farmers sometimes grow slowly, and sometimes they do not grow at all. The average man goes slow. This is all right if he goes sure, but to hang on to a conceit or a prejudice when one's interest and reason should lead him ahead, or higher and to broader ground, is no compliment.

This is what I mean. Twenty years ago I introduced Jersey cattle into this section of the State. Some of the neighbors let go at once on old isms and a-hems, and began to cross their native cows on this blood. Others did not, and they were the greater number. Some of the most enterprising, who wanted to go ahead, soon produced herds of cows which gave them double the returns in butter that they had obtained from the old ones. There are too many who have put off the day of grace, till now they find their cows are not remunerative, and they are forced to begin a line of improvement in order to realize any profit from their business. This want of inclination to change and adopt new ways has led too many dairymen to keep on with the native cows and not to attempt to make the selections, and to breed with the care which would have increased their value. No one knows how many cows are being wintered, which have run the owners in debt the past season, and are now eating fodder for naught. It is a gratifying fact that ideas will grow, or the people will grow who take them in. The farm which first produced any grade Jersey blood in my time has this day, in the second generation, obtained a thoroughbred bull. The testimony of this man is, that there is no better business than making butter. The men who have never made any advance in the quality of their cows, or in the quantity of the product, are weak in the faith. Less than an average of $35 gross in the product of the cows of this State ought to make us all weaken on the past, but stimulate us to go stronger in the future. F. D. CURTIS. *Kirby Homestead, N. Y.*

The New-York State Association.

Meeting at Oswego—II.

The first paper of Wednesday forenoon was that of Prof. James W. Robertson, of the Guelph Agricultural College, Canada. He spoke on the subject of "Cheese-making in Canada." He said:

Years ago Canadian cheese could only be sold in England by branding it as "American cheese," selling it there as the manufacture of the States. But our dairymen were all anxious to improve the quality of their product, and sent over here to get instructions on the art of cheese-making. Next we employed instructors to go through the country and give instruction at the factories, and the past season we have had eight men so employed. Bulletins are issued from the agricultural college, and several other means have been employed with good effects.

In cheese-making it is necessary to have a good theory for work and I will endeavor to present that upon which we have relied.

First, as to the milk. The condition of this is so variable that the maker should be able to modify the details of his method so as to meet the peculiarities of the milk he handles. As the work of dairying becomes extended, it seems that milk has new parasitic foes. Some taints are growing undesirably common. "Gassy curds," which years ago were the rare exception in a well-managed factory, are now so general that few factories are without them from July until September.

Milk in its best state is a very complex compound of compounds. Dissolved in about ten times their weight of water, there is a mixture of casein, albumen and sugar, which mixture holds in suspension from 3 to 5 per cent of butter fat. Milk is also a liquid most susceptible of contamination by any impurities that may be adjacent to it. Hidden beneath the evident purity of its snowy froth, float the agents that immediately begin to work for its decomposition. Other organisms that live by its destruction are sown into it, ere ever the tiny stream from the milker's hand strikes the pail. This is the perishable compound at its best. Simple evaporation to dryness would provide conditions conducive to long preservation, but the cost of that process interferes. The reduction of the bulk of the milk by the separation of part of its water is the first essential step in the process of cheese-making. By rennet coagulation, parts of the milk—mainly its casein and part of the fat—are separated from the water, which still holds the albumen and sugar in solution. By such solidifying, or coagulation of the casein, it thereby encases in its own structure as curd, the globules of fat suspended in the milk. After coagulation, the contents of the vat may be described as 92 parts composed of water, milk, sugar, albumen, and ash, mixed with 8 parts composed of ash, casein and fat. These two composite parts of coagulated milk are together as a *mixture* of two compounds. The means whereby the separation as to contact is to be effected may be classified as mechanical or physical, and vital or chemical. The mechanical means includes the cutting of the curd to facilitate the separation of the whey from the insoluble mixture of casein and fat. The cutting should be fine enough to permit and promote easy and sufficient separation, without destroying or disturbing the physical structure of the curd. Cubes of five-eighth inch have been discovered to be the best size. Stirring of the curd is undertaken to hasten the separation. Heat is applied for the same purpose. The process is usually expressed as "cooking." A temperature of 98° F. is most helpful.

Among the chemical means used is the development of lactic acid. Its presence renders the casein less soluble, but at the same time hastens the separation of the whey from the particles of curd. It also prevents the development and operation of the putrefactive ferments, and makes slow the process of curing. The addition of salt arrests the action of the acid on the curd, and retards the curing fermentation. In the autumn there is need for the addition of more salt than during the summer. Such extra salt will give a full flavor, a safekeeping flavor, and a slow-curing firm body.

Such is the theory of Canadian cheese-making when the milk is of the best character; but when it is tainted, thorough aeration is good treatment in all cases. By dipping, pouring, stirring, or any other method of aeration, objectionable volatile oils and the animal odor are evaporated. The presence of oxygen from the air prevents the vibriones from becoming active. I have learned to use an additional amount of rennet in tainted milk. Putrefaction of the casein, or any nitrogenous matter which is not coagulated, is rapid when curing begins. Bad odors and bad flavors always result from such decomposition. Often cheese "goes off in flavor" from the imperfect coagulation of the casein.

The professor then detailed the facts of two experiments in cheese-making—one where the whey was drawn sweet; the other where acid was allowed to develop before the drawing of the whey. In both cases the milk was divided into three equal parts, to one of which 3 oz. of rennet extract was used per 1,000 lbs. of milk, to another 5 oz., and to the third 8 oz. The lesson taught by the experiments was that the quantity of rennet added for coagulation of the milk has less effect on the keeping qualities and curing of the cheese, than has the condition of the curd as to its dryness and firmness, or softness and moisture, while the acid is developing. The early removal of whey from the curd favors its speedy separation from the particles of curd, and in the proper degree.

H. W. Richardson of East Aurora followed with a paper on "Cheese-Making in Western New-York." After some remarks on the magnitude of our dairy interests, he proposed to relate some of his own experiences and observations. Different manufacturers entertain different views as to the methods that are most desirable, but all will unite in one opinion, viz., that the purer, the cleaner, the better the condition of the milk, the better will be the quality of cheese produced from it. He advocated the utmost cleanliness in handling milk, and the farmer should see that his milk is stirred and aerated thoroughly, and in warm weather cooled down to the temperature of the atmosphere immediately after milking. Another point made was that the wages of cheese-makers should be scaled up instead of down, if it is proposed to get skilled work out of them.

Mr. Richardson divided the process of cheese-making into four stages, and proceeded to discuss special points in each case. A sufficient quantity of rennet should be used to coagulate the milk in 40 to 45 minutes. The exact time for cutting the curd is as soon as it will break clean over the fingers. If cut too soon, the curd will mangle, and a loss in quality and quantity will be sustained. In the second stage you are to scald to 98° for common, with such variations as may become necessary to suit the varied circumstances. For instance, if the milk is shallow in the vat, a little higher heat is required to overcome the lack of pressure of whey, all things else being equal, in order to produce the same firmness of curd. And if the milk is over-acid and working too fast, a hurried heating and increased temperature is necessary.

We would develop a pretty full acid in the

whey, more than is common, where a grinder is used. And stage three, from the time the highest temperature is reached to the time of drawing the whey, and dipping the curd, should cover a space of 2¼ to 3 hours time, although this will depend on the ripeness of milk at the time rennet is introduced. The fourth stage covers the time of manipulating the curd in sink, where it is dipped as soon as requisite amount of acid is developed.

Some general considerations were presented. Mr. R. believed that an improvement in the general character of our State cheese could be effected by the introduction of a system of general superintendence, whereby one competent man could visit a certain line of factories at intervals of a few days. Such a superintendent must necessarily be a judge of green cheese, so as to be able to decide, from tasting and examining upon the shelves, what the product would be when cured. This system has been in successful operation for several years among the combinations of Western New-York.

Considering the subject of markets, Mr. R. thought it would be wise to study more faithfully the needs of our home markets. The time is not far distant when exportation of cheese from this country will practically cease. Comparing production and exportation of all dairy products in the United States, the exports amount to only a little more than 2½ per cent. of the whole, or one-fortieth part of the production. I am firmly of the belief that we can dispose of all this surplus without the aid of the exporter, as an increase of one pound per caput is all that is needed to accomplish it.

But it is a noted fact that a large proportion of the cheese exported from New-York of late has been of the poorer qualities. Skims have been substituted in the place of full creams, and they were not branded as skims either. Our remedy lies in not making the cheap cheese. I am in favor of national legislation requiring all skim cheese to be branded as such. Would the enforcement of such a branding act require more vigilance and skill than that of the oleomargarine act? We think not. He related a case within his own knowledge where the sale of some fall skims ruined the reputation of a full-cream factory with a certain large dealer. This instance brought the matter home to his mind, and illustrated vividly the folly of working seven months of a season to build up a reputation, and then going to work on the eighth to kick it all over by making a few skims. Let this association resolve itself into a committee of the whole, for the purpose of bringing about this needed legislation and reform, and the American people will say, 'Tis well.

Wednesday afternoon, after Mr. Penner had disposed of the question box, W. W. Hall, one of the cheese instructors of the dairy commission, read some valuable suggestions on "The Care of Milk."

He insisted on good attention to the cattle, pure water, plenty of salt, cleanliness of barns, removal of milk from barn immediately after milking, and deodorizing milk at the time of straining by an apparatus that will let milk pass out of the strainer in a small stream only. Morning's milk should be taken to the factory in separate cans, and the cans should not be rusty or unclean, otherwise the milk will be tainted itself and will taint the whole vat. The washing of utensils in a factory should be attended to by the maker himself, in order to be sure that it is properly done. He then described the method of manufacturing cheese adopted by the State experts. He recommended steam heat in the curing room for cold weather. After cheese are cured they should be removed from the curing room. One secret of Canadian success is that after curing they are sent to Montreal, and are put into store houses where the temperature can be controlled and kept perfectly even.

F. W. Edmunds also presented a paper on "The Relations between Factorymen and Patrons." With the patron rests the success or failure of our cheese factories, he said. The patron who appreciates this fact is an ideal man. The common patron has a herd of common cows, that run out in winter, drink ice water, are fed nothing but hay, or straw and corn stalks, and go dry nearly half the year. Such patrons get only about $25 a cow yearly. He read a statement of a factory showing 80c. per hundred pounds of milk for the past season, with the milk averaging 10⅝ lbs. to the pound of cheese. He gave the figures for running a factory of 250 cows as $777, showing that there was very little profit for the factory. He then outlined a plan by which dairymen could get 5,000 lbs. of milk per cow, by proper feeding and care, producing quality as well as quantity. Sour whey taken home in milk cans will injure all the cheese made at a factory.

Commissioner Brown spoke next. He congratulated the dairymen that at length it can be said that there is practically no oleomargarine made or sold in New-York State. Outside of the State there is a good deal of it sold, but this amount would be very much reduced, if some power were given to a State officer to enforce the laws even now in existence. New-York is the first and as yet the only State where a commissioner has been appointed to see that the laws are enforced.

When the work of inspecting milk was begun, the milk was considerably below the legal standard, but by the efforts of the commission, milk is now probably the purest article of food in market. This fact has vastly increased the consumption of milk in all of our large cities. We have visited this year 1,163 cheese factories and creameries, which made over 5,000,000 lbs. of butter using over 216,000,000 lbs. of milk. The cheese product was still larger. In all, the milk product was 1,297,000,000 lbs. from 407,712 cows. The average yield of milk per cow was only 3,034 lbs. How can any man get a living out of such a yield as that? Do not complain of poor times after such a showing as that. The poor times are created by the farmers themselves, and they can only remedy the matter by increasing the yield of their cows. Mortgages must increase unless there is a vast improvement made in our dairies. The only ray of light comes from the exceptions here and there of men who have made a success of dairying, and showing that it is not only feasible to do so but safe, sure and lasting. This is sufficient to teach us that all dairies can be made to pay, if the right methods are adopted. The average yield of milk in this State ought easily to be brought up to 5,000 lbs. or more.

Speaking of the conduct of cheese conferences he said that he never entered upon any part of his duties with so much doubt and apprehension, but that it had turned out favorably and he was fairly well satisfied with the results.

In confirmation of Commissioner Brown's remarks Mr. Merry said: I have run a factory of 800 cows for 30 years, and my experience is that we make only about 350 lbs. of cheese per cow.

Mr. Edmunds related an instance in a butter factory where the cows made a little over $17 each, counting in the calves.

Prof. Roberts suggested that every man should get a scales and weigh his milk so that he can judge whether old Brindle or old Short-Horn pays her way or not.

W. H. Gilbert gave an instance in his knowledge of three years experience in a cheese factory, where the cows averaged less than 3000 lbs. of milk each for the whole season.

Prof. Robertson said that his cheese contain between 31 and 32 per cent. of moisture. We take 10 54 lbs. of milk to a pound of cheese. The English market wants a cheese moist enough to give it a rich taste. The yield can be increased by improving the quality of milk. Good aeration would reduce the average half a pound. By using a pure extract of rennet we get no effect on the flavor of cheese. The use of a large quantity of rennet will increase the amount of moisture retained, and thereby hasten the curing of the cheese. The whey from rich milk will have more fat in it than that from poor milk, but there will also be more fat retained. Very rich milk requires the use of more rennet. After milking, it is necessary to protect the milk against pollution. The milking should be done by dry hands only. Straining should be done immediately. Contact with pure air will prevent development of microbes that make it rot. After aeration it should be cooled, but not under 65 or 70° in summer. In the fall of year the milk cans should be housed and kept warm. Too much cold will make the milk condense the moisture in the atmosphere and thus take in whatever impurities there are in the air. You cannot wash a taint out of curds by means of water, but hot water will develop acid and thus provide conditions that will destroy microbes. Water at 180° will give you an acid curd, but I do not like to use it until after the test of the hot iron.

H. M. Richardson introduced the following resolution:

Resolved, That it is the sense of the New-York State Dairymen's Association that Congress should enact a law providing that all cheese made from milk from which cream has been taken, be branded "Skim Cheese." All dairy associations and farmers' institutes and clubs are asked to cooperate to secure the passage of this act.

Mr. Munson of Delaware thought it unwise to introduce such a motion at this stage of the proceedings. It was a mistake to couple skim cheese with oleo. The cheese is not an intruder or outsider, but a member of our own household, and we have no right to discriminate against this branch of the dairy interest. He spoke at length against the motion, and singlehanded fought against the whole convention. The discussion was lengthy and animated, but good natured, and the resolution was adopted with but one vote in the negative. Convention adjourned till evening, when it was to listen to Col. Curtis' address on "Dairy Education," the most important during the convention.

Weather, Crops and Prices.

Meteorology for Dec. 23-29.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30.52 inches.
Lowest	do.	do.	29.65 do.
Mean	do.	do.	30.15 do.
Highest temperature	do.	do.	58°
Lowest	do.	do.	0°
Mean	do.	do.	35°

Two clear days; one fair; four cloudy. One day on which rain or snow fell; total precipitation, 0.34 inches. Prevailing wind, S.; maximum velocity, 30 miles per hour, W., on the 27th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874.

Day	23d	24th	25th	26th	27th	28th	29th
This year	20°	19°	42°	44°	40°	38°	34°
Normal	27°	25°	25°	25°	27°	29°	30°

Total excess for the week, 56°; average cloudiness, 6.7.

Vermont—*Middlebury, Addison Co., Dec. 23.*—Beautiful sleighing now, with a very little snow; the heavy rain storm of 17th turned to sleet, which made one of the best foundations, with about four inches of snow, but we may lose it, as the mercury has gone from 6° below zero, Saturday morning, to above freezing point now, with a strong southeast wind. Hay is being shipped very freely, No. 1 bringing $10 per ton. We shall soon see the effect of so much hay leaving our valley. Sheep seem to be wintering well. The annual meeting of the breeders' association will be held here Jan. 9. Potatoes are moving at 35c. per bu.; onions a drug at 40c.; butter, 22@25c. per lb., with very little offered. The Board of Agriculture, organized with the election of Gov. Dillingham as president, W. W. Cook, secretary, have started on their winter campaign, and with the solid material that it is composed of, will, without doubt, do effective work. A. B. C.

Virginia—*Surry County, Dec. 22.*—Weather cold since 15th, with heavy wind storm, prostrating many trees, fences, and some buildings, and doing considerable damage to property, on the 17th; force of wind 8 to 9; a beautiful lunar rainbow at the time of the highest wind; no such wind here in many years. Great scarcity of money among farmers; Christmas cheer (and festivities will be curtailed in consequence. Business dull. Blade fodder, $1.25 per cwt.; pork, 10c. per lb.; bacon, 12½c.; lard, 10c.; butter, 25c.; eggs, 25c. per doz.; corn, $3 per bbl.; turkeys, live weight, 10c. per lb.; hens, 35c. each; geese, 60c.; hare, 10c.; squirrel, 10c. R. W. A.

Norfolk, Norfolk Co., Dec. 21.—Truckers are just now sending to northern markets large quantities of kale and spinach at 75c @$1 per bbl. for the former and $2@2.50 for the latter. The visible crop of kale is immense; it will reach nearly or quite 300,000 barrels. Spinach shows 75,000 to 100,000 barrels. Cabbages, only an ordinary area, say about 1,000 acres. Peas and radish will soon be sown in the open air. Truckers are getting ready to plant early Irish potatoes in February. After the kale and spinach are shipped—say in March—the land will be replowed and other crops put in to mature later in the season in time for the fall crops of kale, cabbage and spinach again. The trucker is busy all the year. He is not satisfied with one crop, but must have two, and sometimes three, crops from the same land each year. Some of our truckers shipped green peas from the field as late as the 4th of December. The weather now is cool and bracing, slight frosts at night; a good time for farm work. On the morning of the 14th and 21st of December the government thermometer registered 25°, which represents our cold weather to date. A thin ice has formed now and then. We do not look for winter to set in until about Jan. 10. O. J.

Ohio—*Mechanicsburg, Champaign Co., Dec. 27.*—Weather cool and cloudy, mercury 32°; high wind; rain last night and wind; yesterday very warm; mercury 60°; Christmas was warm and cloudy, mercury 54°; muddy to-day, wind westerly. Quite hard weather on wheat; some snow fell this morning, but soon melted. E. W.

Indiana—*Greencastle, Putnam Co., Dec. 24.*—The weather so far has been delightful, not equalled since the winter of '63-4, when, in East Tennessee, we had grasshoppers up to about this time in the season. Our coldest night has been 18° below freezing; is getting rather dry. Wheat looking well; farmers have most of the corn in the crib. Live stock looks well, and fat hogs bring good prices. Medium beef cattle not much in demand; good ones $3.50 per hundred. T. C. O.

Illinois—*Vandalia, Fayette Co., Dec. 24.*—High northwest winds, with light snow through the whole of the 48 hours ending eve of the 18th, cleared off 19th, warm, April weather since, freezing slightly at night. Roads good, and wheat looks splendid. Many farmers have large fields plowed ready for oats in the spring; everything looks promising. Health of the county good. Markets unchanged, except that wheat is a little advanced; dressed hogs, 6c. per lb. R. A.

Menard County, Dec. 26.—The weather for this part of the winter has been of the finest, mercury not more than 10° below freezing point, with moisture enough to meet the needs of the wheat crop, live stock and cisterns. Stock wintering fine, with feed spending well, and roads never better for the time of year. Farmers feel more jubilant than for some years, with good crops and fair prices realized. Cattle are really the only cheap commodity, and as they are usually sold from one farmer to another, at least half the latter are not complaining. Most cattle feeders are money borrowers, and as money can now be obtained at better rates than ever before in this county, they are hopeful for good profits on their season's feeding. Hogs have declined 50c. per hundred since last letter, but as there now being sold have eaten less of old-crop high-priced corn, and more of the new cheap, the profit remains equally as good. Corn husking is completed, and never has there been a better time for that work. I have been waiting patiently for the ground to freeze up solidly so that I could complete my wire fence. The only way that I ever could make such fence satisfactorily is to set the posts before the ground freezes, and stretch the wire after freezing. If the end posts are well braced this will make a splendid fence. Late sown wheat still looks weak, but the soft open weather we are having will perhaps bring it out all right in the spring. Some reports of swine plague in this county, the first in three years. When it gets hold in a locality it usually takes a year to run its course; after that we have no more of it, in epidemic form, from three to five years. In one way the plague is a benefit. Those who are careful with their herds seldom lose many hogs, while the careless ones lose very heavily, and thereby keep prices far in advance of what they would be if there were no disease. Markets have been quite steady. Stock cattle, $3@3.25 per 100 lbs.; fat cattle, $4@4.25; hogs, $4.80; good horses, $150@200; common, $75@125; corn, 25@28c. per bu.; wheat, 90c.; oats, 25c.; potatoes, 30c.; sweet potatoes, $1.50; onions, 50c.; hay, $10 per ton; honey, 20c. per lb.; butter, 22c.; live chickens, 5c.; ducks, 5c.; turkeys, 7c.; eggs, 18c. per doz. *Dec 26.*—An inch of rain fell last night; wind has shifted to northwest, and mercury is sinking rapidly. A. N. C.

Michigan—*Jamestown, Ottawa Co., Dec. 20.*—The summer was very dry up to time of sowing wheat, and that made many very late in sowing; then came a rain which wet the ground thoroughly. Apples were a good crop, and sold for $1 per bbl; wheat was very light, is now selling for 97c per bu.; potatoes good, selling at 35c.; hogs not very plenty, $5 per cwt. No snow yet; ground frozen very hard, and wheat looks bad. This is a good country if people would only read more and learn more. C. W. S.

Wisconsin—*Janesville, Rock Co., Dec. 26.*—The long-needed rain has come at last; weather quite mild, with wind south. This is what is termed winter rain, cold usually following, and settling down to winter. Business has been quite good. Wheat, 90c. @$1 05 per bu.; barley, 40@55c.; corn, 25@27c.; oats, 24@26c.; rye, 50c.; potatoes, 45c.; apples, $1 75@2 25 per bbl.; hay, $5@8.50; cattle, $2 40@3.40 per cwt. W. H.

California—*Auburn, Placer Co., Dec. 17.*—The first week of intermittent rains, after the middle of November, was alternated with intervals of sunshine and clear skies, but during the last three weeks, up to date, we have had almost a continuous succession of rains and fogs, daily and nightly, with only a few hours of sunshine, all told. The rainfall has been 8¼ inches already, and the roads are coated with clay and thick mud at times. The rainfall began two weeks later—Dec. 1—last year, and was only 3½ inches up to same date in December, and about the same in 1880, those being called "dry seasons" by the California press. Old-timers assure us there has not been so much fog in many years. There certainly was not a damp, foggy week all told last winter. They say the rain is a good thing for the country, and fruit trees of all sorts are growing finely, while tens of thousands more are being set out in full variety. Farmers from the northwest, and old readers of the COUNTRY GENTLEMAN, are arriving here in considerable numbers. J. W. C.

Record of the Times.

Review of Passing Events.

Christmas Casualties.—Another cotton fire occurred on the Mississippi river, closely following that of the Adams. The John H. Hanna from Onachita, with 2,300 bales of cotton, took fire at midnight, Dec. 24, near Plaquemine, La., and although run ashore was entirely destroyed, and 30 persons lost their lives. Captain Holmes and Pilot Smith got to shore but died of their burns.—The propeller Leif Erickson was burned Christmas eve off Afkali Point W. T., and seven lives were lost.—The steamer Silver Star of Bar Harbor, Me., struck a wreck off Whale's Back Light, N. H., early Christmas morning and sank; the crew escaped in boats.—The business part of Marblehead, Mass., about 12 acres, was burned Christmas night, with a loss of over $200,000; 37 buildings were destroyed and 1,000 persons, mostly shoemakers, are out of employment.—Three acres of ground were burned over in Cincinnati on Christmas Day, and factories, dwellings and freight cars were destroyed, with loss of over $500,000, and 75 families made homeless.—Six other fires are reported, and Petersburg, Va., had five.—At Geneva, Illinois, John M. Stillwell, as Santa Claus at a church festival, caught fire and was fatally burned. The same thing happened to F. W. Smith of Danville.—At Milwaukee, while his mother was out, a little boy got out of bed to light a Christmas tree, and his night dress took fire; he died of his burns.—At Cold Spring, N. Y., the daughter of J. T. Van Wyck, tried to hasten with kerosene the fire with which she was preparing the Christmas dinner. She succeeded in burning up the house and $500 in money.—Two prisoners tried to escape on a log from Blackwell's Island, N. Y., but were upset, and one was drowned.—Mrs. Jenny Sheldon, employed in the Grand Central Station, New-York, whose mother died on a previous Christmas, and whose youngest child had died, took poison and died Christmas morning.—At East Prospect, Pa., during an entertainment the building collapsed, and 200 people were thrown with timbers from the second to the first floor, and many were injured.—At San Francisco, a boating party of seven were upset and all but the boatman drowned.—Various skating parties broke in, and some were drowned.—As a slight relief to this gloomy list we read that at Winona, Minn., 300 citizens in linen dusters and straw hats, and carrying fans, made a steamboat trip up the river. Not a flake of snow there yet, and mercury at 40° and above.—Also that General Russell A. Alger of Detroit gave 700 newsboys complete outfits of winter clothing; coal and flour to 1,500 needy families; and cash dona-

tions to various reform schools and asylums. —In New-York the friends of the late Henry Monett, passenger agent of the N. Y. C., canceled a mortgage on his home and sent it as a gift to the widow and children.

From Abroad.—Parliament has been prorogued until Jan. 31.—The Freeman's Journal of Dublin asserts that Sheridan was offered £10 000 by the Times, if he would testify in its behalf, but he refused.—Earthquake shocks were felt in Eastern Spain, Dec. 27, and in Hampshire, England, 28th.—The bondholders of the Panama Canal Company have expressed confidence in De Lesseps, and will forego dividends until the canal is completed. From work on the latter 3,000 men have been discharged. —Stanislas Prado, the murderer, was guillotined at Paris, Dec. 28.—Rex, the defaulting bourse speculator, drowned himself in the river Yonne, Switzerland.—The Pope has given $4,000 for a training college for missionaries to care for Italian emigrants in America.—A shell bursting in a powder magazine at Messina, Sicily, Dec. 28, killed 18 soldiers and wounded many others.—A 4 mile reconnoissance at Suakim, Dec. 28, by Grenfell, revealed only a few rebels on camels, who retired.—The German missionaries in Zanzibar, who were reported to have been massacred, are safe.—Special despatches to the New-York Mail and Express, Dec. 27, say that the Haytien Republic was surrendered, Dec. 19, and that $2 250,000 indemnity has been demanded; also that an English prize crew was sent from New-York, Dec. 8, by steamer Alene of the Atlas line, to bring home the Haytien Republic.—The brigantine Josefa, at Philadelphia, Dec. 27, reports being seized by the Spanish authorities, while discharging cargo at Porto Rico, for alleged error in manifest, and fined $4,000, the return of which was refused when error was explained —20 packages of corn-starch having been delivered to a steamer Josephus when loading in New-York.

Deaths.—General Melikoff, the famous Russian soldier, died at Nice, Dec. 26, aged 64. He commanded the invasion of Armenia in 1877 in which the storming of Kars was a brilliant incident. In 1880 Czar Alexander II placed him at the head of the Commission of Supreme Control. Soon after the Czar was killed by a bomb, and sometime after Melikoff resigned.—Rev. James P. Boyce, D. D., president of the Southern Baptist Theological Seminary at Louisville, Ky., died at Pau, France, Dec. 27, aged 61. He was a leading southern theologian and a trustee of the Slater Fund.—The Very Rev. Isaac T. Hecker, founder and superior of the order of Paulist Fathers, died in New-York, Dec. 23, aged —. He was a brother of George Hecker, the well known miller.—Signor Mancini, formerly Italian Minister of Foreign Affairs, died at Naples, Dec. 26, aged 73.—Prince Karageorgevich of Russia, a grandson of Kara George, the Servian peasant who headed the revolt against Turkey in 1805, died recently.

Minor Items.

Cincinnati was 100 years old on Dec. 28.

Albany will have a midwinter carnival Jan. 29-31.

Newton, Mass. celebrated its 200th anniversary, Dec. 27.

Eclipse of the sun, Jan. 1, visible on the Pacific coast.

The Chesapeake dredgers are again defying State authority.

Oliver Ditson of Boston left $35,000 for the benefit of poor musicians.

A gang of silver-dollar counterfeiters has been caught in Brooklyn, N. Y.

The Albany Express has been bought by William Barnes, Jr. of Albany.

New-York City taxes for this year will be over $33,000,000—not in excess of last.

The New-York Graphic will be conducted as a Republican paper, with Henry L. Stoddard as editor.

The Richmond (Va.) Whig, the oldest paper in the city—in its 64th year—has suspended publication.

Five brokers on the Consolidated Exchange, New-York, and one on the Stock Exchange, failed Dec. 26.

Railroad dividends are better than usual, and the Central-Hudson proposes to return to a 5 per cent. basis.

Prof. C. K. Adams of Cornell University has been elected president of the American Historical Association.

The American Society of Naturalists held an annual meeting at John Hopkins University, Baltimore, Dec. 27.

The American Society of Church History held its first meeting in New-York, Dec. 28, Dr. P. H. Schaff, president, presiding.

Governor Richardson of South Carolina has vetoed the act accepting the Clemson bequest which Miss Lee of New-York has been contesting.

A National Academy of Theology has been founded by seminary professors with James Strong of Drew, president, and C. D. Hartranft of Hartford, secretary.

A Bridgeport, Ct., druggist, had a hard fight with an eagle, which attacked him, last week, while out walking. He received three bad wounds, but captured the bird.

The great seal of the Southern Confederacy has been presented to South Carolina by Col. William E. Earle of Washington. It is of bronze, three inches in diameter.

An express train on the New-London (Ct.) Northern road parted on a down grade near New-London, Dec 27, and a freight ran into the rear section, breaking up six cars.

The State of New-York is nearly out of debt, and if the direct tax bill is passed, returning $2,000,000 from the general government, the tax rate will be the lowest for 50 years.

Fires were reported, Dec. 28, in Portland and Manton, Me., Newburgh, N. Y., Belvidere, N. J., Beaver, Pa., Dongola, Ill., Chicago, Big Rapids, Mich., and Galt and Picton, Ontario.

Parsons, the Northampton white slave trader, has been fined $500 and costs. During the past 18 years he has made $5 per head on 5,000 pauper laborers brought into that part of Massachusetts.

The railway mileage of the country has increased the past year 7,130 miles of main track in all States and Territories, except Rhode Island and Nevada. Kansas laid the most, California next.

Committees of the Presbyterian church North and South, were in secret session last week in New-York, on the subject of reunion. The result will be given to the general assembly of next May.

There was a drop in May wheat on the New-York Produce Exchange, Dec. 26, of 3½ cents, and there was an unloading of 5,000,000 bushels. Free selling in Chicago by Hutchinson & Fairbanks started it.

A new water filter from Germany called the Tamsen, has been introduced in New-York. It has a double filtration, the water passes upward, and it is claimed that bacteria, fungi, &c., will be destroyed.

A train on the Louisville & Nashville road, running at 45 miles an hour, struck a stationary train at Bardstown Junction, Ky., Dec. 24, splitting the last two cars in train, killing two persons and injuring 13.

The New-York Journal of Commerce, in answer to a correspondent, says the word "telegram" first appeared in print in the Albany Evening Journal of April 6, 1852, but was first adopted in place of "telegraphic despatch" by the Journal of Commerce.

About 1,000 pounds of powder exploded at Long Run Tunnel, Mount Pleasant, Ohio, Dec. 24. The contractor's building was blown to pieces, many laborers injured and one killed. Thirty tons of dynamite near by was frozen solid and did not explode.

General Logan's body was removed, Dec. 26, from the vault in Rock Creek cemetery to the Memorial Chapel in the Soldiers' Home cemetery, Washington. The soldiers who have guarded the remains were given gold badges by young Logan. Mrs. Logan is in Europe.

Every Form of Lameness

and wounds of every description in the horse, are carefully treated in Dr. Wood's new book, 100 pages, 38 fine engravings, 50 cents, postpaid. Francis Wood, V. S., Washington, D. C., P. O. box 414. jan-4t

DARWIN'S THEORY.

Darwin's theory of the "survival of the fittest" is simply that the weakly die, while the robust and hardy thrive and live. How true this is of seed growth, and how necessary to sow only that which is suited by nature to live and develop!

D. M. Ferry & Co., the great Seed Growers and Seed Dealers of Detroit, Michigan, supply only the best and purest, raising their own seeds by the most improved methods, and with the greatest care, bringing to their business all the intimate skill of more than thirty years' experience. Their seed Annual for 1889 is a real help to the gardener, and should be in the hands of all who desire to purchase pure and true seeds. Send your name to the firm's address at Detroit, Michigan, and they will forward you a copy.

When Cowper wrote of the cup that cheers he had never heard of Baker's Breakfast Cocoa. Tea cheers for the time being, but cocoa nourishes through life. There is nothing more refreshing, or nothing upon which one can do a better day's work, than Breakfast Cocoa. Like all good things, it must be treated with proper consideration, and pains must be taken with the making. When it is made as it should be, it is the most refreshing and delightful beverage in the world.

When the blood is impure, thick and sluggish, or thin and impoverished, there can be no health. With these conditions, all the functions of the body are impaired, and the result is a variety of dangerous complications. The best remedy is Ayer's Sarsaparilla.

As a home remedy for throat and lung diseases, Ayer's Cherry Pectoral is invaluable. Druggists now have Ayer's Almanac.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a recipe which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 26 Warren St., New-York City, will receive the recipe free of charge. [colleow15t

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [mch8-26t

CONSUMPTION CURED.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive, and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYES, 149 Power's Block, Rochester, N. Y. [ao27-26w13t

Farm Produce Markets.

Albany Markets—Dec. 31.

FLOUR.—The Argus says: The market was slightly weaker, with fair demand.

	Dec. 28.	Dec. 29.	Dec. 31.
Com. State	$4.20@4 40	$4.20@4 40	$4.20@4.40
State Extra	4.70@5 00	4.70@5 00	4.65@4 90
Amb. State & W	5.00@5 75	5.00@5 80	4.95@5 70
Co. Ind. & St. L. & C.	5.00@5 75	5.00@5 80	4.95@5 70
Winter W. Ext	4.75@5 75	4.75@5 75	4.70@5 70
Minn. "Bakers"	5.25@5 75	5.25@5 75	5.20@5 70
Spring W. Pat	5.00@5 20	5.00@5 20	4.95@5 15

Rye Flour in light demand at $3.60@3.80 per bbl.

Grain, $4.80@4.85. Oat Meal in steady demand, at $4.40@4.60 per bbl. Corn Meal, fine family, $3.40@3.60 per bbl. Buckwheat flour, $3.40@3.60 per 100 lbs.

GRAIN.—Corn in good demand; old well sold out.; new No. 2, 49@49½c.; No. 3 mixed, 45@45½c. Oats steady, with fair trade; No. 2 white, 35½ @36c.; No. 3 wh to, 34@34½c. Rye steady; receipts improved. Street lots, 64@65c. per 56 lbs.; car, 61c.

HAY AND STRAW.—In moderate request; market firm. Timothy, best, $16@17.50, medium, $14@15; clover $13@14; mixed, $13@14; rye straw, best, $13 @15; oat straw, $8@10.

HOPS.—Better demand for best stocks.

N. Y. State, 1888, best	—	@—
N. Y. State, 1888, common to good	15	@20
N. Y. State, 1887, all grades	4	@11
Pacific Coast	15	@20
German	35	@40

Albany Street Market—Dec. 31.

BUTTER.—Fancy, 26@28c. per lb.; fair to good, 20@ 25c.

EGGS.—Near-by and new laid, 24@25c. per doz.; Western, 24@25c.

FRESH MEATS.—Steer beef, hindquarter, 6@8c. per lb.; forequarter, 5@6c.; mutton, hindquarter, 6c.; forequarter, 5c.; lamb, quarters, 10@12c.; veal, hindquarter, 10@11c.; forequarter, 7@8c. Fresh pork, 7½@8c.

POULTRY.—Fowls, 9@10c.; chickens, 9@10c.; turkeys, 11@12c.; ducks, 12c.

FRUIT.—Apples, $1.00@$1.75 per bbl.; Cranberries $3.00 per crate; Grapes, Catawba, 6@8c. per lb.; Pears, $3@4 per bbl.; Cranberries, $2.50@3 per bbl.; Chestnuts, $1.75@2 25 per bush.; Hickory nuts, $3@3.50.

VEGETABLES.—Roots, $1.50@2 per bbl.; Carrots, $1.00@1; Cabbage, $3@5 per 100. Cauliflower, $2 00 per dozen; $1 per doz. bunches; Lettuce, 50c. per doz.; Onions, $1.10@2 per bbl.; Parsnips, $2.00@2; Potatoes, $1.75@2.50 per bbl.; sweet, $4.75; Spinach, $3; squash, $3@3.50; Turnips, 75c.@$1.

New-York Markets—Dec. 29.

BEANS—Marrow, 1888		3.20	@ 3.25
Medium, 1888, choice		1.87½@	1.90
Pea, 1888		—	@ 1.85
COTTON—	Uplands.	*N. O.*	*Gulf*
Ordinary, per lb	9½@—	—	@—	9½
Middlings	10½@—	—	@—	10
Fair	11½@—	—	@—	11½
EGGS—State and near-by, per doz		22@23		22
Western and Canada		18	@	19
FLOUR—Spring Wheat pat., per bbl		4 25	@	4 90
Winter		4 40	@	5 15
No. 2 extra State and Western		3 70	@	5 40
No. 1 extra		4 00	@	5 50
Minnesota clear		4 50	@	5 00
Straight		5 75	@	6 10
Rye Flour, superfine		3 25	@	3 60
Corn Meal		3 00	@	3 35
Buckwheat Flour		2 25	@	2 35
FRUIT—Apples, Baldwin, per bbl		1 00	@	1 37
Greening		1 25	@	1 75
King, Spitzenberg		1 50	@	2 00
Lady		1 00	@	1 50
Cranberries, Cape Cod, per bbl		7 50	@	8 00
Jersey, per crate		1 25	@	2 25
Grapes, Concord, per lb		2	@	3½
Catawba		3	@	6
Oranges, Florida, choice		2 25	@	3 00
Russets		1 75	@	2 25
Mandarins		3 00	@	3 50
Tangerines		3 00	@	6 00
Hickory Nuts		1 00	@	1 75
Black Walnuts		60	@	75
Peanuts, Virginia, per lb		2	@	3½
GRAIN—Wheat, State white, per bus		1 19	@	1 13
Ungraded spring		1 26	@	1 35
No. 1 red, winter		1 10	@	1 11
No. 2 red, winter		1 01½@	1 03
No. 1 Lard, spring		—	@	—
Corn, No. 2, white		44	@	45½
No. 2 mixed		43½@	44
Oats, No. 2, white		34½@	35
No. 2, mixed		30½@	32
Barley		70	@	80
Buckwheat		60	@	65
Rye, state and western		58	@	60
HAY—Timothy, per 100 lbs		80	@	85
Shipping		70	@	75
Clover		80	@	85
Straw, loose rye, new, No. 1		90	@	95
No. 2		75	@	80
Oat		—	@	55
HONEY—White clover, per lb		15	@	16½
Buckwheat		10	@	12
Strained		7	@	9
HOPS—N. Y. State, 1888, choice, per lb		20	@	22
Good to prime		17	@	19
Best, 1887		8	@	11
Pacific Coast, 1888, best		16	@	18
Pacific Coast, 1887		9	@	12
POULTRY—Live fowls, per lb		11	@	13
Spring chickens		11	@	13
Turkeys		11	@	14
Ducks, per pair		60	@	65
Geese		1 37	@	1 50
Dressed fowls, per lb		9	@	9
Chickens		9	@	15
Turkeys		11	@	14
Ducks, per lb		12	@	14
Geese		10	@	13
PROVISIONS—Beef hams, per bbl		12 50	@	13 00
India mess		11 00	@	12 00
Hogs, dressed, per 100 lbs		7 12	@	7 12
Lard, per tierce		7 75	@	8 25
Pork, new mess, per bbl		14 25	@	15 75
Short clear		15 00	@	16 00
Family		15 00	@	16 00
VEGETABLES—Cabbage L. I., per 100		1 50	@	4 00
Cauliflower, L. I., per bbl		2 50	@	3 50
Celery, L. I. & Jersey, doz. bunches		15	@	—
Mish. and State, per doz. roots		10	@	25
Kale, Norfolk, per bbl		—	@	75
Onions, red or yellow, per bbl		1 00	@	—
Orange Co., red		90	@	1 00
Comm. white		2 75	@	3 75
Potatoes, Maine, per bbl		1 75	@	—
State, Burbank and Peerless		1 12	@	1 40
Long Island		2 07	@	2 12
Jersey, sweet		2 00	@	2 75
Virginia		1 50	@	1 62
Spinach, Norfolk, per bbl		1 50	@	2 25
Turnips, Jersey, Russia		40	@	50

Cattle Markets.

NEW-YORK, Dec. 29.

BEEVES.—Receipts, 7,320 head. The week opened with a light supply and fair demand, which caused a better feeling in trade. This was not sustained on Wednesday, when on a very slow demand values declined 10 per cent. Friday the animals were light and trade fair, with a recovery in values of 10 per cent. The herds offered ranged from poor to fair, with a good top, which latter was chiefly taken for export.

[Per cental, est.]	This week.	Last week.
Good beeves	$3 90 @ 4 10	$3 50 @ 3 75
Fair	3 12½@ 3 75	3 10 @ 3 37½
Coarse	2 00 @ 3 00	2 00 @ 3 12½
Poor	3 50 @ 7 87½	6 00 @ 7 75

[Per cental, gross.]	This week.	Last week.
Good beeves	$6 50 @ —	$6 50 @ 6 60
Fair	5 00 @ 6 25	5 00 @ 5 40
Coarse	4 40 @ 4 90	4 60 @ 4 75
Poor	2 00 @ 3 75	3 12½@ 4 00
Bulls	3 00 @ 4 00	3 00 @ 4 00
Dry cows	3 00 @ 4 00	3 00 @ 4 00
Bulls	1 50 @ 2 75	2 00 @ 3 00

MILCH COWS.—Receipts, 76 head. The quality of the miserable creatures offered hinders trade, which continues to be very dull; four cows sold at $35 per head.

VEALS AND CALVES.—Receipts, 760 head. The arrivals for the week have been light and the tone steady in calves and firm in veals. Range of prices: Calves, grass-fed, $3@3.50 per cwt.; yearlings, $4.25@ 5.50; western calves, $5.50; calves, part meal fed, 9½ @10c. per lb.; veals, 6@8c.

SHEEP AND LAMBS.—Receipts, 19,130 head. The week opened with a steady feeling, which was fully sustained on Wednesday, especially in flocks of good quality. Thursday's trade was very similar to the one; the markets closed steady on Friday. Quality of the flocks offered poor to good. Range of prices: Sheep, 4@5½c. per lb.; cull sheep, 3½@3½c.; rams, 3c.; ewes, 5½c.; lambs, 6@7½c.

SWINE.—Receipts, 21,267 head. On Monday last there were no live hogs offered; Wednesday, on a steady feeling, 126 State hogs, 180 lbs., sold at 6½c. per lb. There were no live hogs offered on Friday, when the feeling was strong.

BUFFALO, Dec. 28.

BEEVES—[Per cental, gross.]	This week.	Last week.
Extra steers	$5 10@5 20	$5 10@5 30
Best handy steers	4 75@4 90	4 75@4 90
Second quality	4 25@4 65	4 25@4 65
Fair to common	3 75@4 25	3 75@4 25
Stockers, western	2 75@3 60	2 75@3 60
Milkers, Canadian	2 25@3 25	2 25@3 25
Bulls	2 00@3 50	2 00@3 50

Receipts 10,600 head against 9,950 last week. Attendance of buyers very light during the early part of the week and feeling generally weak, but owing to limited receipts of sale stock, no break in prices occurred. At the closing there was an active demand for export and shipping steers, and the prospects were good for higher prices next week. Receipts of stockers light, demand fair. Liberal supply of sales; all sold.

MILCH COWS.—Dull and lower; receipts heavy. Extra, $45@50; good to choice, $35@40; common to fair, $20@30.

VEAL CALVES.—Supply light; offerings poor. Extra, $6.25@6.50; good to choice, $5@6; heavy fed, $3@4.

SHEEP AND LAMBS.—Receipts, 30,600. Market weak and lower; limited demand only for choice; buyers asking 25@30c. decline; also on to-day's sheep, $4.75@5; fair to good, $4@4 25; common, $3@ 3.50. Lambs active, strong and higher; Western, good to choice, $6.30@7; fair to good, $5.50@6; Canadian, $6.25@6.35.

SWINE.—Receipts, 43,200. Market irregular, closing active and 10@15c. higher than opening. Mediums, $5.25@5.45; Yorkers, $5.10@5.25; pigs, $5.30@5.45; roughs and stags, $4@4.50.

BOSTON, Dec. 29.

BEEVES, NORTHERN.—Good oxen, dressed, 6½@ 7.75 per cwt.; fair to good, $6@6.25; second quality, $5@5.50. WESTERN, Alive—Extra, $5.25@5.50; good to prime, $4.75@5; light to fair, $4.25@4.50.

MILCH COWS.—Trade slim at $35@40 per head.

CALVES.—Receipts limited; range, 3½@5½c. per lb.

SHEEP AND LAMBS.—In light receipt. In lots at 5½@6c. per head. Spring lambs, 8@9c. per lb.

SWINE.—Western fat hogs, alive, 5½@5¾c. per lb, northern, dressed, 6½@6¾c.; pigs, $1.50@2 00 per head.

Dairy Markets—Dec. 31.

ALBANY.—Butter in good demand; receipts light. State creamery, choice, 28@30c.; Western creamery, 26@27c.; State dairy, 25c.; fair to good, 18@24c.; Western dairy, choice, 23@26c.

Cheese firm and unchanged. State factory, full cream, 13½c.; dairy, good to fancy, 12c.

NEW-YORK.—Best grades of Butter firm; others easy. Receipts, 9,351 packages. State creamery, tubs, 24@28c.; firkins, 23@27c.; State creamery, fresh, 28c.; State dairy, choice, 26@26c.; Western dairy, 22@24c.; Western factory, choice, 23c.

Cheese quiet. Receipts, 31,722 boxes. Factory, best, 12@12½c.; good to choice, 11@11½c.; light-milk skims, 9½@10½c.; Ohio flats, 12@12½c.

BOSTON.—Western creamery, extra, 26@27c.; extra State, 26@27c.; factory, 23@24c.; Vermont extra, 26@27c.; dairy, choice, 22@24c.; Western creamery, good to choice, 24@25c.

Cheese, Northern, choice, 11½@12c.; Western, 11½ @12c.; sage, 12@13c.

Wool Markets—Dec. 31.

ALBANY.—Market quiet; sales light.

No. 1, Pulled	32@34	Medium Fleece	30@32
Super Pulled	30@32	Fine Fleece	30@32

NEW-YORK.—Ohio X & XX, 30@31c. Michigan X, 30c. Sin. combing, 29@31c. delaine, 30@32c.; unwashed western, 26@28c.; pulled, 32c. Territory, 31c. Oregon, 16c. do. scoured, 54c. California, 19@21c.; Georgia, 31c.; Montana, 34½c.; Colorado, 16@22c. scoured do., 48@ 50c. Texas, 18@22c.; scoured, 37½c.; East India, 12@ 20c.; Montevideo, 20½@31c.; Russian, 18c.

BOSTON.—Sales 1,345,500 lbs. domestic and foreign; Ohio and Pennsylvania, 32@35c.; Michigan, 32@34c.; Territory, 19@25c.; combing and delaine, 30@32c.; unwashed, 23@30c.; scoured, 46@50c.; pulled, 32@40c.; Territory, 19@30c.; California, 19@23c.; Oregon, 19@ 21c. American, 32c.

To those wishing roses, hardy plants, bulbs and seeds for home planting, we cordially recommend the old reliable house of The Dingee & Conard Co., West Grove, Pa. They are admitted to be the largest rose growers in America, and their roses and plants are well and favorably known all over the United States and Canada. Their New Guide, 110 pages, handsomely illustrated, describes and tells how to grow more than two thousand varieties of the newest and choicest roses, hardy plants, bulbs and seeds, and is sent free to all who write for it. See advertisement in this paper, and address The Dingee & Conard Co., West Grove, Pa.

The Fireside.

A New Year Story.

The first of January had dawned clear and cold, but was closing in a setting of gloom when Sarah Percival, holding her babe in her arms, stood at the window of her sitting room peering uneasily through the gathering darkness down the road toward the village. As the night came down and she could no longer see, she turned from the window with a sigh and tried to amuse the two little ones who were clamoring for attention. Her heart was so heavy, as she sat in the firelight, that a tear stole down her cheek, and she could not shake off the fear of impending trouble.

Soon the sound of her husband's footsteps aroused her, and she hastened to the door, intending to give him an affectionate welcome. But she was coldly and cruelly repulsed.

"Look at this—and this—and this!" said he, as he threw down upon the table three bills which had been taken from the post-office. "Pay them if you can; I can't. How we're going to live through the winter I don't know. I have a mind to shoot myself."

Mary hurried from the room to give orders for supper, taking the baby with her, having a sort of fear that the father in his present savage mood would injure the child in some way; (he was so fond of the other children that she had no fears for them). As she paced the floor of the dining room, hugging the child closely, she resolved to make an effort to change the old order of things—in fact to institute a measure of reform.

Charles Percival was not usually a cruel husband and father; he and Mary began life very happily, but he was not fond of work, neither did he enjoy seeing his wife work. As time passed on and the little ones came rapidly, it was he who insisted upon keeping a servant the year round, although Mary protested—on the ground that they could not afford the additional expense. He also insisted upon keeping a boy, although the winter work on his farm was not so heavy but that he could have done it himself. With a boy to do the work, he had a great deal of leisure in the winter season, and as he found it rather monotonous to sit in the house and read from morning till night, day after day, he gradually fell into the habit of harnessing his horse for a drive to the village store to hear the news.

The path of idleness always leads downward, and so quick a traveler was Charles Percival that it was not long before he could smoke as many pipes, expectorate as much tobacco juice, take as many drinks and spin as many yarns as some men who had occupied the barrel heads at the grocery for many successive winters.

Mary observed the downward progress, and her heart grew heavy; yet she dared not remonstrate lest she might utter the one word too many, which would defeat her aim. She knew that her husband was neglecting his family, and she knew that their finances must soon become involved if matters continued to grow worse. She therefore kept her home pleasant and cheerful, made herself and children as attractive as possible, and waited and hoped for a change.

That night—the night of the first of January—was the culminating point. Although her heart was breaking, she gave orders to Bridget to set the table with the best napery, and bring from the cellar the best preserves; the table was made as bright and appetizing as cleanliness and good food could make it. When she called her husband to supper the clouds had partly vanished from his face, the result of the caresses and bright speeches of the little ones.

The supper pleased him, and by the time the meal was finished he seemed to have forgotten the episode which had nearly crushed his wife. But Mary had not forgotten, and while getting the little ones ready for bed nerved herself to speak. By the time the babies were asleep she was ready for the ordeal.

"Charles," she said, tremulously, a little frightened at the sound of her own voice, "put down your paper, please, for a few moments; I have a plan to propose to you."

The old frown came back to his face as he said: "Oh, I know what it is; you want me to discharge John and do the work myself."

"Yes, Charles, and not only John but Bridget."

"Are you crazy, Mary? You would be sick in bed in a week, and the amount of the doctor's bills would pay a dozen Bridgets, to say nothing of your discomfort." (Charles had really a tender heart). "Discharging Bridget is not to be thought of."

"It can and must be thought of. I have a plan to propose, and if you agree to it I can almost promise a change for the better in our affairs. The plan includes work for you, but if you will not agree to it, I must give it up."

"Let's hear the plan," said Charles.

"There is no reason why we should spend an idle winter; there are grave reasons why we should not. I alone cannot add to the care of the children all the work that Bridget does, but with your help I can manage without overwork. Bridget and John form one-third of our family, and of course cause an expense aside from their wages. John has tried to do all the chores before and after school. You are as quick as John, and as you are not expected to go to school, you can devote those six hours to helping me."

"But what can I do? I know nothing about housework."

"You can make the fires and take care of the children while I cook. Then if it is really necessary, you can wipe the dishes (here Charles made a wry face). Any honest labor is to be preferred to debt," said Mary.

"But what about the washing? I shall have to run around and look up a washerwoman every week, and that will be a bother."

"No, Charles, we shall do our own washing, you and I. The new method of washing with kerosene makes the work much easier; besides, you will do the heavy work, draw water, lift the tubs, turn the wringer, hang out the clothes and bring them in. I will not ask you to iron if you will amuse the babies while I do it."

Charles opened his eyes wide and gave a prolonged whistle.

"Well," said Mary, "I have submitted the plan, and I know it needs only your sanction to be successfully carried out. If you do not agree to it, I do not know of any way by which our finances can be improved. Do not decide now; wait until to-morrow and then tell me your opinion."

The morrow came and Charles announced his willingness to try the proposed order of things a month. Bridget and John were discharged with good recommendations and Charles Percival entered upon his new duties. The kitchen and sitting room fires claimed his attention first in the morning, then his horse, chickens and cow were attended to. He brought the milk into the house and strained it; then proceeded to dress the children, while Mary cooked the breakfast; the children were also his care during the greater part of the day, and he learned to love them as never before; their quaint speeches and charming little ways bound him with the strongest chords. Besides, he had the consciousness of doing his duty; if he could not earn money in the winter, he could at least save it. Mary's management was much more economical than Bridget's and her cooking was far superior. On washing days he followed Mary's plan and instead of being "demeaned" by it, as he had seemed to fear, he was conscious that the work was ennobling. Was he not lightening the burdens of the dearest woman in the world?

Of course, there were times when being in the village, the old longing to linger at the store and listen to the spinning of the old yarns would come over him, but the thought of the noble little woman and the dear children at home never failed to conquer that longing.

Mary accomplished her object, which was not so much to save money (though that was no unimportant item) as to save her husband. She continued to fill the days with work, and in the evenings they sometimes planned the spring work on the farm. The agricultural papers were consulted for the best methods of farm work. She always managed to have something attractive to keep him at home.

By the time the spring work began, he had served so good an apprenticeship that labor was not so distasteful to him as in former seasons. That year his farm flourished as never before; they hired Bridget for the summer, but the next winter went back to the order of the year before. (Mary had a horror of seeing her husband idle.)

The close of the next New-Year Day found Mary at the window, looking toward the village, as before, not depressed in spirits, but with the light of happiness dawning in her eyes. Charles drove into the yard, and she went to the door to meet him. He handed her some receipted bills and a small roll of bank bills. "Happy New-Year, Mary!" said he; "thanks to you, we are square with the world, and have a little left."

Mary mentally contrasted the two New-Year days, and wiped the tears of joy from her eyes.

LILLIAN MAYNE.

A Summer Tramp—IV.

Notes in Western North Carolina.

To the traveler the forests that clothe the mountains are a source of never-ending delight. Hardly a peak but is covered clear to the crest. Where a bare precipice does break through, its grandeur is heightened by the forests which surround and crown it. It is a grand sight to stand on some summit, and look off on mile after mile of mountain buried in green. In autumn, when the frosts have tinted the leaves with gorgeous hues, it must be beyond description.

The country is well watered. There is not a house in the mountains, to my knowledge, that has a well. All find springs in abundance, and on our tramp it was rarely we went a single mile without crossing at least one little stream. The chief interest of the woods lies not in their beauty, but in the trees which we may find there. Thousands of acres would be of no value at all if stripped of their timber. Among the trees probably the most valuable are the black walnuts. Magnificent logs are brought down from the mountains every month, and some of them fetch fabulous prices. One was sold a few days before our arrival for a thousand dollars, bringing this unusual price on account of some peculiarity in the grain. Logs worth three or four hundred dollars are not uncommon. More abundant than these, and in fact forming the bulk of the forests, are the oaks and chestnuts. The nuts of the latter form quite a source of income for the people. Last year a single dealer, in one of the small railroad towns, bought up seven thousand bushels, which he shipped to various parts of the country. Of the oaks we recognized seven or eight species. They were everywhere, forming splendid trees in the lowlands, though often dwarfed on the mountain tops. Along the rivers grows one of the most attractive—the highland willow oak, so named, probably, from the shape of its leaves. Another rather common tree, and about the largest we saw in the mountains, was the whitewood.

While we are talking of the giants we must not forget the hemlocks. They are scattered through the woods, but once or twice we found a gore of them, their dark green crests towering far up in air, and their massive trunks, like pillars, supporting the canopy. Within a few years a new hemlock has been discovered on the north face of Whiteside, which rivals the other as an ornamental tree. It is believed to be found only in the southern mountains.

Sweet gums are often seen, and along the mountain streams one of the most common of all is the sour gum. There are plenty of hickories to be found, with beeches and butternuts. Of the birches the most common are the black and yellow. I do not remember now to have seen our New-England white birch anywhere on the mountains.

Many of these trees are valuable for timber but there is one great difficulty in their use. Very many of the finest trees are in regions that are inaccessible—down in deep valleys among the mountains, for example. The roads through the whole region are, as a rule, wretched—steep beyond description, and very rough. The soil is largely clay, and washes terribly at every rain. A load of half a ton would be considered too heavy for most teams over these mountains. The only way to get the trees out seems to be by water. Our route was mostly on the head waters of the Tuckaseege and Tennessee. Both these streams are used, I think. The Tuckaseege is the principal river in Jackson county, joining the Tennessee near Charleston, Swain county. In the former, at East La Porte, is the great "boom" where the logs are collected as they float down from higher up the mountains. From there they are rafted down to Charleston, where they strike the railroad. They are then taken to some of the small towns along the road where there are steam saw mills. If there were any way of getting at it there are thousands of acres of valuable timber land in the mountains. Plenty of it can be bought for two or three dollars an acre, and at present would not pay at that.

We have been talking thus far of the value of the trees as timber; let us now take a look at a few which catch a stranger's attention as he climbs the mountains. About the first one we noted in our short tramps around Asheville was the chinquapin. We found it plenty on all the heights. At a glance one could see that it is closely related to the chestnut. It is smaller—usually less than twenty feet. Its leaf is almost exactly like that of the chestnut, and its mode of growth is very similar. There is only one nut in a bur, and the bur is quite small, and, at least when young, not so prickly as that of the chestnut. The nut is not more than half as large, but very sweet.

Another shrub, almost large enough to be called a tree, is the American holly. We saw it very often by the roadside and on the hills. It branches closely, and is not very attractive when seen from a distance. Though its berries are not so bright as those of its European sister, it is still in great demand, and great quantities are sent to the large cities of the North at holiday time.

A more showy tree is the sourwood. This has a slender trunk, sometimes growing to a height of forty feet. It takes its name from the sour taste of its leaves, which is quite marked. Its most striking feature in July (the time of our visit) is its long sprays of white blossoms. It belongs to the same family as the huckleberry, and each single blossom is much like one of the latter, but they grow in racemes, and several of these are clustered at the tip of each twig, so that in the flowering season the whole tree is robed in white. A near relative of this grows with it, and as it blossoms at the same time, and in much the same manner, is often mistaken for it at a little distance.

Among the old friends we met were several maples, at least three hawthorns, and the witch hazel, which brightens our northern woods with its yellow flowers after the rest of the trees are all ready for winter.

We have left till the last the glory of the mountains—the azaleas and rhododendrons. One can hardly appreciate, without seeing it, the effect produced by a thicket of the great flame-colored azaleas. On the same bush one may find clusters of all shades, from fiery red to orange and yellow, for they change color with age. As for the rhododendrons, they are simply magnificent. Just fancy whole mountain-sides and ravines covered with a robe of glossy evergreen leaves, thickly studded with clusters of pale pink flowers, each cluster as large as one's fist! It is a sight worth the trip, and they grow almost everywhere, but not always in such abundance. The flowers will bear close examination. The cup shaped corolla is white or pink, as delicately tinted as a sea shell, and with one or two of its petals dotted, down in the heart of the flower, with pale green. This is the most common rhododendron, but with it grows sometimes one with a purple flower, and, in a few localities, an other which has been known only a few years. This last differs from the others in not having evergreen leaves, and, strange to say, its nearest relative is found only on the mountains of the far West. It grows in great thickets with the others, and with the laurel. It was first found down near Chimney Top, to the east of Cashier's valley, and has since been recognized in other parts of Jackson county, and in great abundance on Grandfather mountain. Our American rhododendrons are among the many home productions which are not appreciated.

L. N. J.

Rollo in Virginia—IV.

Playing at Work.

The stock of implements which Mr. Holliday brought with him was not in any way remarkable, either for its completeness or for its elaborate character, but they were fresh and new, and differed in pattern more or less from those in common use, and so were objects of great curiosity among the natives, both white and black. The cultivator and the big plow especially caught their eyes. At that time agricultural implements of northern pattern were not at all common in the South, and the shovel plow, I believe, had not yet been generally introduced at the North. Both sections had something to learn of each other.

"What's that for?" enquired Mr. Bud Dangerfield, the gentleman who had asked about the Jersey, pointing to an arrangement on the plow beam.

"That is the coulter."

"What's it for?"

"It cuts the sod, so that the share can turn it easier."

"Well, I reckon you may as well grease it and put it away, you won't have much use for it. You won't need any extra arrangement to cut the sods on this place, I tell you. If it'll cut broom sage now, and grubs—but I don't

reckon it'll do that. What's that lanky lookin' thing over there, that two-story arrangement?"

"That is a subsoil plow. Do you subsoil much?"

"What, plow up the hard-pan? Not much. Its poor enough on top, 'thout gettin' down to natur'."

"I think you'd find it profitable."

"Well, may be so. But I reckon I'll look on an' see how you come on, an' if you have good luck I'll borrow your plow. But there's one tool you haven't got yet as I see, an' you'll want it."

"What is that?"

"A grubbin' hoe."

It is only fair to say that after discovering the usefulness of this ponderous tool Mr. Holliday had several made from old spades, and they were in pretty constant requisition.

But it was the corn sheller that excited the most curiosity and admiration. Mr. Bud Dangerfield gazed at it in speechless astonishment as it shelled the corn as fast as a man could feed in the ears, throwing the cobs out on one side and the corn into the bag, while Robert turned the crank with greatest ease. He made only one comment, and that was:

"Well, I'll be dogged!"

Mr. Polk Ransom expressed the opinion that the capacity of the machine was far in advance of the capabilities of the farm, but was inclined to modify that opinion with the appearance of a carload of fertilizers, composed of plaster, phosphates, bone-dust and guano. The southern people have a great respect for fertilizers, and a proportionate regard for the men who use them, irrespective of politics. Hence they began to have more faith in Mr. Holliday's capabilities as a farmer.

Mr. Holliday's idea was that of most northern people who engage in agricultural enterprises in the South, that the chief expenditure should be in cultivation and improvements, which would so increase the productive capacity of the farm that the payment of the inevitable mortgage would be a simple matter, a convenient means in fact for the disposition of the surplus. The most unquestionable authorities upon gardening, showed that a thousand and fifteen hundred dollars was often cleared from a single acre; hence he reasoned that there should be no difficulty in realizing some hundreds an acre from the smaller portions cultivated under the guidance of these same authorities. If Alexandria or Washington did not furnish a good market, there was always New-York, easily reached by rail or steamer. It was more than possible that little could be done the first year, beyond raising ordinary supplies, but by the second year, doubtless, the produce of the garden would pay all expenses, and by the next would begin to extinguish the indebtedness. It was all very plain—in fact, mathematically demonstrated. The expenses would, of course, be heavy, but there was a fair expectation of a comfortable income, enough for a quiet, healthful and somewhat literary existence. Mr. Holliday was not ambitious, neither did he desire wealth. He could conscientiously echo the sentiment of Horace, as paraphrased by Pope:

> "Happy the man whose wish and care
> A few paternal acres bound,
> Content to breathe his native air
> In his own ground—
>
> "Whose herds with milk, whose fields with bread,
> Whose flocks supply him with attire,
> Whose trees in summer yield him shade,
> In winter, fire.
>
> "Blest who can unconcernedly find
> Hours, days and years slide soft away,
> In health of body, peace of mind,
> Quiet by day,
>
> "Sound sleep by night; study and ease
> Together mixed; sweet recreation,
> And innocence, which most does please,
> With meditation."

As Robinson Crusoe on his desert island after he had got his goods on shore and prepared himself a habitation, at once set himself to work, so Mr. Holliday, as soon as his effects were safely housed—some in use and some still boxed and stored away in Mr. Baur's barn—made a tour of the farm and mapped out a plan of campaign. A field was broken for corn, but on the second day the plow-beam broke and another had to be sent for from New-York. Mr. Holliday afterwards found the same trouble in getting stove and implement castings, as all those were of northern patterns. However, the season was already late and he could not afford to wait, so he bought an iron-beam plow of home manufacture and proceeded with the plowing and planting.

James, who had remained in New-York to complete some matters of business, had now arrived (it seemed like the last boat from the wreck, it was such a cutting off of all communication with the old life), and he proposed to make a regular survey and map of the farm.

"Yes," said his father, "that will be a good plan. Then you can go to work methodically and intelligently."

So James got his pocket compass and tape measure, and Rollo brought out the plat of the farm. Jonas carried an axe and a basket of luncheon which Dorothy had put up, for she said she did not expect them home to dinner. At the corner of the cross-roads, where they were to start, they met Mr. Baur on horseback on his way to the village. He used a green switch with the leaves on in lieu of a whip, and it served also to keep the flies off the horse.

"Well, boys, morn'n'! morn'n'! Goin' to clear a piece of groun'?"

"No," replied James, "we are going all round the farm, to see where the boundaries are."

"That's very good, very good. Now I tell you what you do, boys. I show you the corner, the old established corner, and that is what you shall go by."

So saying he led the way to the fence corner, and showed, about a half a rod on the inside, a pile of white stones and a half-decayed stake. "There," said he, "that is the old-established corner."

So James sighted his compass, and they ran the line out to the red-oak stump. It did not strike the stump exactly, but Mr. Baur knew where the stump was, so they had no difficulty in finding it. The next line was more difficult, running a long distance through a dense thicket with swampy places. There was only the merest apology for a fence, and this, Mr. Baur explained, had been built on his land owing to the perversity of the last owner. He pointed out a number of large trees that belonged, he said, on his side of the line. James and Rollo thought it fortunate that they had some one with them who knew the boundaries so well, and indeed it was, or they would have got lost in the woods.

James explained, while they were hunting for a lost corner, that he was not attempting to survey the farm, only to find where the bounds were.

"Exactly," said Mr. Baur. "Just to see where the pounds lay. And we've got an honest man here now, I calculate, who will put his fences on the pounds. That is scripture, that is, for it says, move not your neighbor's landmark." Mr. Baur was now near his own home, and as he had reached the end of his own line he bade the boys good day, they refusing with thanks his invitation to "stop by and have a smack."

Rollo now proposed, as it was high noon and they were very tired, that they should sit down by a convenient spring and eat their luncheon. To this all agreed. After having eaten their luncheon and refreshed themselves from the spring, they set themselves to their task again, agreeing to pace off the remainder of the lines instead of measuring them. The next line was quite a long one, and led over a cleared hill and a pasture, but where the blue-gum tree should be there was none, nor any tree of any sort. It was indeed very puzzling, and they did not know exactly where they were. At the side of the field was a lane, which led up to a large low house which neither had seen before. They went up the lane and through the barnyard. A man was just coming out of the barn. It was Mr. Baur.

"Well, boys, did you think you'd come and have a smack? That was right; that was quite right."

"No," said James, "we only came over to get a drink of water. And I do not know," he added, "but that we have lost the corner; perhaps you can show us from the hill."

"Oh, yes, I can see the corner well from there; I will show you."

So he led the way to the hill-top and pointed out the top of a tall blue-gum a half mile away. "There, that is your line-tree, and from there you have a straight line to the pike."

James and Rollo thanked him, and with Jonas they set out for the tree.

"I'll tell you how it was," said Rollo, "I think I must have got the plot upside down, and so we ran that line the wrong way."

"Yes," said James, "I think that is what is the matter. But I think it will be as well to say nothing about it when we get home." This was agreed to, and soon they had reached the blue-gum and set out to run the long line, this time in the right direction. In an hour they were down to the lower end of the farm again, and deciding it to be unnecessary to run off the road line, as it was sufficiently marked, they considered their work done. Here, however, they met their neighbor, Mr. Chichester, who showed from a certain stake that the fence was ten feet upon his land, having been set over to clean up the fence line; and as he was anxious to plow for corn, he would be glad to have the fence put back. This James and Rollo promised to do, and kept their promise before the week was out. They found out afterwards that disputed boundaries are an appendage of every Virginia farm, and that scarcely a land owner could be found who could point out an undisputed boundary.

JOHN TOMAS.

WARM WINTER UNDERWEAR.—There seems to be no doubt that there is finally a rebellion against the cotton and wool underwear so long offered us, under the name of merino. This has been one of the shams which people have endured, partly because there was nothing better offered and partly because of the careless laundress, who promptly shrunk all wool goods past wearing limits. Manufacturers of the ribbed wool and woolen silk or silk underwear, and of sanitary underwear, make garments which are of fine wool, are dainty to look at and comfortable to wear and which are now fitting to the figure by their elasticity. These garments leave no heavy creases and add no apparent size to the figure. The sanitary underwear, which is imported, is made with felt seams and is not so comfortable for this reason as ribbed wool, although the beautiful white and natural colored stockinet of which it is made may be purchased by the yard and made up at home by hand with a softer seam. Very careful instructions are issued by the manufacturers for the washing of these all-wool and silk goods, and if these are followed this underwear will come out of the laundress's hands uninjured. While there are few people who are so extreme as to insist on woolen pocket handkerchiefs and woolen towels, there are also few intelligent people who do not believe that a woolen or silk undergarment is the most wholesome and comfortable clothing and that they are not essential in health in winter and summer. To be wholesome and comfortable, this article should be porous and elastic, and it is exactly such garments that the manufactures of the new styles of underwear provide, and for these reasons they have at once become popular with sensible and fashionable people.

—Good Housekeeping.

A good story is told concerning the late Rev. W. Barnes, the Dorsetshire poet, which will interest spelling reformers: "One day he went into a village school, where a little boy and girl were sitting together. The girl was crying, and when he asked the reason she said that Johnny had had the word 'Psalm' to write in his copy-book, 'and,' she said, with a fresh burst of tears, 'he ha' scrope out the 'P' with his elbow.' Then Johnny fired up, and said, 'What if I did scrope of en out? He didn't spell naught, and what was the good of en?"

At a Smoking Concert.—Herr Professor—"You haf a blessing foice, my young vrent. Pot you don't brotuce it in a lochildmate vay!" Our Tenor—"Perhaps if I did, it would no longer please." Herr Professor—"Ach! Vat of dat? Pleasure is not effery ting! You should always brotuce your foice in a lochildmate vay, vedder it kifs pleasure or not!"

Domestic Economy.

Mixing Cake, Pastry and Bread.

It would appear from the many periodicals that treat upon women's work that every housekeeper in the land might easily become, if so disposed, her own cook, dressmaker and laundress. But unfortunately there is no royal road to these acquirements, any more than there is to scholarship, and they are only gained by taking step after step, and from actual and persistent practice. Consequently let no amateur cook attempt at first to fly to the topmost heights of fancy cookery, lest she lose faith in herself by an unsuccessful result; for what looks so plain and easily done, in print, we find upon trial requires many details to be carried out that are not even mentioned in the directions; yet they determine our success or failure. If the middle-aged housekeepers of to-day had only known in early life what they have since learned from experience, that there are nearly infallible rules to be applied to many kinds of cookery, they would have been spared much perplexity as well as many embarrassing failures.

Not infrequently the amateur cook attempts to make a favorite cake from a well-tested family receipt, but by some means it proves a failure, and she condemns the receipt. But wait a moment until I ask you, How did you put the ingredients together? How did you mix them? For in this combining largely lies the secret of success; quite as much as in using the exact quantity given. For all kinds of cake in which butter and sugar are used, these must be creamed with a large spoon or the hand; the whites of the eggs whipped to a froth; if baking powder is used, it must be sifted evenly through the flour. Add to the creamed butter and sugar the required amount of sweet milk, and beat it well; then add the whites of the eggs, next the flour and flavoring. Now stir well together—the longer, the better the result. My experience teaches me that to have a nice, fine-grained cake it must be stirred only one way, generally from left to right is the most convenient.

While these minute directions may seem trivial in themselves, yet in cake making, more perhaps than anything else, is it true that the degree of attention we give to details determines our success or failure. Much too, depends upon the temperature of the oven; while a loaf cake requires a moderate oven, layer cake requires a brisk oven. If at any time the oven becomes too hot, the heat can be regulated by placing in it a basin of water, or a green stick of stovewood. If flaky pie crust is desired, it must not be kneaded. The lard should be slightly rubbed with the flour leaving it in grains as large as a bean, then the salt and the required amount of cold water should be added until a rather soft dough is formed, handling it very lightly. The proportions for rich pastry are equal portions of lard and cold water.

A first-class quality of bread is made in the following manner: From a good quality of flour and fresh home-made potato yeast, make a sponge on the evening before baking day, using lukewarm water in cold weather, and cold water in warm weather. Cover closely, and let stand on a table near the kitchen range. All things being equal, it will be ready to mix in the morning. Add one tablespoonful of white sugar to every two loaves of bread, then mix, not feebly, but energetically and vigorously, and for some time, using flour to keep it from sticking to the board. Continue to knead some time after it requires no more flour. One of the best bread makers that I ever knew kneaded here one hour, but as there are limits to every one's strength, I shall set no time; but all the kneading that it is to receive must be done now. Place the dough back in the tray, cover closely, and set on the kitchen table for the second rising. When risen to double its original size, grease the bread tins and proceed to make into loaves; but do not use a particle of flour, unless, indeed, you are satisfied to have it turn out a very ordinary kind of bread, and not the fine-grained, white and elastic kind you set out to make. Flour the hands and pull off enough dough for a loaf, double smoothly together and place in the bread tins; proceed in this manner until the tins are filled. Let rise until double in size, then place in a brisk oven and bake from half to three-quarters of an hour. Bread risen at a low temperature is far whiter and sweeter than where heat is applied. Bread put in sponge with hot water is usually hard and dark-colored. A. C. B. *Meridian, N. Y.*

Windsor Pie.—This delicious meat pie is made in very thin alternate layers of uncooked veal, boiled ham, and a forcemeat, made as follows: Chop finely half a pound of good sausage meat, and mix with a cupful of fine bread crumbs, salt, pepper, sweet herbs and a little fresh parsley, with melted butter enough to make a somewhat unstable paste. Begin at the bottom of a baking dish with the veal, season with salt and a dash of cayenne, then very thin slices of ham, then forcemeat. Continue until the dish is full; use the bones and scrape of the veal to make a little rich, well-seasoned stock. Pour this over the meat; put a strip of pastry around sides of the dish, then a cover, with a hole in the top, ornamented by a pastry "rose," and bake. This is one of the delicious cold pies so desirable at breakfast, lunch or supper. DOROTHY.

Liquid Smoke, p. 900.—If the inquirer will ask any reliable druggist for pyroligneous acid, he will probably receive the desired information. Simply paint or wash with the acid, with a common paint brush once or twice; hang up to dry, and the work is done. A good substitute for the smoking process, with much less labor. It is not expensive. I speak from experience. AMOS MILLER. *Franklin County, O.*

Roman Blanket, p. 967.—Will L. R. A. please give me the kind and quantity of material of each color required? Also please explain what is meant by the expression "turn the wool in and knit two together?" It seems to me it would narrow each time. M. L. S.

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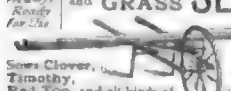

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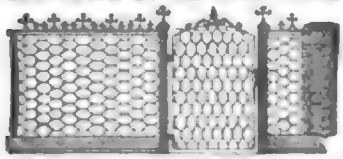

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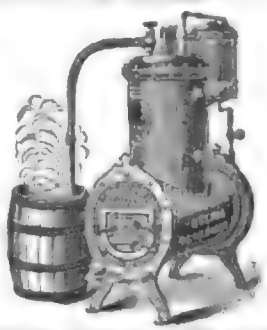

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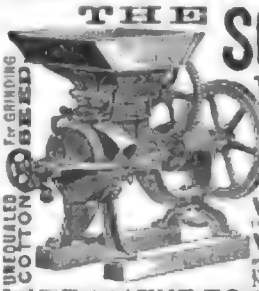

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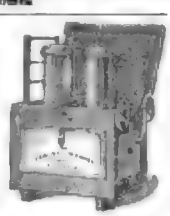

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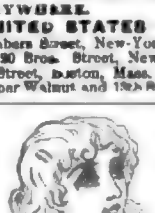

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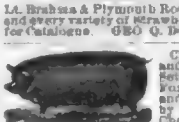

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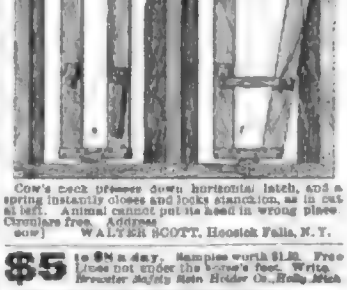

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THE CULTIVATOR AND Country Gentleman

Albany, Jan. 10, 1889.

Cropping and Fertility—Ensilage.

EDS. COUNTRY GENTLEMAN—Not for controversy but for information, in reply to Prof. STEWART'S answer to my inquiry, page 932, I would say: The peas do not mature a full crop of grain, the corn sowed with them scarcely any grain at all, and the mower leaves a large quantity of vines uncut, which, together with the massive roots, I think returns to the soil quite as much, if not more, nourishment than if the land had been left untouched—in other words, is improved by the plowing and cropping (1). After taking off over 8 tons of pea vines and corn (say 10 or 15 pounds of pea vine to one of corn) the ground looked pretty green with quantities of the large stems of pea vine and roots large and long. I am convinced the ground was far better than it would have been without the cultivation and crop. Then, when I cut the rye in April for green feed and ensilage, I feel very sure the roots and stubble will add a great deal more to the ground for a crop of peas than if it had not been seeded to rye, and the green crop taken off before the maturity of the grain (2). Then as to putting the vines through a cutter it is a most unsatisfactory and tedious process. In taking ensilage from the silo I remove one plank at a time, and cut from top to bottom with an old adze, with the same ease I did the cut corn, thus coming out in as small lengths as desired, reducing cost of putting in at least half, and costing no more to remove for use than when run through a cutter (3). I am very thankful to Mr. STEWART for his notice of my inquiries, for I take the greatest pleasure in his numerous replies to feed investigators—they are invaluable to the readers of your paper. D. W. C. B.

Greensboro, N. C.

D. W. C. B. need feel no hesitancy in expressing his opinion upon any point I have discussed. Free and unrestrained inquiry should lead to correct conclusions. But as he is desirous of getting all the light he can upon this question of the effect of cropping upon the fertility of the soil, I will endeavor to give him a few facts that appear to be well established.

My first point is made with reference to the general popular error that a crop harvested before maturing the seed, takes very little, if anything, from the soil. This must be erroneous, because the plant in that condition contains a larger per cent. (not absolute quantity) of nitrogen and of ash in its dry substance than when the seed is matured. In proof of this I will give the analysis of several plants made by Dr. Collier, chemist to the Department of Agriculture in the years 1878 to 1880:

	Albuminoids.	Water.	Ash.
Red clover, before bead,	24.39	7.69	8.58
Red clover, head formed,	23.19	9.45	8.05
Red clover, full bloom...	17.50	8.56	7.60
Red clover, after bloom..	16.38	9.36	6.64
Red clover, in seed.....	14.69	8.15	6.75
Red clover, aftermath...	24.56	6.00	10.56
Vetch (tares sativa) before bloom.....	24.91	6.05	12.05
Vetch in full bloom.....	27.05	7.05	10.69
Vetch in seed	26.30	7.08	11.44
Lucern (alfalfa) before bead.....	27.30	7.30	10.72
Lucern, before bloom....	19.60	6.28	9.92
Lucern in full bloom.....	15.75	6.05	8.35
Beans, green.....	20.00	4.50	4.50
Beans, ripe.....	25.60	6.60	3.80
Peas, green.....	4.37	73.05	0.96
Peas, same dry substance	19.24	....	4.01
Red-top, pan cle ont.....	12.60	7.60	6.87
Red-top, full bloom.....	10.31	6.45	6.70
Cowpea vines	15.06	12.05	6.11
Cowpea vines, green and succulent.....	2.70	89.21	1.20
Fodder rye (succulent)...	3.30	78.60	1.40

If B. will figure the amount of fertilizing matter carried off by his peavines, counting them the same as given in this table, called green and succulent (although his were somewhat more mature), it will be seen that each acre carried off 62 lbs. of nitrogen and 273 lbs. of ash. The ash all comes from the soil, and of course, when carried off, must leave the soil so much the poorer.

I have given the foregoing table to show the amount of ash that is carried off in various stages of maturity. This represents the per cent. of ash, when the dried plant contains only the amount of water stated. And it will be seen that a good crop, in all the stages represented, even the most succulent, carries off a large amount of nitrogen and ash. When the plant is very small, like pasture clover, it then contains a large amount of water, but the dry matter contains a larger per cent. of nitrogen and ash, than when mature. All the potash and phosphoric acid—the two manurial elements—are contained in the ash. There is a difference in opinion among even the best scientists, as to whether nitrogen is absorbed by a plant from the air, or whether it must all be taken up from the soil. But the better opinion is, that plants do absorb at least a portion of their nitrogen, in the form of ammonia, from the air. But it is not disputed that plants also take nitrogen from the soil.

Now it would seem to be a mathematical proposition, that whatever plants do absorb from the soil, the part so absorbed and contained in the crop carried off must be an impoverishment of the soil to that extent, and that if the fertility of the soil is to be fully maintained, this must sooner or later be replaced.

2. The point made by B. that the soil was in better condition for the next crop, after he had harvested his peas and corn, than if no crop had been raised, may be quite true, and still not affect the point which I have made in reference to the ultimate exhaustion of the soil. The claim for clover and other deep-rooted plants is, that the roots run down into the subsoil, extract the nutritive elements therefrom, and bring them up to the surface, and that when the stubble and roots of such a crop are plowed under, it furnishes food for the next crop. This is true. But it is only taking fertilizing elements from the subsoil to enrich the topsoil, and when the subsoil is exhausted, the land becomes poor indeed.

Yet, the encouraging feature of raising crops or feeding animals, is, that if the manure from the animals, made from the food, is all completely saved and returned properly to the soil, there is only an actual loss of from 5 to 8 per cent. carried off in the growth or work of the animal and the production of milk in the dairy cow. So that a very small amount of fertilizing matter, derived from other sources and applied to the soil, will keep it perpetually fertile.

3. I think that B. magnifies the labor of cutting the green crop as it goes into the silo. Cutting has many advantages: First, it enables the ensilage to be spread more evenly, and to be packed more closely to the walls, so as to exclude the air and cause the ensilage to come out in a much more perfect condition for feeding. This alone should more than pay for the cutting. Besides, the grain part of the ration can then be much more completely mixed with the ensilage, causing it to be more perfectly digested. E. W. S.

Farming without Cattle.

EDS. COUNTRY GENTLEMAN—One of your readers writes me in regard to a very important question. He lives in one of the towns near Boston which supply that city with milk. Nearly every farmer keeps from 5 to 50 cows, selling their milk at from one to one and a half cents per pound. He says he regards this as very hard, unsatisfactory work, with very little profit at the end of the year, and no play. If it is a possible thing, our friend would like to get out of this milk business and farm without cattle, if he can do so and still keep up the fertility of his soil. He gives the price per acre that he has got, on the average, for vegetables of different kinds. They are, of course, high, from the locality he lives in. There would be a great deal more profit and satisfaction in getting his living from this source rather than from cows, with milk at the prices given, provided the manure question did not stare him in the face. He must pay from $7 to $8 per cord for manure and draw it himself. Big paying crops of vegetables are only grown with him by putting on from 7 to 10 cords of manure per acre. Here is the rub. This only keeps him from banishing the cow and the accompanying drudgery forthwith. In forlorn accents he asks about green manuring—whether it would be possible to keep up his land in this way.

He asks if he should sow rye after potatoes, say, and then plow it under in the spring and sow either buckwheat, millet or corn, and plow that crop under, to be followed by rye again; whether the potato crop, after the plowing under of these three green crops, would be as good as if he had manured the land in the usual way; in short, whether it would be possible to keep up his land in some such way.

I dare not answer him. I am myself in just about the same fix, only my land is probably in better condition, from its being much more recently cleared. Most of our farmers keep cows and sell milk. Cleveland draws a share of it. Prices are nearly as high as at Boston. Keeping cows is now about the only way to get any money out of stock. Armour has spoiled our beef business; twelve miles only from my door he has one of his cold-storage houses. As my friend says, it is hard work and no play getting money from cows. It is work seven days in a week. It is work every day in the year. I began that way but got out of it soon. Late years I have tried to get along pretty much without stock. As in Boston, so here; good crops of produce pay much better than dairying if one can get along without the manure. I have got along with a moderate quantity so far, and have been quite well satisfied with the results, but circumstances are too different for me to dare to advise my Eastern friend. Thirty to forty loads of hay were wasted (?) this year that might have been fed to a dairy this winter, but I dread the business myself, although it can be made to pay well enough. Pay is not all I am after. However, I may be driven to it again, or what is more likely I may get some one else to run this part of the farm for me. If I could get the right man this might do. But there is the rub again.

Now about that green manuring. It seems to me a crop of clover, sown with the rye, and allowed to grow two seasons, would accomplish about the same results with less labor and expense. Say the rye was cut off and sold in Boston, rye straw should bring a fancy price there. The clover might be mowed once or twice during the first season, with the machine set high, to keep weeds down and thicken it up. The second year let it grow all the season. On my soil I could raise some pretty good crops on such a sod, even if the first crop of clover were taken off for hay the second year.

Clover will do wonders on such land as mine, when it is given a fair chance. All stock should be kept off and it should receive the best of care, if one wants it to do its best to bring up his land, or keep it up. I can see a field from my window, as I write, which has been treated, and will be, somewhat as I have just written about. Instead of rye, however, we had thirty bushels of wheat per acre. The clover has been mowed twice since the wheat was removed. The last time, in some places it was nearly knee high; but all was left on the ground, for we wanted the benefit of the mulch. I have just been out and looked the field over to see if such heavy mulching has done any damage, for I have read in some papers that it would. In the very heaviest places the matter was almost overdone. It did put the clover back a little; but I hardly think any roots were killed; at any rate enough are left. On 99-100ths of the field the growth is wonderful to look at. It is like walking on a carpet of green, even at this late day (Dec. 17). The ground is covered with such a growth of leaves, even now, that the sun stands no chance to get to it.

Since writing the last sentence I have been out and counted the leaves on a square foot. Actual figures are better than talk. Four strips of board were nailed together so as to leave an opening in the centre 12 inches square. This was laid on the leaves, and only those counted that were inside of it. Bear in mind that the growth now is not more than two or three inches high—just a mat on the surface of the field. Well, I picked 358 stems of red clover, big and little, each with its three green leaves on. There were 11 roots or crowns, wholly or partly, within the foot; perhaps these leaves represented about what grew from eight plants. These were entirely green leaves that were picked. There were some old dead ones left. There are acres as good as the place where this test was made, as I called a neighbor who happened along to witness. This is on the field that, of all on this farm, has produced the most for the last 50 years. More promising clover never grew on it since it has been in my hands.

If our eastern friend had such a stand, and should let it grow all next season, according to its own will, he could probably raise something on his land next year. Just how much clover will help him I cannot say; but his land, as described, is much like mine, and I am not

afraid to advise him to find out in a small way. He has 50 acres of tillable land. He might sow clover seed on five acres of grain next spring, and see what he could make out of it. He can hardly make or buy manure for all this land.

If I were in debt, or in need of money for improvements, I should probably have 20 cows in the barn this winter, milking them and sending the milk to Cleveland. One would be willing to pull every string for a time, and even work Sundays, more or less, to accomplish a much-desired end. But having got my farm in good shape, it supports us nicely, even if the coarse feed is allowed to go back to the soil without being run through animals to get a little more income in that way, largely at the expense of present comfort. For myself, I am not at all concerned about the future. The bridge can be crossed if we ever get to it. It is a safe bridge, but not over pleasant to ride on. Others are most welcome to my experience, but must think for themselves. T. B. TERRY.

Summit County, Ohio, Dec. 17.

Field Culture of the Squash.

EDS. COUNTRY GENTLEMAN—To grow squash as extensively and successfully is beyond the capabilities of a majority of the average farmers. Anybody, however, can raise a squash if he happens to place the seed in some unusually fertile spot, some depression where the wash from the cattle yard or "muck midden" happens to be retained, but to prepare a field so that they will thrive, and thrive all over it, is quite a different thing. In view of these facts a few hints may be helpful.

The first and perhaps the greatest item is manure. Ten cords to the acre is little enough, and more may be used to advantage. This should be spread broadcast and plowed under; the idea that it should be on top of the ground is an erroneous one, and the old practice of digging holes and filling with manure, thus making hills for the reception of seed, is quite as unwise; not but that squashes may be raised by these methods, but they will usually prove unsatisfactory. Then remember the important beginning—much manure, well plowed under.

Next, smooth the ground with some suitable harrow, after which it should be marked out the same as for corn, rowing, however, but one way. Then the seed should be placed in the markings, one in a place, from six to ten feet apart, according to the probable prevalence of destroying vermin, but ten feet between the plants, alternating in the rows, is quite as near as they should be allowed to stand for maturing. In planting the seed, the dropper will find it a very expeditious way to ruff the earth on to the seed, as he passes along, with his foot. In defending the plants against the ravages of bugs, the best way is to plant so extensively as to outgrow their depredations.

At hoeing time the field should be harrowed the same as the corn field, and by taking pains to jump the young plants, one may so thoroughly stir the ground that but very little work will be needed with the hand-hoe. This should be repeated occasionally until the vines run so far as to make further cultivation harmful, when the leaves, &c., will so shade the ground that few weeds will show themselves. From this time until harvesting, nothing more need be done to promote the growth.

If the squashes are designed for market purposes, and it is evident that they will be superior specimens, it is a good plan to trace the owner's name upon them when they are about two thirds grown. This may be done with the point of a slender pocket-knife, and as the cicatrices enlarge with the growth of the squash, the name will make a very pretty appearance, even though it be not very artistically done. This will help the owner to dispose of his productions to better advantage, because those who buy them and are pleased, will be pleased to buy more with the same name upon them—a cheap way for a farmer to advertise.

To expedite the harvesting and secure from injury by bruising, take a pair of pruning shears and clip the stems, leaving only about one inch on the squash. With such an arrangement it is clear that they may be rolled around and against each other without the liability of breaking the stem off close to the squash. In loading them into a wagon two persons should be employed, one standing in the wagon the other on the ground, and tossing them to the the one in the wagon; the latter should place them with care to avoid bruising, &c. This method of loading is very advantageous.

To preserve squashes for winter use, they should be placed in a cool and dry room when gathered from the field, where they should remain until freezing weather approaches, when they should be removed to what might be termed a warm and dry room. Like the apple it is difficult to keep them during the entire winter without more or less trouble from rot; yet such varieties as the Hubbard and Turban may be preserved for quite a goodly period after harvesting. P. B. THOMAS.

Bristol County, Mass.

Management of Manure.

EDS. COUNTRY GENTLEMAN—I am learning to handle manure with much less labor than formerly, and at the same time to apply it so as to get the greatest good from it as I believe. I have seen farmers who always drew out manure in the spring and at no other season, and as a consequence, much of it was dripping with water and the fields were so soft as to be cut up and rutted, and four horses would be required to draw out a load that two horses would take easily on frozen ground, or in summer when the land is solid.

I have now arranged so that I draw out about half my manure in winter and spread it from the wagon, and the remainder is drawn out for use on the wheat land in July or August. I have three stables running parallel across my barn which is thirty feet wide. The basement of barn is forty two feet wide and the doors are on the east side. Across the south end I have partitioned off a root cellar, and a room for bedding, large enough to hold a winter's supply of sawdust or corn chaff, as we use either one or the other of these materials for bedding the cows. Our barn extends fourteen feet farther south and here is our wagon shed from which we shovel the sawdust or roots directly into the places set apart for them. The floors of the root cellar and the room for bedding, are exactly on a level with that on which the cows stand, with a manure ditch two feet wide and eight inches deep between them, but the floor extends two feet farther out than the cellar, so as to give a walk between the cellar and the manure ditch. The end of the manure ditch is exactly at the center of the door through which the cows enter from the barnyard.

Our barnyard is about 60 feet square, and our straw is always stacked in the centre, and the space all around between it and the pens is covered either with the waste straw or with the waste of the corn fodder, and the manure from the cow stable is wheeled out each day and spread around the stack. Adjoining the barnyard is a hog-house, so that we can let hogs into it, or shut them out at pleasure, and the latter part of winter, when we have the last of the straw either under foot or removed into the barn, the hogs do good service in fixing the manure in the barnyard. With twenty or thirty tons of straw worked down, and the waste from twenty acres of corn fodder mixed through, and the manure from six or eight cows distributed over the barnyard, I can, by the aid of the hogs, get it fine enough to handle nicely in about a month. Having our barnyard covered in this way, it is always clean under foot for the stock, and the yard is covered so deep that all the liquid is saved. In pleasant weather our horses are let out forenoons, and the cattle afternoons, and their continual tramping crushes all the cornstalks, so that they decompose more readily than straw.

North of the cow stable is the horse stable, the horses standing facing the cows, with a passageway between, so that we pass through to feed. At the rear of the horses is a manure shed 12 feet wide, extending the full 30 feet, in which we keep loose from eight to twelve calves. This is built on as a leanto, but is boarded with matched lumber, so as to make it warm, and is high enough to give some storage room above, and there are openings in the floor through which we drop hay or fodder into a rack which comes to within three feet of the floor, and under it is a trough for meal. At each end of this shed are double doors, so we can drive through to take out the manure.

The horse stable is cleaned every morning, and all manure and soiled bedding thrown into the shed. The young cattle tramp it down solid, and keep it moist by their urine, and there is never any fermentation from it so that no gases escape to make the air offensive. Our shed holds comfortably twelve large two-horse loads of manure, and we clean it out three times during the winter. If I were building again I would make this shed eighteen or twenty feet wide so as to be able to store more manure in it when desirable. I have never been able to make manure in the barnyard that I considered near so valuable as this made in the shed, which has no moisture about it except that furnished by the urine, and I always find this sufficient to moisten every part of it. I usually have a clover sod to spread it on, and always prefer to use manure drawn out in winter on land with sod or stubble on it, but I often spread it on stalk ground. The manure which we reserve for wheat land we want quite fine, as we use it as a top dressing after plowing, and so in May, or early June, when the land is too wet to plow, the barnyard manure which has been well worked over by the hogs, is forked up into flat piles four or five feet high. We shake and mix it carefully and usually find, if well done, that one turning is sufficient, but if not we turn it a second time later. I think we save enough labor in drawing out the manure in the decreased bulk, and in the ease with which it can be handled and spread, to more than half pay for the turning, and the increased availability of the of the manure for the wheat plant in the short period of fall growth certainly fully pays for all the extra labor.

I do not think farmers are likely to spend too much time handling their manure, if they act intelligently. Much of the manure—so called—which farmers store under the eaves of the barn or gather from muddy open barn yards, scarcely deserves the name, and on the farms where the stock are never stabled and rarely confined to the barnyard the quantity is about as deficient as the quality. If farmers will only keep good stock and feed under cover, and save the manure in covered sheds, as far as possible, and bring all straw and corn stalks to the barnyard, both quantity and quality of manure will be greatly helped, and then in addition if they will learn that the unoccupied soil, which lies bare the greater part of the year, is impoverished much more rapidly that if covered with a crop of grass or clover, they will be able to dispense with commercial fertilizers and to grow profitable crops from year to year without deterioration of the soil of their farms. WALDO F. BROWN.

Butler County, O., Dec. 21.

A Virginia Corn Crop.

EDS. COUNTRY GENTLEMAN—The corn crop of our county was housed from the 5th to the 18th of the month. The late fall has been very favorable for this purpose, as also for the rooting of the wheat, which owing to the wet weather, had been seeded late. The pasture fields have kept up well; no winter forage has yet been fed; this is fortunate, inasmuch as a considerable portion of fodder was damaged by an early frost.

My crop of corn, between 1,600 and 1,700 bushels, was, when growing, considered one of the best in this neighborhood, and yet it will hardly turn out 40 bushels to the acre. I will give some items of its growth and yield, and then ask a question or two of some more experienced farmer than myself.

The field on which the crop was grown, is a strong, limestone soil, that has been brought into good heart by deep plowing, with a rotation of one year in corn, two in wheat and two in clover. It has a fine southeasterly exposure. It has not been bountifully manured, and had never received any fertilizer except gypsum and ashes applied without stint on the corn and clover. It is the *barn-field*, and thus the pet of the farm. We all feel toward it as we do toward an honest man, who will do his best every time. The field was well put in for this part of the country, but not quite after the style I read of in the COUNTRY GENTLEMAN. It was laid off 3 feet 6 inches between the rows, and 3 feet between the hills, and was planted and thinned to two stalks in a hill. The season was good, except for a dry spell about the time of the shooting of the ears.

Now for the result: I had shucked out two shocks, taken from different parts of the field respectively. I counted the stalks, 537 bearing 498 ears, weighing 296 pounds, making, at 70 pounds to the bushel, 4 bushels 14 pounds shelled corn. The stalks would average something more than 10 feet in height. The best ears would measure about 9 inches in length, with 14 rows counting up 672 grains to the ear. The general result was rather below my expectations, which I accounted for in part by the fact, (which surprised me,) that there were as many ears as stalks, and that scarcely any stalk had borne two ears.

Now what was the cause of this? It did not seem to have been planted too thick, for the stalks were all strong, and during the season covered the ground superbly, never showing any yielding to the temporary drouth. Was it planted thick enough? Our experience is that corn planted thicker grows up spindling, and bears only small ears. Whence was it then, that there were more stalks than ears, and only one ear on a stalk?

It may be said that if pains had been taken to pick out seed-corn from the twin-bearing stalks, it would have been different. Possibly; I have no personal experience on this point. My own explanation is that southern corn, under climatic and other indigenous influences, has acquired a constitutional habit of producing an unprofitably exuberant growth of stalk and blade. If so, we ought to use seed-corn of a smaller variety, that would allow more stalks in the hill, and produce more ears to the stalk. It is obvious to say that it would be easy to make the experiment. True,—and so easy that probably some of our southern farmers have made it, and could furnish the result. And it would be interesting if some Northern farmer would give, for the sake of comparison, a statement of the relative proportions of his crop in the particulars mentioned above. J. F. L. P. *Rockbridge County, Dec. 18.*

Alfalfa Fields in California.

EDS. COUNTRY GENTLEMAN—The writer recently paid a visit to Kern county, a portion of the great San Joaquin valley, and while there saw some things in the way of farming and irrigation upon an immense scale which will doubtless prove of interest to the readers of the COUNTRY GENTLEMAN. I wish to remark at the outset, however, that I trust my reputation for veracity will not suffer from anything that is said. I shall simply relate facts—hard facts—as I saw them, and familiar as I have been for thirteen years with California, I must confess that had I not seen for myself some of the things to be described I never would have credited them.

To begin with, Kern is one of the largest counties in California, and is located at the extreme southern end of the San Joaquin valley, a valley with which every one is acquainted, who knows anything about California. The larger portion of the Kern basin is bounded on three sides by mountains, and in this basin are perhaps 8,000,000 acres of exceedingly fertile soil. From the mountains flow large streams which are utilized for irrigation. The rainfall here is so slight that no dependance is placed upon it, and irrigation must be resorted to for the production of all crops. The largest stream is the Kern river, and it supplies water for an immense territory. A description of one canal out of the thirty or forty which convey the water on the dry lands may give an idea of the tremendous scale upon which irrigation is practiced here. The Calloway canal is taken from Kern river not a great distance from the point where that stream leaves the foothills for the plain. This canal is one hundred feet wide and can carry ten feet of water, though six feet is the depth at present. Bearing in mind that the Erie canal is only seventy feet wide and seven feet deep, one can form an idea of what this immense canal is like. For thirty-two miles the Calloway preserves the dimensions noted, and it then branches in a dozen directions and the water is spread over a quarter of a million acres. None of the other canals are so large as this, but all are of great size and carry large bodies of water.

Now for something about the utilization of this water. In the center of the valley a single firm owns no less than 500,000 acres of land! Think of that—half a million acres in one ownership! This immense tract is largely devoted to stock raising, and for this purpose a large area of alfalfa has been planted. At a conservative estimate there are 120,000 acres of alfalfa, practically in one body. It is fenced into separate fields, is traversed by roads, and is cut up by irrigating ditches, but nevertheless there is a continuous stretch of nothing but alfalfa for about forty miles in one direction. This alfalfa is cut three or four times each season, and yields from two to three tons to the acre at each cutting. It could be cut oftener, but live stock are pastured after each harvest in order to eat the grass left along the

fences and canals which the mower does not reach.

The hay thus cut—something like a million and a half tons annually—is put up in immense stacks from 500 to 800 feet long and thirty feet high or more, derrick-forks being used for the purpose. Large quantities are baled and shipped to other parts of the State, but most of it is fed on the spot to cattle being fattened for market. The practice is to buy up range cattle in Arizona and New-Mexico, where they may be had for $15 to $20 a head, and ship them here. They are put on alfalfa for two or three months, fatten up rapidly, and are then sent to San Francisco where they sell readily for about three or four times the first cost.

After the cutting season is over, the stock are turned into the alfalfa fields, and the hay is scattered over the ground regularly each day for them to eat. An idea of the immensity of this business may be formed from the fact that on this one ranch alone there are now over 90,000 head of cattle, 125,000 head of sheep and 4,000 horses. But these figures after all carry only a faint idea of the actuality. One must see the great bands of fat cattle and sheep on every hand in order to form anything like a proper conception of the facts.

The climate of Kern county is very warm, the soil is very fertile, and there being an abundance of water, it follows naturally that vegetation is very rank and thrifty. A few facts will illustrate: Considerable corn is produced here, and it grows with a vigor which I have never seen equaled. Standing in a field of immense stalks the other day, I tested several giant specimens. I am six feet tall; yet with a cane in my hand I was just able to touch the lowest of the four enormous ears with which almost every stalk was provided. In another field were squashes, many of which weighed from 100 to 200 pounds each, and even more. In another place were beets—raised for stock feed—which measured four to five feet in length, and weighed from 30 to 40 pounds each. Here too are sweet potatoes weighing 4 to 8 pounds each. Here is a field upon which three crops of potatoes and grain are produced regularly each year. Here is a peach orchard which at four years of age gave its owner a net return of $175 an acre. The list might be continued. These are only samples, and I mention these facts because they are so far beyond anything that has ever come to my notice that I consider them particularly worthy of attention.

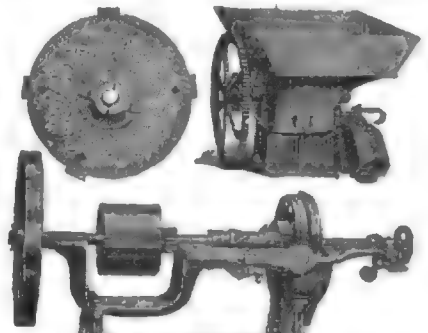
But there is another wonderful thing about Kern county, and that is the artesian wells which have been sunk here. Almost everywhere that the attempt has been made it has met with success, and to-day there are numerous large flowing wells scattered all over the county. I have seen several that flowed from a million and a half to two million and a half gallons daily. This stupendous amount of water pours through a 7-inch pipe, and is used to irrigate hundreds of acres of alfalfa and fruit. The water from these wells is pure and cold, and is much sought after for domestic use. But the artesian well system of this State is worthy of a separate article, and as I have studied that matter considerably, a future letter will be devoted to it. G. F. WERNS.

A Good Mill for Farmers.

Our illustration shows the Scientific Grinding mill, made by the Foos Mfg. Co., of Springfield, O., which has already gained a desirable reputation from its past record, but recent improvements are worthy of special mention and cannot fail to interest our readers. A safety bottom is now used in the main frame of mill, the object of which is to prevent breakages from iron or other foreign substances accidentally getting into it. This, with the pin-breaker, reduces the chances for breakages to a minimum, and will be seen at once to add greatly to the desirability of the mill. A new device for adjusting the grinding plates makes this work so simple that any one can do it as easily and as correctly as it can be done at the factory. In addition to these points, the manufacturers lay special stress upon the simplicity of the mill itself, the great strength of all working parts, and their remarkable durability; the mill can be successfully operated by any one, and is perfectly adapted to the most severe and difficult work without undue strain on any part. The grinding plates are so constructed as to do all kinds of work, giving them great capacity, and producing a superior quality of feed. They are reversible and self-sharpening, and one set is therefore practically equal to two sets of ordinary grinding plates. These points should be well considered, as the grinding plates are the life of a mill. These Scientific mills as now improved and sold are entirely practical for grinding ear corn with shucks on, which must be a great advantage, as the cobs and shucks are saved and utilized as feed, and the cost and trouble of husking saved. The grinding plate is shown in the upper left-hand corner of the cut.

Manufacturing Fertility.

EDS. COUNTRY GENTLEMAN—At a recent institute, the remark was made that it was doubtful if three men in the audience could say that for a term of five years they had been benefited by purchased phosphate, i. e., where reliance had been placed upon it alone. I was quite surprised to hear the farmers scout the idea, but later on the argument got to swinging the other way. Where phosphate had been used as a base to *grow* fertility, and make that the object, letting the crop be grown on the clover that follows, or the rye-sod, they all recollected that it paid, and showed results; but where it had been used as the exclusive source of fertility, and not lengthened and strengthened by clover and barnyard manure, the land was not improved, and if noticeable at all, it was actually poorer than ever.



The Foos Scientific Mill.

This I think about the truth of the matter. The value of phosphates would be doubled if they were used, as they should be, to start a crop of clover, or rye, and turn these under to fill the soil with vegetable matter, and become in turn a nitrogen trap for securing plant food for crops to follow. With 200 lbs. of phosphate per acre, there can be no fertility left over to enrich the soil when the wheat has come to maturity; but if by some method the clover could have consumed this 200 lbs. of phosphate, there would have been a combined effort of nature and the fertility that would have resulted when the clover was turned under, would make its mark for years upon the following crops. Where the phosphate is used alone, the land cannot be greatly benefited—only temporarily, at the most—but where phosphate is used to *grow* a crop of fertility, the return pay is ample; for with the clover, the hay of the first crop compensates for all outlay, and the roots and second growth turned under on an average acre is, in nitrogen alone, worth $19, while the usual amount put upon an acre with the drill will not exceed $3.50; and some of this is of doubtful origin and invisible profit.

In this it would seem that if there were a little closer saving in stable and field, a picking up of farm residues, the applying manure as fast as made, so that the liquids would have to run across a plowed lot before they escaped (!) instead of finding the nearest brook; the fallow ground kept covered with a "catch crop" to prevent leaching and washing—even if this crop were turned under for green manure and its food value lost, the farm and the farmer would each be benefited more than now. I have often thought that those who had the greatest fear of loss of fertility by winter drawing to the fields were the very ones who lost more at the barns than would have been their loss a-field. Those who save at every point and apply at all times of year, are those who now seem to be using the least purchased fertility, and I do not opine that they will be overtaken in point of results by those who "can buy fertility cheaper than they can draw out barnyard manure."

The example of what a little manure with clover can do, with a short rotation of crops, has made Mr. Terry famous. It begins to look as though the Western Reserve farmer had better raise fewer kinds of crops, and rotate often, and of the sorts best adapted to feed his cows cheaply—corn, oats and clover—and let wheat-growing, beef-making, and the miscellaneous kinds of farming that are specialties elsewhere, alone, and keep the farm well in grass and these mentioned crops, and by saving, like a manufacturer, all the residues of the farm, and turning them to profitable account in way of fertility, make the farm largely independent, if not quite so, of the need of purchased fertility of doubtful value as a crop stimulant when compared for years with a system of careful saving of all fertility, as laid down in the main by Mr. Terry.

As the farmer became more and more a student in agriculture, and finds out more clearly nature's processes, he simplifies his labor and practice to more nearly imitate the laws that govern nature. One very rarely hears one now-a-days advocate forking over and mixing manure to rot it, but does hear far more about hauling green stable manure direct to the fields and then spreading it, to let the soluble portions at once be absorbed by the soil, and be fitted by the processes of nature itself for plant food, and no one can as yet prove that this not is the best way. No one can show that the ferment of manure before applying is adding anything to its value, but on the contrary it does appear that fresh manure applied to soil does, in some way, aid the production of soil ferments, "microbes of nitrification," and assist in multiplying them, just as yeast cells are increased by certain artificial aids.

I think that an investigation shows that while on barren soils, between crops, there is much loss by washing and leaching during the fall, winter and spring months, very little takes place if the soil is occupied by the living roots of clover and rye, and such crops that can be sown between as catch-crops. Certain it is if there is a bestowal by nature of several pounds of nitrogen from rain, snow, &c., during the year on each acre, we cannot expect to retain this gift without a nitrogen trap, and so *far as we know*, clover, rye and the like are the best agents we have to retain it.

To take a familiar example, we see Mr. Terry keeping his fields covered the year round with catch-crops between the regulars. We see him studying to prevent the manure from his stables fermenting, and with a few loads of this unchanged manure per acre, with the catch-crops, getting great yields from fields that at best can be said to have only minimum supplies of fertility. I apprehend that he is in advance of "science," because a cultivator of fertility is, in fact, manufacturing it in his soil. Certain it is, neither the manure nor the catch crops, alone or combined, can show the results he obtains, unless we call in the new theory of promoting soil ferments to account for the result.

The patient investigations of a score of students in this new departure of obtaining fertility by propagation, will, I believe, lead to important results, and the energetic farmer who stops all leaks in stable floors, keeps the soil full of decayed vegetable matter, and charges it with fresh stable manure, so that the ferment of it shall take place in the soil instead of the air, will largely increase the stores of plant food over the past time-honored customs of fertilizing our fields.

In my limited way, I find that even a catch crop of rye turned under in May—other things being, so far as I can see, equal—is making increased fertility for my soil over the usual plan of manuring. The rye saves all wash and leaching; its growth turned under has, if nothing more, returned to the soil all demanded by the growth of the rye, and what would have been otherwise lost by waste. Possibly a gain has been made by not only mechanical action, but soil ferment, and who of our agricultural teachers will give us the answer?

Western Reserve, O. J. G.

From Southwestern Michigan.

If the portion of our State which I am assuming to represent in these columns were the one isolated spot in the United States over which the peculiar climatic conditions of late autumn and early winter prevailed, it would well be worth chronicling; but every writer seems filled with the same desire to announce the unusual spectacle of summer in winter in his locality also; so that it would be mere tautology in me to rehearse the conditions of weather prevailing here, as they very nearly comform to all the localities represented in your paper. The most interesting question hinging upon this matter is as to the cause of this unusual condition of weather. I do not believe it is due to merely adventitious circumstances, and do believe that the deductions from present climatic conditions could be made available to agricultural operations in the future, if the honors emanating from discoveries here were as highly appreciated as those which come from discoveries in the firmament. I believe there have been prizes awarded to astronomers who were the first to discover an erratic or a returning comet whose "fiery tail" for us exists only as a spectacle to gaze at; yet here have been conditions of weather, unheralded and unexpected, that have saved to every farmer tons of fodder and grain out of a scanty store; and now the relief influence of it should be translated and become the basis of future operations. Scientific exploring parties in search of the open Polar sea, which exists only in the imagination, are fitted out from the public fund. Astronomical observers are sent across the continent to favorable localities to interview the heavens during an eclipse. This investigation into millions of miles of distance is worthy, but it only gratifies the esthetic sense, while phenomena occurring within three to five miles overhead, whose influence is ever present and dominant, are little heeded, and but little studied; yet the deductions and influences gained, if not the actual solution of the problems, from such a study, would be practical and of immense value to the world. I suppose the mowing machine is a most wonderful phenomenon to rodents and to grasshoppers, but the mowing machine has its limitations, and so have the clouds theirs, and the air-currents and the sun's rays, and they ought to be more studied and better known.

I attended the winter meeting of the West Michigan Fruit Growers' Society held at Fennville in Allegan county, beginning on the evening of Dec. 18th and closing at noon of the 20th. Fennville is located on the West Michigan railway, about six miles inland from the lake. It is the centre for the fruit shipments of that famous peach region. The soil seems peculiarly fitted for growing the trees to perfection. The limbs and trunks of the trees have that vigorous, dark green color always seen when the tree is at its best, and the sturdy shoots of one season's growth look hard and mature. Here they have had fourteen consecutive crops of peaches, sometimes only the hardiest surviving, but yet the short crops frequently bring as much as a full crop on a glutted market. I was entertained by D. R. Crane, who settled there 18 years ago. He was a man whose energies had miscarried in an inland town. He purchased a scrubby piece of land, a mile and a half from the railroad, and set six acres to peach trees the first year. These trees are still standing, and bore a crop this last season. From this orchard of six acres Mr. Crane has cleared $19,000. The highest year's product brought $4,500. One year's crop built the

ample dwelling house he now occupies, and he had $500 left to furnish it. He put in a billiard table in a large upper room to keep his boys at home, and kept the fires himself as a kind of feint to be present and regulate affairs. He owns a double store—dry goods and hardware—in town, a lumber yard and a controlling interest in a grist mill. An electric telephone connects his farm and store, and a large tool house is full of the latest improved machinery. All these evidences of prosperity are the outcome of peaches.

I mention this as one instance of the many where prosperity dawned at the selling of the first crop of peaches. The meridian of peach-growing however, I judge, is past. The yellows disease has begun its ravages, and I noticed many gaps in the orchards, due to the cutting down of diseased trees. Still with persistent cutting, as fast as the disease manifests itself, peach-growing will continue to be the main reliance for many years to come. Mr. Crane has 14 acres of 4-year-old trees, which will bear their first crop next year. Other peach-growers have been and are still setting young orchards in about this ratio. As fast as the old orchards reach maturity and begin to fail, or are likely to, new orchards are set and the old ones allowed to go gradually down.

Along the West Michigan R. R., through the counties of Berrien, Van Buren and Allegan, bordering on Lake Michigan, lie the most noted fruit lands of the State. Within this area also can be found the highest order of talent and culture among the fruit-growers. The South Haven Pomological Society of Van Buren county has had an existence and held weekly meetings for more than 20 years. Here live such pioneers in horticulture as T. T. Lyon, A. S. Dykeman, J. Larimer, C. J. Monroe, A. G. Gulley, and L. H. Bailey, Sr., and a hundred others whose tributary talent make up the sum of scientific fruit-growing. The line between Allegan and Van Buren counties runs at right angles to the lake, just north of the town. All along the shore north to Fennville, 12 miles away, the mainspring of prosperity is peaches. Three miles north of South Haven lies the quarter section of land—640 acres—that is believed to return more money to the proprietors than any other quarter-section in the State. It is almost one solid orchard, except where the public highways cross it, and the intelligent and enterprising owners cultivate and manage their respective parcels up to the highest standard of perfection.

The fruit men of this region, especially along the line of the railroad, are determined to manage their own shipments another year, by contracting with the railroad companies to furnish cars and load and unload their own fruit, really taking the place of the express company. Negotiations are now pending—started at the Fennville meeting—which has this end in view.

The June meeting of the society will be held at South Haven, where an enthusiastic gathering is anticipated. A. C. GLIDDEN.

Van Buren County, Mich., Dec. 28.

From Southern Minnesota.

EDS. COUNTRY GENTLEMAN—Contrary to the usual order of affairs, Christmas found bare earth throughout this section. All snow that had fallen prior to the 25th, would not exceed an eighth of an inch. Whoever had laid plans for a Christmas drive amid the music of the sleigh bells, had to content himself with whatever jingle he might be able to imagine in the rumble of wheels o'er frozen earth.

We have had a long, dry and pleasant fall, with roads hard and smooth most of the time. The coldest day of November found thermometer at 13°. During the first half of December the coldest day sent the mercury only to 15°. Since then it has, on a few mornings, come within 3 or 4 degrees of zero, the lowest temperature of the season not having touched zero yet. The warm sun of the 23d inst, gave a good start toward thawing the frozen ground, and the rain of the night following (first rain for several weeks) so far completed the process, that plowing might have been done on the morning of the 24th. Then turning colder the earth froze again, giving the roughest roads of the season for the holiday travel of the 25th. On the morning of the 26th snow began to fall and continued slowly all day, giving just enough to offer an excuse for using sleds.

The tendency of prices seems to be to get as near the extremes as possible, either very high or quite low. Pork and flour stand among the high priced articles, while beef, hay and potatoes figure at the other end of the scale. A good hog now brings nearly as much as a beef animal. It takes about a ton of hay or nearly 20 bushel of potatoes to buy a hundred pounds of flour. A neighbor, who is in the milk business, took five fatted cows to market the other day and could get but $80 for the lot. Some of them were rather old, having outlived their profitableness as milkers, but all were in good flesh. The lot weighed 5,800 pounds, and were figured at less than one and one-half cents per pound. There was not one of those cows that had not given her owner milk enough in a single month to bring more money than the sum for which she sold. This man is quite willing to continue selling milk at five cents per quart, in preference to raising beef for the market in its present condition.

It has been a good fall for keeping stacks of hay, and all kinds of fodder. My cornstalks come out of the stack as bright and fresh-looking as when put in, and the cattle eat them in the yard, during the day, in preference to hay. Even the colts leave their hay to strip off the blades and husks. My plan is to husk the shocks in the field, and bind the fodder, making two bundles of the shocks if large. Then some fine day, when the fodder is well cured, it is hauled near the yard and put in stacks. The bundles, in stacking, are placed with the tops toward the center, so that only the butts are exposed, similar to the plan of stacking grain. I put about six tons in a stack, and with the dry weather we usually get in fall and winter, there is no danger of its spoiling.

I have a stack of oats which I did not thresh, and which I am now feeding with entire satisfaction. The tied bundles are very convenient to handle, and, being of the same size, they aid in forming an estimate of the amount needed for a ration. I cut the bands and run the bundles through the feed cutter, and then the horses eat straw and all. It will furnish the entire ration once per day, or may form a portion of each. I am so well pleased with the plan that I shall hereafter make it a point to have one stack of unthreshed oats, every year, to feed in this way. C. L. H.

Freeborn County, Dec. 31.

Western New-York

EDS. COUNTRY GENTLEMAN.—The weather during the last month of the year 1888 was no improvement on that of its predecessors, October and November. The mean temperature of December this year was high, being 37°, as against 17° in 1886, and 26° in 1887. Rain or drizzle fell on four days, and snow on nine days, which included a blizzard of eighteen hours' duration on the 21st, giving us a foretaste of what we may expect before the winter is over. A general impression prevails among farmers and others that we shall have an open winter, meaning, I suppose, that the weather of December, consisting of alternate mild and cold spells, will be repeated in January and February; but it is rare, in this section at least, that we do not have a considerable period of steady cold before February is gone, no matter how we fare in December. In case of such a contingency, however, the splendid young wheat plants, which look at present writing so strong and of such good color, will assuredly suffer. I would like to see them hidden from sight for ten weeks by a good coating of snow, so that when spring comes they may continue their promising career unharmed. There was, after all, a much greater breadth of wheat planted than usual last fall, owing mainly to the advance in prices, and farmers would feel much encouraged if their fickle but favorite crop should fulfil, next summer, the grand promise it now makes. Straw is quite a valuable commodity this winter. During the winter of 1887 a neighbor offered me straw at $3 a load, all I could put on the wagon. On my telling him a short time ago that I needed a small quantity, he consented to let me have half a ton, by weight, for $5, as a personal favor, but said he was selling what he had to spare in the market at $13 a ton. Six or seven weeks ago choice dressed hogs brought $5.50 per 100 lbs. in Rochester; now they are quoted at $6 25. Some farmers kept on feeding their hogs, thinking they could turn their potatoes and corn to more profitable use that way than by selling them at the low prices they then were. But now they find that their hogs will bring no more money to-day than if sold when they decided to continue feeding, and all they have to show for the extra potatoes and corn consumed is an addition to their manure pile, which is certainly a good investment for the land if not directly for their pocket-books.

The common fall and winter varieties of apples do not average above $1 per barrel, plenty of Baldwins selling at 75c.; Greenings, Talman Sweets and Spys range two shillings higher, while choice Kings bring $2. Potatoes and onions are both 25c. a bushel. Cabbages about $2 per hundred heads. Wheat is quoted at $1.08 to $1.10 per bushel; corn, 55c., State corn being scarce and in demand; oats, 32c. to 34c. Hay sells at $18 to $21 per ton; straw—oat and wheat, $12 to $14; rye, $15. Butter, new dairy, 25c. to 27c. per pound; eggs, 24c. a dozen. The Department of Agriculture's grain report, made up from recent returns of farm prices over the country, makes the year's average reduction in value of corn greater than had thought, viz.: more than 23 per cent, or from 44 4 cents per bushel in 1887 to 34 3. Oats are given as reduced from 30 cents last year to 28c. The advance in wheat from 68c. last year to 99c., is pleasanter reading. Barley, rye and buckwheat have also advanced. But the following—"The decline in potatoes from 63 cents to 40 cents, marks the lowest average recently recorded, while the highest was 90.9 in 1881, when the product was only 100,000,000 bushels,"—will not tend to induce farmers to risk another such average the coming season.

The announcement in the COUNTRY GENTLEMAN of the annual meeting of the New York State Horticultural Society to be held at Rochester Jan. 23d, is a reminder to those who are wise enough to attend it regularly, of a mental treat in store for them. Now that the society has enlarged its scope, the attendance at the sessions should be largely increased, making them correspondingly enjoyable and instructive from the fresh information and added experience which will doubtless be elicited from those present. Many farmers and others seem to think that they can reap no benefit by attending these meetings, whereas there is hardly an owner or occupier of a piece of land who is not interested in one or more of the subjects to be brought up for discussion. Because he possesses merely a few apple or pear trees, two or three dozen berry bushes, a hundred or so of strawberry plants and a grapevine or two, he thinks they are not worth the trouble of going to learn anything about, and that only those who make a living by raising and selling fruit require such knowledge. If all such will make up their minds to attend, bringing one or two friends with them, the chances are that they will return with the conviction that, after all, both pleasure and profit can be derived from these gatherings. And if our fair friends, whose devotion to and skill in horticultural pursuits are generally acknowledged, could only be prevailed upon to more abundantly grace these meetings with their presence, I feel satisfied that the visits would be gratifying to themselves and prove a quickening power in the direction of a more general and enlightened horticulture wherever their potent influence can be brought to bear. J. H. C.

Monroe County, Jan. 1.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Jan. 1.

The new year was ushered in with clear skies, a high barometer, the moderate temperature of 16° above zero, and a heavy hoar frost. There is no snow on the ground, nor has there been over two inches in all this winter, so far, and the frost in the ground is not over four or five inches down. The roads are a trifle rough from the thaw of yesterday and the day before, but not rough enough to seriously interfere with intercourse between town and country. I remember four or five winters quite as mild as this, but none so dry and none with so few storms of any consequence. Why the snow storms and blizzards of some severity which have prevailed west and north do not reach us, I do not know, nor why we are having fair, mild and dry weather, while far east and farther northeast, it is very wintry and stormy. But I suppose we shall get our share of these inclemencies later on; for the common saying that "winter never rots in the sky" is as true as any half-truth. I do not know of any that regret the mild temperature but the ice dealers, and some of these, better equipped with large store houses, have and aim to keep two years' stock on hand. The frosty air, dry and tonic, insures a larger measure of health to all created nature than is common in the cold season, and, therefore, the doctors have little to do, and the veterinarians less. There never have been more favorable fall and winter months for getting good from the corn stalk fields or stubbles; never winter pastures yielding so nutritious forage whether green or dry; and never hay, straw and grain, fed after the common custom of the country, more profitably and completely consumed. Hogs are in demand at good, if not high prices; the surpluses of sound horses, whether young or aged, are sold at a profit; the price of hay is 50 or 60 per cent above the average of the last ten years; oats sell well, and corn, considering the enormous aggregate of the crop, is in demand at four or five cents a bushel above the figures that common opinion has been it would rule at. But stock cattle are very plenty and cheap; cows are less in price than aged bulls, because they do not afford so much lean meat for canning, while smooth export steers hardly pay the cost of two years' corn feeding. The depression in the cattle market will have the effect of increasing the acreage of corn and oats, and extend the breadth of meadows for hay to be sold off the farm; and for a year or two ahead, as for the same period back, grain-farming will be as common and popular as was cattle raising and feeding ten and fifteen years ago, when nothing was considered or proved to be so profitable.

The wheat supply being deficient, much interest is felt and expressed in commercial circles, as to the effects of the late dry and open weather on the crop now in the ground. Suffice it to say, where the seed was sown early on good, strong land, the soil properly compacted either by its own weight and consistence, or by artificial means, the crop has suffered scarcely at all; but where the seed was sown immediately after plowing, and the soil turned up loose like an ash heap, and there was no subsequent rolling and harrowing to settle the particles together—there, the surface soil has heaved up on high land, and sprouted on low, and the young wheat is seriously injured, if not killed outright. These observations apply chiefly to the black soil, in the upper winter wheat region, above, say, latitude 39° north, and not to the brown, yellow and white clays and clay loams farther south. On the whole, the agricultural situation is satisfactory and above the average, and the outlook for extensive seeding next spring, very promising, the magnitude of the crop afterwards depending, of course, on the summer season.

Albemarle Pippins.

At my request, Mr. F. W. Massey, director of agriculture and horticulture in the Miller Manual Labor School, at Crozet, Va., sent me a box of the celebrated Albemarle Pippins. I wished to compare them with the Newtown Pippins grown in this country, of which there were some fine specimens produced in 1888. As I understand it, the Albemarle Pippin is the original Newtown Pippin, a native of Long Island, but improved so much by soil, latitude, and perhaps, elevation, that it commands a higher price on the markets of Liverpool and London than the Pippins of New York and New Jersey. Among those sent me by Mr. M., were some having the flattened shape of the yellow variety, as figured in Downing, while others were more rounded, as shown in Thomas. Compared with those of Champaign county, the Virginia apples were not as fully matured, but they were larger, had crisper and yellower flesh, but less spiciness, flavor and fragrance. Evidently, in the matter of fruit, the climate of Illinois possesses some ripening force beyond that which is due to latitude, and some detergent influence that invites, if it does not produce, premature decay. It is interesting and instructive to learn from a previous letter of Mr. Massey's that the orchards producing the finest Albemarle Pippins are in the narrow coves of the slopes of the Blue Ridge; that the soil is from primitive rock, abounding in potash and very rich; that springs, bursting from the mountain sides, abound, and finally, that in these coves the orchards are not only bathed in dew at night, but clothed with fogs in summer to ten o'clock in the morning. E. F. J.

Corn and Cutworms, p. 944.—I notice what OBSERVER says in your issue for Dec. 20th, about my experiment with my corn field the past season. I wish to state that in the spring of 1877, we plowed up a piece adjoining, of about five acres, which was treated in all respects as was the piece reported in 1888, except the salt. That piece was nearly destroyed by cutworms and grubs; we planted and replanted a number of times, but got less than half a

crop. The piece of last year was the oldest sod, and to all appearances at plowing-time was more likely to be destroyed by worms and grubs than the piece adjoining the year before; the only difference in manure and cultivation was, no salt was sown on the piece—all else the same, except the numerous plantings and a partial crop. The season here was much the more favorable for a corn crop in 1887. The writer has noticed for years that there would be a freedom from cutworms and grubs where a night pasture had been plowed for corn in which a herd of cows had made their resting place for the night. The first thing in the morning when they got up, they generally void their urine. Where such a place has been frequently used on the farm of the writer, no damage by cutworms or grubs has resulted in the corn crop following on such ground, while other portions of the field would be badly eaten by them, thus showing that there was a repellant power in the urine voided the year previous, either in destroying the larvæ or the worms themselves. J. TALCOTT.

Onondaga County, N. Y.

In Florida.—You publish a most excellent journal, which carries with it a tone of dignity and stability which is worthy of its name. It often makes me wish I was a farmer that I might thoroughly enjoy it. But I never take up your paper without thinking what a wide influence such a paper exerts, and sometimes for many years after its publication. And this is the reason why this thought comes up on seeing your paper: Seven years ago, I was passing a winter in Florida, with my wife, and seeking sport with the gun, I wandered far down on the Gulf coast, and finally heard of a man living fifteen or twenty miles south, who sometimes kept boarders. I chartered a sail boat and went there, jumped ashore at his beach, and told him we had come to stay with him a week or two. We found him a very intelligent man—he is a graduate of Hamilton college—and we liked it so well there that we remained two months; have once returned there, after two years in Europe and the East—and still keep up the acquaintance so singularly commenced. This gentleman is named John G. Webb, formerly of Utica, and I was curious to know how and why he had wandered into such a far-away corner of Florida. He had been there a good many years, and had a splendid orange grove, large fields of bananas, sugar cane, &c. He said that in 1860, his wife was a great sufferer from asthma, in Utica, and they were ready to go to any place in the country, where she would be free from the complaint. They had read some letters in the COUNTRY GENTLEMAN in 1858, or thereabout, from the Gulf coast of Florida, which told of the healthy conditions of the country. So the family packed up and set sail on a sailing vessel—that being the only communication with Key West at that time—and then they managed to make their way up the coast, and after many hardships, they located on a most charming point of land extending into the bay, and have remained there ever since. Best of all, Mrs. Webb was entirely free from asthma while she lived—nearly twenty years—though she spent one summer at the North, and her old affliction returned before she had been at her old home a month. I have often thought how the chance reading of the letters in the COUNTRY GENTLEMAN, six or eight years before, marked out the life of Mr. Webb. He is now county judge of Manatee County and postmaster at Osprey, and some few people have settled in the section, the houses being scattered along the coast, at intervals of a mile or two. Prof. Webster of Union College "discovered" the place before I did, and I have had great sport hunting and fishing, going out a dozen miles into the wilderness, and camping out, where deer and wild turkey were reasonably abundant. Prof. Webster was interested in the great variety of shells found on the shore there, and said there were over 300 different kinds to be found in the near vicinity.

Pittsfield, Mass. M. H. B.

Potatoes, p. 960.—As my partial experiment called out so interesting an article, I explain a little. The main object was to call Mr. Terry out on his manner of cutting. But to the experiment itself. I merely sliced off the single eyes, and rather thin at that. The product from the single eyes was perfect in every particular; from the large single piece, they were somewhat knotty and rough, and some small ones; from the large whole potato, three pounds small and four large ones quite imperfect. So the experiment was not entirely without value. T. S. M. *West Chester, Pa.*

Inquiries and Answers.

Ice Cellar.—Please advise me on the economy and utility of establishing for the preservation of ice over summer, a room 15x12x6 in a kitchen cellar 15x30x6, detached from main cellar by a 20-inch stone wall. Would an ice room affect in the least the temperature of rooms overhead if a dead air space of 10 inches intervened? *S. J. L. Getty, N. Y.* [If there is free ventilation over the top of the ice, as there should always be, the room above would not be affected. If not well ventilated, the air in the cellar which is many degrees warmer than the ice, would be excluded, and the room above would be somewhat cooler, and probably affected with dampness, if there is only a board flooring between. The owner on the spot can best decide whether it would not be more convenient to have a wooden house built above ground for ready access in filling and emptying and for free ventilation and drainage.]

Salt and Sweets in Fattening.—Is it better to place rock salt in manger for fattening cattle, or to mix common salt with the feed? If the latter, how much per day to 1000-lb. cattle? P. W. *Charles County, Md.* [It is a good way to place rock salt within reach of fattening cattle, as they are not likely to take more than they need; or it may be mixed with the food, in which case two to three ounces of salt is sufficient, and may be mixed in the ration for each animal per day. This is usually done where it is not convenient to place salt within reach. To begin with, it would be better to use, if mixed in the ration, the smaller quantity mentioned. Fattening cattle do not need as much salt as milch cows. It may be considered merely as an appetizer. The skilful feeder will always consult, to some extent, the taste of his animals. The writer has often found a profit in giving a small amount of flavoring, in the form of cheap molasses. A gill of cheap molasses, dissolved in a quart of water mixed into the ration, will cause it to be eaten with a greater zest. E. W. S.]

Premature Butter.—What is the cause of butter appearing in the milk as it comes from the cows? We have three giving milk, and none of them are due to calve until the latter end of February and March. Butter appears on the side of the pail and in the strainer. Cows are fed on mash of bran night and morning, with mangels cut up in the same; also hay and cornstalks. M. B. [Our correspondent ought to know better than to write one part of her letter across another, in preparing matter for printers. As the butter exists in milk in very small globules of oil suspended freely and without any enveloping membrane to prevent their adhesion and cohesion under favoring circumstances, it is not difficult to understand how they in some cases, by no means rare, gather together in the udder or in the act of milking and appear as small grains of butter in the milk. It is a not infrequent characteristic of some cows, especially of those whose milk is rich in butter, and is generally accepted as an indication of excellence, and not of any fault or blemish. We have known this to happen at times with a cow whose milk was of the usual character at other times. It is more than likely that it is due to a peculiarity of the butter, which may be softer at the natural temperature of the milk in the udder than that of other cows, or of the same cow at different times; and also of the milk, which is thinner and less viscous, and thus permits the butter to gather more easily, and by the simple agitation in the act of milking. We have known of a cow whose milk, when strained after milking, would have at times a large proportion of the butter in it gathered in masses as large as peas, and up to lumps as large as hickory nuts. The butter of this cow was very soft in the warm milk, and the milk was very thin and blue. E. S.]

Before and After Calving.—Please give ration for Jersey heifer coming in first week in March; also after she calves—from following: Clover and timothy hay, corn meal, bran, mashed oats and barley (mixed), ensilage made from southern corn which did not ripen on account of the season. C. B. B. B. *Dorchester, N. S.* [The heifer until she gets over calving should have no corn meal or other heating food. Let her ration now be 15 lbs. ensilage, 6 lbs. clover and timothy hay cut and mixed with the cut hay and ensilage, 5 lbs. wheat bran—the bran being well mixed with the cut hay and ensilage. This will probably be sufficient if she is a moderate sized heifer. If she is large, 2 lbs. of crushed oats and barley might be added. After she has got over the effects of calving (say two weeks after), her ration may be as follows: Twenty-five pounds ensilage, 6 lbs. clover and timothy hay, 6 lbs. bran, 4 lbs. crushed oats and barley, all thoroughly mixed together and given in three feeds, smallest at noon. With these feeds we use no corn meal, because the ration cannot be properly balanced with it. In analyzed formula it shows the following digestible nutrients:

	Albuminoids, lbs.	Carbs. hydrates, lbs.	Fat, lbs.
25 lbs. ensilage	0.80	3.60	0.75
6 lbs. clover and timothy	0.40	2.10	0.06
5 lbs. wheat bran	0.53	2.80	0.20
4 lbs. crushed oats and barley	0.37	2.13	0.13
Total	3.00	10.63	0.63

This has a nutritive ratio of 1 to 6, as low as is proper for a ration for rich milk. This is a fair combination to develop the heifer as a rich milker. E. W. S.]

Weather, Crops and Prices.

Meteorology for Dec. 30-Jan 5.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week		30.56	inches
Lowest	do.	do.	29.87	do.
Mean	do.	do.	30.23	do.
Highest temperature	do.	do.	49°	
Lowest	do.	do.	—2°	
Mean	do.	do.	25°	

One clear day; three fair; three cloudy. No rain or snow. Prevailing wind, N. W.; maximum velocity 30 miles per hour, N. W., on the 24.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	30th	31st	1st	2d	3d	4th	5th
Day	30th	31st	1st	2d	3d	4th	5th
This year	38°	39°	34°	25°	20°	25°	26°
Normal	27°	26°	25°	25°	27°	27°	27°

Total excess for the week, 31°.

The Month of December at Albany.

According to the reports of Sergeant Sims of the Signal Service, the highest temperature for December was 58°, on the 25th; lowest, —2°, on 23d. Warmest days, 17th and 26th—mean temperature, 44°; coldest, 23d—mean, 2°. Prevailing wind, S.; highest velocity, 30 miles per hour, W., on 27th. Clear days, 4; fair, 9; cloudy, 18. Rain or snow on 6 days. Mean temperature and total precipitation for last ten Decembers as below:

1888	Mean Temperature, 30°	Precipitation,	3.30 inch.
1887	do.	27°	do.	5.43 "
1886	do.	24°	do.	2.19 "
1885	do.	30°	do.	1.50 "
1884	do.	28°	do.	3.30 "
1883	do.	31°	do.	3.55 "
1882	do.	31°	do.	2.24 "
1881	do.	19°	do.	4.88 "
1880	do.	26°	do.	2.01 "
1879	do.	29°	do.	4.38 "

General Review of December.

December has been slightly warmer than usual through the Northern States, Missouri, the northern portions of Texas and Arkansas, and on the Pacific coast; it has been slightly colder than usual in the Southern States. The greatest departures from the normal occurred in Florida, Georgia and South Carolina, where the mean temperature for the month ranged from 3° to 5° below the normal, and in the Missouri valley, Minnesota and Dakota, where it was from 5° to 9° above the normal. The line of killing frost has extended southward over the northern portions of Florida, the first killing frost being reported from Jacksonville and Cedar Keys on Dec. 21.

Less than the usual amount of rain fell over the greater portion of the central valleys and the Southern States during the month. Slight excesses were reported in Iowa, Wisconsin, New-England, and in portions of Virginia, Georgia and Texas. Large excesses were reported in Southern California and slight excess in Northern California, while on the north Pacific coast only about two-thirds of the usual amount of rainfall was reported. In Tennessee and the Ohio valley only one-fourth to one-half of the usual amount of rain fell.

During the month of December the weather has been unfavorable in the winter wheat section, owing to the small amount of rain and snow. At the close of the year the entire winter wheat section was in need of moisture, and bare, except in Northern Iowa, where the ground was covered with six inches of snow. From six to twelve inches of snow was reported on the ground at the end of the month in Wisconsin and Northern Michigan, and from one to two inches in Minnesota and Dakota.

New-Jersey—*Somerset County, Jan. 5.*—The past year was unusually wet and cool; total rainfall, twelve inches above the average. This excess, with the exception of June, was fairly distributed throughout the season. While crops of all kinds were in most cases above the average, much loss was caused to harvesting by the excessively wet weather, especially in the peach and corn crops; much loss and delay were also occasioned in seeding in September. Prices of farm products have been good, but are now rapidly declining to the level of former years. Wheat is less than $1 per bush., against $1.25 and over in October and November. This proportional decline also rules in prices of other grain crops. Poultry, eggs, butter, pigs, fruits, berries, &c., have realized somewhat better prices than in recent years. Farms are selling at from $30 to $40 per acre—in many cases good farms bringing little more than the cost of the buildings and fences. Farm help is scarce; this is an element in general farming which is becoming more serious year by year. E. B. V.

Virginia—*Birdsnest, Northampton Co., Dec. 31.*—The weather this month has been uncommonly cold for the time of year, as we do not look for much cold weather before Christmas. At 9 P. M. on the 3d mercury stood at 19°, and the next morning at 7 o'clock at 17°, being the lowest so far this winter. There has been little snow—0.10 inch. Christmas week was clear and fine for those who were removing. Maximum of thermometer, 67°; minimum, 17°; mean, 39°; rainfall, 2.05 inches. There was but one entirely cloudy day in the month. The year has been remarkable for the number of destructive storms, both on land and water. C. B. M.

West Virginia—*Bunker Hill, Berkeley Co., Jan. 2.*—We have had a very mild and pleasant spell of weather. No snow yet, and out-door work can be done to much advantage. Times dull, and the average of prices lower than a year ago for produce. E. L. H.

Ohio—*Mechanicsburg, Champaign Co., Jan. 3.*—Weather delightful; most pleasant winter weather known here for 100 years; mercury 50°; wind southwest; fair. Wheat doing all right so far. A fine winter for stock. Butter, 16c. per lb.; eggs, 28c. per doz.; hay, $10 per ton in field, $12 delivered; corn, 26c. per bush. Other produce about the same as last week. E. W.

Indiana—*Indianapolis, Jan. 1.*—The season so far has been remarkable for Central Indiana. Up to this date the ground has not been completely whitened with snow, and only two or three little indications of a snowfall. After thawing the frosts of the night, in many places the soil might be turned with the plow. To-day the sunshine is bright and warm. There has been little warm weather, but the temperature has been pleasantly cool, and the days bright. There is no need of going to California for anything better in the way of weather. J. J. W. B.

Wisconsin—*Janesville, Rock Co., Jan. 2.*—Still the weather is most delightful. We have had a good and much needed rain. Now the days are bright and just a little crisp. About 4 inches of snow during the week. The poor will feel the benefit of this fine, mild weather in the saving of fuel, which is still exorbitant in price, being held by the trust with a vampirish grip. Business and general health are good. Many fine improvements are under way, including some of the finest residences in the State. Wheat, 80c @ $1.05 per bu.; barley, 46@53c.; corn, 26c.; oats, 28c.; rye, 56c.; buckwheat, 60c.; potatoes, 45c.; hay, $5@9 per ton; coal, $6.50; apples, $1.75@2.25 per bbl.; cattle, $2.00@3.40 per cwt.; tobacco, 9½c., 8½c. 3½@14½c. per lb.; broomcorn, 3@4½c. W. H.

Fond du Lac, Jan. 3.—Never before have we had a dry fall and an open winter. Up to this date, thermometer has not been lower than 8°. Roads very smooth, and hard as granite. Two slight falls of snow on the 26th and 30th have given us excellent sleighing. Since New Years, thermometer has ranged from 16° in morning to 36° at noon, sky clear, and atmosphere still. Animals are doing well, and on much less feed than in the cold and stormy winters of the past ten years. Vast amounts of hay have been pressed and shipped out of the country. It could well be spared, and has been a great benefit to the farmers. Taxes are high, and the marketing of hay has been timely. What embarrasses many farmers is the credit system. They run an account at the stores through the season, and in the fall they must meet the year's expenses, all at a time when there is no need of it. Plan to have something to sell every month or two, or if the market is well up, sell at such times and save the proceeds. Then the farmer is independent, and can purchase his goods where he pleases, and by so doing, make a saving. Go to one store and get a bill of goods, pay for them, and require a bill of items, with the prices affixed. Next go to another store and do the same, and when you have gone the rounds of the stores in your town, compare the bills, and you can ascertain where you can get goods cheapest. There do your trading as long as you are dealt honestly with; but go the rounds occasionally. E. B.

Nebraska—*Falls City, Richardson Co., Jan. 1.*—The new year comes in cloudless, with mercury at 42° in the shade. December was pleasant, with bright days and frosty nights; only two light snowfalls, 25th and 27th, but it is mostly melted. Weather prophets predict an open winter. There have been heavy snow storms in the north and west parts of the State, but the east has so far escaped. There have never been a cyclone through the valley of the Nebraska, and but few blizzards near by. Market prices about the same as last week, except that live hogs have fallen in price, a great disappointment to farmers. S. S. H.

Kansas—*La Cygne, Linn Co., Dec. 31.*—The weather continued warm and favorable up to Christmas day, and every one has taken advantage of it to be prepared for winter; the 26th was stormy, and in the evening turned to sleet, loading the trees with ice fully half an inch thick, injuring some, but doing no great damage. Some rain since, and roads are exceedingly muddy—in fact the bottoms of the Marmaton Cygne are nearly impassable. People at the East have but a faint idea of what a road in the West is in a wet winter, especially on the bottom lands. Live stock of all kinds are healthy and doing well; thousands of cattle and hogs are being fed here this winter, and are doing well, but the waste and suffering are appalling to an eastern man, and the wonder is that so few die of disease when managed and cared for as they are in this country. Beef is off in price this week, otherwise markets are good and business fair in all branches. D. B. B.

Horticultural Department.

Editorial Notes and Comments.

Bush and Dwarf Pear Trees.—The English gardeners have given less attention than the French to the neat and symmetrical forms of dwarf pear trees, in the regular pyramids which we represented on page 403 of our last volume. The accompanying figure, however, represents a handsome "bush" pear tree, given in the London Garden, the photograph of a young bearing Angoulême—the variety which grows the most freely on the quince stock. The figure on page 403 which we refer to above, is of the Louise Bonne of Jersey, the growth of which naturally assumes a pyramidal form, or is easily brought into that shape by the simple process which writers on pruning describe. The Angoulême does not assume so regular a form, and is commonly trained into a rounded head, more regular than the bush, which is

Fig. 2.—Regular Bearing Dwarf Angoulême.

represented on a smaller scale by fig 2. Fig. 3 exhibits the appearance of an orchard planted with dwarf pear trees, trained in the pyramidal form, and in full bearing. The rows should be at least twelve feet apart—15 or 20 feet would be better—and the trees 10 or 12 feet in the rows. Or, the trees may be placed 12 feet asunder both ways. Although dwarf pears are less planted and cultivated than formerly, they have still some special advantages. An orchard planted as represented in fig. 3, may be easily gathered of its crops by driving the spring-wagon between the rows, and nearly all the fruit may be picked off while standing on the ground. The two essential requisites for success are regular and moderate pruning connected with annual manuring; and regular, neat and smooth cultivation of the soil.

Pulverizing Manure.—We have found, as we have stated on a former occasion, that fresh manure when broken into a fine or well-pulverized condition, and thoroughly mixed with the soil, possesses all the advantages usually attributed to old manure. It may be that the fresh manure contains too much coarse fibre to become well broken up, which will of course thus lessen its value. For garden vegetables, fresh (not coarse) manure, well pulverized and ground into the soil, appears to have all the advantages of fine old manure. Mr. W. H. Hills of New-Hampshire says that he has not found old manure indispensable for the success of small-fruits, and that, as is well known, a Kemp manure spreader will fine any manure, and give it an even distribution, as any one who has seen it work has witnessed to his satisfaction. Mr. Hills recommends the disc harrow as the best thing to cut and cover it in a perfect manner. He thinks the reason that old manure is so commonly preferred is the readiness with which it may be pulverized, and also from the fact that coarse manure in rotting down shrinks about one-half in bulk, and in that condition about twice as much is applied.

Scattered Notes.—On looking over the proceedings of the last session of the American Pomological Society, we find a number of items relative to fruit and vegetable culture, which will be interesting to some of our readers who may not have seen them. The question was asked, which was the best strawberry? A. S. Fuller said the Charles Downing was the best for market. H. M. Engle of Pennsylvania said the Sharpless was their favorite. So said J. Van Lindley of North Carolina; and so it is at the great strawberry plantations at Barnesville, O. J. R. Hart of Nova Scotia said the Sharpless was preferred because it was large, but that when people begin to know what they want, they will ask for the Charles Downing. President Berckmans said that since the introduction of the Cuthbert raspberry, the markets were filled with them, and Cuthberts from Georgia had been sold in Boston for seventy-five cents a quart, about two months before they are ripe at the North. P. M. Augur said that commercial fertilizers should always be used to supplement and never to supplant

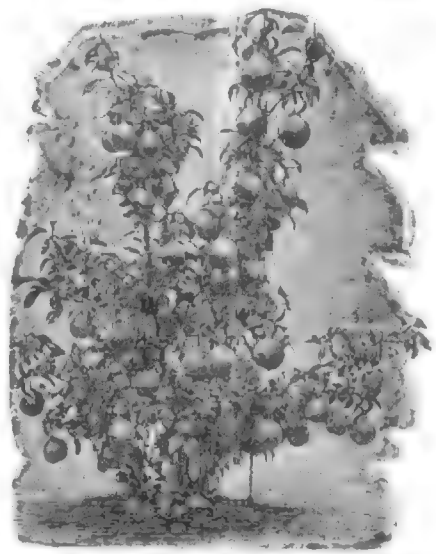


Fig. 1.—Bush Pear Tree, Duchesse d'Angoulême.

home manures. James Pearl had tried 400 pounds of superphosphate for an acre of potatoes, with success; but one of his neighbors used four times as much and had a very poor crop. He did not state that it had been badly or improperly applied.

Mixing of Melons.

Eds. Country Gentleman—Your editorial note on the above topic (p. 928) opens a very practical question at a most opportune time. If we are to have an "experience meeting" it is evident that the testimony will not be altogether harmonious. Owing to limited knowledge and exact experimenting the writer would not too positively assert an opinion, but sufficient data are at hand to lead him to question the correctness of the Tribune correspondent's conclusion. To obtain absolutely pure seed is the aim of the melon grower, and that he fails in this is almost uniformly true. In rare instances are the seeds sent out as the "only reliable and warranted genuine" sort likely to give that satisfaction that the buyer has a right to expect.

One year we bought 16 lbs. of a certain variety of watermelon, and on the entire 18 acres planted not a single hill was of the sort we bought them for. Last year (1887) we planted Burpee's Light Icing watermelons and Netted Gem nutmegs. Almost without exception the fruit throughout the season was true to name and type. Not a dozen watermelons on the place were otherwise than as represented in the catalogue. The nutmegs of that year were equally "all right," so much so that the peculiar cloth used in covering the barrels was a full warranty, and accepted as such by the hucksters in buying the Gems, that the contents were strictly "straight."

This year seed was obtained from the same house. The watermelons were fairly true to name, but the nutmegs were a sorry lot. Four acres, 40 by 16 rods, had 10 rows across one end of a sort differing in name from the remainder. The whole were badly mixed. The Champion Market and the Netted Gems were well hybridized, while fully one-third of the hills among the Netted Gems had varieties never before seen in this section. Lying just south of these, and bordered by the watermelons on the east, were 1,500 hills of Netted Gems that had but few, comparatively, of any other sort among them. Now how came it that the Gems that were by themselves were comparatively pure, while those more highly favored in the same field, but in juxtaposition to the larger variety, were so much mixed? The size, moreover, among the mixed melons was against them, so that the commission men wrote us post haste to keep the large ones by themselves, as the Netted Gem buyers would not have them. The seedsmen were called on for an explanation, and offered to take back the seed we had not planted, but said the seed was absolutely pure, and that the bees must have been at the bottom of the mischief.

A neighbor had a number of watermelon hills in the middle of his field destroyed by bugs. His good old mother, who appreciated pumpkin pies more than melons, got him to plant just the missing hills with pumpkins. The result was not gratifying. The melons, for the most part, blossomed earlier than the pumpkins (the latter being planted after the melons had got well started), but enough

Fig. 3.—Orchard of Dwarf Pear Trees.

melons came in bloom at the time the pumpkins blossomed to mix the fruit. Many of the melons were clearly mixed and unsalable. If not mixed, what was the matter with the melons? If experience proves anything, the practical grower has shown by a multitude of tests that one of two things must be true—either that there is no such thing as a pure variety of melon that will grow from year to year and remained true to type, or else that "mixing" is almost as sure to result as harvest follows seed-sowing. It is nonsense to talk of degeneration as the cause of this, because nobody ever heard of wheat degenerating into rhea, or potatoes into turnips, or timothy into blue grass. Either there never was an original typical specimen, or else mixing is an inevitable result where the conditions are favorable, such as nearness in location and time of blossoming, similarity of habit and attractiveness to bees, &c. Were it not an abuse of space, I might note the case of a brother farmer who planted Leaming corn on his farm for seven years, when he found that not one ear in a bushel was Leaming, so completely had his other variety, more extensively grown, mixed in and taken the supremacy—but enough for the present. Alvin Adkins.

Washington County, O., Dec. 19.

There are so many changes in the controlling influences, that fixed rules cannot be laid down from isolated experiments, nor from many performed in one season only. There may be a variation in results from the plants not blooming at the same time, the effects of prevailing winds, the work of bees and other influences. Purchased seeds may have been largely mixed in previous years, or seedsmen may have obtained supplies to fill vacancies from unreliable sources. Those who make experiments to determine disputed points, should go back some years in procuring pure seeds. How far mixing beyond varieties of the same species may extend, would require a continued series of experiments, and the subject is well worthy the attention of some of our experiment stations, and of scientific accuracy in avoiding sources of error and wrong conclusions.—Eds.

Culture of Begonias.

Eds. Country Gentleman—Considerable improvements, of late, have been made in raising new varieties of begonias. Their showy flowers and attractively marked foliage places them in the foreground as favorites among the many plants now in cultivation for the greenhouse or window garden. Coming as they do from the tropical sections of South America and India, they require for their highest state of culture a good, warm, moist place, at all times, to grow. Our summers are, however, suitable for their being bedded out, and some of them, especially the tuberous-rooted section, making attractive plants for this purpose. Some of the shrubby-growing kinds make handsome specimens grown in pots, and are well adapted for culture in the window; some of the best in this class for this purpose are *Begonia metallica*, beautiful in both foliage and flower; *rubra*, a variety growing sometimes to a hedge of six and seven feet when given plenty of room and suitable culture; *Weltoniensis* and *W. alba*, the one having pink and the other white flowers, are equally fine for bedding out or pot culture; *argyrostigma* has silvery-spotted leaves and small, white flowers, is one of the prettiest for window culture; *manicata* has large branching cymes of pink flowers, the plant is of compact habit and fine for pot culture; *nitida*, a fine species having bright green glossy leaves, flowers a deep rose and fine for winter flowering.

Of the fine-leaved or red section there are some good varieties now in cultivation, and where they succeed well are beautiful plants, but when in an unhealthy condition are far from attractive objects. They require a shady position, especially during summer, light rich sandy soil and plenty of moisture; if kept in the bright sun for only a short time during summer the leaves get spotted, and soon lose their fine color. As basket plants for a shady position during summer they generally do well if plenty of moisture is given them.

In the tuberous-rooted section we find some of the most beautiful of flowers. European nurserymen have of late years been giving considerable attention to the production of new and improved kinds, and it is wonderful the success they have attained, not only in the color of the flowers but also in their size, both single and double kinds.

Planted in a somewhat shaded bed during summer, a bed of the different colors of the tuberous-rooted begonia makes a fine addition to our bedding plants. They should not be planted out until all danger of frost is past, and when cold sets in, in the fall, lift and keep the bulbs dry and in not too cold a place during winter.

With begonias of all kinds, if the temperature in which they are kept is cool, keep them on the dry side, as too much moisture at the roots in a cold atmosphere causes both leaves and flowers to drop. M. Milton.

Bubach Strawberry.

Eds. Country Gentleman—I am now cultivating over seventy varieties of strawberries, including all the new sorts, and I do not hesitate to say that without a single exception the Bubach No. 5 is the most satisfactory and profitable berry in existence at this date. I feel that I can make this statement without being accused of puffing or trying to boom a new variety, for the reason that this berry is not a novelty now, having been grown a number of years and taken its place among the standard sorts. There is not a single variety that has taken so strong a hold upon the strawberry-grower, within the past year especially, as the Bubach No. 5. The reason for this comes not from the fact that it was not always a wonderful berry from the date of its birth, but that the growers have only just begun to find it out. In the past few years there have been a great

many new varieties propagated and introduced, and the progressive grower of plants and market fruit is disposed to test them all.

The people who grow fruit for market, those that set strawberries out by the acre, and are after size and quantity rather than quality, who desire a vigorous plant, adapted to all soils, that neither "rusts nor moulds" have just begun to realize that they have found such a berry in the Bubach No. 5, and in my opinion there will be more plants of this berry set out in the next two years than of any other variety in existence, and at the present day I place its value ahead of all others. There is not even a close second choice. Its combination of excellent qualities stand distinct and alone.

Rockingham County, N. H. GEORGE Q. ROW.

The Bubach stands among the most approved of the many newer strawberries, and is a strong grower, good bearer, and has a large handsome berry, but is rather poor in quality. In some localities of the many States in which it has been tested it is quite poor in flavor, while in others, like that of our correspondent, it succeeds admirably as a market variety. EDS.

Some New Raspberries.

EDS. COUNTRY GENTLEMAN—It is very encouraging for those who love to be with fruits to have some that attract their attention from those we have been used to for some years. True, some (I might say many) of the new varieties introduced are little better than the old standard kinds, but others are decided improvements. Progress in fruit-growing has been made as well as in other departments of business, and of late years it is not so common for a new variety to be put upon the people without being tested fully before seeding out.

Some years ago we thought a 2.40-horse was making good time; at the present day he would not attract much attention. Just so with small fruits. We thought the Doolittle an improvement over Mammoth Cluster; so it was. Later came the Ohio, a greater improvement, then the Gregg, after which the Souhegan came to light, and it is a good early berry. These are standard varieties, and we acknowledge them as good, but there is still room for improvement, and it is very rapidly showing itself. We have quite a number of seedlings sent us for trial, which show a marked improvement, but at this date can say nothing, as they are nameless.

The Golden Queen, introduced some two or three years ago, is worthy of praise, and every fruit-grower should have it represented in his berry garden or field. This variety attracted my close attention this season by its bountiful productiveness and lengthy fruiting season. It is somewhat later than other varieties of its class, but it fruited for us from five to six weeks. The fruit is of an orange color, but far superior to any yellow berry ever introduced; not a finger's length of its wood was winter-killed, but it proved perfectly hardy, and is quite vigorous. I see no reason why this fruit should not become a popular variety; it has everything to recommend it to the public, and in our market would sell for an advanced price. Fruit-growers should not be without it, and those of your readers who grow their own fruit in the garden, I would advise to send to some nurseryman in the spring for a few of them and be convinced.

The Palmer, a cap variety, originated with P. R. Palmer of Ohio in 1880, with other seedlings, and after it proved itself worthy was put on trial. Mr. P. has fruited this variety since 1882 with marked success, while he has been a raspberry grower of the first order for some 25 years or more, and he knows what a good variety is. After he had tested his own seedling for some years, he was not satisfied, but sent it into various States to have it tested. At the New-York Experiment Station its record will show for itself, and at the Ohio Experiment Station the same.

What is there to be gained in this variety? Much. First, its earliness. While its size is equal to that of the Gregg, it is composed of much more meat, and not such large seeds. It will pick a good picking before the Souhegan, and ripens its fruit in a short period, before the Gregg and Ohio begin to ripen their fruit. This alone, to the commercial fruit-grower, is enough to convince him of its value as a market berry. Some time ago I wrote to the originator about its productiveness, in general field culture, over that of the Souhegan, Gregg and Ohio, and if you will allow me to quote from his letter, it will prove to you its value:

"The yield of the Gregg, Souhegan and Ohio here depends altogether on season, soil and culture. We regard 65 bushels per acre a good yield. I received 70 bushels of Ohio this season. We regard 75 bushels of Gregg a good crop, and get less more frequently than more. The best crop of Gregg I ever knew grown in this county was 96 bushels, and that on a single acre. Mammoth Cluster yielded 66 bushels; this was regarded a good crop. The Souhegan is a good, hardy and productive variety, but I do not think it ever produced 75 bushels per acre here in this county (our soil clay loam) I have grown more bushels of Doolittle than of Souhegan or Tyler; yet we regard all these varieties as valuable. I grew this year of this variety [Palmer], from four-year-old plants, 120 bushels per acre, and a patch two years old did quite as well."

You can see from the above that this is a wonderful producer, and it goes to show what can be done. It is supposed to be a cross of the Souhegan and Gregg, as it resembles both—the Gregg in size and the Souhegan in earliness. It is perfectly hardy, has stood without being injured at 25° below zero. Holds its leaves until the fruit is picked, and has a dark green foliage. In the severe drouth we had in this State last year its foliage remained green, and it ripens its fruit without being injured, while many of the other varieties were almost worthless. E. W. REID. *Belmont County, O.*

The Poultry-Yard.

Rearing Turkeys on the Farm.

A great deal has been said and written on this subject. It is one of the things that is so easy to do after we learn how, that we wonder we ever had to learn at all. Still, to the uninitiated, rearing turkeys is a great mystery—so very difficult in fact that after one or two futile attempts, many give up in despair. The scientific poultry raisers of course know exactly how it should be done. They make a business of it, and can afford the expense necessary to provide houses built after the most approved models, glass-runs, close yards for the little ones, shrubberies for the mating birds, and a variety of foods suitable to their different ages, and to all seasons. But the wife or daughter of the farmer in moderate circumstances can afford few of the conveniences which tend to lessen the labor, and which are considered absolute necessities by the professional poultry raiser. We cannot even procure the foods which we know would be best, but are compelled to take the odds and ends of refuse grain which nothing else will eat. The average farmer would think his wife or his daughter had taken leave of her five senses were she to request him to sow an acre of buckwheat for the chickens, or a small patch of rye near the house, in order to afford them tender grazing in the late fall and early spring, when every other green thing has become frosted.

There is nothing more healthful for young fowls in the spring than corn broken into coarse hominy, but to suggest that a bag of corn should be carried to the mill for this purpose, would be thought entirely unnecessary.

Most men think that domestic fowls should be like the birds of the air—provide their own living. So we poultry-raisers on the farm have to make the best of what we can pick up, and this, after all, is not such a bad outlook, for, with the exercise of some ingenuity and forethought, we can generally provide something of one kind or another to feed a few chickens all the year round, while the turkeys can be raised in the summer, when insects are plentiful, and sold in the fall, before they require very much grain.

To be sure, it requires a considerable amount of exercise to keep up with a large flock of turkeys when they have the whole surface of the broad earth to range over, for mine pay no more attention to fences, whether they are of rail, plank or barbed wire, than if they were not there.

But, then, it is healthful exercise; it takes us out of doors into the wholesome fresh air, and sends us back to the house with glowing cheeks and a hearty appetite. Country girls stay indoors entirely too much, poring over novels, crochet and fancy needlework, and anything that will compel them to take regular exercise in the fresh air is a good thing. The aim of this article is to prove to them that turkeys can be raised without expensive preparation or excessive labor, and to encourage more of them to embark in the business, and to persevere until they make it a success.

The following is a short account of last year's experience, and may, perhaps, afford suggestions to a beginner. Our conveniences consisted of one square rail pen, with cracks barely small enough to keep the turkeys from slipping through, covered with a slanting roof of loose boards, and called by courtesy the "turkey-house;" four rough board coops, light enough to be easily moved every day to a clean spot on the grass, and made tight near the ground so as to prevent the little turkeys from running out in the dew, and well ventilated under the eaves so as to allow the air to circulate freely, and to permit the old hen to peep out and see what was going on in the world around her.

The stock consisted of ten pure bronze turkeys—nine hens and a handsome gobbler; the latter was only one year old, while the ages of the hens varied from one to six years. Early in March the hens began to lay, and were confined for several hours every day to their house where nests had been prepared for them. The first two hens which showed a disposition to set were given about 15 eggs a piece, and the rest of the eggs placed under two chicken hens. About the middle of May 43 little turkeys were hatched, and the number divided between the two turkey hens, leaving the two Plymouth Rocks who had sat so patiently for four weeks, bouyed up with the fond hope of hatching some remarkably fine chicks from the big speckled eggs they so carefully covered, to go about over the yard loudly clucking out their disappointment. The little turkeys were healthy and grew rapidly. I took good care of them, and only two of them died.

At first, each hen wanted every little one, and I would sometimes find one mother with forty, and the other with two. After several pitched battles the stronger one asserted her supremacy, after which they got on very harmoniously together, and seemed to take great pleasure in bringing up their family jointly. It is a good plan to put out two hens at once; they afford double protection to the young turkeys, as each is always on the lookout for hawks and other dangers, but at night care must be taken lest they all crowd into one coop, for the little fellows do not know or care which is their mother.

Some of my neighbors wanted eggs; so the next three sittings were sold to them at two dollars a sitting, a reduced price in consideration of their coming after them. Here is the good of keeping the stock pure—the eggs and birds can often be sold for breeding purposes, while those that remain are better for market than common fowls, because they have been bred for generations with a view to making them desirable.

The second batch came out early in June. Four hens had been allowed to sit, and together had hatched 53 little turkeys. They were given to two hens—ought to have been given to three, but I had only two coops, and the first lot was not old enough to begin roosting. This little flock was very healthy until ten days old, when I concluded it was all nonsense preparing their food so carefully, and gave them some that was not properly cooked, and the next thing I knew they were all sick with something like cholera. Two doses of laudanum were administered to them, one drop apiece at each dose, and for several days their food consisted of nearly all hard-boiled eggs. Water was also substituted for buttermilk. Two or three died, and all the rest were raised.

There were only 24 of the third lot; they were very thrifty, but seemed particularly liable to accidents. The hawks caught several, and one little fellow got his leg broken, but I put a plaster cast on it, and kept him in a box for a few days, after which he hopped about the kitchen door for a week, and finally got with his mother, who persisted in dragging him through the thickest orchard-grass on the place, but still he lived. His leg was slightly crooked when I cut the cast off, but in a short while no one could distinguish him from the others. Young turkeys have a great deal of vitality, and though tender and easily wounded, show wonderful powers of recuperation when in a healthy condition.

Three settings of late eggs were given away during the summer, for one old hen, that was so large she always broke her eggs—was never allowed to sit. She indemnified herself, however, by laying a great many eggs, five or six dozen at least, during the season.

We decided that there should be no late turkeys that year, but the two unoccupied hens made up their minds to the contrary and went off in the woods, made their nests, and together brought out twelve little turkeys the last of August. These were not a bit dismayed at finding themselves unwelcome, but lived, every one of them, and at Christmas weighed about twelve pounds.

I never saw such prolific hens; they have been laying this fall and furnished a good many eggs for Christmas cake. Seriously, I have been thinking of keeping bronze turkeys for the sake of their eggs. They are nearly twice as large as a chicken hen's eggs, and are rich and well flavored.

A turkey hen does not eat much more than a chicken, at least I do not give them much more, for they go all over the farm and forage for themselves, and when not allowed to go with little ones they lay almost as constantly as chickens. Nearly 275 eggs were produced in all, and besides this, each of the eight hens raised a flock of little turkeys. Altogether 190 young turkeys were raised, and I think the year's work may fairly be called a success.

Oakville, Ky. A FARMER'S DAUGHTER.

The Apiary.

Michigan State Association.

Meeting at Jackson in December.

President Geo. E. Hilton, in his address, said the discouraging season just past had led him to believe it unwise to have all the eggs in one basket. He believed mixed farming safer for the majority than are specialties. He could not advise the masses to make a specialty of bee-keeping. Poor seasons are not without their advantages; the past season has established paying prices, and forever downed the ghost, "manufactured honey." An encouraging word was spoken for the bee-keepers' union, and every member urged to join it.

PATENTS.—Chiefly through the efforts of Mr. A. I. Root of Ohio, there has been built up among bee-keepers a feeling of opposition to patents on agricultural implements. During the last three or four years there has been much discussion on the subject, and a reaction has set in, many who opposed patents now proclaiming in their favor. R. L. Taylor read a paper on this subject, in which he showed up the folly of attempting to give an inventor his due by a "moral" patent—it must be done legally. President Hilton said his views had undergone quite a change of late. Heretofore his circulars had said, "Nothing patented." In the future this would be left out. He believed in the protection of mental as well as of physical labor. H. D. Cutting thought it strange that bee-keepers should be prohibited, by public sentiment, from getting out patents.

TOP-BARS — HONEY-BOARDS. — Dr. N. S. Higbie said that wide top-bars lessened the building of brace combs, and honey-boards might be dispensed with. Mr. Fellows objected to wide top-bars. They are in the way when uncapping combs.

Jas. Heddon had used both wide and narrow top-bars. With narrow top-bars more brace combs are built under the honey-board, but not so many above. He still admired the lateral movement in combs, when frames are handled instead of hives. A wide top-bar reduces the lateral movement. He believed that three rows of holes in a wood-zinc honey-board sufficient. He had tried putting on three and four honey-boards with no difference in results. "Just think," said he, "how the bees, in the days of the box hive, used to pass up through an inch augur-hole and fill the caps. To see a bee wiggling up through a queen-excluder looks as though much time was so wasted, but it must not be forgotten that only a few tripe are made in a day, and that the time spent in passing through a queen-excluder practically amounts to nothing."

President Hilton thought what Mr. Heddon said about the bees getting through an inch augur-hole in the old box hives a good point. He (Hilton) had practiced putting sheets of zinc right down on the brood frames. This closes many of the openings, and the bees stop up many more, but he had never seen that it was objectionable.

A. D. D. Wood had put on honey-boards five and six high, and could see no difference in the results. He had also tried stopping up all the holes in a honey-board, except the two outside rows, and the results were the same. He was led to make this experiment by putting on sections in the night. One line had an oilcloth over the frames, and he did not see it. There was a crack at one side, through which the bees gained access to the super, and filled it just the same as they did the others.

EXTRACTED HONEY—PREVENTING SWARMING. —R. L. Taylor would use plenty of combs, so that the bees would have plenty of room to spread out their honey when ripening it. He would tier up, leaving the honey on as long as possible. Would use a queen excluder.

Jas. Heddon once thought that the great advantage in producing comb honey lay in the fact that most of the work was done in-doors. With his new hive the same advantages may be enjoyed in raising extracted honey. Tier up the cases as fast as the honey comes in, not waiting for the bees to seal it, as it will ripen all the faster when unsealed. When ripened, it may be taken off in the same manner as cases of comb honey are removed, and carried to a house, the windows of which are arranged to allow the escape of the bees. All this is done without exposing any combs to the robbers. To extract, simply invert a case, loosen the screws, slip off the case, and then stand the combs ready to extract.

A. D. D. Wood preventing swarming when raising extracted honey by placing the queen and one frame of brood in a lower story, with a queen-excluding honey-board between the upper and lower stories. The bees build comb in the lower story and do not swarm. W. Z. H.

New Advertisements.

A. L.	*Situation Wanted.*
Arthur, S. B.	*Grade Jerseys*
Bee H.	*Situation Wanted.*
B. C	*Help Wanted*
Brown & Bros., C. C.	*Plymouth Rocks, &c.*
Burr, L. W.	*Imported Mariner Hitch.*
Clark, Thos. S.	*Point Farm for Sale.*
Cloud, De	*Scotch Collie Pups.*
Damon, Chas. P.	*Farm for Trade.*
Dibble, Chas. E.	*Jersey Red Boar.*
Dayton, George	*Ply Rocks & Pekin Ducks.*
Deane, A. B.	*Jersey Bull Calf.*
Ely & Co.	*Seed Manual.*
Furst & Sons, Frank	*Seeds, Fruit Plants & Trees*
Gastrell, T. S.	*Bronze Soldiers, &c.*
Grace, P. H.	*The Great Injury Remedy.*
Gale, D.	*Guernsey Cow.*
Hoffman, E. L.	*Berkshires.*
Holdier, C. V.	*Percherons.*
Howard, J. Spence	*Bronze Soldiers.*
Jenkins & Todd	*Poultry Powder.*
Johnston, B. K.	*Holstein Bull*
Lawrard, S. V.	*Northern-Grown Seeds.*
Lyman, F.	*Herdsman Wanted.*
Moore Bros.	*Veterinary Medicine.*
Moseley & Pritchard Co.	*Occident Creamery.*
Nash, Duane H.	*Acme Harrow*
Pike's Nurseries	*Trees, Vine Grafts, &c.*
Parry, Wm.	*Premium Wanted.*
Peowell, Dr. E.	*Improved Wanted.*
Pearson, Geo. T.	*Plymouth Rock Cockerels.*
Reed, Geo. B.	*Holstein Bull*
Reid, E. W.	*Fruit Trees and Plants.*
Ralph, Wm.	*Pure-bred Horses & Jersey Bull.*
Salter, John A.	*Northern-Grown Seeds.*
Savage & Farnum	*Pure-bred Horses.*
Scott & Son, Robert	*Seeds and Plants*
Smith, John	*Sheepshears.*
Smith, I. C.	*English Mastiff Bitch.*
The Pancoe	*Valuable Reading.*
Thorburn & Co., J. M.	*High-Class Seeds.*
Wells, Richardson & Co.	*Butter Color*
Wolff & Randolph	*Acme Harrow*
World's Dispensary Ass'n	*Dr. Pierce's Pellets.*

Subscribers' Wants.

EUGENE HAM, Fishkill, N. Y. White Turkeys and White Dorkings.

Pamphlets, &c., Received.

HAMMOND, BENJ., *Fishkill-on-Hudson, N. Y.* Circulars of Ring-Rack for Insects, and Paints.

LAMB, G. B., *Smithton, Mo.* Circulars of California Gardens.

MOORE, J. L. & W. *Eagle St., Buffalo, N. Y.* Photographic Views of Van Buren Point, summer resort on Lake Erie.

MORRHOUSE & ANNIS, *Rochester, N. Y.* Circular of Japanese Buckwheat and other Seed Grain—see advertisement.

POUR MUTO, Co., 79 *Franklin St., Boston, Mass.* Columbia Cycle Calendar.

SEXTON, C. M., *Ipswich, Suffolk, Eng.* Illustrated Catalogue of 36 Shire Horses, property of Walter Gilbey, to be sold, Feb. 12

SMITH & ANTHONY Stove Co., *Boston, Mass.* Very Elegant Water-Color Calendar.

THURBER, F. B., *New-York.* Paper on "Combination and Competition."

Inquiries and Answers.

Buckthorn Lightning Rods.—The suggestion of J. G., p. 10, relative to the use of buckthorn fencing for lightning-rods, is a good one, and there is only one point on which some doubt exists. The quantity of steel in the buckthorn (of which we have a specimen at hand) is just the same as the amount in a wire one-eight of an inch in diameter. Dr. Kedzie has proved by very careful and accurate experiments, that when electricity is *passing through* a metal, it is not confined to the surface as formerly supposed, but occupies the whole of the interior of the rod. Hence, the buckthorn would carry off only as much as a wire an eight of an inch in diameter. In large discharges of lightning this would not be large enough; for we have seen iron rod broken and melted by unusual discharges of lightning when much larger than this. As the buckthorn rests on the roof, and does not point up several feet above the roof, there would probably be more chance for striking the building. Moderate discharges would undoubtedly be carried off without any harm. The buckthorn at the four corners of the house, would doubtless render it four times as safe as a single one; they would certainly be more safe than no rod; and would be insufficient only in cases of unusually heavy discharges from the clouds close above. They should enter the ground at least seven or eight feet, to find in all cases permanently moist earth; and if a pound or two of nails could be scattered around the foot of the rod eight feet under ground before the hole is filled, to aid in dissipating the discharge in all directions, they could do no harm.

Lawns.—We have an eighth of an acre of land separating our dwelling house from the highway, and we desire to cover it with a velvety turf as early next season as possible. The centre of the tract has been filled 18 inches with loam, and the two ends are covered with rough sod. Will you please advise us how to prepare the soil, precisely when to sow the seed, and what mixture of grass to sow? *J. J. L., Gaily, N. Y.* [To secure a good even lawn which will remain green in seasons of severe drouth, a deep and rich soil must be prepared. Most land requires underdraining and reducing to a fine mellow condition, to a depth of a foot and a half if practicable. If all this work can be done early in spring, as soon as the frost disappears and the soil is dry enough, the grass seed may be sown at once; otherwise it would be better to prepare the ground well and wait till autumn. If the spring is moist, it will do to sow later than in a dry season. It is very important to have the soil equally well prepared over the whole surface to give a uniformly green growth, and to prevent dry and brown patches. On large grounds this is done by subsoiling and harrowing with horse labor; on an eighth of an acre it must be done by hand. To make it sufficiently rich, finely broken manure must be worked in through the soil; this will aid in giving a green lawn in times of drouth. The application of pulverized lime, at the rate of a peck to a square rod, will be useful if well harrowed or raked in. The grass seed should be sown on a finely pulverized smooth mellow surface, and brushed or rolled in, so as not to bury the seed over half an inch, and warm and moist weather will soon give the new green carpet. The best grass is Kentucky blue-grass or June grass, which is fine and continues green a long time, and will grow in the shade of trees. Red-top and white clover may be added. Sow at least five or six times as much as farmers give to their grass lands. It should not be mowed closely the first year, or

Fig. 1.

before well established. A more speedy way of securing a lawn, where the surface is limited, is by turfing. The work however must be well done, or it will be rough and lumpy, like fig. 1, which represents a section of a badly laid turf. If properly performed it will be smooth and even, as shown in fig. 2. To secure this smooth

Fig. 2.

note, the turf must be cut from a compact pasture, in squares, with accurate sides, and made uniformly thick before laying, by inverting up side down on a board, and shaving with a sharp

Fig. 3.

hoe, as shown in fig. 3. Lay these accurately on the well-prepared deep soil already described, early in spring.]

Gypsum.—You say, page 964, that instead of its virtues being due to its absorptive properties, it "operates in another way, and directly as plant food." Please explain what element there is in gypsum that is assimilated by plants, entitling it to be called a direct plant food. M. L. W. *Great Barrington, Mass.* [By examining tables of analyses, nearly all vegetable substances will be found to contain sulphuric acid and lime, the constituents of gypsum; but scientists do not agree as to the mode by which the plants receive it.]

Salt—Celery—Strawberries.—Is salt of any value in the production of cabbage, onions and celery? If so, in what way, and how best applied to get the best results? (1) What variety of strawberry will give the best results, grown on sandy land under a good state of cultivation? (2) What variety of dwarf celery is largely grown by Albany and New-York market gardeners for fall and winter use? (3) How do they bleach and store it for winter? (4) What is the cause of celery growing soft and hollow? (5) C. B. D. *Seneca Co., N. Y.* [1. Usually, salt has but little effect on growing crops, but occasionally valuable results are reported; but without weighing or measuring the returns, it is uncertain to what degree the benefit has been produced, or whether the improvements are not to be ascribed to other causes. Cultivators have not been sufficiently satisfied of its decided benefit to adopt its use generally in practice. The experiment may be made with it by applying it broadcast just before the last harrowing, at the rate of five or six bushels per acre, or a quart or two to the square rod. Or, sown on the surface the rains will wash it in. 2. This question is indefinite, in that it does not state whether the strawberries are for market or home use; the most generally popular are Crescent, Charles Downing, Mount Vernon, Cumberland, Miner and others, some of which succeed in one locality, and some in others. 4. The mode for blanching celery in winter is fully described with figures in RURAL AFFAIRS, vol. vii, p. 329. 3 and 5. Will some of our city market gardeners please give the latest information on these points, derived from their ample experience?]

Fox Terriers.—What are the merits of fox terriers, or for what purpose are they valued? (1) Are they used at all for hunting? (2) H. *Henderson, N. C.* [1. Sagacity and pluck. 2. We believe they do good service with ground game.]

Warm Water for Cattle.—I have been much interested in reading of the benefit of warm water for cattle, having seen the need of it in my own stock for several years past. I keep on the average twenty head, and water from well under shed, about 25 feet from tie-up door; pump water in half-hogshead tub. Barn is warm. Manure never freezes when the mercury is at the lowest. I have noticed the cows tremble after drinking the water, and sometimes it is so cold they will not drink. (1) I wish to know the best and cheapest combined method of warming water for my stock. (2) J. M. G. *East Lebanon, Maine.* [1. Owners must be guided by circumstances. The reports of experiments which have been lately given to the public, are contradictory, some being favorable and others adverse to the practice, because the conditions vary. A defect in all, or nearly all the reports, is in not giving the temperature by the thermometer of the heated water. Cattle which are much exposed and suffer from the cold, would be chilled if compelled to drink freely of ice-cold water standing where it freezes on the surface. They would evidently be benefited if several degrees of the coldness could be taken from the water, but precisely how much warmer the water should be, none of the experiments have yet determined. If, on the contrary, the cattle have warm stables and never suffer from cold, water made too warm would be unpleasant to them, in the same way that cooling draughts are more pleasant in warm weather to human beings than water warmed in the sunshine. 2. The best mode of warming may vary with circumstances. In a deep well, in an underground cistern, or several feet underground from a spring, would reduce its chilliness; and a steam-pipe from a boiler into a hogshead or large tank would have more control of the heat.]

Japan Buckwheat, p. 960.—We had 32 acres of this variety grown on contract the past season for seed, and our experience is identical with that of Prof. Cook, on page 947—*i. e.*, it excels in every respect. As a cropper it is wonderful, while for flouring purposes our millers in the city pronounce it incomparable. We believe, from the very reasonable price of this variety, it would pay to sow it rather than the common at half the cost.

Monroe County, N. Y. MORRHOUSE & ANNIS.

——I raised Japanese buckwheat the past season. It yielded about 27 or 28 bushels per acre, with no extra chance. It makes extra good flour, and flours about 30 pounds to the bushel. ISAAC M. LANGWORTHY.

Allegany County, N. Y.

Cabbages and Turnips.—In reply to Mr. Talcott's inquiry (p. 982), I will say that the turnips were Sweet German and a yellow variety, whose name I cannot now give. They are both table varieties, and are excellent, some of the largest filling a peck measure. The cabbages were the Winningstadt and D. M. Parry's Flat Dutch. A. C. B. *Meridan, N. Y.*

Angouleme Pear.—In notice of Angouleme pear, page 8, the type-setter has made us say that it is "properly called the Duchess," reason being immediately given why it is thus improperly named, in the four other varieties having the same name. It should be "*popularly* called Duchess."

Pennsylvania.—The 30th Annual Meeting of the State Horticultural Association will be held at Lewistown, Jan. 16-17. CALVIN COOPER, Bird-in-Hand, president; E. B. Engle, Waynesboro, secretary.

Acknowledgments.

Communications for publication have been received during the week ending Jan. 7, from Anne Heinrichs—E. T. C.—Wm. H. Bonser—Russell Hastings—F. P. Stout—S. D. Gilbert—Isaac M. Langworthy—Stephen Beale—G. D. W.—W. W. S.—Prof. A. J. Cook [2]—G. L. & A. C. Davis—J. Hannam Clark—T. S. Manley—Joseph Wallace—Chas. L. Hill—Dr. G. A. Stockwell—W. H. Walker—John Ackerman—J. S. F.—C. D. Sickler—C. R. M.—J. H. M.—G. F. Merritt—B. L. H.—Theo. Mayer—C. T. Leonard—Wm. Horne—Mrs. Alice Chittenden—Miss Hortense Dudley—Mrs. D. H. R. Goodale [2]—Wm. H. Bonser—D. S. B.—W. E. Hutchinson—A. C. S.—H. S. Babcock—T. W. Fenner—Prof. E. W. Stewart—D. A. Pierpont—G. W. Farlee—John E. Chapman—John M. Merritt—E. B. Hageman—Lily Lee—T. B. Terry—E. Reynolds—E. R. T.—H. N. Beardsley—Cornelius Andrews—Prof. E. W. Stewart—Henry S. Alvord—George Jackson—John Gould—Prof. W. R. Lazenby—Geo. E. Barney—A. Jeffers—S. B. Lord & Son—F. K. Phœnix—David Dexterly.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Jan. 10, 1889.

Meetings at Albany.—The State Agricultural Society holds its annual meeting at this city, Jan. 15 at noon, to be followed by an institute beginning at 7.30 P. M. same day and continuing till noon of the 19th. The programme includes, for the first evening, addresses by Senator Warner Miller and Chancellor Pierson, and on subsequent days the following papers: "Potato Rot," State Entomologist Peck; "Swine," Edw. Burnett; "Farmers' Gardens," Dr. F. M. Hexamer; "Butter," H. P. Hopkins; "Agricultural Tendencies in England," President Adams, Cornell; "Insect Enemies," State Entomologist Lintner; "Bee-Keeping," Prof. Cook; "Lung Plague," Prof. Law; "Ferments," Dr. Y. G. Caldwell; "Small Fruits," J. H. Hale; "Digestion in the Cow," Dr. R. D. Clark; "Scientific Agriculture," Dr. Peter Collier; "Seed," Prof. L. H. Bailey; "Honey as a Food," A. E. Woodward; "New-York Dairying," Commissioner Brown; "Dairying for the Times," John Gould.

One of the best hotels in the city, Stanwix Hall, having made special rates, will be headquarters.

The Eastern New-York Bee-Keepers' Association will hold its annual meeting at Albany during the institute.

Entomology.—Bulletins No. 5 and 6 of the New-York State Museum of Natural History are from the pen of our accomplished State Entomologist, Dr. J. A. LINTNER, and are devoted, respectively to "The White Grub of the May Beetle," and to "Cut-worms." Each is a pamphlet of over 30 pages, with many illustrations; and each constitutes a valuable contribution to our entomological literature.

Vermont Dairying.—The Programme and Premium List for the 19th Annual Meeting of the Vermont Dairymen's Association, at Burlington, Jan. 15-18, is issued in the form of a handsomely printed pamphlet; and the announcements of papers justify the expectation of an unusually interesting session. Mr. E. L. Bass of West Randolph is secretary.

Indiana.—The following conventions are to be held at Indianapolis on the dates named—we add the secretary's address in each case:

Cane Growers, Jan. 15-16; W. F. Crist, Danville.

Bee-Keepers, Jan. 16; Geo. C. Thompson, Southport.

Jersey Breeders, Jan. 23; W. C. Smock, Indianapolis.

Wool-Growers, Jan. 23; J. W. Robe, Greencastle.

Trotting and Pacing Horse Breeders, Jan. 23; J. S. Darnell, Lebanon.

Short-Horn Breeders, Jan. 24; Walter J. Quick, Columbus.

Swine-Breeders, Jan. 25; Dr. C. A. Robinson.

Poultry Breeders (exhibition), Feb. 5-9; Major Griffin, Maxy.

Florists, Feb. 22-23; Wm. G. Bertermann, Indianapolis.

New-Jersey.—We are indebted to the State Geologist, Prof. GEORGE H. COOK of New-Brunswick, for the first volume of his final report, containing an account of the geodesy, topography, magnetism and climate of New-Jersey. The book is an octavo of 440

pages, with two large folding maps, very elaborately and beautifully executed, and constitutes undoubtedly a valuable contribution to knowledge. The learned professor has been engaged on this great work now for nearly a quarter of a century, during which time its progress has been watched with much interest—and frequent well-deserved encomiums in—scientific circles.

Connecticut.—The Second Annual Convention of the Connecticut Fruit-Growers and Cider-Makers' Association will be held in the capitol at Hartford, Jan. 15 and 16. All fruit-growers and cider and cider vinegar makers are invited to join. Its objects are the advancement of Fruit Culture and the encouragement and advancement of articles manufactured from the expressed juice of the apple, and the personal acquaintance of the trade. As the legislature will be petitioned to make a state standard under which vinegar is to be sold, those attending the convention are requested to bring samples of cider vinegar, and it will be tested by the soda scale, potash scale and New York State standard of 4½ per cent. acetic acid. GEO. F. CHAPIN, President, Thompsonville; Frank T. Palmer, Secretary, Mianus; H. V. Tucker, Treasurer, Middletown.

Agricultural Exports.—The New-York Journal of Commerce gives the following table of exports of agricultural products from that port for the past three years:

	1886.	1887.	1888.
Beeswax, lbs.	39,899	34,495	35,561
Breadstuffs—			
Wheat flour, bbls.	4,393,939	5,622,220	4,888,936
Rye flour, bbls	2,411	2,6 0	2,3 4
Corn meal, bbls	128,548	115,502	126,301
Wheat, bush	31,279,470	40,498,110	22,895,139
Rye, bush	215,262	297,210	7 000
Oats, bush	710,376	851,617	226,648
Barley, bush	140,362	884,211	6,827
Peas, bush	265,941	195,448	104,721
Corn, bush	32,797,115	21,446,721	13,664,905
Cotton, bales	946,969	892,335	946,301
Hay, bales	26,163	18,783	125,695
Hops, bales	17,587	27,960	43,469
Oils—Lard, galls	716,738	573,393	663,720
Linseed, galls	54,257	72,857	62,884
Provisions—			
Pork, bbls	101,457	101,259	103,697
Beef, bbls	62,349	73,749	74,625
Beef, tcs	41,156	37,703	37,911
Cut meats, lbs	253,179,263	234,335,761	181,940,313
Butter, lbs	12,300,241	10,515,123	7,206,040
Cheese, lbs	17,287,884	22,543,355	14,672,154
Lard, lbs	204,483,260	201,307,347	171,260,376
Rice, tcs	—	—	4
Rice, bbls	16,447	16,731	19,846
Tallow, lbs	35,373,471	49,653,397	39,940,725
Tobacco—			
Crude, pkgs	126,702	142,222	155,116
Mfd., lbs	3,938,371	3,407,362	10,039,314

A Good Farm for Sale.—We receive a circular of Vernon Stock Farm, which has for a number of weeks been offered for sale in our advertising columns by Mr. S. G. FOSTER, Vernon, Oneida Co., N. Y. The advertisement is now withdrawn, but the place is still on the market, at $65 per acre on easy terms. We should think it rather an unusual opportunity.

Exported Wheat.—The following table of average export price of wheat sent from this country for the last seventy years (which we take from advanced proofs of a valuable report by Statistician DODGE of the Agricultural Department) seems worth preserving here for ready reference:

Year.	Price.	Year.	Price.	Year.	Price.
1820	$1.09	1842	$1.120	1866	$1.902
1821	1.28	1843	.950	1867	1.437
1822	.75	1844	.910	1868	1.373
1823	.84	1845	.860	1869	1.490
1824	.76	1846	1.040	1870	.409
1825	1.02	1847	1.370	1871	1.209
1826	1.03	1848	1.130	1872	1.318
1827	.93	1849	1.140	1873	1.473
1828	.86	1850	1.090	1874	1.313
1829	.87	1851	1.020	1875	1.429
1830	.94	1852	1.150	1876	1.184
1831	1.10	1853	1.120	1877	1.242
1832	1.08	1854	1.180	1878	1.169
1833	1.20	1855	1.060	1879	1.326
1834	1.05	1856	1.020	1880	1.096
1835	.92	1857	1.150	1881	1.243
1836	1.07	1858	1.090	1882	1.153
1837	1.25	1859	.960	1883	1.135
1838	1.00	1860	.981	1884	1.127
1839	1.57	1861	1.300	1885	1.096
1840	1.20	1862	1.710	1886	.942
1841	1.10	1863	1.510	1887	.870
1842	.95	1864	1.377	1888	.890
1843	.95				

Pulverizing Manure.—The N. E. Homestead publishes a letter from a correspondent, describing what is termed "an effective machine" for grinding down the lumps of barn manure after spreading in autumn on grass land. It consists of a two-inch plank a foot wide and eight feet long, in which are inserted wooden teeth three inches long and an inch and a half in diameter. A tongue with whiffletrees is fastened to the top, for a pair of horses, and it becomes simply a cheap wooden harrow. It is used in late autumn and in early spring, and proves useful in pulverizing cattle droppings.

Although defective in some respects, it is worthy of commendation, as every tool is that pulverizes spread manure. A backward slant to the teeth, like the teeth of the smoothing harrow, would more effectively grind the lumps of manure down and more completely pulverize them. A larger number of smaller steel teeth would be still more effective and more durable. This was partly the form of the first smoothing harrow made. As the patent of that harrow has long since expired, any cheaper forms may be adopted that farmers may find convenient for home construction. Large cut spikes or railroad spikes may be driven through inch-and-a half plank, so that the projecting points will slant backwards. Those who have never used such a harrow to pulverize manure scattered on grass land will be surprised at its efficiency and perfect work. The more numerous the teeth the more thorough will be their work; they will not clog, the rubbish sliding off behind from their slanting position if at an angle with the plank of about forty degrees. Such a harrow may be used on plowed land as well as on grass, and will break up and mix the manure with the mellow earth, and thus greatly increase its efficiency.

There are other modes of pulverizing manure and grinding it into mellow soil. The different drag harrows scraping over the surface are of this class. Dragging a small log with rounded ends, along a plowed furrow in which manure has been thrown, performs the work perfectly, and greatly increases the action of the manure on drilled crops. Drags made of three or four slabs of slanting plank, so as to take several feet in breadth, answer the same purpose broadcast. If three or four pieces of rounded slabs are used, with the rounded face downwards, they may be connected at the tops of the ends by means of chains, placing them a foot apart, and this drag will then fit uneven ground.

Some of the papers have given an account of using the heavy iron rail of a railroad, dragged sidewise obliquely, with three horses attached to each end, thus scraping with it over the surface. It operated on this same principle of the drag, and being very heavy thus required six horses.

For pulverizing and spreading manure rapidly and perfectly, when the extent of the farm will warrant its purchase, there is nothing equal to Kemp's Manure Spreader.

Reaching the Dairymen.—The Moseley & Stoddard Mfg. Co., Poultney, Vt.,—whose advertisement of that excellent specialty, "parchment butter paper," has now been standing continuously for nearly a year, and who began last week the insertion of a card of their creamery and other dairy goods on the first page—write us: "The money we have expended in advertising in your paper gives us the best returns for the money invested, and inquiries received from such ads. come from a very high class of readers. Later on will send you an ad. for the churn and some other things that we wish to make a specialty of this season."

Clipped from Letters.—The COUNTRY GENTLEMAN is the best paper of its kind I have ever taken. A. H. SEXTON. *Cobleskill, N. Y.*

—It is the best of the four agricultural papers I take. Best wishes for your success! HENRY LEAMING, JR. *Romney, Ind.*

—I consider the COUNTRY GENTLEMAN the very best paper of its kind I have ever read, and although I have only taken it a year, I cannot see how any farmer or stock-breeder can do without it. W. M. SAYER. *South Orange, N. J.*

Farm-Yard Notes and Items.

Aberdeen-Angus two-year-olds have come to the front remarkably at Fat Stock shows this season, capturing the grand sweepstakes award both at Chicago and at Birmingham. We give herewith a portrait of the winner on the latter occasion—a heifer named Waterside Elena 11,934. She was bred by George Wilken, Waterside of Forbes, Aberdeenshire, Scotland; got by Waterside Sir 2408, out of Elena 6th 9275. The London Live Stock Journal (from whose illustration our cut is copied) speaks of the heifer thus: "She is just wide enough in her hooks, and might be better covered on her loins and truer in her low line, but she is a very stylish-looking heifer, with capital head and neck, is beautifully boned below the knee, has magnificent back ribs, and is very thick through her quarters; taken all over, a rare good one."

ABERDEEN-ANGUS HEIFER, CHAMPION, AT BIRMINGHAM FAT-STOCK SHOW.

The Western New-York Jersey Breeders' Association, organized last November, issues a pamphlet containing its constitution and by-laws, with the scale of points. The association covers the counties of Cayuga, Onondaga, Cortland, Tioga, and all west of this range. R. A. Bibley is president, L. D. Ely, secretary, George E. Peet, treasurer—all of Rochester.

The annual meeting of the Ohio Poland-China Record Company, at Dayton, Jan. 16, is to be preceded by a "swine-breeders' institute," 15th, at which papers will be presented by J. M. Allen, "Diseases," S. H. Todd, "Care of Breeding Stock," and J. L. Van Doren, "Feeding."

The American Shropshire Registry Association have just printed their rules of entry for 1889, together with list of members. S. H. TODD, Wakeman, O., is president; Mortimer Levering, La Fayette, Ind., secretary treasurer.

Mr. W. D. REMSON, Markham, Ont., writes us that his six-line advertisement of a Jersey bull, p. 987, brought him immediate inquiries from six different states, with probability of an early sale.

Mr. GEORGE N. BISSELL'S magnificent imported Hereford cow Daisy 17716—which was greatly admired by the public at the State fair last fall, though considered by some persons rather fat for a breeding animal—proves to have been well advanced in pregnancy at the time, as she has just dropped a fine calf to the cover of Hampton Wilton. This makes the fourth calf at four separate births, and the cow is not yet six years old.

Mr. C. C. PHELPS, Vernon, N. Y., writes that his three-line advertisement on page 941 brought immediately a letter with money for the ten S. C. hens, and they started by express for the South within less than a week from date of paper. "Last fall one insertion brought about twenty letters."

The Central Poland-China Swine Record Association met at Indianapolis, Jan. 1. President Faust delivered an address in which he said:

"The past year has been prosperous for Indiana swine breeders. There has been little complaint of cholera—indeed we have learned to guard against the introduction of this disease, and to handle and treat it more effectually. We owe much of this success to the investigations of a few enthusiastic men, and we hope that ere long they will determine the exact nature of the disease and the positive remedy. The prices realized for pork ensures good sales of blooded stock at remunerative prices. This association claims to be the only one that publishes the real pedigree of the animal placed on record—there is no need to search through several volumes to make out the pedigree; each record is complete pedigree in itself. I believe it would be advisable for the secretaries of the different Poland-China associations to fix on some uniform rule of eligibility to record. It has been suggested that there should be some standard of excellence in the animal to be recorded to make it eligible."

The officers for the ensuing year are: President, ADAM FAUST, Buckeye; vice-presidents, A. S. Gilmore, T. H. Minta, S. S. Merrifield and R. Alexander; secretary and treasurer, W. H. Morris, Indianapolis. *J. J. W. B.*

The following proclamation has been issued by the governor of Pennsylvania:

Whereas, By the provisions of the "Act to prevent the spread of contagious pleuro-pneumonia among cattle in this State," approved May 1, 1879, it is made the duty of the governor to take measures to promptly suppress contagious pleuro-pneumonia, whenever it shall be brought to his notice that the said disease exists among neat cattle in this State; and

Whereas, Such disease among neat cattle in the district hereinafter mentioned was alleged to exist, and I thereupon, in cooperation with the government of the United States, and of New-York, Maryland and New-Jersey, and for the purpose of instituting measures for the investigation, suppression and extirpation of said alleged disease among neat cattle within the district hereinafter mentioned, did, by proclamation, March 31, 1888, declare certain regulations to be in force in that part of the commonwealth within the limits of a curved line having a radius of eight miles around the new City Hall of Philadelphia, extending from a point on the Delaware river northerly from the said City Hall to a point on the Delaware river southerly from said City Hall; and

Whereas, I have become satisfied that the said regulations, and the action pursuant thereto by the proper authorities, have been effectual, and that there is no occasion for continuing them in force.

Now, *therefore*, I declare that the regulations in force, pursuant to the above recited proclamation are hereby annulled.

Mr. T. R. PROCTOR, Utica, writes to the COUNTRY GENTLEMAN, Dec. 29:

A few weeks ago I advertised some young bulls and 20 Jersey females. Since issuing the catalogue describing these females, I have made several sales, which I take pleasure in reporting to you.

To Mr. F. W. Ayer of Philadelphia, for his farm at Delhi, N. Y., the yearling bull Dolores Bunker 21512, by Bunker, out of Proctor's Dolores 38564. She also was sold with her son. She won first premium as a yearling and two-year-old in 1886 and 1887 at New-York State Fair. Mr. Ayer also purchased Khedive's Princess 38568, a Bunker heifer, out of Princess of Trinity 23041, imported, and another out of Bonnet of Blue 17922, imported. These three females were all served by John Bull's Stoke Pogis.

Dr. T. S. Armstrong bought for the farm at the Asylum for Chronic Insane at Binghamton, N. Y., the yearling bull Bunker's Alexis 21511, out of Proctor's Alphea 25690, by Bunker. He also bought some Berkshires for the asylum farm.

To Mr. S. W. Smith of Paris, N. Y., a yearling bull by Bunker, out of imported Trust 23643.

To Mr. E. J. Angle of Towanda, Penn., a fine bull calf by John Bull's Stoke Pogis, out of Proctor's Belle 47106.

I have recently shipped a number of Berkshires to Florida, California, Bermuda and Cuba, the sales being made through your columns. I expect to be able to report further sales from my special list of January.

Messrs. G. L. & A. C. DAVIS, Port Jefferson, N. Y., write to the COUNTRY GENTLEMAN, Jan. 1:

"We send milk and butter record of our Jersey herd for 1888. We averaged 10 cows in milk; made and sold 2,261 lbs. of butter, 1 509 qts. of milk and 627 qts. of cream, for which we received $870.26. Allowing 5 qts. cream to make 2 lbs. butter, and 6 qts. milk to make 1 lb., would give us 2,827 lbs. butter, or a trifle over 282 lbs. for each cow. Butter was sold at 30c. per lb., cream at 18c. per qt., milk at 6c., making an average of $87 for each cow. While this is not as large a record as some other herds, when we consider all the circumstances we think it good. Our best milk and butter cow (made 18 lbs. 8 oz. butter in 7 days for us, and 17 lbs. 6 oz. a week for over six months on 10 lbs. grain a day) was in milk for over 13 months before beginning of year, and was bred and produced a calf before the year was out. Another (who tested for us 16 lbs. 6 oz. in 7 days) lost one-quarter of udder the year previous. Consequently we did not get nearly the capacity of these cows, but have made no allowance, or for seven others, but the 10th cow was made up of one young heifer who came in with calf the latter part of March, and two others who were nearly dry and not bred at beginning of year, and milked but for a very short time. We think this is giving the herd credit for much less than their capacity, and with a fair chance and higher feed could easily have made an average of over 300 lbs. In June and July we fed no grain, and very light feed during rest of year, but cattle had good stables and care."

The Grazier and Breeder.

Feeding Steers—Early Maturity.

EDS. COUNTRY GENTLEMAN—Please give me a ration once more for cattle weighing 1,100, with cottonseed at $26; bran (which is or includes all the offal in making flour), $15; corn meal, $16. How much less would you give cattle weighing 900? Both lots are stall fed, with water running before their troughs, and are fed as much ensilage as they will eat in the morning and at night. The ensilage is cut just as the corn becomes too hard for roasting ears, and at least half of it has good ears of corn on it. R. H. D. *Waltbourne, Va.*

Mr. D. should have stated the condition of his steers when put up to feed; if the steers are quite lean, the ration may have a lower nutritive ratio than if they were in good condition, that is, more corn meal may be used. The ration for his 1,100 lb. steers will not differ very widely from the one recommended last year. If we suppose his steers to eat 50 lbs. of ensilage per day, then the ration may be compounded as in the following analyzed formula:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
50 lbs. ensilage	0.60	6.00	0.35
4 lbs. wheat bran	0.47	1.84	0.10
8 lbs. corn meal	0.67	5.04	0.36
4 lbs. desert. cotton'd meal	1.40	0.88	0.34
Total	3.14	13.76	0.35

This has a nutritive ratio of 1 to 5. It is supposed that the bran, corn meal, cottonseed meal are mixed together dry, and then mixed thoroughly with the ensilage. If the steers will not eat that amount of ensilage then mix it with as much ensilage as they will eat. In a good warm stable, such as Mr. D. mentions, this should produce an average gain of at least 2¼ lbs. per day. If we suppose these steers to be purchased at 3c. per lb., live weight, and to be fed 120 days, and then sell at 5c. per lb., having gained 270 lbs., they would bring $68 50 per head, which would give $35 50 for feeding them. This would leave about $11.50 over the cost of feed, which, taken in connection with the manure produced, would be a fair profit.

This combination of food would be well adapted to feeding the lighter steers, because the bran and cottonseed meal contain an abundance of material to grow the muscles and the bones, and to develop a rangy frame. They would eat about 20 per cent. less, but the judgment of the feeder must be relied on to give the proper quantity to each steer.

Mr. D. will find it more profitable to sell his youngest steers shortly after he sells his oldest, as the cost of keeping them over two winters will be too great to allow any possible margin of profit, unless the sale price is much higher than at present. The real cost of a three year-old steer is always higher than he sells for, except where feed is much cheaper than in D.'s location. He may buy steers at a lower price than he can raise them, and by feeding a few months so increase their value as to pay a fair profit. But he cannot afford to feed any steers he raises beyond 20 to 24 months, and these must be so good as to weigh 1,200 to 1,300, and bring from 5 to 6 cents live weight. Early maturity is the only road to profit, except on the range where feed is not counted. R. W. S.

Sheep-and-Goat Hybrids.

EDS. COUNTRY GENTLEMAN—In a treatise on sheep by Ambrose Blacklock I read that "sheep and goats produce mongrels capable of reproduction, a consideration sufficient of itself to prove that the sheep and goat can never be made to form the types of separate genera." If this is so, why not cross the angora with sheep instead of goats? Interesting experiments are being made by crossing the buffalo with our cattle. Some of the readers of your paper would like to know what can be done with the sheep and goat. T. B. B. *Newport, N. I.*

The quotation from Blacklock belongs to that class of statements which may be said to be both true and false,—true, as to particular instances, and false on general principles. The same might be said of the produce of the ass and the horse. There have been many instances of mules producing young, and yet every one knows that "mules do not breed." The male mule is usually castrated, for, while he probably would not beget young, he is often very troublesome. Hybrids between the goat and sheep are known to have occurred, but they are very rare. The opportunities for their production are very frequent, for goats and sheep run together in many parts of the world, and in section of this country it is quite common to keep a he-goat with a flock of ewes for the purpose of driving off dogs, as he prefers to show fight rather than run away. But who ever heard of any "goat-lambs" resulting from this?

I can find no record of any goat and sheep hybrid ever having produced young. Nature designs to keep her species distinct, and enforces her law by making hybrids barren. Where they have the power of fecundation the female very rarely reaches the full term of pregnancy, and seldom brings forth living offspring. Abortion is the rule in such cases. Indeed, in the first cross this is quite common, and the losses by abortion make a serious drawback to mule breeding. But nature begins her protest even earlier than this, and institutes a strong repugnance between the sexes of different species. Sexual intercourse is rarely voluntary. It is found necessary to blindfold the mare before she will submit to service by the ass.

Sheep and goats belong to the extensive family of *Bovidæ* which includes oxen and antelopes, as well as sheep and goats. It is by no means easy to define the differences between these various species. Sheep constitute the genus *ovis*, and goats that of *capra*. They are truly distinct. The *capræ* are divided into goats proper and the ibex. These interbreed but their produce are seldom fertile.

Of all varieties of goats the angora approaches nearest in its nature, form and habits to the sheep, even the voice having a strong resemblance. But there is no ground for supposing that this resemblance in any way removes the barrier which nature has built between the *ovis* and the *capra*.

The crossing of the buffalo with domesticated cattle is not analagous to the sheep and goat, as they belong to the same genus. *L. W.*

Jerseys—Young Stock—Horses.

EDS. COUNTRY GENTLEMAN—Please give ration for a small herd of registered Jerseys (1), and the proportionate amount for young stock (2); also for driving horses. Hay is the finer varieties of grass grown on a hill; value about $15 per ton. Grains are corn meal, 55c. per bu.; cottonseed meal, $38 per ton; linseed meal, $30; bran, $20; ground oats, 47c. per bu. of 32 lbs. I can obtain any other grains at market rates. Have no conveniences for steaming food, but can cut the hay. H. F. H. *Boston Mass.*

1. H. F. H. should have stated how his Jerseys have been fed heretofore, so that I might understand the situation, and make a ration, if such were to be done, that would improve them. As it is, he does not inform me how long they have been in milk, or whether they are yielding milk.

It must be presumed that they are in milk, and then the ration may be as follows: 14 lbs. fine upland hay, 4 lbs. corn meal, 6 lbs. wheat bran, 1 lb. cottonseed meal, and 1 lb. linseed meal.

The hay must be run through a cutter and moistened. The corn meal, bran, linseed and cottonseed meal must be well mixed together, dry, and then carefully sifted on and mixed with the cut and moistened hay.

This is a day's ration, and may be given in two feeds—one-half in the morning and one-half at night; or in three feeds, smallest at noon. But the feeder must have judgment to make the proper division among the cows, according to their individual needs.

2. This same combination will do for the young heifers after 6 or 8 months old. It is not meant that they will be given the same amount, but each fed so much as it requires of this combination of food.

If the heifer is from six to eight months old, she will not require more than one third as much as the milch cows.

3. The ration for his driving horses may be as follows: 12 lbs. of cut hay, 3 lbs. corn meal, 4 lbs. wheat bran, 6 lbs. ground oats, 1 lb. linseed meal.

This hay must be only slightly moistened. Great care must be taken that it is not made more wet than is required to make the ground feed adhere to it.

The ground feed must be mixed together dry, and then carefully mixed with the moistened cut hay. This is a day's ration for a horse, and may be given in three feeds, smallest at noon.

It is a matter of great importance not to make the feed of horses too wet, for when too wet, the horse will not sufficiently masticate his food—will eat and swallow it too fast. This causes indigestion. It would be better if it could be fed dry, so as to cause a copious flow of saliva. But it can be moistened slightly and yet have the meal adhere to it, and all be well masticated and give the full benefit of the saliva. This should be a success with horses regularly and moderately driven. It will keep their digestive organs in good condition, and give them a sleek coat. If the work of the horses is very severe, then increase the proportion of bran and crushed oats—each 1 or 1½ lbs. This will be sufficient. R. W. S.

Fattening Steers.

EDS. COUNTRY GENTLEMAN—I have steers of 1200 lbs. fattening for spring market. Feed supply—corn fodder, ground corn and bran. Corn fodder was cut after corn was glazed, and left standing in shocks until corn was husked and cribbed; then stacked, and cut as needed, in half-inch lengths, and butts sliced with Dick's feed-cutter. Feed to be mixed and moistened with cold water. Cold water for cattle to drink, supply drawn from reservoir filled with windmill. What amount of each kind of feed can be used to advantage? Would you advise twice or three times feeding a day? This is the ration that a large majority of the cattle in Lancaster county are fattened with; it is, however, mostly fed dry, and fodder not cut. Let me say, the objection to making the feed wet, is from the fact that cattle do not eat up the stubs cut with most feed-cutters, and then all meal that adheres to the stubs is thrown out when troughs are cleaned. S. M. H. *Lampster, Pa.*

Cattle may be fattened well upon the foods given, but H. would have assisted in determining the proportion of the foods if he had given the condition of the steers when put up to feed. Lean steers may properly be fed a ration containing a larger proportion of carbohydrates. It is desirable to break up the tough rind of the butt of the cornstalk. H. is supposed to feed in a warm stable, in which case the fodder may be cut and well moistened, and then the corn meal and bran should be well mixed in, and the whole left in mass for 12 or more hours to warm up and perhaps slightly ferment. This will assist in softening the fibre of the cornstalk, and render it more digestible.

For steers of 1200 lbs. weight the following ration may be fed: 16 lbs. corn fodder, cut as mentioned; 8 lbs. corn meal, and 8 lbs. wheat bran (fine preferred). This seems to be the only suitable combination that can be made. In analyzed formula it shows the following digestible nutrients:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
16 lbs. corn fodder	0.32	6.40	0.08
8 lbs. corn meal	0.67	5.04	0.36
8 lbs. wheat bran	0.94	3.68	0.20
Total	1.93	15.12	0.65

This has the low nutritive ratio of 1 to 8.6, but still will be a successful ration, if properly mixed and fed. I have considered the corn fodder as much better than that which usually comes from field corn when it is allowed to get fully ripe before cutting and shocking.

2. Two feeds per day is probably as good as three; some of the best feeders use two feeds, and some three. It would not probably be profitable to use more corn meal, because the ration, with half corn meal and half bran, is not very well balanced, and there is digestible fattening food quite sufficient in this ration.

If the food is mixed as here directed, the corn fodder will all be consumed, and there will be no waste of meal. H. would probably find it profitable to use two gills of cheap molasses per day to each steer. Let a gill be dissolved in one pint of water, and mix this in each feed, or two gills in a day's feed. They would eat the ration with a better appetite, and this improves its effect. I hope H. will report on the success of this ration. R. W. S.

Scalding-Box for Hogs.—I forward for the benefit of W. H. H. (p. 948) detailed description of box used in scalding hogs in this locality, which is found to afford every facility demanded. A box 5½ or 6 feet long, three feet wide and 16 inches deep, meets every requirement. Galvanized iron bottom, put on with wrought 8-penny nails. Sides should be of seasoned boards—1¼ inches thick the writer finds sufficient—corners slightly rounded to facilitate neatly fitting of bottom. The writer, whose knowledge of carpentry was acquired by observation, constructed a box, recently, in an emergency, without other aid than that rendered by a ten-year-old child. It was intended to make the box 6 feet long, but a defect in one of the sides necessitated a reduction to 5 feet 7 inches, and a 400-lb. hog was scalded without loss of a drop of water. A narrow, shallow trench is dug in direction to favor draft, box placed over it, and so fitted as to prevent fire reaching sides or ends—in protection of wood. A broad stone at distant end of box across trench is necessary, in event a wooden brace at top-ends of box is used, as a good draft will force the blaze about the box. A platform level with top of box is constructed. Two hooks are placed inside of box next platform, about 30 inches apart, and just enough below top edge to insure strength, a trace-chain is fastened to each hook, chains crossed, and by their aid two men can lower the largest hog without a splash. One man manipulates the hog while in the box, a foot on either side of the box, one chain (chains crossed) fixed by a foot, the other used in deftly turning and airing the hog. When ready to be scraped, the porker is easily drawn on the platform by aid of crossed chains. The scald-box is about as great an improvement on the old plans of scalding as a modern plow is on the old wooden mould-board. J. P. B. *Lincoln County, Pa.*

A Heated Water-Trough.—The Rev. F. B. SAVAGE of Orange county, N. Y., sends us a drawing of his arrangement for heating water for live stock, as explained before the Newburgh Institute. In the cut the trough is shortened, and the water supply changed from end to side, for space reasons. The boiler is

A, Water-Trough, 16 feet long, 2 wide; B, Wrot-out range boiler, 5 feet by 15 inches; c, Fire-hole, 6-inch, cast sheet-iron door; d, Draft; F, Iron pipe, 1 inch, with water-tight joints; g, Water supply; H, Turn-off.

an ordinary 30-gallon galvanized range boiler, which cost nothing, and is caulked with asbestos packing. A few small sticks of hard-wood will keep a fire for three hours, and will raise water from 40° to 70° in twenty minutes. "My trough leaks badly, and I keep a constant stream running in from a spring, but I have no trouble in raising a temperature. If the water were shut off, of course the heating would be quicker. The cows will search for the hottest water, and run their noses down to the firepot when it is 90° or 100."

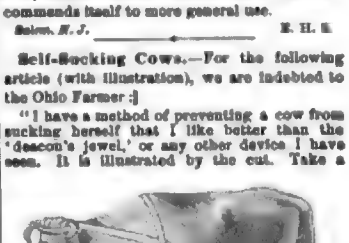
—To warm the water for cows I think the most economical method is to use a short, deep trough with an inch from pipe running in at one end, around on the bottom of trough and back to starting point, where both ends connect with a small tin boiler which is heated by a small oil stove or lamp. The water in the trough is heated by the circulation of the hot water in the pipes. I do not think water can be heated so effectually at such a small outlay of heat in any other way. Care must be taken to have the lamp or stove in a fire-proof enclosure as protection from fire.

But I think it preferable to use a non freezing pump that the cows work themselves, each cow pumping as much water as she wants when she goes to drink. As it is just drawn from the well it is never very cold, and is more suitable for cows than when warmed, besides doing away with the bother and danger of heating. As this pump is cheap in construction, works itself and never freezes, I think it commends itself to more general use.

Salem, N. J. E. H. S.

Self-Sucking Cows.—For the following article (with illustration), we are indebted to the Ohio Farmer:]

"I have a method of preventing a cow from sucking herself that I like better than the 'deacon's jewel,' or any other device I have seen. It is illustrated by the cut. Take a



strip of wood 1 by 1¼ inches and about 4 feet long. Make holes near the ends, and pass straps through them—one to buckle around the horns and the other around the body back of the fore legs. Buckle this strap tight. The cow can not turn her head either way far enough to reach the udder, and the device will not hinder her from pasturing or from the free use of the head, except in the one direction."

The Dairy Department.

The New-York State Association.

Meeting at Oswego—III.

Wednesday evening the main business was Col. Curtis' address and the discussion that followed, on the subject of "Dairy Education." He said that previous to 1854 our grandfathers and grandmothers carried on the dairy business in accordance with their traditions, making butter and cheese as best they could. It is only within a few years that science has helped to improve the quality of these products. We have heard in the addresses made before this association to-day, that which convinces us of the importance of education in the dairy. We are suffering in this State from a lack of knowledge in the manufacture of cheese, which our friends across the border have acquired in advance of us. The speaker rehearsed the history of the first cheese factory under Jesse Williams, and the formation of the American Dairy Association, and finally of the State Dairymen's Association, and of the cheese manufacturing business. He then spoke of the vast interest of the dairy industry of this State.

Next he mentioned some of the steps that have been taken in the State to promote dairy instruction in the last few years. We all have an idea, he said, that the countries of Europe are not enterprising, but there is not one that has not its dairy schools, and their products are now selling at the top of the market, especially those of Norway, Sweden and Denmark. He read descriptions of some of these schools, from the reports of our consuls. Now how can we hope to compete in butter and cheese with the products made in these countries, where the knowledge of manufacture is freely imparted in government schools? There are thirty dairy schools in Germany alone. Now I have a proposition to make for the establishment of some dairy schools in New-York State. Cornell University can furnish teachers for these schools. How shall we inaugurate them? Let the legislature make an appropriation for four institutions of this kind, and more when these are filled. I hope to live to see an honored profession created in connection with the farm and dairy in this State. I am prepared to give a young boy a situation in my butter factory to-day if he will come and learn the business. The reason why our farms go a begging to-day is because so many of the farmers are not skilled in their business. He then outlined a plan for a dairy school the adoption of which he urged. We farmers contribute largely to the taxes of this State, and we have a right to ask for $25,000 or $30,000 for a few schools to teach our own business.

Seth Penner offered some resolutions approving of Col. Curtis' plans, and made a few remarks in favor of them.

Mr. Fredericksen of Little Falls said that he had been through the dairy schools of Denmark, and now takes a great interest in everything pertaining to the dairy in this country. He gave an interesting sketch of the establishment of dairy schools in Holland. The government finally voted £100,000 for building a laboratory, and the schools were placed on a substantial basis. Pupils stay from three months to two years, acquiring scientific knowledge. Denmark has about 2,000,000 inhabitants and 1,000,000 cows. Six months is sufficient for a dairy course proper.

Col. Curtis said his idea was that the pupils should do all the work on the dairy-school farm which they should attend. There was a world of knowledge to be gained.

Dudley Miller favored Col. Curtis' scheme, but believed that the plans should be very carefully matured before going to the legislature.

Prof. Roberts—There can be no question that our people need this instruction, and there are only two ways in which they can get it. One is by putting their hands in their own pockets and giving the money to build and equip the schools; the other is to get the State government to furnish them for us. He then reviewed, in a way that showed thorough familiarity with the subject, the history of education in this State, going back even prior to the adoption of the U. S. Constitution, and showing how it has always been the policy of our government to educate the young, and fit them for taking an active and honorable part in life. In his mind there was no doubt that the government ought to furnish these dairy schools, nor did he believe that the legislature would hesitate to do so.

A rising vote was taken on Mr. Penner's motion of approval, and it was unanimously carried.

Mr. Richardson moved the appointment of a special committee of three to present the matter to the legislature. Carried. The chair appointed F. D. Curtis, H. W. Richardson and George A. Smith.

Holsteins for Butter.

Thursday forenoon Mr. Powell of Syracuse was called on to speak of the Holsteins as a butter breed. He said:

"This breed of cows has not been well understood. It was originally known to be composed of large milkers, but in America, by means of proper feeding, it has also been made a butter breed. We tested every cow in our herd with this end in view, and the result is that they have shown as large an average yield as any on record. We have seven cows that have made over 100 lbs. of butter in 30 days, and sixty cows that have made 20 lbs. a week. I believe there are more cows of this breed that have made 100 lbs. a month than of any other breed. This result we accomplish by feeding. I would feed such a cow just as I would feed for the best general results. We use equal parts of bran, ground oats and corn meal for a ration in making butter tests.

"The first cow of our breed that made a pound of butter from 17 lbs. of milk, was raised from 25 lbs. to that amount in about six weeks by the addition of corn meal and cottonseed meal to her usual feed. But in order to create a butter habit in a cow it ought to take a full year. The largest butter record in the world is that of a Holstein cow which made 126 lbs. in 31 days. The dividing line between profit and loss in a cow lies in the little extra feed given to her. It does not follow as a rule that the cow giving a small amount of milk will give a larger percentage of butter to the milk. On the contrary, I believe that the opposite is true, and our tests of different cows have given facts that back up this belief. The cow giving a large yield of milk must also be credited with the large amount of skim-milk.

Soil, Plant and Animal.

"The Soil, the Plant, the Animal," was Prof. I. P. Roberts' subject. He spoke of the differences of soil and the adaptation of plants to them. It is a difficult matter to get rid of too much moisture in the soil, and yet retain enough for fertility. We go on and discuss an ounce of cream for half a day, but neglect the soil from which all our products must come. Farm manures must be increased in quantity and improved in quality. The young farmer should set his mark high. The things that are difficult to do in dairy husbandry are the things that pay. How to improve the land with little money and little manure is the difficult problem. He urged the importance of following nature. Go to the woods and prairies and study nature's methods of enriching the soil. Nature tends to augment fertility, man tends to diminish it.

Coming to the plant, he said that we are taught no animal can take its food directly from the soil. The nutriment must be stored up in plants, and thus made digestible for the animals. And yet how little attention man pays to putting the right sort of plant into the right sort of soil. The professor described a piece of experience in planting corn for ensilage the last season. Taking timothy hay as a standard, and supposing it to yield a ton to the acre worth $12, we got $30.80-worth of corn when planted in hills, but when planted in drills we got $35-worth. He showed the difference made in the value of corn by harrowing, drilling, planting deep or shallow, time of cutting, &c. By delaying the cutting we increased its value 3¼ times. He made a strong argument against sowing corn. He uses only 6 quarts of seed to the acre.

Now for the animal. There are so many points to be considered in the consideration of a cow that life seems almost too short to investigate them all. But if the machine is poor and bad, no good results can be had from it. We cannot have a really good cow without her having some good ancestors. Her valuable qualities may be improved, but superiority can never be attained in a single generation. Those qualities that have been longest inherited will be the most permanent. Let us take an example. We take two animals, one that is worth $80 a year, another worth $96, and if we breed from these we get an animal that is worth $88. That is a positive thing, and thus by breeding a few generations we get up nearly to the standard of the $80-cow. Feeding will also help each time, and it is therefore evident that there is no need of keeping the $34-cows.

After many years of experience in dairying I have come to the following conclusions: That dairying should be conducted through the entire year; that in the long run it is better to raise cows than to purchase them; that inheritance has so much to do with capacity that every dairy cow should have an improved and well bred sire; that feed has more to do with quality and quantity combined than any other one factor, when given fair conditions; that fully double as much food for the dairy can be raised under like conditions of fertility from an acre of corn, of rye, of alfalfa, as from an acre of timothy, orchard grass, or blue grass; that well nourished plants give a more valuable product, pound for pound, than partially starved or immature ones; and finally that care and judgment in feeding and milking and attention to the comforts of the animal, all play such an important part in the final result that, combined, they may be accounted the final great factor.

The Thoroughbred Bull.

Prof. H. M. Wing of the Cornell Experiment Station made an admirable "Plea for the Thoroughbred Bull":

Notwithstanding all that has been said of the advantages of using a thoroughbred, probably seven-eights of the calves that will be born in this State next spring will have been sired by scrubs or by bulls of mixed blood. So there is no excuse for "letting up" on this subject. By "thoroughbreds" we mean such animals as are descended from a line of ancestors in which for many generations the desired forms, qualities and characteristics have uniformly been shown. Such animals will have become capable of reproducing those characteristics with almost unerring certainty in their offspring. To a correct appreciation of the value of a thoroughbred animal, it is essential to know how the breed has been formed. The history of improved breeds shows that in almost all cases three prominent means have been used to this end: 1. Close in-and-in breeding; 2. Rigid selection to the type desired; 3. A forcing of development from birth by means of an abundance of nutritious food, comfortable quarters in winter, and careful attention at all times.

The question of in-and-in breeding has probably provoked more discussion than any other subject connected with the breeding and management of live stock. But we know that nearly all of our improved breeds have been more or less closely interbred. The Short-Horn and Hereford cattle, the Leicester sheep, the Essex, Berkshire and Poland China swine were mentioned as instances of close breeding.

Two illustrations and comparison of two actual cases that have occurred in this country within comparatively recent times, will show the difference between half-way breeding and real in-and-in breeding. The first was that of the original importation of Holstein cattle into this country. W. W. Cheney of Belmont, Mass., brought over one bull and four cows, and had another bull left from a previous importation. From these six animals he raised his herd, but inasmuch as he considered in-breeding in the light of a deadly sin, he used all possible permutations and combinations of the animals, so that their progeny should be as little related as possible. The result was that he produced a family that was remarkable for nothing, incapable of reproducing their own characteristics, and when bred to other animals could not reproduce the characteristics of their ancestors. It also proved ruinous to their constitutions, and although the animals were originally good, their effect on the breed at large has almost entirely disappeared.

The second instance is that of R. M. Hoe, inventor of the Hoe printing press. He sent to Jersey and imported a bull and six heifers in 1861. Two of the heifers, Edith and Rhea, proved to be superior butter cows. From Rhea he obtained Jupiter and Alphea, and bred them from this brother and sister, and continued in this line until the fifth generation when he had 14 animals. Then the Alphea family was scattered, and the blood was used on other branches of the Jersey breed, and it was here that it showed its most remarkable qualities. A very plain lesson can be learned from the history of these two herds of different breeds. In one we see the results of systematic in-breeding in intensifying the characteristics of an already well-established breed. In the other we see that hap-hazard in-breeding is attended with degeneration in a breed equally well established.

He then spoke of "breeding the line," and said that if carefully attended to it is one of the best means of grading up a herd. But defects are more likely to appear in the offspring, and the professor would unhesitatingly recommend the use of "the double top-cross," that is, breeding the heifers to their own sire. The reason is that a bull of strong constitution, that uniformly reproduces his own good qualities from his offspring from a mixed lot of cows, can with almost unerring certainty be depended upon to produce the same qualities in an intensified form from his own daughters, and no degeneration or weakening of constitution need be feared.

He then advocated the thoroughbred sire as the best animal for the ordinary farmer in the production of grades. For it is to grades and them alone that we shall long look for profitable production of all the various products for which live-stock is kept. There has been much said as to the weight that should be given to pedigree and to individual merit in choosing an animal, but the two are as intimately connected as flowers and fruit. Without individual merit, the best pedigree is but a rope of sand; without pedigree the best animal in the world cannot be expected to reproduce itself, except in occasional instances.

Thursday afternoon Mr. Munson of Delaware read a paper on "Butter-Making," and was followed by Prof. Robertson, who answered a great number of questions. A long discussion followed, in which not only making but marketing came in for a share of attention. Then after the usual resolutions of compliments the convention adjourned *sine die*.

This report should not be concluded without a few words in regard to the character and work of the convention. Never has a brighter or abler set of men attended the sessions day after day, and delivered addresses or taken part in the discussions. Secretary Shull was indefatigable in his efforts to make the occasion one of supreme value to the dairymen. President Shattuck, who retires from the chair after two years of excellent service, never allowed the proceedings to flag, but kept the proper work of the convention moving as rapidly as possible. There were three features of unique interest connected with this gathering. First, the preparatory conference, which laid out the work of dairy instruction in the State in such a way that the legislature may be able to form a judgment of the appropriations necessary for the coming year. Second, the important plans outlined by Col. Curtis for the formation of dairy schools. Third, the election of Prof. I. P. Roberts as president for the next two years, which gives the association the advantage not only of an able presiding officer, but of having a man with almost a national reputation at its head. The association was never so influential or powerful as it is to-day, and it has a career of great usefulness before it.

More Instruction Needed.

Eds. Country Gentleman.—In the recent discussion on dairy instruction, there are indications that we are soon take a great stride forward in our dairy interests. The higher the standard is made in the production of milk, butter and cheese, the more critical consumers become, and a cultivated taste demands constantly a finer product. Consumers who were once well satisfied with the best lines of dairy butter no longer use that, but insist upon the finest creamery, and want that fresh from the churn each day as it is made, and will not be satisfied even with creamery, after its sprightliness and finest aroma have passed off. This demand which comes from a large and increasing class of consumers, many of whom are willing to pay very high prices for butter and cheese that just suit their taste, creates a demand for greater skill and knowledge in the management of dairy products, and as consumption will increase upon this line in proportion as a higher grade of product is furnished, there is great wisdom in the plan, which Col. F. D. Curtis has so clearly defined, of the State taking the responsibility and duty of furnishing the most efficient instruction and assistance from experts in these lines, to those engaged in the manufacture of these products, and also thoroughly instructing and preparing young men and young women to enter upon this field of labor equipped in the best possible manner to handle

and turn out the highest grade in quality, thereby rendering invaluable service to the agriculture of the State, by largely increasing the consumption of its most valuable products and giving new life, value and prosperity to one of its most important industries.

Not only is it the province of the State Dairy Commission to stand between the producer and consumer of dairy products and protect them against the deceptions and frauds of bogus and injurious imitations that once flooded our markets, but it is also within the province of this wisely-created agency of the State to inaugurate and direct a system of dairy instruction that would be most invaluable in the results that would follow in largely increased products of higher grade, better suited to the cultivated taste, that is demanding this finer product, and at a valuation that will lift our dairy interests to a higher plane of prosperity.

Columbia Co., *N. Y.* GEO. T. POWELL.

The Veterinarian.

Answers to Correspondents.

[*By* Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

CURB IN COLT.—What will remove a curb from a yearling colt coming two? Curb is very small, of about one year's standing, does not make him lame. SUBSCRIBER. *Sodus Point, N. Y.* [Apply a little golden blister. Repeat in three weeks. Colt can be tied so he can lie down but not bite the leg.]

ABORTION FEARED.—A large Jersey cow aborted last year. Is she more likely to again than though she never had? Period of gestation expires March 15, 1880. What treatment and rations would you advise? S. *Keene, N. H.* [Many cows abort but once, but it is considered that a cow that aborted at the last pregnancy is predisposed to abortion during the next one. The diet may be of the ordinary—avoiding any peculiar kind, such as flaxseed, cottonseed, &c.]

COUGH IN MARE.—A mare has a harsh, dry cough, and when coughing a thick yellow fluid comes from the vagina. The mare is in good condition, and is six months gone in foal. She eats heartily and her coat looks perfectly healthy. J. C. *Chotwell, Va.* [Put a tablespoonful of the following powder well back into mouth four times a day: Powdered chlor. of potass., powdered nitrate of potass., of each 4 oz.; sulphur, 6 oz.; powdered elecampane, 2 oz.; powdered licorice root, 8 oz.; mix.]

DISCHARGE FROM HEIFER.—A heifer two years old, six months in calf, constantly discharges profusely a white mucous substance, and when lying down something protrudes from the vulva the size of a cocoanut. Is in good order and has always been thrifty. Feed has been 10 lbs. cut corn fodder and red-top hay, dampened, and 6 lbs. wheat bran sprinkled in, per day. She is turned in the pasture every day with five other heifers where cotton grew this year, and they eat the burs and unmatured balls which have some steel in them, but none of the others are affected by it. C. L. F. *Calhoun, Ga.* [See treatment in back numbers for inversio vaginæ.]

SPAVIN AND CUT ANKLES.—A fine road mare seven years old, has a spavin of about a year's standing; has never been lame until about two months since, when, in driving, she broke through a sluice, cutting ankle slightly under fetlock; was very lame at once, so lame that she could hardly step on foot; gave ten days' rest, and treated ankle with wormwood and vinegar. Apparently got all right, but when driven was a little lame at starting, and has continued so ever since. When first starting, jerks that foot up like a horse with stringhalt, drives off in half a mile except a slight hitch, does not step that foot as far as the other, and about the width of foot inside of front track; travels to the right all the time in driving, the left leg being lame; has a slight crack under fetlock, that is quite sore, but leg does not swell. Have treated crack with glycerine and tannin, but does not heal entirely. Mare is dark cream color, quite nervous, a gritty sharp driver and fast. Is in foal and in fine condition. Feed ground oats, wheat bran and hay. Spavin has never been treated. W. H. B. *Bath, N. Y.* [Apply raw carrot mash to the sore, nights, and scratches ointment to the sore, days. Simply grate raw carrots to make poultice. Apply golden blister to hock.]

WORMS IN MARE.—A six-year-old mare has for some time had long white worms, 3 or 4 inches in length. Does not seem to have the life in her she ought to have, and she sweats very easily. I keep her for a road horse only, sometimes driving eight or ten miles a day, and then again not out for five or six days; never has had any hard work. Is in fine condition, plump, and weighs about 925 lbs. Feed is six quarts of oats and about 25 lbs. of hay a day. She has an enormous appetite. F. H. M. *New-Canaan, Conn.* [Feed Moore Bros'. worm and tonic powders. No treatment is worse for a horse than work at intervals with no exercise between times. If you cannot use the animal daily, see that she has exercise every other day.]

COUGH IN SHEEP—WEAK BACK.—My sheep are running at the nose, and some of them have very bad coughs. (1) My driving horse also, when ridden, seems to give way across the loins; eats well, but is never in good order. (2) J. C. W. *Lynnwood, Va.* [1. Give each a teaspoonful of the following powder three times a day: Powdered elecampane, 4 oz.; sulphur, 1 lb.; powdered chlorate of potass., 4 oz.; powdered rhubarb, 3 oz.; mix. Syringe nostrils with a little of the following lotion once a day: Kreosote, 2 dr.; carbolic acid, 1 dr.; powdered sulphate of copper, 2 dr.; water, 2 qts.; mix. Keep sheep in warm place, and feed well. 2. Are horse's teeth all right? If not, have them attended to. Feed Moore Bros.' worm and tonic powders, and report in three weeks. Can you give balls to a horse?]

INJURED JOINT IN COLT.—A colt coming four years old was stepped on when about three days old, by its mother, on the inside of hind leg, and her foot slipped off across its stifle joint, leaving a soft bunch on front of joint, about as large as half of a good-sized hen's egg. The joint makes a noise as if it slipped out and in at nearly every step, but does not seem to lame her any. The colt has never been worked, but wish to work her the coming summer. I. M. L. *Alfred Centre, N. Y.* [I am sorry you did not attend to this when colt was younger, so that the joint could have been strengthened by growth after treatment, before animal was put to work. Apply golden blister, use ½ of a box, and rub it in well. Then report in three or four weeks, and refer to this page. It will be necessary to blister several times, I expect, and it is very possible that we may have to resort to the actual cautery (firing), and that will probably affect permanent relief if other things fail.]

FAILURE TO BREED—LEAKAGE OF URINE.—A 6-year-old cow will not come in heat; is milking well and in good condition; has always bred regularly up to time of last calf which was dropped seven months ago; has shown no inclination to be served since that time. (1) A mare has chronic leakage of urine; is very sensitive, and the least excitement causes profuse flow; at times it drips constantly, scalding inside of hind legs. Has been affected somewhat for two years, becoming much worse the last three or four months. Think probably it came from over work or strain, as she is a very spirited and high bred animal. Has reared a colt since first affected. Appetite for grain rather unnatural; eats it ravenously, but cares little for hay. Bowels always a little loose; has received no treatment. SUBSCRIBER. *Forest Hill, Md.* [1. Procure 3 feet of ¾-inch rubber hose, put a tin funnel in one end and tie it. Insert the other end into cow's vagina, have cow held by the nose. Now with a pailful of water as warm as the cow can bear it, standing close by, use a dipper and keep pouring the water into funnel, which is held well above the cow's back, as fast as she passes it off—thus foment the vagina and womb for 20 to 30 minutes. Then with arm bare to shoulder, finger nails short and hand and arm well wet with soap suds, insert hand until mouth of womb is reached, then with longest finger try to dilate it by rotating the hand. In 15 or 20 minutes you ought to be able to introduce the finger about 2 inches. Then withdraw the hand. Cow's bowels should be kept loose. Repeat the fomentation and dilatation in four days. Then use injectio vaginæ, and use the above treatment on each second day of intermission of injection. 2. Give mare a physic ball, then feed a large tablespoonful of the following powder in feed three times a day: Bicarbonate of soda, 1 lb.; powdered bicarbonate of potass, 1 lb.; mix. Also give 1 dr. fluid extract rhus aromatica three times a day. She will need other treatment in three weeks.]

RELIEVED OF WORMS, p. 016.—Am now feeding horse the second box of worm powders. He still passes long white worms; has picked up a good deal but is still dreadfully thin; will eat all day—eats now 10 quarts of oats and a lot of hay. Have fed him meal and middlings to fatten him, but he does not hold it. SUBSCRIBER. *Providence, R. I.* [The treatment must be continued and it may be necessary to give two more balls in a week or two. Your poor animal is doing remarkably well when it is remembered that he was almost devoured by worms. It will require two or three months for him to regain good condition. Until all the ova or larvæ that have gained harborage in places where the animal has access are gotten rid of, we may expect some parasites to infest him. Where does the horse obtain his supply of drink?]

STUMBLING.—A 16-year-old mare, medium size, solid-built, stumbles. Front feet seem to be a little tender; feet are good size; she wears a No. 4 shoe, and without toe-calks. In traveling (walk or trot), does not carry her feet as far forward as would seem natural, but drives her toes into the ground, which often causes her to stumble. The trouble has been growing on her for two years or more. S. L. V. *Rome, Ga.* [Have feet well cut down and heels opened. Then put on a pair of rubber heel pads. If you cannot obtain them there, send $1 to T. J. O'Brien, blacksmith, Albany, N. Y., and a drawing or pencil mark of size of foot, made when foot stands on paper with no shoe on. Then put ordinary open shoes on over the pads, and apply golden blister around feet, and give a week's rest. In the meantime soak feet in warm salt water two or three hours a day.]

ERUPTION ON HEIFER.—A 2 year-old heifer has had an eruption of the skin, which appeared when she was three months old. Her color is black and white. On the white spots the skin is affected, but there is no eruption on the black spots. In summer, if allowed to run out in the sunlight, the skin of the back becomes very sore, with cracks and scabs. The hair comes off, and the heifer is greatly annoyed from itching. I have applied an ointment of lard and sulphur, and have this winter added a little crude petroleum. The skin is now tolerably clear. The hair from the white spots is entirely off. C. D. W. *Deposit, N. Y.* [White skin, like white hors, is more susceptible to disorder than the darker shades. Apply a little of the following to the affected parts, wash it off in three days, and report in three days more: Fish oil, 1 oz.; whale oil, 1 quart; mercurial ointment, 1 oz.; sulphur, 6 oz.; mix thoroughly. Do not cover more than one-eighth of the animal with the dressing at one time. Report in one month and refer to this page.]

DEATH OF COW—CATTLE BOOK.—I lost a valuable cow last week, and perhaps you can tell me what ailed her, and what to do in another like case. She came in Sept. 25; for the past week was fed cut corn and straw, corn cut and stooked before frost, and left in field till late, then run through cutter with straw mixed. Had more than hay would hold, and ran a heap in another bay, which moulded badly. This is what I have been feeding; cows like it and seem to do well on it. It is warm. Fed this cow about 30 lbs., mixed with 3 to 5½ lbs. ground oats and peas. Cow seemed all right until night of Dec. 19; did not give full mess at night and was not seen to eat. In morning would give no milk or eat feed or apple parings; bowels had not moved during night; stood quiet most of the time; gave lard and kerosene oil; bowels moved a little at noon; color dark, and hard; at night cow gave no milk, and grunted at every breath; gave a little aconite. In morning looked just the same; had no passage during night. Injected soapsuds and little castor oil twice. She strained a few times, straightened out, and died without a struggle. She was very cold when we skinned her, and I could not examine closely; intestines were dark purple; contents large, dark and dry; part of stomach was moist. (1) Can you tell me where I can get a book on cows, written for farmers, giving symptoms and treatment for all common diseases of cattle? (2) L. B. C. *Otsego County, N. Y.* [You do not say how long after death the post mortem examination was made. Did you notice the spleen? We must always condemn bad food, and do so in this case; yet I am not sure of the cause of the cow's disorder, and therefore cannot attribute her death to mouldy straw or fodder corn until more light is thrown on the matter. You should describe the case of the other cow separately, as one symptom or condition noticed in one not seen in the other, might give me a clue to the disease, or cause, or both. 2. Law's Veterinary Adviser ($3) can be obtained at COUNTRY GENTLEMAN office. Please write your address in full plainly when sending inquiries, and when writing about these cases again refer to this page.]

HEREDITARY SKIN HUMOR.—A mare five years old last June, raised myself, was broken to harness at three years old; at that time had an eruption on her shoulders back of flank about size of wheat kernel, and used to rub her mane and tail. Treated her with several remedies, and stopped the rubbing, but have not entirely cured eruption. Within past six months scratches developed on front ankles, several cracks across each; legs stocked up all around, and incline to wind-gall. Eats well; coat is heavy and dull and full of scaly dandruff. Lately she does not drive up as promptly as usual; feed two quarts of oats morning and noon, and at night cut feed and hay; water twice a day from a trough where water has been standing long enough to take off chill; do not see any evidence of worms. My stable is well ventilated and mare is in box stall 10 by 10; gets about six or eight miles a day driving. Her dam had similar eruptions one year before being served for this colt, but was free from them when served. I have a full sister of above described mare, one year younger, who is affected like her in roughness of coat and dandruff, and looking poor. My other horses are well and free from any of these troubles. W. P. S. *Mt. Harwood, N. J.* [Give each of them 1 oz. of the following medicine in feed twice a day: Iodide of potass., 6 oz.; fluid extract of colchicum root, 6 oz.; powdered nitrate of potass., 1 lb.; sufficient quantity of hot water to make two quarts; mix. Feed worm and tonic powders. Mare No. 1 should be clipped if all things are proper for it. Write again in three weeks, state what you have done, progress made, and refer to this page.]

Record of the Times.

Review of Passing Events.

New Year Notes.—Governor Hill was inaugurated, Jan. 1, with a fine military parade (in which the Thirteenth regiment of Brooklyn and Twenty-second of New York took part.) Exercises at the capitol. The day was mild and pleasant. The governor's message dealt chiefly with election reform, prison labor, and excise legislation. At noon the legislature assembled and Fremont Cole was re-elected speaker of the Assembly, and Senator J. Sloan Fassett president *pro tempore* of the Senate. Adjourned to Jan. 9. The new assembly ceiling was much admired, and the hearing found to be improved.—Hugh J. Grant was installed Mayor of New York in place of Abram S. Hewitt.—A. E. Burr of the Hartford (Ct.) Times completed a fifty-year connection with that paper January 1. His employés presented him with a Viennese writing set and a revolving chair. The Times gave a dinner to 300 newsboys and took them to Prof. Bristol's horse show.—Senator Stanford gave a reception to the Washington news, messenger and telegraph boys, with refreshments, and to each a woolen comforter, pair of mittens, box of candy, bag of cakes and a new $1 bill. To the fourteen pages at the capitol he gave each a new $5 bill.—The daughter of Howard S. Jaffray of Irvington, N. Y., rescued several skaters from drowning by means of a rope which her father had providently sent along with the party.

An Electric Fraud.—The electric process for refining sugar turns out to be a fraud of the worst description. It was the pretended discovery of Henry C. Freund of New-York in 1884, who induced capitalists to furnish $350,000 to fit up a factory and buy machinery, agreeing to reveal the secret on payment of $75,000, and to turn out sugar at a cost of 30 cents per ton. Freund died last March, leaving his secret to his wife and father-in-law. Meantime samples of the new sugar were shown in 14 grades, the stock was boomed, and sold in England for £117 a share. But Mrs. Freund refused to reveal the secret; suspicion was aroused, and while the parties were visiting at the West during the holidays, president Cotterill had the secret rooms broken into, and the purchased

raw sugar was found untouched, quantities of purchased refined sugar on hand, and the machinery of ordinary description. A despatch to London, Jan. 2, caused shares to drop to £80, and on the 3d to £12. The capital stock was one million dollars, held by 650 stockholders, of whom only 50 were Americans, Mrs. Fremd owning a controlling share.

Deaths.—Henry O. Tift, the oldest employé in the United States customs service, which he entered 63 years ago, died, Jan. 3, at Newport, R. I.—Nathan Satterthwaite of Crosswicks, N. J., who was preparing to celebrate his 100th birthday on Feb. 9, died Jan. 3. His first vote was cast for John Adams and he voted for the two Harrisons.—Mrs. Frances Cresswell, a daughter of Elizabeth Fry the philanthropist, and noted for her benevolence, died in England recently, aged 86.—Luigi Petrio, a scissors-grinder of Boston, and one of Garibaldi's veterans, died, Jan. 4, aged 73.—J. O. Halliwell-Phillips, the well known Shakespearian editor and author of a life of Shakespeare, died in London, Jan. 4, aged 69. He inherited an ample fortune and between 1839 and 1865 produced 100 volumes, chiefly historical.—Mrs. J. G. Chinn died Jan. 2, at Lexington, Ky., of pneumonia, aged 104. Her marriage to Dr. Chinn occurred when the lady was 89 and her husband 82. Dr. Chinn survives his wife, and is still in fairly good health.

From Abroad.—Mr. Gladstone was 79 years old Dec. 30. A reception was given to him, Jan. 3, at the Municipal Palace of Naples.—Mr. Bright's health continues to improve.—The Lord Mayor of London and the Mayor of New-York exchanged greetings by phonograph.—The eviction of tenants on the Cuphert estate, County Donegal, Ireland, was resisted with rifles. Many were injured on both sides, and the priests finally induced the men to surrender.—Mr. Finucane, M. P., has been sentenced to one month's imprisonment, under the Crimes act.—General Boulanger, in an address to the Seine electors, denies that he aspires to the dictatorship.—Prince Bismarck's health causes anxiety.—He has received 500 telegrams of sympathy.—The Hungarian corn ring syndicate has collapsed, having lost three million florins.—At Ekaterinburg, Russia, Dec. 27, 175 persons were frozen to death. The Black, Azof and Caspian seas are frozen over.—An Egyptian sergeant who left Khartoum, Nov. 28, has reached Suakim, and says that Emin Pacha instead of being a captive had repeatedly defeated the dervishes in Bahr-el-Ghazel.—Yellow fever has said to have broken out on the Yantic, and she has sailed for the United States.—General Hippolite has been elected Provincial President of Hayti.—China has demanded that Corea depose her king and declare herself dependent of China.

Minor Items.

The cotton-bagging trust is going to pieces.

The Poughkeepsie bridge was opened Dec. 30.

Troy, N. Y., celebrated her centennial last week.

Diphtheria prevails extensively in Springfield, Mass.

Not a drop of rain or flake of snow fell anywhere in the United States on Jan. 2.

Hromeck the Chicago anarchist has been sentenced to 12 years in the penitentiary.

Adolph Reich's sentence has been commuted by Governor Hill to imprisonment for life.

The output of lead and silver at Leadville, Colorado, for 1888, is valued at $11,830,305.

Natural gas was struck last week at Greenwood, Steuben Co., N. Y., at a depth of 700 feet.

Sentinel Wilkes, a six-year-old bay stallion, was sold, Dec. 31, at Lexington, Ky., for $25,000.

The Burlington strike has at last been settled, but the details have not been made public.

The Frank Leslie Publishing Company of New-York has been incorporated, with $1,000,000 capital.

Rev. George E. Reed of New-Haven, Ct., has been elected president of Dickinson College, Carlisle, Pa.

The Museums of Art and of Natural History, New-York, will hereafter be opened two evenings in the week.

A brakeman on the Third avenue elevated road, New-York, was killed, Jan. 2, by striking his head against a post.

All flouring mills in St. Louis, except one, have closed for January, under agreement with the Millers' Association.

Claus Spreckels is ready to produce beet-root sugar. His San Francisco factory has a capacity of 44 tons per day.

The Richardson Drug Company's building, St. Louis, was burned, Jan. 1, with loss of $900,000; nearly covered by insurance.

The Players' Club, Gramercy Park, New-York, was opened Dec. 31, with the lighting of a yule log and speech by Edwin Booth.

The well-known firm of Brown Bros. & Co., New-York, has decided to close its Liverpool house. The London house is continued.

The proprietor and city editor of the Chicago Times have been arrested for printing charges against the police in connection with anarchist matters.

Captain Isaac Bassett, assistant doorkeeper of the Senate, Washington, and for 57 years in its employ, celebrated his golden wedding, Dec. 27.

The steamer Norwich passed Newburgh, N. Y., Jan. 3, towing a dozen barges. In 1876 she made trips at intervals in January, February and March.

The steamer Bristol of the Old Colony Line, was burned at her Newport, R. I., dock, Dec. 30, and steamer Mexico of the Cuba line, at her New-York dock.

The Evening Post of Washington, D. C., has been bought by M. J. Blethen, late of the Minneapolis Tribune, for $25,000. It will be Republican in politics.

Rev. John Dooly, pastor of the Broome Street Mission Tabernacle, New-York, has resigned to become superintendent of the Albany City Mission and Tract Society in April next.

The Bank of Pittsburg has never suspended specie payments since its charter was granted in 1814. The latter shortly expires and the bank will close its affairs unless the legislature passes a general law.

Marblehead, Mass., appeals for aid in rebuilding after the late fire. A similar loss occurred in 1877, since when $135,000 has been spent in obtaining a water supply, fire alarm telegraph, &c. Over 1500 men are now out of work.

The solar eclipse on the Pacific Coast, Jan. 1, was observed by a number of parties and successful photographs of the corona taken. Prof. Brooks, of the Smith observatory, Geneva, N. Y., obtained a view of the first contact just before sunset.

Congress reassembled Jan. 3. The Senate asked information of the president regarding protection of seal-fishing in Behring Sea; also as to recent events in Hayti. The House passed the Nicaragua Canal bill, with amendments, on the 4th, by a vote of 157 to 34.

Philadelphia complains that the Pennsylvania road discriminates against her in the export grain trade in favor of Baltimore, so that the latter's elevators are running over with corn, and cars of wheat are sidetracked as far north as York, Pa.—in all 4,000,000 bushels waiting shipment, while Philadelphia has only 321,000 bushels.

CHALK LEARNING.

The blackboard was effectively used and as eagerly enjoyed at the late meeting of the Connecticut Board of Agriculture at Danbury, Dec. 11, 12 and 13. What men take in through their eyes is more easily obtained and more valuable than parody ear learning. The photograph shown of the board under one of its phases is illustrative:

Creameries in Connecticut.

Total number of factories in State	68
Cream-gathering factories	47
Whole milk	19
Railroad creameries	4

At the same time could a more forceful argument be opened for the superiority of the Cooley cream-gathering system? Everybody saw at a glance that of out of 68 factories were gathering cream on the Cooley plan, and one small creamery using shot-gun cans. Of almost only 19 gathering whole milk. Of these 19 nine use shot-gun cans and three employ separators. Was not this better than a whole volume of written or spoken logic? What is, to what tells. Farmers are reasoners; they are not to be forced. If four times as many are to-day delightedly selling cream and reserving the skim-milk on their farms as are selling whole milk, or laboriously returning the skim-milk, is not the argument practically closed? This showing on the board was a climaxer. Other things portrayed were just as clear. Of the 47 Cooley cream-gathering factories, 27 were formerly whole milk—Canton, Avon, East Granby, Southington, Suffield, and the Highland at West Hartford. The four railroad creameries make up the list of 68. These railroad creameries are shipping stations for the cities, and work up surplus milk when there is any.

Every Form of Lameness

and wounds of every description in the horse, are carefully treated in Dr. Woods's new book, 300 pages, 80 fine engravings, 50 cents postpaid. Francis Wood, V. S., Washington, D. C., P. O. box 814. jan3-4t

Ayer's Cathartic Pills stimulate the appetite and regulate the bowels. Try them. Have you seen Ayer's Almanac?

The weakness and debility which result from illness may be speedily overcome by the use of Ayer's Sarsaparilla. This is a safe but powerful tonic, assists digestion, regulates the liver and kidneys, and cleanses the blood of all germs of disease.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [nov28-26t

Farm Produce Markets.

Albany Markets—Jan. 7.

FLOUR.—The Argus says: Prices have been steady, demand fair, receipts light.

	1888. Jan. 5.	1888. Dec. 26.	1888. Jan. 7.
Com. State	$4.20@4.60	$4.20@4.60	$3.70@4.60
State Extra	4.60@5.00	4.60@5.00	4.75@5.10
Amb. State & W	5.00@5.75	5.00@5.75	4.90@5.75
C., Ind. & St. L. R'r	5.10@5.75	5.10@5.75	4.90@5.75
Winter W. Pat	5.10@5.75	5.10@5.75	5.10@5.90
Minn. "Bakers"	5.20@5.75	5.20@5.75	4.90@5.70
Spring W. Pat	5.20@5.90	5.20@5.90	5.10@5.90

Rye Flour in light demand at $3.40@3.60 per bbl; Graham, $4.00@4.50. Oat Meal in light demand, at $3.20@3.30 per bbl. Corn Meal, fine family $2.70@2.75 per bbl. Buckwheat flour, $2.40@2.70 per 100 lbs.

GRAIN.—Corn steady, trade moderate; new No. 2, 49@49½c.; No. 2 mixed, 48@48½c.; Oats easier, demand moderate, supply ample: No. 2 white, 35@35½c.; No. 3 white, 34@34½c. Rye slow and lower. Street lots, 69@70c. per 56 lbs.

HAY AND STRAW.—Receipts better; demand good, Timothy, best, $16@17.50, medium, $14@15; clover $13@14; mixed, $11@13; rye straw, best, $13 @15; oat straw, $8@10.

HOPS.—Stocks unusually light; buying more free.

N. Y. State, 1888, best	—@—
N. Y. State, 1888, common to good	15@20
N. Y. State, 1887, all grades	10@11
Pacific Coast	16@20
German	35@40

Albany Street Market—Jan. 7.

BUTTER.—Fancy, 30@32c. per lb.; fair to good, 26@28c.

EGGS.—Near-by and new laid, 24@25c. per doz.; Western, 24@25c.

FRESH MEATS.—Steer beef, hindquarter, 9@10c. per lb.; forequarter, 6@7c.; mutton, hindquarter, 8c.; forequarter, 6c.; lamb, quarters, 10@11c.; veal, hindquarter, 10@11c.; forequarter, 7@8c. Fresh pork, 7@8c.

POULTRY.—Fowls, 9@10c.; chickens, 9@11c.; turkeys, 16@18c.; ducks, 12c.

FRUIT.—Apples, $1.00@$1.75 per bbl.; Cranberries: $3.00 per crate; Grapes, Catawba, 4@5c. per lb.; Pears, $4@4 per bbl.; Cranberries, $7.50@8 per bbl.; Chestnuts, $1.75@2.25 per bush.; Hickory nuts, $1@1.50

VEGETABLES.—Beets, $1.00@3 per bbl.; Carrots, $1.00@1.; Cabbage, $3@3 per 100. Cauliflower, $2.50 per doz.; Celery, 5c. per doz. bunches; Lettuce, 5@ per doz.; Onions, $1.75@3 per bbl.; Parsnips, $1.00@3; Potatoes, $1.25@1.50 per bbl.; sweet, $1.75; Spinach, $1.25; Squash, $1@1.50; Turnips, 75c.@$1.

New-York Markets—Jan. 5.

BEANS—Marrow, 1888		2.30	@ 2.35
Medium, 1888, choice		1.87½@	1.90
Pea, 1888		—@—	1.85
COTTON	Uplands.	N. O. & Texas.	
Ordinary, per lb	7½@—	—	6¾
Middlings	9@—	—	10
Fair	11¾@—	—	12¾
EGGS—State and near-by, per doz		19@20	19
Western and Canada		14@—	15
FLOUR—Spring Wheat pat., per bbl		5.75@	6.00
Winter		5.25@	5.50
No. 2 extra state and Western		3.60@	3.80
No. 1 extra		3.85@	4.00
Minnesota clear		4.30@	5.00
Straight		5.00@	5.75
Rye Flour, superfine		3.30@	3.60
Corn Meal		2.75@	3.00
Buckwheat Flour		2.10@	2.15
FRUIT—Apples, Baldwin, per bbl		2.13@	3.50
Greening		1.25@	3.40
King, Spitzenberg		1.75@	3.25
Lady		1.00@	1.00
Cranberries, Cape Cod, per bbl		7.25@	8.00
Jersey, per crate		1.75@	3.00
Grapes, Concord, per lb		2@—	2½
Catawba		3½@—	3½
Oranges, Florida, choice		—@—	2.50
Russets		1.75@	2.00
Mandarins		1.50@	2.00
Tangerines		2.50@	3.50
Hickory Nuts		1.00@	1.50
Black Walnuts		40@	60
Peanuts, Virginia, per lb		—@—	7
GRAIN—Wheat, State white, per bus		1.13@	1.14
Ungraded spring		1.03@	1.15
No. 1 red, winter		1.10@	1.11
No. 2 red, winter		1.04@	1.04½
No. 1 hard, spring		—@—	—
Corn, No. 2, white		—@—	49½
No. 2, mixed		48½@	49
Oats, No. 2, white		34½@	35
No. 2, mixed		32@	32
Barley		75@	85
Buckwheat		50@	55
Rye, State and western		60@	62
HAY—Timothy, per 100 lbs		90@	95
Shipping		80@	85
Clover		80@	85
Straw, long rye, new, No. 1		70@	75
No. 2		60@	65
Oat		—@—	55
HONEY—White clover, per lb		15@	16
Buckwheat		7@	8
Strained		7@	9
HOPS—N. Y. State, 1888, choice, per lb		21@	22½
Good to prime		18@	20
Best, 1887		10@	11
Pacific Coast, 1888, best		16@	17
Pacific Coast, 1887		8@	13
POULTRY—Live fowls, per lb		13@	14
Spring chickens		10@	11
Turkeys		13@	14
Ducks, per pair		70@	90
Geese		1.00@	1.00
Dressed fowls, per lb		11@	13
Chickens		11@	13
Turkeys		13@	14
Ducks, per lb		12@	14
Geese		9@	10
PROVISIONS—Beef hams, per bbl		21.00@	23.00
India mess		20.00@	20.00
Hogs, dressed, per 100 lbs		7.12@	7.25
Lard, per tierce		7.00@	7.12
Pork, new mess, per bbl		15.75@	16.25
Short clear		16.00@	17.00
Family		15.50@	16.00
VEGETABLES—Cabbage L. I., per 100		1.50@	4.00
Cauliflower, L. I., per bbl		1.50@	2.00
Celery, L. I. & Jersey, doz. bunches		75@	1.00
Mich. and State, per doz. roots		25@	35
Kale, Scotch, per bbl		50@	75
Onions, State, yellow, per bbl		1.00@	1.50
Orange Co., red		90@	1.00
Conn. white		2.40@	2.50
Potatoes, Maine, per bbl		1.75@	2.00
State, Burbank and Peerless		1.75@	1.90
Long Island		2.00@	2.10
Jersey, sweet		1.00@	1.75
Virginia		1.50@	2.00
Spinach, Norfolk, per bbl		1.25@	1.00
Turnips, Jersey, Russets		—@—	60

Cattle Markets.

NEW-YORK, Jan. 5.

BEEVES.—Receipts, 4,701 head. The week opened with unfavorable weather and a very dull feeling in trade also, with a decline of 10 per cent. The tone improved on Wednesday when on a liberal supply the markets opened steady. This feeling was not sustained, as the markets closed weak. Friday on a brisk demand values recovered 10 per cent. The herds reported ranged from coarse to fair, and were largely from the far West. The best of those offered were taken for export.

[Per central, cut.]	This week.	Last week.
Good beeves	$3.60 @ ——	$3.60 @ ——
Fair	3.00 @ 3.50	3.10@3.60 @ 3.75
Coarse	2.00 @ 2.75	2.00@3.00 @ 3.75
Poor	1.00 @ 1.75	1.50@2.50 @ 3.25
[Per central, gross.]	This week.	Last week.
Good beeves	$5.10 @ ——	$5.10 @ ——
Fair	4.60 @ 4.80	4.60 @ 4.80
Coarse	3.40 @ 4.25	3.40 @ 4.25
Poor	2.70 @ 3.75	2.70 @ 4.00
Dairy	3.10 @ 3.75	3.00 @ 3.40
Dry cows	2.10 @ 2.75	2.00 @ ——
Bulls	2.60 @ 3.75	2.50 @ 3.75

MILCH COWS.—Receipts, 167 head. An avalanche would be a trifle when compared with the sudden eruption of cows observed on these markets. The quality of the animals was from miserable to fair, and the range of prices $18@30 per head.

VEALS AND CALVES.—Receipts, 913 head. The arrivals continue to be scanty, and the demand active for veals and much improved for calves which have been, for the week under consideration, less deplorable in aspect than for several weeks past. Range of prices: Calves offered in mixed lots at $3.50@4.50 per cwt.; yearlings, 3½c. per lb.; calves, part meal-fed, $4.00@5 per cwt; Western calves, 3½@4c. per lb.; veals, 6@8½c.

SHEEP AND LAMBS.—Receipts, 24,555 head. The week opened with a quiet tone in business. The markets improved on Wednesday, when sheep became steady and lambs firm. Thursday trade was dull. Friday sheep remained steady. Lambs advanced ½c. per lb. Range of prices: Sheep, $4.25@5.15 per cwt.; ewes, 3½@4c. per lb.; rams, 3½c.; lambs, $5@7.40 per cwt.; calf lambs, $4.00. Quality very poor to good.

SWINE.—Receipts, 23,102 head. There were no live hogs offered for sale during the week under consideration. The tone was nominally steady.

BUFFALO, Jan. 5.

[Per central, gross.]	This week.	Last week.
Extra steers	$4.90@5.25	$5.00@5.25
Best butchers	4.75@4.85	4.75@4.85
Second quality	4.50@4.70	4.50@4.65
Poor to common	3.25@3.60	3.25@3.60
Stockers, western	2.75@3.05	2.75@3.05
Feeders, Canadian	3.25@3.60	3.25@3.60
Bulls	2.00@3.00	2.00@2.50

Receipts, 9,150 head, against 11,200 head last week. Attendance of buyers very light, and with the weather against trade the feeling was weak. A lot of the export and choice shipping steer was sent forward in first hands, but the small offerings of light fat butchers' steers were easily disposed of on country orders. At the closing, no good cattle were in the yards, and prospects for next week were much improved. Stockers dull; receipts light. Bulls quiet. Veals active; light receipts; extra, $4@5; choice, $3@4, and heavy fed $3@4.

MILCH COWS.—In fair demand and supply; extra, $45@55; good to choice, $35@40; common to fair, $20@30.

SHEEP AND LAMBS.—Receipts 27,000. Fair demand for choice sheep; common dull. Good to choice, $4.75@5; extra, $5 15@5 25; fair to good, $4@4 50; common, $3@3 75; culls, $2.50@3.00. Lambs closed easier; western good to choice, $6@6.40; fair to good, $5@5.90; Canadian, $6.40@7.30.

SWINE.—Receipts 31,000 head. Market opened active and higher, but after the first three days demand fell off, and with heavy receipts prices declined rapidly, closing 40 to 45c. lower and weak. Yorkers, $5.15@5.20; mediums, $5@5.10; heavy, $5.30@5.35; pigs $5.10@5.20; roughs and stags, $4@4.50.

BOSTON, Jan. 5.

BEEVES, NORTHERN.—Good oxen, dressed, 9½ per cwt.; fair to good, 8@8½c.; second quality, 6@6½c. WESTERN, Alive—Extra, $5.25@5.50; good to prime, $4.75@5; light to fair, $4.25@4.50.

MILCH COWS.—Trade slim at $35@50, per head.

CALVES.—Receipts about 600, at 2½@6c. per lb.

SHEEP AND LAMBS.—In quicker request. In lots at 5@6 per head. Spring lambs, 8@9c. per lb.

SWINE.—Western fat hogs, alive, 5@5½c. per lb, northern, dressed, 6½@6¾c.; pigs, $4.50@5 per head.

Dairy Markets—Jan. 7.

ALBANY.—Butter easier; receipts fair. State creamery, choice, 30c.; Western creamery, 28@30c.; State dairy, 26@28c.; fair to good, 22@25c.; Western dairy, choice, 22@25c.

Cheese firm; supply ample. State factory, full cream, 12½@13½c.; dairy, good to fancy, 12c.

NEW-YORK.—Butter weak and irregular. Receipts 15,151 packages. State creamery, tubs, 30@31½c.; fancy do.; Western creamery, fresh, 28c.; State dairy, choice, 27@28c. Western dairy, 19@23c. Western factory, choice, 21@22c.

Cheese quiet. Receipts, 10,438 boxes. Factory, best, 11½@11¾c.; good to choice, 10½@11c.; night-milk skims, 9@9½c.; Ohio State, 11@11½c.

BOSTON.—Western creamery, extra, 32@33c.; extra firsts, 29@30c.; factory, 23@24c.; Vermont, extra, 29@30c.; dairy, choice, 22@24c.; Eastern creamery, good to choice, 29@30c.

Cheese, Northern, choice, 11½@12c.; Western, 11½ @11½c.; sage, 12@13c.

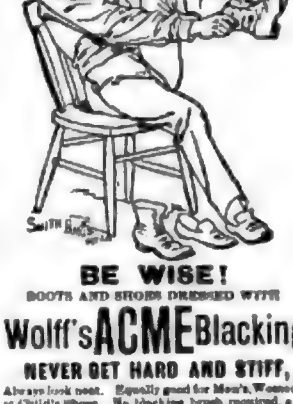
Wool Markets—Jan. 7.

ALBANY.—Market firm; sales light.

No. 1, Pulled	29@31	Medium Fleece	29@30
Super Pulled	29@31	Fine Fleece	29@30

NEW-YORK.—Ohio X & XX, 30@32c.; Michigan X, 30@31c.; combing, double, delaine, 30@32c.; unwashed, western, 25@28c.; pulled, No. 1 territory, 32@34c.; Oregon, 25@31c.; scoured, 50c.; California, 30@31c.; Cordova, 30c.; Montana, 30@c.; Colorado, 28@29c.; scoured do., 45@ 50c.; Texas, 18@20c.; scoured, 37½@40c.; East India, 21@ 26c.; Montevideo, 30c.; new Australian, 39@c.

BOSTON.—Sales 2,240,000 lbs. domestic and foreign; Ohio and Pennsylvania, 34@36c.; Michigan, 32@33c.; Texas, 19@20c.; combing and delaine, 34@40c.; unwashed, 30@32c.; scoured, 75@80c.; pulled, 36@70c.; Territory, 2 qlfs.: California, 19@24c.; Oregon, 19@ 30c. Australian, 40c.; English, 40@42c.



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The Fireside.

Recent Publications.

"Masterpieces."—This is the expressive title of a duodecimo volume issued in attractive style by the Fowler & Wells Co., 775 Broadway, New-York, and containing Pope's Essay on Man, Æsop's Fables, Milton's Comus, Coleridge's Ancient Mariner, and Goldsmith's Traveler, Deserted Village, and Hermit—all illustrated. The price is $1.25, and the book is worth it.

Government and History.—The Rev. JAMES B. CONYNGHAM, author and publisher, Morristown, Tenn., sends us a sixteen-mo of 262 pages entitled "THE BIBLE AND THE LAND," having for its main purpose the presentation of an argument, based on moral grounds, for the abolition of all taxes except those on land. The price is $1.

From Messrs. F. A. Stokes & Bro., 189 Fifth Ave., New-York, we have two additional volumes in their deservedly popular "Lives of the Presidents" series. One is devoted to Harrison, Tyler and Polk; the other to Grant.

Gored Maps.—Mr. E. Hollinshade, 186 Lake St., Chicago, publishes ingenious "gored" maps of the northern and southern hemispheres, which are claimed to convey "a proper conception of the exact relations borne by one portion of the earth's surface to another," about as well as could be done by a globe costing a hundred times as much.

Periodicals.—That very beautiful monthly, the Magazine of Art, (Cassell & Co., 104 Fourth Ave., New-York,) has for frontispiece to its January issue an excellent reproduction of a remarkably spirited and striking battle-scene—just the thing to frame and hang up.

A standard monthly of another class, the Atlantic, (Houghton, Mifflin & Co., Boston,) also begins the year with a noteworthy frontispiece, a steel portrait of the poet Whittier, which will be gladly welcomed, no doubt, in thousands of homes.

A writer in the January Century doubts whether full pecuniary justice is always voluntarily rendered to architects by their clients, and argues thus:

"A doctor may manage a very large practice with a 'plant' consisting of a small office, a brougham, a single assistant and a boy to open his door. A lawyer's outlay need not be much greater. But what are an architect's needs? It may seem very simple work to the public 'merely' to design a building on paper, and 'merely' to supervise its erection by contractors who 'do all the real work.' But to design a building means to prepare, not only the little sketches and plans a client sees, but very many large scale drawings requiring much time for their elaboration, and not only artistic reflection, but long and complicated mathematical and pecuniary calculations too. And to supervise construction means frequent and extended visits from the architect or some competent assistant. All this implies very large and well-lighted, and therefore very expensive offices, a numerous corps of assistants, some of whom must be men of great skill and long experience, and constant journeys, often to very distant spots. Every one knows the immense commissions which Mr Richardson received; but who remembers that he had more than a score of artists in his employ and took monthly journeys to Washington and Chicago? All architects must bear such burdens, but they fall much more heavily upon the American than upon the foreign practitioner. Rents are enormously high with us; the intense competition of Europe send an established architect pupils who are willing to pay large premiums, while here salaries must be given from the start and must rapidly increase if good men are to be retained; and there is of course no comparison between the cost of journeys in France or England and those in our widespread territory. There are other facts which make an artist's task much harder here than in Europe and which tend to perpetuate the public feeling of distrust, but we merely wish at this moment to lay stress upon the fact that even the largest commissions on the most expensive class of buildings bring him a reward so disproportionate to that secured by an equal amount and quality of labor in other professions, that he may rank himself with the clergymen as among the least well paid of our professional men."

The following account of "a beaver's protest" is from an interesting paper in Harper's Magazine for the current month:

"Until the fall snows carpet the ground and render 'still-hunting' practicable it is not uncommon for hunters to patrol the water-courses at night in the hope of surprising some one of the deer tribe in or near the water. He who is to do the shooting sits in the bow, while the stern is occupied by the paddler, who impels the canoe in a manner that is absolutely noiseless. The many sounds which at night characterize the woods on the confines of civilization are wanting in the forests of the wilderness. In the absence of wind the silence is that of death itself—like the Egyptian darkness, it seems as though it could actually be felt. And so the canoe steals slowly on, as silent as the shadow of a cloud, its occupants, their nerves at the highest tension, straining their ears to detect at the earliest possible moment the presence of the game they seek. Suddenly, without the slightest warning, the death-like silence is broken by a sound, as though the guardian angel of the deer tribe had hurled a stone about two feet in diameter into the water in the immediate vicinity of the canoe. It is the protest of the beaver against the invasion of its domain. I had heard this sound many times, and its cause had been explained to me as often. Still, though long experience had taught me implicit confidence in my companion and mentor, I could yield him in this but a half-hearted faith. It seemed incredible that an animal less than three feet long could make a noise the size of a two-story house. But one moonlight night we stole on a beaver swimming in a narrow stream. Not till the stern of the canoe was within five feet of it did it detect our presence. Then down went its head, and rounding up its back, it struck a violent blow upon the water with its tail, and vanished. I was liberally showered and thoroughly convinced at one and the same moment. When excited or alarmed, a beaver will sometimes continue this performance, easily audible for half a mile or more, at half-minute intervals, for ten consecutive minutes."

The Wonderful Wishbone.

After service, up the aisle
Trips small Bessie fast and faster,
She has something strange to tell
To the dear and honored pastor:

"Do you know what is at home?
I've a little baby sister!
Yes, she is my very own—
I have patted her and kissed her.

She's so cunning! it's so nice
Papa has another daughter
It was only just last night
On their wings the big storks brought her."

Then continuing her story—
"If you want a baby sister,
You must break a chicken's wishbone—
When you wish you mustn't whisper.

That's the very way that I did,
And you see that I have got her;
I'm so glad the door was open
When the storks to our house brought her."

—*Good Housekeeping.*

Boxes and Other Things.

Boxes claim to be the fashionable fad of the hour. Bags are relegated to the have-been, and boxes have come to the front. These are of every conceivable shape and size. The upholstering varies, and may be done in either velvet, satin, plush, raw silk, satin or cretonne. The most popular colors seem to be apple-green, in combination with pale rose pink, mahogany and salmon pink, delicate blue and cream, and a deep, rich shade of gold, or bright, pumpkin yellow, without any contrast. A very elegant pocket-handkerchief receiver is made of a square pasteboard box, which must be of good, thick make. Cut it apart where it is joined, and first place a covering of canton flannel over the pieces and sew them smoothly. Next take a double piece of cotton batting and cut a little larger than the box, sprinkle quite thickly with any favorite sachet powder between the folds, and over it put a covering of thin, soft muslin, tack to one side of the canton flannel, and sew firmly together the sides and ends of the box, and lastly, the bottom. Have the inside lining put on so that it will look puffed. Have the finishing covering cut out an inch larger than the box, and sewed together before putting it over the box. The effect of this will be to give it a much fuller appearance than if it were sewed on before joining together. Have the cover well wadded, and you may use it on occasion for a pincushion. Put quite a thick cord around the edges, and a loop of very narrow ribbon on the edge of the cover to lift it by, and a bow of wide ribbon on the top. The most effective box of this kind that I have seen was covered inside and out with bright pumpkin yellow plush, and was valued at $3.50. But the color of the covering must, of course, be in harmony with the prevailing color of the toilet accessories. This box should not be over two inches deep. An elongated box, to be used as a glove box, would serve as a companion to it. Have a narrow ribbon tacked to the inside of the cover through which insert your glove buttoner. A jewel-box lined with chamois will be found to be better for this purpose. The chamois may be embroidered or painted and be made very elegant. Then there is the box for the parlor, useful as well as ornamental, to hold stereoscopic views, and a smaller one for cards, dominoes, or the checks for games.

A foot-rest made of a box four inches deep and about three-quarters of a yard square, covered with dark garnet felt or cloth and wadded thickly, will be very comfortable. Have the cover of the box and the cover for the foot lined with fur, finishing it all around with heavy cord or a ruching of cloth pinked on the edges, and a heavy fringe around the bottom of the box.

Boxes for wood, for window plants, and for the children's toys, painted or covered with some heavy but suitable material, are all in order. Linecrusta, when gilded or painted, is very handsome. Window boxes for seats may be made effective by covering the sides with a small-figured and rich-colored brussels carpet, and over the top putting a small Persian rug, with heavy fringe around the edge. Have a thick pillow, stuffed with corn husk, excelsior, or any other material at command, and tack on the box before putting the rug on.

AUNT ADDIE.

Rollo in Virginia—V.

Sundry Preliminaries.

Having thus defined the bounds and limits, James next decided that the proper thing was to lay out the grounds, particularly about the house, in a symmetrical and attractive manner. Mr. Holliday had some important business which occupied a good deal of his time in town and he believed it wise to let James and Rollo get accustomed to the management of the farm in their own way. "They will make mistakes," he said to himself, "but so should I, no doubt, and after all, experience is the best teacher." So they were put under their tutor immediately.

It was the third day after their arrival, as set down in Rollo's diary, that James and Rollo, with the assistance of Jonas, Mosby, the pocket compass and the tape line, began the task of laying out the drive-way and paths. James was, theoretically, quite an expert in landscape gardening, but the grounds were somewhat cramped, the trees were too large to move, and altogether the conditions did not lend themselves readily to serpentine effects. The time and labor spent in preserving the integrity of the design and in respecting the line of pegs that separated the roadway from an almost equally bare piece of ground that was said to be seeded would have appalled a practical farmer. James, on whom the responsibility of directorship devolved, did his duty however, according to his lights, by keeping Robert and George, another colored man, steadily engaged in the regular farm work, while he and Rollo and Jonas prosecuted the landscape gardening and improvements. These however, by the advice of Mr. Holliday, he suspended for the more important business of making the vegetable garden.

Mr. Holliday was somewhat dismayed at the arid appearance of the red clay which composed the greater part of the farm, where the still more hopeless white soil did not appear, but he resolved to make the best of it, and trust to the virtues of guano and thorough cultivation for success. The choice of the proper vegetable for the main crop occasioned considerable discussion, and the catalogues and books were faithfully studied for vegetables suited to heavy soil. The result fell, singularly enough, upon carrots. It chanced that Amos had once raised a carrot in a post hole that attained the enormous length of fifty-two inches and took the premium at the county fair. He was confident that carrots could be raised in more or less perfection and abundance anywhere and on any soil, on gravel or clay, or on bed rock, or raised on a bottle even. So Amos's last adjuration to his uncle on parting was: "Plant carrots." So it was resolved that carrots it should be. James read a statement, credited to an "exchange," that the onion possessed curative and anti-scorbutic qualities of a very high order, and that Arctic expeditions had found it an indispensable adjunct of their commissariat.

"There is no doubt of it," said Mr. Holliday. "The onion is a most healthful vegetable, and is of as great use in tropical as in Arctic regions. It is believed that the Israelites in Egypt could never have performed the tasks exacted of them had it not been for the onion and the leek. Yes, we must raise onions plentifully, and eat them freely."

Rollo put in a vigorous plea for the watermelon, in which he laid himself open to suspicion of interested motives. Carrots, onions, and watermelons were accordingly decided upon for the main garden crops, and there was an ample supply of seed for general variety in a small way for home and neighbors.

It was Rollo's first experience in practical gardening (if indeed this could be called practical). James had once raised a crop of popcorn, and had witnessed the four-foot carrot, and so he was, in a manner, a veteran. As this therefore was Rollo's maiden effort, and as the field was the same upon which so many northern farmers have fought and failed, it may be deemed fortunate for those amateur gardeners who may feel a sort of fraternal interest in Rollo's efforts, that he kept a diary, though his unwonted labors made his entries very meagre and unsatisfactory. He would often open his diary after supper, when the little family—alas how incomplete, and how very like a shipwreck it was!—was assembled in the sitting-room before the open fire, with the most conscientious intention of writing the history of the day; then all would become hopelessly mixed in a dreamy castle-building in the embers, and the pen would scratch unguided down the page. But we can find enough to make quite a complete history of the carrot crop.

May 10.—Robert and Dave and the two boys planting corn on the hill lot. It was plowed deeper than it ever was before, I guess. Jonas plowed the lower end of the east lot by the road. A great deal of soil has washed down there from the top of the hill, and it must be very rich. Jonas says it is too wet, but father thinks it will dry off faster after it is plowed. He is very anxious to get the seed in.

May 11.—James has made a crop-map of the farm, so that we can plan a rotation of crops, —corn, roots, grain and grass alternately. Will have to postpone building the front fence and laying out walks and beds until fall, there is so much to do. Robert, Dave and the boys planting corn. Dave marks out and Robert drops the phosphate, while the boys drop the seed and cover it. Dave says they drop too thick, but father says better too thick than too thin, for the crows, the squirrels and the rabbits will all come in for their share. Jonas harrowed the east lot for the carrots. It is getting drier, except the lower part which is quite muddy.

An Experience with Carrots.

May 12.—The carrot ground is too dry already and part of it is still too wet. It does not seem to come fine under the harrow, particularly the higher portion. The lumps are as hard as bricks. The corn planting is nearly done. We have a couple of women helping to drop and cover. They work just like men.

May 13.—Finished planting the corn and all hands went to pounding the carrot ground with long-handled mallets that they call "stombers." Some places the ground looks as if it was all stones, the clods are so hard. It is not a bit like a garden. Jonas says there isn't soil enough to cover the seed. But we'll pound it fine after a while. It is capital exercise, my arms are lame and my hands are blistered already.

May 14.—Working on the carrot patch, Jonas harrowing and using the clod crusher. Being anxious to get the ground as fine as possible the roughest part has been pounded and harrowed repeatedly so that it is in very fair order.

May 15.—Sowed the carrots. The planter works finely, except that the guide chains are no use in marking, the ground is so hard. At first a great deal of seed went through the planter, because we set the carrot hole in front instead of inside, misunderstanding the directions, so that the seed ran out of the bean hole. But we soon fixed that when we found how quick the hopper got empty, and then it went all right. Mr. Baur and Mr. Chichester came to see the planter work. Mr. Chichester said it was a tiptin' lookin' thing, but he reckoned it was a right smart o' help.

It would be tedious to follow the diary through all the weary details of weeding and cultivating. Rain came and a bountiful crop of weeds threatened to forestall the expected crop of roots. Mr. Holliday fought the enemy painfully and perseveringly, and endeavored to console himself that such a strong growth of weeds betokened a corresponding strength of soil. But however that may have been, there was little strength in the carrots themselves. They seemed to be ready to relinquish their right of possession without a struggle, while the weeds grew defiantly, and even with a sort of cheerful indifference to the contumely put upon them, and when pulled up in the day, they took root again in the night, and threw up their tall

tops between the delicate feathery plants and the sun.

The carrot, despite its homely virtues, is a delicate, tender plant, easily crowded back and choked out by bolder rivals. It requires protection, rich and friable soil, and gentle rains to insure its perfect development, that golden crispiness and aromatic spiciness that beautifies the market stalls and delights the epicure. But it is not a favorite or even a familiar vegetable at the South, where they look upon the "roots" with contempt and suspicion, doubting if they are fit for anything but cattle food. With a lack, therefore, upon the one hand, of skilled direction, and upon the other of that loving care which the devoted, if ignorant, horticulturist pays to his favorite crop; with an uncongenial soil below and scorching skies above, it is no wonder that the carrot crop fell below expectation. Nevertheless no labor was spared which seemed likely to effect beneficial results until the crop was ready to harvest. This was when they had grown as large as they were able, without being coarse and unwieldy. "People do not seem to recognize it," said Mr. Holiday, "but a small vegetable is usually more delicate and highly flavored than a large one. Overgrown things are never really first class."

The next thing was the marketing. Several bushels of roots were nicely washed, and with a box of eggs, and a pail of butter, made up into neat prints and laid in grape leaves by Dorothy, James and Rollo started for market. They had not yet got so accustomed to their new position that the feeling of novelty had worn off, and the night ride under the stars, on roads so lately made famous by the gay march on Manassas and the terrible retreat from Bull Run, could not but lend a sensation of unreality to the two boys, who only a few months before were looking forward to a professional career. (This is an excellent opportunity to moralize upon the perversity of fate, how—

"Swords cleave to the hands that sought the plow,
And laurels mock the soldier's brow."

How—

"Full many a gem of purest ray serene
The dark unfathomed caves of ocean bear"—

but I shall refrain. My subject is carrots.)

They crossed the Leesburg pike, one of the whitened sepulchres of Virginia's gigantic debt, at Bailey's Cross-Roads, well known as the place from which the rebels menaced Washington before the great advance was made into Virginia, and where was held the grand review of 1862. It was marked by a single house and a blacksmith's shop, and near by were a couple of mournful looking chimneys, at the end of an avenue of trees, like monuments of a departed greatness. Some miles farther was Convalescent Camp, upon the edge of the table land overlooking the Potomac. It was now "sun up," and the beautiful white dome of the capitol shone grandly above the awakening city. Down the long hill big Bucephalus trotted slowly (there were yawning gulfies on either hand) past Fort Albany, the Freedmen's Village and Fort Reno, still occupied by Union soldiers, but at which challenge was no longer given or pass required. Then more earthworks, and the inner line of the capital's defences was passed, then the causeway by the river, another battery, and then the Long Bridge, over which that steady stream of a million men marched on to Richmond, many, very many, of whom never returned.

This may seem a digression, but Rollo and James talked more about the scenes upon the road than the prospects of the market, and the prevailing price of carrots was not once discussed. It was now "day all about." They paid their toll in the middle of the bridge, and arriving in Washington drove direct to the "ma' th market," an unsightly collection of sheds bordering on the old canal or Tiber creek, otherwise "the ma'sh." The farmers backed up their wagons to the sidewalk on all sides and in the unpaved court, displaying their loads of produce on improvised stands on the pavement and retailing to the housekeepers who followed by colored boys with baskets, were out making their morning purchases. Squatted on the sidewalk against the building were colored market women with their little stocks of herbs, "smear kase," and eggs displayed on big bandanna handkerchiefs or petticoats. James and Rollo had no difficulty in selling the eggs, but the butter made some trouble. No one wanted more than one, or at most two, half-pound prints at once, and every one not only said the butter was colored and tasted of garlic, but wisely shook her head and said she knew. As for carrots, nobody wanted them at all. There were no offers, wholesale or retail. Not wanting to spend half the day in the market, they took the carrots to the stableman of whom Mr. Holiday had bought the dun team. Mr. Kelly was kind enough to take the carrots, at thirty cents a barrel, though he did not want them and was very much afraid they would choke his horses. They then had the horse fed and went out and got some lunch for themselves.

The effort to market the carrots resulting so disastrously, it became a somewhat troublesome question how to dispose of them. At last a purchaser was found in the person of a horse railroad man from the North, who took the crop at eight cents a bushel. The account, as Rollo figured it up, stood something like this:

CARROTS, DR.

To 2 pounds seed, at $2	$4.00
plowing and harrowing	4.00
3 hands 2 days breaking clods	3.00
sowing	.50
3 hands 8 days weeding and hoeing	12.00
1 sack phosphate	1.00
cultivating	1.00
gathering crop	1.00
2 trips to market with men	1.00
	$40.50

CARROTS, CR.

By 2 bbls. carrots, at $5	$10.00
40 bush. carrots, at 15	6.00
10 bush. carrots fed, at 80	.80
profit and loss	23.70
	$40.50

Clearly, carrots did not pay. "But, after all," argued Mr. Holiday, "the 'profit and loss,' as the conventional term indicates, is not all loss; the experience must go for something. We must expect," said he, "to make mistakes at first; it would be folly to suppose that success would follow every effort. But we'll learn." They did learn, and paid well for their education. JOHN TOMAS.

Handkerchief Case, p. 937.—I have two before me of the same size and style but differing in detail. One is made of cardinal red satin lined with white satin. Take a piece of each color, one half yard long and one quarter yard wide. Mark each piece on the right side in diamonds, being careful to have the lines true. Baste each piece of satin on two sheets of white wadding between which sachet powder has been sprinkled; and quilt over the lines by machine with white silk on the red and red silk on the white. Lay the quilted pieces together, wadding sides out, and stitch the edges except one end which must be left open in order to turn the work.

After turning the right sides out, turn the edges of the end and neatly overhand them together. Sew cable cord to match the red satin all around the edges, making a loop at each corner. When folded, the case forms a double square, within which the handkerchiefs are to be placed.

For the other case, take half a yard of light blue damassée silk, one quarter yard wide, and the same quantity of white satin. Line the white satin with four sheets of wadding sprinkled with powder, and quilt in squares with blue silk. Outline the damassée figures on the blue silk with yellow embroidery silk. Stitch the blue and white parts together, and finish like the other, except that blue and gold cord must be used.

Another case that I have seen is made of two distinct squares, sewn together, instead of one piece folded. Take four pieces of satin, two of light blue and two of light pink, each a quarter yard square. Line each piece with scented wadding, and stitch the pink with the blue. Finish each square neatly, and trim it all around with white lace. Sew the squares together on one side and one end. The loose corner is then turned back to the centre and fastened there with bows of pink and blue ribbon.

Instead of quilting or outlining the outside, hand-painting may be used.

LILLIAN MAYNE.

December in Bermuda.—A subscriber in Bermuda (580 miles S. E. of Cape Hatteras, lat. 32°, or about the same as Charleston) sends us a record of the thermometer at that place in December, which ranged between 58° and 71°, the extreme daily range being 11°. The temperature of the sea for the same period was 66° to 70°.

A city physician in the South was sent for to see a little country darkey who was suffering from a small abscess just below the knee. The child timidly barely elevated her dress. "Poke out yer leg, nigger!" her mother sternly ordered; "legs ain't no rhar'sty ter Dr. D—." Buyer—"How much are these trousers, Mr. Solomons?"

Mr. S.—"Vell, mein freund, ve are yust givin' dose pants avay."

Buyer (effusively)—"Thanks—thanks! I'll take this pair." (Exit rapidly with trousers.)

Domestic Economy.

A Virginia Dinner.

As I have read several articles in the COUNTRY GENTLEMAN about holiday dinners, from the pens of northern and western friends, I thought it might be interesting to some to hear about Christmas in old Virginia. While we celebrate Thanksgiving Day here, it is not such a festive season as Christmas. On that day all the branches of the family—children, grandchildren and great grandchildren—gather under the paternal roof. Everything that will facilitate and lighten the work of Christmas day is done on Christmas eve, such as dressing and decorating with evergreens and holly the hall, parlor and dining-room. Before day, Christmas morning, the huge yule log is brought in by two servants and placed in the large fireplace in the dining-room. Pine twigs, cedar, &c., are thrown on the blazing logs, and soon the delicious woodsy odor awakens the inmates of the manor home, and we then realize that indeed it is Christmas morning. We hastily dress and repair to the dining-room, where, on the large, old-fashioned sideboard, are large bowls full of smoking spiced and apple toddies, eggnogg, &c. Every one looks as happy as happy can be, and "Merry Christmas!" and "Happy New Year!" are heard on all sides. There is a bustle and noise at the side door and there are the servants bowing and smiling, waiting for their Christmas gifts. Every member of the family has something for them—they are never forgotten—and they go away happy, loaded with warm hoods, comforts, dresses, aprons, handkerchiefs, ribbons, &c., while one of the old grey-haired men (superannuated) bears off one of the large bowls with smoking contents, and all seem as happy and grateful as "fo' de wah," as they term it, and we know full well that they join with us in saying "Peace on earth; good will towards men." After a bountiful breakfast we laugh and chat and tell all the news until it is time to get ready for church. The carriages are at the door and we hie away to the little ivy-clad stone chapel where Christmas services are held, hear a good sermon and return home accompanied by the parson. At 3 o'clock dinner is announced and we all march for the dining room where there is a table just groaning beneath its weight of good things for the inner man (and woman too). The table is beautifully decorated with flowers from the greenhouse. The bouquet in the centre is the old gardener's pride. We seat ourselves at the table and read carefully the

MENU.

Oyster Soup.

Celery. Pickle. Cucumber. Peaches, &c.

Roast Turkey. Oyster Dressing.

Roast Pig, baked whole with apple in its mouth.

Roast Beef. Baked Old Ham.

White Potatoes. Sweet Potatoes. Sweet Corn. Tomatoes.

Lima Beans. Parsnips. Salsify.

Dried Stewed Fruits—Peaches, Pears, Damsons.

English Plum Pudding. Wine Sauce.

Mince Pies. Pumpkin do. Green Apple do.

Custard. Damson Tarts. Fruit Cake.

Confectionery.

Fruit, &c.

The ladies retire to the parlor when coffee is served; the gentlemen remain at the table in the dining-room and smoke and chat at their ease. At early candle-light the younger members of the family begin their Christmas in earnest. They have music, games and dancing, which they keep up until the "wee sma' hours." Thus endeth the chapter of a Christmas day in Old Virginia. EVERGREEN.

A Remedy for Nausea.

Every one will call to mind circumstances under which nausea becomes very annoying if not distressing. Some are subject to periodical sick headache in which nausea is a part of the affliction. There are a great number of diseases in which this annoying condition is present. Many years ago the writer, although never suffering from it personally, was led to investigate the causes of nausea and what might relieve it. It is a pathological fact that all pains and most effects of disease are felt in or make their impress on the brain. Thus, the seat of nausea is in the brain and not in the stomach. The spinal cord leading from the base of the brain (*medulla oblongata*) ramifies to all the principal organs of the body, including the stomach. The sensation is thus in the brain and not in the particular organs supposed to be affected. The common fact is remembered, that persons having had a leg amputated still occasionally feel a pain apparently in the big toe of the foot lost. The writer was led to believe that cooling off the back base of the brain would relieve nausea at once, and experiment proved this to be true.

He tested this thoroughly in the case of sick headache, bilious cholic, cholera morbus and in numerous other cases, and never met a failure. The cold is applied to the base of the brain and back of the neck at the occipital bone. This cools the nerve centers and deadens sensation. Common well water, poured in a small stream on the back of the neck, will accomplish the object. This is often done by holding the head over a kitchen sink or tub, and pouring a small stream on the back of the neck, as indicated, which runs off, but soon cools the part and relieves the nausea. But when the patient is in bed, the cold may be applied in the form of an ice-cap placed on the occipital bone and back of the neck. This will produce relief usually in three minutes. The ice cap is made by placing small bits of broken ice between the folds of a towel—a very convenient form to apply it.

One of the most severe tests of this remedy was for nausea caused by cancer in the stomach. This kept up a constant irritation and constant nausea, so that the patient could get no sleep, but, on the application of the ice-cap, she fell asleep in a few minutes, and it continued to give complete relief from nausea, until the cancer finished its deadly work. This must be considered as severe a test as can be imagined, and would seem to render it probable that it would be successful even in seasickness, in which I hope it may be tried. E. W. S.

Keeping Meat in Winter.

EDS. COUNTRY GENTLEMAN—The ordinary way of keeping fresh beef in winter is to put it away in quarters or large pieces to freeze. Such had been our practice until last winter, when we adopted a new method. Instead of hanging up a quarter, as usual, we cut it up ready for cooking before putting it away to freeze. Roasts, steak, stew-meat and soup-meat were arranged just ready for use. A large old table was placed in a room not much used in winter, and which was free from rats and mice. The table was covered with an old, clean table-cloth, the meat placed on it, and another cloth spread over it. The meat was easy to cut before freezing, and with two to work at it, it took but a short time to get it prepared in nice shape for cooking. It saved a great deal of labor and annoyance during the winter.

When a large piece of meat freezes, it is sometimes very difficult to obtain just such a part as is wanted. The housekeeper, too, must depend on the "men folks" to get it, and they are often absent or busy just when the meat is wanted. But when cut before freezing, it is ready at any moment.

Unusual care was taken with the steak, as we fully appreciate a tender, juicy beef-steak, broiled "just to a turn." It was sliced the desired thickness for cooking and laid on plates, and other dishes not in use. But only enough for one meal was laid on a dish, for the reason that when the slices freeze together it is difficult to separate them without thawing them out. And it is a fact well known that alternate freezing and thawing of meat injures it. Two or three hours before cooking the steak, a dish of it was placed in a warm room, and by the time it was wanted it was sufficiently thawed out so that the slices would separate easily.

The handling of frozen meat is very disagreeable work, and since the meat must at some time be got in readiness for cooking, it is much better to do so while it can be cut easily. On two or three occasions, in close emergencies, I have been compelled to cut sufficient meat for a meal from a large frozen piece, and as I am not an adept in the use of the saw or knife, I fear it was not very skillfully done, to say nothing of the wasted time, patience and strength. It was to avoid future contingencies of like nature that my forethought suggested the idea of preparing the meat for cooking before it freezes. NELLIE BURNS.

Preparing Tripe.—Have the refuse collection in it emptied, and rinse off in clear cold water. Have six gallons of water in a washtub and add a quart of unslaked lime; if the lime is air-slaked take a double quantity of it. Put the tripe in and stir occasionally for six hours. Then with a sharp knife cut it up in pieces suitable to handle conveniently. Take a piece of board and lay one edge in the tub; with a knife scrape off the slime, which slips off with perfect ease; throw each piece into cold water till the whole is cleaned, then wash thoroughly and let it soak in water over night. Wash well and put it in a large kettle to boil, add a tablespoonful of soda for each gallon of water. When tender enough to pierce easily with a fork, pick it up, let it drain thoroughly, put it in a jar, pour a gallon of vinegar, with a teacupful of fine salt in it, over it, cover tightly and in a couple of days it is ready for use and keeps well. If one has not the lime, they can use a lye made of hard wood ashes instead; it tastes as well, but does not look quite as white. S. H. S.

Transfers of Thoroughbred Cattle.

American Jersey Cattle Club.

NAME. SELLER. BUYER.

Portia's Last 37409 J Brooks, J F Brown
Pride's Blossom 42381, J E Bedell, G W & C O L Bedell
Pride's Lassie 48803, C N Hoskins, J A Stoddard
Princess of Arkansas 3d 26388, S Kirkpatrick, A H Moore
Prospect's Edwina 45326, G V Green, W Morrow & Son
Quaker's Lady 3d 49201, W Gettys, J T Russell
Queen of Fredonia 53145, C Coppel, N E Becker
Queen of Mason 36747, S G Willard, J L Porter
Quindilla 30001 and Regina's Heiress 46764, C Andrews, J A Davenport
Rhoda Hudson 45173, E Miller, L A Mills
Rip's Meenie 33340, J Jefferson, W Wilson
Rosaling Beatrice 40254, W Gettys, J T Russell
Royalist's Vernetta 33402, J Mayor, C E Hill
Royalist's Virginia 33760, T W McNeely, Mrs J G Grimsley
Rufe's Thalema 42455, J C McCoy, W Heyser
Signalia Martuska 36717, J S Wallace, A McClintock
Spotted Clover Leaf 34161, G B Evans, G N Minor
Star Grissette 40301, S Kirkpatrick, A H Moore
Sue Sweetser 43321, L L Farris, H J Gilbert
Tansy Lowndes 3d 34260, E F Holly, E Washton
Tansy Lowndes 4th 37240, W A Conover, B McFarland
Tester's Pet 35018, J C Moore, T P Bledsoe
Vernilia 43651, G W Cook, M H Bacon
Vesquania 34 6242, C S Kiplinger & Co, J C Kiplinger
Wait a Spell 39184, M A Foster, C L Tuttle
Weston's Venusella 45771, J Mayor, C E Hill
Yum Yum Blossom 42385, J E Bedell, G W & C O L Bedell
Ace's Noble Pogis 39188, C B Hill, Lucerne Horse & Cattle Co
Anderson County 13262, L G Sloan, H Word
Angelo's Stoke Pogis 21433, Miller & Sibley, J Johnson
Arcenia 4th Hallie 31417, J Mendelin, J Leverty
Buckeye Torsentor 28626, G A Peters, C Penner
Buck Kilgore 32246, L P Wilson, Henderson Bros
Captain Pedro's Boy 17038, J Dater, J T Wiley
Captain Phoenix Bill, A W Winesburg, G S Morton
Carnilof 12351, J A Jessup, H B Gilbert
Duke of Southampton 17260, Mrs M A Remsden, H Fox
Earl of Arran 18260, J Boyd, S J Harrison
Eupidee of Richmond 30812, Mrs M M Srunch-McCall, B P Howard
Full of Fun 21726, J C Moore, T P Bledsoe
Graceful Warwick 19263, M Yoke, E Edwards
Grover Magnet 21466, J Boyd, W E Stanley
John Rhoten's Jersey, S Bros
Kelloe of Orford 3631, S W Robbins, Y Chaney, Jr
Lodestar Pogis, J Boyd, H Z Fish
Lord sands 13276, J H Worrell, Mrs J H Worrell
Lucy's Victor Hugo 30264, W Gettys, Mrs I I Marshall
Middlemarch Pogis, W Tracy, C Albertson
Nica Taylor 19240, J P Serrett, Mrs M E Heal
Nugget of Cream 21488, E Harrison, R P Shields
Oscar of Milford 18233, N H Edwards, Barrington Passage Ass'n Society
Patrick 18261, J H Worrell, Mrs J H Worrell
Prince of Avon 13514, A A Woodford, P E Day
Quartet 18261, W J Kelley, C H Peckham
Queen's Pogis 31497, S M Langdon & Son, E LeHeath
Rex Brookville 19253, H Worrell, Mrs J D Worrell
St Helier Stoke Pogis 21423, A Garretson, J J Jarvis
Shenango Pogis 20004, S Perkins, H K Wick
Silver Sheigh 19256, J S Montgomery, W W Mayfield
Spring Hill 19255, L L Stanton, F J Jenkins
Stoke Pogis of Bellerose 21177, W C Cowman, H Clark & Son
Albert's Prize 42351, J T Tallant, S Stevens
Alice of Fernwood 30315, D W Voyles, W E Patten
Alpha's Regina 33011, W F Parker, J K Bullard
Annette 31179, C Wood, J A Aull
Arbonne of Wyoming 42353, B W Edwards, J A Lyon
Belle Olinda 37370, M Murphy, S Kirkpatrick
Belle Africana 42351, M Coates, W W Lipscomb
Belle M, 19512, J Boyd, H Z Fish
Bertha of Kindsby 37365, C M Beebe, H R Hunting
Bertinelle's Beauty 23115 W A Weer, H P Davis
Blendine of Fernwood 30, 36210, D W Voyles, W E Patten
Boza New Year 42360, S O Peirson, J P Kennedy
Bibe's Maid 39824, H G S Pond, L T Chapman
Broka 18265, Est of J S Boyd, L Garnett
Brouwer's Lass 23345, W Cleaveman, H Clark & Son
Burnetta 42352, S Kirkpatrick, A H Moore
Bute's Rose 22347, Est of G Roach, I N Mills
Butler Princess 42344, W E Gates, W W Lipscomb
Cady 4th, 42362, C H Thompson, E S James
Carlo's Miss 42358 and Carlo's Rosetta 42345, M Murphy, J K Wilfong
Catalina's Queen 17242, J H Worrell, Mrs J H Worrell
Ceres Bryant 22363, C E Hill, Lucerne Horse & Cattle Co
Charlotte Clinton 34261, J Boyd, T Bacon
Cinnamon 31261, C Wood, J A Aull
Clover Leaf Mamie 42357, G M Beeman, J C Snell
Copsy 4th, 34276, C Wood, J A Aull
Crocus's Miss 42350 and Croton's Vertumnus 42348, H S Rains, J J Jarvis
Curlette 40 20, T L Hacker, W H Bartlett
Cyclone 18240, J M Jones, E R McIver
Dexterous flax clock, J G Higham, J J Getz
Dora Magnet clock, J Boyd, H Z Fish
Drusilla 34305, C Brown, H M Dibble
Duchess Catherine 32214 D W Voyles, W E Patten
Duchess Perenia 32261, H W Potter, J Clark
Duquia's Duchess 3d, G H Grimmell, F G Grimmell
Keith Parker 42346, W F Parker, J E Hyatt
Ella Morgan 42340, G W Howard, J E Hyatt
Erica 23 4661, J C A D Pendleton, T F Huxley
Estie's Daisy 42361, P D Huist, J W Shuster
Fassella 42347, S A Evans, N H Merwin
Fannie Lindstone 42341, J Boyd, T Bacon
Fayetta Butler 42343, A D McBride, F D Boring
Fleckinda 42351, W Cowman, H Clark & Son
Floralize 4th, 42349, C Wood, J A Aull
Flush of Linwood 1414, J C Douglass, J D Wood
Foot Hill Rosanna 42331, T W Palmer, Teagan & Co
Forty Winks 3d, 42316, F M Carryl, W G Atkins
Franzetta 3d, 34111, C A D Pendleton, T F Huxley
Friday Princess 42341, W E Gates, W W Lipscomb
Gertrude's La La 42358, C H Graham, F M Day
Golden Bell 3 M Neel, H Everson
Good Head 12367, S Kirkpatrick, A H Moore
Good Lucy Maid 42341, C A D Pendleton, T F Huxley
Golden Jane Rose, M Murphy, S Kirkpatrick
Golden Welcome 39729, Est of J S Boyd, J M Hamilton
Good Lady 12307, Est J S Boyd, C H Talbutt
Gretchen Magnet 30307, J Boyd, T Bacon
Hobo of Canterbury 23307, C E Hill, Lucerne Horse & Cattle Co
Heimdal 36721, W F Parker, J R Bullard
Helen Louise 3d, 11432, R H Freeman, T J Landrum
Helluna 23439, H S M Pond, L F Chapman
Hesella 4441, S M Rutherland, H Mowell
Hydrolizer 18253, J C Douglass, J D Wood
Hyzelbia 13255, C H Grimmell, F G Grimmell
Imbletta B C 14, C B Woodland C Q Charlton
Imbolete Hamilton 37367, W W Lipscomb
Ivy cent 3d, 12265, J C A D Pennington, T F Huxley
Instructress 42343, J Boyd, T Bacon
Isabel Nicholson 36715, R H Edwards, H A Hicks
Isle of Fernwood 30317, D W Voyles, W E Patten
Jasmine of St Lambert 19251, M M Sneath, M B Jones
July Beauty 42355, J H Beeman, J H Keefer
Kermi 42, 7012, S S Peirson, J F Kennedy
Kittie Ingleside 31319, W Gettys, Mrs I I Marshall
La Belle 23231, J L Harris, J G Caldwell
Lady Black Prince 34277, M Murphy, A K Pedrick
Lady Chayne 33004, Est of D D Bess, J S Hartman
Lady Hazeldine 33259, S M Neal, B H Caldwell
Lady Lydia 34266, E F Holly, H Z Fish
Lady Pogis Gem 42359, M Murphy, S Kirkpatrick
Lady Taunton 25584, Est of J S Boyd, Mrs L J Burd
Lanoline 34254, J C Douglass, J D Wood
Lass's Mary Pet or 30, 30464, J M Richmond, W A F Bates
Lorna of Willow Glen 41108, Wright & Dewey, W Dewbiles
Lottie Carpenter 30315, Carson & Bro, J L Yantis
Louise of Kindsby 21263, C H Beebe, H R Hunting
Lucilia Rex 23004, J H Bleiman, H Bleiman
Lulu Pearl 32265, H M Rasm, J J Jarvis
Maddie Collens 32, 23499, W N Burgess, H M Voorhees
Madame Perrin 23261, W A Valentine, T P Blodgett
Mary Ann 3d, 12462, L Howe, H L Parzon
Mary Gobs 42353, G W Howard, J E Hyatt
May Cream Girl 42351, W B von Richthofen, Mrs M E Davis
May of Fayetteville 32260, W C Cowman, R Clark & Son
Meadow Mikee 11236, C E Hill, Lucerne Horse & Cattle Co
Mellmee Princess 42341, W E Gates, W W Lipscomb
Midget 18254, E S Peirson, I D Risher
Millie 5427, Mrs S M Pond, L F Chapman
Milford Maid, 45811, H G S Pond, L F Chapman
Minnie Byron 34257, J Boyd, H Z Fish
Minnie Vass 43261, H Sweet, J Tanyehill
Miss Clementine 34262, H G S Pond, L F Chapman
Miss Lorraine 27011, J C King, W H & S P Condon
Miss Nellie 8 31741, E F Holly, C B Shaw
Mollie Parks 42349, W F Parker, J B Ray
Monetta Net 42364, J G Higham, J Rice
Nell of Elwood 42341, Douglas, I D Risher
Nell of Tumbighee 34278, J Hays, S C Talley
Nerrine M 28317, W T Cowman, R Clark & Son
Niagara 42361 Richardson Bros, W H Oliver
No Accident 42356, Boyd, H M Dibble
Oakling 12265, M Murphy, J K Wilfong
Orange Pogis 42341, E S Perryman, J R Cockrell
Pandora of Canland 3d and Pandora's Lyda 32253, W F Gettys, K C Taft & Son
Pansy Dale 3d, D B Meaker, J B Allen & Son
Pansy of Va 21, 12261, J M Hutchison, F Kershner
Pauline Signal 32254, W E Wales, W W Lipscomb
Pearsetta 42355, J L Harris, L L & R G Turner
Pearl Bessie 3d, 12262, C D Pendleton, T P Huxley
Pet of Tumbighee 38710, J Hays, H P Davis
Pierre's Pansy 11182, F L Hungerford, H M Clark
Pogis Allie 44855, G A Peters, C Penner
Princess of Asphaltine 34261, M Murphy, H Fox
Princess of Brandmoor 3d, 39274, J H Anderson, J S Wallace
Princess of Kleyhley 42352, M Murphy, W Laycock
Queen of Bath 26724, J L Harris, D Stone
Queen of Lamoille 41304, C M Hill, Lucerne Horse & Cattle Co
Queen of Vallonia 32264, C H Thompson, E S James
Queen's Sister 42357, C Wood, J A Aull
Queen Tamora 2563, J R Allen & Son
Rachael's Gift 34117, A P Gaston, O B Sullivan
Regina Bonheur 3d, 42336, C Brown, H M Dibble
Rex's Buttercup 17241 J H Worrell, Mrs J H Worrell
Rex's Eva 41124, S S Peirson, J F Kennedy
Rivalry's Pearl 42347, W F Parker, J K Bullard
Rosa of Milford 42122, G W Smith, G L Williams
Royal Possess 44331, S S Perryman, J H Cockrell
Rosina Star 32322, G M Beeman, J C Snell
Sadie Hugo 42354, W N Hales, A L Armstrong
Sans 30001, C Wood, J A Aull
St Lambert Bessie 10007, D J Leichheim, J G Higham
Santa Barbara 32 3003, H W Bassett, F Burton
Sara Thomas 3d 40321, C E Hill, Lucerne Horse & Cattle Co
Scaleld 19239, Est of J S Boyd, J K Hamilton
Sharon Rose 19244, Est of A N Curtis, H K Wick
Signal's Rose May 30302, G M Beeman, J C Snell
Silver Daisy 30018, J L Harris, J G Caldwell
Sire of Tumbighee 27301, J Hays, H P Davis
Starlight Setlinate 3d 30310, W M Burgess, H M Voorhees
Tinket 29329, W G Grabendike, C F Dietrich
Topsy of Fernwood 30313, D W Voyles, W E Patten
Tormentor's Rose 30320 and Vanilla 3d 30303, C Brown, H M Dibble
Vertumnus' Sister 24313, G W Quigley, W W Pitman
Victory's Silver 20321, W H Olee, F Agnus
Viola of Linwood 34271, C B Dibble, H M Dibble
Willing 3d 33471, W N Burgess, H M Voorhees
Young Lass of Lowlands 32347, S A Pyle, N M Merwin
Young Mischief 30305, G M Beeman, J C Snell
Zangela 32259, J G Wilson, H Sheng & Co
Amber's Pogis 15331, J G Barlow & Co, T Britt & Co
Baron of St Francis 19264, R Jamieson, J Cuthbertson
Champion of Starkville 10168, J C Keller, J W Pitts
Count Hollywood 19253, C H Walbridge, D D Tracy
Curfew's Stoke Pogis 21431, W F Earle, H Bullock
Duke of Dundee 21337, G W Cameron, D H Davis
Housatonic King 15347, P Cribben, F Burton
Hyen 24 21365, C Weston, R Woodward
Judge Hopkins 11230, R T Dorsey, J S Bennett
Kingman Pogis 21341, J C Weaver, A L Bowyer
Kingman Boy 23518, Palmer Bros, R L Palmer
Littlewood 21301, J R Kingsland, F M Carryl
Lopez Pogis 21339, E J Larrabee, Marcy & Forbes
Major Hugo Pogis 21313, C A Stewart, Champlin & Pearlee
Noble Boy 18230, Holly Grove Farm, S Holman
Pansy Weeks' Champion 21355, W H Gibbons, H A Beale
Prince Lebo 32346, H W Blake, J W Smith
Queen's Pogis 21327, E J Heath, C H Deer
Reuben McMillan 32345, Mrs W J Hitchcock, Mrs K B Postles
Rosier Hugo's Prince 17301, S Tappen, W W Cummings
Rosier Victory 16168, Mrs L C Smith, Mrs M B Pack
Tulip's Ramapo 18241, H G Haviland, H Nesbitt
Vida's Champion 21357, B B Cannon, R Smith
Zula's Rioter 21343, J G Jackson, A Thompson
Alfanzo 14301, J I Holly, Holly Grove Farm
Alfred 24265, A Willey, F Riddle
Alpheus Bride 22337, J I Holly, Holly Grove Farm
Annie Richardson 30 4057, G E Jones, P R Day
Arline Bell 22360, W O Butler, C P Ives
Arta 39194, M Conner, Riverdale Asylum
Beatrice of Kenmore 40268, E B Hunting, H King & Co
Beauty Pairo 6199, E B Slocum, C Bradley
Belle of Bryan 17241, H Carter, F F Fay
Bonnie May Alphea 34281, W S Lynch, A Alford
Brambleiyne 41263, F von Kapff, I H Keefer
Brunsona 28265, M L Ailing, J M Ailing
Brown Belle 13311, C G Foster, W W Merrell
Chippewa's Pierrette 34262, A Madden, J B Hartwell
Chippewa Regina 34269, A C Madden, D G Crippen
Clara Rajah 34280, Mrs L C Smith, Mrs M B Pack
Clarasalphea 22344, Est of H H Koch & A M Zug, H K Wood
Compere's Mitrah 19261, A Wiley, F Riddle
Cora Stoke Pogis 40257, P D Huist, P J Cogswell
Crystal Wave 3d, 8 W McKibben, F N Terwilliger
Daisy Lightfoot 4307 and Daisy Tormem 43260, J T D Hicks, J Stokes
Dora Myers 4051, T Kennedy, F Riddle
Dot Jewell 42360, S Payne, Mrs J J White
Estella of St Lambert 37264, H J Gilbert, W H Haley
Ella Esmond 32329, Mrs L C Smith, Mrs M B Pack
Ella of Heller 30313, H Hart, C F Parr
Elmo Woodchuck 3d 2, C A Back, J M Frink
Eva's Beauty 1 Palmer Bros, R L Palmer
Exile's Anna 4054 and Exile's Fawn 40270, G E Morse, P J Cogswell
Exile's Lucy 4061, P D Huist P J Cogswell
Gem of Kenmore 43018, H King & Co, I D Risher
Gem of St Clond 1342, W F K Creasy, T B Parker
Golden Una 29333, P H Fuller, P J Cogswell
Gray Magnite 34251, G B Davis, A Brunt
Hamlet's Pet 8245, J H Hopkins, C W Townsend
Jessie Esmond 45471, Mrs L C Smith, Mrs M B Pack
Jewel Beauty 25, 1201, J I Holly, Holly Grove Farm
Kassandra's Star 42307, S W McKibben, W L Cox
Kate Kelly 24261, J N Trainer, G Trainer
La Corella 19261, G L Douglass, D E Wasson
Lady Gyrille 34267, Spurr & Taylor, J Taylor
Lady Elvira 42308, G S Davis, S C Goodyear
Lady Grace Signal 32327 and Lady Mahogee 34274, Mrs L C Smith, Mrs M B Pack
Lady Zolieste 3d 33179, J Leverty, R W Cuttiss
Lassa Rivers 11261, A Wiley, F Riddle
Lion's Mary Potter 24 12344, W A Forster, T A Bowne
Little Guvernator 37265, F W Teall, J Rogers
Mattie 86 Heller 37240, H Hart, F Wiesner
Maud Anna 3d Heller 34350, A Cramer, D S Shoords
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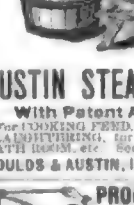

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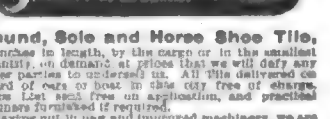

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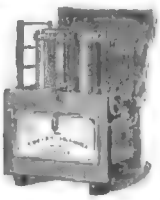

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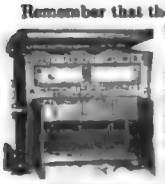

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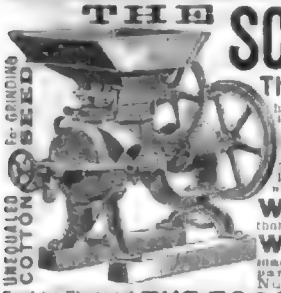

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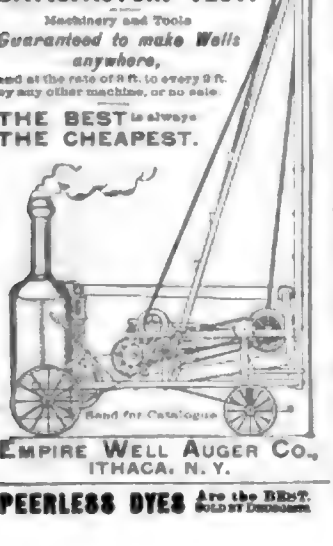

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COUNTRY GENTLEMAN

Current Year. Fifty-Sixth Year.

ALBANY, N. Y., JANUARY 17, 1889.

Current Subscriber. {Vol. LIV—No. 1677.

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CONTENTS THIS WEEK—Jan. 17, 1889.

The Farm.
Preparing the Soil for Crops.
Treatment of Agriculture, by W. A. C.
Notes on Farming in Southern Illinois, by A.S.F.
The Secret Out Concerning Ice, by J. J. T.
Arbor Notes, by C. G. H.
Farm Notes, by Practical Farmer, C. W., Rex Peterson, Jr., and Subscriber.

Fences and Fence Questions.—Hedge Fences.—Hedge Fences, by Subscriber.—Hedge Fences, by Practical Farmer.—Hedge Fences, by Subscriber.—Hedge Fences, by Subscriber.—Hedge Fences, by Subscriber

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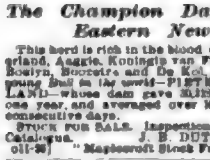

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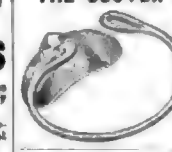

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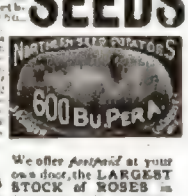

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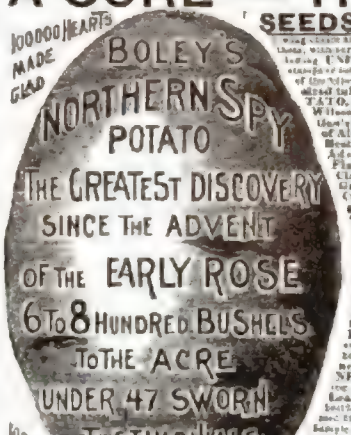

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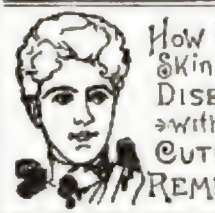

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THE CULTIVATOR AND Country Gentleman

Albany, Jan. 17, 1880.

Pulverizing the Soil.

Many intelligent farmers understand well the great benefit of thorough pulverization of the soils they cultivate, in promoting growth and giving heavy crops. But with many others, superficial and hasty work result more or less in failure. The experiment is familiar to some of our readers, of the analysis of two unlike specimens of soil, one of which was poor and sterile and the other possessed of high fertility. Yet analysis proved that they possessed nearly the same ingredients in similar quantities. But the sterile one was made up of coarse lumps and pebbles, the other was in a state of fine pulverization. In the same way, the farmer who reduces his ground to a fine mellow condition, enjoys a great advantage over one who merely turns over his clods but once with the plow and passes them but once with a coarse harrow.

The delicate thread-like roots of plants could obtain little or no benefit if planted in a stone-heap, even if the stones contained highly stimulating fertilizers. The rule will apply to delicate garden annuals and to large trees alike. The man who transplants a fruit tree and tumbles in carelessly the coarse unbroken earth, can hardly expect it to grow, even if it survives the treatment. We have endeavored to represent in the two accompanying figures

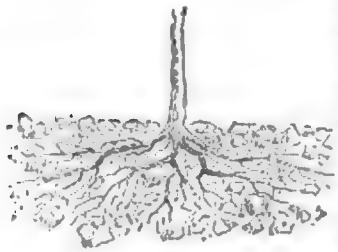

Fig. 1.

this difference in management. Fig. 1 is the tree endeavoring to grow with its roots among the coarse clods; in fig. 2 the soil has been finely pulverized and placed in contact with

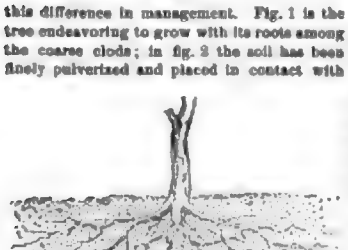

Fig. 2.

all the fibres. The coarse soil is full of air-crevices, causing the roots to dry up in summer, and very little of the earth can be in actual contact with them. The pulverized soil closely encases every root and supplies all the moisture and food required.

A soil reduced to a fine condition and with proper depth, holds like a sponge the surplus water of rains and gives it to growing plants as they require it. This however is but one of the advantages of fine culture. A hard compact soil is easily flooded with a heavy shower, and becomes too dry in its absence. Actual experiments furnish the most satisfactory and convincing proofs of these different influences. Some years ago, the COUNTRY GENTLEMAN published a number of statements bearing on the subject. Among others, W. F. Brown stated that in a locality where farmers had nearly given up wheat raising on account of the poor crops, a young farmer concluded he would try once more on a small scale, and give up sowing wheat if he failed. He put in two acres on trial, and resolved to do his best. He plowed early, dragged and rolled, and made the soil like a garden. The consequence was that he obtained fifty eight bushels of excellent wheat from the two acres, although the season was a bad one. Subsequently, he sowed seven acres; then twelve, twenty and thirty, and none of the crops averaged less than twenty five bushels to the acre, under the improved treatment given. Other experimenters were equally successful, and several correspondents reported nearly the same management with the same results, one of whom described his course in "going several times over the ground," in which the harrow, roller, plank drag and common harrow were used in connection with plowing; and the conclusion was drawn that one dollar an acre with such implements will add from five to ten bushels per acre to the wheat crop.

Successful gardeners have found the great importance of "firming" the soil by pressure of the foot or with suitable implements when sowing seeds, to induce their growth. This operation succeeds for the same reason as does a finely pulverized soil. The pressure closes up the air crevices, and brings the soil into actual contact with the seed, and thus gives them the necessary moisture. Nearly all the seeds thus treated germinate and grow, while those carelessly sown and superficially covered often partly or wholly fail. For the same reason, farmers find a decided advantage in passing a heavy roller over the ground immediately after sowing a crop of grain, when the soil is sufficiently dry to prevent adhesion of the particle, by the operation and the formation of clods or a crust. If the soil has been previously well-fined and made mellow, the process is still more beneficial.

The pulverizing implements which have been manufactured and introduced of late years render this work much easier than formerly. Old farmers will remember, when many years ago the common plow and the old heavy frame and square tooth harrow were the only tools within their reach, and the best plows commonly used inverted the soil in a solid mass. Since then, the Share's harrow proved to be of great value in slicing, pulverizing and inverting the soil, especially on sod ground, a still greater improvement of which, on a principle somewhat similar, was the Acme. The disc harrow does the same kind of work, and is particularly useful for turning under spread manure, instead of crowding it forward like the old harrow, and, as well as the Acme, chops downward through clods and slices them into pieces. The "cut-away," hardly known yet to farmers generally, does the same work with great efficiency. The smoothing harrow, operating partly in the same way but at less depth, serves as a surface pulverizer, and unlike the others, may be passed over the crop itself without injury broadcast, destroying germinating weeds among corn, wheat, and other crops, and proving a good manure spreader in the absence of a Kemp machine. The spring-tooth harrows will reduce hard crusts where other implements would not succeed. With these various appliances, and rotation and tile draining, a strong advance may be made in improved and profitable farming.

Teachers of Agriculture.

The Annual Convention of the Association of Agricultural Colleges and Experiment Stations was held at Knoxville, Tenn., beginning Jan. 1st. Delegates were present from 31 States. The association was organized at the Department of Agriculture, Washington, October, 1887. Each agricultural college established under the act of Congress approved July 2, 1862, and each experiment station established under State or national authority, is entitled to one delegate. Inasmuch as the great majority of the experiment stations are yet in their infancy, it was deemed important by the executive committee that the Knoxville meeting interest itself mainly in considering station matters, college affairs being regarded as of secondary importance for the time being. Among the more important topics considered were the following:

1. *The Relations of Colleges and Stations.*—This was opened by President Peabody of Illinois, who dwelt upon the mutual advantages of a close union between the two. The college was benefited, because the investigations carried on were lessons constantly before the students. It was helpful to the investigator to meet students, and helpful to the professor to be to some extent an original investigator. Director Peabody stated that the work of the Illinois Experiment Station was in four general lines, all which should be carried on in every good agricultural college: 1. Field culture, or experiments with grains, grasses and other farm crops; 2. Stock-feeding, with special reference to fattening; 3. Dairy husbandry; 4. Fruit culture, vegetable gardening and forestry.

President Brown of Alabama said that their experiment station was directing its energies to practical field, orchard and garden work, which was equally beneficial to the student and to the farmers of the State. Cotton being one of the staple productions, was receiving a large share of attention. They were endeavoring to find out what fertilizers would give the best result, what varieties of cotton gave the best fibre, and what were the most economical methods of management, subjects in which the State agricultural college and station were equally interested.

The Stations and the Farmers.—The question how our experiment stations can best reach and interest farmers was considered at great length. The following were among the more important points brought out in the discussion:

1. So far as practicable, the official coöperation of the State boards of agriculture and all State agricultural and horticultural organizations should be encouraged. To this end, so far as possible without conflict with their official duties, the officers of the various stations should mingle with the farmers in their conventions, clubs, alliances, granges, &c., participate in farmers' institutes, and by every available means manifest their interest in, and identification with, progressive, practical agriculture.

2. When convenient and practicable, the summer conventions of official and voluntary State organizations should be held at the stations, and individual farmers should be incited to visit the stations and otherwise avail themselves of the investigations there being carried on. In this way the officers in charge of the stations could thoroughly familiarize themselves with the needs of the farmers, and be able to direct their researches to questions of practical interest, thus becoming able to tell the farmers what they most need to know. In addition to this, the local tests of fertilizers and of varieties of grain, fruit, and vegetables, by farmers upon their own lands, under the direction of the station officers, might be made useful in developing habits of observation and methods of accurate experimentation that could not fail to be mutually beneficial.

3. The agricultural journals should be utilized as far as practicable in reproducing matter from the bulletins and reports, or be used more generally as mediums of communication between the station workers and the farmers. In this way the stations could be practical bureaus of information, answering questions so that large numbers could receive the benefit at the same time. In addition to this the machinery of State and local organizations should be utilized in aid of the distribution of bulletins and other printed matter from the stations, placing it in the hands of those most likely to appreciate and profit by its perusal.

Coöperation in Horticulture.—The introduction of new varieties of fruits and vegetables, as at present conducted by dealers, affords the public little or no opportunity to learn of their real merits except by expensive individual trials. Originators usually desire to have their new varieties tested under varying conditions of soil and climate. If such tests can be so conducted as to guard their rights, so also the public equally desires that early and reliable information be given concerning new varieties. Stations working independently have been able to do something in this direction, but fail to fully accomplish the purposes sought for the following reasons, viz.: It is difficult to learn the names of originators and of their products before they are put upon the market, for the reason that originators do not know that the stations are willing and desirous to make the tests. Another great difficulty has been that satisfactory comparisons between the workers of the several stations cannot be made without securing a certain degree of uniformity in methods of testing and reporting. It is believed, therefore, that by forming some uniform coöperative plan much could be done in the way of checking the indiscriminate introduction of untried varities, and the public would soon learn to demand that all new introductions show the record of official test. A committee consisting of W. J. Green of Ohio, W. B. Alwood of Virginia and M. N. Beckwith of Delaware was appointed to formulate a plan of action in the line just indicated.

The Department of Agriculture.—The feeling of the convention toward the Department of Agriculture at Washington was expressed in a series of resolutions. The general sentiment, as shown by the discussion, was that the character of this department has rapidly developed. It was urged that its future usefulness depended upon a thoroughly non-partisan administration of its affairs, and permanency in position of its officers and assistants. The following among other resolutions was adopted:

"*Resolved*—That it is the opinion of this convention that the United States Department of Agriculture should be henceforth maintained and conducted as a scientific and economic department on a basis analogous to those of the coast survey, Smithsonian Institution, National Museum, &c., and be free from all political influences and considerations."

The executive committee was instructed to communicate the foregoing resolution to the president-elect of the United States, and solicit his earnest consideration of this view of the Department of Agriculture. W. R. L.

A New-York Farmer in Virginia—III.

Breaking-up Second-Growth Land.

EDS. COUNTRY GENTLEMAN—In this part of the State (called "Tide-Water Virginia") the surface of the land is mostly level, consequently the rivers and streams are sluggish in movement and the water in many of them is nearly black in color. One of the first problems which presented itself to us for solution was how to plow and drain out these fields that we wished to cultivate. Some of this land had been turned out, as they say here, ever since the war—had been abandoned, neglected—and the old open ditches, and, in fact, most of the field, were covered with a second-growth rubbish of small trees, bushes, briars and broom sedge. The neighbors to whom we mentioned our plans of taking up and reclaiming this land, shook their heads and said it would be a sorry job, though admitting that it would undoubtedly pay as these portions of the farm were rich, and had, years ago, produced large crops of wheat and corn. But just how we were to turn under this accumulation of 25 to 30 years' growth was past their comprehension, and I confess that it puzzled me somewhat.

First we had the young trees and bushes grubbed out. It was not a hard task to get out the pines; one blow with a good grubbing tool would sever the tap root, and then the tree could be easily pulled up. But not so with the many different kinds of shrub growth which encumbered the ground; their roots were tenacious and numerous, and it required hard work and much time to remove them. The briars and vines we did not attempt to remove; these and the large growth of broom sedge, we were determined to plow under, so as to have the benefit of whatever manurial value they might possess. We could have burnt off the old growth of sedge, but the edict had gone forth and it too must go under. We tried plowing it with a two-horse walking plow first, and although the work was fairly well done, it was not up to my idea of what it should be. On the next trial we hitched two good mules and a horse to a Wiard sulky plow, and thought that we had struck the right tool for our business, but after going a few times around and being obliged to get down very often and remove the vines which would accumulate on the jointer, concluded that we had not hit on the right way yet. The furrow turned was a perfect one, with all the immense growth of sedge, weeds and briers underneath, not one in sight; but it was a good deal of bother, to say nothing of the time spent, to be obliged to stop every two or three rods and pull off with the bare hands those dewberry vines covered with thorns, from the jointer, where they would persist in bunching up and throwing the plow out.

While thinking over different plans to overcome this difficulty, the rolling coulter presented itself to my mind, and I felt like exclaiming, "Eureka!" so confident I became that this attachment once on the plow, no farther trouble would occur. As quick as telegraph and express would allow, I had the coveted tool, and adjusting it ahead of the

jointer on the beam, we had the extreme satisfaction of seeing those troublesome weeds cut in a perfect manner, and had a splendid job of plowing done—one which is talked of and pointed to by many—and rye is growing luxuriantly where only a few days ago a desolate waste appeared. The seeding was done by hand, one bushel to the acre, the seed-bed prepared, and seed covered with a 7-foot Acme harrow, this being our first experience with this admirable implement. The spring tooth harrow which we brought from our old home, and which had done such excellent work there, was of no use here on this light, sandy loam; it would load up, and then the draft was very heavy, there being no stone to shake it up and keep it clear. How different with the Acme: it drew easily, cut and inverted the soil, covering the seed in a perfect manner, leaving the ground in uniform ridges, with the appearance of having been drilled. As I sowed the last piece of rye the first week in this month, there arose in my mind many doubts and fears as to whether it would sprout and grow or not, and anxiously I have awaited the result, until to-day, after lying in the ground some fifteen days, with alternate freezing and thawing, the round dark green spears can readily be seen thickly springing up all over the field. *J. B. S. Bowers, Va., Dec. 31.*

The Sandy Hill Institute.

The Farmers' Institute held by the State Agricultural Society at Sandy Hill, Jan. 3 and 4, was the most interesting and successful meeting of the kind ever held in this part of the State. The weather, throughout, was pleasant and balmy as spring. The roads were in fine condition; no snow. The court house was filled to its utmost capacity at all five sessions, and standing room, at times, was at a premium. A large number of ladies were present.

Milo Ingalsbe read an interesting history of the Washington County Agricultural Society, of which he was one of the first members.

A carefully prepared paper on "Horse-Breeding" was read by T. E. Cross of Vaughn, comparing the horses that had been bred in the county during the past few years with the kind of horses that were in demand. The fact was brought out that too much attention had been devoted to breeding so-called trotters, regardless of the other desirable qualities a horse should possess, and as a result, the demand for large, serviceable coach and carriage horses could not be supplied, while there was a surplus of undersized, inferior animals. While the breeding of trotters was not in any way condemned, it advocated the idea that the common farmer, with ordinary mares to breed from, would find it much more profitable for him to breed such animals as could be raised with the greatest certainty of profit, and with the least expense, leaving the trotting horse to be bred by those who have well bred mares, and the proper facilities for developing the young colts. The inbreeding question was touched upon, the writer holding that by judicious inbreeding a breed of horses could be developed that would transmit to the offspring, almost to a certainty, the color, size and general characteristics of the family. The practice common among farmers, of buying their horses instead of raising them, was deplored, and it was claimed that the farmers of Washington county might just as well have had the forty or fifty thousand dollars that has annually been paid out for western horses, if they had had the right kind of animals. The horse trot was defended as being a legitimate form of sport, if properly conducted, but the hordes of rascals and blacklegs that get their living by following up the race meetings were denounced in unmeasured terms.

Geo. T. Powell gave an admirable address on "Growing Small Fruits." He told the farmers how to keep the table supplied during the entire season by a succession of fruits, and that at small cost. He also gave directions for buying and planting trees and caring for orchards, which will be of the greatest value to those who profit by this instruction.

Col. Curtis gave a lecture on "Feeding Animals" that was full of good sound commonsense. He showed by illustration why it was not desirable to feed corn to animals in such quantities as has been customary, and advised the substitution of wheat bran and middlings, cottonseed and linseed meal, not only as being much better for the animals, but as being more profitable for the feeder.

One of the leading features of the meeting was an exhaustive and highly interesting lecture by Col. Curtis on the subject "Butter as a Farm Factor." He said among other things that it costs no more to keep a good cow well than a poor one, and the difference in the butter or milk from the two very often was either a good profit from the best cow, or keeping the poor one at an actual loss. The idea that farmers have about keeping a cow all winter for the sake of the milk she would give the next summer was an expensive as well as a foolish one, as a cow could give milk 10 or 11 months of the year without injury, if well fed, as she could seven or eight. The subject was handled with great skill, and the colonel proved himself an expert in all parts of the subject which relates to cows and their management.

G. A. Smith, one of the State dairy instructors, read an article on cheese making. He said that the reason why Canada was leading the United States in the exportation of cheese was that Canada makes a better quality than we do, and until we improve our quality she will continue to lead in that direction.

Geo. T. Powell spoke, by request, on silos and ensilage. He related how in his own experience he had been able to keep double the number of cows by feeding ensilage, and upon fewer acres by nearly one-half than he had formerly been able to keep on the old system of dry fodder, which is customary at present among all Washington county farmers. He also explained why the farmers of Duchess county had rejected ensilage as being unfit to feed to cows in milk. He said that the reason was that the Bordens at their condensing factories had found that some of their condensed milk that had been sent south did not keep, and for lack of some better reason it was laid to ensilage, and its use was strictly forbidden among the patrons of the condensing factory. It was, however, afterward discovered, but never before made known to the public, that the milk that had not kept was condensed at a factory where *not a single patron had ever fed ensilage*, and it was also discovered that the cause of all the trouble was the use of *impure water*. Mr. Powell believed that good sweet ensilage made from corn that had reached maturity, if properly prepared and kept, was the very best food that any animal could have if supplemented by such other foods as would make it a well balanced ration; he had fed it to young cattle without any other food for an entire winter, and with excellent results.

Mr. C. E. Chapman read an interesting paper entitled "Profitable Potato Raising." He advocated deep planting, thorough cultivation with the horse, and no hand hoeing. He said the quantity of seed depended upon the richness of the land where he planted, as rich land needed more seed than land that was lacking in fertility. In attempting to improve the quality of his seed he had for six years planted only the best specimens of potatoes grown from selected seed, and had found them no better than those from potatoes that were taken right from the bin without selection. One of the most valuable ideas advanced was that of using bushel-boxes to pick the potatoes up in, instead of dumping them into the wagon to be shoveled up, or worse yet, into heaps on the ground. He said his potatoes only cost him 11c. per bush. to raise, and that included all expenses for labor and seed, and also rent of land and taxes on the same. His experience as a potato dealer as well as grower, had been that the round varieties were not profitable to grow, they wasted so much in paring that they were not salable when the long, smooth varieties could be had.

Last on the programme was a talk by Seth Penner on "Road Making." The substance of his remarks was, that before we can have good roads we must so change the law as to require the road tax to be paid in cash, the same as any other tax, instead of allowing each man to work it out as he sees fit. If the tax were collected in money, as much of it as was necessary could be used for repairing the roads where it was necessary, and the remainder could be used in making permanent improvements. The subject of road making is of great importance to every individual that drives, and this question needs immediate attention, as the roads of Washington county are in a deplorable condition.

The institute closed with a unanimous vote of thanks to all who had given their aid and support toward making it a success; and the desire to have it repeated here next winter, was also expressed by a unanimous vote. C.

Always Behind.

EDS. COUNTRY GENTLEMAN—To drive a team, for any length of time, in which one of the horses persists in keeping a step behind the other is, to say the least, an unpleasant tax on one's patience and good humor.

At one time I was the luckless possessor of just such a team. The off horse would always start first, and getting one step in advance, would remain there all day. The fault was with the lagging one, as was proved by driving different mates at the side of each. And the habit of the horse had become too strong (the animal being well advanced in years) to leave hope of any satisfactory reform.

Since the lazy horse had to travel precisely the same number of miles in a day as the other, the vexing query that constantly arose was, what did he gain in keeping behind?

One day, when musing on the horse's stupidity, as I was inclined to term it, the thought came that, after all, this peculiar trait was only a common characteristic of many human beings. And the thought has recurred to my mind, and been strengthened many times since then.

Only the other day it came with peculiar force, as I was passing a snug little cottage on the border of the village. Its owner is a young man getting a good salary, and with no one but himself and wife to support. The little house is an inheritance left him by his father, and is free from debt. So with an easy feeling of security he sees no need of laying aside any part of his earnings. "Spend as you go" was the motto adopted by him at the time he entered a home of his own. But in carrying out the plan he somehow dropped a little in the rear and has remained there ever since. When the month's salary is placed in his hands, he never has the pleasure of buying anything with it, because it has already been spent. He pays cash for nothing—his present wants being satisfied with purchases secured through promises based on the prospects of the coming month—while the money in hand goes to settle last month's debts. And as the debt often gets a little larger than the salary, he frequently suffers the annoyance of being dunned for a little more than he is able to pay. Always hard up—no money on hand save on pay-day—and all brought about through this needless, lagging way of keeping one month in arrears! What pleasure these debts afford is a secret to which I have no clew, nor the knack to guess. They furnish no additional comfort, and add nothing to the allowance for monthly expenditures. By getting a little start he could make the same purchases as now, and still keep a little spare money on hand. Yes, he could buy even more, for the purchasing power of "spot" cash is generally greater than that of credit, however good. And should accident or sickness visit his home, or anything occur to throw him out of employment, the surplus would come very handy; and even a freedom from debt would be a happy step in advance of a position of indebtedness near the verge of his credit limit.

When living in a distant State, the writer had a neighbor who was chronically behind in all his farm operations. Had he in a solitary instance succeeded in completing a single portion of the season's work within a "gunshot" of the proper time, the report of such fact would have startled the entire neighborhood. Yet he was by no means a lazy man. He did more work than the average among his neighbors. The only trouble lay in the doing of it out of season. Nor was he lacking in intelligence and general information. He was as well aware as was his severest critic that his work had "dropped a little behind," as he expressed it, and was always promising himself a better state of affairs for the next year.

The first time I ever saw this man he was in the hayfield mowing timothy, in August. He acknowledged the unseasonableness of the work, and excused himself by saying that everything had got a little behind with him that season. He had given July to the cultivation of his crops. His planting had been pushed into June on account of May being crowded with other spring work that could not be attended to in season.

I felt sorry for the man in this belated condition of his work, and so expressed myself at the time, for the hay he was cutting was but dead straws of woody fibre—even the seed had ripened and fallen to the ground. But several years of after-acquaintance with him showed but a repetition of the first. He had allowed neglected work to crowd him, until he had become accustomed to the sight, and had fallen into the habit of being late in everything. As he was far past middle age, when I knew him, it is not probable that he has ever succeeded in getting out of his rut of tardiness. The last time I ever saw him, by some strange coincidence, he was cutting timothy—and it was in the month of August.

Another instance, bearing rather on the advantage of keeping ahead than on the ill *results* of falling behind, may be seen in the case of a well to-do farmer, now in mind. This man keeps plenty of money on hand and seldom runs in debt. But one thing which he might keep up to better advantage lies in the matter of buying wood. The kind he uses sells at six dollars per cord when dry, and five dollars when green. He has the good sense to use only dry wood, but does not use the provident forethought to buy the green and let it dry in his possession. Every year at the approach of winter he orders his ten cords of dry wood and pays his sixty dollars. If he would once get a year's supply on hand and then buy the green wood, this annual expenditure would drop to fifty dollars. It is true that ten dollars per year would add but a small percentage to this man's income. But let it be invested annually in two cords more of wood to be placed gratuitously at the door of some needy home in his neighborhood, and it would not look small to the shivering inmates, and would add an immense percentage to his accredited acts of benevolence.

Illustrations of drawing on the future in supplying present wants might be given indefinitely. It is, in fact, the matter of its too common occurrence that renders it faulty. There are occasions when the possession and use of this power may be a blessing. But when its use becomes habitual, it loses even the power for occasional good. Those who complain that they have not time to do work at the proper hour, and keep things in the right place, would do well to study out the problem, and see whether it takes any extra time to do this—see, rather, if it is not the very way in which to economize both time and work.

It is probable that 24 hours per day is about the amount of time needed by each individual for work, recreation and rest, if he can only rightly adjust himself to this condition of affairs; and, as a rule, if duties come with no time for their performance, it may be set down as a sign that hours of the past have been wasted or misapplied. It is the neglected work that crowds and accumulates and arrays its forces till presenting such an invincible front. So long as one can spend a portion of to day in facilitating the work of to-morrow, the burden shrinks to its minimum, and the feeling of manly independence in being master of the situation, makes the performance but a pleasant duty. But when dragged forth like a slave, at the command of yesterday's neglected task, with to-day's duties adding their clamor for attention, and with to-morrow's looming up in the distance, if one can take up the work with any heart, it shows a good deal of courage, or else of slavish indifference. For one, I have no fondness for the lash of necessity. I feel its touches quite often enough without courting its application. To wait in everything till its heavy blows fall on my back, gives a feeling that inspires on degree of courage, nor even adds the questionable solace found in the *Lethe* of indifference. C. L. M. *Freeborn County, Minn.*

Agricultural Education.

EDS. COUNTRY GENTLEMAN—I was greatly surprised to read the article in COUNTRY GENTLEMAN for Nov. 15, from a "Teacher of Agriculture" in reference to manual training at agricultural colleges. It is greatly to be regretted that "Teacher of Agriculture" did not sign his name. The writer says: "The teaching of *practical* farm work at a college or school of agriculture is, and of necessity must be, a farce and a humbug." Let me say in reply that this college, the Michigan Agricultural, has now existed for thirty years. Manual labor has been performed for the whole time, and to day no feature of the college is held in higher regard, I believe, by the faculty, Board of Control, and by graduates, than this one of manual labor. And when the labor departments have been most successfully managed, no feature has been more popular with the students. These facts certainly do not smack of "farce and absurdity." The writer says the student goes to pursue a course in scientific agriculture, and acquire an education that will better fit him to conduct farm operations. We who teach science in these days would utterly rebel were we required to give up our laboratory practice. We demand that our students shall touch and handle the things about which we lecture. This laboratory work is what makes

live, wide awake, enthusiastic students. Agriculture takes in all science, and has a literature rich and comprehensive, and its manual operations are very varied and complex. How much more than does the teacher of agriculture need a laboratory—his broad fields—to illustrate, vivify and make interesting what he teaches!

The next sentence contains a confession from "Teacher of Agriculture," which is very significant. "The chances are that the student knows more about the manual operations of farm work than the professor of agriculture." Just here lies the difficulty. Students very soon "size up" their teacher, and no failing are they so slow to condone as incompetency. It is not difficult to see how any department in a college will prove a "farce and a humbug," when its professor knows less than his students. The fact is, the professor in agriculture like the professor in geology should know well all the sciences. And more, he should know thoroughly all the most approved methods of farm management and manipulation, and should be a mechanical genius, so as to readily see the principles underlying farm machinery. Such an one will have no trouble to interest his pupils.

The writer quoted speaks of the time spent in manual operations as wasted. We have had professors at this college from many of the colleges of the country, and they invariably report as good class-room work here as anywhere; yet our students are employed in manual labor three hours a day. The fact is, the students need that much exercise. Here all get it. In other schools some get none, while others engage in athletic sports and often work so hard as to utterly ruin their physical strength. Is it not better for the student to have this regular employment; and to work off the greater part of the surplus physical energy in some wholesome useful labor? We have found it so here decidedly.

The writer says: "College catalogues are full of nonsense about dignifying labor." I have yet to see such a catalogue; yet I supposed I was pretty familiar with these documents. But why "nonsense?" I say it is manly to labor with the hands, as well as with the brain. All useful labor is praiseworthy; but let a student work four years during the most impressible part of his life solely with his brain, with not a stroke of manual labor, and it is nonsense to ever expect him to take to it naturally after graduating.

Fifty per cent. of our graduates have gone into manual labor pursuits—mostly on to farms. Why this unique experience? I believe it comes from our labor system; in truth I feel sure it is this. I say, dignify both brain labor and hand labor. Those colleges that regard the one only, have not made farmers.

The writer says that the manual dexterity is easily gained. Then why does the professor remain more ignorant than the green freshman? But I think he is wrong. There are manual methods and manual methods. Every farm community shows most graphically the need of better training among our farmers in just this matter of manual dexterity.

It is stated, again, that hard manual labor in the afternoon is poor preparation for study at night. Our experience contradicts this in toto. Our students are unanimous in the opinion that the work is no hindrance to study. The exercise is no more than good, vigorous health and the best mental effort requires. Our students are not only exceptionally good in the class-room, but they are everywhere praised for their vigorous physiques. We believe our labor system deserves much of the credit.

That student labor can be made in the highest sense productive and economical no one argues. Not however because the students regard it as "a farce;" but to have a large number of laborers for three hours per day, and many of them persons who know nothing of farm work, is not just the arrangement one would desire if money alone was the object. But colleges are not to make money, they are to develop strong disciplined men. And for agricultural colleges to attract students, and send their graduates on to farms, they must, as experience has fully proved, use manual labor as one important factor of their work. Our critic further asserts that during the summer months, when all the studies in natural science can best be prosecuted, and farm management is at its height, these teachers drop their work for two months' holiday, because other institutions do so. That is just what we do not do. We think the summer months our harvest time, and we all stick to the plow handles. Nor do our students complain, but give as good lessons even in dog-days as at any time. I can hardly see how an agricultural college can hope for success, except as it has its long vacation in winter, when nature, with which agriculture has to do, is at rest. Surely in our Northern States any other plan would seem anomalous and absurd. The winter vacation also gives the poor student opportunity to teach, and thus some of our brightest and most promising students are enabled to finish the course. I quite agree with our critic in his conclusions under this head. Summer vacations at an agricultural college do seem "utterly ridiculous." As well might the farmer take a vacation just at the dawn of the harvest season. But why "ridiculous," unless the farm and garden are to be made adjuncts in the work of teaching?

It is farther stated that farmers' sons avoid the agricultural colleges, "because a young man seeking an education seeks to be more than a hewer of wood and a drawer of water, and because they perceive that this demagogical cry about dignifying labor is really a belittling of mental culture." Surely our critic should investigate before he writes. Farmers' sons do not avoid real agricultural colleges. For years the burden of our cry has been "where can we put our students?" True, not all of these are farmers' sons, but a large majority are. I think the same is true of Kansas, Mississippi, Iowa and other colleges that are truly agricultural. The colleges that beg in vain for agricultural students are those which have no manual labor. This is a fact which investigation will demonstrate to any person. I believe the "demogogical cry" is all imaginary; at least, I have been very deeply interested in agricultural colleges for more than 25 years, and I have never heard it. I am pained to believe that too many regard hand labor "as really a belittling of mental culture." It is to be regretted that there are any such. I think they are out of place on American soil.

In reply to the critic's closing paragraph about manual labor being a "travesty on work, and an absolute waste of valuable time," I can only say we find the reverse to be true. Our college has always insisted on the manual labor feature. To-day our faculty and graduates are as one man in speaking its praise. We believe it is this that has filled our halls with exceptionally earnest capable young men; that has made our college the pride of the State Grange and farmers of the State; that has sent such a surprisingly large proportion of its graduates on to farms, and has been more influential than any other one thing in determining the future of the large number of our graduates that are now acting as professors in agricultural colleges, and that are employed in the several experimental stations. Twenty-eight of our graduates are professors in agricultural colleges or State universities, twenty-three are members of experimental stations, and five are directors of such stations; while two are presidents of colleges. Surely this is not a bad showing for a college that graduated its first class in 1861. This manual labor reminds us of Grant's whiskey which Lincoln wished more of his generals would drink. A. J. Cook.

Michigan Ag'l College.

The Season in Southern Ohio.

Eds. Country Gentleman—The summer and autumn of 1883 will probably be long remembered as a season of persistant rainfall. Up to the middle of July, the opening of our Ohio centennial, the weather had been unusually dry and propitious for out door work, but the latter part of centennial week opened the rainy season with a modified reproduction of the original deluge every night, and it does not seem to have quite cleared off yet. There were 10 days of rain in September, 16 in October, and 11 in November. The July rains submerged and destroyed hundreds of acres of corn along the creek bottoms, and swept away thousands of dozens of wheat. The storms of September overturned the standing corn, and made the ground so wet that seeding was not finished until the middle of November; and the continued rainfall of October, November and December have rendered traveling on our country roads next to an impossibility.

By the first of October, twenty-five bushels of coal was considered a good load for a team abundantly able to draw fifty, and a couple of days ago it took a good team a half a day to go three miles for ten bushels. Thousands of barrels of apples have been hauled to the river in this county at five and six barrels to the load, and sold, delivered, at seventy-five cents to a dollar a barrel—no great pay for the hauling alone.

Especially severe has the season been on some of our newly-graded "improved" roads, some places in which we have been compelled to "corduroy" until the deep fills shall have had time to settle. The ground has been entirely bare of snow, and as each rain for a month or more back has been followed by a sharp freeze, the late-sown wheat has had about as rough a time as it usually experiences in March. My own, sown the first week in October, is as green—on top—as I would care to see it three months from now, but closer examination gives little hope of a very full yield, much of it being torn entirely loose from all but the coronal roots.

In spite of unfavorable weather, corn husking is perhaps as nearly completed as is usual at this time of the year, the old fashion of leaving much of it remain in the shock over winter, to interfere with spring work, being slowly superseded by more economic methods. The great yield anticipated throughout the growing season is not being realized when the corn comes to be cribbed; one of the best hill farmers in the county, however, Mr. Thomas Fleming of Barlow, had about 100 bushels to the acre on several acres of hill land, the same field about five years ago having yielded nearly 40 bushels of wheat per acre. It is unnecessary to say in the Country Gentleman that Mr. F. does not grow his weeds and crops in the same field.

Beef cattle are slow of sale, especially anything not quite first-class. "Old" cows, that is, anything that has ever had a calf, have to be in pretty good shape to bring $3 a hundred. Pork brings $6 dressed. The moderate weather has brought eggs down to 15c., with prospect of a farther decline to 13c. Tobacco is little inquired for as yet, 4½c., being offered for air dried and no demand at all for fired.

Washington County, Jan. 1. Wm. Elbrigh.

Eds. Country Gentleman—We can scarcely realize that this is winter, as the weather has been so mild and pleasant up to date, and since Nov. 21 it has also been dry until Jan. 9, when a heavy rain fall, but for fifty days preceding I think we had not over one inch of rain all told. December gave .85 of an inch and the ground has only been white with snow once. From Oct. 9 to Nov. 21 it rained two days out of three, and the farmers began to think they would lose a large per cent. of their corn and fodder, but by Dec. 1 the land was seeded and the weather bright, and the weather during almost the entire month was as fine for husking corn as one could wish. The lowest the mercury has been yet was 10° above zero, and that for a single morning, and the plows were running a few days after. Two other mornings mercury was at 18°, but I do not think it has been below 20° over half a dozen mornings yet this year. Notwithstanding the light rainfall, wheat has not suffered at all, for the land was so thoroughly wet to begin with, that it remained moist a long time, and we have had occasional light showers with but little wind. This morning the wind suddenly veered to the northwest, the mercury fell 10° in less than an hour, and a violent snow storm set in; but after reaching 30° the fall was checked, and mercury has stood at that point now for six hours, and it looks as though it would not get severely cold.

We had about as mild a November and December eleven years ago. The mercury was at 10° above zero Nov. 30, and was below the freezing point on but two or three mornings in December, and the twelve days preceding Christmas it ranged from 40° to 70°, but on the 7th of January, 1873, it was 6° below zero. In 1857, a similar mild spell lasted from Thanksgiving day till the 12th of February—a period of eleven weeks—during which the mercury was not below 20°, and on Jan. 1 it was not below 28°. We had but two cold spells that winter. The frost began Nov. 17, and lasted ten days, the mercury getting as low as 4° above zero, and the middle of February it touched zero. This winter was followed by a very early spring, peach trees blooming the very first of April, which is a month ahead of our late seasons.

This year our corn crop is heavy and of excellent quality, except a small per cent. damaged by the rains. A neighbor of mine grew sixty acres, which averaged 66 bushels to the acre on land which has never been manured, and which has grown grain three years out of four for half a century. This farm has been run with a rotation which brings it into clover once in four years; two out of the other three crops are corn, and the fourth either wheat or barley. Corn has sold at the elevator all fall at 25 cts. per bushel of 70 pounds, but in a small way, by the load, at 30 cts.

I have heard but little complaint of hog cholera during the past year, and with cheap corn and the best possible weather, our farmers who had hogs have made money, as they have sold at an average of $5 per hundred pounds gross.

The institutes are well attended, and the farmers show the effect of the training they have received in former years for the discussions are spirited and participated in by larger numbers than in former years. In many counties of the State they are holding institutes this winter without the aid of the State board, as that organization is short of funds and only proposes to hold fifty institutes this winter. What I hope to see ultimately is an institute held in every township conducted by home talent with more of discussion than of lectures. In fact, I think there ought to be one held each month. In my own town we held two last winter, and expect to do the same this year; at one of them we furnished all our own speakers, and at the other the State board furnished one or two lecturers. As we have two live farmers' clubs here our farmers are trained to take a part in discussions, and our meetings are always interesting.

Our storm passed without serious damage, and mercury only went down to 24°, and at noon to-day is up to 38°. Celery, cabbage and turnips are uninjured, standing unprotected in the garden. Waldo F. Brown.

Butler County, Jan. 10.

Pennsylvania Rye.

Bulletin No. 5 of the Pennsylvania Experiment Station, for a copy of which we are indebted to Dr. H. P. Armsby, the Director, (State College P. O., Centre Co.,) is devoted to the rye crop, and to an examination of its composition and digestibility as a soiling crop for cattle. This investigation was suggested by the wide extension of dairy farming of late years, and the difficulty of obtaining economical pasture for cows. In some localities land is so costly, that the interest on the capital in it swallows up a large share of the profits derived from its use as pasture, besides other difficulties in the way of the use of ordinary pasturage. Rye has been sought as an economical substitute. Experiments have been made at this station in the production of soiling crops with winter rye, clover, oats and corn, with a determination of their composition and feeding value.

In order to obtain heavy crops of green rye, it has been sown at intervals through September and October, at the rate of four bushels of seed to the acre, on ground which has been deeply plowed, thoroughly harrowed, and before plowing covered with as much well-rotted barnyard manure as could be plowed under. These crops come into use the following May and June at the commencement of the forming of the heads, and from this high cultivation have yielded twenty tons per acre of the fresh or green fodder. From the experiments which we have made, we have no doubt that with high manuring and cultivation this amount of green fodder may be obtained or relied on. Our experiments consisted of sowing about three bushels per acre, early in autumn, on land from which a crop of potatoes had been taken, the only implement used being the Acme harrow, both before and after the sowing. Several separate measurements gave twelve tons to the acre, some slightly more and others a little less. The previous manuring had been quite moderate, but if heavily applied and with thorough cultivation, with four bushels of seed, twenty tons might be fairly expected. Dried at about the same rate that hay is dried, the weight was diminished one-half, and a more thorough drying reduced it nearly two-thirds, with still as much water really remaining.

It is an interesting fact stated in this bulletin and determined by analysis, that a highly manured soil gave in the rye not only a greater quantity but a better quality than from less fertile soil. Compared with pasture grass, its yield of dry material per acre was found to be nearly twice as great, containing nearly twice as much woody matter, and only half as much valuable nitrogenous matter, but in other respects the composition was quite similar. The conclusion was reached from the investigations

made, and from the statements of the German authorities, that except in its earlier stages of growth it was unfitted for the exclusive feeding of milch cattle, and could not replace pasture grass except with the addition of some concentrated nitrogenous food, as oil cake, bran, &c.

The feeding experiments made at this station on two steers selected for the purpose, showed a high degree of digestibility for soiling rye—much higher than that obtained for most coarse fodders, and greater than is indicated by the figures of German authorities. These experiments show that over 70 per cent. of the total dry substance is digestible, and that soiling rye, obtained from very fertile soil, when cut just as the head is about forming, possesses a much larger proportion than was formerly supposed, of available material for milk production; and that its composition, when cut early enough, fits the fodder for such use without the addition of other more concentrated nitrogenous fodders. After the head and grain are formed, the fodder becomes hard and fibrous. The conclusion drawn from these experiments, is that "while soiling rye differs from pasture grass considerably in composition and digestibility, the yield per acre of digestible substance is much greater, and the material is probably equally well fitted for the purposes of milk production."

Inquiries and Answers.

Rats in Barn, p. 964.—The writer has been there too, and can join in the complaint that traps are useless—rats are too smart to be caught in them. Every known appliance and device proved of no effect toward their extirpation. He finally heard they would not stay where guinea hens were kept. A few of those birds were therefore put with the flock of barnyard fowls. For weeks and months the sight of a rat was a novelty, whereas before they did abound. Try it, fellow-sufferer. If you can stand the guinea hen music, you can probably beat the rats. Report for the benefit of other fellow-sufferers. NEW-YORK.

—— The best method I have ever found was: Take a large brass kettle, fill it about two thirds full of bran or meal, place where the rats will be apt to find it, give them free access for a few days, then take out the meal and put about the same quantity of water in the kettle, covering with buckwheat hulls, which will float on the water. The rats will jump in, swim a while, and go to the bottom, always leaving room at the top for more. One night I caught over thirty in that way in one kettle. Another good method is to catch one in a trap alive, fasten a small bell around his neck, and let him loose, or singe him in a fire; or cover him with gas tar and let him loose. They will say "Good-bye" in short order and visit some one else. E. W. H.

Improving Yield of Butter.—I have a Jersey cow (fresh in milk) that is making 2¾ lbs. of butter a week on 67½ lbs. of grain and all the hay she can eat. The grain is: 2½ lbs. corn meal, 3½ lbs. ground oats, 3½ lbs. wheat middlings, mixed together and divided into two feeds. The feed is put into a pail and stirred up with four quarts warm water. The hay is not cut up. Hay was cut and mowed from July 5 to Aug. 1. All grain is a cent a pound, and oil meal I think is 2½ cents a pound. Last summer I made 1½ lbs. of butter from two milkings of this cow, and I think she can make 14 lbs. a week. Now cannot your advice help me out of my discouraging situation? W. H. S. *Broome County, N. Y.* [It is difficult to tell the whole cause of S.'s failure in the butter line, but it may be largely from the method in which he feeds it. He feeds it in the form of a slop, which is very likely to pass largely undigested. If he will examine the droppings, he will probably find them tinged strongly with the ground meal. When given in the form of a slop, it is not raised and remasticated, and is swallowed so easily that very little saliva is mixed with it, but goes directly to the third stomach and so on to the fourth—without the benefit of the macerating process of the first stomach. Yet I have seldom seen so large a loss of food as this would indicate. If this 2¾ lbs. of grain were mixed with 14 lbs. of cut clover hay, the result would be very different. He does not say what the kind of hay is, which he feeds. If his hay is only common timothy, his ration is not sufficiently nitrogenous to produce the best result in rich milk, besides being small in quantity. If his cow was upon good rich pasture last summer, when he made 1½ lbs. of butter per day, this explained the better result, as the nutritive ration of good pasture grass is 1 to 4 or 4½, which furnishes all of the ele ments, in due proportion, for the richest milk 2. If he will make a ration from 14 lbs. of good meadow hay, cut and moistened, 3 lbs. of corn meal, 4 lbs. of ground oats, 3 lbs. of wheat middlings, 1 lb. of linseed meal, this ground feed being thoroughly mixed with the hay, and given in three feeds, smallest at noon, he will find after two or three weeks, a decided change for the better in the butter production. This will be only a fair ration for a good butter cow. E. W. H.]

Dahlias.—Will it kill dahlias to leave them in the ground all winter. J. M. M. *Vernon, N. Y.* [Yes.]

Melons Mixing, p. 28.—Mr. ADKINS' melons were mixed by bees. This is nothing new or uncommon. The seedsman is not to blame. O. H. A.

Odometer, p. 703.—The Roberts Machine Co., East Palestine, O., make an odometer that will probably suit B. G. D. D. *West Newton, Pa.*

Japanese Buckwheat, p. 30.—We can heartily endorse all that Prof. Cook says of it, having this morning tested it in cakes for the fourth time. All who saw it while growing said it beat all in the buckwheat line that they had ever seen. We had 200 bushels on five acres. E. S. A. *Homer, N. Y.*

Feeding Weanling Filly.—Please make me food ration for medium-size weanling filly from the following articles: Clover hay very bright, with slight sprinkling of timothy; meal, composed of two parts oats and one part wheat, wheat bran, and old process linseed meal. D. A. P. *Ontario County, N. Y.* [P. should have stated the age of his filly, since they are weaned at such various ages; but it may be presumed that it is five or six months old, in which case a small amount of skim-milk would be very advantageous in the ration. This clover hay should be run through a cutter to be in proper form. To produce growth, the best foods are those that contain the elements to grow the muscles and bones. A day's ration for the first month may be made up as follows: 2 lbs. of cut clover hay, 1 lb. of meal, composed of oats and wheat; 2 lbs. fine wheat bran, ½ lb. old process linseed meal. Let the meal, fine bran and linseed meal, be mixed together, and, as his filly would be better for three feeds per day, let him take 1 lb. of cut hay and moisten it with 2 quarts of warm skim-milk, and then mix in one-third of the ground feed mentioned, and give this as a feed. The skim milk in this case will have its full effect, and the filly will very soon become fond of it. If he cannot procure conveniently the skim-milk, let him use 2 quarts of boiling water to moisten his pound of hay, and mix the other feed with it. As the filly grows older, these feeds can be increased in the same proportion. The fine wheat bran is one of the very best foods to give an even development to the muscles and frame. 2. Another way to grow the filly, if he has plenty of skim-milk, is to feed it three times per day with 3 quarts of warm skim-milk with ½ lb. of the meal, ½ lb of fine bran and ½ lb. old process linseed meal, stirred into it, and then give it long clover hay to eat between feeds. This would produce a fine growth; but the milk should be fed warm. E. W. H.]

Weather, Crops and Prices.

Meteorology for Jan. 6-12.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			.....	30.37	inches.	
Lowest	do.	do.	.....	29.17	do.	
Mean	do.	do.	.....	29.83	do.	
Highest temperature		do.	.....	54°		
Lowest	do.	do.	.....	20°		
Mean	do.	do.	.....	36°		

Two fair days; five cloudy. Four days on which rain or snow fell; total precipitation, 1.93 inch. Prevailing wind, N. W.; maximum velocity 38 miles per hour, W., on the 9th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	6th	7th	8th	9th	10th	11th	12th
Day	46°	31°	26°	42°	36°	28°	20°
This year	36°	29°	26°	42°	36°	28°	20°
Normal	29°	29°	27°	28°	29°	24°	20°

Total excess for the week, 70°.

New-York—*Johnstown, Fulton Co., Jan. 8.*—The winter is remarkably open for Central New-York; have had no sleighing thus far, and not much frost in the ground. The hay crop was good, and so were oats; corn and buckwheat were the poorest for several years; produce is fetching fair prices, hay from $9@18 per ton; oats, 40c. per bu.; corn, 60c.; potatoes, 30c. D. S. H.

Setauket, Suffolk Co., Jan. 5.—Meteorology for December: Highest barometer, 30th, 30.60; lowest, 16th, 28.80; mean, 30.03. Highest temperature, 17th, 58°; lowest, 23d, 10°; mean, 35°; total rainfall, 3.80 inches. Eight rainy days, 8 cloudy, 4 clear and 11 fair. Mean temperature for 1888, 40°; barometer 30.05°; total precipitation, 52.18 inches. S. S. S.

Gardiner, Ulster Co., Jan. 7.—Much rain the last three months, making bad roads. Farming matters quite stationary in this region. Most farmers are in the milk business, and they claim the milk pays well, but the extent that they borrow money from the bank hardly confirms their statement. Crops have been up to the full average the past season. Potatoes rotted badly in many cases from excessive rains and great heat combined. This is a healthy country, and is well patronized in the summer by city boarders. Rye, wholesale, 60c. per bu.; western potatoes, 75c.; eggs, 28c. per doz. in trade; butter, 25c. per lb. in trade; hay, when shipped to New-York, nets from $8@15 a ton; rye straw nets in New-York $12@13. R. J.

Kinderhook, Chautauqua Co., Jan. 7.—No sleighing here this winter except three or four days, about the middle of December. All kinds of business just now are a little dull, as is the rule after the holidays. Potatoes are plenty, and no buyers, so far as I know, for foreign markets, and grocerymen say that they turn away good tubers at 30c. per bu. Apples are a drug, a few choice ones selling in limited amounts at 40c. per bu. Cabbages were an immense crop this fall, and brought hardly enough in October and November to pay for the hauling to market. Good timothy hay sells readily at barn (if not over 4 miles from Jamestown) at $10 per ton; middlings, $19; bran, $18; meal, $20. Winter wheat is looking well, and a fair acreage was sown, as it was easily put in last fall, owing to heavy rains; the advance in wheat at that time also had its effect. Beef has been low, while pork has done better than usual. H. J. S.

New-Hampshire—*Dover, Strafford Co., Jan. 7.*—We have had two weeks of the finest weather, reminding one of early November more than of mid-winter. Yesterday rain fell all day, freezing as it fell, making the roads and paths slippery. No snow as yet for sleighing, which is a great inconvenience to lumbermen, who wish to do a good winter's work. The apple market is still much depressed, the choicest lots bringing only $1 per bbl. Milk producers are getting 22c. per can of 8½ quarts delivered at the railroad station. Potatoes bring 75c. per bu.; hay, $16@18 per ton. Our city has put in an expensive system of water works the past season, which must prove of great advantage to its future prosperity. J. M. H.

Connecticut—*Hartford County, Jan. 10.*—No snow in Connecticut since Dec. 9; no frost in the ground to-day; severe southeast rain storm yesterday. Farmers were plowing in some localities Tuesday, Jan. 8. O.

West Winstead, Litchfield Co., Jan. 7.—The winter thus far has been a very open one with us, also unusually mild. There is no snow on the ground, and but little frost in it. Hay sells for $16@18 per ton, delivered; corn meal, $1 per cwt.; wheat bran, $1; oats, $1.25; potatoes, 60@75c. per bu.; apples have been quite plenty and low, $1.25 per bbl. W. H. C.

Maryland—*Forest Hill, Harford Co., Jan. 7.*—Little cold weather this season so far, and hardly enough snow to whiten the ground; warm and pleasant during the day, almost like spring; there have been warm and seasonable rains, which kept the ground in good condition, and cisterns, springs and wells with a good supply of water. Some farmers have much spring plowing done, and also other spring work, but little frost being in the ground; still the soil is quite wet. At present, weather is windy and colder. Live stock appears to be doing finely, with plenty of feed to carry them through till warm weather. E. E.

Virginia—*Norfolk, Norfolk Co., Jan. 8.*—The weather for the past winter has been the finest for years. Had a good rain last night. Farm work in good shape. Truckers now sowing peas and preparing radish ground. Country roads in excellent condition, shell roads always good. People giving more attention to grass, corn, oats, &c., than usual. The annual report of the Merchants and Manufacturers' Exchange of Norfolk shows that for the year ending Sept. 1, 1888, this city handled, among other farm products, 18,000 tubs of butter and 6,626 tons of hay, both of which products are consumed almost entirely in Southeast Virginia, and are shipped in here from the North, Northwest and West. Green crops of kale, spinach, cabbage, lettuce, rye, oats and corn still look well. Kale and spinach are being shipped slowly, the price in northern markets not justifying large shipments. The truck farmers are slowly turning their attention to mixed farming. They see the necessity of raising their own hay, oats and corn, and keeping more stock, and as a result making and using more stable manure. In short, they are not going to put all their eggs into the truck basket as they have heretofore done. Hens are now laying remarkably well, and the farmers come up smiling with well-filled egg baskets and butter crocks. Eggs retail at 25c. per doz.; butter, 20@30c. per lb.; sweet potatoes, $1@1.50 per bbl.; hay, $18 per ton; oats, 45c. per bu.; corn, 50c. The silos are now being opened, and the contents generally in good shape. Something over a half dozen have been in use here for some time, and no fail ures reported yet. A. J.

Bowers, Southampton Co., Jan. 10.—Thermometer for the past few days has registered 65° to 70° at 2 P. M. Warm showers followed by abundant sunshine. No frost in ground and any kind of farm work can be readily done. Sheep and other stock have not had to be housed as yet, this winter, but we pen sheep at night for four of days. Eggs, 30c; butter, 35c. Cabbage plants were cut last November by some of the truckers near Norfolk. J. S. P.

Kentucky—*Breckinridge, Christian Co., Jan. 7.*—The winter has been very mild, ice not over ½ inch in thickness; ground has not yet been covered with snow; plowing for corn and tobacco completed by many farmers. Wheat prospect fine—well rooted and ties close to the ground. This county made one million bushels last year, and prospects are for a still larger crop this year. Tobacco lower in price than last year; he., per lb crop round, is what good crops sell for in the bundle to English steamers, while that which has been priced in hogsheads and sold on the Clarksville market has not averaged as well. A smaller area will be planted this year. W. H. H.

Ohio—*Mechanicsburg, Champaign Co., Jan. 10.*—Night of the 6th there was a big rain; the 9th it rained, hailed and snowed, but soon melted; last night the hardest wind for a long time; to day is fair, mercury 34°, wind west; indications are for warmer weather; 4° below freezing this morning; no snow yet. E. W.

Michigan—*Howell, Livingston Co., Jan. 8.*—We are having a pleasant winter, but little snow. Sheep and cattle are out in the fields during the day. Corn has all been well secured; a good crop, well matured. The potato crop has been good in quantity and quality, but very slow of sale at 25@30c. per bu. Clover seed has all been threshed; quality No. 1, but yield quite small for this section; price $5 per bu. Wheat is looking well considering so much thawing and freezing; price 90c. per bu. Quite a number of farmers are engaged in feeding sheep and lambs for the eastern market, to be shipped about Feb. 1. Fat cattle are quite low, 2@3½c. per lb.; pork, 6c.; chickens, &c.; turkeys, 9c; oats, 25c. per bu. Mercury at noon, 48°. D. M. B.

Illinois—*Champaign County, Jan 8.*—Indian summer or something like it is prolonged to within a week of the middle of January. It is raining lightly this morning, after a hazy, sunny, mild day yesterday. I recall nothing like this for half dreath and mild temperature since 1842-43. Then we got no cold weather till after the first of March. Thereafter it came in many and heavy snow and rain storms, and for the upper and lower cotton belts, as much and many snowfalls and cold weather as any true winter since. I should be glad to hear from some of the venerable and observing readers of the COUNTRY GENTLEMAN, in the South, whose recollections and personal observations go back half a century or more. Perhaps after four or five hard winters, it is nothing more than some measure of compensation for their severities that we get one or two mild winters. But the true causes of them are, perhaps, that there is a change in the polar currents, the warm currents flowing north from the region of the equator over portions of North America, while the return cold currents move south over England and Continental Europe, where the present winter is reported inclement, cold and severe. The wheat on black-soil land plowed late and sown immediately after, with no sufficient harrowing, rolling and compacting of the soil, is very severely injured, and the crop will be a near or complete failure. Whether this will prove a lesson that will lead to better farming, it is hard to say, because a large majority of Illinois farmers come from a soil of a wholly different texture, where the experience is that a cloddy and broken surface is the best protection against the disintegration of repeated freeze and thaw. *Jan. 10.*—The light rain of the 8th was followed by a light snow of 2 inches and a full gale of wind for the 9th, and a drop in the temperature to 14° this morning. The barometer was down to 29.20° yesterday, 8 A. M., and I expect to hear of deep snow and great damage near or remote. It is clear and fine this morning, and thawing in the sun; barometer, 10th, 30.20°. E. P. J.

Vandalia, Fayette Co., Jan. 11.—First five days in January mild and pleasant; 6th, cloudy and cold; 7th and 8th, clear and cool; 9th, a real snow storm with high northwest wind, mercury 20°, and high barometer. Beef cattle, 2½c. per lb.; hogs, gross weight, 4½c.; butter, 20c.; chickens, $3 per doz.; eggs, 18c.; wheat, $1.10 per bu.; corn, 36c.; oats, 30c.; hay, $8 per ton. S. A.

Wisconsin—*Janesville, Rock Co., Jan. 9.*—We had a long continued rain yesterday; the only real rain for four months. To-day is a fierce, old-fashioned snow storm, with the mercury at 32° above zero. About eight inches has fallen to day, and four during the early morning. If the temperature were low the storm would truly be a dangerous one. The ground is now well saturated, and we may expect settled winter now. Wheat, 60@65c. per bu.; barley, 46@56c.; corn, 27c.; oats, 30c.; rye, 56c.; buckwheat, 40c.; hay, $4@8 per ton; cattle, $2.40@3.50 per cwt.; hogs, $4.75; dressed, $4.95; horse market brisk at good prices. W. H.

Horticultural Department.

Editorial Notes and Comments.

EASTER BEURRÉ PEAR.—This pear occasionally proves an excellent fruit at the North, and well-grown and well-ripened specimens as late as the warm weather in April are really delicious. But more commonly it does not grow or ripen well, and but few attempts have been made of late years to raise it. It appears to succeed well in Missouri, where it ripened this winter in December. Samuel Miller, of that State, writes to the Rural World that if he were twenty years younger (he is now old) he would like to plant one thousand trees of this variety, and would count on making a little fortune out of them. In that State, while it has proved moderately vigorous, it has been an abundant bearer, fruit large, usually perfect, and of excellent quality. The trees have had no blight. They could be sent into market in May the next year.

SENDING APPLES TO ENGLAND.—It appears from reports that large quantities of apples have been sent the past autumn to England, but on account of the low prices paid for them here, little pains have been taken in handling them, while on account of their succulent growth from the warm and moist weather, they were easily bruised. The consequence has been that large portions of the shipments have sold at low prices there, even lower than the apples of English raising. Some owners, however, have avoided this suicidal course, and put up only the best fruit, in the best manner, and avoided loss.

A YELLOW CUTHBERT.—In our last volume, page 669, a notice was published of a yellow Cuthbert raspberry, received from a Massachusetts correspondent, and growing on the same bush as the common Cuthbert, and apparently the same as the "Golden Queen." Recently, a New-Jersey correspondent of Popular Gardening states that several instances have occurred in that State where yellow Cuthberts have grown on the common Cuthbert canes, and which appear to be identical with the Golden Queen in every particular, the result of a sport in color from the Cuthbert; the quality of the two being precisely the same.

RAISING APPLE TREES.—At a meeting of the Massachusetts Board of Agriculture, opinions were given by T. S. Gold and P. M. Augur on raising apple orchards, as reported in the N. E. Farmer. Mr. Augur would prefer hill land to plains, the good soil giving fruit of better flavor and texture. The seedlings of vigorous growth, after budding, should be trained to a good spreading head, that would never require the saw after reaching bearing age. The limbs to be few, at equal distances, and start out five feet high from perfectly upright stems. Head back the annual growth till the trees get just the shape wanted. Mr. Gold's ideal apple tree is a fine old specimen standing where the land is sufficiently rich and mellow to insure perfect health to the very tips of the limbs. Standing in pasture they receive frequent applications of manure on the surface, and bearing heavy crops.

GRAPES IN SOUTHERN ONTARIO.—The Canadian Horticulturist publishes a communication from Essex county, the most southern portion of that province, giving the results of the writer's experience with many of the newer grapes. The climate in that region is quite similar to that of large portions of the northern States. Among those pronounced the most valuable are *Early Victor*, best early black, free from fox, earlier than Worden; *Hayford*, early as Worden, enormous berry, better than Concord; *Brighton*, pre-eminent for beauty, difficult to surpass, only fault some mildew; *Jefferson*, late as Catawba, with delicious, pure flavor, tender further north; *Empire State*, better than Niagara but not as productive, berries drop easily; *Ellis*, fine-flavored, hardy, productive; *Janesville*, early as Delaware, small, juicy, sweet; *Niagara*, the Concord of the whites, very foxy, great grower and bearer; *Pocklington*, fine grower, moderate bearer, better than Niagara; *Prentiss*, excellent clusters, good, mildews some; *Naomi*, mildews some, strong grower, small bearer, resembles exotic grapes; *Duchess*, excellent, fine shipper, finest white grape for private grower.

In addition to the preceding twelve, several others are named of more or less defective qualities. August Giant is a poor bearer; Bacchus is good only for wine: Marion, extremely acid; Cottage, extremely foxy; Amber Queen, "bearing" qualities defective; Elvira, "quality abominable." The writer, who appears to be an intelligent observer, names for a select list of grapes among the blacks, Early Victor, Wilder and Rogers 43 and 44; in the reds, Delaware, Brighton, Agawam, Lindley, Iona, Jefferson and Catawba; and among the whites, Prentiss, Ella, and especially the Duchess, for Southern Ontario.

OLDENBURG SEEDLINGS.—O. F. Brand of Minnesota has stated in the Prairie Farmer that he has six apple trees 20 years old, seedlings of the Duchess of Oldenburg, fourteen years in bearing, most of which have never suffered from blight. Four of them have always been very productive. One of them bore nine bushels four years ago, and eleven bushels two years ago. This is a winter apple of good quality. Blight has killed trees all around it, but it has never been affected. Its bearing is now lessened by being badly cut for grafts. Another, top-worked on a crab, has never blighted. Mr. Brand is well known as having never been successful with Russian varieties, which blight with him badly. He now says "the road to lasting success is along the line of Duchess seedlings." All which points to a repetition of experiments with these seedlings in Minnesota and the Northwest.

Russet-and-Baldwin Apples.

EDS. COUNTRY GENTLEMAN — Among the trees under my care is a clump of apples and pears set 15 feet apart, and allowed to run wild for several years, to form a screen. But some proving to be of good varieties and bearers, it was determined to cut them into shape. In doing so, I found that a branch from a Roxbury Russet had grown into a Baldwin in such a way that it lay upon and crossed a branch of the latter. At the point of crossing the two had grown together, forming a natural graft, if I may use the term. As I noticed an unusual appearance in the fruit, I left the branch till it ripened. The fruit on the branch coming from the Russet resembled both varieties in color and general appearance. While some were a compound, others resembled Baldwins, and still others were Russets to all appearance. I send you by same mail several specimens from the Russet branch. I noticed no signs of hybridism in the fruit on the Baldwin branch. Was the hybridism produced by or through the agency of the blossom, or was it the result of the grafting? I am inclined to favor the former view, but would like the opinion of others on the subject. ALFRED M. CLOUGH.

Rockingham County, N. H.

Three of the specimens sent have the appearance of Russets with red cheeks, the Russet part in some places verging into green, and the red cheeks being marked with minute pale dots, the whole suggesting, as the sender says, a combination of Russet and Baldwin characters. The fourth apple is more like a Baldwin, but rather paler than Baldwins usually are with us. It is more fragrant than the others and appears quite distinct. The variation, at least in the three specimens, appears to me to be due to cross-fertilization; that is, to the influence of pollen from the Baldwin flowers, by which the Russet flowers were probably pollenized. The objection may be urged against this explanation, that the foreign pollen does not affect the resulting fruit, but the progeny from the seeds of that fruit; that the present crop of apples should not be visibly affected even if the blossoms from which they came were fertilized by Baldwin pollen, but that the apple borne by the future seedlings grown from the seeds of these apples should show a combination of the characters of the two parents. It is admitted that this is the general rule; that usually cross-fertilization does not affect the resulting fruit in this way, but the indications that it does sometimes do so are too strong to be overlooked.

Just what the peculiar circumstances are which make the seed vessel or seed envelope unusually susceptible to the influence of foreign pollen we do not know. Possibly in this case the injury at the crossing of the branches may have been a predisposing cause.

To call the variation a sport would simply be confessing our ignorance of its cause; and if it is a sport, why should there be any resemblance to a Baldwin rather than to a Greening or a Spitzenburg? If we consider the branch to be in the condition of a graft on the Baldwin branch, it will not explain the variation, for in this case the fruit should be Russet still, just as if the graft had been an artificial one. There is no reason why the stock should influence the graft to such an extent in one case any more than in the other; besides, it is quite probable that a thin crust or layer of bark still intervenes between the sap wood of the two branches at the point of crossing, which would prevent the passage of sap from one to the other, and thus interfere with the supposition that it is a graft in the full sense. Also, if the exterior part of the Russet branch is a graft on the Baldwin, why may not the exterior part of the Baldwin branch be considered a graft on the Russet, and why was not its fruit likewise affected by its stock? There seems to me to be no more reasonable explanation of the variation than to attribute it to cross-fertilization by Baldwin pollen.

Our correspondent ought to know that matter intended for printers should be written on one side of the paper only. C. H. P.

Some Strawberry Pests.

EDS. COUNTRY GENTLEMAN—A troublesome though not very injurious pest to the strawberry grower is the ants, which are now very numerous in this State. In the midsummer rainy season, the earth in the "flatwoods" becomes saturated with water, and the ants, like the woods cattle, are pushed for a dry sleeping place. They burrow under a strawberry plant, in the middle of the bed where the surface is slightly elevated and cast up a rounded heap which sheds the water. In the fall when the beds are being cleaned up, it is a common sight to see a darkey dancing around and slapping his legs, which are full of biting "antses." During a rainy spell in the fall and winter, they throw up small, sharply conical heaps around small plants for the same purpose, to protect their eggs and young from the rain. When I find an unusual number of these little tents of sand, with the leaf-stalks for tent-poles, I know that a rain is brewing; it is a kind of barometer for me. These are different from the large dome-shaped heaps of midsummer; it seems as if the ants know that the season of heavy rains is passed, and that lighter structures will answer.

A far more destructive pest is the white or "cotton" cricket, so-called to distinguish it from the common black cricket. It differs from the latter in being subterranean and nocturnal in its habits. Passing its life under ground, it is of a dirty white underneath, and of a light sandy color above; when mature, it is from three-quarters to seven-eighths of an inch long. When brought up to the light of day it leaps with as much agility as the black one, and it evidently puts forth much strength in excavating its burrows in the hard-packed sand, often 6 or 8 inches deep. Some of our growers think it avails itself of the holes already made by the mole cricket; but, even if it does, it cleans them out, enlarges them, and adapts them to its purpose. It generally makes a roomy chamber directly under the plant, an inch or two below the surface, into which it drags down fragments of leaves cut off in the night, apparently for consumption in the day time. Occasionally they may be surprised in these chambers in the day time, but generally they are retired in a deep, small burrow which runs nearly straight down. Part of their work of excavation is carried on by butting the particles of sand out with their heads; these particles are piled up in an irregular cone at the surface, and the slightly sunken entrance is closed loosely, showing that the insect shut it up from beneath. When the surface has been cleaned of weeds and grass, and stands a few days, these little heaps show where to direct the spout of the kettle, for boiling water is found to be the most available remedy. After a rain the insect cleans out its burrow and rounds up the little heap afresh.

But the cricket is not so destructive (unless much neglected) or so hard to combat as the cutworm. The conditions which favor the multiplication of crickets are unfavorable to the propagation of the cutworm, and conversely. If the ground is covered during the summer months with trash of any kind or growing crab-grass, the crickets breed in it, but the cutworms do not. On the other hand, if the ground is cultivated through the summer, it routs and destroys the young crickets; but the moths which are the parents of the cutworms are enabled to get to the ground and deposit their eggs. As the cutworm is the more difficult of the two to fight, it is policy for the growers to let their old strawberry beds grow up to trash in the summer; then strip them off toward the end of September, scald out the crickets, and refill the missing places. This gives the cutworm moth the slip. This state of facts makes it desirable to hold old plants over as many years as possible, rather than reset the beds and so expose the surface naked during the period when the cutworm moth is active. English horticulturists fight these moths by placing a mixture of rum and treacle in various parts of the field; then they visit these at night with lanterns and destroy the drunken moths. The Florida method (it is getting to be adopted) seems to me preferable. These worms are sometimes extraordinarily thick here; I have seen 80 caught around 11 curled pepper-grass plants.

I fight cutworms mostly with the fertilizer-sack—make my young plants so strong and large before the cutworm comes that it is unable to work them any serious damage, even if it cuts off every leaf. One neighbor has about 50 turkeys running over his strawberry field, and they save him the nauseous labor of picking them by hand. Another has tried kerosene and hot water; either one brings the worms quickly to the surface wriggling; but with thousands of plants and a worm or two at the base of each, this method is impracticable. Larks learn to search for cutworms; I have seen them trot along a row for some distance and examine every plant. They probe with their beaks the slight burrows of the mole cricket every few inches; they probe around the strawberry plants after a rain when they can detect by the slight cracking and drying of the ground where the worm is lurking. The dull brain of the dunghill cock is not equal to this feat, but he waits around my man and gathers the worms he throws out for an hour or more, until his crop is as full as it will hold.

Bradford County, Fla. STEPHEN POWERS.

Orchards on a Hillside.

EDS. COUNTRY GENTLEMAN—The person who sets out an apple orchard naturally wishes to give the trees a fair chance to grow, and generally selects the levelest, smoothest and best field on the farm for the purpose. This is proper enough if the farm is all level land suitable for the plow, but if this is not the case, the orchard should be put on the hillside. In the region where I live just as good trees and as fair fruit can be raised on a hillside as on the level land.

My grandfather planted out two orchards at about the same time, the one on the flats or bottom land, and the other on a hillside. Both were in full bearing so long ago as I can remember, both were good bearing orchards, both contained the same varieties of fruit, both are now nearly gone, and I shall soon cut down or grub out the remaining trees. The orchard on the flats was frequently manured, plowed and cropped with grain; the one on the hillside, owing to its steepness, was seldom plowed, and never received any manure except from the droppings of the hogs, which were generally pastured in it until the apples began to get ripe. That manure is of benefit to orchards we all know, and it has generally been thought that cultivation was a benefit to fruit trees unless the plowing was so deep that the roots were broken, or the bark of the trees mutilated by the whiffletrees.

Some years ago I set out a new orchard on the hillside adjoining the old one, and with the exception of two or three trees killed by the borers, they have done extremely well, have grown fast, are now in a thrifty condition, and bear every year, but of course, like all other orchards, bear better some years than others. I have not allowed hogs or sheep to run in the new orchard, fearing they might injure the trees, and the result is that many of the apples are knotty and ill-shapen. The apples in the old orchard where the hogs run, though not so large, are fairer and smoother.

The only disadvantage of a hillside orchard is the difficulty of placing the ladder for picking the apples, and the necessity of standing up boards on the edge, with stakes below them, to prevent the apples from rolling down the hill when the trees are shaken. But the disadvantages of plowing, harrowing, and getting crops drawn from hillsides, are still greater, and as the plowing, to be done well, must be done with a sidehill plow, the tendency is to get all the best soil to the lower side of the field, and the upper left skinned, naked to the bone. Apple trees generally thrive well, and attain great longevity, in the valley of the Susquehanna.

The trees set out by my grandfather must be over 80 years old. On the opposite side of the river, near the site of the old Indian village of Friedenshutten, there were still standing, but a few years since, some apple trees that were planted by the Indians, or the Moravian missionaries who preached to them. As the Indians emigrated to Ohio in 1772, those trees must have lived to be more than 100 years old. S. W. I. *Sugar Run, Pa., Jan. 6.*

The Entomologist.

Prof. Lintner's Report.

We are indebted to Prof. J. A. LINTNER, New-York State Entomologist, for a copy of his Fourth Report on the Injurious and Other Insects of the State. It occupies over two hundred compact pages, has many accurately engraved illustrations, and gives to practical cultivators as well as to scientific men much new information of value. In his introductory remarks, Prof. L. says, "the cereals of the State have not been visited to any unusual degree with insect injuries, with a single exception of a demonstration of the joint-worm fly (*Isosoma hordei*) in some of the wheat-fields of Niagara county." As it often continues and extends its ravages after a footing has been secured, a notice of some length is given in the report. The Hessian fly, which years ago was so destructive as to cause an aggregate loss in Wayne, Ontario and other counties of $100,000, and in the single township of Junius the destruction of 40,000 bushels of wheat, appears not to have continued its injuries to much extent. The hop-vine aphis, which in some localities took more than nine-tenths of the crop two years ago, has been so vigorously met by the two-spotted lady bug which appeared in great multitudes, that the hop yards have been favored with an almost entire exemption from the attacks of the destroyer. Prof. Riley has recently ascertained some curious facts in relation to the habits of this hop-aphis. Its eggs are deposited in the twigs of plum trees in October; they hatch the following spring and have three generations on the plum trees, the third—and only one with wings—enabling them to migrate at once to the hop-fields. From the fourth to the eleventh generation the females are wingless; but the twelfth being again winged enables them to return to the plum trees, and the thirteenth, wingless, deposits its eggs in the twigs for the succeeding spring. A full account of these curious habits is given in the COUNTRY GENTLEMAN of Nov. 17, 1887, page 873, by L. O. Howard, Prof. Riley's assistant, and occupying two columns. Several other injurious insects, which have appeared to a limited extent, are noticed in the report.

Brief as well as extended notes are given in the body of the report, on the habits of insects both noxious and beneficial, some of which have appeared in great numbers, and others as yet to a limited extent only, to the habits of which additional investigation is invited, and for many of which an intelligent course is pointed out to meet their ravages.

Among the interesting notices of the more common species, are those of a May-fly (*Ephemera natalis*), which occurred in immense swarms at Middleburgh, N. Y., and excited considerable anxiety. Answer was returned of their entire harmlessness. They have sometimes appeared in almost incredible numbers in other countries. In France they came in numbers like a snow-storm, covered the ground four inches deep, and filling eyes, nostrils and mouth. On one occasion they were so abundant in Austria that twenty cartloads were drawn away for manure. Some instances are related in the report of their appearance in nearly as great numbers in narrow localities in this country. At Chicago, a few years ago, they presented the appearance of a snow-storm in midsummer, with the thermometer at eighty!

The apple-tree bark-louse receives much attention. It has infested the trees in different parts of the State, and killed many of them. It should become well known to orchardists, as it often increases rapidly. Portions of its history demand further study. Of the different remedies, that of soft soap, thoroughly applied by vigorous scrubbing, and with an addition of crude carbolic acid, is recommended as the best. A newly introduced bark-borer is noticed in detail, and known as *Scolytus rugulosis*. It has made fatal attacks on our three principal stone-fruit trees, and recently its attack on apple trees has been observed. It has probably been brought from Europe within the past fifteen years. It is a slender beetle, an eighth of an inch long, and when a tree is once attacked in force by it, the only remedy appears to be to dig it up and burn it. Fortunately, it has been strongly attacked by certain parasites.

Among the beneficial insects noticed which have performed valuable services for the cultivator, are the well-known Coccinella family, the soldier beetle, and species of the Ichneumon family. There is no doubt that the services of some of these parasites, if fully known and measured, would be found worth millions to the country at large, and an interesting part of entomology is the study of their habits, and of the different species to which credit should be given.

In this brief notice of Prof. Lintner's report, we have not had the space even to name the many insects of which he has given valuable information. The report will be read with interest, not only by the professed entomologist, but by intelligent cultivators generally into whose hands it may fall.

The Apiary.

Michigan State Association.

Meeting at Jackson in December—II.

"Spring Management" was the title of a paper by T. F. Bingham, who urged the keeping of populous colonies, and especially thought it important that they be abundantly supplied with honey. He called attention to instances in which colonies in massive hives, "gums" or old logs, having 75 or 150 lbs. of honey, had passed smoothly through unpropitious springs, and far out-stripped their scantily supplied neighbors.

Mr. Heddon said he had never lost any bees by spring dwindling, when they had wintered perfectly; and proceeded to give a resumé of the "pollen theory," showing that the consumption of pollen in confinement is the main cause of dysentery.

H. D. Cutting asked Mr. Heddon if he had not lost bees in winter when they had only sugar stores?

Mr. Heddon said yes, but not from dysentery. They simply perished from cold too long continued. There was not a sign of dysentery; no overloading of the intestines, nor any discharges.

R. L. Taylor agreed with Mr. Heddon. Many did not believe in the "pollen theory," simply because bees having pollen in the hive do not always have dysentery. It could not cause disease unless consumed in excess when the bees cannot fly. If honey is of easy access he thought there was less danger of pollen being consumed. There is also a difference in pollen—some is hard, and some covered with wax; while some is soft and seems mixed with the honey. Mr. Taylor had once wintered 200 colonies with no pollen in the combs, nothing but sugar syrup. He had never had bees winter better. It is held by many that it is better not to have bees breed late in the season. His experience was the reverse. He would like to know whether it was the result of the bees using up the pollen in the fall, or from having young bees.

Mr. Heddon thought it the result of getting the pollen out of the way before the bees ceased flying. He said young bees could not hold their feces so well as can old bees, as all know who have taken off honey.

An expression was taken to see how many believed that the consumption of pollen in confinement was the prime cause of bee-dysentery. Nearly every hand went up.

Mr. Taylor asked: "What are you going to do about it?"

Jas. Heddon said, if sugar were cheaper he would feed that; as it was, he took his chances.

W. Z. Hutchinson read a paper on "The Advantages and Disadvantages of Attending Conventions," in which he said that in the days of cheap journals, conventions are not so much needed as in the past, and were it not for the social features would sometimes be pretty slim affairs. The majority of those who attend, go for the sake of having a "good time," and if it can be afforded it is all right.

President Hilton had always attended conventions, and went home feeling well paid. The social features he pronounced the brightest. This life is not all dollars and cents. It is true that conventions have, of late, been poorly attended, but he attributed it to poor seasons; with the return of better crops of honey, he thought that we might look for the crowds of yore.

Jas. Heddon said if there were no books or periodicals, conventions would be a grand thing, but the interchange of thought by means of the printed page is much cheaper and fully as efficient.

"Crosses of Bees" was the next topic. Mr. Fellows had tried a cross between Carniolans and blacks, and was pleased with it. Mr. Heddon preferred a cross between blacks and Italians. He secured the right kind of a cross, not by mating queens in confinement, but by filling the air with drones from choice colonies. This was done by removing the drone comb from undesirable colonies and placing it in the most desirable one.

President Hilton had tried the Carniolans, and found them gentle and prolific, but lacking in honey-gathering qualities. He had had just as well behaved colonies of blacks as of any other kind of bees.

H. D. Cutting had Carniolans. The hairs on them are whiter and longer. A cross between the Italians and Syrians will build the most queen cells.

Dr. Higbie mentioned his success in planting buckwheat and rape, for honey. He got no honey from the former; the latter did quite well.

Mr. Heddon said that not one pound in 10,000 was the result of "planting for honey." Raising crops that produce honey, or scattering in waste places the seed of some honey-producing plant that will take care of itself is all right.

The next meeting will be held in Lansing. Officers for the ensuing year: President, Prof. A. J. Cook, Agricultural College; secretary, H. D. Cutting, Clinton; treasurer, W. Z. Hutchinson, Flint.

W. Z. H.

The Poultry-Yard.

Selling the Turkeys.

That we can raise turkeys in Kentucky is an indisputable fact, but how to dispose of them to advantage after they are raised is something we farmers' daughters have yet to learn.

When they are sold alive, the purchaser very often forgets to pay, and when he is a near neighbor or a friend, one does not like to remind him of so small an account, even ever so gently, and when the buyer lives at some distance, he is extremely hard to get at. Small business transactions are always supposed to be conducted on the cash system—that is, the seller thinks so—but the buyer does not always regard it in that light.

Yet the turkeys must be sold as soon as they are matured sufficiently to be marketable, for their appetite increases in direct ratio to their size, and it seems to me that their number increases also. My flock last year was 120, and when they were small my two hands would hold food enough to satisfy them; but just imagine that 120 grown until the gobblers weighed 20 lbs. and the hens 14 lbs., and all crowding around clamoring for something to eat, and stretching their long necks until I am forced to lift my hands on high to keep out of their reach! For although they are so large they are not very old, and each one can distinctly remember when it was considered a favor that he should accept a crumb of bread from my fingers.

Early in October I was made happy by the receipt of a letter from a dealer in poultry who said he had read an article by the "Farmer's Daughter" in a certain agricultural paper which had made him want some of the bronze turkeys she wrote about.

Of course I was charmed, for here was an opportunity to dispose of the handsome birds alive. They were entirely too pretty to kill, and after employing a man to make the coops and take them to the express office, I hastened to answer the letter, saying they would be sent very soon.

My correspondent replied forthwith, ordering 25 turkeys to be sent as a sample, and, if they should prove satisfactory, said he should want 25 or 50 more, adding casually that when he ordered the second lot he would send a check for both.

Well, the man brought the coops and we picked out the largest and finest birds, the gobblers weighing from 18 to 19½ lbs. and the hens from 11 to 14 lbs.—pretty good weight for five-months-old turkeys that had not been pushed—and we saw the wagon move off to the nearest station, eight miles away, with the greatest satisfaction.

I congratulated myself that there were 25 less turkeys to feed, but only had the pleasure of feeding them twice, for the next morning, to my astonishment and dismay, I saw the long wagon with the white coops come rolling back. The man was utterly crestfallen, and explained dejectedly that after he had carried the coops into the office, the express agent declared there was no such office as that to which the coops were directed, and refused to make out a way-bill.

"But surely," I said, "there is an express office in the large town near the gentleman's residence?"

"I told the agent that," he said, "and tried to persuade him to express the coops there, but he declared there was no express office in that town, either, and when I insisted, got angry and ordered the coops out of the office, so there was nothing for me to do but bring them home."

I wrote at once to the poultry dealer asking him to send me proof of his express office. He replied, saying there surely was one, and telling me "to start the turkeys again." The next time they were ready, I accompanied them to town myself, and the agent, who by this time was heartily ashamed of his behavior, received the cases with many apologies, marked, and shipped them all right.

There were 105 turkeys left, counting the ten old birds, and during November we received a circular from Memphis, Tenn., stating that dressed turkeys were selling at 15c. a pound. We thought that a good price, and the weather being favorable the ensuing week, 25 of the largest young gobblers were dressed and shipped. Unfortunately, a large number of other country people received the same circular; so the Memphis market was overstocked and the price dropped down pretty low. Our turkeys weighed very well though, and even after expressage and commission were paid, brought over a dollar apiece. We took the check thankfully, saying "Better luck next time!" and wondered what we had better do with the rest of the flock.

By this time every green thing in the fields was frosted, all the insects were dead, and the turkeys had to be liberally fed on shelled corn and oats to keep them from falling off. That would not do at all; the corn crop was short, and 80 turkeys can eat a great deal. They must be gotten rid of, and that before Christmas, also, as my father said, they would surely eat their heads off. So, the first of December I went to town and engaged a lot to a dealer in dressed poultry. When a suitable day came, we got together some old colored women, who dressed 47 turkeys; 30 of them were hens, which weighed, gross, from 12 to 14½ pounds. The rest were gobblers, and weighed from 18 to 22 pounds. They averaged about $1 apiece, for turkeys were uncommonly low last year, on account of the unusually large crop. There were still 28 turkeys left, 9 of the original stock, and 22 of the late young ones, which were too small to be marketable. Now, it is a pleasure to feed them, they eat so little, and some have been already used for the table. A sufficient number will be kept to raise from next spring, and the remainder will be sold along in February, when turkeys bring a better price than at any other time during the year. They ought to, to pay for the food they consume in winter; besides, the time and attention necessary to care for them during cold weather is a considerable item.

For the 25 shipped in October we have never received a cent. The man seems to be a traveling gentleman; occasionally he writes us a few hurried lines from some eastern city, inquiring, in a scattering kind of a way, what we will send him another lot for, remarking upon the heavy express charges upon the former lot, and promising to remit next week, &c., &c. Still, he does not remit, and we are growing somewhat uneasy for fear he never will; have not quite given up hope, though, and occasionally build an air-castle, with his check for a foundation.

My opinion of the business habits of men is slowly undergoing a complete change; now, I don't believe they have much better ideas of doing things right than women have, and pretty soon, if many more of them fail short, I shall think they have less—that is, less than women who have had any opportunity to learn. Still, I am not discouraged. Although my flock of turkeys require a good deal of care and attention, the work was very interesting; they were so healthy and thrifty that it was a pleasure to see them grow, and I know of no other way by which farmers' daughters can make a hundred dollars so easily. While all our real wants are supplied, few farmers can afford, either for themselves or their families, many of the extras of life. And the beauty of it is that what we make in this way is our very own, to do with exactly as we please.

Every girl knows how delightful that is. If she wants the new book that reviewers and critics are praising up to the skies, or picking to pieces until not a whole page is left, no one has a right to forbid; or if she chooses to run off on a little trip to see something new—and the whole world is new and wondrously attractive to the country girl—no one can utter a single protest. A FARMER'S DAUGHTER.

Our contributor must not blame the men too severely. It was quite unbusinesslike, on her part, to put her property into the hands of an utter stranger. If she could obtain no guarantee as to his trustworthiness, she should have insisted on a draft or certified check for half or two-thirds the value of the fowls, and then she would either have lost less, or retained her turkeys.—ED.

New Advertisements.

B..... *Situation Wanted.*
Brownell, W. O..... *Jersey Bull Calves, &c.*
Brook & Son, Thomas..... *Clydesdale Mares, &c.*
Carrel, F. M..... *Farm for sale.*
Converse M. H., W. A..... *Seeds, Bulbs, Plants.*
Childs John L..... *The Champion Wagon.*
Champion Wagon Co..... *The Champion Wagon.*
Clemence, J. H..... *Jersey Cows.*
Cogswell, P. J..... *Jersey Bull.*
Cloud Bros..... *Premium Poultry.*
Crissey, Warren..... *Calfs.*
Emerson, P..... *Peach Trees.*
Fisher & Norris..... *Angus.*
Fagan, John..... *Berkshire Pigs.*
Fiskin, W. J..... *Horses.*
C. H. G..... *Black Stallion.*
Goodell Co..... *Broadcast Seed Sower.*
Greenwell, T. W..... *Thoroughbred Lots.*
Hosford, J. B..... *Farm for Sale.*
Hilliard, J. R..... *Situation Wanted.*
Harrison, H. G..... *Farm for Sale.*
Horseshoe Co..... *Smoothing Harrow.*
Hoppe, Herman..... *Guernsey Bull Calf.*
Kipling or, Joseph C..... *Duke Poole Stock.*
Lambert, G. K..... *Norman Turkeys &c.*
do. do..... *Man with Capital Wanted.*
Lowes, Dr. J. E..... *Jersey Bull Calves.*
Lindsay, Wm..... *Ayrshire Cattle.*
do do..... *Guernsey Bull, &c.*
Matthews, W. B..... *Country Home.*
McPherson J. C..... *Jerseys.*
Morton, Levi P..... *Holstein Friesian Bulls.*
Moseley & Stoddard Co..... *Stockyard Creamery.*
Names, W. S..... *Trotting Bred Stallions.*
Orr, J. W..... *Creamery to Lease.*
P. O. Box 20..... *Situation Wanted.*
Packard, B. G..... *Holstein-Friesian Cows.*
Perfect Clothing Co..... *Leather Clothing.*
P. O. Box 16..... *Position Wanted.*
Pier, E..... *Situation Wanted.*
R. M. C..... *Situation Wanted.*
Rowell, S. H..... *Hog Cholera Cure.*
Martha R..... *Agents Wanted.*
Solenberger, S. W..... *Short Horns.*
S..... *Farm to Lease.*
Sherman, Charles G..... *Jerseys.*
Salmon, John A..... *Northern Grown Seeds.*
Smith's Mfg Co..... *Board Rack.*
Shourds, D. S..... *Man Wanted.*
Schmidt, C. H..... *Rhea Mills.*
Shearer, J. B..... *Short Horn Mare.*
"The Cornucopia"..... *Sample Copy.*
Talbot, Geo. M..... *Jerseys and Shropshires.*
Vanderveer Bros..... *Perche on Stallion, &c.*
Warne, N..... *Purchaser.*
Wheat, Jr. J. Clifton..... *Horses and Investments.*

Pamphlets, &c., Received.

BUCKTHORN FENCE CO., *Trenton, N. J.* Calendar, Memorandum and Diary for 1890—15c.

CENTURY COMPANY, 33 E. 17th St., *New-York.* Map of Siberia, showing route of Explorer Kennan.

COLE & BRO., *Pella, Iowa.* Garden, Farm and Flower Seed List; pp 48, illustrated.

CUTTS, J. V., *Nursery, Ill.* Nursery List.

ELY & CO., Z. D. F., 1301 *Market St., Philadelphia, Pa.* Garden Manual; pp. 96, illustrated.

JEFFERS, A., 134 *Main St., Norfolk, Va.* Circulars of Real-Estate for sale.

JOHNSON & CO., I. S., 32 *Custom-House St., Boston, Mass.* Show-bill of Sheridan's Poultry Powder.

JONES, Lieut.-Gov. E. F., *Capitol, Albany, N. Y.* Editorial Pass to Senate Chamber Floor for 1890.

MATTHEWS, W. B., 623 *Seventh St., Washington, D. C.* "Homes in the Old Dominion for sale at very low prices;" pp. 40, with very excellent folding map.

MEXICAN NATIONAL RAILROAD, *City of Mexico, Mex.* Illuminated Folding Map and Circular.

MOORE, L. H., *Newark, Wayne Co., N. Y.* Circulars of Jerseys, Chester Whites and Light Brahmas.

SUMNER BROS., *Springfield, Ill.* Catalogue of Berkshires, Light Brahmas and Bronze Turkeys.

WARING, H. M., Assistant Secretary Hudson River Poultry, Dog and Pet-Stock Association, *Newburgh, N. Y.* Premium List for show, Feb 7-12.

WOOD, WALTER A., *Hoosick Falls, N. Y.* Catalogue of Harvesting Machines; pp 32.

Inquiries and Answers.

Manuring Peas--Potatoes.—I am engaged in truck farming, peas, beans, early potatoes, &c., for northern markets. I have a light sandy soil for this part of my operations. I wish to try an experiment this season in planting peas and invite criticism of the plan. We plant about four inches deep the last of January, and manure in bottom of furrow, then sow seed on manure and cover. The plan I propose to try is to open rows and sow peas, then cover, say two inches, with earth, place on manure, and finish covering by turning on more earth with plow. My belief is that the manure will do more good than if placed under the seed, as the plant has to grow up through it and more roots will strike the manure. Besides, it will be better protection from cold killing the peas, which is often the case in my open soil. If season proves a wet one, the manure will not leach down and out of reach of peas as badly as if placed under them. This is all theory; what say your readers to the plan? (1) I wish to plant early potatoes for market and would inquire what variety will likely prove best for me. (2) In planting potatoes we generally ridge to plant. Is that necessary? I have an idea level culture may be better; what does experience teach in this line? (3) V. B. P. *Goldsboro, N. C.* [If old or well rotted manure is used, it will make little difference whether the manure is all or only partly below the seed, the most important requisite being the thorough intermixture of the fertiliser through the soil. Dry or wet seasons might largely affect the result, more especially with coarse or fresh manure, in which case we would strongly recommend breaking it fine and thoroughly incorporating it with the soil. Far better, however, than any theory, would be to try this simple experiment by our correspondent. A good soil readily absorbs the fertilizing portions of manure as soon as the water reaches it, and properly treated it will not be likely to "leach" to any extent. 2. The most popular varieties of the potato for early crops at the North include the Beauty of Hebron, Early Ohio, Early Vermont and others, among the older varieties, while a few new sorts promise much value, but need further proving. It is well for those who plant largely for market, to procure at least a portion of the highly recommended new potatoes, and to give them a limited trial to test their value in their particular localities; but like many other new things, most of them will prove failures to a greater or less extent. 3. For a well prepared soil of proper depth, we have found flat culture to give the largest crops.]

Harrowing Corn Stubble for Wheat.—Can you name an implement that will prepare corn stubble for seeding to wheat, without plowing, where the land is infested with *blue thistle*, or other troublesome biennials? Where these have a good hold, the young plants, between the last cultivation of the corn and when it is cut off, start up so thick that simply to harrow with a straight toothed harrow (the usual plan, and thought better for wheat than when broken up) is only to *cultivate* them. Often wheat sown after such preparation is not worth cutting at harvest, or if cut, the manure from the straw rapidly increases the pests. What is wanted is an implement that will not only pulverize four or five inches of the top of the soil, but *cut off* or *dig up* every plant. The Acme, cutaway, and spring-tooth harrows are untried in the section I have in view. Will any of these do the work? M. *Baltimore, Md.* [The Acme or disc harrow, and doubtless the "cutaway," will prepare the surface well for sowing wheat, provided it is free from grass or weeds; but if the weeds are abundant and several inches or more in height the only course will be to turn them under with the plow. Cheap and superficial preparation of the ground for wheat is one of the causes of small crops; and repeated harrowing for reducing it to a finely pulverized and mellow condition is better than a single plowing.]

Rose-Bush Excrescence.—I send you a rose bush, the root of which shows a curious formation. The disease, or whatever it may be, spreads rapidly and results in the death of the plants affected. Is anything known as to cause or origin? W. W. S. *Mercer County, N. J.* [Upon the root of the rose-bush are several irregular somewhat angular excrescences about the size of a small pea. These are crowded together in a mass about one inch in diameter. The excrescences are rather soft in texture, easily cut, pale within when first cut, but soon changing to a darker hue on exposure to the air, as the cut surface of an apple would change. The affection is new to me, and I do not find a satisfactory explanation of its cause. Excrescences are produced on plants by fungi, insects, mites and worms. I find no evidence of fungous growth in these excrescences, nor are they hollow as in true insect galls. Anguillidæ or small worms popularly known as eel-worms, sometimes cause excrescences on the roots of plants, but an examination revealed the presence of none of these. A single mite was seen to emerge from the crevice between two excrescences, and thus suggested the possibility that the trouble may be due to these minute creatures; but a careful search revealed no others, and left the real cause in uncertainty. Mites are the probable cause, eel-worms a possible one. C. H. P.]

Freemartins.—Will twin calves breed where they are different sexes? There is a popular idea that twins never breed. I have a pair from a valuable cow that I should like to raise. S. M. *Olney, Md.* [The heifer is probably sterile, though exceptions sometimes occur. The bull should be fertile.]

Potato Beetle.—Do you know or have you ever heard of any preparation other than Paris green being used *successfully* in destroying potato bugs, and if so will you kindly give us the name of the preparation and its manufacturers? A. C. M. *Baltimore, Md.* [Many remedies have been tried, and occasionally from accidental causes they have appeared to promise success; but for an invariable, certain and reliable remedy we know of nothing but arsenic in the form of Paris green or London purple.]

Flax.—I have a corn-stubble field, a part of which I failed to get ready in time to sow in wheat. I am thinking of sowing it in flax; would you kindly advise me how I shall proceed? J. M. W. A. *Warrenton, Va.* [Put the ground into fine condition as for any early spring crop; but we would not advise you to sow flax extensively until by one or two or more seasons, experimenting with it in a small way, you ascertain practically its requirements.]

Pleuro-Pneumonia.—I am right in the midst of the pleuro-pneumonia. Would be glad if you would think it of sufficient general interest to publish some general information in regard to it. H. J. *Orange County, N. Y.* [The latest edition of Law's Veterinary Adviser ($3) includes a treatise of about a hundred pages on this subject.]

Registering Jerseys.—How much will it cost to register a Jersey calf? L. B. L. [Please address the secretary of the club. Matter for printers should never be written on the back of a business letter.]

Cyclopædia, p. 6.—Several correspondents inform us that the book is published by N. D. Thompson & Co., 590 Pine St., St. Louis, Mo.

Combinations for Milk.—Please give the right proportions of the following foods for milking cows: Cottonseed meal, corn meal, wheat bran, good crab grass hay. (1) Also for another party—corn ensilage, boiled cottonseed, wheat bran, crab-grass and peavine hay—about one-fourth peavine. (2) E. T. C. *Society Hill, S. C.* [1. E. T. C. may make his first ration in the following proportions: 12 lbs. of cut crab grass hay, 3 lbs. of corn meal, 6 lbs. of wheat bran, 3 lbs. of cottonseed meal. Great care must be taken that the corn meal, bran and cottonseed meal are first well mixed together dry and then mixed with moistened crab grass hay. This prevents all danger from the concentrated cottonseed meal. 2. The formula for the other party may be 35 lbs. of corn ensilage, 5 lbs. of crab grass and peavine hay, 5 lbs. of boiled cottonseed, 6 lbs. of wheat bran. All must be thoroughly well mixed together and given in three feeds. This ration would be improved with one pound of decorticated cottonseed meal added. The ensilage will improve its healthfulness. These cows are presumed to be acclimated and accustomed to boiled cottonseed; if they are not, then less boiled cottonseed should be given for the first two weeks, and more bran. But this ration should produce a good result with good milkers. E. W. S.]

To Our Readers!!

When the subscription price of THE COUNTRY GENTLEMAN is remembered—in clubs only two postage stamps per week, and to others but little more—in comparison with the correspondence thus secured from all parts of the country, as well as from abroad; in comparison with the opportunities given for obtaining information through our columns of inquiries and answers, general, veterinary and miscellaneous; in comparison with the means of judging from our advertising pages of the state of the market in all classes of improved stock, and of learning from them all that is new in the improvement of machinery, seeds and plants—not to speak of the scientific and popular discussion of important problems in farming, gardening and stock raising—the equivalent demanded for the return given is absolutely trifling—so small that it would seem wholly unnecessary to ask attention to the matter from any one willing to give it a moment's serious consideration.

These remarks include, very briefly, a few of many reasons or arguments which will suggest themselves to those of our long standing friends who may kindly endeavor to gather in some of their neighbors and associates as subscribers for our coming volume. When we consider that our present circulation, large as it is, bears so small a proportion to the aggregate number of farmers in the Middle States alone, not to speak of the entire country, it is more and more a matter of surprise that a field so vast is as yet so imperfectly occupied.

The demand for sample copies and other purposes always necessitates enlarged editions during the winter months. We should invite the attention of advertisers more particularly to this but for the fact that the space we care to devote to advertising appears to be called for from week to week without stimulus or solicitation on our part; and the position of the COUNTRY GENTLEMAN at the head of journals of its kind, as an advertising medium, as well as in other respects, needs no other proof than is readily afforded by an intelligent inspection of its columns.

We shall be happy to mail sample copies with circulars, &c., to any addresses sent us for the purpose, and particularly invite applications of the kind just now.

Acknowledgments.

Communications for publication have been received during the week ending Jan. 13, from Prof. Chas. H. Peck—Subscriber—L. R. A.—J. W. Spencer—E. M.—George Q. Dow—S. B. Strong—V. Frost—Lillian Mayne—F. R. Park—C. S. Rice—W. D. Curry—W. E. Pendleton—H. G. Otis—J. P. Neer—J. W. Ingham—J. H. Wood—W. R. Welling—D. M. B.—J. M. H.—W. T. Saunders—J. M. W. Allen—T. W. Dickinson—Walter R. Crabbe—A. N. Curry—Mrs. D. H. R. Goodale—H. Jay Spencer—R.—D. S. Baird—Harry Sedgwick—L. B. Pierce—R. F. J.—Edwin Haviland—Wm. Eldridge—Stephen Beale—Nellie Burns—Wm. Falconer—L. Chandet—P. J. Cogswell—E. L. Holden—Prof. L. N. Johnson—O. H. Alexander—Berta K. Brown—Wm. E. Cowles—Geo. W. Fish—T. J. Arnold—J. D.—Geo. Ball—D.—Dr. Wm. Horne—S. W. Covington—A. O. H. Whitford—J. Fraser—Edwin Wing—Prof. E. W. Stewart—J. F.—Thomas Jones Bebb—Thos. B. Gere—M.—B. F. H.—J. J. W. B.—George Jackson—Feed Farmer—James Wood—W. A. Conover—Dudley Miller—T. R. Proctor—Dr. W. I. Chamberlain—Geo. E. Brown & Co.—T. L. Gilbert.

. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Jan. 17, 1890.

Our State Society.—Closing these forms on Monday at noon, we must of course defer until the succeeding issue an account of the meeting of the New-York State Agricultural Society which is taking place in this city as this paper reaches its readers. Two institutes are appointed for next week—at Lockport, Jan. 21-23, and at Canandaigua, Jan. 25-26. The Lockport programme includes addresses by Col. Curtis, Profs. Cook, Roberts, Bailey and Ladd, Messrs. G. T. Powell, Seth Penner, I. H. Babcock, Nelson Bogue and C. W. Wilcox, and Mrs. Emma Taylor.

Virginia Real-Estate.—Mr. W. B. MATTHEWS, who advertises this week for sale a country place that seems to deserve the special attention which we have no doubt it will receive, writes us: "I intend sending you all my advertising for the reason that after an experience of some years I find your paper is the only one that it pays me to advertise in. Every notice brings me a large number of responses."

Plants and Forests of Michigan.—We are indebted to Prof. W. J. BEAL, Botanist of the Experiment Station of the Michigan Agricultural College, for a copy of the First Annual Report of the Department of Botany and Forestry for the present year. Two prominent objects have been in view—first, to find one or more grasses or other forage plants which shall be better adapted to the soil and climate than any hitherto in general use; and secondly, to test many kinds of forest trees, to learn which are the best fitted for timber on the sandy plains. To answer these questions will require much labor in future, including modes of seeding, cultivation, and other points in management. Tests will be made in Northern Michigan, with the grasses, on plots a rod square, two acres being appropriated to this work, and 6000 trees of seventy-six species and varieties have been planted. Lists are given of the species. Experiments will be made in other localities. Prof. Beal has examined the flora of Northern Michigan, and makes a full report, and gives a detailed account of the condition of the pine woods of that region. His well-known scientific accuracy, and the thorough practical character of his investigations, insure much value to his future reports.

Connecticut Stations.—The legislature of Connecticut has divided the $15,000 received from the national government equally between the State Experiment Station at New Haven, and the Storrs School Experiment Station at Mansfield. The last-mentioned station has issued its second bulletin, for a copy of which we are indebted to Prof. W. O. Atwater, director. It is chiefly occupied with a report of the experiments on the effects of tillage as affecting soil moisture, the results of which, so far as they go, promise to be of much value in practical cultivation, and in confirming the teachings of previous trials.

In a series of experiments on light and on heavy soils, during a period of rather dry, warm weather in summer, both soils lost more water by evaporation when their surfaces were left compact, than when stirred about as deep as is

commonly done in hoeing and cultivating, the heavy soil losing over an inch and a half, and the light soil over an inch, when not stirred; and the heavy soil losing only an inch and a quarter when stirred, and the light soil only two-thirds of an inch. The stirring was done every alternate day, and the trial continued for half a month in August. The apparatus employed rendered the measurement accurate. We observe but little difference in the amount lost by evaporation when the stirring was two inches deep or four inches.

The value of surface tillage, to retain moisture, is here distinctly exhibited, and as Prof. Atwater justly remarks, "weeds are the farmer's enemies, but drouth is worse," especially if the weeds are few and small and the drouth severe. There are several points to be ascertained by future experiments, such for example as the degrees of looseness which unstirred soil may possess, and the magnitude of the broken particles of the stirred soil. In some instances the unstirred soil may be in better condition for retaining moisture when already sufficiently loose, than a stirred soil in coarse grains and clods, with free admission of the external air. Further experiments will doubtless show that established rules in connection with the subject must be variously modified according to external conditions.

Running Without Credit.—Last April Mr. E. Chambers of Lancaster county, Pa., wrote for the COUNTRY GENTLEMAN an interesting account of his method of cleaning and oiling harness, which differed in several respects from the common directions, especially in the use of cod-oil instead of neatsfoot. This article has been extensively copied by the press of the country, but, in almost every instance that we have seen, with credit to the Boston Globe, which was one of the first papers to reprint it, and *without credit*. It is still traveling, and so often have we seen the expression, "Mr. E. Chambers, in the Boston Globe, says"—that it seems a little bold to claim the credit which is rightfully our due.

Earth Closets, p. 4.—I suggest an improvement. I have a strong water-tight box the length of the seat, with sides made one inch below the bottom, shod with iron to above under the seat from one side. A strong iron is fastened to the bottom to hitch a horse to and pull it out and take to the barnyard; dump and return. By using two small crowbars, the box need not be touched by the hands, and the outside is kept entirely clean. I made the seat extra wide and cut off the sill on one side to make more room for the box; a door outside to shut over the end. The whole can be emptied as often as needed in a few minutes, and no unpleasantness attending. V. FNOER.

Oneida County, N. Y.

Horse-Tails Kept Clean.—Mr. O. HASBROUCK, *Jr.*, (whose advertisement on p. 42 has been modified that it may be more fully understood) writes us:

"The Ulster Horse-Tail Tie is a good seller, or else your paper is a good advertising medium, as they are being distributed pretty well over North America. I think we will divide the thunder, and call it a go. Continue the advertisement until you hear from me."

An Old Reader.—This makes the 45th year that I have taken the several papers that have been merged into the COUNTRY GENTLEMAN. How many subscribers can beat the record?

Milwaukee, Wis. E. C. JENNINGS.

Pennsylvania.—Secretary ENDS of the State Board of Agriculture writes us that farmers' institutes are to be held as below:

County.	Place.	Date.
Montgomery.....	Hatboro.....	Jan. 16, 17
Wayne	Honesdale	Jan. 16, 17
Chester.....	Atglen	Jan. 18, 19
Lehigh	Slatington	Jan. 23, 25
Lancaster.....	Lancaster.....	Feb. 5, 6
Chester	Kennett Square.....	Feb. 13, 14
Northumberland.	Milton	Feb. 14, 15
Perry.....	New Bloomfield.....	Feb. 14, 15
Adams	Gettysburg	Feb. 19, 20
York.	York.	Feb. 21, 22

The Tomato Pack of 1888.—The annual report of the tomato pack of the United States and Canada as compiled by the American Grocer indicates a second era of overproduction. There were put up 3,319,487 cases of two dozen tins each, or a total of 79,666,488 cans, costing at points of production about $6,000,000 and reaching consumers at a total expense of $9,000,000. The acreage was largely increased in all directions, but fortunately (as the result shows) the weather was

CROSS-BRED STEER, SHORT-HORN ON WILD CHILLINGHAM.

unfavorable to the proper and full development of the crop; and yet, in spite of a cold and backward season, heavy periods of rainfall in some States and long drouths in others, and early killing frosts in October, the pack turns out to be unusually large. The canning industry has grown rapidly in the Western and Southern States, largely reducing the demand upon Baltimore, Philadelphia and New York for such goods. In a few years each section of the country bids fair to supply its wants from home canneries. The leading points of production are Maryland and Virginia credited with 1,118,733 cases; New Jersey, 789,363; Delaware, 297,020; New York, 197,432; Western States, 796,500; Eastern States, 43,360; Canada, 73,990.

It is apparent that houses for canning vegetables are multiplying faster than the demand warrants. The output of corn far exceeds any previous year, and a similar statement would have been made in regard to tomatoes had climatic conditions been as favorable for the tomato crop as for sweet corn.

From Recent Letters.—There is hardly a number of your useful, instructive and entertaining journal that is not worth a year's subscription. JOHN HAVEN. *New York.*

—— I can't do without it, and shan't try. J. D. EDDY. *Scotland, Ont.*

—— We cannot think to do without your paper. I have taken it for 20 years, and know that I am worth a thousand dollars more to-day than I should have been without it. I own a herd of Jerseys with which I have won five diplomas, beside money premiums, for which I give all the credit to the COUNTRY GENTLEMAN. J. JONES. *Branchdale, Pa.*

—— Of some twenty agricultural and horticultural papers which I receive, without a doubt the COUNTRY GENTLEMAN stands at the head for both quantity and quality of thoroughly practical articles in all departments. MANSFIELD MILTON. *Youngstown, O.*

—— Two years' close reading of your paper and a few standard works have totally changed my method of farming, with benefit to the land and my pocket. GEO. F. WESTON. *Arden, N. C.*

Wool.—The National Wool Growers' Association met last week in Washington, and elected officers—President, JOHN MCDOWELL, Washington, Penn.; vice-president, William L. Black of Texas; treasurer, I. H. Wallace of Missouri; secretary, J. H. Kirkpatrick of California. The following resolutions were unanimously adopted:

The verdict of the people of the last Presidential election having determined that the wool growers should have "full and adequate protection," this National Convention respectfully insists upon the fulfilment of that pledge.

Resolved, That while Congress maintains the general policy of protection, wool growers and wool manufacturers in the United States have a right to demand that the duties on wool and on woolen and worsted goods shall be adjusted and maintained so as to secure to them the American market.

Resolved, That this National Convention protests against some of the provisions of the Senate substitute for the Tariff bill, so far as they relate to or affect wool, as inadequate, unjust to wool growers, and insufficient to protect the wool-growing industry. And it is the deliberate opinion of this convention that this industry will continue to decline unless better provisions for its maintenance are adopted than those now proposed.

Resolved, That the determination of a future economic and financial policy for this Government is so important to the wool-growing and all other industries and the business of the Nation as to require immediate and definite legislation, and if this shall not be accomplished during the present Congress, we earnestly request that the LI Congress be convened at the earliest day practicable after the expiration of the present session.

Farm-Yard Notes and Items.

We re-engrave from the London Live-Stock Journal sketch of a cross-bred steer which attracted great attention at the late Smithfield Fat-Stock Show. This animal, appropriately named "Chillingham," was calved Jan. 17, 1885, his dam being a wild cow from the noted herd belonging to the Earl of Tankerville, and his sire a white Short-Horn bull, Baron Bruce 47387. He was grass-fed in an open park, supplemented only by artificial food since it was decided, three months ago, to send him for exhibition, and is considered a great curiosity. He was three years ten months and two weeks old; weighed 16 cwt. 2 qrs. 24 lbs., and had a strong resemblance, except in color, to a cross-bred Highlander. The judges awarded him the reserve number and high commendation.

The 37th volume of the American Jersey Cattle Club Herd Register includes bull entries 19001 to 20000, cows 47001 to 49000. The club had 397 members at the date of the closing of this volume, Nov. 24, 1888. FREDERIC BROOKSON is president; Dr. H. M. Howe, vice-president; John I. Holly, treasurer; F. W. Wicks, secretary.

The London Live Stock Journal of Dec. 28th has a full and very complimentary notice of the Lakeside Stock Farm of Messrs. SMITH, POWELL & LANE, Syracuse, including the nurseries and the herd of Holstein cattle connected therewith.

The Annual Meeting of the Vermont Merino Sheep-Breeders' Association was held at Middlebury, Jan. 9. The old officers were re-elected—L. W. PERT, president; Albert Chapman, Middlebury, secretary. The association has about 500 members at present. A series of resolutions were adopted congratulating the country, the wool growers and the wool trade on the present outlook. C. H. L.

Messrs. S. SPENCER & SON, the well known Short-Horn breeders, Kiantone, N. Y., write us:

"Our stock is wintering nicely and is constantly improving as a herd when considered as combining beef, milk and butter. We have just sold Philo S. Thornton, Marcellus, Onondaga county, N. Y., the beautiful six-months' bull calf Anna's Duke 2d. The sale was made through advertisement in your paper."

Messrs. B. B. LORD & SON, Sinclairville, N. Y., write to the COUNTRY GENTLEMAN, Jan. 7:

"Our horses are wintering finely and are in splendid shape for the coming spring trade. Have just received from France two very fine three-year-old French Coach stallions, in splendid condition. Our 1889 catalogue will soon be ready for mailing. The demand, especially for French coachers was never better and the outlook for the spring is indeed very encouraging. We have lately sold to Mr. Wayland-Smith of Madison county, N. Y., the French coach yearling stallion Buenos Ayres 193, and the two-year-old filly Rosa Bonheur 194, both winners of first prize in their class at the Buffalo International fair, and at the State fair, last fall; in fact they have never met defeat in the show ring. We can perhaps express Mr. Wayland-Smith's satisfaction best by giving in full his last letter:

"'The certificates of Buenos Ayres and Rosa Bonheur came to-day, and to say that I am very much pleased with them is to speak mildly. They are elegant in design and of real value. It has been very difficult to make the farmers hereabouts believe that Buenos Ayres is only a yearling. They thought I had been lied to, and would not trust their own knowledge to judge his age to a month. Their logic was that, as no such yearling colt had ever been seen here, he must not be a yearling; but was most likely three or four years of age, both as to his form and finish. The certificate will set their minds at rest. It is a pleasure to do business with you.'

"'F. WAYLAND-SMITH.'"

A subscriber at Schraalenburgh, N. J., writes to the COUNTRY GENTLEMAN:

"One of my neighbors has a grade Jersey and Ayrshire cow which had at the age of two years one calf, at three years old twins, at four years twins, at five years twins, at six years twins—all healthy calves, raised or sold to the butcher."

Mr. P. J. COGSWELL, Rochester, N. Y., writes to the COUNTRY GENTLEMAN, Jan 9:

"I have sold to A. J. Foster, Barre Centre, a son of Ex. of St. L. from Lady Star 2d 15724, a fine cow bred by L. D. Ely. To O. B. Wood, North Chili, N. Y., Rose Maybud 47931, a very fine heifer rich in the blood of St. Helier and Valide 2d 14605, both in calf by Ex. of St. L. Also, a bull calf from Ex. of St. L. from one of the best cows I have, Oleo 38475, a daughter of Seneca Chief, test 18 lbs. 1 oz., half sister to Pansy Litchfield, test 18 lbs. 14 oz. as a three year old, and Gulletta Cook, 21 lbs. 13¾ oz. I consider this a very finely bred bull. To Harley Hamlin, East Bloomfield, N. Y., heifer from Lady Fanchonette by a son of Exile of St. L. To H. O. Root & Sons, Greenfield, Mass., heifer by Exile's Duke 19796, a son of Ex. of St. L. and from Lady Alexis, a 20 quart cow. To Joseph Johnson, Hilmer, Pa., a bull from Paola Stoke Pogis, a daughter of Ex. of St. L. and by Ex. of St. L., giving him 75 per cent. of Exile's blood. Paola Stoke Pogis is a very fine young cow, is now milking from 38 to 39 lbs. per day, and I have every reason to believe will make a test of at least 17 lbs. as a three year old. To E. F. Greenleaf, Milwaukee, Wis., a bull calf from Anna Gold Ear 21025 by Ex. of St. L. This calf has 75 per cent. of the blood of the famous daughter of Exile, Nora of St. L. Tested with her first calf 16 lbs. 1 oz., and milked 43 lbs. per day.

"I think there has been at least sixty head of Jersey cattle sold at fair prices in the immediate vicinity of Rochester within the past few weeks. There seems to be a good demand for well-bred Jerseys. Several of our most influential citizens have become interested in Jerseys, and am pleased to say are increasing their herds."

Mr. CHARLES G. SHERMAN, Briar Cliff Farm, Sing-Sing, N. Y.,—to whose advertisement on the first page we need hardly direct attention—writes us, Jan. 11:

"I take great pleasure in reporting seven days' butter test of Mrs. Knickerbocker 10067, A. J. C. C. H. R., begun Dec. 31 and ending Jan. 6, 31 lbs. 9 oz. Greatest milk yield for one day, 37 lbs.; smallest, 31 lbs. 4 oz. Total milk for seven days 240 lbs. 12 oz. Her food during the test, and for about ten days previous, consisted of ground corn and oats, 27½ lbs. daily; wall mixed with (one bushel) cut hay and fodder corn, of excellent quality, also one-half bushel daily of cut carrots, and what long hay she would eat. Her drinking water was warmed up to about 90°. During the test, she consumed 193 lbs. of corn and oats, 3¼ bushels of carrots. Mrs. Knickerbocker is a very large cow, with long, deep body on short, fine legs, very wide hips; nearly solid cream fawn, with full black points, weight about 1200 lbs. Dropped May 8, 1879. Sire, Bingo 1811 (fall brother to The Hub 1009), dire of five cows testing 14 lbs. 8 oz. to 19 lbs. 11 oz. in seven days. Dam, Miss Beauty 4058, with a butter test for seven days of 16 lbs. 12 oz. at 11 years old, and from only three fourths of udder, and a full sister to Miss Bell 5088, official test, seven days, 23 lbs. 9 oz. Mrs. Knickerbocker has two former tests of seven days each, one for Mr. L. L. Cramer of Macedon, N. Y. (reported in COUNTRY GENTLEMAN of July 30, 1885,) of 13 lbs. 8 oz., and one at Briar Cliff Farm, June, 1887, of 16 lbs. 8¼ oz., on grass alone—no grain at all. I think, considering her age that her test just finished is remarkable. She came in heat the 21 day after the test, which affected the cream very perceptibly for two days. She always acted hungry, had good digestion, and undoubtedly would have eaten a third more feed than was given her. She was kept in a large box stall, with southern exposure and the temperature was favorable for good results—low est 30° and highest 50° outside, and in stall, 64° to 70°.

"All our Jerseys are looking well this winter, and all are healthy and in good thriving condition. The cash sales, from Briar Cliff Farm Herd in 1887, of milk, cream and butter—nothing else,—amounted to $6,015, or an average of $172 for each milking cow, of which the average number was 35. This does not include any milk fed to calves or used on the farm which would amount to over $1,000, and make the average over $200 per cow. We bottle most of the milk and sell it in Sing Sing for 7c. each. This result, remember, is obtained from a herd of registered Jerseys, in the *milk* business, as well as cream and butter. Cream sold for 50c. a qt., butter, 30c. a lb. Don't you think that it would pay a good many farmers to grade up a little, or even to buy in a few *registered* Jersey cows and a *registered* Jersey bull and get a start in the right direction?"

The Grazier and Breeder.

Sorghum for Breeding Animals.

EDS. COUNTRY GENTLEMAN—In experience I am a juvenile farmer. During my four years' struggle I have fed sorghum (in season) indiscriminately and most satisfactorily to mares, cows and sows. Recently a neighboring farmer to whom I bear about a similar relation that the ordinary guest does to a hotel clerk, informed me that he is afraid to feed sorghum to his brood mares, having been reliably assured that it is productive of abortion. Is the sorghum guilty? J. T. B. *Lincoln County, Ky.*

This question is important and should be well understood.

The danger in feeding sorghum consists in the possibility of an excess of sugar being eaten. Sugar, when taken in excess by animals, tends to produce a fatty degeneration of the ovaries, and will thus interfere with breeding.

The writer experimented on a three-year old bull which he did not desire to use longer, by feeding him cut oat straw or poor hay sweetened with poor sorghum molasses. Most animals are very fond of sweet foods. This bull had been active in service, a sure getter, but after being fed a little over two months upon this sweet food, he lost his masculine power and would not notice a cow in heat. He became quite impotent.

When manufacturing sorghum syrup, the sweet skimmings were drank by some cows, and one was so fond of it and drank so much as to cause her to abort at an early stage of pregnancy, and she remained barren for nearly two years. There is no doubt of the decided effect of sugar upon the generative organs. But the effect of eating the whole stalk of sorghum is generally quite harmless.

It would therefore depend upon the condition of the sorghum, and the amount of it fed to an animal. When it has the highest per cent. of sugar in its juice, it is probable that a cow or a brood mare might eat so much and for so long a time as to be injurious. But when the sorghum is fed in ordinary quantity, and especially if fed a little before maturity, there would be no danger, because the amount of sugar would not be excessive—would, in fact, only be enough to produce a moderate fattening effect.

Sorghum is often used to preserve as ensilage, and it is usually cut into the silo before it is matured sufficiently to be worked for sugar, and I have never heard of any injurious effects from feeding sorghum ensilage. Indeed, it is probable that if sorghum were put into silo when its juice contains its largest amount of sugar, that the effect of the slight fermentation in a silo would render it harmless.

It will therefore be seen that there is very little danger in feeding sorghum under ordinary circumstances. E. W. S.

Mr. Terry's Barn.

EDS. COUNTRY GENTLEMAN—Mr. J. A. Macdonald of Kings Co., P. E. I., likes the plan of tool house and covered yard given on page 498, and calls for plan of the main barn. He intends to build shortly, and thinks it would just suit him.

Fig. 1 shows the basement plan of main barn, which stands just to the right of buildings

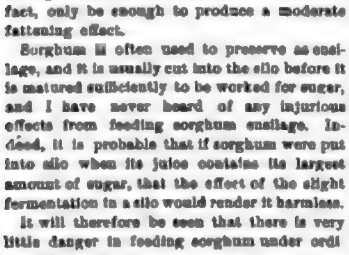

Fig. 1.—*Ground Plan of Main Barn.*

shown in fig. 1, page 498. *A A A*, are feeding alleys; *B B B*, horse stalls; *D*, cow stable; *H*, for young cattle. There are gates (*C*) between the box stalls for horses. Two horses can be tied in each stall, or one turned loose. The floor is made of pavement blocks laid in Portland cement. It is 5½ inches thick. It is entirely water-tight and can never rot out, and I see no reason why it should not last for 100 years. It cost about $60 for the three box stalls. *X* stands for doors.] There is one from the tool house into the horse stable, and also one from the covered yard. If cattle are in the yard we can get in or out with horses through the tool house. Four windows (*W*) are situated so as to make the horse stable light and pleasant. The basement is 9 feet high in the clear. The windows are up 6 feet from the ground and slide to open; thus they do not get broken.

The cow stable (*D*) is not finished. It is intended to hold 20 cows comfortably. There are double doors (*XX*) so we can drive through from end to end. Four large windows opening to the south make it light and let in the sunshine when we have any. Both stables are lined on inside of girts with 1¼-inch matched lumber, which makes them warm and keeps animals from kicking boards off of outside. The doors are all lined the same way. My horses and cattle can enjoy a zero storm with such warm quarters and have a chance to get exercise and water in a covered yard. The plan given here is 45 by 76 feet. The west 16 feet, *H*, is not built yet. We do not need it at present; but arranged so that it could be built on readily when needed. It will be used, or was intended, for young cattle. It will be divided into two or three pens for calves and yearlings. The manure can be wheeled through gates (*C*) to the wagon or spreader, or thrown out of opening in the west end. Manure from cow stable can be drawn out with a horse, or wheeled out. From the horse stables we wheel it out or throw directly on to the spreader.

E is a hay bay which comes down to a floor up a few inches from the ground. *F* is our granary, and cellar. It is very handy to get grain into through trap doors from the threshing floor above. It will be handy to store a car load of bran in. This year we threshed and then cleaned and sold the wheat, and then filled the cellar with potatoes, temporarily, until there was demand for them. Wheat and potatoes are taken out and loaded on a wagon in the cow stable. We have hay in bay *G* now; but it was intended for a silo.

In fig. 2, second story, *m* shows the barn floor over the granary; *n* is the bank, held in

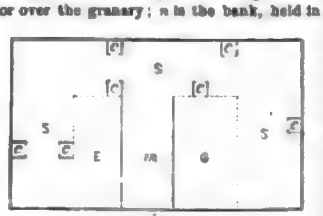

Fig. 2.—*Second Story of Main Barn.*

place by stone wall, with a bridge to the barn floor. This gives a chance for a window below in the granary, and makes the room drier. The basement runs into the ground only about four feet at the front side, and comes out level with the surface at the rear.

E and *G* show the bays. The grain is now put on top of the hay. When threshing, the straw is run over all the stables in spaces marked *S*. Planks are laid across the beams, sixteen feet high, to run the straw on to, and from these it is pushed off into either end of the barn, and when we are done, it is right where it will be wanted through the winter, and all under cover. When *G* is wanted for a silo, the wheat can be put in first and threshed out before it is needed for corn. *G* is 17 feet wide; *K* is 12. I would give $50 if *K* had been built 17 feet also. One never gets room enough. *K* is intended to hold hay enough for horses and one feed a day to the cattle, when ensilage is being fed. The seven chutes for throwing down hay and straw are marked *c*. These ventilate the basement nicely. When we thresh, or draw in hay or grain, four pairs of large blinds can be thrown open in the cupola. There are also several doors about 3 by 5 around just under the eves to open for ventilation.

Two loads of hay or grain can be driven in on barn floor at once, as it is 45 feet long. The barn is high, 45 feet from basement floor to peak of roof. The capacity of these deep bays is astonishing. We filled one 40 feet deep last year and the hay near the bottom was almost as solid as wood. It is our intention not to use a hay-fork, but tumble the hay off into the bay as long as it is down-hill work, and then hitch the team to a rope, after they have drawn in a load, and let them elevate the whole load, rack and all, to a point that one can again pitch down hill. With this arrangement, which has been in use in Ohio for a year or two, we can draw our loads of grain to the top of barn and save pitching up hill, and use the barn to the very top.

It was our intention to have the barn, when completed, able to shelter with perfect comfort about 85 head of animals (one to the acre of tillable land) and feed enough to last the year around, including ensilage and straw to bed them, and we wanted everything so handy that it would be a pleasure to care for the stock. When the barn is filled with stock the intention was to double the size of covered barn-yard by putting a roof over *m*, in fig. 1, page 498.

The granary above mentioned is built of hollow bricks with a tile floor, so that no rat can ever get in unless we let him in through door or window. At present we use the cow stable *D* for storing potatoes temporarily. It was filled this season from end to end about 4 feet deep. So we find it just the thing for our present style of farming, and at short notice it can be made a most comfortable home for a winter dairy. It has cost already—labor, lumber and everything counted—nearly $2,000. This, of course, includes the building shown on page 498, as well as cement floors, and three coats of paint and good finishing all around. It will probably cost $500 more to put on all I have mentioned, where everything is bought. The plans are drawn to a scale of 40 feet to the inch, but perhaps I had better give some more of the measurements as the plans are so small.

The cow stable and alley occupy ⅗ of the basement—15 feet in width. The horse stable and alley together measure 17 by 30. The bays and granary are 30 feet long. The barn floor is 13 feet wide—just wide enough to get horses out comfortably after we drive in with a load of hay. The underpinning in the basement is no wider than the sill—8 inches—thus saving us considerable room below. The stone work all around was built just high enough so as to clear the wood work well from the ground. The floors in the second story are all matched. Great strength was not required as only straw goes on them, and loads of hay or grain. The natural entrance from the house is through the tool house and covered yard. A ladder from the basement goes up the chute at the corner of barn floor. To sum up briefly, hay, grain, straw, ensilage, ground feed, cattle, horses, manure, water, wagons, carriages, sleighs and all tools are under one connected roof; a muddy barn yard and all losses of manure are gone to stay, and the greatest comfort for man and beast has been sought. T. B. TERRY.

Summit County, Ohio.

Floor for Horse Stalls.

EDS. COUNTRY GENTLEMAN—We are frequently advised to let the horses stand on the earth in their stalls. Many a stall through the West has no floor for other reasons, aside from the fact of such being recommended. But after the stalls have been in use a short time, the complaint is heard that holes are forming where the hind feet stand, so that the horses have to lie in a filthy mud puddle. I will give the remedy that I have applied to a case of this kind—I do not give it as the best plan that can be adopted, but as a very cheap one that might improve many stalls now in use.

I placed two pieces of scantling 2 by 4 inches across the double stall, one just back of the hind feet, and the other just back of the fore feet. These are bedded edgewise into the earth till about even with its surface. Then across these are nailed short boards 3½ feet long and 10 inches wide. These run in the direction of the stall. On this floor I nailed pieces of scantling 2 by 4 inches, 3½ feet long. These lie on their sides and one inch apart, so arranged as to break all the joints of the boards. When completed, all in front of the floor is filled with earth, till level, or sloping backward a little. This gives a floor of earth for the fore feet, which sustain the greater weight, and gives a dry place for the horses' bed. I think this better than the common plank floor that covers the whole stall, and is but a third of the expense of the former. There are no cold breezes sweeping up through this kind of floor.

If one wishes still further to cheapen the plan, he can use poles for the long pieces of scantling, can leave out the under floor of boards, and can split out pieces from straight-grained sticks from the wood pile, for the short pieces of scantling. In this way the expense of a great improvement on the mud hole stall would be so reduced as to stand only a trifle above zero. C. L. H.

Pembroke County, Miss.

Veal Farming.

Further Answers to Inquiry, p. 980.

I have had some experience in making strange cows own other calves. Usually it is not a difficult matter, but occasionally one finds a cow that is very obstinate. I have never tried the experiment to fatten calves—only to raise them old enough to eat food. This is my plan: As soon as a cow loses her calf, or it is weaned or sold, I go to town and get another. I let the cow go 24 hours without milking; if she is giving much milk, her udder will be paining her by this time. I let the calf starve the same length of time, and of course it is quite hungry. I now halter the cow up and turn the calf in. It generally takes hold without much trouble. Some cows will fight like wildcats for a day or two, and then become docile. I always have my cows dishorned, so that there is no danger in that respect, and I sometimes tie their hind feet together if they are very vicious in kicking. Some cows that will not let a calf suck under any other circumstances, will do so readily if allowed to eat while the calf sucks; but the feeding will have to be kept up.

If you aim to make the calves fat enough for veal, one calf will be enough for each cow, unless you have better milkers than I can find; but a right good milch cow will raise three calves. Put an extra calf with her when she first comes in, and when those two are weaned, get a third and put with her. I never noticed that it made any difference about a cow coming in heat.

One has to exercise a good deal of patience and good nature in the matter of making cows take strange calves. A. N. CURRY.

Menard County, Ill.

Having been engaged in veal farming in a small way the past season, the writer ventures to give his experience in that line, as the conditions of success are the same here as in J. E.'s locality. Ten cows have been kept for the purpose of making veal, and more money was received from this source than if the milk had been sent to the cheese factory.

At the age of 6 to 7 weeks, or when the dressed veal would weigh 100 pounds, the calves were slaughtered and fresh ones 5 to 7 days old bought to take their places, these young calves costing from nothing up to 50 cents each. The net sales of many of these calves amounted to $3 per week and none less than $1.50.

Most of the cows did not seem to mind the change of calves very much though two of them did develop sore teats caused by bite of the calves; these cows were then milked by hand, the milk being fed direct to the calves, and with the addition of a couple of eggs per day they grew nearly as well as the others. Sucking calves did not prevent these cows from coming in heat and all are due to calve next spring.

To sum up the whole matter, if J. E. has cows bearing good-sized calves to weigh 80 to 90 pounds at birth and when six weeks old to dress 100 pounds net, and can buy all the calves he needs at a small price to replace them, these young calves to be of good-sized thrifty stock, and J. E. is shrewed in selling his calves, he will make a success in veal farming.

Aroostook County, Me. G. F. MERRITT.

Rations for Brood Sows and Pigs.

EDS. COUNTRY GENTLEMAN—I have a good pasture of clover; rye sown last autumn; corn meal, $24 per ton; wheat bran, $19; middlings, $23; cottonseed meal, $23. I have plenty of good ensilage of mature corn. Please formulate ration for breeding sows weighing 300 lbs. to farrow in March (Berkshires). Also instruct me as to care of pigs and sows after farrowing. I will have pasture all the year, and shall make a business of breeding hogs for breed and pork. S. S. *Norfolk County, Va.*

R. H.'s request would have been considered novel a few years ago—a ration from mature corn ensilage and grain food for breeding sows, as if they were a herd of dairy cows. But R. H. is right in principle and practice. The hog is a grass-eating animal as well as the cow or the horse.

There is very little need for corn meal for breeding animals. They require food for the muscles and bones, and to strongly support the vital system.

Considering the price of his foods, the ration can be most economically made with bran and cottonseed meal in addition to the ensilage. But we should hesitate to recommend cottonseed meal for brood sows, so short a time before farrowing. We shall therefore be obliged to use, before farrowing, bran and middlings.

The corn for the ensilage was so mature, and

the stalk became so woody that we shall advise a less amount of ensilage than if it had been put in silo when the ear was in the milk. H.'s ration may be as follows: Five pounds corn ensilage, 4 lbs. wheat bran, 3 lbs. wheat middlings. Let the ground feed be very thoroughly mixed with the ensilage.

The following analyzed formula shows the digestible nutrients:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
5 lbs. ensilage	0.08	0.69	0.05
4 lbs. wheat bran	0.47	1.86	0.10
3 lbs. middlings	0.23	0.95	0.04
Total	0.78	3.49	0.19

This has a nutritive ratio of 1 to 5, and is well adapted to supporting the vital system of the brood sow.

After farrowing, let the ration for the brood sow be the following: Five pounds corn ensilage, 3 lbs. wheat bran, 2 lbs. corn meal, 1 lb. cottonseed meal, 1 lb. linseed meal. This should be wet with hot water and fed warm as a slop. This will produce a liberal flow of milk for the young pigs.

These sows are supposed to have a warm, well ventilated pen. As soon as the green rye can be cut, substitute this for the ensilage, as this will be less woody and easier of digestion. The small pigs should be encouraged to eat with their dams, and when weaned this same food will be appropriate for them. But green clover should be substituted for the green rye, as soon as this is obtainable.

It should be understood that these formulas are given as the proportion of the combination of food, and not strictly as a ration per head. Some brood sows would require more than the amount here given, per day, but the food should be mixed in this proportion, and then each brood sow should be fed what she requires. After farrowing there is a very large draft upon the sow to feed her pigs. A litter of 8 pigs, three weeks old, will require about 16 quarts of milk for a full support per day. This is about equal to the yield of a good dairy cow at her best. So the brood sow must be liberally provided with the best food.

E. W. S.

Stanchions, p. 948.—J. G. congratulates himself on relegating stanchions to the woodpile, substituting double stalls, and chaining two cows in each. I chain my cows, and think of substituting stanchions, on account of serious accidents that have happened. I find the gentle cow, at times, a murderous beast, and even when not vicious, utterly regardless of the safety of the person engaged in hooking up the chains. I saw a cow the other day, in a fit of impatience, strike my son with her horns a blow in the side that might have killed him; that he is not dead, is no fault of the cow, and yet she is gentle, and a favorite. With stanchions, the cows cannot get the hay under their feet, another advantage. Still my knowledge of stanchions is limited; I have seen them, and that is all, never having used them. It is my impression that those persons who do their own milking, prefer them, while those who milk by deputy, think chains are more humane. Do cows suffer in stanchions? Do they give more milk in chains? Surely suffering would affect the milk.

A. C.

Buckner's Station, Va.

Piggery, p. 860.—Altering a few places would suit me better. Having the swing door set just back of the trough, the hogs will always push hard enough to get their feed to push it over the front of trough, and being so starting, a large hog cannot stand lengthwise of trough and keep others out; the trough is kept cleaner. Then have the pens narrower, and nests between, one back of the other, so that the front one you can always look into and see if everything is right; and if you have some that want to nasty up their nests, you can have them in the nest nearest the alley. By having slide doors on both sides of the nests, you can change from one to the other by opening one and shutting the other, and not litter up the pen by putting in straw. Then have 3 by 4 posts set inside nests, with a good stout board 10 inches wide or more, 6 inches from the bottom, so that a sow with pigs cannot lie down on one—a great thing in raising pigs.

Berkshire County, Mass. R. R. COLE.

Previous Impregnation, p. 7.—I had a Jersey grade, solid color. Her second calf was from native stock, a spotted sire. Afterwards her bull was solid color Jersey until she was eleven years old. All her calves were spotted till the last, which was of solid color. Therefore I am of opinion that we can call it a rule that they will carry the color for years.

Mystic Bridge, Ct. F. B. PARK.

The Dairy Department.

Warming Cream for the Churn.

EDS. COUNTRY GENTLEMAN—Just at this season there is considerable trouble in regard to the appearance of white specks in the butter, which injuriously affect its appearance and value, and as to the cause of which there is some difference of opinion. Leaving these differences as immaterial, I will explain one frequent cause which I have ascertained beyond question, and at the same time state broadly that there is an easy way to avoid this trouble. This is to skim the cream before the milk is more than slightly soured, and before it has become thickened or loppered; and to keep the cream at an even temperature of 60° for 36, or not more than 48 hours, so as to prevent excessive acidity. But as it is not always easy to do this when the cream is kept in a cellar where the temperature is often as low as 50° or 48°, or even less, it will avoid the trouble if the cream jar is kept in a closet in some warm place where the right temperature can be maintained. It is true that the cream may be warmed by bringing the jar near a fire or a stove, or by setting in a pan of hot water. But these methods of warming the cream will certainly produce the troublesome white specks, and for this reason: Every one knows that sour milk curdles at a certain temperature, and this may be as low as 80° or 100°; when the cream jar is warmed in the ways mentioned, one side of the jar or the bottom of it will easily be heated up to the point at which the sour cream touching the warmed part of the jar will become curdled. When the cream is stirred, as it is at short intervals to warm it all through, this curdled milk is spread through the mass of the cream in small particles as soft curd, and these are gathered with the butter at the churning. As this is the way in which cream is warmed for the churning in nine cases out of ten in small dairies or on farms, the common occurrence of the white specks in the butter is easily accounted for, and it is as easily prevented by avoiding the cause.

H. S.

Hints for the Winter.

EDS. COUNTRY GENTLEMAN—At this season of the year, the average farmer's wife has more trouble in raising cream and in churning than at any other. Two things combine to make difficult these tasks. One is the condition of the milk itself, owing to want of proper food and an advanced stage of gestation in many cows in the herd, and the other arising from the temperature of the air, and consequently of the milk, unless set at once.

Milk at this season of the year often parts very slowly with its cream, and consequently there is a great loss, as the full quantity is not recovered from the milk. This is owing to what scientists terms the viscosity of the milk serum. In plainer words, it is a sticky condition of the milk which prevents the free motion of the cream globules; hence all but the larger globules remain in the milk without rising to the surface. With this kind of milk, less trouble is experienced where shallow setting is used than where the milk is set in deep cans. One remedy consists of a change of food for the cow; more succulent food should be given. Roots and ensilage answer the purpose, but are not always to be had. The alternative is to add to the milk a quantity of warm water, at about 100° Far.; from one-fourth to one-half the bulk of the milk may be added. This decreases the viscosity, and allows a freer passage of the cream globules.

Some people make a practice of scalding milk at this season, raising the temperature to 120° or 130°. When set in deep cans there is a positive loss of from 4 to 10 per cent. of the butter. Perhaps when set in shallow cans there may be—no doubt there is—a gain in quantity, but there is a loss in quality. At least I do not think milk for the best butter should be heated above the normal temperature of 100°.

Where there is a good proportion of fresh milch cows in the herd this difficulty is very much lessened, the better condition of their milk overbalancing the viscous condition of the strippers' milk.

Again, a large loss arises from milk getting too cold before setting. Too much emphasis cannot be placed upon the necessity of early setting. But where from number of cows, distance, &c., the milk is considerably cooled, it should be warmed to its natural temperature before being set. Prof. Henry of the Wisconsin Station made some interesting experiments in this direction. Carefully mixed milk was divided into equal portions. One half was set at once, temperature at different trials ranging from 91° to 98°. The other portions were allowed to cool from 20 to 30 minutes, and set at temperatures ranging from 78° to 86°. The percentages of loss, even on this comparatively short delay, ranged from 4 4 per cent. to 9 3, a loss of $4 40 to $9 30 on every $100 worth of butter made. This is more than our farmers can afford to lose by carelessness or ignorance on this subject.

While the addition of water to the milk is an assistance in raising cream, it is often an advantage in churning. The viscous condition of the cream can be observed by its frothing in the churn. Frothing also comes when cream is churned at too low a temperature. A considerable quantity of warm water may be added to such cream to advantage—from 20 to 30 per cent. of the quantity of cream. Do not put water in a higher temperature than about 90°. Such cream may often be raised to a temperature of 70°. As soon as the butter comes, reduce the temperature to 60° or 62° and no evil effects will follow the warmer temperature.

E. G. P. *Brillion, Wis.*

Raising Calves.

EDS. COUNTRY GENTLEMAN—I should like to have some of your most experienced breeders of dairy stock state how heifer calves should be raised to produce the best milk and butter cows? Does the raising have anything to do with it? Is it all in the breeding?

S. E. M.

Berlin, O.

There is much in the breed no doubt, but breed is after all only a long-continued course of selection, feeding and training. One may make a beginning in this way for himself, and in time—if he lives long enough—may establish a breed of his own having very desirable qualities. The best bred stock may be spoiled by bad rearing, and common stock may be improved by good management. So that it should be the great aim of all dairymen to manage their heifer calves in the best manner whether their herds be of the best of the pure-bred kinds or the ordinary native stock.

In rearing cows for the dairy there are several important points to be considered—constitution, docility, good feeding qualities, strong digestive ability, productiveness, early maturity and continuity of milking; and these are all more or less developed by good management of the calves, or are lost or missed by bad management. It is very desirable to start with the best stock that can be procured, and then do the best that is possible in rearing the progeny, and this must begin before the calf is born and through the cow. The best kind of bull should be procured for breeding, and the best attention should be given to the cow while she is pregnant with the calf. The cow should be well fed and gently treated, because the good feeding helps the calf and tends to secure the robust constitution which is desirable, and the kind gentle treatment tends to give the calf the docile temperament which makes its after management easy and effective. All the other good qualities are inherited to greater or lesser extent, and whatever may be effected with the cow will to this extent be reflected in the calves.

Parturient Cows—First Details.

When the calf is expected in a week or so, the cow should be removed to a quiet stall, away from the other cows, and well tended. For a month previously, no grain food should be given, excepting a bran mash occasionally, but plenty of good, bright clover hay. This is during the winter season; in the summer the cow should be brought into a near-by grass lot or yard kept for the purpose, and where she can be watched. This is to facilitate the first part of the rearing of the calf, viz., its separation from the dam, which should be before it has sucked. We consider this a very important point, as it tends to make the coming cow more docile, and avoids that common and annoying vice, the holding up of the milk, and also that troublesome habit of sucking various things, each other and themselves, afterward.

As soon as the calf appears, it is taken from the dam to a distant pen provided for the purpose, in which each calf has a separate stall, smoothly boarded inside, with nothing whatever in it that it can suck. At the front, near the door, there should be a small opening, with a slide door, large enough for the calf to put its head through, with a box in front of it, in which a pail with milk can be set, after the calf has learned to drink from the pail.

The cow is then left by herself for six hours, when she is milked in a pail warmed by hot water, to keep the milk warm until the calf can be fed. The milk is taken at once to the calf and given to it. This is the first lesson for the calf to learn, and it should be taught patiently and kindly. A calf should never be beaten, nor taught to fear its keeper, or become hostile to him. The calf is backed up into a corner, and its head is held by the left hand, while with the other a little milk is put into its mouth. It will begin to suck the fingers, and its head is then gently forced to the pail, which is raised somewhat, until its nose is in the milk and it begins to drink it through the space made between two fingers, held a little apart. This lesson may be soon learned with some calves, and some will learn it slowly, but with patience the calf will get a quart or two of milk down. As soon as the calf drinks, all trouble is over; and its meals are given in a pail set in the box at the sliding door. By this method a large number of calves can be fed and the pails taken away in ten minutes.

Subsequent Feeding and Care.

After the fourth day the calves will not need any fresh milk; sweet skimmed milk warmed to 90° is the best food for calves up to a month or two old, and it is a point for care that they are not over-fed. Six quarts of milk daily is enough for the first week; 8 quarts for the next two weeks; and 10 quarts for the next month, after which time I have always given the calves a small quantity of mixed wheat bran and fine corn meal, beginning with two or three ounces and gradually increasing up to a pound daily, when the calf is 3 months old. In the grass season, the calves should be put on grass and tethered by a light chain with a swival in it to a stake in the ground. In the winter they are given some of the best young clover hay as soon as they will eat it. I have given my calves the warm milk for 4 or 5 months and have found it most useful in giving them strong and robust constitutions, plenty of bone, large digestive power, and making them excellent cows. I have had calves so reared which came in with their first calves at 20 months to 2 years old and made 5 to 8½ lbs. of butter weekly.

The calves are put in stalls in the cow stable the first winter, and fastened and treated as the cows are, being carded and brushed, and their udders rubbed and the teats pulled as if being milked. This trains them to the usage of the cows, and prevents the common vices which spoil so many cows. The calves are bred as soon as they indicate the desire for it, for early precocity is a most important part of the training of cows. When they come in they are treated as their dams were, and never evince any worry or nervousness at the absence of the calf, and having been trained to it, offer no objection to being milked, and never, so far as I have known, hold up their milk. The Jersey cows are milked for 9 or 10 months, and are not bred until then; this gives them a long milking period, or at least tends to it. I have followed this system consecutively through several years, and have reared a whole herd of cows up to 8 or 9 years old. I am very confidently sure that this very moderate trouble and care taken in rearing calves will be repaid in the most satisfactory manner, with cows of double the value of their dams.

E. S.

Co-operation in Dairying.—Messrs. D. W. Lewis & Co. of New-York, in reviewing the year in their last dairy circular, give the following interesting figures:

"Compare with thirty years ago, and for wider illustration go twenty-five miles back from a railroad—has there been no advance? Start a dairy of butter from the heart of the Black River Valley in 1858; team it to Boonville or Watertown, 50 cts. per 100 lbs.; railroad it to the Central road, 35 cts. per 100 lbs.; N. Y. Central it to Albany, 42 cts per 100 lbs., and H. R. R. R. it to New-York, 50 cts. per 100 lbs., and you have got the butter to market by four separate conveyances for 177 cts. per 100 lbs. Since then cooperation has brought together the N. Y. C. and H. R. R. R., has built a railroad the entire length of the Black River and has harmonized the use of all railroads so that they work together, and the rate now on butter from Lowville to New-York is 60 cts. per 100 lbs., and the impediments to change of place of that product have been two-thirds removed. Especially in dairying has cooperation asserted itself. Cheese factories and creameries are everywhere. New-England has waked up to it, the West has led the advance and made money by it. Old Dela-

ware county, the home of excelsior individual dairying in New-York, is penetrated with it, and the lifting principle of cooperation is nowhere more plainly seen and felt than among small dairies grouped together in the creameries."

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

TUMOR ON JAW.—A cow dropped a calf Oct. 3, 1888; soon after, I noticed a lump on her jaw about half the size of an egg, does not seem to be fast to the bone. Have used iodine once a day for four weeks; it does not seem to grow larger or smaller. H. W. *Adrian, Mich.* [Apply a little golden blister every three weeks. Give 1 dr. iodide of potash in feed three times a day for three weeks.]

WEAK STIFLES.—A two year-old heifer, in milk, has stifles of both hind legs slip out of place and in again, when she first attempts to step; finally she walks all right. It occurs frequently. S. L. H. *Leonardsville, N. Y.* [Stifles must be severely blistered, and the treatment repeated in three weeks. After three applications, unless cure is effected, the actual cautery (firing), with subsequent blistering, will have to be resorted to.]

FEED BEFORE CALVING.—A medium-sized cow is due to calve about Feb. 15; is in fair condition, and fed on cut timothy hay, dampened and mixed with shipstuff, bran and corn meal. I have also shucks, cottonseed (in hull), black peas and oats ground. Will you make a day's feed of above, now and after dropping calf? W. H. W. *Henderson, N. C.* [The hay and bran will be sufficient until after calving, and on fourth day after you may give some ground oats or peas. Avoid corn, cottonseed, &c., during latter part of pregnancy, and just after parturition.]

CHAFF IN EYES.—Have five cows that are nearly blind from eating oat straw from a stack. They get the chaff in their eyes which forms a white coating over the entire eye ball. Have thrown in granulated sugar, but it does not seem to do any good. W. R. W. *New-Milford, N. Y.* [It would be wise to hang a board shade from the horns to prevent the chaff falling into the eyes. With camel's hair pencil put a little strained honey in eyes daily for a week, and report to me, referring to this page. Are you sure the chaff is the cause? When did they receive the injury? Are they much inflamed?]

SWEATING IN STABLE.—A ten-year-old mare, when standing in stable, sweats considerably most of the time, with no work; has raised three colts, but last season did not breed her; hair is rough, and is thin in flesh. Work her some, not hard; seems to feel well and eats well. Has wild prairie hay and a pailful of oats night and morning; is kept in a basement stable. F. S. *Faribault, Minn.* [Feed worm and tonic powders, and in a week give a physic ball. Stop feeding powders for two days when ball is given. Repeat ball in ten days. Report progress in three or four weeks.]

LEGS SWOLLEN.—A mare four years old, in foal, due March 15th, was found lame in stall, in one of her legs; seemed to be hurt about stifle joint. In about ten days another leg was affected in same manner; now both legs are swollen considerably, and are very sensitive to the touch. She can walk with considerable pain, but lies down most of the time; appetite is fair. J. A. *Carp, Tenn.* [Give a tablespoonful of the following powder four times a day, put well back into mouth: Powdered rhubarb, 4 oz.; powdered Barbadoes aloes, 3 oz.; cream tartar, 4 oz.; sulphur, 4 oz.; mix.]

SORE ON TEAT.—A cow dropped her calf some two months before time; cleaned all right, and gradually came up to a little more than half her usual flow of milk. At first milked all right, but one of the teats now has a small sore near the end, and for nearly two weeks has been milking harder and harder, till it is now almost impossible to get milk from it. She gives as much as before, and there is no lump obstruction to be discovered. Have had two or three the same way before. W. R. B. *Branchville, N. J.* [Keep end of teat anointed with some of the following ointment: Oxide of zinc, 1 oz.; carbolic acid, 1 dr.; vaseline, 6 oz.; red precipitate, 1 dr.; mix. Give cow one pound epsom salts. Use milking tube, and with great care; always anoint tube before using.]

UNRULY BULL.—A 3-year-old bull is inclined to have his own way. Can his horns be taken off to within one inch of his head without injury except in appearance? T. W. F. *Scotland Neck, N. C.* [See back numbers for appliances for ugly bulls. We do not countenance such an operation as you suggest.]

CONTINUOUS HEAT.—Is there any remedy for mare, aged 20, in heat all the time? Eats well and can do moderate work. W. J. A. *Medway, N. Y.* [Inject vagina once a day with some of the following lotion: Tincture of opium, 3 oz.; spirits of camphor, 1 oz.; tincture of aloes and myrrh, 2 oz.; hot water, 1 qt.; mix.]

HOCK PUFFS.—A sorrel horse, four years old last May, gets puffs in front of hocks sometimes, and perhaps the next day he will be clean of them, and so continue for some time. Do you advise blistering, and when they show the worst, or not? A SUBSCRIBER. *Bunker Hill, Ind.* [Blister when legs are at their best. Repeat in a month or so.]

LICE ON CATTLE.—Is there any better way to get rid of lice on cattle than by putting on insect powder or wetting them with the "dip?" It is a big job to go over a large herd of Short-Horns in either way. J. H. W. *Madison, O.* [I do not know of a remedy that is self-applying. The lice are not afraid of their labor, and we must be at least equally diligent, or retrograde.]

LEGS SWOLLEN.—About three years ago a horse was found to have cracks under his hind fetlock joints; shaved hair off and healed up, but ever since both legs are inclined to stock when standing in stable, but one more than other. All goes out after being worked. Is also inclined to stumble with that particular leg. E. H. H. *Middle Falls, N. Y.* [Give treatment advised for J. J., Hilmer, Pa., page 766, Oct. 18, 1888. It would have been better to give treatment three years ago.]

LAME FOOT—ENLARGED ANKLE.—A large horse has been very lame, for six weeks, in near fore foot, with great deal of fever in foot. I dressed the foot well, and fitted shoe easy; bled a little in toe, is some better, but very lame. (1) A horse was caulked last winter on hind foot, and now has very large ankle, and the out-side is a raw sore. (2) J. M. M. *Vernon, N. Y.* [1. Soak foot two hours a day in warm salt water. Remove shoe. In a week apply golden blister around foot. Report in 2 or 3 weeks, and refer to this page. 2. Wash sore, dry it and apply some of the following lotion daily: Powdered alum, 3 oz.; chloride of zinc, 4 dr.; aqua, 2 qts., mix.]

WORMS IN HORSE.—A five-year-old gelding for a year past has been troubled with a small white worm from ½ to ¾ inches long and about the size of a pin. The animal has been treated, but not successfully. At times when we are driving him he tosses his head badly, will stop traveling, and acts as if in pain. Sometimes tries to rear up. T. W. D. *Coldwater, Mich.* [Give Moore Bros.' worm and tonic powders internally and use injections as recommended in the directions. The pin worms located in the rectum are too far back for medicines to reach when given by the mouth. It is necessary therefore to use both methods. And in a chronic case of this sort a thorough course of treatment is required.]

STAMPING AND TREMBLING, p. 873.—It was several days before I could procure all the ingredients; followed directions for about a week, and had given one ball; letting horse remain quiet 36 hours afterwards, then used him one-half day moderately; next morning hind leg was swollen from foot to the body. The limb was very sensitive, and if dented by pressure would remain so some time. Used medicine for such a trouble, and horse soon became better; then renewed former treatment, and think horse has improved. Flow of urine has increased. Have not noticed of late any trembling, but do not think there were any parasites in the passages. Swelling of horses' legs is very common about here of late years; the horses are taken suddenly, the swelling extending from feet to body, and some horses not well cared for have their limbs remain enlarged. The appetite as a rule is good. T. M. *Berkshire, N. Y.* [See cellulitis and lymphangitis in back numbers.]

WORMS IN FILLY.—Please give remedy for worms in a weanling filly. D. A. P. *Allen's Hill, N. Y.* [Moore Bros.' worm and tonic powders.]

LUMPS ON MARE AND HEIFER.—A six-year-old mare has a hard lump on bone above left nostril, caused by a kick from a colt three years ago. A whitish-yellow, very offensive matter runs continually from the nostril, causing difficult breathing. (1) A heifer had her first calf last spring, and has since had a lump that seems to grow but can be moved about by pressing. There are also some other small lumps in udder. The heifer was very wild, and was run a great deal before she could be caught and be milked the first time. J. M. W. A. *Warrenton, Va.* [1. It should be examined by a veterinary surgeon, as it probably requires a surgical operation. 2. You must describe the case better. You do not give location of lump. State size, length of time it has been there, &c.]

LUMPY MILK—LUMP ON BAG.—A 10 year-old cow has for two years at times given ropy and lumpy milk from one or two teats, but not always the same; was never entirely dry since first calf at two years. She was fresh six weeks ago, and has not given one-half her usual mess; has at three different times given lumpy milk. (1) A 2-year-old heifer was gored in the right hind quarter of bag, but the front quarter gave bloody milk and lumps or strings; has recovered, except a lump on the outside of the hind quarter nearly as large as a small hen's egg, and very hard. (2) H. J. G. *Greenwich, Ohio.* [1. Give her a full can of general cow drink, and half a can every three or four days for two weeks. Rub her bag with the liniment recommended for garget on label of can. Treatment will have to be kept up some time, because the case is so chronic. 2. Apply a little iodine ointment once a day.]

Record of the Times.

Review of Passing Events.

An Eastern Whirlwind.—A storm of wind, rain and hail swept through Pennsylvania Jan. 9, doing great damage. At Pittsburg a large unfinished building was wrecked, with others adjoining, and 70 persons were buried in the ruins, of whom 18 were killed or died afterwards. At Reading, a 4 story silk mill, 300 by 70 feet, was blown down and over 100 young women were injured and 17 killed. Terrible excitement prevailed, and 10,000 people congregated at the scene. At Sunbury, a nail mill was wrecked, two men killed and seven wounded. At Carlisle, new buildings at the Indian School were injured to the extent of $5,000. Great damage was also done at Williamsport, York and other places. Eastern New-York caught the edge of the blow—a rush of wind and rain lasting only a few moments in Albany, but longer further south.—In Brooklyn, in the midst of the storm, two gas tanks of 500,000 cubic feet capacity exploded, and the navy-yard barracks were blown down. In the western part of the State another storm was severe. Towards morning, the 10th, it struck the upper suspension bridge at Niagara Falls and tore it from the cables. Dr. J. W. Hodge crossed it at midnight, crawling on hands and knees. Several buildings were blown down. At Buffalo, 8 A. M., the wind was 74 miles an hour; buildings on the water front were wrecked, two propellers sunk, two floating elevators upset, loaded cars overturned and church steeples twisted. This storm also prevailed in Ohio, and farther west took the form of a severe snow storm.

Political.—In Congress the tariff discussion has been continued in the Senate, and a deadlock has prevailed in the House.—Bills to retire Gen. Rosecrans have been favorably reported in both houses.—The Senate adopted, Jan. 7, by a vote of 49 to 8, the Edmunds Panama Canal resolution, which disapproves of any ship canal across the Isthmus of Darien or Central America, under the control of a foreign government.—The State legislature reconvened, Jan. 9, and 101 bills were presented to the assembly, including the excise bill and the Vedder liquor tax bill.—Lewis McMullen, appraiser of the port of New-York, and for 36 years in the public service, has been removed—under-valuations in sugar, wool, tobacco, &c., the alleged cause.—Great disorder prevailed in the organization of the Indiana Senate, and Lieutenant-Governor Robertson was prevented from entering the room.—In Connecticut, Governor Bulkeley (R.) and other State officers were elected by the legislature.—The West Virginia Senatorial deadlock still continues.

From Abroad.—Advices from Zanzibar say that in October last King Mwaaga of Uganda plotted to destroy his body guard, was dethroned, and his brother, Kiwewa, made king. The latter appointed Christians to office, which enraged the Arabs, who murdered some of them and replaced them with Mohammedans. They also burned the English and French mission stations, and killed many of the converts. The mission boat Eleanor, in which some converts were fleeing, was sunk by a hippopotamus, and five persons drowned. The missionaries reached Usambyio in safety. Mwaaga is a prisoner at Magu. The Arabs have proclaimed Uganda a Mohammedan kingdom, and threaten the extinction of all mission stations in Central Africa in revenge for England's anti-slavery policy.—The difficulties in Samoa continue, several bloody battles having been fought between the Germans and the natives.—In Hayti, Leghime's chief general has been defeated in three battles, and the former's deposition is expected. The Yantic reached New-York, Jan. 10, with yellow fever on board.—Dr. Mackenzie has been censured by the Royal College of Surgeons of London for publishing his book on the illness of Emperor Frederick.—The Imperial Tribune has declined to proceed against Prof. Geffcken, believing that proof cannot be given of his consciousness of the treasurable character of his publication.—It is proposed in Paris to form a new Panama Canal company with De Lesseps as chairman.—An attempt was made to blow up the royal palace of Spain, Jan. 8, resulting in the smashing of many windows.—In the skating contest at Amsterdam, Jan. 8, Von Panschin, the Russian champion, won the one mile race in 2 minutes 53 3-5 seconds; on the 9th, Joseph Donoghue of Newburgh, N. Y., won the two-mile race in 6 minutes, 24 seconds, Panschin 7 seconds later. The previous best record is 6 minutes, 41 seconds.

Deaths.—Zebulon L. White, a well known newspaper man, died at Nassau, N. P., Dec. 31, aged 46, and his body reached New-York, Jan. 11. He began work on the Tribune in 1867, and for ten years was its Washington correspondent. In 1880 he became editor of the Providence (R. I.) Press, but after six years his health failed, and he could do only occasional work. He was remarkable for a retentive memory, exact statement and sound judgment.—Benjamin E. Hopkins, banker, of Cincinnati, lately pardoned out of prison by the President, died Jan. 7, shortly after reaching home.—Sewall Newhouse, a famous trapper, and author of the "Trappers' Guide," died near Utica, Dec. 31, aged 83. He lived at one time among the Oneida Indians, and was a member of the Oneida Community.—Rev. Dr. Henry J. Van Lennep, for 30 years missionary to Armenia, died at Great Barrington, Mass., Jan. 12, aged 73.—Miss Rankin, the first Protestant missionary to Mexico, died last December.—The funeral of Owen Brown, son of John Brown the abolitionist, and last survivor of the Harper's Ferry fight, was held at Pasadena, Cal., Jan. 10. Brown was 74 years old.

Minor Items.

Cincinnati is to have an electric railroad.

A broken lamp caused a $30,000 fire in Rutherford, N. J., Jan. 9.

The Dakota Sioux are now ready to accept $1 per acre for their lands.

The oyster pirates of Maryland have organized a protective association.

The hospital collections in New-York amount thus far to $31,597.69.

The English beer syndicate is said now to control 30 breweries in this country.

James G. Blaine, Jr., is to enter the Maine Central repair shops as an apprentice.

The Latter Day Saints will hold a world's conference at St. Joseph, Mo., April 6.

Robert Bonner has sold his bay mare Majolica, foaled in 1884, to W. S. Allen for $15,000.

Governor-elect Hoard of Wisconsin will take two handsome Jersey cows to Madison with him.

Pierre Lorillard of New York will establish a winter hunting ground on the Santee river, S. C.

The new cruiser Vesuvius has made a successful trial trip, running 21.64 knots an hour.

At Windsor, Ontario, the women on the tax list voted for city officers and on the annexation issue.

A valuable coal deposit has been found near Centreville, Dakota, one vein being eight feet thick.

William Carr, the Pittsburg millionaire who died recently, left over $1,000,000 to relatives in Ireland.

A grist-mill boiler exploded at New Hope, W. Va., Jan. 5, killing five farmers and injuring several others.

Edward King, for many years the well-known Paris correspondent of the New-York Evening Post and Boston Journal, is in the felons' jail

Mr. Smith, Clyde, changed with obtaining money under false pretenses.

Mr. Hamilton, late justice from the Town of Seneca Falls, charged with forgery and many counts of fraud.

The remaining on the Docket are but the ordinary business of the Courts, and not of any particular interest.

The Superintendent, upon inquiry, ascertained that the Court House was in a safe condition.

A new Chimney battery was built and in use in York, one, 71 by 60 feet, four Stone Arches, and 60 feet high.

The Court House stands at the head of the Main Street, and is a fine building, with a large yard, and is quite open to view.

The Jail is in the rear of the Court House, and is 70 feet by 30, and has 12 Cells; 2 Dungeons, and 2 rooms for debtors.

Jail has been enlarged by the government since the Rebellion, and is now in good order, and sufficiently large for present purposes.

The Rotunda (21) Supreme Court, with Dungeons, Jail, Sheriff's Residence, &c., &c., will be completed in the Spring of 1856, at a cost of $100,000. The Jail and Sheriff's Residence has been completed in its entirety as to Stone, Brick, Iron, &c., and will cost $50,000 when finished.

The Superintendent left Rochester on the 6th inst., and returned on the 10th inst.

Every Farm of Lawrence

Should be supplied with Lawrence's Fertilizer. Price $50 per ton. Send for circular. Address, JOHN LAWRENCE, Cleveland, Ohio.

Wool and hay received for cash or in exchange for Fertilizer. Dec. 15—4t

Cooperative Family Union.

A Joint Stock Company for the purchase of Groceries, Provisions, Dry Goods, Clothing, Boots and Shoes, Hardware, Stoves, Furniture, Agricultural Implements, Seeds, Trees, Plants, Books, Stationery, Drugs, Medicines, Liquors, Wines, Coal, Wood, Lumber, Building Materials, Paints, Oils, Glass, Paper Hangings, Carpets, Oil Cloths, Window Shades, Fancy Goods, Jewelry, Watches, Musical Instruments, Pianos, Melodeons, Sewing Machines, Patent Rights, Real Estate, Insurance, Banking, Exchange, Collections, Publishing, Printing, Engraving, Lithographing, Manufacturing, Mining, Shipping, Commission, Forwarding, Transportation, Telegraphing, Railroading, Steamboating, Canalling, Ferrying, Tolls, Freights, Fares, Passage, Board, Lodging, Meals, Refreshments, Amusements, Entertainments, Lectures, Concerts, Theatres, Circuses, Menageries, Museums, Galleries, Libraries, Reading Rooms, Gymnasiums, Baths, Barbers, Hairdressers, Tailors, Milliners, Dressmakers, Shoemakers, Jewelers, Watchmakers, Silversmiths, Goldsmiths, Blacksmiths, Whitesmiths, Tinsmiths, Coppersmiths, Brassfounders, Ironfounders, Machinists, Millwrights, Carpenters, Joiners, Cabinetmakers, Upholsterers, Painters, Glaziers, Paperhangers, Plasterers, Masons, Bricklayers, Stonecutters, Quarrymen, Miners, Engineers, Architects, Surveyors, Draughtsmen, Clerks, Salesmen, Agents, Brokers, Factors, Commission Merchants, Forwarders, Shippers, Consignees, Consignors, Importers, Exporters, Jobbers, Retailers, Wholesalers, Manufacturers, Producers, Consumers, Buyers, Sellers, Traders, Dealers, Merchants, Shopkeepers, Storekeepers, Peddlers, Hawkers, Auctioneers, Publishers, Printers, Engravers, Lithographers, Editors, Reporters, Correspondents, Authors, Poets, Artists, Painters, Sculptors, Musicians, Singers, Actors, Actresses, Dancers, Gymnasts, Athletes, Wrestlers, Boxers, Runners, Jumpers, Swimmers, Rowers, Sailors, Boatmen, Bargemen, Canallers, Ferrymen, Tollmen, Freighters, Passengers, Travellers, Tourists, Pilgrims, Emigrants, Immigrants, Settlers, Pioneers, Farmers, Planters, Graziers, Stockmen, Herdsmen, Shepherds, Dairymen, Gardeners, Florists, Nurserymen, Seedsmen, Fruitgrowers, Orchardists, Vintners, Brewers, Distillers, Maltsters, Millers, Bakers, Confectioners, Butchers, Fishmongers, Poulterers, Grocers, Tea Dealers, Coffee Dealers, Sugar Refiners, Tobacconists, Cigar Makers, Snuff Makers, Pipe Makers, Druggists, Apothecaries, Chemists, Physicians, Surgeons, Dentists, Oculists, Aurists, Veterinary Surgeons, Nurses, Midwives, Undertakers, Coffin Makers, Hearse Drivers, Mourning Coach Drivers, Grave Diggers, Sextons, Clergymen, Ministers, Priests, Deacons, Elders, Missionaries, Evangelists, Revivalists, Exhorters, Colporteurs, Tract Distributors, Sunday School Teachers, Bible Readers, Bible Distributors, Bible Sellers, Bible Makers, Bookbinders, Paper Makers, Paper Stainers, Paper Hangers, Stationers, Booksellers, Librarians, Lawyers, Barristers, Attorneys, Solicitors, Notaries, Conveyancers, Scriveners, Clerks, Judges, Justices, Magistrates, Sheriffs, Bailiffs, Constables, Policemen, Detectives, Jailers, Turnkeys, Prisoners, Criminals, Felons, Convicts, Transports, Pardons, Tickets of Leave, Executioners, Hangmen, Gallows, Scaffolds, Nooses, Ropes, Halters, Chains, Fetters, Handcuffs, Leg Irons, Thumbscrews, Racks, Pillories, Stocks, Whipping Posts, Cat-o'-nine-tails, Birches, Canes, Rods, Switches, Floggings, Beatings, Bastinadoes, Tortures, Inquisitions, Inquisitors, Spies, Informers, Informations, Accusations, Indictments, Arraignments, Pleas, Demurrers, Replications, Rejoinders, Surrejoinders, Rebutters, Surrebutters, Issues, Verdicts, Judgments, Executions, Writs, Writs of Error, Writs of Habeas Corpus, Writs of Mandamus, Writs of Quo Warranto, Writs of Prohibition, Writs of Certiorari, Writs of Attachment, Writs of Capias, Writs of Fieri Facias, Writs of Elegit, Writs of Sequestration, Writs of Possession, Writs of Ejectment, Writs of Dower, Writs of Partition, Writs of Replevin, Writs of Detinue, Writs of Trover, Writs of Trespass, Writs of Assault and Battery, Writs of Mayhem, Writs of Libel, Writs of Slander, Writs of Conspiracy, Writs of Champerty, Writs of Maintenance, Writs of Barratry, Writs of Forgery, Writs of Perjury, Writs of Subornation of Perjury, Writs of Conspiracy to Defraud, Writs of Fraud, Writs of Deceit, Writs of Misrepresentation, Writs of Concealment, Writs of Suppression, Writs of Falsification, Writs of Alteration, Writs of Erasure, Writs of Interlineation, Writs of Obliteration, Writs of Destruction, Writs of Mutilation, Writs of Defacement, Writs of Injury, Writs of Damage, Writs of Loss, Writs of Detriment, Writs of Prejudice, Writs of Hurt, Writs of Harm, Writs of Evil, Writs of Mischief, Writs of Wrong, Writs of Ill, Writs of Bad, Writs of Worse, Writs of Worst, Writs of Nothing, Writs of Zero, Writs of Cipher, Writs of Naught, Writs of Void, Writs of Null, Writs of Nullity, Writs of Vacuity, Writs of Emptiness, Writs of Blankness, Writs of Whiteness, Writs of Paleness, Writs of Pallor, Writs of Ashiness, Writs of Ghastliness, Writs of Deathliness, Writs of Corpseliness, Writs of Coffinliness, Writs of Graveliness, Writs of Tombliness, Writs of Churchyardliness, Writs of Ghostliness, Writs of Spectreliness, Writs of Phantomliness, Writs of Apparitionliness, Writs of Hauntedness, Writs of Haunting, Writs of Haunter, Writs of Haunted, Writs of Haunt, Writs of Haunting Place, Writs of Haunting Time, Writs of Haunting Season, Writs of Haunting Hour, Writs of Haunting Minute, Writs of Haunting Second, Writs of Haunting Moment, Writs of Haunting Instant, Writs of Haunting Eternity, Writs of Haunting Infinity, Writs of Haunting Nothingness, Writs of Haunting Zero, Writs of Haunting Cipher, Writs of Haunting Naught, Writs of Haunting Void, Writs of Haunting Null, Writs of Haunting Nullity, Writs of Haunting Vacuity, Writs of Haunting Emptiness, Writs of Haunting Blankness, Writs of Haunting Whiteness, Writs of Haunting Paleness, Writs of Haunting Pallor, Writs of Haunting Ashiness, Writs of Haunting Ghastliness, Writs of Haunting Deathliness, Writs of Haunting Corpseliness, Writs of Haunting Coffinliness, Writs of Haunting Graveliness, Writs of Haunting Tombliness, Writs of Haunting Churchyardliness, Writs of Haunting Ghostliness, Writs of Haunting Spectreliness, Writs of Haunting Phantomliness, Writs of Haunting Apparitionliness, Writs of Haunting Hauntedness, Writs of Haunting Haunting, Writs of Haunting Haunter, Writs of Haunting Haunted, Writs of Haunting Haunt, Writs of Haunting Haunting Place, Writs of Haunting Haunting Time, Writs of Haunting Haunting Season, Writs of Haunting Haunting Hour, Writs of Haunting Haunting Minute, Writs of Haunting Haunting Second, Writs of Haunting Haunting Moment, Writs of Haunting Haunting Instant, Writs of Haunting Haunting Eternity, Writs of Haunting Haunting Infinity, Writs of Haunting Haunting Nothingness, Writs of Haunting Haunting Zero, Writs of Haunting Haunting Cipher, Writs of Haunting Haunting Naught, Writs of Haunting Haunting Void, Writs of Haunting Haunting Null, Writs of Haunting Haunting Nullity, Writs of Haunting Haunting Vacuity, Writs of Haunting Haunting Emptiness, Writs of Haunting Haunting Blankness, Writs of Haunting Haunting Whiteness, Writs of Haunting Haunting Paleness, Writs of Haunting Haunting Pallor, Writs of Haunting Haunting Ashiness, Writs of Haunting Haunting Ghastliness, Writs of Haunting Haunting Deathliness, Writs of Haunting Haunting Corpseliness, Writs of Haunting Haunting Coffinliness, Writs of Haunting Haunting Graveliness, Writs of Haunting Haunting Tombliness, Writs of Haunting Haunting Churchyardliness, Writs of Haunting Haunting Ghostliness, Writs of Haunting Haunting Spectreliness, Writs of Haunting Haunting Phantomliness, Writs of Haunting Haunting Apparitionliness, Writs of Haunting Haunting Hauntedness.

CATARRH CURED.

A simple remedy for the cure of Catarrh, Colds in the Head, Influenza, Hoarseness, Sore Throat, Bronchitis, Coughs, Asthma, Consumption, and all diseases of the Throat and Lungs. Sent by mail for 25 cents. Address, DR. SANFORD, 160 Nassau-st., New York.

CONSUMPTION CURED.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility, and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive and a desire to relieve human suffering, I will send the recipe for preparing and using this medicine, free of charge, to those who desire it, with full directions for successful use. Address, DR. EDWARD A. WILSON, Williamsburgh, Kings Co., N. Y.

Farm Produce Markets.

Albany Markets—June 14.

Ashes, pearl	100 lbs	$ 9 00 @ 9 12½
Ashes, pot	100 lbs	8 75 @ 8 87½
Beans, white	bush	2 00 @ 2 25
Beans, Canada	bush	1 75 @ 1 87½
Beeswax, yellow	lb	25 @ 26
Beeswax, white	lb	28 @ 30
Buckwheat	bush	1 00 @ 1 06
Butter, roll	lb	16 @ 18
Butter, firkin	lb	14 @ 16
Cheese	lb	10 @ 11
Corn, yellow	bush	1 00 @ 1 02
Corn, white	bush	1 00 @ 1 02
Corn meal	bbl	4 00 @ 4 25
Eggs	doz	14 @ 15
Flax seed	bush	1 75 @ 1 87½
Flour, common	bbl	8 00 @ 8 25
Flour, extra	bbl	8 50 @ 8 75
Flour, Genesee	bbl	9 00 @ 9 25
Flour, Ohio	bbl	8 50 @ 8 75
Flour, Canada	bbl	8 50 @ 8 75
Hops	lb	30 @ 35
Lard	lb	12 @ 13
Oats	bush	50 @ 52
Potatoes	bush	1 00 @ 1 12½
Rye	bush	1 00 @ 1 06
Timothy seed	bush	3 00 @ 3 25
Wheat, white	bush	1 50 @ 1 62½
Wheat, red	bush	1 50 @ 1 62½

Albany Horse Market—Jan. 14.

SALES (720 heads, gross): Dull and heavy; 720 heads sold.

Extra	100 lbs	$ 7 50 @ 8 00
First quality	100 lbs	7 00 @ 7 50
Second quality	100 lbs	6 50 @ 7 00
Third quality	100 lbs	6 00 @ 6 50
Fourth quality	100 lbs	5 50 @ 6 00
Fifth quality	100 lbs	5 00 @ 5 50
Sixth quality	100 lbs	4 50 @ 5 00
Seventh quality	100 lbs	4 00 @ 4 50
Eighth quality	100 lbs	3 50 @ 4 00
Ninth quality	100 lbs	3 00 @ 3 50
Tenth quality	100 lbs	2 50 @ 3 00
Eleventh quality	100 lbs	2 00 @ 2 50
Twelfth quality	100 lbs	1 50 @ 2 00
Thirteenth quality	100 lbs	1 00 @ 1 50
Fourteenth quality	100 lbs	50 @ 1 00
Fifteenth quality	100 lbs	25 @ 50
Sixteenth quality	100 lbs	10 @ 25
Seventeenth quality	100 lbs	5 @ 10
Eighteenth quality	100 lbs	1 @ 5
Nineteenth quality	100 lbs	0 @ 1
Twentieth quality	100 lbs	0 @ 0
Twenty-first quality	100 lbs	0 @ 0
Twenty-second quality	100 lbs	0 @ 0
Twenty-third quality	100 lbs	0 @ 0
Twenty-fourth quality	100 lbs	0 @ 0
Twenty-fifth quality	100 lbs	0 @ 0
Twenty-sixth quality	100 lbs	0 @ 0
Twenty-seventh quality	100 lbs	0 @ 0
Twenty-eighth quality	100 lbs	0 @ 0
Twenty-ninth quality	100 lbs	0 @ 0
Thirtieth quality	100 lbs	0 @ 0
Thirty-first quality	100 lbs	0 @ 0
Thirty-second quality	100 lbs	0 @ 0
Thirty-third quality	100 lbs	0 @ 0
Thirty-fourth quality	100 lbs	0 @ 0
Thirty-fifth quality	100 lbs	0 @ 0
Thirty-sixth quality	100 lbs	0 @ 0
Thirty-seventh quality	100 lbs	0 @ 0
Thirty-eighth quality	100 lbs	0 @ 0
Thirty-ninth quality	100 lbs	0 @ 0
Fortieth quality	100 lbs	0 @ 0
Forty-first quality	100 lbs	0 @ 0
Forty-second quality	100 lbs	0 @ 0
Forty-third quality	100 lbs	0 @ 0
Forty-fourth quality	100 lbs	0 @ 0
Forty-fifth quality	100 lbs	0 @ 0
Forty-sixth quality	100 lbs	0 @ 0
Forty-seventh quality	100 lbs	0 @ 0
Forty-eighth quality	100 lbs	0 @ 0
Forty-ninth quality	100 lbs	0 @ 0
Fiftieth quality	100 lbs	0 @ 0
Fifty-first quality	100 lbs	0 @ 0
Fifty-second quality	100 lbs	0 @ 0
Fifty-third quality	100 lbs	0 @ 0
Fifty-fourth quality	100 lbs	0 @ 0
Fifty-fifth quality	100 lbs	0 @ 0
Fifty-sixth quality	100 lbs	0 @ 0
Fifty-seventh quality	100 lbs	0 @ 0
Fifty-eighth quality	100 lbs	0 @ 0
Fifty-ninth quality	100 lbs	0 @ 0
Sixtieth quality	100 lbs	0 @ 0
Sixty-first quality	100 lbs	0 @ 0
Sixty-second quality	100 lbs	0 @ 0
Sixty-third quality	100 lbs	0 @ 0
Sixty-fourth quality	100 lbs	0 @ 0
Sixty-fifth quality	100 lbs	0 @ 0
Sixty-sixth quality	100 lbs	0 @ 0
Sixty-seventh quality	100 lbs	0 @ 0
Sixty-eighth quality	100 lbs	0 @ 0
Sixty-ninth quality	100 lbs	0 @ 0
Seventieth quality	100 lbs	0 @ 0
Seventy-first quality	100 lbs	0 @ 0
Seventy-second quality	100 lbs	0 @ 0
Seventy-third quality	100 lbs	0 @ 0
Seventy-fourth quality	100 lbs	0 @ 0
Seventy-fifth quality	100 lbs	0 @ 0
Seventy-sixth quality	100 lbs	0 @ 0
Seventy-seventh quality	100 lbs	0 @ 0
Seventy-eighth quality	100 lbs	0 @ 0
Seventy-ninth quality	100 lbs	0 @ 0
Eightieth quality	100 lbs	0 @ 0
Eighty-first quality	100 lbs	0 @ 0
Eighty-second quality	100 lbs	0 @ 0
Eighty-third quality	100 lbs	0 @ 0
Eighty-fourth quality	100 lbs	0 @ 0
Eighty-fifth quality	100 lbs	0 @ 0
Eighty-sixth quality	100 lbs	0 @ 0
Eighty-seventh quality	100 lbs	0 @ 0
Eighty-eighth quality	100 lbs	0 @ 0
Eighty-ninth quality	100 lbs	0 @ 0
Ninetieth quality	100 lbs	0 @ 0
Ninety-first quality	100 lbs	0 @ 0
Ninety-second quality	100 lbs	0 @ 0
Ninety-third quality	100 lbs	0 @ 0
Ninety-fourth quality	100 lbs	0 @ 0
Ninety-fifth quality	100 lbs	0 @ 0
Ninety-sixth quality	100 lbs	0 @ 0
Ninety-seventh quality	100 lbs	0 @ 0
Ninety-eighth quality	100 lbs	0 @ 0
Ninety-ninth quality	100 lbs	0 @ 0
One hundredth quality	100 lbs	0 @ 0

New York Markets—Jan. 13.

Ashes, pearl	100 lbs	$ 9 00 @ 9 12½
Ashes, pot	100 lbs	8 75 @ 8 87½
Beans, white	bush	2 00 @ 2 25
Beans, Canada	bush	1 75 @ 1 87½
Beeswax, yellow	lb	25 @ 26
Beeswax, white	lb	28 @ 30
Buckwheat	bush	1 00 @ 1 06
Butter, roll	lb	16 @ 18
Butter, firkin	lb	14 @ 16
Cheese	lb	10 @ 11
Corn, yellow	bush	1 00 @ 1 02
Corn, white	bush	1 00 @ 1 02
Corn meal	bbl	4 00 @ 4 25
Eggs	doz	14 @ 15
Flax seed	bush	1 75 @ 1 87½
Flour, common	bbl	8 00 @ 8 25
Flour, extra	bbl	8 50 @ 8 75
Flour, Genesee	bbl	9 00 @ 9 25
Flour, Ohio	bbl	8 50 @ 8 75
Flour, Canada	bbl	8 50 @ 8 75
Hops	lb	30 @ 35
Lard	lb	12 @ 13
Oats	bush	50 @ 52
Potatoes	bush	1 00 @ 1 12½
Rye	bush	1 00 @ 1 06
Timothy seed	bush	3 00 @ 3 25
Wheat, white	bush	1 50 @ 1 62½
Wheat, red	bush	1 50 @ 1 62½

Cattle Markets

ASHLAND, Jan. 14.

Extra	100 lbs	$ 7 50 @ 8 00
First quality	100 lbs	7 00 @ 7 50
Second quality	100 lbs	6 50 @ 7 00
Third quality	100 lbs	6 00 @ 6 50
Fourth quality	100 lbs	5 50 @ 6 00
Fifth quality	100 lbs	5 00 @ 5 50
Sixth quality	100 lbs	4 50 @ 5 00
Seventh quality	100 lbs	4 00 @ 4 50
Eighth quality	100 lbs	3 50 @ 4 00
Ninth quality	100 lbs	3 00 @ 3 50
Tenth quality	100 lbs	2 50 @ 3 00
Eleventh quality	100 lbs	2 00 @ 2 50
Twelfth quality	100 lbs	1 50 @ 2 00
Thirteenth quality	100 lbs	1 00 @ 1 50
Fourteenth quality	100 lbs	50 @ 1 00
Fifteenth quality	100 lbs	25 @ 50
Sixteenth quality	100 lbs	10 @ 25
Seventeenth quality	100 lbs	5 @ 10
Eighteenth quality	100 lbs	1 @ 5
Nineteenth quality	100 lbs	0 @ 1
Twentieth quality	100 lbs	0 @ 0
Twenty-first quality	100 lbs	0 @ 0
Twenty-second quality	100 lbs	0 @ 0
Twenty-third quality	100 lbs	0 @ 0
Twenty-fourth quality	100 lbs	0 @ 0
Twenty-fifth quality	100 lbs	0 @ 0
Twenty-sixth quality	100 lbs	0 @ 0
Twenty-seventh quality	100 lbs	0 @ 0
Twenty-eighth quality	100 lbs	0 @ 0
Twenty-ninth quality	100 lbs	0 @ 0
Thirtieth quality	100 lbs	0 @ 0
Thirty-first quality	100 lbs	0 @ 0
Thirty-second quality	100 lbs	0 @ 0
Thirty-third quality	100 lbs	0 @ 0
Thirty-fourth quality	100 lbs	0 @ 0
Thirty-fifth quality	100 lbs	0 @ 0
Thirty-sixth quality	100 lbs	0 @ 0
Thirty-seventh quality	100 lbs	0 @ 0
Thirty-eighth quality	100 lbs	0 @ 0
Thirty-ninth quality	100 lbs	0 @ 0
Fortieth quality	100 lbs	0 @ 0
Forty-first quality	100 lbs	0 @ 0
Forty-second quality	100 lbs	0 @ 0
Forty-third quality	100 lbs	0 @ 0
Forty-fourth quality	100 lbs	0 @ 0
Forty-fifth quality	100 lbs	0 @ 0
Forty-sixth quality	100 lbs	0 @ 0
Forty-seventh quality	100 lbs	0 @ 0
Forty-eighth quality	100 lbs	0 @ 0
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Fifty-fifth quality	100 lbs	0 @ 0
Fifty-sixth quality	100 lbs	0 @ 0
Fifty-seventh quality	100 lbs	0 @ 0
Fifty-eighth quality	100 lbs	0 @ 0
Fifty-ninth quality	100 lbs	0 @ 0
Sixtieth quality	100 lbs	0 @ 0
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Sixty-second quality	100 lbs	0 @ 0
Sixty-third quality	100 lbs	0 @ 0
Sixty-fourth quality	100 lbs	0 @ 0
Sixty-fifth quality	100 lbs	0 @ 0
Sixty-sixth quality	100 lbs	0 @ 0
Sixty-seventh quality	100 lbs	0 @ 0
Sixty-eighth quality	100 lbs	0 @ 0
Sixty-ninth quality	100 lbs	0 @ 0
Seventieth quality	100 lbs	0 @ 0
Seventy-first quality	100 lbs	0 @ 0
Seventy-second quality	100 lbs	0 @ 0
Seventy-third quality	100 lbs	0 @ 0
Seventy-fourth quality	100 lbs	0 @ 0
Seventy-fifth quality	100 lbs	0 @ 0
Seventy-sixth quality	100 lbs	0 @ 0
Seventy-seventh quality	100 lbs	0 @ 0
Seventy-eighth quality	100 lbs	0 @ 0
Seventy-ninth quality	100 lbs	0 @ 0
Eightieth quality	100 lbs	0 @ 0
Eighty-first quality	100 lbs	0 @ 0
Eighty-second quality	100 lbs	0 @ 0
Eighty-third quality	100 lbs	0 @ 0
Eighty-fourth quality	100 lbs	0 @ 0
Eighty-fifth quality	100 lbs	0 @ 0
Eighty-sixth quality	100 lbs	0 @ 0
Eighty-seventh quality	100 lbs	0 @ 0
Eighty-eighth quality	100 lbs	0 @ 0
Eighty-ninth quality	100 lbs	0 @ 0
Ninetieth quality	100 lbs	0 @ 0
Ninety-first quality	100 lbs	0 @ 0
Ninety-second quality	100 lbs	0 @ 0
Ninety-third quality	100 lbs	0 @ 0
Ninety-fourth quality	100 lbs	0 @ 0
Ninety-fifth quality	100 lbs	0 @ 0
Ninety-sixth quality	100 lbs	0 @ 0
Ninety-seventh quality	100 lbs	0 @ 0
Ninety-eighth quality	100 lbs	0 @ 0
Ninety-ninth quality	100 lbs	0 @ 0
One hundredth quality	100 lbs	0 @ 0

Dairy Markets—Jan. 14.

Butter, roll	lb	16 @ 18
Butter, firkin	lb	14 @ 16
Cheese	lb	10 @ 11
Eggs	doz	14 @ 15

Wool Markets—Jan. 14.

American Merino Cattle Club,

FOR THE YEAR 1855.

Ashes, pearl	100 lbs	$ 9 00 @ 9 12½
Ashes, pot	100 lbs	8 75 @ 8 87½
Beans, white	bush	2 00 @ 2 25
Beans, Canada	bush	1 75 @ 1 87½
Beeswax, yellow	lb	25 @ 26
Beeswax, white	lb	28 @ 30
Buckwheat	bush	1 00 @ 1 06
Butter, roll	lb	16 @ 18
Butter, firkin	lb	14 @ 16
Cheese	lb	10 @ 11
Corn, yellow	bush	1 00 @ 1 02
Corn, white	bush	1 00 @ 1 02
Corn meal	bbl	4 00 @ 4 25
Eggs	doz	14 @ 15
Flax seed	bush	1 75 @ 1 87½
Flour, common	bbl	8 00 @ 8 25
Flour, extra	bbl	8 50 @ 8 75
Flour, Genesee	bbl	9 00 @ 9 25
Flour, Ohio	bbl	8 50 @ 8 75
Flour, Canada	bbl	8 50 @ 8 75
Hops	lb	30 @ 35
Lard	lb	12 @ 13
Oats	bush	50 @ 52
Potatoes	bush	1 00 @ 1 12½
Rye	bush	1 00 @ 1 06
Timothy seed	bush	3 00 @ 3 25
Wheat, white	bush	1 50 @ 1 62½
Wheat, red	bush	1 50 @ 1 62½

Treasurer of Thoroughbred Cattle

American Devon Cattle Club,

FOR THE YEAR 1855.

Ashes, pearl	100 lbs	$ 9 00 @ 9 12½
Ashes, pot	100 lbs	8 75 @ 8 87½
Beans, white	bush	2 00 @ 2 25
Beans, Canada	bush	1 75 @ 1 87½
Beeswax, yellow	lb	25 @ 26
Beeswax, white	lb	28 @ 30
Buckwheat	bush	1 00 @ 1 06
Butter, roll	lb	16 @ 18
Butter, firkin	lb	14 @ 16
Cheese	lb	10 @ 11
Corn, yellow	bush	1 00 @ 1 02
Corn, white	bush	1 00 @ 1 02
Corn meal	bbl	4 00 @ 4 25
Eggs	doz	14 @ 15
Flax seed	bush	1 75 @ 1 87½
Flour, common	bbl	8 00 @ 8 25
Flour, extra	bbl	8 50 @ 8 75
Flour, Genesee	bbl	9 00 @ 9 25
Flour, Ohio	bbl	8 50 @ 8 75
Flour, Canada	bbl	8 50 @ 8 75
Hops	lb	30 @ 35
Lard	lb	12 @ 13
Oats	bush	50 @ 52
Potatoes	bush	1 00 @ 1 12½
Rye	bush	1 00 @ 1 06
Timothy seed	bush	3 00 @ 3 25
Wheat, white	bush	1 50 @ 1 62½
Wheat, red	bush	1 50 @ 1 62½

Ontario Farmers Association:

FOR THE YEAR 1855.

Ashes, pearl	100 lbs	$ 9 00 @ 9 12½
Ashes, pot	100 lbs	8 75 @ 8 87½
Beans, white	bush	2 00 @ 2 25
Beans, Canada	bush	1 75 @ 1 87½
Beeswax, yellow	lb	25 @ 26
Beeswax, white	lb	28 @ 30
Buckwheat	bush	1 00 @ 1 06
Butter, roll	lb	16 @ 18
Butter, firkin	lb	14 @ 16
Cheese	lb	10 @ 11
Corn, yellow	bush	1 00 @ 1 02
Corn, white	bush	1 00 @ 1 02
Corn meal	bbl	4 00 @ 4 25
Eggs	doz	14 @ 15
Flax seed	bush	1 75 @ 1 87½
Flour, common	bbl	8 00 @ 8 25
Flour, extra	bbl	8 50 @ 8 75
Flour, Genesee	bbl	9 00 @ 9 25
Flour, Ohio	bbl	8 50 @ 8 75
Flour, Canada	bbl	8 50 @ 8 75
Hops	lb	30 @ 35
Lard	lb	12 @ 13
Oats	bush	50 @ 52
Potatoes	bush	1 00 @ 1 12½
Rye	bush	1 00 @ 1 06
Timothy seed	bush	3 00 @ 3 25
Wheat, white	bush	1 50 @ 1 62½
Wheat, red	bush	1 50 @ 1 62½

Wolff's ACME Blacking

Is the Blackest, Is the Brightest, Is the Cheapest, Is the Best.

The BOLDEST ATTACK FOR LIFE and the most Triumphant Defence ever made against Dirt and Poverty.

WOLFF & SANDS 208 PEARL STREET

The Fireside.

Recreation for Farmers' Families—III.

Tableaux vivants make a charming entertainment, but require so much time for preparation that spectators often become uneasy between the scenes. An amateur orchestra, even if composed of only two performers (on violin and piano or cabinet organ), can be trained to play well, bright, simple music, which will serve to keep the audience quiet and patient until the other performers are ready for the curtain to rise. And here I wish to say something about the curtain. If your curtain does not roll (few stage curtains in the country do roll), do not fail to select some one who will attend faithfully to the task of drawing it. I have seen the effect of tableaux utterly spoiled by a failure to draw the curtain in time.

In these entertainments footlights are almost a necessity, and may be supplied at small cost. The sugar scoop used by grocers, if relieved of its handle, would make a good shade for footlights. One's brother can cut a piece of board of the shape of his boot-heel, large enough to hold a small lamp or a bracket lamp. At the tinman's may be cut a piece of tin as wide as the oval part of the board, a little higher than the chimney of the lamp it is to shade, and oval in form like the sugar shovel above mentioned; this is to be tacked around the board and painted green on the outside toward the spectators. When the lamp is lighted, the bright tin makes a powerful reflector. It is sometimes a wise precaution to nail to the floor, the boot-heel shaped board on which the lamp stands. It is also wise to stretch a wire across the stage about two feet from the floor, so that the curtain cannot possibly come in contact with the light. This wire also serves to keep the performers from approaching too near.

Tableaux are given most effectually in a series illustrating a story which may be read or sung. A charming series of tableaux may be arranged from the old poem, "The Mistletoe Bough." A few verses of the poem are sung; then the curtain rises upon an illustration. After the falling of the curtain more verses are sung, followed by another tableau, and so on until the poem is finished.

Lowell's poem, "Huldy and Zekiel," can be illustrated by tableaux in striking contrast with those of the Mistletoe Bough. I might describe these things in detail, but think it hardly necessary, as the bright women who may undertake such things will grasp the details almost as if by intuition.

"The Decorative Fitters," a poem which appeared a few years ago, is a good text for tableaux.

A picture gallery may be arranged by stretching black cloth (paper muslin will answer) across the back of the stage, and cutting slits long enough to admit the heads of the "pictures." Frames may be simulated by pasting gilt paper around the slits. The artist should be characteristically dressed, and describe his pictures to the spectators.

Mrs. Jarley's Wax Works are always popular. A bright, humorous girl must be selected for Mrs. Jarley and the "figgers" must learn to keep their faces and bodies as rigid as marble. The book with full directions may be obtained from your book-seller.

Mary Mapes Dodge's "Mrs. Maloney on the Chinese Question" is a capital subject for tableaux. The old fairy tales—Aladdin, Cinderella, The Sleeping Beauty, Beauty and the Beast, and Blue Beard—may be represented with or without the text, as fancy dictates. The stories are so generally known that it is scarcely necessary to have them read.

There are numberless single tableaux which are beautiful. Faith, Hope and Charity are old but always appreciated when properly arranged. Pictures will suggest everything necessary to their presentation.

Not long ago I was present at a sort of variety entertainment which was very pleasing. The curtain rose upon eighteen girls dressed in white, arranged in quincunx order at arm's length apart, the shorter ones being in front. To the music of a piano they went through a series of calisthenics, followed by various exercises in marching, which were so pleasing that the spectators encored. This was followed by a recitation of Miss Proctor's poem, "The Legend of Bregenz." As a closing piece the operetta of Bo-Peep was most effectively presented.

LILLIAN MAYNE.

Suggestions for Fancy Work.

Crocheted covers for bottles will be found exceedingly convenient when traveling; have a ribbon or cord run in the top to tie them firmly at the neck or over the cork.

A painted or embroidered velvet cover for a book will be not only handsome but very useful. Have a fine gold or silk cord around the edge.

A panel or screen of fine East India matting or willow matting, hand painted and edged with rope will be much admired. Get new rope about the size of one's little finger. Tack it evenly around the edge, turning it to form bows at the corners, leaving ends six inches long which unravel and comb out, and the effect will astonish you. Have a piece to hang it by, and knotted at the ends in bows with tassels of the rope. A mantle valence of this same rope is easily made and is very novel as well as beautiful. Make a netting by having brass curtain rings to hold each diamond in place. Have these rings flattened a little. The bottom of the netting is finished with tassels of the rope; taking two ends wrap them together securely with linen thread of the same color, and fasten a ring to it; a second ring is placed below about an inch, where the rope is fastened a second time, thus forming a ball heading to fringe or tassels which are made as above told by fraying out the ends of rope. A colored lining of some sort will show it off.

Rugs made from new clothes-line are serviceable, worked in various patterns to suit individual taste, and fastened on the wrong side by stitches. The ends have a row of fringe of the rope. A wicker chair will look much more appropriate decorated with rope than with ribbon, and when once you have tried it you will be delighted, and put rope bows and tassels instead of any other.

Many other things can be formed from it that will suggest themselves to every ingenious woman. I will mention one more article that is particularly effective.

A portiere made after the following directions is very simple, but very handsome. The ropes hang straight from the top to the bottom of the doorway, the ends being fringed to any depth desired. At the top of it make a netting as already described for a valence. The rings by which this is suspended are also of rope, and instead of a pole a heavy rope is passed through the rings, the ends being turned back to form loops, which must be firmly secured. These loops are placed over hooks screwed in the door casement. To prevent sagging it must be drawn exceedingly tight. If the rope curls or acts perversely in any way, slightly wetting it will bring it in proper position.

A simple chair back may be had by taking a very large handkerchief, tying a loose knot in the middle and you have your anti-macassar complete. This handkerchief may be of silk of some rich color, Indian muslin, or of real Madras muslin.

AUNT ADDIE.

Rollo in Virginia—VI.

The Plagues of Egypt.

The failure of the carrot crop was only an incident in the general collapse of the gardening scheme. Even the onions lacked strength to make a crop. The melons were waited for with patience and hope, but the mounds which Rollo called "hills," where he had carefully deposited the seed, covered with a pint of phosphate and six or eight inches of earth, produced no responsive vines, hiding the ground with their fig like leaves. Finally Robert, having begged permission to replant the melon patch, ruthlessly razed the mound-builder's work, brought a wheel-barrow load of muck from the pig-pen, and planted it anew. It was somewhat late, but Robert's boastings were amply justified by the result, and not only were home demands fully met, but others not always strictly regular beside.

It was the old garden after all, the oasis in the desert, tended principally by Jonas and Dorothy, that made the best record. Planted with a miscellaneous selection, principally for home use, it saved the year's operations from total collapse, and contributed toward paying the turnpike toll. If the fields had done as badly as the garden, the result would have been disastrous indeed; but it was some consolation to find that the corn had made a very creditable crop, though the potatoes, to be sure, were small and few in the hill. The corn yield, estimated at over ten barrels to the acre, was considered almost phenomenal for the land, and saved to some extent the reputation of the Yankee "book farmers." On this account Mr. Holliday determined to abandon all attempts at market gardening, and to endeavor to farm "after the manner of the country," with all possible improvements. Other and more congenial engagements took up the greater part of Mr. Holliday's time, and of James' as well, and to Rollo, who had enthusiastically chosen agriculture as his vocation, was left much of the direction of the farm. Jonas, who felt that he was "off his own land," obeyed him only too explicitly and unquestioningly, and Rollo secretly missed his old-time tyranny.

"I can't get used to it," said Jonas. "A barrel of corn is five bushels, or it is 'three tubs and a basket, with a shake down,' of ears. A creek is a 'run' and a rig is a 'fix.' They 'shovel in' oats and plow their corn, and salt is poison to pigs. You've got to grub the sassafras and other scrub out of a field before you plow it, but you can't leave over two shoots of corn to a hill because the land is so poor. The summers are half drouth and half deluge, and it blows three days after every shower. As for the winters——" But here language failed him. Jonas seldom grumbled, but his mind was thoroughly made up, and once in a while he bubbled over.

The farming operations of the second year extended little beyond providing for home needs; for fencing, ditching, building, &c., took a great deal of time and labor. There was, however, no little satisfaction in the thought that the improved condition and appearance of the place added materially to its marketable value. The year's sale showed that nothing had been profitable (or shown no little loss) as the cows and the poultry—butter, eggs and chickens finding a ready sale at good prices. So it was decided to increase the stock of both as rapidly as possible. The dairy, however, proved to be entirely impracticable, for want of a spring house and a dairymaid. Rebecca, the beautiful Jersey, died of a milk fever, and with her loss the dream of a thriving business in gilt edge butter was given up in despair.

The poultry seemed to offer greater profits with less labor than anything else. Indeed Rollo's balance sheet would have made a fine exhibit in the columns of the American Chanticleer. The original flock was native Dominique, et cetera (principally et ceters), and to these had been added a couple of dozen Light Brahmas, and a pair of White Dorkings, the latter a gift from northern friends. These last, however, met with an unhappy fate, touching enough to deserve recording here. They were a proud young couple, extremely devoted to each other, and caring little for other society. They were a pretty sight, going about by themselves, and acting, as Dorothy observed, just like a new-married pair. But in an evil day, the bride, little dreaming of harm, ventured too far from her escort, and was seized and carried off by a hawk, despite the frantic efforts of the cock to rescue her, and he from that hour refused to be comforted, pined away and died of grief for his mate.

The next spring Rollo began operations by setting every available hen on eggs bought of the best poultry keepers in the neighborhood, and in the fall he found himself in the possession of over a hundred fine pullets, after realizing quite a neat little sum for eggs and chickens, and freely supplying the table. Another year saw things proceeding bravely. A new poultry house was built, constructed mainly of sassafras, a wood reputed to be proof against vermin. The same policy was followed as the year before, and plans were made to extend the poultry yard down to a small brook, and to add ducks to the establishment as well as a separate yard for the breeding of fancy fowls.

The poultry were making, too, no inconsiderable returns in an indirect way. Rollo had noticed that he was somehow more fortunate than his neighbors in raising sweet corn. He planted early, plowed deep, and fertilized liberally, using a compost from the poultry yard. The result was an abundant yield, both for market and table, which was kept up by successive plantings until frost. This year, however, the corn did poorly, both field and sweet.

It was the terrible drouth year, when Horace Greeley, in his journey from Aquia creek to Richmond, noted fields on fields of parched and stunted corn that would not yield five bushels to the acre, and many of them, indeed, yielded nothing but fodder, and little of that. For sixty days there was no rain, nothing but two light summer showers, the moisture of which was quickly dissipated by the thirsty and incessant winds.

Misfortunes never come singly. Rollo had been greatly puzzled in the spring by the appearance of numerous little holes in the ground, as though made by a cane, but they were soon explained by the presence of a horde of lazy larvæ, upon which the poultry, pigs and even dogs fed until they were sick. Rollo's studies of the Department of Agriculture reports enabled him to recognize them at once as the cicada or seventeen-year locust. As the summer days grew longer they made the air resound with their hot and ceaseless humming, and as summer passed the scorched and blackened twigs of the orchard showed that they had worked as industriously as they had sung.

It seemed as though the plagues of Egypt had been let loose. The scourge of locusts was nothing to the plague of worms. The cut-worms fairly swarmed in the ground. The new stand of clover, obtained at no little difficulty, and looked upon as a triumph of husbandry, indicating the proof of the possibility of the regeneration of the soil, was ruined; corn had to be replanted over and over until midsummer, and even the young trees and vines set out in the spring were not exempt from the ravages of the pests. The peach trees (one year from the bud) were girdled in a most singular manner, just below the surface of the soil, and also at the tip of the main stem, and most of those attacked were killed. The new vineyard suffered a like fate, and vines set out the year before and cut back for two canes were not allowed to grow unmolested until late in the summer. The late crops were all failures, differing only in degree, though the corn, thanks to the underdrains, the deep plowing and the frequent cultivation, was better than the average.

The catastrophe of the year, however, was in the direction where the greatest success was looked for. The poultry had steadily continued to meet the most sanguine expectations, and the most extreme statements of the "egg farmers" seemed within the limits of possibility. The maladies which afflicted poultry yards at the North—roup, pip, gapes, vermin, &c.—were apparently unknown. Rollo could not avoid avoid making calculations very similar to those made by the peasant girl in the story, as she tripped to market with her basket of eggs on her head. It seemed only necessary to continue to increase the stock, and to devote to them all the resources of the farm, to achieve a glorious and almost unique success. But it was not to be. One day a couple of heavy Brahmas took to drooping, standing all in a heap, and consuming with insatiable thirst. The next day, in spite of pepper boluses, they were dead, and half a dozen more were drooping. In vain were remedies tried—fumigation, isolation, and even decapitation—the plague spread, until between two and three hundred fowls, big and little, were swept away and buried under the roots of the dwarf pear trees. It was the same everywhere; no farmyard was exempt, and the dozen or so "Dominicks" that roosted in a peach tree suffered equally with the most carefully kept fancy breeds. When the plague had run its course, there was scarcely more than a dozen fowls remaining on the Rosedale farm to resume operations with in the spring.

Things were going from bad to worse, and the drain of the farm expenses was so heavy and the income so very light that it was evident that a change of base was necessary. All had confidence that the farm would ultimately pay, the reverses being of a character that did not impeach its productiveness or capabilities. So Mr. Holliday resumed his law practice, and James followed the example of Robert Burns and became an excisseman, and studied human nature, landscape gardening and moonshining in the mountains of Carolina.

The measure of disaster should have been full, but it was not. "Keep the plow and cultivator going," was Mr. Holliday's advice, and James being transferred from the mountains to the city, sent his saddle horse to do duty at the farm. She was a beautiful animal, of good Kentucky blood, long of body and slender of limb, clear bright eyes, and gentle squarely-moulded nostrils, fleet-footed and high-spirited, affectionate and intelligent, yet with a very decided will of her own, as she very often showed when put to tasks beneath her station in life. It was some sudden strain, perhaps the ill-usage or neglect of one of the men—it was never known just how—that broke her down; then a cold and a colic, and Pocahontas was dead—a good horse in the wrong place, a victim of circumstances.

Did a curse rest on the farm, that disaster, drouth, disease and death should be the fate of every effort and everything connected with it? It seemed as though some malign influence were at work to bring ruin upon every venture. There were other troubles too, that need not be dwelt upon here, because only remotely connected with the history of the farm; some financial distress, and the opposition growing out of the bitter political warfare which was waged everywhere in the South in the reconstruction days; when to be a northerner and a "radical" was to be subjected to complete social and political ostracism. This, however, seemed a small matter compared with financial failure, a prospect that was almost too bitter to be borne. There were times when Rollo felt sorely tempted to desert. It seemed to him that he was not only out of his element, but that the elements were against him. He was oppressed with the thought that perhaps he himself was the Jonah to whom was due all the disasters. He had begged for the experiment, and it had been made at his instance and request, and he had proved unequal to the task it imposed upon him. If it was he who had dragged the others down it was all the more reason why he should not desert. Mr. Holliday and James were devoting every effort to the maintenance of the farm, which seemed to be quite capable of absorbing anything that was put into it. Guard duty is never as pleasant as fighting at the front, but it was the post of duty, and there was no alternative but to accept it loyally.

JOHN TOBIAS.

Her Life.

She lived and labored midst the lowliest things,
Walked at my side and talked, and oft did fill
The gracious hours that friendly twilight brings,
With toil, naught questioning if good or ill
Were hers; and lullabies she crooned at eve,
Like poppies' breath falling down ten arly
On infant eyelids that gay sports would leave
To nestle close and sleep upon her knee.
Her life was colorless and commonplace,
Devoid of poetry—I thought it so,
For I was blind, and could not see the grace
That grew through common duties; now I know,
Since she is gone from me and all her cares,
I entertained an angel unawares.

—*Zitella Cocke, American Magazine.*

STANLEY THE EXPLORER.—Henry M. Stanley's real name is John Rowlands. Noah Brooks has written an article on Stanley for the February St. Nicholas, which will be illustrated with a new portrait of the explorer, maps, &c. Mr. Brooks says:

"Stanley was born in Wales, near the little town of Denbigh, and his parents were so poor that when he was about three years old he was sent to the poorhouse of St. Asaph to be brought up and educated. When he was thirteen years old, he was turned loose to take care of himself. Young though he was, he was ambitious and well-informed. As a lad, he taught school in the village of Mold, Flintshire, North Wales. Getting tired of this, he made his way to Liverpool, England, when he was about fourteen years of age, and there he shipped as cabin-boy on board a sailing vessel bound to New Orleans, in the promised land to which so many British-born youths ever turn their eyes. In New Orleans he fell in with a kindly merchant, a Mr. Stanley, who adopted him and gave him his name; for our young hero's real name was John Rowlands, and he was not Stanley until he became an American, as you see. Mr. Stanley died before Henry came of age, leaving no will, and the lad was again left to shift for himself. Young Stanley lived in New Orleans until 1861, when he was twenty-one years old, having been born in 1840. Then the great Civil War broke out, and Stanley went into the Confederate Army."

STRICTLY BUSINESS.—During the late war a young southern soldier, just before going into battle, called his servant to him and said, most solemnly: "Rod, I may be killed in this battle, and if I am, find my body, buy a coffin" (handing him his belt of money), "and take me home to my mother. You may have whatever money is left." The boy took the money, and looked up with a broad grin. "Mars. Raymond," said he, "how much you think dat *her* gwine to cost?"—*Harper's Magazine.*

FALSE SHAME OF YOUNG MEN.—Young men who come from the country to the town, and who get on in the world, are often ashamed of their parents, of the rustic dress they once wore, and of the simple but honest and kindly ways of their childhood. And too often when they assume the fashionable clothes and adopt the fashionable ways of their new friends, they leave behind them the religion of their childhood and forget the piety which they learned at a mother's knee. They have outgrown the priestly dress in which their mothers dedicated them to God, and think her religion old-fashioned and worn-out. This is false shame. It is a sin against the dearest and most sacred instincts of our nature. So far from being manly, it is mean and dastardly. Depend upon it, the man who will have most of the esteem of his fellow-creatures and of the favor of Heaven, will be he who keeps unchanged all through life the mantle of heavenly devotion with which his mother clothed him. He who makes the religion of his youth the habit of his life—his garment and way of acting all through—will come to honor, and will enjoy the proud blessing of consistency. His life will be a gracious verity, like that of Samuel; it will have one steadfast purpose running through it all. The outer life will be of one piece with the inner; one part will not reproach the other; and what he seems, that he ever is.—*Quiver.*

SEPARATE MUNICIPAL ELECTIONS.—There can be no improvement in our municipal government, no relief from the extravagant and oftentimes corrupt expenditures which make life in our cities so enormously expensive, until we bring the mass of the voters to the comprehension of two points; first, that it is playing into the hands of the men who make their living out of politics to allow national and State political considerations to enter into the choice of municipal officers; secondly, that the burden of taxation is not borne by the rich alone, but largely by the poor. The voters must think when they are deciding how they will vote, not as to what the effect of their ballot will be on a candidate for governor or president, but upon municipal taxation, schools, police, paving, lighting, street cleaning, sewerage, docks.—*Century.*

TICKETS, PLEASE!—The passenger-train conductor has in many respects the most difficult position in the railroad ranks. He should be a first-class freight conductor and polished gentleman to boot. But in his long apprenticeship on a freight train he has very likely been learning how not to fulfil the additional requirements of a passenger conductorship. He must now manage his train in a sort of automatic way, for he has his mind filled with the care of his passengers and the collection of tickets. He must be good at figures, keeping accounts, and handling money, though the freight-train service has given him no experience in this line. Year by year the clerical work connected with the taking up tickets and collecting of cash fares has been increased until now on many roads an expert bank clerk would be none too proficient for the duties imposed.

—*Scribner's Magazine.*

PREVENTION OF DISEASE.—The science and practice of medicine and surgery are undergoing a revolution of such magnitude and importance that its limits can hardly be conceived. Looking into the future in the light of recent discoveries, it does not seem impossible that a time may come when the cause of every infectious disease will be known; when all such diseases will be preventable or easily curable; when protection can be afforded against all diseases, such as scarlet fever, measles, yellow fever, whooping cough, etc., in which one attack secures immunity from subsequent contagion; when, in short, no constitutional disease will be incurable, and such scourges as epidemics will be unknown. These, indeed, may be but a part of what will follow discoveries in bacteriology. The higher the plane of actual knowledge, the more extended is the horizon. What has been accomplished within the past ten years as regards knowledge of the causes, prevention and treatment of disease, far transcends what would have been regarded, a quarter of a century ago, as the wildest and most impossible speculation.—*Forum.*

Domestic Economy.

A Practical Housekeeper.

When, as so often happens in this mutable world, a woman past her youth and "set in her ways," who is no longer capable of taking up a new calling, is suddenly thrown upon her own resources, with the hard necessity of self-support before her, how common it is to find her helplessly bewailing the insufficiency of her training in any one direction. It would be a curious contribution to social statistics could we learn, by any system of questioning, what proportion of the women actually engaged in supervising the homes and disposing the incomes of their husbands, are thorough, practical housekeepers, capable of earning their bread by this means.

Practical housekeeping is the one profession or employment for women which can never be over-crowded, and at its best, is there anything better for her to do? At present the incapacity of the many makes the opportunity of the few. I am satisfied that there is an excellent field here for fairly well paid employment which is little known. That large and growing class of the more wealthy or prosperous families of the community, in which money is freely spent in the house, often without a corresponding measure of comfort, would furnish remunerative employment and sheltered lives for a large number of thoroughly capable housekeepers. But, unfortunately, the lack of any proper standard, and the general indefiniteness in training, makes it almost impossible to secure, for a salary, the services of a housekeeper, at once desirable as an inmate and efficient in her work. If the alternative of an additional servant is often accepted, where the presence of young children, the delicate health, the social obligations, or the want of knowledge of domestic matters, unfit the wife for active supervision of her own housekeeping—the waste, friction and infinite annoyance with ignorant and unprincipled servants, drive a thousand families into hotels and boarding houses, break up the family peace, or drain the purse to the point of financial ruin.

In a very large number of these homes, a true woman, well trained in all the arts of domestic management, would be able to produce far better results at less cost, and might therefore make for herself a position of real usefulness and dignity, and do her share toward raising the standard of what is inevitably and distinctively woman's work in the community.

As one success seems to make other successes easier, I am tempted to speak of the work of a woman, thus thrown upon her own resources under very painful circumstances, who proved herself entirely equal to the situation.

When I first knew her, Mrs. Ward, her husband, several years older than herself, had just closed a very successful business career in the city, and retiring to the old homestead where he was born, in a beautiful New-England town, he was busying himself with large additions and improvements, buying land and building barns, and establishing all the various features of a generous country home. There were no children, but there were many relatives to share this prosperity; a cottage was built close by for a widowed sister who had daughters to educate; there were always nieces and cousins staying in the house; a nephew, supported at college since the death of his father, spent his vacations "with Aunt Anna," and employment of various kinds was found for half a score of men and women, old and young, who for some reason were not quite able to take care of themselves. Mrs. Ward was an admirable housekeeper; quiet, systematic, sensible; nothing escaped her attention, and notwithstanding the broad and somewhat irregular scale of expenditure, there was an evident eye to thrift and economy in all her arrangements. Hardly were the new buildings completed, the new grounds laid out, the new gardens planted, when the fortune upon which they depended was lost. A large investment proved insecure; in the hope of saving it greater and greater risks were taken, desperate anxiety led to desperate measures, and the end was a complete crash, in which Mr. Ward became entirely bankrupt, having also involved more than one of his friends in his fall. He was taken very ill in the city, where he had been making frantic efforts to avert this ruin; his wife went to him, and during her absence the house took fire—the home, with all its valuables, all its new conservatories, barns, outbuildings, everything, was swept away, and only a ruined chimney and a black, yawning cellar remained of that liberal, cheerful and beautiful home.

Softening of the brain set in and the husband was an utter wreck, mentally and physically; the wife, alas! was deserted even by those for whom she had done so much. The dependents who had flocked about them in wealth were indignant that the money was gone; they seemed to feel that such great misfortunes were very much the same thing as a great crime. Mrs. Ward found herself suddenly penniless and practically alone in the world.

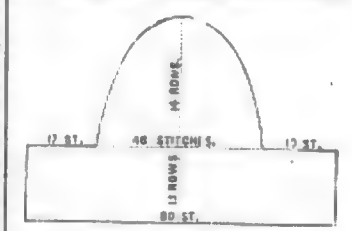
There was just one thing that she understood thoroughly, and that was keeping house. Without wasting any time in vain regrets, she took the first situation that offered, with acquaintances who had delighted in her hospitality in her own house, but who were not one whit less keen for their own interest in "a matter of business." There were five persons in the family—an infant and a very old man—the lady of the house was in delicate health, and wanted nursing and recreation, and there was only one servant, a stout girl in the kitchen. As Mrs. Ward stipulated for very fair pay, she undertook to do without a nurse for the child, doing with two pair of hands what would otherwise have required three, for her employer resigned the active charge which she had previously found a constant care and labor, with two servants.

How she kept up through that first year, while her husband lived, only those can understand who have worked under such a strain, but she did, and paid for her husband's care until death mercifully delivered him from suffering. She was so thoroughly efficient, so admirably intelligent and practical a housekeeper that the wages which were at first rather grudgingly paid were voluntarily raised, in the fear that she would be induced to take an easier position. This she did after her husband's death, finding a home in which she was as much loved for her personal qualities as she was prized for the conscientious and efficient service which she gave.

After four years of self-supporting and respected widowhood, she was again placed, by a second marriage, in a home of abundant wealth, but I am quite sure that in the two houses in which she hired as a paid housekeeper—both refined and well-kept homes—she was not only self-sustaining and able to help others, but she created a standard of thoroughness in housekeeping which will have a permanent influence, perpetuating itself, as all good work tends to do. DOROTHY.

Knitted Bed Sock.

I recommend to those troubled with cold feet on going to bed, socks made after the following description. A friend presented me with a pair made of cream-colored zephyr, and I have obtained the directions from her. The details appear lengthy and elaborate, but



will on trial be found simple. But the maker must understand double knitting. It is well to experiment with ten or twelve stitches:

Cast on ten stitches.

1st row—Knit across plain.

2d row—Slip the first stitch, knit the second, being careful to put the wool twice around the needle before drawing it through the stitch. * Bring the wool forward as if to purl, slip the next stitch off and put the wool in front of the stitch back to its place, knit the next stitch, putting the wool twice around the needle before pulling it through. Repeat from *.

3d row—Knit the first stitch. * Bring the wool forward and take off the long stitch, putting the wool down in front. Knit the short stitch, putting the wool twice around the needle. Repeat from *.

For the sock use medium sized needles of bone, wood or rubber. Cast on 80 stitches. Double knit for 12 rows.

14th row—Double knit 63, plain knit the rest.

15th row—Bind off the 17 plain knitted stitches, double knit 46, plain knit to the end.

16th row—Bind off the 17 plain stitches, and continue double knitting for 14 rows.

Now knit 1 plain-row and 1 purl row.

* Knit 1 stitch, knit 2 together, knit 6 plain stitches. Repeat from * to the end of row.

Purl 1 row.

* Knit 1 stitch, knit 2 together, knit 5 plain. Repeat from * to the end of the row.

Purl 1 row.

* Knit 1, knit 2 together, knit 5 plain. Repeat from * to end of the row.

Knit 1, knit 2 together, knit 4 plain; repeat until 13 stitches are left, and cast off, leaving a long thread.

Fold the work together (the cut represents it before being folded and sewn), and sew it up at the heel; gather a little in sewing at the toe. Finish the top with two or three rows of crocheting in star stitch and shell stitch, or any stitch that one may fancy. Run a piece of elastic between the knitting and crochet, and finish with a bow of ribbon.

This makes a peculiar-shaped sock, but it fits the foot well. LILLIAN MAYNE.

Roman Blanket, p. 17.—To "turn the wool in" is an ordinary term in knitting, the thread or wool being always cut in plain knitting. The suspender stitch described for Roman blanket on p. 337, thus—"turn the wool in and knit two stitches together"—does not decrease, because turning the wool in makes a stitch. In quantity of Germantown wool for blanket, it takes 1¼ lbs. of peacock, 6 oz. of red, 2 ozs. of dark brown, 2 ozs. each of light and medium brown, 1 oz. of pink, 1 oz. of old gold. A. H. A. *Baltimore, Md.*

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Kaynast, A E Riley, W M Sexton		
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Meenie 3d, F L Houghton, W Rankin		
Mi Abbe, S S M an & Son, W H Harrison		
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Tromp 8d, Lackawanna Breeders Asso, B Sparks		
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Virnie of Crapo, Fraser & Caldwell, G Teesdale		
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Yanoo Key, J S McKirop, J L Norris		
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Pietje V 2d, A Blaser, T Davidson		
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Polly Cover, H E Boardman, J C Hall		
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Rosalie Clifden, G W Foster, A M Cannon		
Rosabe 6th, O R Cole, A E Hall		
Shadeland Lena, H G Taylor, T M Nelson		
Silver Gloss, Silver Gloss 2d and Silver Gloss 3d, J B Collanger, E T Lamb		
Topsy of Eaaro, Dell & Wire, J H Dell		
Vke 2d, G O Witsoe, W R Te ssell		
Zuie, H E Boardman, J C Hall		
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* Continued from page 56.

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Count Albertson 2048, Whitcomb, C Walmsley		
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Daisy's Harry 2536, W Morrow & son, G V Green		
Hardy Boy 3th, Holly Grove Farm, G B Turrell		
Lizzie of Green Lane 21866, W Smith, M A Moseding		
Earl of Albany 2078, J H Walker, L T Hazen		
Jake Chestnut 2nd, I M Shannon, W H Sloan		
Kofee's Signal 2256, J L Thomas, J M Keen		
L'Allegretta's King 21559, W Gettys, O M Clark		
La Troy 21561, W Gettys, T S Randolph		
Lillian's Ashantee 21563, J Major, H M Anderson		
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Lord Harry Tecumseh Boy, W C Gavis, A G Gooch		
Niagara Prince 3419, G L Williams, Jr, H M Daly		
Nanon Lane 2d 21664, J H Walker, L T Hazen		
Passaic King 21637 and Rockwood Rioter 11411, J H Walsh, M Darside		
Signal Dungraven 23188, L M Felton, Baldwin & Murph		
Sir Lightfoot 21668, J H Walker, L T Hazen		
Sir Fyry 21262, J F Kennedy, J M M Wilson		
Spanish Peaks Pogis 23561, C E Hill, W S Weightman		
Sutliff's Pedro 14403, G H Grimsmell, J W Mocker		
Wyalusing 21269, W Carmalt, Mt Vernon Ladies' Association of the		
Yellow Baron 20902, S L Baker, W J T Long		
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Albert's Gem 20020, J H Potter, R A Potter		
Alfreston Lucy 2010, T S Cooper, A H Moore		
Allendale 20722, C W Hill, H F Thomas		
Alla of Valhalla 4865, C H Thompson, C W Henry		
Alphea Bouquet 22705, C W Sprague, I D Risher		
Alphea Bride 22707, Holly Grove Farm, G B Turrell		
Alphea May 22695, Mrs M G Ayers, N Robins		
Alphea's Diamond 22437, C W Sprague, I D Risher		
Amy Shotwell 20753, L M Felton, T W Brown		
Atticia 6th 22764, J C McCoy, G W Baldwin		
Beatrice Bridbank 4462, F von Kapff, A S Childs		
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Beeswax 2027, W J Webster, Maury Jersey Farm		
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Bonnieclitice 17208, J A Rumrill, S Gardner		
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Bettie Brown 2d 2d 20, T J Jones, W W Darrah		
Betty Jarvis 20015, H Hillmoon, W G Allen		
Bliss 23018, T S Cooper, A H Moore		
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Garfield Maid 23728, G P Lapham, Hemphill Farms		
Golda Campbell 23676, W A Mason, J A P Campbell		
Golden of Elmwood 23722, H Small, R Reynolds		
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Golden Violet 2d 23014, J P Rose, L F Mascher		
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Hannah Bradford 21433, B T Bennett, G S Geddis		
Harriet Neptune 23017, H Hillsley, G E Smith		
Harry's Blossom 20245, H Lippincott, A H Moore		
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Ida Hugo 21775, F O Lewis, P H Day		
Jane Neptune 23345, C E Rowley, O H Smith		
Jessie Prince 2d 27363, O H Taylor, J W Rhodes		
Jennie K 23023, G W Prentiss, A Klaus		
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Julia Walker 20183, C Brown & W J Webster, W J Webster		
Jane of Guilford 20302, G E Fox, S Merriman		
Jupo of Bingo Farm 20304, A E Higley, M T Ellis		
Kalmoah Pogis 23560, Mrs M O Ayers, N Robins		
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Laura's Nellie Pogis 23541, W Baker, J N Cole		
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Lily Coomassie 21202, H G Carrier, W H Robenson		
Lily Mahoning 2d 24156, S Shook, W Lyon		
Lucona 4456, Mrs O N Taylor, J F Rhodes		
Lizzie Dorman 20564, A S Williams, J O Couch		
Lizzie Lisette 21129, B W Collins, A J Coe		
Lordling's Water Lily 23130, I M Shannon, G W Marshall		
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Lounge 4th 23024, J W Myres, M Nurdge		
Maid of Hamberg 20023, J M Richmond, W A F Sutor		
Maseawippa 23001, K W Hazen, M C Hazen		
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Miss Pogo 23035, Holly Grove Farm, G B Turrell		
Miss Sanna Trask 4387, J L Thomas, J M Keen		
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WOULD TRADE small STOCK FARM in the West for Cattle Holsteins preferred, or would trade a half interest in a larger Stock Farm for Cattle and Mares, with a man adapted to run the same, and place on a paying basis. Address CHAS. P. DAMON, jan2 2t 911 N. Second St., St. Louis, Mo.

FOR SALE—One of the best FARMS in Ohio, 46 miles from Cleveland, 1504 acres. This is a BARGAIN. I mean business. For terms and particulars, address B. M. HAWES, jan2 12t Greenwich, Ct.

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A FARM of 150 acres in the town of Hyde Park, Duchess Co., N. Y., near Poughkeepsie City; also, a FARM of 336 acres in the town of Lagrange, two miles from Pleasant Valley, Duchess County, and a FRUIT FARM of 25 acres in Rockland County, four miles from Haverstraw, two miles from New City. For particulars, address WILKINSON & COSSUM, jan27 21 Market St., Poughkeepsie, N. Y.

TANGLEWOOD STOCK FARM FOR SALE,

For the Purpose of Closing an Estate.

This valuable Stock Farm is now offered for sale. It consists of 264 acres, is situated in Johnson County, Iowa, one of the finest stock-growing counties in the West, is one mile from Iowa City, the County Seat, and the home of the State University of Iowa.

Two hundred and four acres are under a high state of cultivation, principally tame grass and meadow, balance thrifty young timber. Living water on all parts of farm.

The entire farm under fence; all meadow or pasture lots enclosed by substantial four-board fence. Contains two good dwelling-houses, four large barns, with accommodations for 100 head of stock, ample grain cribs, cattle sheds and outbuildings. Good orchard, 5 acres bearing grapes, a large and valuable assortment of small fruits, shade and ornamental trees.

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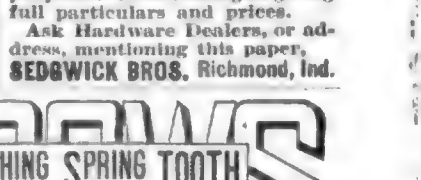

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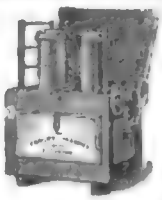

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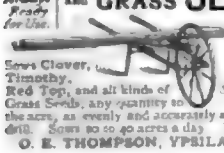

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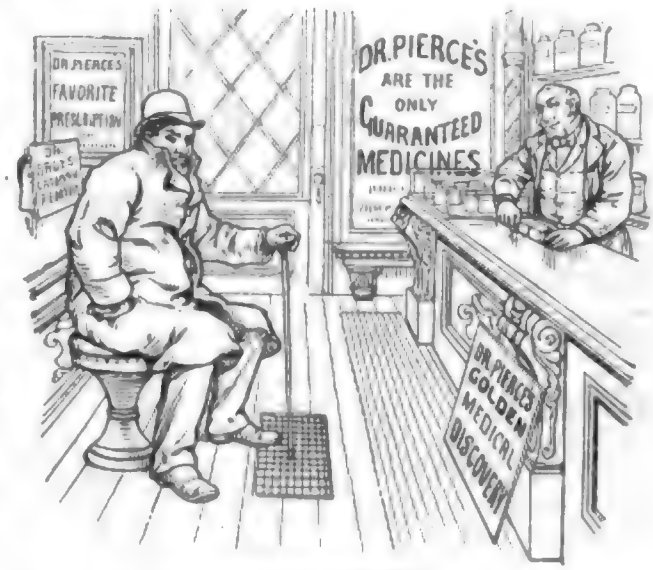

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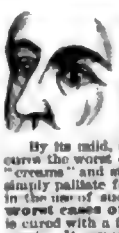

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COUNTRY GENTLEMAN

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Business Letters should be addressed to the Publication Office, 52 and 54 Hamilton St., Albany, N. Y.

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THE CULTIVATOR AND Country Gentleman

Albany, Jan. 24, 1889.

The Potato-Rot Fungus.

[Following is a pretty full abstract of the lecture on this important topic, delivered at the Albany meeting of the State Agricultural Society last week, by that eminent mycologist, Prof. CHARLES H. PECK, Botanist to the State of New-York.]

The first important attacks of this disease were between 1842 and 1847, both in this country and Europe, and in severity have hardly been equaled since. Botanists soon traced the cause to a minute parasitic fungus, the literature of which is now very extensive. It belongs to a bad family, the members inhabiting living plants and destroying them. One takes the onion; another, cabbages; another, lettuce; another, the grapevine. The potato-rot fungus is worst of all. It consists of two parts. One is vegetative, composed of minute creeping threads (*mycelium*), which permeate and destroy the tissues of the host plant, producing dark spots on leaves and stems and discoloring the tuber. The other part is reproductive, consisting of filaments which originate in the mycelium but grow out through the epidermis to the air, generally in tufts like mould, and bear spores at their tips. The spores are egg-shaped, colorless, minute as the finest dust, and readily blown over long distances, thus spreading the infection. This mode of spore-reproduction, together with certain swellings of the filaments, is peculiar to this fungus, which has therefore been removed from the genus *Peronospora*, and its name changed to *Phytophthora infestans*, "troublesome plant troubler."

Under favorable circumstances, a few hours will start the spores into growth, and (if in contact with living potato-plant tissue) enable them to re-begin destruction. If kept dry, they live for weeks; but frost kills them, and therefore spores of another kind are needed to renew the fungus after winter. These are called "resting," "winter" or "sexual" spores. They are produced in the mycelium, and liberated by the decay of the host plant. They are larger than the summer spores, brown and globular, and have been mistaken for another fungus.

Both summer and winter spores have two modes of germination. Each may produce a germinal tube, which, from a summer spore, may bore into leaf or tuber and develop mycelium, or from a winter spore, may develop into a filament producing summer spores. Or each spore may burst and discharge zoöspores—small bodies which move in water like ani malcules and will germinate in contact with potato-plant tissue, producing mycelium.

The winter spores, however, do not alone preserve the fungus through winter. Mycelium *in the tubers* may survive cold weather and start fresh the next season if these affected tubers are planted. Moist and hot weather greatly aids—hence the rot is far less prevalent in drouths. The fungus in this latitude seldom appears before August, and may be as late as September.

The preceding facts explain the occasional ruining of a whole field in a few days. All looks well till past mid summer, but here and there a few leaves have brown spots where the mycelium is at work, having originated in resting spores developed in leaves, stems or rotten tubers left near the field the previous season, and blown by the wind to the new leaves. August proves rainy and "muggy;" the mycelium grows with amazing rapidity, and sends out immense crops of summer spores, which lodge and germinate on all the foliage around, and the whole field is ruined in short order.

Sometimes only a few rotten potatoes are found in a crop. The sound tubers are stored in cellar or piled in field, and in a short time they too are found diseased. This may be due to three causes: 1. A tuber may be affected without showing it, the mycelium being in small quantity, or deep under the surface. 2. The potatoes may be affected at digging, being thrown on ground sprinkled with spores. 3. A few unnoticed diseased tubers may infect the whole pile.

Varieties of the potato differ greatly in their susceptibility to rot; none can be called proof against it, though possibly some such kind may ultimately be developed. Often the smaller tubers escape, while the larger perish.

As to remedies, we can hardly hope to stop the disease in a field where it has begun its ravages—the fungus is too well protected. What may be done to prevent or palliate?

One writer advocates hilling up, three inches or more, with sloping mound so that water will readily run off instead of passing into the ground and carrying the fungus spores. This, however, gives no protection against mycelium coming by way of the stems. Another proposes bending the tops to the side and stretching thick paper or canvas over in a sloping position, so as to shed the water. This too would be only a half-way measure, troublesome and expensive at that. Another advocates early varieties that may be harvested before the rot is due—which is objectionable as requiring digging at a very busy time, as it would not be safe to leave the tubers in the ground till fall if any late variety were anywhere near.

Here it may be remarked that late varieties should be dug as soon as mature, lest fall rains carry the fungus to them. They should not be piled in the field and tops thrown over them, for this may be to sprinkle on them a crop of spores, and the thick piles and warm, moist earth furnish the best conditions for the development of the trouble. Storing in a cool, dry cellar in bins with slatted bottoms raised from the floor, is better. Dusting freely with air-slaked lime would probably prevent infection, though it would not kill mycelium that might already be in the tuber. Heating the tubers to any 100° or 105° has been suggested, but can hardly be recommended.

In case of a light attack, pulling out all tops that have spotted leaves might be useful, if *everybody* would do it, *promptly* and *thoroughly*, but of course the tubers would not develop further, and you might as well dig them.

The selection of upland rather than lowland or of light soil instead of heavy, and the use of commercial fertilizers instead of fresh barn-yard manure, have been advised. But in a dry season, the lowland will yield much the larger and better crop—indeed in a *very* dry season the disease hardly appears in any location or any soil. A country with a moderately cool climate, a fertile porous soil and little or no rain, but susceptible of irrigation—Colorado, for instance—may laugh at the potato rot.

Can we possibly, not only protect the tubers to some extent, but either keep the fungus altogether out of our fields or prevent its getting a foothold there? Two plans have been proposed. One contemplates destroying the resting spores by burning or deeply burying all old tops and affected tubers, including seed tubers—it won't do to feed them (unless cooked), for the spores pass unharmed through animals and return to the field in the manure—or to throw them on compost or manure heaps. This plan was suggested ten years ago, and would have done a great deal if *everybody* had followed it, but plainly such has not been the case. Moreover at the time of potato harvest, the tops being mostly dead, many of the leaves have withered and been scattered by the wind, carrying resting-spores with them. The second plan consists in applying to the tops what is called "Bordeaux mixture," a watery solution of lime and sulphate of copper, which has been successfully employed against the downy mildew of the grape (*Peronospora viticola*), a fungus causing brown rot and closely related botanically to the potato-rot fungus. Bordeaux mixture is made thus: Dissolve four pounds of powdered sulphate of copper in 16 gallons of water; in another vessel slake 4 pounds of lime in 6 gallons of water. When the latter is cool, pour it slowly into the copper solution, stirring constantly. Make this some days before it is required. Stir well, and apply with small brooms or wisps of slender twigs, thoroughly spraying the leaves; or use a spraying pump. Make first application when plants are in bloom; second, a week or ten days later; and if weather favors development of rot, a third and perhaps a fourth should follow at about the same interval.

This plan seems to deserve confidence. It was successfully tried in France last summer; and it makes each grower comparatively independent of his negligent neighbor. Apparently the only weak point is that some spores may lodge on the ground over the tubers and be carried to them by heavy rains. This is however a comparatively slight danger, especially if some of the solution be sprinkled on the ground. Of course it is possible that if tubers containing living mycelium are planted, it may reach the young tubers through the growing stem—but in that case the injury would be confined to the single hill. With care not to plant diseased tubers, and faithful use of the Bordeaux mixture, it seems that we can banish the rot fungus from our potato fields, and so far as that is concerned, return to the good old days of our fathers. The plan certainly deserves careful and extended trial.

Protecting a Pump in Winter.

ED. COUNTRY GENTLEMAN.—Mr. T. B. Terry, in answer to my inquiry (p. 936), suggests a remedy which is entirely impracticable, and more so now than a short time since, for the reason that I have just built an ice-house on the west side of my dairy, over the pipe. I dug down about three feet, and have the floor of ice-house on a level or little above the top of milk tank in dairy so as to let the waste water from the ice run into and cool the water in which my milk is submerged in Cooley cans. My pump pit is four feet deep, with a fall of six or eight feet to well. Mr. Terry will see that the pipe is not much below the ice house floor, possibly a foot.

Another reason I cannot act upon his suggestion is that the pump is only two feet in height, and is set upon a box same height, which makes pump just four feet high from platform to top of pump. A man has to stoop a little to pump it now, and if it was two feet lower would have to have the platform lowered, or a chair to sit on while pumping. The depth of well is 18 feet, and the pipe extends to within a foot of bottom. My milk tank holds ten Cooley cans and over a hundred gallons of water. All the water used in the dairy, washing butter, dairy utensils and at the house for every purpose, is pumped; so you see the necessity of having a pump that will pump easily and at same time throw a good stream. Will have to do the best I can with what I have, and would like to have Mr. Terry say which of the pumps mentioned he would advise me to get, so that I can use the same pipe which is already in place. The pipe has a hole just below the cylinder which is open all winter. I am inclined to think that the trouble is with the pump. The water has never been out of pipe since it has been in use. C. F. K.

Unison, Va.

[*Answer by* Mr. TERRY.]

When advising C. F. K. to put his pump cylinder two feet lower, so as to be out of the way of frost, I did not of course mean that he should lower the pump above the platform any. In all pumps I have ever seen, that were built with a cylinder below, there was a pipe connecting pump above and cylinder below. I intended that he should lengthen this pipe two feet or so, not disturbing the pump above at all.

But it seems he cannot get at his long pipe that runs to the well to lower it so as to fit a cylinder two feet lower down. I am sorry, for if his cylinder freezes up and bursts every winter it certainly is not low enough down, and if he gets a new pump it will not help him as far as the freezing is concerned.

But he may be able to get a pump that will bring the water much easier. The Blount pump that I spoke of was as good a one as I ever saw. I do not know whether it is manufactured now or not. There are plenty of good ones. K. has evidently not got a large first-class force pump. Also he does not say why he cannot mulch on and around the platform, with something that will keep the frost out. A few inches of sawdust or clover hauhm would probably keep frost from getting down to his pump cylinder. In a building I should not think it would get down there any way, if the platform over the pump-pit was tight. I have seen water tanks standing right out in the open air, in the cold Northwest, that did not freeze to amount to anything. The water was surrounded with three inches of wood only. A *tight* two-inch platform over his pump-pit one would think would keep frost from going down to the cylinder of his pump. I remember that when my barn well was open, before we had any pump put in, the surface of water sometimes had a little ice on it. I was almost afraid my pump cylinder would freeze up at a depth of six feet; but the makers wrote me that if I covered the top tightly they would warrant it never to freeze at a depth of five feet. But they put it down to a depth of six feet, as I was afraid. I found when I came to cover the well entirely tight with two-inch plank that they were right.

Now I feel sure that between mulching and tight covering, K. can keep that cylinder from freezing this winter. He must remember that if the cover is somewhat open, cold will go down into the pit. If it is entirely tight the cylinder will not freeze unless the frost line in the earth gets nearly or quite down to the top of cylinder. He certainly can stop this by mulching in some way. My well is out in the open air. I have seen frost on the sides to a depth of four feet; but the cylinder, the top of which was five feet from the surface, has never had any ice in it.

The Earth Closet.

ED. COUNTRY GENTLEMAN.—I am very glad to see that Mr. Terry has taken up a subject in a late number of the COUNTRY GENTLEMAN, which has been greatly neglected by the community at large, and which deserves to be often urged upon the public. Bad drainage, impure water, and carelessly constructed earth closets are the cause of a great amount of bad health and sickness. More than fifty years ago, a leading physician of the city of London gave his opinion that four-fifths of the cases of typhoid fever were caused by foul drains, and the opinion has been corroborated by many physicians since. Carelessness in the construction and use of vaults all through the country is a fruitful cause of fevers and diphtheria, which instead of being ascribed to the real cause, is charged as the work of "a mysterious Providence." If Mr. Terry's plans for preventing the use of impure air and impure water were universally adopted, there is no question that much of the sickness which now prevails in the country at large, with its frequent and fatal terminations, would be avoided.

But I think Mr. Terry's closet arrangements are rather more costly and complex than they might be, and for this reason many farmers will be deterred from adopting them. I have used a mode now for forty years which I think possesses all his advantages, which costs less and is never out of order. I saw, eighteen years ago, at one of our colleges, a box for holding road dust and sifted ashes, precisely like his "muck-box" in shape and position, from which the discharge of the absorbent into the vault was effected by pulling a knob or button. But this contrivance was liable to get out of order, and the method which I have employed is simpler and cheaper, and the necessity of carrying the pails out for emptying is avoided. Besides the building, the entire cost of my arrangement has not been more than one dollar, instead of Mr. Terry's twenty-five dollars. It is simply the following:

The common small building, placed at a short distance from the dwelling, or connected directly with its rear, stands where the ground is slightly descending from its rear, so that access may be had to the vault once or twice a year by lifting up a closely fitting swing door, which is partly hid by shrubbery. In the common room over this, containing the seats, is a box, cask or barrel, containing the muck or road dust, with a long handled dipper. A conspicuous placard is placed in front of the visitor with the words, "Throw down a dipper of ashes every time, and shut down the cover." Properly instructed, every visitor will do it; but it is well for the owner to examine occasionally to see if enough is thrown down to absorb everything of a liquid nature. The vault must, of course, be well drained, and be so placed that no surface water can enter it. Then, with the case just mentioned, no drainage can pass from it. The whole expense, besides the building, is the box or barrel, standing in one corner, and the dipper, both not costing more than a dollar, unless the owner procures a smooth, handsomely painted barrel or box at greater expense. From this box a dipperful may be used in two or three seconds, and with about as little labor as to pull the button. The machinery is as simple as it can be, and can never get out of order.

There is an objection to the use of muck, in that it is rarely dry enough for its best effect. When taken from the muck swamp, it is nine-tenths water, and it is not easy to get rid of all this water. Road dust in a dry summer, being thinly spread over the surface of the road, loses most of its water; and coal ashes, after passing through the fire contains none. It is therefore very efficient in absorbing all liquids,

and keeping the vault dry. A mixture of road dust and sifted coal ashes answers well.

This arrangement prevents all odor, and the air in the closet is as pure as in a parlor. The vault being easily accessible at the rear by raising the swing door, is cleaned out twice a year by shoveling into a wagon or sled. Everything being dry and odorless, my men tell me they would as willingly shovel out the contents as to shovel sand.

A closet should never be situated where visitors would have to pass through snow-drifts in winter to reach it. If at a little distance from the dwelling, the path should be flanked on both sides and covered overhead with evergreen trees. But as no effluvium ever comes from it, it may with propriety be connected with the rear of the house. I greatly prefer this mode to a common water-closet for two reasons. It is not liable to get out of order by the freezing of the pipes; and there is no danger of contaminating water by the discharge.

This whole subject is one of great importance to the life and health of the people, and I have been glad to see it frequently alluded to in past volumes of the COUNTRY GENTLEMAN. I am surprised that Mr. Terry should not have seen these notices, nor have examined an article in the Illustrated Annual Register for 1879, where an improved form is described for nearly all that he so strongly recommends in his valuable article, in substance, in their details.

AN OLD READER.

From Northern Vermont.

EDS. COUNTRY GENTLEMAN—We commence the new year with very mild weather. Thus far there have been only a few days that were really cold. Occasionally a small fall of snow, to be soon succeeded by a thaw, so that sleighs have been of little use as yet. Farmers can do little but care for their live stock and get in readiness to improve the snow when enough comes to make comfortable sledding.

For some reason there seemed to be a surplus of live stock here the past season, and nearly every one had more or less to sell. But the prices for most kinds of cattle were very low, and it has been difficult to dispose of them. This has been the case with everything except two-year old heifers and young cows.

This leaves most farmers with a pretty good number on hand, which it is desirable to carry through the winter. It is to be hoped there will be no difficulty in doing this, as the hay crop was good and the grain fair, with the exception of corn.

Considerable hay has heretofore been taken out of the county, a practice that is not to be commended, certainly for the good of the farm. As excellent provender can be obtained for $20 per ton, it would seem there is little excuse for allowing stock to get poor or to confine animals to a ration of straw or inferior hay. A little fed to the cows now that are to commence to give milk in six or eight weeks, should be beneficial and pay well for the cost. We have been feeding oat straw solely for a few weeks, with addition of provender, and they have done well on this feed. The straw will soon be gone, and then it will be good hay for the rest of the season, with grain as they commence to give milk; perhaps a small quantity right along would be better.

Farmers here do not follow winter dairying, but some will commence quite early, in January or February. Perhaps it would be better if more butter were made in winter, as better price would be secured, but this would involve a change so radical that few as yet care to make the venture. Possibly it may come to that in a few years. We have a number of creameries in this county, mostly operated on the separator system. Whether this method of butter-making will be permanent remains to be seen; but it doubtless will last until something more promising can take its place. In one town, Berkshire, there are three cheese factories, two put in operation the past year.

We expect a rousing meeting of the State Dairymen's association at Burlington this month. The appropriation made by the Legislature will give new impetus to the organization, and in some way we trust will result in a much greater return, in real benefit to the farmers of the State.

The Board of Agriculture, well represented by men of ability, is on its annual round of the State. One or more meetings will be held in each county, and as the Legislature recognized the usefulness of this organization last fall with an increased appropriation for work and the printing of reports, the gentlemen of the board, six in number, are enabled to attend the principal part of the meetings, and thus make it more pleasant for themselves, and also for the farmers among whom they go.

Franklin County, Jan. 2. E. R. V.

From Southern Kansas.

EDS. COUNTRY GENTLEMAN—The past season in this part of Kansas has been on the whole a favorable one. Wheat was above an average crop, and very good in quality; average yield in Sumner and Harper counties about 25 bushels per acre, many fields making 40 bushels or over; oats were good, from 70 bushels per acre down; corn less than an average crop: in this locality 20 to 40 bushels, and quality not good; millet and sorghum good crops, and hay (prairie) fair. Wheat has dropped from $1 to 85c. for No. 3 soft; oats have stood at about 20c. for several months; corn has dropped from 25c. to 20c; good fat hogs sell at about 4½c. gross, and cattle from 4c. down, owing to quality. A large number of cattle are being fed in Sumner county. The Sumner County Cattle Company are feeding about 400 of their natives at their Fall Creek ranch in Bluff township; Lemuel Musgrove is feeding 1500 near South Haven; Singer & Son, near Freeport, Harper Co., are feeding some 600 Colorado steers and 200 of their own natives, and there are many other herds, large and small, which make a market for corn, oats, hay, straw and fodder.

These large feeding stations use up an immense quantity of feed during a winter's feeding. Singer & Son will use up about 40,000 bushels of corn for their cattle and usual accompaniment of hogs, nearly all of which is grown on their 3000-acre farm, besides the necessary "roughness" for their feeding steers and a large herd of "stock" cattle.

The winter months thus far have been exceedingly mild, and those who believe in winter plowing are turning over their land at a rapid rate. We saw the first flock of geese go North to-day; this, I think, is the earliest on record. They made their southern flight very early in the autumn and have not lingered here as in previous mild winters which have been generally wet, while now it is dry and pleasant.

Wheat, of which there is a large acreage sown, looks generally well. Some of the earliest sown has made a large growth and now looks very yellow; would be greatly improved by judicious pasturing. This is the centre of the noted soft winter-wheat belt of Southern Kansas. The chief varieties grown here are Early May and Fultz, with some Wilson, Gold Chaff and Gold Drop. Many farmers, on their 160-acre farms, have this year put half their land or more in wheat, and the prospect now is flattering for a good crop, but much depends on the character of the March and April weather, a cool, moist spring, here, is pretty certain to give a heavy crop of good grain, and a dry spring the reverse.

A new creamery is being built at Argonia, and will be run on the separator plan, by a joint stock company, composed mostly of farmers, and the stock is subscribed for one at Freeport on the same plan. Grave fears are now entertained that no ice will be procured this winter, and that manufactured ice will have to be got from Wichita. With a good market for butter in the western mountains, and with cheap grain and grass here, this is destined to become an important dairy country, and the want of creameries has long been felt by our most enterprising citizens. But the average grain-raising farmer will plod along with no ambition beyond the ability to drive a 3 or 4 horse team on a sulky plow, or steer a corn planter or wheat drill. FREE-FARMER.

Sumner County, Jan. 7.

Prospects of British Agriculture.

EDS. COUNTRY GENTLEMAN—All round there appear to be better hopes with respect to the future of British agriculture, and in newspapers and magazines, this is to be seen by the tone of the writers. One magazine has just published a review of "twenty years movements in agriculture" and says that, whatever individual opinion as to the appearance of this or that particular movement in agriculture may be, there cannot be any doubt that at the present time the difficulties which farmers have to contend against are exceptionally formidable, both in number and character; yet there is no reason for giving way to despair. Better times are in store for British agriculture. Its prospects are brightening already, present indications all tend to encourage and strengthen the hope, which one would fain call a belief, if not even a conviction, that the worst is behind us. It may be too soon, perhaps, to build high hopes upon the betokened improvement, yet the revival is sufficiently marked to impart a fresh stimulus to the enterprise of the farmer.

Meantime the farmer has a hard struggle to pay his way and make ends meet. At best, modern farming is a difficult and complex subject. More than ever, agriculture teems with technicalities and abounds in uncertainties; as of old, it is ever at the mercy of sun and wind. The farmer, as has been well said, is in partnership with nature, a partner with old world habits, full of freaks and surprises. Modern developments of science and commerce, as we have seen, have brought fresh difficulties into the way of the British farmer; and it is assuredly no easy matter to conduct farming in this country so as to yield profit. Upon the old easy going lines of half a century ago, it certainly cannot be made to pay, even the comparatively enlightened, methodical, and enterprising, if somewhat over confident, "high farming" of the "seventies" will not suffice to keep the mill wheel turning. Circumstances have altered, and farming customs must adapt themselves accordingly.

Already the depression in prices has considerably slackened the agricultural pace. A less active system of cropping than has been pursued formerly now obtains. Not only has a much larger extent of land gone into permanent pasture, but the diminished proportion which still continues within the domain of the plow is being worked in a different manner, at a slower pace, and upon less expensive and safer methods. To lessen the bills for labor and manure, the land is allowed to lie longer in grass. In sympathy with the decline of prices of wheat, the wheat area has contracted. Potatoes have maintained their ground, but turnips, which are both expensive and risky, are being curtailed in extent.

With the slackening of pace in tillage farming, there comes an increased activity in live-stock rearing, and in the allied interest of dairying. Thus the broad outlines of old well-tried systems, that perhaps to some extent outlived their day, are being gradually modified. Many changes in the details of farm work must be introduced. New contrivances for lessening outlays demand attention. There must be more perfect method in management, greater precision in practical work, and all through the spirit of thrift and economy must be paramount. S. S. *H——, Eng.*

The Cobleskill Institute.

Despite the almost continuous rain and mud on the first day, and the half-frozen mud on the second, the attendance was far above the average, and the interest all that could be expected—far greater than last year. The farmers apparently felt more at home, and took part in the discussions very freely. Those having this work in charge act wisely in selecting subjects for discussion in which farmers are particularly interested, in the locality where the institute is held. This was especially noticeable at Cobleskill.

W. H. Gilbert struck the key-note in his address on butter making, when he said: "The procession is moving on to a higher standard of excellence; are you ready to fall in line? This applies to every department of farming. The agricultural procession is moving on and we must keep pace with it, or fall behind. Remember, *only* superior excellence commands the best price in anything."

The following was the position taken by James Wood in his address on "Horse Breeding for Profit": Let there be, to illustrate, one hundred colts bred as trotters by an experienced breeder; the same number of coachers by one of equal experience, and so on of heavy draft. When all are sold, the breeder of the heavy draft will have far the most money. In breeding trotters and coachers there are too many blanks drawn, so few that are up to the high standard required in these classes, and when not up, they fall below the price of the heavy draft. Consequently many a farmer has been ruined by breeding trotting stock, expending time and energy to the neglect of everything else, expecting each year to draw the prize, but, alas, it never came. Of the great multitude of trotters that have been bred, how few there are whose names will go down in history, as of great and superior excellence! As farmers, we make our money too slowly to take our chances in this lottery. What we need is a reasonably sure and steady income.

The papers read by Mrs. Root and Mrs. Peck were more particularly addressed to the farmer's home and its surroundings, making these more beautiful and attractive. Surely there is a great field here for missionary effort. How few farmers' homes are up to the ideal standard in neat and tidy appearance! We are not advocating costly outlay of money, but a wiser improvement of the time that is spent at the village store or hotel, discussing our neighbor's business, or sitting at home dreamily looking into the fire. Let this time be applied to the cultivation of the mind, or to the keeping of a neat lawn and flower garden, and in no wise neglect the vegetable garden, and what a change would be wrought in this commonwealth.

The short address of Seth Feuner on potato culture, and the paper by A. R. Eastman on hop culture were both models of their kind. The points in hop culture were a thorough preparation of the soil, a careful selection of roots in starting a hop yard, and promptly doing all necessary work in season. The point made in regard to the keeping of seed potatoes in a cool place to prevent them from sprouting before planting, is one to which little attention has been paid in this locality. The idea has been that anything that would come up was good enough for seed. We have been careless in this respect, and have our reward in not over abundant crops.

We heartily welcome the farmers' institute to our village, believing it to be one of the greatest educators the farmers can have, and would recommend the holding of at least one in every county of the State as soon as practicable.

Schoharie County, N. Y., Jan 13. J. V. W.

The Indiana Society.

The Indiana State Agricultural Society met in Indianapolis, January 8. The president, JAMES N. DAVIDSON, said: "It is with pride we report 130,000,000 bushels as the corn crop of this State for 1878." In the conduct of the State fair he recommended smaller premiums, and said the "expert" or one judge has proved highly satisfactory. The aggregate debt of the board approximates $50,000. The last legislature would have made an appropriation to extinguish the debt except for the "deadlock." The farmers' institutes the past year had increased the interest in this work.

Governor Gray addressed the society, referring to his past experience on the farm and the primitive methods employed in the early days. He spoke of the sickle and flail, compared with improved machinery of the present, as only in keeping with the advance that has been achieved in other respects. He said he should recommend in his message that the legislature pass a law providing against the shipment of diseased animals into or through the State, with provisions for quarantining when necessary.

Mrs. Ida A. Harper read a paper on "Woman's Work." She said that forty years ago the only occupations open to women were housekeeping, sewing, teaching, type-setting, and factory work. Woman is now found laboring side by side with man in many of the vocations formerly supposed to be closed to her. "There are at present in this State about 80,000 women engaged in money-making industries, in Massachusetts 260,000, in New York 300,000, and in the United States over three millions."

The holding of farmers' institutes was discussed at length, and the following gentlemen were appointed to supervise the work for the coming year: R. M. Lockhart, Dr. J. H. Smart and Capt. J. R. Connor.

The following are the members-elect for two years from the districts named: Second district, W. W. Berry; Fifth, V. K. Officer; Sixth, Richard Jones; Seventh, E. H. Pead; Ninth, Thos. Nelson; Tenth, Jasper N. Davidson; Eleventh, Lloyd James; Twelfth, John M. Boggs; Thirteenth, B. F. Clemmons.

Aaron Jones addressed the society on "The Trades and Professions Connected with Agriculture." He urged that one of the most important undertakings for the State is to commence a great State drainage system. He showed, from the surveys, that the land that

would be reclaimed would equal one fourth of the present farming land of the State, used and unused. The system proposed is largely confined to the Kenkakee region, in the northern portion of the State. These lands being near Chicago, would become very valuable. Mr. Jones suggested that the State should compel a more just schedule of prices from railroads for the transportation of products within the State. He was cognizant of the fact that quite recently it had cost more to transport wheat a short distance in the State than to carry it to New-York.

A resolution was introduced, and supported unanimously, that the present legislature enact a law providing against the shipment of dressed beef into the State; that all beef offered for sale in the retail markets be required to have passed an inspection when alive and on foot. The effort of the Chicago beef monopolists to monopolize the entire meat trade of the country, and thus control the markets both of live and dressed meats, has an alarming aspect to the farmers, since the prices of live weight are to be lowered and the prices by retail probably advanced.

The following are the officers elected for the ensuing year: President, Jasper N. Davidson; vice president, W. A. Banks; secretary, Alex. Heron; treasurer, Sylvester Johnson; superintendent, Charles Merrifield.

In looking over the delegates assembled, it is easy to be seen that they were largely composed of broad-minded men—pioneers—bald-headed men. Many of them are in the sere and yellow leaf. There were not half a dozen young men in the audience. It is a sad feature. The great enterprises of the world appreciate the value of young men; they are put in charge of railroads, large manufacturing and commercial undertakings, but they are crowded out of the land here. Is it any wonder that the boys leave the farm—boys that have inspiration, that are ambitious? If some of the agricultural Jacobs would worship leaning on their staffs, and let their sons come to the front and take the helm, with one hand at least, we should hear less about "what shall we do with the boys?" J. J., W. B.

From Southwestern Michigan.

The anomalous temperature for the month still continues. Yesterday (Jan. 16th), it rained a little in the morning, and toward night, with the thermometer at 54°. In the early evening we had a thunder shower of a fifth of an inch of rain. The sky cleared soon after, and the moon shone with a blue-white, electric clearness, quite unusual I thought. There was a constantly falling barometer during the day—a premonition of the wind which is sweeping across the bare fields to-day, with the sun breaking through cumulous clouds, while the mercury has dropped to 26°, with no indications of going lower at present. Fields of wheat have not suffered from changes of temperature yet. It shows green and quite vigorous, and the whole plant has evidently strengthened since the season of winter set in. I am of the opinion that during an open winter like the present, or during any favorable occasion in winter, the root-force is spreading and permeating the soil, preparing for the first atmospheric condition that can induce a growth of the plant at the surface. That this root growth is not the constant and only office in spring is shown by the failure to make new roots readily, when they are broken by the lifting force of the frost during alternate freezing and thawing in early spring, while the lower stratum of earth is yet frozen solid. Wheat plants under such circumstances never recover by a succeeding growth, but are always puny and ill-conditioned, whatever the prosperity of the season to follow for other crops.

The tendency toward larger farms still continues. This enlargement is in the direction of some of the cheaper lands to add to the home farm, by way of an annex. In dry seasons like the last two, there arises the necessity for more pasture land to carry the farm stock, without feeding too closely the productive fields. Rough land bordering streams, or flat marsh lands are in request for such purposes. Many such pieces of land have been abandoned for farm purposes, as they were either too poor or unsuited from some other cause to be used exclusively for farming. Such lands have been held too high, but the owners are being compelled at last to realize on them, and they will be taken where they properly belong—to extend the area of pasture lands, and thus release more valuable fields to culture and grass.

The upland farming lands of Southwestern Michigan are not so natural for grass as damper ground, where clay is more dominant in the soil. Close pasturing is therefore hurtful to a greater degree than on more natural grass land. Clover and timothy grown bountifully in average seasons; corn is an easy crop to raise; wheat and oats yield reasonably well, so that there is a bountiful supply of winter feed for stock, if they can be kept growing on cheap land during the summer season. With 100 acres more or less, as circumstances require of this cheap land, within a reasonable distance of the home farm, it seems to fill out the requirement for mixed farming, which is rendered quite unprofitable where the stock for winter feeding must be kept on the farming lands proper.

A few farmers depend entirely upon the Chicago market to supply their stables and yards with feeders, but the margin is closer and a larger business must be done to make it profitable where help must be employed to care for them than is possible for the average farmer. A dozen steers and a hundred sheep are, perhaps, an average for the feeding capacity of the farms as they run, and these ought to be grown in the vicinity of the farms on which they are fed. If they could be, it would give an impetus to the breeding of better animals, help the farms by the increased manure, and keep the "pot boiling" the year round. Many farmers now simply keep their animals and themselves in existence through the six months of the feeding season, losing half their time in unprofitable employment. If the animals cannot be grown on lands belonging to the farm without endangering its fertility, then purchased animals become a necessity. Several car loads of Montana sheep are being fed here by farmers, and they are doing finely. They average about 100 lbs. on arrival, and will reach 130 lbs. or more in 90 days. Many more will be fed another season. An effort is being made, or rather a step taken, to bring them direct from the ranches to the farms without the intervention of Chicago yards and commission men. Some farmers have already shipped out finished wethers, and filled up the pens again with range sheep. The ideal system is to fill the sheep from Chicago to Buffalo, stop the car at the station and transfer the thin sheep to the farm and run in the fat ones, and send them on after the manner of floating wheat in transit. A. C. Glidden.

Van Buren County, Mich.

Inquiries and Answers.

Fertilizers for Lawns.—I should much like to have the experience of any of your subscribers who made use of fertilizers as top dressings for lawns. Are any of the commercial fertilizers more effective for this purpose than ground bone? P. B. J. *Harrison, N. Y.* [The effect of the various fertilizers is different on unlike soils and in different localities, and those should be applied to the lawns which have proved valuable to farm crops in the same neighborhoods, or which may have promoted the permanent growth of grass. Ground bone would doubtless be useful on almost any soil, and while it will not act speedily, its effect will be long continued. Others will produce a quick and more visible effect, which will sooner disappear.]

Seeding.—I have a sandy and gravelly ridge of land on my farm in Michigan which has a few scattering pines on it; the rest of the timber was mostly beech and hard maple. Clover and timothy will not grow on it—too dry. I had about two acres plowed last fall, intending to sow some alfalfa and some Johnson grass in spring as an experiment. Would you advise sowing alone or with a spring crop and should the seed be harrowed in? My object is to get a growth of some forage crop (1) Is there a kind of clover better adapted to such soils than alfalfa? I desire to increase the fertility of land. June grass makes a tolerably good turf, but fails in midsummer, and furnishes no hay or summer feed. (2) Would you advise a trial of Johnson grass, or is there something better? (3) W. O. P. *Lafayette, Ind.* [1. On your particular soil, the alfalfa or lucern will do best if sown with a light crop of barley. A common harrowing will bury most of the seed too deep to come up; it would be better, making the surface as even as practicable, to brush it in; or if quite mellow, rolling the surface will do, especially if rains follow. 2. It is probable that alfalfa will succeed best, provided there is a natural subsoil drainage. Among the grasses proper, orchard grass and red-top may answer well, but actual trial must be depended on. 3. Johnson grass may possibly succeed, but it would be well if attempted, to make only a small trial with it. Prof. Shelton of Kansas speaks of its utter worthlessness in that State, while Dr. Vasey says it has been tried in Kansas with promising results. It has not probably been tested in Michigan.]

Rendering Timber Durable.—When will be the best time for durability of hemlock shingles to cut the timber? Should the sap be taken off? And which is preferable, to dip them in linseed oil, or covering roof with coal tar, to preserve and make them equal pine? Has any reader of the Country Gentleman had experience in such roofs; also to applying tar to fence posts? One of my neighbors shingled and tarred his roof twelve years ago, and to-day the shingles appear as perfect as when laid. Where can tar be bought by the barrel? M. L. *Rowlette, Pa.* [The experiments which we have repeatedly made with the application of coal tar to shingles have always given unfavorable results. The black color causes them to heat and warp, and to crack in the sun's rays. The tar does not enter the pores of the wood like petroleum, and it ultimately cracks and scales off and blackens the rain water. But for posts which are set in the ground out of the reach of sunshine, it answers well if applied hot, or if the posts are coated with it by immersion in a heated vessel. Hemlock and other timber is always more durable if cut in summer when it can be most speedily seasoned. If cut in winter, and left some months in the log, a partial fermentation of the sap occurs and the texture and durability are injured. We have found by experiment that shingles are rendered much more durable by dipping them in crude petroleum, or into a thin wash of strong or fresh lime. The case of the neighbor referred to by our correspondent must have had some peculiar and unexplained conditions in the application of the tar rendering it exceptionally successful.]

Lime.—What benefit would be derived from dressing in the spring a meadow or a field sown to wheat with about 20 bbls. of slacked lime to the acre, or about 50 bushels of the same? The land is a sandy loam, mostly a raw gray sand. Last summer I had a piece of turnips of which half the piece received a dressing as above. The result was a very satisfactory one. E. C. M. S. *Schoharie, N. Y.* [Soils differ in the amount of benefit derived from a dressing of lime, the value of which is to be determined by actual trial. We infer from your statement that the use of lime on a part of your turnip crop was "very satisfactory," that it was materially increased and benefited by it; and from the result of this trial it is possible that it will be equally useful to the wheat and grass mentioned. It will be important that the lime be well pulverized, so as to be finely and evenly spread, and not left in lumps.]

Poplar Timber—Turnips—Architecture.—How will a fence last, compared with other plank fences, made from poplar inch-plank, nailed straight up and down, and painted with petroleum? And would poplar do for scantling? (1) Are turnips good feed for horses or cows, and how much would be safe to feed? (2) Please advise me as to a good book on architecture for young and inexperienced. (3) E. M. M. *Charlottesville, Va.* [1. There are many species of poplar, with much similarity in the character of their timber. The best is the white poplar or *abele*, exceeding the others in fineness of texture and strength, and it is fairly durable when kept dry. The cottonwood (*Populus monilifera*) is very liable to rot, and hard to split, which is a strong objection to it. Most of the other species are not liable to warp. The common and the large aspen are often sawed into boards and timber, and when cut and peeled about midsummer, will last as rails twelve or fifteen years after this rapid seasoning; but cut at other times, with the bark on, and seasoned slowly, it soon decays. If any of the species are used for fencing, they should be liberally treated with crude petroleum, which will copiously penetrate the wood when dry, and render it durable. The application should be repeated every eight or ten years. 2. Turnips are good for horses and cows, if fed in moderate quantities with dry fodder. Begin with moderate quantities, and increase gradually to a peck at a feeding, or going even to a half bushel for large animals, if there is plenty of dry food besides, and the animals appear to do well. 3. A large number of books on the different departments of architecture are in market, but for a beginner, probably Gould's Assistant ($3 50) will answer well, to which Burn's Drawing Book for Students may be added, and Burn's Architectural Design, each $1.]

Stumps.—I desire during the coming year to clear a piece of land I own, of trees. Is there a satisfactory stump puller? A machine that will cheaply and effectually remove stumps which measure two feet and under across the face, would be of great service to me. R. W. C. *Bowling Green, Ky.* [We know of no efficient stump-pulling machine offered for sale in market, and the best one we can recommend is figured and described on page 596 of the Country Gentleman (Aug. 4) for 1867. A good mechanic may construct one. Small trees may be drawn out or tipped over, by hitching a team by means of a very long rope to the top of the tree, which thus gives long leverage—many times greater than hitching to a short stump.]

Seeding without Plowing.—Can you give me any experience on dragging and sowing clover seed on meadows where the clover had run out or did not take well, which I did not wish to plow, but to have seeded to clover? D. C. *New-York.* [If you can give a fine mellow surface to the soil by repeatedly harrowing with any kind of sharp tooth harrow, as soon as it is in a suitable condition for being finely pulverized, the clover seed may be sown in it and brushed or rolled in, so as not to cover the seed more than an inch deep. A sufficient amount of moisture from rains will soon bring up the young clover plants, and give you a good crop the same season.]

Butter—Hay Press.—What book would you recommend for one who wishes to master the art of butter making? Will readers who have practical knowledge of the comparative merits of the different hay presses, advise which is the most satisfactory? R. [Stewarts Dairyman's Manual is on the whole the best book for our correspondent, though Flint's Milch Cows (new edition) would also be of value. Price of either, $2; order through this office.]

Weight of Ensilage.—I am going to build a silo the coming season, and wish you would let me know how much ensilage weighs to the square foot. W. H. F. [Our correspondent means *cubic* foot, no doubt. The weight ranges all the way from 20 to 50 lbs.—say 35 to 45 in ordinary cases, when well settled.]

Level Culture.—About two, or possibly three, years ago you published an article on "Level Cultivation." Can you refer me to the volume and number? O. H. T. *Smyrna, Del.* [Not without a fuller description of the article wanted—we have published so many that might be thus referred to.]

Ration for Milk—Growing Young Stock.—Please give ration for the following Jerseys—Cow 8 years old, calved in July; cow 3 years old, calved in June; heifer, 16 months; bull calf, 1 year; bull calf, 10 months, heifer, 5 months—especially the four youngest, as I want size, bone and muscle. Have good timothy hay, ground oats, bran, oil meal, cotton-seed meal and ground linseed; also mangolds, carrots and turnip beets. Can get corn meal if necessary. H. J. H. *Alexandria Bay, N. Y.* [C. J. H. will find a ration to feed his two Jersey cows on page 397, Nov. 29, in answer to N. B. M.. But as H.'s hay is timothy instead of clover, let his ration be as follows: 12 lbs. cut timothy hay, 10 lbs. pulped mangels or carrots, to be mixed with the hay, 3 lbs. corn meal, 7 lbs. wheat bran, 2 lbs. linseed meal, mixing according to the directions given. But no oil meal should be given for three months before calving, and during that time the corn meal should be omitted, feeding only hay and bran. His heifers and his bull calves should be fed with special reference to developing the muscle and frame. He may make a ration as follows: 8 lbs. cut hay, 8 lbs. pulped mangels or carrots, to be mixed with the hay; 2 lbs. ground oats, 3 lbs. wheat bran, 1 lb. oil meal. Let the cut hay be moistened, and the other feed thoroughly mixed with it. This is a combination of food, but not a ration per head, and

it is appropriate for all these calves, and will grow them in fine proportions. Let them be fed two or three times per day what they will readily eat and digest of this food. Some need more than others. But it is all well adapted to the purpose that H. has in view. The pulped roots will keep their digestive organs in healthful condition; the bran and oil meal will give an even development, and are as well adapted to develop the heifers as breeders, as the bull calves as sires, but will not lay on fat—only round out the frame. E. W. S.]

Parents' Influence.—I have a book on heredity by Alexander Walker, in which the organs of the body are grouped under three classes—locomotive, vital and mental. The contention of the author is that one parent communicates the anterior mental organs, and all the vital organs; and the other parent the posterior mental organs and all the locomotive. According to this, in the matter of cattle-breeding, for example, the parent that gives the general shape to the progeny does not give the milking qualities. A heifer, the result of a cross between a thoroughbred bull, Short-Horn bred for beef, and a good milker of native stock, if she followed the general shape and character of her sire, would partake of the milking qualities of the dam. Has this fact (if it is a fact) been generally observed? If so, it would go far to strengthen my belief in the rules which the author lays down in the chapters regarding the breeding of cattle and horses. J. F. *Cushing, P. Q.*

Clydesdales.—Will you give me the address of the Clydesdale Horse Breeders' Association? W. J. T. [Col. Chas. F. Mills, Springfield, Ill., is secretary.]

Poultry Book.—Kindly give me the best book on poultry raising and incubators combined. J. S. S. [Beale, $1.50. Order through this office.]

Freemartins.—A cow has dropped two calves, twins, bull and heifer; will the heifer calf ever breed? (1) Do you know of any instance where a freemartin ever did breed? (2) S. S. [1. Probably not. 2. Yes, a number of them, but they are rare exceptions nevertheless.]

Highest Priced Cow.—What was the largest price ever paid for a cow in New-York State (1), and who bought her (2)? O. A. C. [1. $35,000, for Short-Horn 10th Duchess of Geneva. 2. The Earl of Bective.]

Cream Increased--New Trial.—I desire to express thanks for ratios Dec. 6, p. 915, and to say that the quantity of cream now indicated by the glass is from 18 to 20 per cent. We have been selling milk, and it is quantity of cream that the dealers especially look to. We are preparing to make butter within a few weeks, and if the ration given can be improved for that purpose, we should be glad to know it so as to prepare our cows for the change. We have clear clover hay, red-top or herds grass, dry fodder, oats, corn, cottonseed meal and linseed meal. W. S. O. *Clifton, Va.* [The ration given O. on page 915 is a very good butter ration for large cows, but as he mentions linseed meal it would, no doubt, be well to add that to the variety of food. O. must always remember that it is a great advantage to have a variety of foods, and the greater the variety the better. But there will be a still further advantage in adding linseed meal, as it is laxative and will offset the opposite effect of the cottonseed meal. It is not probable that a much larger amount of fodder would be beneficial. Still, it would improve the ration to add one or two pounds to the clover hay, and his reformed ration may be made up as follows: 18 lbs. corn fodder, 7 lbs. clover and timothy, 7 lbs. ground corn, rye and oats, 6 lbs. fine wheat bran, 2 lbs. cottonseed meal, 2 lbs. linseed meal. This ration will not probably be too large for his very large cows, and especially for those that give a large quantity of milk. He will find that the quality of the milk will more and more improve in richness the longer he feeds, and if he fully carries out the experiment and tests his cows separately, some of them will astonish him in amount of butter they will make, although that breed is celebrated mostly for quantity of milk, yet they are capable of great improvement in per cent. of fat. From long continued experiments to that end, I have found it easier to improve the quality of milk than to increase the quantity above the normal yield of the cow, especially after a cow has become developed as a milker. O. should test each of his cows for butter by setting the milk of each cow separately for one week at least. This is absolutely necessary in order to determine the individual value of his cows. But he must not suppose that after his cows have been fed upon the best ration for two or three months that he has reached the limit of improvement. The improvement will go on gradually for several years before the limit of the best cow is reached. If O. will report after a few months the effect of the ration, I shall be glad to make further suggestions. E. W. S.]

Cost of Milk--Peanut Hulls.—I have four imported Holstein cows all dry that will calve March and April; also seven natives and grades which are in milk. I have just started a milk dairy with no former experience, and would thank you to form me a ration (milk selling at 25c. per gallon) from the following: Baled hay, timothy and clover, $20 per ton; wheat bran, $20; cottonseed meal, $25; corn meal, 60c. per bush. Cows get black peas occasionally at 75c. to 85c. per bush. I have a cutter and will get a boiler for steaming if you think it best; am in the city and have only about two acres, consequently will have to buy all my feed. Can I produce milk at a profit at above prices for feed? Is there any feeding value in peanut hulls? W. T. S. *Norfolk, Va.* [1. W. T. S. pays an average high price for feed, but he also gets a high price for milk, and if this feed is fed judiciously to well selected cows, there can be no reasonable doubt that it will pay. But S. will require to look very closely to the manner of feeding these cows. Regularity of feeding and milking is necessary to success. S. must supervise his helpers. 2. As a test, we will construct the following ration: 10 lbs. cut timothy and clover hay, 6 lbs. corn meal, 6 lbs. wheat bran, 3 lbs. cottonseed meal—for his natives and grades. In analytical formula it shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
10 lbs. clover & timothy hay,	0.55	4.60	0.12
6 lbs. corn meal.....	0.60	5.28	0.26
6 lbs. wheat bran.....	0.70	2.71	0.15
3 lbs. cottonseed meal	1.60	0.65	0.39
Total.....	3.15	11.24	0.72

This has a nutritive ratio of 1 to 4.7, and costs 25.75 cents. This fed to good native and grade cows would produce at least 3 gallons of milk per day, which would bring 75 cents, showing a margin for labor and profit of 49 cents per head per day. 3. The ration for his Holsteins before calving should be 15 lbs. cut hay, mixed with 10 lbs. bran. After getting over calving the ration for these Holsteins should be 18 lbs. cut hay, 6 lbs. corn meal, 6 lbs. bran, 3 lbs. cottonseed meal, costing 33 cents per day, and should produce from 4 to 5 gallons of milk per day, say an average of 4½ gallons, selling for $1.12—leaving a good margin for labor and profit. 4. There has been no analysis, so far as I know, of peanut hulls, but judging by comparison with other oil bearing seeds these hulls probably contain an amount of albuminoids, carbo hydrates and oil which would make them worth, as fodder, about the same, and perhaps a little more than oat straw. This waste must be very easily ground, thus rendered fine to mix with other coarse fodder. If S. will send me a sample which shall be of average quality, I will try and have an analysis made of this refuse. And let him state, when sending the sample, in how large quantities it can be found. 5. As to cooking his food for cows—cooking is beneficial, but would cost more than the advantage to be gained with so small a number of cows. It must be understood that the rations above compounded are to be thoroughly mixed together, according to instructions as often given. E. W. S.]

Dairy Books.—Where can I get Arnold's book on dairying? A. C. C. [It is not in market. Better send us $3 for Stewart's Dairyman's Manual.]

Weather, Crops and Prices.

Meteorology for Jan. 13-19.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week..			30.60 inches
Lowest	do.	do.	.....	29.56 do.
Mean	do.	do.	.....	30.19 do
Highest temperature	do.	do.	.....	62°
Lowest	do.	do.	.....	18°
Mean	do.	do.	.....	39°

Five fair days; two cloudy. One day on which rain or snow fell; total precipitation, 0.03 inch. Prevailing wind, S.; maximum velocity 30 miles per hour, S. E., on the 16th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	13th	14th	15th	16th	17th	18th	19th
Day.....	13th	14th	15th	16th	17th	18th	19th
This year...	28°	24°	28°	34°	47°	34°	10°
Normal....	28°	28°	17°	17°	28°	28°	28°

Total excess for the week, 46°.

New-York—*Leyden, Lewis Co., Jan. 12.*—The winter is uncommonly open here to date. Wagoning has been good most of the time. Enough snow has now fallen for sleighing. Farmers can economize in stock fodder; but it makes little difference where their barns are warm, and they take good care of their stock, not leaving them out in the storm and cold. It has also been a good winter for teamsters. In the northern part of this county farmers have sold some of their stock, but they keep about their full number in the southern part. Some of them are feeding grain to lengthen out their stock of hay. Some are getting into winter dairying, which, it is said, is more profitable than summer dairying. Hay is worth from $12@13 per ton; straw, $6@8; meal, new, $19; old, $21; bran, $16@20. O. C. T.

Rhode Island—*Providence, Jan. 17.*—Remarkable weather; we have plowed nearly every day in January. To-day is warm and rainy, with prospect for plowing to-morrow. W. H. B.

Connecticut—*West Winsted, Jan. 19.*—We had about two inches of rainfall, 17th, which washed the roads badly in places, there being no little frost in the ground. To day is fair, but windy and cooler. Mercury 30° this morning. W. H. C.

New-Jersey—*Vineland, Cumberland Co., Jan. 17.*—December was a good month for farmers' work, though the thermometer got down into the twenties. For a few days it was generally mild and pleasant, and had no snow to date; four rainy days last month, three in this. Weather lately from 40° to 56°, and to-day a fine sample of April showers. A leading New-York paper attributes our warm fall and winter to the liberation of caloric by the freezing of extreme northern seas, but a letter from Gen. Greley of the Signal Service to the Vineland Hist. Society, says "it is not true that the warm days of fall are caused by the evolution of caloric by the freezing of the northern seas. Our warm, open winters result from abnormal distribution of atmospheric pressure, and the mean latitude in which the storm tracks of that season travel." It would be a great benefit to know the natural causes of open, warm winters. Can the COUNTRY GENTLEMAN help to a solution of this question? Northern apples, $3 per bbl; good butter retails at 30c. per lb.; eggs, 20c. per doz.; sweet potatoes, 90c. per bu.; coal delivered at $5.25 per ton. Dealers have been retailing kerosene at 10@12c. per gallon, which inspectors have pronounced below grade, with one exception, who still sells a high grade at low prices, but generally stands at 11 and 15 cents per gallon. C. R. V.

Virginia—*Surry County, Jan. 11.*—The winter, up to the present date, has been exceptionally mild and clear; no snow, only a moderate quantity of rain; few days that plowing could not have been done. Some farmers have made good progress in this direction, where there was sod and turfy land, or new ground that needs repeated working to get in order. We are almost ready to plant garden peas, kale, lettuce and other hardy things. A backward spring is feared, however. The lowest thermometer was 24°, and this only once. There has been no extremely cold weather yet. We can find flowers in bloom any day. Corn, 70@80c. per bu.; bacon, 12½c. per lb.; lard, 10c.; eggs, 20c. per doz.; peanuts, 6½c per lb.; fodder, $1.25 per cwt.; shingles, cypress, $4 per M.; lumber, log through, $10; wool, 25c. per lb., and scarce. The occupations of the month are, cutting fire wood (which we can do any day), mauling fence rails and hauling them, plowing, hauling manure, mending fences, hunting and loading—the last two items by no means small ones. Many neglect their proper work till the season forces them to the field; yet there is a good degree of prosperity here, if not much visible improvement. A. W. J.

Ohio—*Irondale, Jefferson Co., Jan. 17.*—Weather continues remarkably mild—no frost in the ground—with considerable rain. Live stock of all kinds are doing well, and while it was feared there would be a scarcity of feed, it now looks as though there would be enough, and to spare. Apples have kept in the orchard under a light covering of straw, and those put in the cellars are doing well. There are a great many apples and potatoes put away, with prospects that prices will be no better in spring than they were last fall. Dogs are killing many sheep, and some small flocks have been almost destroyed. There is a tax of $1 in this State on all dogs listed, but the revenue derived from it does not pay for the sheep killed in this county. Potters have a harvest of it, as they generally buy them low, and it is astonishing the number that are handled. Wheat is holding its own so far. Clover on clay ground has been thrown out a good deal. M. H. B.

Mechanicsburg, Champaign Co., Jan. 17.—Over an inch of rain yesterday, with wind at night. Streams high; mercury 54°. To-day cloudy, mercury 49°; wind westerly, with indications of fair and frosty weather. Eggs, 16c. per doz.; butter, 16c per lb. Several assignments. Health of county quite good. S. W.

Indiana—*Greencastle, Putnam Co., Jan. 13.*—Our California climate took its departure on the 9th, which proved, so far, to be the sternest, coldest day of the winter. Snow began falling at daylight, with heavy wind; about three inches fell, and drifted badly. This was the worst blizzard we have had for a long time, but no damage was done to persons or property—in fact the snow will be a blessing to the wheat, which was needing it badly. To day is bright and warm. T. C. O.

Illinois—*Champaign County, Jan. 14.*—Two inches of snow this morning, lying where it fell, but the roads so rough there is no excuse even for getting sleighs out for the first time. No fall in temperature below 8°, after the low barometer and storm of the 9th. This morning the aneroid needle stands over 30 40, and the temperature is only a trifle below freezing here, though 400 or 500 miles north, no doubt severe cold prevails. Except the gale and the snow on the 9th, there has been no rain or snow hard on live stock this winter. The corn stubbles are so many, and the weather so favorable for feeding, "roughness" and grazing, that the surplus of machinable timothy hay is certain to be considerably in excess of former years. The price, from $7.50@8.50 per ton, is fully fifty per cent. in advance of the last ten years, and is sure to lead to the extension of the area of meadows, and to the rapid impoverishment of the land. *Jan. 17.*—Barometer yesterday down to 29.60, thermometer 30°, with clouds, a few drops of rain, and a gale from the south. Sun came out in the afternoon, and between 4 and 5 o'clock a thunder storm west, and heavy rain in region of Decatur and Bloomington. Cool and clear this morning, but no colder than 24°. B. F. J.

Quincy, Adams Co., Jan. 17.—Up to present time this has been one of the mildest winters known in this section for years. Early this morning the mercury stood at 48°, and has not been below 8°, and that only one morning. No peaches have been grown here since summer of 1881 on account of severity of winters since that date; but now have a fair prospect for a crop the coming season where there are trees, as all old ones are dead and but few new ones set out. Prospect for ice crop very poor, none having been stored yet this season. Winter wheat looking well. L. P. W.

Wisconsin—*Janesville, Rock Co., Jan. 15.*—Sleighing now quite good, and very much needed. None of our marshes have been in a condition to allow teams to draw hay, &c. Now they are all right, though the cold is not by any means intense. Last Friday, 11th, was the coldest day by 13° of any other this season—it was 8° below at 5 P. M., 3° above at 9 P. M. and 12° above at 12 P. M., and has not been lower since then. Yesterday and to day the wind is due south, and the mercury marks 32° above; looks now much like rain or snow. Business is now rather lagging from some cause or other. Health not flattering just now: many fatal pneumonic cases and diphtheritic sufferers among the adults; croup and scarlet fever among children. Wheat, 90@95c. per bu.; barley, 44@54c.; corn, 35@37c.; oats, 25@27c; rye, 60c; buckwheat, 60c.; hay, $4@8 50 per ton; apples, $1.75@2 25 per bbl.; butter, 18@20c. per lb.; eggs, 30c. per doz.; tobacco, 8c., 5½c., 6½@14½c. per lb.; broomcorn low. W. H.

Dakota—*Valley Spring, Minnehaha Co., Jan. 12.*—Fall and winter up to the last two weeks has been almost an uninterrupted stretch of dry, sunny, comfortable weather. No snow, little wind, and the finest wheeling on earth. Wagon tires, and all vehicles, last much longer here than at the East. Dec. 23d a nice rain fell, ending with freeze-up on the 24th, which made it hazardous for barefooted horses to move, as well as unrubbered pedestrians. Trees, twigs, tall grasses, and all shrubbery, assumed the most beautiful crystal-like appearance that the writer ever saw, and retaining the same brilliancy for over a week. Then came three inches of snow came, and gave no delightful sleighing. Down to date the mercury has ranged near zero for a few days, but not unpleasant for winter business. People are well, eat heartily, and are happy. Wheat jumped up in the fall so rapidly from 80c. to $1.12 per bu., that it nearly unsettled our senses. Now, with prices at about 85c., and the millers advising farmers to "hold on" till May, it leaves us in a "great" quandary, whether to "hold" and borrow money to pay our taxes, or sell now and pay as we go—the farmer's yearly dilemma. Markets here: Fat cattle, dry cows, $2 per cwt.; steers, $2.50@2 75; hogs, $4 50; sheep, $3@3 50; wheat, 85c. per bu.; corn, 25c.; oats, 25c.; rye, 40c.; flax, $1 60; timothy seed, $1 10; potatoes, 50c.; hay, prairie, $3 per ton; butter, 20c. per lb, and generally not good for want of skill in the manufacture. Very few people know really "gilt-edge" goods in this country. A first-class creamery here closed last summer for want of patronage. J. D.

Iowa—*Jewell Junction, Hamilton Co., Jan. 14.*—No zero weather yet. Corn is cheap, selling at railroad station for 10c. per bu.; oats, 15c.; potatoes, 25c.; onions, 60c.; butter, 15c. per lb.; eggs, 16c. per doz.; fat cattle, best, $3@3 50 per cwt.; hogs, best, $4.30; hay, $3.50@5 per ton; an abundance of rough feed, and live stock is looking well. Fat hogs scarce, and about the usual number of cattle being fed. Very many of the poorer grade of cows sold off the grass, and some being fed corn to fatten them, but with the intention of stocking up with better stock. S. S. T.

Horticultural Department.

Editorial Notes and Comments.

SELECT PEARS.—A correspondent wishes to set out a small pear garden, and asks for a select list of a few for a succession, more particularly of such varieties as are uniformly good and can be depended on every year. In answer we name as earliest the small Summer Doyenné, a good grower and great bearer, but not of the highest quality, its merit being its earliness, ripening with the wheat harvest. If the crop is thinned early in the season, the pears will be larger, handsomer and better in quality. One or two trees will be enough. Next to this is Giffard, an excellent pear, but the tree being a slender and crooked grower, it is but little raised by nurserymen. It should be worked standard height on some straight and vigorous stock. Then follows the Tyson, slow in coming into bearing, and afterwards bearing too heavily and requiring thinning. Clapp's Favorite ripens between Tyson and Bartlett, a good-sized handsome pear, hardly first quality, and being liable to rot at the core should be gathered a week before softening. This quality is probably the chief reason that it has rather declined in popularity of late years for market. The Bartlett, the most popular of all pears, immediately follows, and ripens at the North early in September, and is always good and never rots at the core. Then comes the well known Seckel, the handsome and vigorous Boussock, the valuable and productive Howell, the delicious Sheldon (when well grown), the unexcelled Bosc, the uniformly excellent Anjou, the reliable Lawrence, and the Josephine de Malines which ripens at midwinter. The season of these later ones will vary in ripening a month or two, with the mode of keeping. For dwarfs, the Louise and the Angoulême will not be omitted.

MANURING AND MULCHING STRAWBERRIES.—Another inquirer, who neglected to manure and cover his strawberries in autumn, asks if the neglect cannot be still remedied? Answer—in most cases it may be, but the treatment and success will vary with weather and with circumstances. If the beds are now covered with snow, they are already protected with it as a mulch; and when this melts off, an artificial application may be promptly made. As the leaves remain green all winter, they must not be densely covered to exclude the air. For this reason leaves or a thick coat of oat straw may do harm by smothering; coarse, stiff straw, if applied, should be thin; chopped corn stalks are better, and evergreen branches best of all. Manure would have been best applied in autumn, between the plants and not on them, and will still be useful if done as soon as the snow melts. Later, or when the plants are about starting, a light dressing of nitrate of soda will have a stimulating effect on the strawberries, or at the rate of three or four pounds to the square rod.

SUCCESS WITH SMALL FRUIT.—A. Anderson read a paper before the Wisconsin Horticultural Society, in which he stated among other things, that "a big pile of manure is the fruit-grower's bank;" that to raise strawberries successfully the ground must have rested the year previously as a summer fallow; that currants will bear fruit for twenty-five years and not lose their vigor; that a market near home is better than one abroad, and that an established home market is worth five foreign ones; that three or four varieties of grapes are better than a larger number, and by constant care one acre of well-managed grapes has given him more return in dollars than twenty in grass or grain; that grapes do not pay as well as strawberries, but they pay 300 per cent. better than common farm crops; that to succeed, a man must know his trade, be vigilant and honest, with not too great expectation to get rich all at once.

WINTER PROTECTION.—In another paper read at the same meeting by G. H. Robbins, he said there were more failures through the lack of winter covering than from any other cause. He finds that raspberry canes bent down in October when they are full of sap, are much less liable to break than those laid down near winter. In bending, he uses his hands protected with buckskin gloves. A man throws earth on the tips when down, which holds them, and before winter sets in, a furrow is plowed on each side toward the canes, and the work is finished with a shovel. In this way, two men will lay down half an acre of strong canes in a day. He has not failed of a good crop in seven years; and as high as 9,000 quarts (about 280 bushels) to the acre, although half that is the common crop. Nearly two bushels to a square rod is a large product, and possibly there may be a slight mistake on his part.

SUMMER ROSE APPLE.—Henry Stewart describes and commends this excellent little apple in the Rural New-Yorker, and remarks that it has been long grown in New-Jersey. We find it figured and described in Coxe's book on Fruit Trees, printed in 1817, and he says that it has the additional name of "Harvest" in the markets, and since then it has been long grown as Woolman's Harvest. For a pleasant crisp texture and a fine delicate flesh, we know of no early apple equal to it except the Early Joe, which exceeds it in richness of flavor. But notwithstanding its excellent quality, it has never been much propagated for sale by nurserymen, for the reasons that the tree is a slow grower and the fruit is of small size. Handsome and straight trees cannot be shown in the nursery row—not the kind that purchasers want. The great delicacy of the fruit renders it more liable to the attacks of the apple maggot than other coarser kinds. But with all these drawbacks, the land owner who can have one or two trees growing on his grounds, will never feel disposed to re-graft them. Woolman's Long is a very different fruit. Lippincott's Early is a synonym.

The Chinese Sacred Lily.

This is the name commonly given to the *Polyanthus narcissus* we get from China, and which is usually grown in vessels filled with pebbles and water. Although it has been grown in this country for more than twenty years, it was not till last year that it became at all common in cultivation—indeed, I might say, not till this year, for last year the supply was limited, but it seems to be abundant enough this year.

We hail this narcissus with particular pleasure, as it is one of the most ornamental and thrifty, easiest to grow, and surest to bloom of the whole genus, and one of the best window plants ever introduced. There is no trouble at all with it. We have not got to put the bulbs in water and then keep the basin in a dark place in the cellar for a month or more, as it is best to do in the case of "Dutch" bulbs generally, but instead we put our bulbs into water and at once place the basin in the window, and let them stay there till they bloom, and the sunnier the window the better.

Beginning in September, we may plant a basinful (two, or as many as six) every fortnight till the middle or end of January, and in this way have a continuous supply of this narcissus in bloom from October till March.

The Water Basin.—Any sort of vessel that will hold water is good enough—a basin, a pitcher, a tin can, a wooden pail, anything whatever. The finest mate of these narcissi that I now have is growing in a big wash-hand basin. The vessel should be four or more inches deep, as the plants are too rank for shallow dishes; and while hyacinth glasses will do well enough for single bulbs, wider-mouthed vessels are preferable.

The Pebbles.—Any sort of small stones are good enough; those I use are from one-fourth of an inch to an inch through. Their only mission is to fill the basin and afford a resting place for the bulbs and a medium for the roots to run among, and mat through, so as to steady the bulbs and hold the leaves and flowers erect, for we use no stakes.

Planting the Bulbs.—I fill the vessel—much depending on its shape and size—about half full of pebbles, then with enough water to be an inch deep over the pebbles, then place the bulbs upright and on the pebbles. They are not planted or fastened in place in any way. As the bulbs are very large they rest on the stones, and are not moved about on the water. In a fortnight or thereabout, after the bulbs begin to root freely, I add a little more water, say, increasing the depth to two inches—deeper would do no harm.

As soon as planted, I place the vessels at once in a warm sunny place in the window or greenhouse, and let them stay there till after they have bloomed, giving them no further attention than keeping the vessels filled with water. Their growth is rapid. Each bulb throws out two to five shoots, and every strong shoot bears a flower spike. In a temperature of 50° to 55° my plants have attained their full size and come into bloom in five weeks after planting time; and in a temperature of 60°, in four weeks. Of course, this has been in a sunny place and near the glass. The leaves are from 20 to 25 inches long by 1¼ to 1½ inches wide.

The flowers are very fragrant, and single or double (both forms of one variety); the single ones are white, 1½ to two inches across, with bright yellow crown, and produced in clusters of 4 to 8 on stout scapes 16 to 20 inches high. Every bulb I have grown has flowered, and while many of the bulbs have each produced five scapes, none of them have borne fewer than two apiece. The flowers are showy and of good quality, and last in good condition for three weeks.

What to do with the bulbs after they have done blooming, will interest amateurs. Keep them growing as long as they will keep fresh and green, and pick off all old flower-scapes so as to prevent any reservation caused by seed ripening. When the leaves have died down, drain off the water and let the bulbs dry off; then keep them over as you would tulip bulbs till next fall.

Luck in the Water Method.—Now here is where the pebbles and water only, are at fault; the bulbs have not the strength they would have were some substantial food provided for them. If the vessels had been filled one-third deep with dry cow manure, chopped fine, and sand, and over this to two-thirds full with pebbles, then to the brim with soft water, our bulbs would be better for another year.

Growing in Earth.—Will these sacred lilies grow in earth as do other narcissi—is a question that may suggest itself. Decidedly they will. And they grow and flower well too, but, in my case, not a whit better than they do in water, but with a great deal more trouble in the way of attention. In water it is the easiest cultivated plant I know of; in earth it needs as much attention as does any other plant.

Name of Narcissus.—What variety of narcissus is this? It is the most vigorous form of *Narcissus tazetta* that I know. But this species is very variable, and we already have among "Dutch" bulbs several fine, vigorous forms, and some of them very much like this "Chinese" variety. Its adaptability for growing in water I do not regard as remarkable, as all of the polyanthus narcissi grow readily in water and have been cultivated in this way in European gardens for over a hundred years.

The following Chinese legend regarding this narcissus is given by an American correspondent of the London Garden, May 13, 1872:

"Once upon a time a father left his property to his two sons with the understanding that it should be equally divided; but the elder son seized all the tillable land and left the younger nothing but an acre covered with rocks and water. The younger son, unable to obtain justice, sat down at the water's edge bemoaning his misfortune. A benevolent fairy appeared, and giving him these narcissus bulbs told him to drop them into the water. Shortly afterwards their flowers were developed, and neighbors crowded to admire the fairy gift. In the course of a few years he accumulated a fortune by the rapid increase and sale of his bulbs. Then the elder brother, envious of the younger's prosperity, bought great numbers of the bulbs—hoping to obtain a monopoly by getting all of them—at so heavy an expense that he was obliged to mortgage his property to procure funds for the purchase. He planted all his land with the bulbs. They soon began to die as they cannot live long out of water. He was ruined, while his brother, who had bought the mortgage, foreclosed it, and became possessed of the whole estate in time to replant some of the dying bulbs in the watery acre."

WM. FALCONER.

Queens County, N. Y., Jan 9

The Mixing of Melons.

EDS. COUNTRY GENTLEMAN.—The article on page 28 suggests some remarks. It is well known among gardeners that plants of the same family will mix if planted together, the melon especially. Mr. Peter Henderson in his "Gardening for Profit" says:

"Too much care can not be used in saving the seeds of all plants of this class, as they cross very readily; for this reason, when seeds are to be saved from any particular variety, care must be taken that it is widely removed from any other—not less than 100 yards. If *seed is not wanted*, improper crossing will make no difference in the fruit *that season*, but the seed—the product of that crop—will be affected thereby, and its impurity developed when fruit is raised from it."

When I was learning the business with an old market gardener at Hackensack, N. J., noted for the melons he raised, under no circumstances would he raise any other variety than the Hackensack; and as there were none raised nearer than half a mile, and he was careful in saving his seed, the product was always pure. A friend of mine near here, in the Delaware valley, one year had some Cantaloupe melons; in the same patch, not 50 feet away, were planted cucumbers. The next year, instead of the large, sweet and juicy Cantaloupe, behold a large, smooth-skinned fruit, tasting exactly like a cucumber, and smelling like it.

I have experimented some with melons. As soon as the plants began to blossom, I covered one or two in each hill with a hand-glass, leaving others exposed; the same with some cucumbers planted near by. Soon bees were noticed on the uncovered blossoms, and I followed some from the blossom of a melon to that of a cucumber, and vice versa. There were three or four bees in one blossom sometimes, and their legs would be filled with pollen. The next year the seed was sown in a plat by itself; of those covered by hand-glass, four hills did not bear; six hills were pure; that uncovered proved to be mixed, as there were three or four varieties. Now as to the distance the pollen can be carried by the bees, wind, &c., and whether this is necessary to perfect bearing (as result from the four hills that did not bear) is a question for further experiments.

Warren County, N. J., Jan. 18. CHAS. S. REMER.

Experience with Small Fruit.

[We give a summary of a paper on this topic presented last week at the State Agricultural Society meeting in Albany by an authority of the highest rank, Mr. J. H. HALE of South Glastonbury, Conn.]

The requisites of success are:

1. A love of fruits for their own sake, and pleasure in their culture.
2. A soil fairly well adapted.
3. Markets within easy reach.
4. A supply of extra laborers near enough to be promptly available in emergencies.
5. Plant no more than can be thoroughly cultivated and profitably marketed.

STRAWBERRIES.—Any good corn or wheat land will do, but must be very rich, though it should not have too much nitrogen, for fear of undue foliage growth. Sandy or loamy soil is best, enriched with phosphoric acid. It should have been in cultivation a year or two. Then plow deep, early in spring, and harrow repeatedly. Check off rows three feet apart with corn marker, and set plants 12 to 20 inches in row.

If pistillate varieties are used, plant every third row with a strong perfect-flowering sort that blooms at same time. Cut off blossoms or fruit stalks as they appear, and as soon as growth is well started begin summer culture, repeating every two or three weeks till frost.

The narrow-row system is most profitable. Each spring-set plant roots a few of the first runners near the row, all other runners being cut off as they appear. This permits proportionally more horse-power in cultivation, as in hill culture, and yet always young plants enough to form one continuous row; plenty of room for sunlight and air to reach berries, much to their benefit. Also it costs little to clean out a bed of this kind after fruiting and renew for another year; in matted row culture, it seldom pays to continue a bed in fruiting more than one year. When ground freezes, cover field lightly with old hay, straw, cornstalks or the like. This need not be removed; partly uncover crowns of plants when growing time approaches, the mulch will benefit by keeping ground moist (very important), and berries clean. Irrigation is of the greatest benefit, if practicable; $1,000 or $2,000 invested for this purpose will pay, if product of five or more acres can be regularly sold. Very thorough preparation of soil and frequent cultivation answers partly the same purpose.

One picker should bring in 30 to 40 quarts daily; one superintendent to 15 or 20 pickers should assign rows, inspect work and see that vines are not trampled. Pick clean, and grade the fruit. Give each picker a stand or rack, holding 4, 6 or 8-quart baskets, marked with his number. He must return all baskets (full or empty) to packing shed, and receive daily account ticket. This is of tough paper, 1¼ by 3½ inches, having name and number of picker, date, and 5 columns of eight figures representing 1, 2, 3, 4 and 8 quarts, 144 quarts in all. Punch out numbers showing quarts delivered, giving picker at the same time a fresh lot of baskets. At night the ticket is taken up, and number of quarts punched out of a weekly ticket, 2¼ by 5½ inches, bearing name and number of picker, amount paid per quart, date on which week ends, six columns for record of berries picked each day, and column for sum total and cash paid Saturday night. The weekly

tickets are taken up when paid, and filed, giving complete record.

Picking, except for local market, should not begin till dew is off, and should not continue through heat of day; 4 P. M. till dark is best time. The packing shed should be cool, airy, and convenient to field. Baskets and boxes should be new, clean, and of the whitest wood possible. Fill rounding full, exactly the same quality all through. Pack in clean, bright crates or boxes. *Do not ventilate very much*, unless berries are picked in the heat of day, or wet, and packed at once. Picked under favorable circumstances, or cooled immediately after picking, they are far better if packed tight.

Raspberries—Require much the same soil as strawberries, except that they stand far more nitrogen. Plant in fall, except cap varieties. Prepare ground as thoroughly as for strawberries. Plant in check rows, 5 or 6 feet apart, admitting more light and air and more horse cultivation than with hedge-rows.

Cultivation begins early in season and continues through summer, stimulating growth and permitting wood to mature in fall. New growth is pinched back when 15 to 18 inches high, causing strong growth of laterals, which are allowed to grow at will, leaving further trimming till early next spring.

Some very good varieties (Cuthbert, Marlboro, Caroline, Golden Queen, Carman, Springfield, Souhegan), when well grown, will stand most winters with little injury; but it is wise, north of 42°, to protect them. Plenty of snow will do, or earth. Two men may apply it, one with heavy gloves bringing the canes close together and carefully bending them down lengthwise of the row, the other throwing a shovelful of earth at the base, on the side the canes are bent, to prevent their breaking: a few shovelfuls on the tips will hold them in place. After the field is thus gone over, both men complete the covering with shovels. The whole cost will be from $5 to $8 per acre. If rows are far enough apart, the final work may be done with plow and reduce cost. In spring, when frost is out and ground dry enough, uncover, straighten up plants, thin out, and shorten laterals 8 to 15 inches. Thorough cultivation may be given up to blooming time; soil should too then be stirred till after fruiting. Gather and market same as with strawberries, except that half-pint and pint boxes or baskets should be used instead of quarts.

Blackberries—Incline to much wood growth; so select land of moderate fertility. Plant high-bush sorts in spring or fall—latter is best—setting same as strong-growing raspberries; trailing kinds and the dew-berries in spring, in rows ten feet apart, three to four feet in row, forming matted row. Close pruning and winter protection are essential to success.

Currants.—The supply is still far less than the demand, while for gooseberries there is only a limited sale. Plant in strong, rich, fairly-moist soil, after leaves drop in fall, or very early in spring; check rows four and a half to five feet apart. Growth is made in first two months of summer, therefore cultivation must be early and thorough to insure best wood growth. First two years prune only to form head, open head: in after years, pinching back all new growth when two or three inches long will greatly promote formation of fruit spurs and buds. This is not the general practice, but is a point worth noting, even by those who have only a few bushes.

To make money in small fruit, there must be thorough culture, best possible shipping package, and honest packing of fruit, combined with fine appearance.

Varieties.—Study your market; visit growers in your neighborhood, county and State; learn the well-tested and approved varieties, and plant largely of these. On my own 80 acres, the old Crescent, Windsor and Downing strawberries, Cuthbert and Souhegan raspberries, Snyder blackberry and Victoria currant have always been profitable. Among the newer sorts, Jessie, Bubach, Pineapple and Miami strawberries, Carman and Scarlet Green raspberries, Lucretia dewberry and Fay currant, are wonderfully fine, and likely to surpass many older ones, and others are coming to the front. Test these in a small way; some will in time be found to suit your soil, and give you an advantage in the market, while meantime you make the best of the old varieties.

Production.—With the culture recommended, strawberries should yield 4,000 quarts per acre, and sell in your market at about 8 cents per quart—netting $150 per acre. Raspberries, about 3,000 quarts, at 10c., netting about same profit. Blackberries should give more quarts than raspberries, but selling at less price, with less profit. Currants, 1500 to 2000 quarts, at 6 to 8c., but as a field can be kept fruiting an indefinite number of years, they are one of the most profitable of the small fruits, at less cost of culture—strawberries being renewed every two or three years, and blackberries and raspberries every five years, for best results, though fields 8 to 10 years old give good returns.

The Home Garden.—Every farmer should devote half an acre or more to small fruit. He will find a home market taking every day quarts upon quarts at high prices. Every dollar expended will save two in meat and medicine bills. At home and at school, fruit is better for children than cake and pie, and the table the year round should be supplied with fruit, either fresh or canned. In the latter form, raspberries retain their flavor best of all. Farmers say they can buy better than to raise, but they never buy enough. In my own family—not large—we use six to ten quarts of small fruits daily from June to August. A friend with a half-acre city lot had it plowed and fertilized, and planted $96 worth of plants, kept account of expenses for five years, with credit at market rates for fruit consumed; the profit was $160 annually. Every farm and home should have such a half acre, and then will be found health and happiness, as well as money, in small fruit.

The Entomologist.

Prof. Lintner's Bulletins.

We have received from Prof. J. A. Lintner, New-York State Entomologist, Bulletins Nos. 5 and 6, one of them devoted to an account of the white grub of the May beetle, and the other to a description of the several species of the cut worms which have proved destructive to crops. The two bulletins occupy 67 pages.

When speaking of the May beetle, Prof. Lintner says: "If a list of our insect enemies were arranged in the order of their importance, it would I think find a place among the first twenty. Its depredations appear to be on the increase, particularly within our own State." It attacks the roots of grass, and wholly destroys large patches; corn fields have been badly injured or destroyed; it has long been known to be a special enemy of the strawberry; potatoes have been largely rendered unfit for market; and wheat and barley in some places have seriously suffered. The life-history of the insect in the larval state has not been ascertained, and further investigation is invited. Among its enemies, which feed on it, the skunk is particularly mentioned, as digging them out and devouring them by thousands where they are abundant. The mole has rendered the cultivator eminent service by feeding on them. The crow devours both the beetle and grub. Several parasitic insects do their part. Strong burdock water has been found an efficient repellant. Swine will dig them out and destroy them. Digging out by hand is recommended; and for small plantations, we have found paying active boys for them by the hundred a cheap and efficient remedy.

In the bulletin on the cut-worms, Prof. Lintner enumerates 28 species known in the State of New-York, most of them of the genus *Agrotis*. Some other species are not fully known. Fourteen are particularly described and accurately figured. (Hence the great mistake often made in speaking of *the* cut-worm, as if there were but one.) Prof. L. thinks that the losses resulted from cut-worms repeated as they are in each successive year, and occurring in every portion of the United States, would doubtless exceed those of the Rocky mountain locust. Their natural enemies should therefore be well known. The cat-bird, the American robin, chickens and other birds feed on them; the ground beetle, known as the "cut-worm lion," and another insect, named from its ferocious attacks on this grub, the "cut worm dragon," render useful service, and it also eats the larva of the curculio. Spiders and toads are also to be classed with the useful devourers. In addition to these, there are several insect parasites which lay their eggs in cut-worms and become their future destroyers. Several corroding substances are mentioned in the bulletin used for destroying them; but digging out by hand appears to be the simplest and most reliable, as we have described on former occasions.

In noticing these bulletins and the general report of Prof. Lintner, we cannot omit speaking of the eminently practical character of all his writings, and of their great value to farmers and gardeners, in addition to their thoroughly scientific accuracy.

Destroying Bark Lice.—The London Garden gives an account of an experiment with trees imported with bark lice and white aphis, 500 young apple trees being planted in an orchard. Soft soap was used at the rate of half a pound to three quarts of water, with which all the stems and branches were painted in November, going over the infested trees again the following spring. The operation had been facilitated before the first application by pruning out the diseased branches, and burning them. The application was again repeated the following summer, and again in the winter. Three years afterwards, when the orchard was last examined by the writer, not a vestige of aphis or scale was to be seen, and the trees were healthy and growing well.

The Poultry-Yard.

Various Suggestions.

Dust-Boxes—Ventilators—Glass—Oyster Shells—Feeding-Hours.

I see much in the papers pertaining to poultry feeding and care, that seems misleading advice to follow. My conclusions are formed from the fact that as part of my business I have had to care for and feed about a thousand Plymouth Rocks, Light Brahmas and capons for the past few years. I find that when one has so many fowls, anything he can avoid doing, and obtain as perfect results, amounts in a whole year to lots of time, labor and money saved—a small profit in itself.

To begin with, I should like to know what is the need of a dust box in your pens when your fowls are on a ground floor? What better dusting place do they require than that afforded by the dry earth of their pen? Of course no one would think of placing a hen-house anywhere but in a dry place, and built warm enough so that the ground would never freeze. Where board floors are used, it may be well to have the dust-box, but it is time and labor thrown away to place one in a pen with the earth for a floor. It is in the way; the lazy hens roost on it, and it is a regular louse protector, as they congregate in all its joints.

Another queer and useless notion is the sticking on of a lot of ventilators. I call them roup promoters. I visited a friend lately who has just completed a very fine hen-house, 660 feet long. When I came in sight of it I thought I was about to enter a small village of churches, there were so many spire-like ventilators on his building—56 in all—each one sucking out air at the rate, I should think, of 1,000 square feet a second, and every time a fowl came anywhere near the mouth of one I expected to see it drawn up the spout. Now with all this air going out, of course more took its place, through all sorts of cracks and crevices. It was bound to get in, and with such an enormous draft it came with a rush. The consequence was, my friend's building was about as cold inside as the atmosphere outside, and he had thus defeated its very object, that is, to have a warm shelter for his fowls. No poultry building is built so tight but that plenty of fresh air can find its way in. It bothers me more to keep it out, notwithstanding the fact that my hen-house cost $1,000, and every attention was paid to making it as tight as possible. A very small ventilator is all that is required for any building, and this should be closed a large portion of the time. Plenty of air will get in. It is a thousand times more important to use lots of absorbents and disinfectants about the pens, nests and roosts. Take away nine-tenths of your ventilators, and try the above, and you will have a sweet, healthful house, and a warmer one. I use at least ten gallons of cynolina every year to keep my hen-house in a healthful condition.

Another very radical mistake is to have so much glass in a hen house. What is it there for? For light and sunshine for about four months. This is wanted, but we also get ten hours' sunshine for six months when we don't need it, and would rather not have it. We must have light, but in many cases one square of glass would furnish all the light we need where twenty are used. We also get cold—awful cold. For perhaps six hours on a sunny day (so rare in winter) the large window serves to warm the building. For the other eighteen hours, and on cold, cloudy and stormy days, it serves to make our buildings very cold. If I were to build a hen house to-day I would have just as little glass about it as possible, only enough to give me what light I needed. If one could have tight-fitting shutters to his windows, and would close them every night, it would do. But keeping hens on a large scale it is not practicable to do all this and make a profit.

I read in some paper an article from the pen of quite a celebrated poultry man, advising the discontinuance of oyster shells as a feed and the use of broken crockery, claiming that the oyster shell did not furnish material for the shell of the egg, but was only useful as a grinder of other food in the fowl, and that crockery would do as well. Now, it is undoubtedly true that the oyster shell is not required to produce the egg shell, but it unquestionably helps to do so, and as they are a good grinder and the hens like them, why not feed them? They cost but little; a hen would not eat over two cents' worth all winter. Broken crockery! What an idea for a man to adopt that keeps 1,000 or more fowls! Where is the crockery to come from? And the time to pound it up fine? Are we to encourage the smashing of platters and plates in our households in order to obtain a supply, or are we supposed to purchase a crate of cups and saucers and smash them up? The time and money that would be required for a man to go into this crockery business would supply him with other material for a life time. It may be well enough for the village fancier who keeps only a pen or two of choice breeds, and has all day to attend to them, to adopt such a course, but for the breeder or keeper of large numbers it is sheer nonsense to attempt anything of the sort.

Now I came to a subject which I know you would all like to agree with me, and that is the absurd notion of feeling obliged to turn out and feed your poultry at daybreak. I believe that such a course is entirely unnecessary and uncalled for. If a man wants to "get up" at such a time the year around and perform this work, it is all right, but he gains nothing by so doing, as far as the product of his poultry is concerned. Like all other animals and the human race, fowls are creatures of habit. They expect their feed only at such a time as you are in the habit of furnishing it, and are not impatient for it until that time arrives. You may adopt the hour of daybreak, or wait until sunrise for feeding all your stock, and you will find that they will conform to your hours, almost to a minute, and it is just as well to give their morning feed at 6 A. M. as 4 A. M. Adopt a time that suits your convenience—not theirs. Of course you will vary the morning and evening hour of feeding with the season. The change is so gradual that the animals do not notice it. For instance, my fowls receive their evening meals at 4 P. M. now, but in the summer they do not expect it until 6 P. M. At the present time they receive their morning meal at 7 A. M., but in summer it would be given them at perhaps 5 A. M. My pigs continue to sleep quietly until it is time for their morning meal, and then they want it—be the hour 4 o'clock or 7. Don't feel obliged to be tearing around before light—you only burn out wood and oil for your trouble—and don't go the other way and put off feeding. Establish an hour that is convenient for yourself and family to do this work, and conform to that hour, and you will find that your poultry and animals will do the same.

George Q. Dow.

Rockingham County, N. H.

Dark Spots on Legs.—Several of our Plymouth Rock hens have dark brown blotches on their legs, which appear to affect the health of the fowls. We have lost two of them, and another is drooping. Can you tell us what ails them, and a remedy for the trouble? W. B. C. *West Winsted, Ct.* [There is a dark scale or blotch which appears often on the legs of the females, which breeders try to overcome by careful mating, but we do not know that it is a sign of disease. Lice are the chief cause of ill health among fowls, opening the way to other diseases.]

Rye as a Feed.—I wish to know about rye as a feed for poultry. Is it good for hens as an egg producer? Is it good for young chicks? Is it good for pasture, if sown in small lots, for chickens of any age? Would like to hear from several correspondents on the subject.

Darlington, Ind. W. J. O.

New Advertisements.

Allyn Bros ..... *Nursery Stock.*
Aultman, R. J. ..... *Press Machines.*
Albany Steam Planing Co. *Stock Farm for Sale.*
Ball, C. P. ..... *Separators Wanted.*
Barry, Henry D. ..... *Farms to Rent*
Brunson, W. O. ..... *Seed, &c.*
Bur H. ..... *Position Wanted.*
Cogswell, P. J. ..... *Jersey Bull, &c.*
Carter, E. ..... *Situation Wanted.*
Clark, John. ..... *Farm for Sale, &c.*
Clint & Co. ..... *Chester White Boars.*
Chatin & Co., R. B. ..... *Farm for Sale.*
Champlin, G. S., Jr ..... *Help Wanted &c.*
Crystal Brook Farm ..... *Jersey Cows, &c.*
Kansas Mower Co. ..... *Mowing Machines.*
Em Piece Kennels ..... *English Mastiff Pups.*
do. do. ..... *Choice Poultry.*
Ely, L. D. ..... *Berkshire Boar.*
do ..... *Jersey Bull*
Gray, John M. ..... *Early Rose Potatoes.*
Geddes Geo. ..... *Pit in for Sale.*
Green, La Monte M. ..... *Early White Swedish Oats.*
Greenfield, W. J. ..... *Holstein Friesians.*
Hyperion M'f'g Corp. .... *Clark's Cyclone Harrow.*
Howard, J. Spencer ..... *Devon Soldiers.*
Hudson, G. G. ..... *Situation Wanted*
King, T. H. ..... *Holstein-Friesians.*
Lonsdale, F. ..... *Herdsman Wanted.*
Leonard, Wm. H. ..... *Seed Wheat.*
M ..... *Farm for Sale.*
McBride, A. D. ..... *Jerseys.*
Morse, L. H. ..... *Light Brahmas.*
Moody, Benjamin ..... *Farm for Sale.*
Manle, Wm. Henry ..... *Garden Seeds*
Moseley & Stoddard Co. ... *Shelter Paper*
Peck, Corydon ..... *Guernsey Bulls*
Pomeroy, J. A. ..... *Devons.*
P. O. Box 79 ..... *Fruit Wanted.*
Roach, Nicholas ..... *situation Wanted.*
Roberts, J. A. ..... *Nursery Stock.*
Read, Geo. R. ..... *Holstein Bull*
Selser, John A. ..... *White Winter Oats.*
Shrigley, W. C. ..... *Farm Horses.*
Stoddart, Wm ..... *Percheron Stallion.*
Schmidt, C. H. ..... *Help Wanted.*
Tabor & Son, J. ..... *Horse Turnips.*
Thompson, Chas. H. .... *Field Peas.*
Tomlinson, J. A. ..... *Situation Wanted.*
Van Vranken, Jacob D. ... *Hambletonian Stallion.*
Vanhan, Jos. F. ..... *Help Wanted*
W. H. B. ..... *Situation Wanted.*
W. ..... *Situation Wanted.*
Whiting, E. M. ..... *Coach Horse.*

Subscribers' Wants.

R. S. KELLER, M. D., *Phœnixville, Pa.* White Turkeys.

Pamphlets, &c., Received.

AYER & SON, N. W. Advertising Agents, Chestnut & 4th Sts., *Philadelphia, Pa.* Much the best Hanging Calendar we know of, well worth its price, 25c.

BOARD OF TRADE, *Newberne, N. C.* Circular.—"Newberne as a Winter Resort for Health and Pleasure."

BOWKER FERTILIZER Co., 43 *Chatham St., Boston, Mass.* "Stockbridge Special—Complete Manures;" pp. 36, illustrated.

COWAN & Co., A. D., 114 *Chambers St., N. Y.* Lorillard Tomato Catsup.

DALBEY, W. H., Sec'y Fayette Poultry Association, *Washington C. H., O.* List of Awards at 3d Show, Jan. 1-6.

FORD & SONS, FRANK, *Ravenna, O.* Illustrated Catalogues of Seeds, Plants, Trees, &c.

HORTHUF, BRASLAN & GOODWIN, *Minneapolis, Minn.* "Northern-Grown Seeds;" pp. 36, illustrated.

FERN, GEO. H., *Rochester, N. Y.* Poultry Circular.

ROOT, A. I., *Medina, O.* "Bees and Honey;" pp. 40, illustrated.

SOPER & Co., J. E., *Boston, Mass.* Circular of Cottonseed Meal.

THORBURN & Co., J. M., 15 *John St., New-York.* Seed Catalogue, pp. 104, illustrated.

VANDERVEER BROS., *Glen, N. Y.* Pedigrees of Percheron Stallions.

WILSON, PAUL, *Mechanicsville, Bucks Co., Pa.* Seed Catalogue; pp. 144, illustrated.

Massachusetts.—The Bay State Agricultural Society held its third annual meeting at Boston, 16th, 60 members in attendance. The treasurer's report showed a guarantee fund of $3,747 and a cash balance of $385, making a total of $3,612 available funds. The expenses of the Springfield Fair were $4,223, leaving a net debt of $611 against the society. Col. H. S. Russell of Milton was elected president: F. H. Appleton of Peabody, secretary; H. L. Shumway and Jas. Chessman, assistant secretaries. It was voted to refer to the trustees the decision as to the time and place of the next fair, with instructions to avoid conflict with other fairs. It was also voted to comply with the requirements of the State Board of Agriculture, and thus secure the State bounty of $800.

Connecticut.—At a meeting of the State Agricultural Society at Meriden, Jan. 9, 140 members were present. James A. Bill of Lyme was reëlected president; W. P. Andrews of East Hartford, corresponding secretary; T. S. Gold of West Cornwall recording secretary. Receipts for past year were $12,826 74; disbursements $11,343 43; cash on hand $486 31. The fair receipts were $6,907 86; membership, $421 50. A year ago the society was in debt. The fair will be continued at Meriden.

New-Jersey.—The State Agricultural Society met at Trenton, 16th, and elected officers: President, E. A. WILKINSON, Newark; vice-presidents, N. S. Rue, Cream Ridge; Gen. John S. Irick, Vincentown; George A. Halsey, Newark; William Clark, jr.; treasurer, Charles F. Kilburn, Newark; recording secretary, William M. Force, Newark; corresponding secretary, P. T. Quinn, Newark.

Earth Closet, p. 4.—It is to be hoped that a great many farmers and others will profit by this description. The sanitary interests involved more than justify the adoption of the "Earth Closet." But I would suggest that for the consideration of esthetic interests the closet should be made in the wood-house or other convenient out building. S. F. H.

Lake Grove, L. I.

Acknowledgments.

Communications for publication have been received during the week ending Jan 21, from Prof. E. W. Stewart—C. I. Hudson—J. V. W.—Thomas Bowick—E. A. Powell—L. F. Scott—O. C. T.—T. C. G.—Dr. W. I. Chamberlain—T. L. D.—E. H. E.—John Gould—E. W. Jones—A. E.—W. J. Owsley—Chas. S. Reese—W. A. McDorman—T. O. Sandy—O. S. Templer—Wm Horne—Mrs M. H.—Prof. A. J. Cook—B. F. Johnson—Mrs. J. W. Allen—C. I. Hudson—Burr Wendell—Stephen Beale—J. Dunham—Henry Stewart—Wilbur Holmes—S. E. T.—E. H. E. Kester—H. F. Thomas Bowick—S. Hemmingway—J. H. Griffith—Wm. Harrick—C. Worthington—Jas. H. Holmes—David Buffum—E. F.—E. W.—Rev. Chas. E. Little—Chas. Coudert—A. C. Gladden—W. M. Leonard—L. P. W.—Miss Hortense Dudley—J. B. C.—L. F. Potter—James L. Shields—Stephen Beale—John L. Smith—The Cornucopia—E. L. Rose—Prof. E. W. Stewart.

** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Jan. 24, 1889.

☞ The rush of subscriptions for the past month has been such as to render it impossible for our clerks to keep quite up with it; and considerable delay is occurring in getting the paper started to new names. The difficulty cannot be met by putting on extra men; and we are compelled to ask a little indulgence. Within a week or two we hope to catch up and resume our usual prompt attention to all orders. Thanks are due to club-agents in general for their increased patronage, and we sincerely regret the annoyance that must occur in some instances from our seeming neglect of their orders; but it will not be of long continuance.

Obituary.—We regret to chronicle the death, Jan. 13, at his residence near Baltimore, and in the 41st year of his age, of Mr. T. ALEX SMITH, a well-known Jersey breeder and an occasional contributor to the columns of the COUNTRY GENTLEMAN. He was the author of and chief factor in securing the cattle law of Maryland, and was appointed by Gov. Hamilton secretary of the Live-Stock Sanitary Board, and successively since then by Govs. McLane, Lloyd and Jackson. In addition to this appointment, he also represented the United States government as special counsel for the Bureau of Animal Industry, and in these two capacities was indefatigable in the effort (finally successful, but not without a hard struggle) to stamp out pleuro-pneumonia in the State—a service for which his name deserves to be held in honor.

—— MR. ANDREW J. CAYWOOD, a well known horticulturist in this and other States died at his home in Marlborough, N. Y., Jan 18. He had been subject to rheumatic attacks during the summer, and about three weeks ago took a severe cold which seated itself in the weaker portion of his system, bringing on a complication of diseases which caused much suffering. Mr Caywood was born in Orange County in 1819, and lived all his life in Orange, Duchess and Ulster. When still a young man, he took a leading part in all literary and reform movements. Early in his business career he adopted horticulture as a pursuit, and was the pioneer in the portion of the State in the fruit and nursery business. He devoted much of his time to scientifically improving native fruits, and the many valuable varieties he has produced attest his success in this direction. He was a member of all the leading pomological and agricultural societies in this country and in Canada. He was a liberal contributor to the agricultural and horticultural press for many years. He was the original planter of the Concord, the Delaware and the Diana grapes in Ulster county. He first planted the Diana in 1853, the Delaware in 1854, and the Concord in 1855 in Plattekill, ten miles west of the Hudson and in the centre of the fruit belt. He originated many valuable fruits, the most important being the Marlboro red raspberry, which has taken the lead along the Hudson. Mr. Caywood also brought into bloom the Minnewaska blackberry. He leaves a wife and three children—two sons and a daughter. H. S. C.

—— SIMON BEATTIE, at one time quite prominent as an importer of high-class live stock from Great Britain, long a resident of Canada, but more recently of Scotland, died recently in the latter country.

Our State Society.—The Annual Meeting of the New-York State Agricultural Society was held at its rooms in this city, 16th, President Wadsworth in the chair. The report of the Executive Committee reviewed the work of the year, especially in regard to the great success and development of the farmers' institute movement, 40 of these meetings being arranged for the current season, against 20 last year, and a number of other very useful meetings having grown out of them. The crops of the year were characterized as generally good, except wheat—which was injured by the dry fall and dry and cold April, and gave a light crop of poor quality—and corn, which was both small and poor. Hay was good in quality, though not as heavy as in '87. Hops half a crop. Live-stock has done well, and the horses of the State are improving, as are its dairy products very notably. The State fair was unusually successful, and so were many of the other shows held in the State. Appropriate reference was made to the necrology of the year—including the honored names of Gen. Patrick, Dr. Agnew, Col. Walker, Senator Low, Messrs. McIntyre, R. H. Van Rensselaer, Bogart, Sprigge, Arnold and others in the State, Prof. Asa Gray at Cambridge, and J. C. Morton in England. No reference was made to the most important business with which the committee have been occupied during the year—the arrangement for locating the shows permanently in a single county.

The report of the treasurer may be summarized as below:

RECEIPTS.

Cash on hand last year	$4,571
Ticket Sales at Fair	11,109
Railroad Coupons	3,218
From the State	8,000
Life Memberships	1,495
Privilege at Fair	1,176
For Farmers' Institutes	4,194
Entry Fees	100
General Superintendent and Secretary	242
Transportation	1,491
Lumber, &c., sold	202
Cartage	183
	$37,331

PAYMENTS.

Premiums	$11,109
Judges	511
Advertising, &c	1,008
Office Expenses	743
Police, &c.	720
Labor	466
Superintendents and Assistants	2,577
Forage	1,000
Lumber	667
Transportation	1,749
Sundries	3,013
Salaries	5,167
Farmers' Institutes	4,381
Cash now on hand	3,165
	$37,331

The following officers, unanimously recommended by the nominating committee, were unanimously elected:

President—JAMES WOOD, Mt. Kisco.
Vice-Presidents—J. P. Morgan, J. H. Storm, J. Van Wagenen, F. D. Curtis, W. Jodson Smith, Dr. C. D. Smead, M. C. Remington, H. Bowen.
Recording Secretary—Seth Penner.
Corresponding Secretary—J. S. Woodward.
Treasurer—Adin Thayer.
Executive Committee—Davis Comstock, J. W. Converse, F. C. Stevens, A. C. Chase, W. P. Richardson, F. O. Chamberlain, F. S. Redfield, J. Hilton.

A committee was appointed to consider revision of the constitution and report next year; and the meeting adjourned.

At the first session of the farmers' institute, Wednesday evening, an address of welcome was delivered by Chancellor Pierson of this city. He urged the necessity of cooperation among farmers, and the advantage of keeping accurate records of all operations; and paid his respects to the highways and highway laws of the State, which he deems very bad; thinks the roads should be cared for by contract, and by persons who know how to do it, especially as the great nuisance and injury of noxious weeds growing in the roads is not likely to be abated otherwise.

President-elect Wood responded on behalf of the society, calling attention to the imperative demand for good thinking if we would make our farming pay. Fears it is hopeless to look for fine roads in this country, the railways so largely take their place. Under present laws, any town may work its roads by contract if it pleases. It will thus get better roads, but pay heavier taxes.

Lieut.-Gov. Jones said a vast improvement in keeping our highways clear of weeds is taking place in recent years; but the roads themselves are a disgrace to the State, and such shiftlessness as they display should neither be defended nor apologized for.

At the Thursday morning session, Prof. Peck delivered the lecture on Potato Rot of which we give an outline on p. 64; and Dr. Hexamer spoke of Farmers' Gardens, insisting on their importance for health, pleasure and profit, especially as the presence of a garden often enables the owner profitably to employ an extra man, who is thus at hand for emergencies in the field. But a garden must be run in the best possible manner, or better not have it. Dr. Hexamer advised taking the best piece of ground—not too large—plowing several times, tilling as well as you know how, using both manure and chemical fertilizers, and making everything grow at lightning speed. High-pressure pays; anything else is expensive folly. Have the plat oblong, with long parallel rows, using a horse as much as possible. Leave here and there a row unplanted at first, for tomatoes, cucumbers, melons and squashes, to occupy the ground when earlier vegetables are gone. Don't think of shipping products to large distant cities; cultivate or make a home market—it is wonderful how quickly a supply creates a demand. Many vegetables may profitably be dried, evaporated or preserved in glass. Seed raising often pays. So does a hotbed, by the sale of strong early plants; and cold frames, enabling you to supply your customers with winter vegetables as well as summer. The speaker thought a garden should be connected with every public school, as in Austria, where the connection has been found of the greatest advantage.

Thursday afternoon, Mr. Hiram P. Hopkins of Buffalo gave his experience in Butter Making. He said you must begin with the cow—impossible to have decent butter unless you ventilate, feed good food, and keep clean. He finds ensilage indispensable. It costs him 11¼c. per lb. to make butter that sells at 35c. on an average the year round. Take milk out of barn the moment it is drawn, both to protect it from foul odors and to be able to cool it instantly and suddenly, which is necessary to avoid loss of cream. Ripen carefully, till it becomes a trifle sold or little bubbles begin to appear. Prefers concussion rather than friction, and uses a barrel churn. When granules of butter appear, adds for each gallon of cream a gallon of water and a good tablespoonful of salt, at 60°; then revolves churn two or three times, allows to stand five minutes, and draws off say two-thirds of the liquid, then putting in another supply of water, and so on, till buttermilk is all gone. Thinks white specks are probably sour milk, and repeated washings, while in the granular form, carry them off. Sprinkles salt on the granules (ounce to pound), turns churn a few times, allows to stand half an hour, works as little as possible to get out air bubbles, and puts up in pound prints. Gets 4½c. per quart for milk this way, which he thinks far better than selling it, as he keeps the skimmed milk and buttermilk. Last year from 15 thoroughbred Jersey cows sold 6630 lb. butter, 100 gallons cream and 500 quarts milk, receiving $1,743 against a cost of $577 for keeping the cows—$1,165 profit. Thinks trouble in getting butter to come is often due to an excess of carbonaceous food.

Mr. Edw Burnett of Massachusetts followed, with an address on swine, beginning with the history of our modern breeds, the improvement of the race dating back he thinks about a century, and having begun with Chinese and Siamese blood. Does not consider either Chester Whites or Poland-Chinas distinctly thoroughbred yet, as they cannot be trusted always to breed true; but the Poland China is the best pig we have for all-round farmers. Does not advise farmers to keep pure-blood drones except to sell as breeders. For pork production, use a fine thoroughbred boar on good clean-cut sows with plenty of bone and constitution. Very big hogs are not now wanted in market—pigs of eight to ten months old sell best. Every buttermaker should keep some. Raise them from 1st of March or April till 1st of November or December, when they should weigh 175 to 250 lbs. while costing very little. Teach them, at two or three weeks old, to drink warm (95° to 100°) skimmed milk, three times at least per day—five times is better. Fed only once or twice a day, they get hungry, eat greedily, and have indigestion. He uses crushed oats and oilcake, with clover and other green stuff, almost as soon as weaned; keeps them growing from the very start.

Yards one and were in full, upping of with clear head and white cuts. Toss are thick and fine, and the flesh is white, solid and well set, and cooks mealy; the potatoes are more than commonly inferior to the old Early Rose.

Prentiss Vaughan, secretary of the Board of Agriculture of Chester County, Pa., sends from the Middle area and indicating the stages of improvement have been executed, and the work of the present season is nearly finished, owing to the opening of new fields to the plough, and the consequent increase in the area of transportation. The number of farms in the county is 4,000, and the number of farmers in the district. Cultivators are now to have more actual farming done on their farms, and the Board of Agriculture will have more real experimental work carried out privately by many areas. The farmers must be induced to do more experimental work, and conduct in keeping the variety of purely agricultural schools, to the belief that some of the agricultural schools will be under the same control with them.

State Entomologist Glover spoke of "the Colorado potato beetle," and recommended the hellebore against the ravages of being a better preventive, and showed how small things affect the crop. Prof. Cook, of Lansing, Mich., spoke of the destruction of insects, by fungus, by adding substance to insecticide, the number of which is very large. Prof. Cook thinks that throughout the world, and particularly in Europe, will also not known, their vast numbers. Dr. Hoy, of Racine, Wis., said that the Indians used the pine tree, which they called, somewhat that the population of the globe, and the consequent increase in the number of mouths to be fed that he may be heard, and which, in the future, will be the great question of the world. Prof. Cook, of Lansing, Mich., spoke of the destruction of insects, by fungus, by adding substance to insecticide, the number of which is very large. Prof. Cook thinks that throughout the world, and particularly in Europe, will also not known, their vast numbers. Dr. Hoy, of Racine, Wis., said that the Indians used the pine tree, which they called, somewhat that the population of the globe, and the consequent increase in the number of mouths to be fed that he may be heard, and which, in the future, will be the great question of the world.

In addition progress has been declared the Agricultural Society of Chester County, Pa., which has been in existence for 50 years, and which now receives over three per 100 species. Mr. Vaughan, secretary of the Board of Agriculture of Chester County, Pa., sends from the Middle area and indicating the stages of improvement have been executed, and the work of the present season is nearly finished, owing to the opening of new fields to the plough, and the consequent increase in the area of transportation. The number of farms in the county is 4,000, and the number of farmers in the district. Cultivators are now to have more actual farming done on their farms, and the Board of Agriculture will have more real experimental work carried out privately by many areas. The farmers must be induced to do more experimental work, and conduct in keeping the variety of purely agricultural schools, to the belief that some of the agricultural schools will be under the same control with them.

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IMPROVED HORSE STABLE SCHEME.

On Friday, Prof. Cook, of Michigan, presented a paper on "Insects Injurious to Fruit," which was followed by a paper on "Insects Injurious to Vegetables," by Prof. Cook, of Lansing, Mich., and Dr. Hoy, of Racine, Wis., on "Insects Injurious to Fruit," and Dr. Hoy, of Racine, Wis., on "Insects Injurious to Vegetables." All members of these papers were discussed

The Grazier and Breeder.

Normal and Developing Ration.

Eds. Country Gentleman—Please compound ration for me from the following foods: First class fodder cut up and shocked before frost—is in excellent condition—a field of wheat sown to timothy; wheat almost a total failure, cut and run through a thresher, yielded about five bushels to the acre; timothy was very rank and makes a feed almost like hay. This, as well as the fodder, is run through a Smalley cutter set to one-fourth-inch length. My ground feed consists of corn and cob meal, made from corn at 70 cts. per bushel; bran and shorts, equal parts, $15 per ton; oilmeal, O. P., $1 80 per cwt.; ground oats, 25 cts. per bushel. Would it be advisable to include cottonseed meal at $38 per ton? My object is butter. Cows are in prime condition, giving a good flow of milk; butter cannot be sold for more than 25 cts. per pound. Herd consists of twenty head of registered Jerseys, half of their heifers with first calves; four of the cows are fresh within past month. At the present prices for ground feed, also price of butter, must practice the strictest economy in feeding, therefore desire best, as well as most economical, ration. Cows weigh from 650 to 900 pounds. Their drinking water is warmed to about 65°, with a tank heater. Stables comfortable and well ventilated; on pleasant days cattle have run of large barnyard, with fodder always accessible in racks. My plan of preparing food has been as follows: To place the cut fodder and hay in a large box with the thoroughly-mixed ground feed well distributed in cut fodder, &c., then sufficient boiling water turned over the contents to thoroughly wet it. A tight-fitting lid covers the box, and the steaming mass remains from morning till time for the evening feed. After feeding in the evening the same process is repeated for the morning meal. In this way the corn stalks are softened, and the cattle eat up every thing clean. But my herdsman thinks that it smells sour. Now I wish to know if there is any advantage in scalding the ground feed with the fodder? Will it, or will it not, facilitate the process of digestion, or will the same results be arrived at by simply scalding the fodder, cut hay and straw, and mixing the dry ground food with it when fed? Mrs. E. M. B. *Wabash, Ind.*

Mrs. B. sent substantially the same question, relating to a ration for her cows, which was answered on page 909, Dec. 6. But as she did not then mention her peculiar way of mixing the feed, I will consider that, and also see if a more economical ration can be combined. Let the ration be made up as follows: 14 lbs. cut corn fodder and hay, 5 lbs. corn and cob meal, ground fine, 2 lbs. ground oats, 5 lbs. fine wheat bran, and 2 lbs. O. P. linseed meal. This, placed in analytical formula, shows the following digestible nutrients:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
14 lbs. cut corn fodder & hay	0.42	5.74	0.16
5 lbs. corn and cob meal	0.34	2.88	0.20
2 lbs. ground oats	0.18	0.92	0.10
5 lbs. fine wheat bran	0.59	2.30	0.13
2 lbs. O. P. linseed meal	0.68	0.66	0.12
Total	2 21	12 45	0.71

This has a nutritive ratio of 1 to 6.4—a little too wide a nutritive ratio, but I think will be a successful butter ration.

I think the linseed meal is preferable to cottonseed meal, although not quite so strong in albuminoids, because it is very healthful to the digestive organs, and assists in the digestion of other foods.

2. As to the mixing of the foods, it is much better to use the hot water on the cut corn fodder and hay, and then mix in the grain food a short time before using. When the grain food is mixed in before the hot water is applied, the food is apt to be made too wet. Using the hot water upon the cut fodder some hours before mixing the grain in, it becomes thoroughly saturated, and somewhat softened, and when the dry food is mixed in, it adheres to it more completely, and is more evenly mixed. The ground feed should be mixed together dry, and then spread evenly in due proportion over the mass of wet fodder; then, with a fork, it can be taken up and thrown a few feet one side, and in thus moving, it becomes evenly mixed with the wet fodder. The grain part of this ration costs about 10½ cents, and it should produce an average of at least 1 to 1¼ lbs. of butter per head per day.

The butter product should amount to $2 per week and the value of the skim milk should nearly balance the labor, if fed either to calves or pigs, so that we trust Mrs. B. will be able to find a reasonable margin of profit. She could, certainly, if the butter were marketed, as it should be, for at least 30c. per pound. The ration which I have given will produce a much better result in her comfortable, well-ventilated stable, with water at a moderate temperature, than if fed under more unfavorable circumstances.

Let me say to Mrs. B. that this ration is only intended to show the normal standard of her cows as butter yielders; that each cow, individually, should be tested, and she will find a large difference in the production. Those that show the greatest normal capacity should be fed a richer ration to gradually develop them to a higher standard. She may add to the ration for these cows to be developed, at first, 1 lb. of ground oats and 1 lb. bran. In ten days add 1 lb. of cob meal and one-half pound oil meal; afterwards another pound of cob meal and one-half pound oil meal. Run this for several months and note the effect.

E. W. S.

Loss of Sheep in Virginia.

Eds. Country Gentleman—Our sheep, in a dry pasture and well fed, are dying faster than we like. They have a bad cough, accompanied with a discharge from the nose of thick mucous, sometimes opaque and sometimes clear as distilled water. They seem otherwise strong and healthy; the carcasses of those that die, on skinning them, are in good condition, many of them fat enough for the butcher. I may count and examine them to-night and find all seemingly well, and to-morrow find one dead. They were kept winter before last in the open field, with absolutely no shelter except hedges along ditch banks, and out of 45 we lost only one. Last winter they were kept in a fold, with a good shed over them, and out of 68 we lost, by March, 9 or 10. This winter we have 61—had more, but death has reduced their number. They are kept out in a dry pasture, but are penned at night under a brush and straw shelter. They are Cotswold and Southdown crossed. The same buck is head of the flock which we bought as head in autumn of 1882. They have been in this condition ever since turned out in spring. W. H. C. *Hague, Va.*

There are three diseases of the respiratory organs that run by steady gradations from one to the other. They are catarrh, bronchitis and inflammation of the lungs. They usually result from exposure. Catarrh is seldom entirely absent from any flock. In mild cases, the antiseptic effect of pine tar smeared upon the nose, some of which will be licked off and swallowed, is a sufficient remedy. When the disease becomes aggravated, and there are evidences of some fever, half an ounce of epsom salts, a drachm each of nitre and ginger and half a drachm of tartarized antimony may be given, dissolved in gruel, or mixed into a ball with molasses.

If the disease becomes deep-seated, as in the present instance, it results in bronchitis, and is then much more dangerous, as the inflammation readily spreads, and frequently reaches the lungs. The foregoing treatment should be repeated on the second day, and continued thereafter, with the exception of the salts, diminishing the quantity of nitre and adding a drachm of gentian. The animals should be placed in a clean, dry and airy pen, but not exposed to drafts of air.

If inflammation of the lungs follows, we need not expect much benefit from any treatment. One-drachm doses of tartar emetic may be given, and frequent warm drinks of linseed-meal tea. It is well to precede these with two-ounce doses of epsom salts, and in severe cases, with bleeding.

My own experience teaches that in catarrh and bronchitis the beforementioned treatments are very beneficial, but with true inflammation of the lungs death speedily results. The scientific practitioner, of course, never gives up his efforts until he is stopped by death itself.

J. W.

Ration for Young Horses—Potatoes.

Eds. Country Gentleman—What is the best and most economical ration for young horses for general use, that do not have to work very hard? Hay crop short and worth to buy about $15 per ton; oats, 30 to 35c. per bush. (1) Are potatoes good for horses? If so, how much and how often should they be given? (2)

Cortland, N. Y. L. C. B.

1. L. C. B. is supposed to inquire about a ration for young horses that shall keep them in the best and most healthful condition; but oats are not the most economical food. This food costs about $35 per ton ground, and is no better for general use in feeding work horses than fine bran or fine feed, and the fine feed should be purchased by B. as low as $16 per ton. Corn meal is also purchasable at $17 to $18 per ton. Old process linseed meal is only worth about the same as ground oats. Now, let B.'s ration be made up as follows: 10 lbs. cut hay, 4 lbs. corn meal, 6 lbs. fine bran, 1 lb. linseed meal. This is a day's ration for 1,000-lb. horses. To produce the best result the cut hay must be slightly moistened and the grain food evenly mixed with it. It then goes into the stomach of the horse in a loose porous condition, and the gastric juice circulates freely through it, saturating the whole contents of the stomach at once. The digestion is effected in a much shorter time.

In mixing this food practically, B. should have a box about 3 feet wide and 6 feet long, with sides about 15 inches high. It is usually better to mix the feed just before feeding. Horses are usually fed in pairs. For two horses let 8 lbs. of cut hay be placed in this box and moistened with the watering pot; 3 lbs. corn meal, 4½ lbs. fine bran, 1 lb. oil meal should be well mixed together dry. Spread this 8½ lbs. of ground feed evenly over the moistened hay and mix thoroughly together, divide it and feed to the two horses. This is the morning's feed.

The feed at evening is precisely the same. At noon place 4 lbs. of cut hay in the box, moisten it, then mix in 2 lbs. corn meal and 3 lbs. bran. This is the noon feed which is smaller than the morning and evening. When these items are all put together it will be found that this is a day's ration for two horses of 10 lbs. hay each, 4 lbs. corn meal, 6 lbs. bran, 1 lb. oil meal. This is a moderate ration for medium sized horses on moderate work. For heavy horses and hard work this ration must be increased in the same proportion of materials. The pound of oil meal will give a sleek coat, improve the digestion and is well worth its cost.

2. We suppose B. means raw potatoes. Some times a few raw potatoes are given to a horse as a laxative. If they are given to any considerable extent the laxative effect will be too great, and will cause the horse to grow poor, instead of improving his condition. Cooked potatoes may be fed to horses, and they have about the same effect as corn meal. The potato contains such a large percentage of starch that it is more benefited by cooking than any of the roots. I do not think potatoes a profitable food for horses at more than 15c. per bu., because of the labor of cooking them.

E. W. S.

Feeding Potatoes to Cattle.

Eds. Country Gentleman—I was somewhat surprised by the remarks made by Prof. E. W. Stewart in your paper for Dec. 6, in regard to raw potatoes as food for cattle, in answer to C. B., also to E. D. H., who both have asked, on page 915, for a ration for milch cows, to be composed partly of small potatoes. In answer to C. B., Prof. Stewart says, in regard to potatoes, that "raw potatoes are not digestible, and only operate as a laxative food, and any considerable amount fed raw will reduce the yield of milk, instead of increasing it." In answer to E. D. H., he says "raw potatoes are indigestible, but are sometimes fed in small quantities as a laxative."

In the early settlement of Oneida county, there was no food fed so liberally as potatoes to fattening stock, always or nearly so fed raw to cattle, and boiled for hogs. About eighty years ago the writer's grandfather fed a yearling bull, with a lot of fattening oxen, for beef, and sold him in this town to a butcher, who said he was the fattest animal he had ever killed; that he had 100 pounds of loose tallow on his cuticle. Now, how could such an animal have become so fat if fed on indigestible food? Potatoes fed raw, with hay, was all the food during the fattening period, and that not a long time, as when the oxen were put in the stable in the fall for feeding, the bull was also put in, but he would not then eat potatoes, so was turned out in the yard to make room for those that would eat them; but about the first of March the bull got into the stable, and when the oxen were fed their potatoes, the bull also went to eating. From that time he was kept in the stable and fed his rations daily, soon eating a bushel at a feed morning and night; was fed two months, with result as stated, which was considered a most remarkable carcass of beef, with an amount of tallow before unknown in an animal of his age.

When I began farming, the potato was used very extensively in the fattening of beef and pork in this vicinity, they being cooked when fed to hogs, and fed raw to cattle. The first pair of oxen fed by the writer were fed only raw potatoes and hay to fatten them for market, but soon after that, a farmer who moved into the neighborhood, gave me his experience in fattening a lot of ten steers in Duchess county, while living with his father, who was a feeder of steers purchased in the western parts of New-York State in the fall, and finished off in Duchess county, and sold in New-York City when fitted, and the market there was at its best, as near as they could judge. The farmer said he had raised a crop of potatoes, and they were very cheap, so he proposed to his father to let him try his hand at fattening ten head of steers out of the lot his father usually fattened, and so use up his surplus potatoes. His father objected at first, not thinking potatoes of any value for the purpose, but when he proposed to buy the meal needed, if his father would let him try, he consented to his trying the experiment, to be fed to his ten steers. He fitted up a good stable, but his father would not let him have the best, or even a medium lot, of the steers, but selected ten of the smallest. Nothing daunted, he began his work by making a good mallet to crush his potatoes with, so there would be no danger from their choking the steers. The potatoes—four quarts to each steer—were put in their mangers, then crushed, and meal put on, with a little salt. The steers were fed twice daily with what hay they would eat, giving them just one-half as much meal as his father fed his lot. When taken to New-York on the barge in the spring, his ten head were the first selected from the lot, and sold for the best price, giving him good pay for his care and time, also convincing his father that potatoes were valuable for fattening steers for the New-York market.

Since that time the writer has used potatoes as well as all other roots, also apples, as food for fattening animals and for cows giving milk, with their grain fed thrown on them after they were cut or crushed and in the mangers ready for the cattle, such feed being put in the mangers while the cattle are getting their drink, and the stables being cleaned for their return to clean quarters and their grain and root feeding. Sometimes we have sold our milk daily to men who have a milk route in town, and the daily measure or weight decides the result. In all such instances the withdrawing of either roots or apples from their rations will show a diminution of the measure or weight, proving to the writer that raw potatoes as well as other roots and apples are valuable for the production of milk and the fattening of cattle, especially in connection with grain as a part ration, whatever the grain or meal ration may be composed of.

The greatest gain that the writer ever had of his own feeding was by an animal fed 4 quarts of potatoes three times daily, and 2 quarts of meal with the potatoes at each feeding, the meal composed of equal parts of corn, oats and bran by measure, with ½ oil meal, all mixed together. This would be called a light feed for a fattening animal, especially for a full grown cow of the Short-Horn breed. The cow was fed for 90 days and gained 3 pounds per day, being weighed when the feeding began, then at the end of 30 days, and again 30 days later, the gain still continuing, to my surprise, as her feed was so moderate in quantity. At the end of another 30 days a butcher called to see her and asked my price for the cow, and what she would weigh. We told him, basing her weight on her gain for the 60 days. At his request we weighed her again, and she had gained more the last 30 days than during either of the others, lacking only 5 lbs. of 3½ lbs. daily gain for the third 30 days of her feeding. As she was sold then, the experiment in feeding closed. How long she would have continued gaining at that rate, this writer saith not.

I well remember at an annual meeting of the State Agricultural Society, when Col. J. M. Sherwood was living and breeding Short-Horns, that Hon. A. B. Dickinson asked him how much he could make a fattening Short-Horn gain daily. Mr. Sherwood answered promptly, three pounds. That answer was then and there questioned; it was considered too great a gain to be accomplished. Probably there are those now who were there and heard that discussion. The answer came so promptly from Col. Sherwood that I shall never forget it. I am well aware that it is only the best animals of the various beef breeds that will gain three pounds daily for a period of three or six months, and a shorter time would be of little account in an experiment of that kind. In regard to the experiment with the yearling bull mentioned, there was no doubt but his was an exceptional case; few animals could stand the feed he had, and his digestive organs must have been of the best to have accomplished such results. Why there should be such differences of opinion in regard to the feeding of raw potatoes to farm stock, I am not able to see. From an experience of more than fifty years, and only good results following in every

case with me, how they can be widely different with others is the problem I cannot solve. I can see very readily why a surfeit of any food, either potatoes, apples or grain, would cause animals to scour or have colic, or even cows dry in their milk; but when a change is to be made, and is made carefully by beginning with light feeds, and increase, as the animals can bear a change, it would seem that the results should all approximate to nearly the same feature. If good in one case it should be good in all, some animals appropriating more of high feeding than others, to their individual benefit, whether that be in storing up beef in the fatting animal or the secreting milk in the dairy cow.

I am well acquainted with a Connecticut farmer who says that when butter is worth 25 cents per pound, small potatoes are worth 25 cents per bushel to feed his dairy cows with, according to the best estimate he has been able to give them, and this man is a very careful, tidy farmer. I am feeding, this winter, about four quarts of small potatoes to six milking cows, with wheat bran, corn, and oat meal, and a little oil meal, all mixed together; and if the daily ration of potatoes is omitted the milk is less in product. Should feed more potatoes if we had plenty of them, but a few are liked by our cows and we are satisfied they are of benefit to them, as well as all other roots are when fed in moderate quantities, either when fed alone or when meal or bran is fed with them, especially when the stock is confined to the stable and fed on dry fodder, as is the case in the winter in this latitude. J. TALCOTT. *Oneida County, N. Y.*

The Dairy Department.

A Revival Needed.

EDS. COUNTRY GENTLEMAN—I agree with Col. Curtis (p. 13) as far as he has gone. Yet the trouble lies principally with the teaching of the farmer, and the distrust with which he looks at everything new—he gets narrow minded and conceited. Let me say here and with emphasis that if the grade bulls born could die immediately after birth, very much good would come to the farmer. As it is now, more damage is done the cause than can be overcome in thirty or fifty years, as very many of the grade animals are raised which have such a small portion of the desired blood in them that they prove comparatively a failure. This leads the farmer to become disgusted and he goes back to old position; his narrowness of mind will keep him from investing in pure blooded stock even on ever so small a scale.

The uncertainty with which they pursue any business on the farm does not help them on. Few farmers are able to tell you what cow is paying her keep, and still fewer can give you any definite idea what particular strain of cows are the most profitable. If farmers would adopt some of the more liberal ideas of business men, ascertain the relative value of the many good breeds and make a start in some direction that they may know to a certainty what a cow will do in a year, and thin out those that prove a failure, rapid improvement would be visible. So long as farmers will not see the difference in value of different breeds, so long we shall remain in the old rut and may look for an improvement with the majority of farmers. Let us drop our penuriousness and make a stride forward by starting with pure blood. GEO. E. BARNEY.

Tioga County, N. Y.

Our Export Trade.

EDS. COUNTRY GENTLEMAN—Your correspondent "H.," p. 989, asks: "Is our butter too good for the European markets, or not good enough?" I think the question is easily answered. The better class of European people want good goods, and are willing to pay fair prices; but they want what they buy. When they buy butter they do not want oleo. For several years the sharks of our nation sent them oleo for butter, and our government allowed the fraud to go on, till they were obliged to look elsewhere for butter; then our government locked the door after the horse was stolen, and the oleo laws that were passed in 1886 are of little benefit, for the poor class of Europeans think because our government stamp is on it, it is clean, wholesome butter; and the better class will not buy our butter as long as the American people are allowed to ship such stuff for food. It can hardly be expected that they will have much confidence in us till our government stops the entire manufacture of the stuff.

There is another food that is nearly as much damage to the people—that is adulterated lard, which is palmed off for pure lard, and is branded as such, not only here but in Europe. England and Germany are agitating driving American lard from their shores. They do not want the nasty compound, and are not to blame. These two articles alone are millions of dollars damage to this nation, and only a benefit to about a dozen persons. How long are the honest producers and consumers of pure food going to stand this? Every voter should write to the senators and representatives to pass laws to stop this evil; and if they do not do so, when their time is out, be sure to send men that will.

Many farmers are in part to blame for this falling off of our exports of farm produce—they have not made as good butter and cheese as they should; the milk as it comes from our average cows is none too rich to make good cheese, and there has been a good deal of skimming done by patrons of the cheese factories. Farmers should be honest and stop the adulteration of food, and there will soon be a demand for all our surplus of butter, cheese and lard at good prices. *J. H. M.*

Greenville, N. Y.

Breeding and Feeding Cows.

EDS. COUNTRY GENTLEMAN—In your issue of Jan. 10, I observe that your representative in quoting my remarks at the dairy meeting at Oswego on "Holsteins for Butter" makes me say "in America, by means of *proper* feeding, it [the Holstein] has also been made a butter breed." I said by proper *breeding* and feeding. By the omission of the important word breeding an idea is conveyed entirely different from what was intended. Breeding is of vastly greater importance than feeding in developing the dairy breed *for* either butter or milk. Only by judicious breeding from ancestors whose butter qualities had become so thoroughly established as to be hereditary could the Holstein-Friesians have attained their present high position, in so short a time, as a butter breed. Proper and liberal feeding are necessary in order to insure the best results, but the influence of feed in establishing butter qualities is not to be compared with intelligent, careful breeding.

Such rich butter qualities as have been shown by the records of almost every member of the Netherland, Wayne, Mercedes, Clothilde and Aaggie families can only be established by transmission from ancestor to offspring. Feed alone will not produce such results.

Syracuse, N. Y. H. A. POWELL.

Churning Once a Week.

Where one has only cream enough to churn once a week, just how shall it be mixed and kept to be just right, and what is the cause of its foaming in the churn? We use a Cooley creamer, but at present have only a little milk.

Madison, O. H.

There need be no trouble in keeping cream a week when the quantity is so small as to make only one weekly churning. All that is necessary is to keep the cream in a cool place, but not to have it too cold, and in the afternoon before the churning day to put it in a warm place, where it may gradually rise to 65°; it should be stirred once an hour, gently, to get the temperature even and have the sourness the same all through. If it becomes too acid by being kept in a warm place, so long as a week, it will foam up in the churn; when this happens, pour into the churn one or two quarts of water of the same temperature as the cream. This foaming is sometimes caused by the cream being too warm as well as too sour. A proper degree of sourness or ripeness may be procured in this way, when the churning is once a week. Keep the milk in a closet or room where it will not get above 55° or 60°, and not below 50° at night. Skim the cream as soon as it has risen, and before the milk has become sour. Keep the cream jar in some place where it will be at 50° or a little less, and every time fresh cream is added, stir the whole gently, taking care that the bottom is stirred with the rest. The afternoon before churning bring the jar into a warm room, where it will gradually reach the right temperature—60° to 65°—by the next morning; then churn in a warm place, where the cream will not be chilled. It would be better to use shallow pans just now than the deep pails, when there is but little milk. E. S.

Branding Cheese.

EDS. COUNTRY GENTLEMAN—A few years ago the New-York Legislature passed a law to allow manufacturers of cheese to brand them "full cream," leaving the option of so doing to themselves, the law not being compulsory. What proportion of the whole number of factories brand their cheese "full cream" I do not know; probably Mr. Brown does; but I do know this—that branding does not preclude the use of the tryer in the hands of the purchaser, or in other words, does not grade the quality of the cheese as *uniform*. The remarks I am going to make upon the manufacture of milk into cheese, the duties and obligations of the patrons and cheese makers, and the branding of cheese "full cream" and "skim cheese" are based on experience gained by me as a maker of cheese for 20 years in a factory, and 10 years in a private dairy, and I am 74 years of age, and still making my own cheese.

Within a few years much has been said and written upon the proper method of making cheese in the Northern States and Canada for the English market. In December of the year 1879 I attended the dairy fair held at the American Institute Building in the city of New-York. From a table in the Institute Building copies of the American Dairyman were gratuitously distributed, and I took one and found in it an article on "Sweet Curd Cheese," by Prof. L. B. Arnold, and having carefully read it over twice, came to the conclusion that the Professor was going back in his recommended "sweet curd" practice some 20 years. I went into the sitting room and found the much-lamented X. A. Willard and Mr. Ballantyne of Canada, and told them what the Professor was teaching, and also explained to them that my method of making shipping cheese was to let the curd remain in the whey undisturbed until, in the spring and fall in cool weather, it would string fine, less than one-quarter of an inch; but in the hot months the whey was taken off as soon as from smell or taste in the curd or whey a change to acidity was imminent. And after the whey was taken off, the curd remained in the bottom of the vat, cut and doubled and turned in the usual way, the whey draining out of the curd and running to the lower end of the vat (the vat being inclined lengthwise) until the curd showed a string from the hot iron of ¾ to 2 inches. Mr. Ballantyne said that was his method also. When a curd requires stringing ¾ to 2 inches, and sometimes 4 inches, the whey oozing out of the curd in the vat becomes acid, a sure indication that the curd is acid also. Mr. Harris, page 85, "Hints on Cheese Making, says:"

"At the first indications of acidity—indeed at the very moment when it is knocking at the door, if I may be allowed the expression, and before it is admitted—the whey should be drawn. Right here lies the great secret of cheese making, the absolute expulsion of the whey at the nick of time when acidity is known to be near, and yet has not appeared. After the whey is removed, and while the subsequent stirring proceeds, *a new acid makes its appearance in the body of the curd*, which seems to depend for its development upon the action of the air, and the presence of which experience has shown to be an essential element in the make up of cheese. This acid should be allowed to develop properly before the addition of salt, as the presence of that substance will preclude its appearance."

The italics in this quotation are mine, and I must say Mr. Harris' *new acid* exists, in my opinion, as a misconception, for in cheese making we start with the milk in an acid state even when newly drawn, and the sugar remains in the whey until eaten up and becomes acetic acid, and the action of that acid is only stopped when salt is mixed with a properly made curd. I am not finding fault with Mr. Harris' method of making cheese, for I made cheese twenty years ago exactly as he describes on page 85, in his "Hints to Cheese-Makers." Twenty and twenty-five years ago, cheese-makers had a dread of acid in milk, and always aimed to draw off the whey before they could perceive any signs of acidity, and they used exactly the same means as Mr. Harris mentions—compressing a portion of curd in the hand, and on suddenly opening it, if the particles of curd showed elasticity in separating, it was time to whey off, stir the curd a little and put in the salt, stirring the curd a long time before putting it into the hoop, using for early-curing cheese 2½ lbs. of salt; for cheese to be kept for late fall and winter use, 3 lbs. of salt.

Within two or three years we have seen in the papers a great deal about the superiority of the Canada and New-Zealand cheese in comparison with American. Of the quantity and quality of New-Zealand cheese I can form no opinion, although the cheese speculators made it a scare-crow to depress the price of cheese in New-York and Montreal during part of the last season. I think the superiority of Canadian cheese over New-York mainly consists in the uniformity of its make and quality, and that quality a good one. The leading managers of the Canadian factories have taken all possible means of informing themselves of the theory and practice of the best cheese makers of New-York State by attending for a great number of years the meetings of the Dairy Associations of the State of New-York, with theoretical and practical instructions from L. B. Arnold, Mr. Harris and Mr. Ballantyne; and they continue to supervise the cheese-making at all their factories, so that there can be no surprise at the uniform good make of their cheese. They were also smart enough at the start to obtain first class cheese-makers from the States, and *keep* them at work by the "almighty dollar" inducement of good pay.

During the latter part of the season of 1888, Mr. Brown, the State dairy commissioner, with expert cheese-makers Messrs. Smith and Hall, have been giving practical instruction in cheese-making at certain localities in the State of New York. Of course only a few of the cheese-makers can attend these meetings, for they have to make cheese at their own factories, and the reports in the papers of the working of the experts are so incomplete that a cheese-maker can find little in them to benefit or instruct him. The only true way to teach a pupil is to personally show him how *to do it*. I will cite a case that happened last summer. One of my sons, who is an expert cheese-maker, although now out of that business, was one of the milk committee in a cheese factory in Madison county, N. Y. The cheese were sold on commission by Richard Ferrin, New-York, who wrote to the salesman that the cheese were right in all respects, except being a little mealy; and further said, I suppose your maker knows how to remedy this defect. The salesman told my son what the commission merchant had written, and then asked him to instruct the maker, who is a lady. My son told the maker that she was over-salting, and explained to her the necessity of proportioning the amount of salt to the strength of the acid on the curd. She saw the point, obeyed his instructions, and the cheese afterward sold first class, and no more complaint of "too mealy." I may as well state here that no strict level rules can be applied to cheese-making, on account of the condition of the milk and the atmosphere varying so much day by day, in spite of the efforts of both the patrons and the maker. A majority of cheese makers are posted on the causes which produce certain effects on the curd and whey in cheese-making, but a great many fail to apply the remedy lest they should lose patronage; and even Mr. Harris, in his "Hints on Cheese-Making," slants off the charge of watering milk by patrons, in saying: "We have heard of a man somewhere, at a great distance from here, in a place the name of which we have forgotten, of whom *it was said* that he watered his milk, but we could never bring ourselves to believe the story." Are we to take this literally or ironically? Mr. Harris however applies the lash to slovenly, lazy patrons in a manner that shows he has suffered from their omissions and commissions as well as other cheese-makers.

During my experience as a cheese-maker I have found most trouble in milk from a whey taint, a carrion taint, a rotten water taint, and a taint arising from small particles of cow dung and dust dissolved in the milk from the slovenliness and neglect of the milkers, and in the spring much trouble from the patrons sending green milk. It is a very disagreeable position for a sensitive, honest and skillful man to be cheese maker to a set of watering, skimming, dirty, neglectful milk patrons, at a salary about equal to that of a first-class farm laborer. A bricklayer or stonecutter obtains $3 or over for a day's work, and they have no more skill and intellect than a cheese-maker. It is an indisputable fact that the carrying whey home by the patrons in the same can in which the milk has been brought to the factory, with the addition of allowing the whey to remain in the can from four to six hours, with the after neglect and difficulty of thorough cleansing, has been the means of giving an immeasurable amount of trouble to the makers, loss of quality of the

cheese, and consequently a reduced price to the patrons.

A cow belonging to one of my patrons died and was left in the pasture lot, and after she became putrid, his herd of 30 cows commenced to eat her up. The curd in the vat in which his milk was placed fairly stunk, but did not float, although it was full of gas holes. This patron had the cheek to come into my make-room, and taking up a handful of curd and smelling it, accuse me of making stinking cheese. I told him to go home and bury his carrion, or I would put him through. On the evening of the same day I put his night's milk into a small vat, and sent for an expert cheese-maker, who made it up next day, and the curd stunk more than it had done in the large vat, was full of gas holes, and the maker said it came nigh unto floating. The patron immediately went eight miles to ask a lawyer if a patron was compelled to bury a dead cow lying in his pasture lot; the lawyer told him that he was liable to an action for damages from every single patron in the factory.

As soon as he came home he buried the cow, but about 8 o'clock next morning his cows were making a tremendous bellowing, and being only 60 rods from my make-room I sent two of my sons to find out the trouble. They found the cows pawing up the soil over the buried cow, and trying to get some matter and maggots from the rotten carcase. To prevent them, Mr. Patron ultimately heaped up a pile of fence posts over the grave. I am inclined to think that this patron was more wilful than ignorant, but I did not see him, although the evidence was complete.—a mistake on my part, for such grossness ought to have been punished.

Stinking, stagnant putrid water when drunk by the cows is undoubtedly the main cause of floating and pin hole curds. In my own factory I never ran more than two floating curds in twenty years; but I have known factories in my own neighborhood, that, during the hot months ran floating curds more than one half the time, and the cause was the unwholesomeness of the water drank by the cows, from ditches dug in peaty mucky soils on flat swampy lands, which are more extensive in the northern part, than any other part of Madison county. Careless milkers, and their name is legion, do not clean the sides, bellies, or the tags of the cows, consequently small quantities of debris composed principally of cow dung from the stables, spring and fall, and dust in summer from the roads, which dust may be fine horse dung or peat, which last is so fine that it finds its way through the strainers, for I have seen it on the cream when the milk was set in tea cups and test glasses. I am thus particular in showing the difficulty skilled cheese makers find in following out their profession, for the especial information of those persons outside of it.

I have seen in the papers the views and votes of some of our experts on the expediency of branding "skim cheese." It appears to me that this contemplated branding of skim cheese is aimed at the large factories who commence skimming in the spring until grass time, and in the fall through the months of October and November, but Mr. Gilbert ostensibly aims at creameries in Central New-York. Now to form a correct opinion upon the injury to cheese by skimming we must know the exact quality of the milk in relation to its cream producing qualities, and also the amount of cream taken from the milk of skimmed cheese in comparison to the amount of cream supposed to be in "full cream cheese." I shall startle our cheese experts and other advocates of branding cheese when I say that the generality of "full cream cheese" are really one eighth skim. Do not get into a stew. Gentlemen, the evidence is at hand. Any one with good eye sight and possessed of an impartial decision can see the large amount of cream upon the top of the whey in the tanks of full cream cheese factories. So much indeed, that for years this cream has been skimmed off, boiled down, and the whey oil, alias whey butter, has been and is sold for more purposes than I know of; I have bought and now buy it for the purpose of greasing my "one quarter skim cheese" according to the experts, but if "full creams" lose one-eighth, quarter skims only lose one-eighth, if it is intended to brand unskimmed cheese "full cream."

There is another startling fact that my "one-eighth skim cheese" has sold for 20 years and is now selling for more than the majority of factories running "full cream." During the season of 1867 and 1868 my cheese has been contracted to a leading firm at one-quarter of a cent per pound above the Utica ruling price, without a single remark or complaint. For several years when I made factory cheese they were bought by Messrs. Smith & Underhill of New-York and their buyer in Oneida was R. H. Van Evera who considered mine as his pet factory.

I have for years known that there was only one-eight difference between the cream and my cheese, and what is now branded "full cream." To elucidate this, when the factories which allow their patrons to keep the night's milk at home in the cans, the cream rises on the milk in the cans, and necessarily is uncovered, and is very liable to get some taint from the barnyard, cow stable, hog pen or privy. In the morning the milk is carried to the factory from one half to two miles or more; sometimes the night's milk is mixed with the morning's milk, and sometimes not, but in either case the cream is churned into the milk, and communicates to it any taint the cream has acquired during the night, and has also a great tendency to destroy the mechanical and chemical affinity between the milk and cream, and is the main reason why all of this particular cream can never be kept in the curd during the heating up process, but goes with the whey into the whey tank. Plenty of cheese-makers will tell you that they can work in all of this cream into the cheese, but they do not, for the cream on the whey in the tank is conclusive evidence against them doing so. Cheese made from milk night-skimmed will hold its flavor much longer than mixed unskimmed milk. I am not writing this article for the purpose of influencing any one in the direction of opposing a law to brand skim cheese; but I am aiming to give legislators and others interested, such information and facts as will hinder them from branding all grades of skim cheese with a uniform *scarecrow brand* of "skim cheese." Cheese made from separator milk in Pennsylvania is a very different thing from cheese made as described by Mr. Gilbert at Mr. Bagg's factory at Holland Patent, Oneida Co., N. Y., mine and many others. From what I see in Mr Gilbert's description of Mr. Bagg's method of working up his milk, he appears to be making for the home market, although some things are omitted, especially his method of cutting, for it is not described whether coarse or fine; and in heating up it states that 96° is the objective point, but does not say whether that is the shut-off heat point, or the ultimate equalized heat; and further he does not tell us whether the heat is kept up to the objective point all the time the curd is cooking; a neglect of description too apparent in the stenographic reports of the State experts at their exhibitions.

Must now close this article by saying something about the cheese-makers of New-York State. We have leading makers in this State equal to any in the world, in the knowledge and practice incidental to working up all grades of milk into cheese; and this number could be made to include nearly all the defective ones if they could be reached by personal instruction from experts. What benefit unskillfulness can derive from print, pictures and talking, is so small that it does not pay any one to talk or reason about it. The wages of the cheese-makers in the State of New-York are disproportionate to the length of time it takes to make an accomplished cheese-maker, grounded upon superior intellectual and personal developements, but I have noticed that the young makers, who *catch quick*, are almost always those who ultimately excel.

Madison County, N. Y. JOHN R. CHAPMAN.

New-York Butter and Cheese.

The 5th Annual Report of Dairy Commissioner Brown (now in press), beside setting forth the condition of the traffic in oleomargarine and adulturated milk in the State, presents the condition of the dairy industry in a thorough and comprehensive manner and with results that will reveal to those engaged in it the real reasons why it is depressed and so unremunerative. During the year about 1,900 butter and cheese factories were inspected, covering thirty-seven counties in which dairying is an important industry, with a view to ascertaining their condition as to methods, sanitation, location and the economic features of the business in all departments. The results of this work are embraced in elaborate statistical tables. The following is a summary:

County.	Factories.	No. of cows.	Pounds of milk.	Cows per factory.	Pounds of milk per cow.	Pounds of cheese per 100 lbs. milk.
Allegany	65	26,595	84,215,886	398	3,143	10.05
Broome	16	6,160	12,240,880	385	1,984	10.20
Cattaraugus	115	36,420	100,771,600	317	4,125	9.70
Cayuga	11	2,900	7,691,300	261	2,650	9.05
Chautauqua	85	30,256	75,227,440	355	2,484	10.00
Chemung	18	4,620	20,005,960	254	4,325	10.30
Chenango	61	19,742	46,548,192	323	2,355	10.05
Cortland	30	9,475	26,457,125	309	2,563	11.08
Delaware	11	4,350	17,690,250	371	3,550	10.07
Erie	65	19,430	41,127,620	294	2,211	10.40
Fulton	2	335	877,300	137	2,734	10.00
Genesee	10	2,796	4,362,360	279	1,459	10.64
Herkimer	99	36,051	159,126,246	362	4,402	9.96
Jefferson	41	17,830	59,180,936	416	3,475	10.17
Lewis	60	20,922	69,027,541	448	3,308	10.02
Livingston	2	750	2,000,000	300	2,900	10.00
Montgomery	35	9,370	33,438,710	268	3,567	10.18
Madison	68	18,420	108,434,540	267	5,884	10.97
Monroe	2	560	2,628,400	215	5,210	10.00
Niagara	2	600	2,145,000	295	3,500	10.00
Oneida	69	22,240	94,350,400	422	2,940	10.24
Onondaga	11	2,925	8,438,900	264	2,324	10.07
Ontario	5	1,500	———	300	———	10.00
Orleans	2	350	1,046,500	175	4,654	10.00
Oswego	37	17,320	68,731,202	468	4,047	10.00
Otsego	45	14,063	39,576,024	305	1,818	11.00
St. Lawrence	60	20,708	94,991,540	497	3,288	10.38
Schenectady	1	90	270,000	90	3,000	10.25
Schuyler	4	945	838,000	86	2,000	12.00
Seneca	1	100	730,000	100	7,300	10.00
Steuben	10	4,749	6,781,000	204	1,427	9.95
Tioga	9	3,250	5,344,000	355	1,737	11.00
Tompkins	—	1,725	6,552,000	345	3,710	10.00
Wayne	4	1,205	1,801,000	271	1,625	10.00
Wyoming	37	10,395	36,115,134	287	3,500	10.38
Yates	2	70	210,000	35	1,714	9.75

Estimating in a few cases where full figures are not returned, these returns show that the factories visited received the milk from 407,810 cows, which produced 1,227,270,427 pounds of milk. The average number of cows to a factory was 350, the average number of pounds per cow 3,094, and the average number of pounds of milk required for a pound of cheese was 10.6. The milk was contributed by no less than 30,746 patrons.

It will be seen that the average amount of milk yielded by the dairy cows of the State differs to an astonishing degree in the several counties, showing defective management. The milk produced by the average cow and the income from the same, are far below what they should be.

Two Ayrshire Cows.—Secretary Winslow of the Ayrshire Association sends us the following milk records of two cows belonging to Mr J. D. W. Krebs of Orange County, N. Y.:

FAVORITE 2d 2878—*Dropped May 24, 1871.*

From March 13, 1883, to Feb. 15, 1884	gave	6,710½ lb.
April 12, 1884, to Feb. 15, 1885	"	7,768½
April 14, 1885, to Feb. 28, 1886	"	7,765¼
June 14, 1886, to Sept. 13, 1887	"	7,749¾
Nov. 25, 1887, to Nov. 23, 1888	"	7,797
Total		36,580½ lb.

FAVORITE 3d 6871—*Dropped March 1, 1877.*

From April 8, 1883, to Dec. 31, 1883	gave	5,870½ lb.
March 3, 1884, to Feb. 15, 1885	"	8,057
March 31, 1885, to Jan. 7, 1886	"	7,699¾
March 2, 1886, to Jan. 31, 1887	"	7,419
Feb. 25, 1887, to Jan. 31, 1888	"	7,377½
March 3, 1888, to Nov. 30, 1888	"	6,930¼
Total		43,314 lb.

The Veterinarian.

Answers to Correspondents.

[By Dr. Edward Moore, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

Previous Impregnation.—I notice with pleasure that Mr. F. B. Park favored us with an experience well worth reading on page 53. This is a question that most of our readers who have bred stock have had some experience with, and I trust we may have a volume of this material placed at our disposal within the next few weeks.

Lump under Eye, p. 945.—Treatment followed; lump about gone, and soreness almost healed up. If any further trouble I will report. J. T. M. *East Bethlehem, Pa.*

Tail over Lines.—A road mare throws her tail over the lines and holds them so tight it is almost impossible to get them out. Is there not a crupper of some kind that will prevent it? B. *Grand Forks, Dak.* [You can obtain a patent crupper that will stop it.]

Lump in Teat.—A good cow, that is giving a moderate supply of milk, has a lump forming in the upper part of the teat; only with great trouble can any be got at all. R. M. M. *Charlottesville, Va.* [A milking tube should be used. Give the cow a drachm of iodide of potassium in feed three times a day, and apply iodine ointment to base of teat once a day.]

Lump on Jaw.—A two-year-old filly has a lump about the size of a large hickory nut on the right cheek bone. It appeared last August; has not grown the last month; is as hard as the bone. I think it was caused by a blow or kick. J. C. *Kirksville, Mo.* [Treatment is unnecessary, unless it is growing. However, if you desire to treat it, apply golden blister once in three weeks.]

Bunch on Leg.—A brood mare, now in foal, has a hard bunch on side and back of hind leg just above ankle; seems to be fast to cord. Mare is quite lame; seems to cause sharp pain to put heel down on floor. Has been coming on about a year, growing slowly and getting harder. H. G. *Clay, N. Y.* [Apply a little golden blister every three or four weeks, except while foal is sucking. Three applications ought to reduce it.]

Abortion in Cows.—What causes cows to abort? I had some trouble with my cows last fall; had a large lot of clover hay in which was much of the weed of which I enclose sample. Cows were fed about four quarts of wheat bran and what clover hay they would eat. S. S. *Hartford, N. Y.* [In the majority of instances in which more than one or two accidental cases of abortion occur, it is due to contagion or infection. This we term epidemic abortion. And this can only be successfully gotten rid of by treating all the pregnant cows to prevent abortion. The cows that have aborted should be disinfected, as also bulls that have served any such, and a thorough cleaning out of stables, &c., take place.]

Brain Affection.—A cow was taken sick with her head one side, and would lean to that side in walking. I gave her 4 oz. salts; in few days she was better, but was unable to stand, and is so now. T. O. S. *Montrose, Va.* [Get her bowels to act well. Also give 5 drops of tincture of nux vomica three times a day for a week.]

Crooked Legs in Hogs.—Have the kindness to answer, through the Country Gentleman. A disease is prevalent here among hogs—first, lameness, then after some days or weeks, their hind legs become crooked; often the fore legs become distorted in like manner; they are unable to walk, and in attempting to rise will roll about and squeal. Will take some food, but never thrive or amount to anything after; will live for months and finally die. I kept one about six months in that state, and it got running sores in several places before death. They are more apt to be affected with the disease in winter, although it frequently occurs in summer. Feed does not seem to make any difference, whether corn or roots. E. T. *Burlington, Canada.* [Give some bone meal in the food and keep their bowels open with epsom salts and sulphur, 4 lbs. of the former and 1 lb. of the latter; dose, 4 oz. to an ordinary hog twice a week for two weeks. This applies to both healthy and diseased animals.]

In Bad Condition.—Last spring I got a young mare, which had been so over-worked and ill-fed that she was nothing but skin and bones. I turned her on good pasture for two months, and since then have worked her occasionally. At first she got a little fatter, but as soon as she is worked for a day or two, "falls off" again. Can I get her into good condition? She has a good appetite, and gets all the corn, fodder and hay she can eat. How can I fatten an old horse that has been running on good pasture all summer without doing any work, but who still is very thin? J. M. W. A. *Warrenton, Va.* [Have her teeth attended to if they need it. Give balls as recommended to L. E., Camden Co., N. J., page 835 (Nov. 8). Give a ball every four days. Feed ½ lb. whole flaxseed daily; steep it in a gallon of hot water all night, then divide the whole into three feeds, giving the usual feed of oats with it, say three or four quarts for breakfast and dinner, then two quarts oats and three of bran for supper. Have the horses any worms? The above will do for both cases.]

Shaffing in Neck.—For the past three winters neck of 10 year-old saddle horse becomes very stiff and painful to move either up, down or sidewise; cords seem to crack, making a sound like snapping one's finger, especially in cold weather; trouble seems to be at base of neck. First year it began about March 1; last year, Jan. 15; this year, Dec. 1. The horse is used only in summer, running out with good care in a box stall and yard from Nov. 1 to May 1. Horse is high strung, rather excitable, but kind; when excited takes much pulling to keep in order. The experts here have about exhausted their skill on the case. B. W. *Canaseraga, N. Y.* [This is a condition similar to that known as joint-cracking among horsemen, and the knee joint is the most common seat of it. In the human subject we see cases quite analogous in some forms of rheumatism, in which certain joints will snap and crack when in motion. The treatment should be constitutional. A drachm of iodide of potassium in feed three times a day for a month or two, and a drachm of salol night and morning. Had the horse received proper treatment at first, it is probable he might have been cured in a short time.]

Death of Cow, p. 34.—I have had two cases like L. E. C.'s in my herd, and both were saved. L. E. C. started right with the kerosene and lard, but the dose should have been repeated noon and night, or until there was a very free movement of the bowels. The grunting with every breath was a sure sign of inflammation, and a tablespoonful of laudanum should have been given, and repeated in an hour unless the pain seemed to be relieved. Of course I could not say if disease was the same, but symptoms were. M. H. *La Crosse, Wis.*

Record of the Times.

Review of Passing Events.

From Africa.—A letter has been received in Brussels, written by Henry M. Stanley, Aug. 17, at Boma of Bonalya, on the Aruwhimi, to Sheikh Hamed-ben-Mahomed (Tippoo Tib), saying he left Emin Pacha on the Nyanza 88 days before, and had lost only three men on the way. Emin was well and had abundance of ivory, live stock and food. Stanley would wait ten days for Tippoo to join him and then move on. He had about 300 men with him. This letter confirms the previous east coast dispatch, but not the west coast one which said Emin was with Stanley.—Major Parminter writes to Sir Francis de Winton, London, from Stanley Pool, Nov. 30, that Stanley left for Wadelai after Tippoo Tib failed to arrive, taking with him Bonny's detachment from camp where Barttelot was killed.—Arabs have destroyed the German missionary stations at Dar-es-Salem and Tugu, killed eight missionaries, captured five others, and carried off the slaves captured by the German man-of-war Leipsig. The Arabs now joining in the slave trade are from Kelwa and Hindi, and are richer and more influential than Bushiri, leader of the attack.—A detailed account of the death of General Gordon has been given General Gratefil of Suakim by Demetrio Georgio, a Greek spectator of the deed.

Other Foreign News.—The Parnell Commission resumed its sitting Jan. 15. William O'Brien appeared under citation, and said he had not criticised the court but the Times for needlessly prolonging the inquiry. Captain Plunkett, chief of Cork police, testified to meeting, secretly in 1883, McDermott the spy.—An explosion of fire damp in the Hyde Colliery near Manchester, Jan. 18, imprisoned 100 men, of whom 30 were killed.—A Liverpool cotton warehouse was burned Jan. 18, with loss of $250,000.—Mr. Gladstone lunched in Jupiter's Temple, Pompeii, Jan. 15.—In the German Bundesrath the East Africa bill was submitted Jan. 18. It provides for protection of German interests and combatting the slave trade in Eastern Africa, and asks a grant of 2,000,000 marks.—Madam Ilma di Murska, the singer, died at Munich, Jan. 17, in extreme poverty. Her daughter, in her grief, committed suicide.—An earthquake in Costa Rica, Dec. 30, destroyed the magnificent cathedral and the capitol in San Jose, the city hall, post-office, presidential palace and other buildings were partly wrecked. The total estimate of damage is over $5,000,000.—The owners of the Haytien Republic are to receive $130,000 indemnity—$50,000 in cash, $50,000 March 1, $40,000 June 1. The vessel was run into, Dec. 30, by a Haytien gunboat and damaged; arrived at Kingston, Jamaica, Jan. 18.—The Atlanta is to go to Hayti.—Lieut. Miles of the Yantic died of pulmonary fever at New-York, Jan. 14.—The Samoan difficulties continue. German soldiers were repulsed by Malaafa's warriors, after the chief's death; the Olga shelled the town, and the Germans tore down the American flag and insulted American residents.

Political.—Congress: In the Senate Mr. Chandler introduced a bill, Jan. 14, reviving the grade of lieutenant general. Correspondence about the Samoan affair and seizure of the Haytian Republic was laid before the Senate Jan. 16. The sugar bounty section (one cent per pound) of the tariff bill was passed, Jan. 18, by a vote of 37 to 23. The House passed, Jan. 18, the Omnibus substitute for the Senate bill to admit South Dakota as a State. It provides for admission of South Dakota and Montana now; North Dakota, Washington and New-Mexico after adoption of constitutions and passing of special acts.—Anthony Higgins was elected Republican senator from Delaware on the 43d ballot; E. O. Wolcott from Colorado; James McMillan from Michigan; M. W. Ransom (D) from North Carolina, Geo. F. Hoar from Massachusetts; W. P. Frye from Maine.—The New-York presidential electors met in Albany, Jan. 14, and cast their 36 votes for Harrison and Morton. A salute of 100 guns was fired, the cannon being the one used in honor of "Old Tippecanoe."—In the Legislature, bills were introduced, Jan. 17, appropriating $400,000 to complete annex to the Museum of Natural History, New-York; to erect a new municipal building in City Hall Park; to appropriate $500,000 to secure the distribution of water through the new aqueduct.—After five weeks of investigation at Indianapolis, the United States grand jury has indicted 35 persons for violation of election laws.—A delegation of Georgians visited General Harrison, Jan. 18.—The deadlock in the West Virginia Senate continues.

The finances of Johns Hopkins University are embarrassed by the passing of the Baltimore & Ohio dividend, the endowment of $3,500,000 being largely in that road's stock. Baltimore business men propose to start a fund.

The east-bound express on the New-York, Pennsylvania & Ohio road collided with a freight train near Tallmadge, Ohio, Jan. 14, and eight persons were killed and seven injured. The freight had broken in two on a grade, and a flagman mistook a signal and left his post too soon.

Minor Items.

In Albany, Jan. 16, mercury stood at 6°; on 30th, at 7°.

Neche, Pembina Co., Dakota reported 42° below zero, Jan. 18.

Prof. Brooks of Geneva, N. Y., discovered a new comet, Jan. 16.

The orange growers of Florida ask protection against foreign grown fruit.

Owing to the mild weather part of the Montreal ice palace collapsed, Jan. 17.

The funeral of Mrs. Jay Gould took place, Jan. 16. Mr. Gould will shortly go south.

A burning lake near New Decker, Ind. is creating much excitement in the neighborhood.

Engineer Major and Flagman Hannigan were indicted, Jan. 18, for the Mud Run, Pa., disaster.

The annual resources of Alaska are estimated by Governor Swineford in his last report at $9,000,000.

A party of revenue officers were recently fired on by moonshiners in the North Carolina mountains.

The Standard Oil Company is to have a new tank steamer of 10,000 barrels, capacity, for the coastwise trade.

Snow slides are of frequent occurrence in Southern Colorado, and railroad traffic is almost suspended.

Miss Mary Garrett of Baltimore is building for Bryn Mawr College a girls' preparatory school, to cost $300,000.

Four Falquet brothers of Chicago, deserted in childhood by their father, have fallen heirs to an English estate of $300,000.

Henry G. Marquand has given his collection of paintings by old masters to the Metropolitan Museum of Art, New-York.

Two of the oyster-dredging captains have been sentenced at Baltimore to fine and imprisonment for illtreating their men.

William Keane, a St. Louis "newsboy" of 33 years, died recently and left an estate of $33,000. He was in business 25 years.

The shoe factory of Smith, Pratt & Herrick, Albany, N. Y., was burned, Jan. 13, with loss of $150,000 and 60 persons out of employment.

The Chesapeake & Ohio Railroad Company has borrowed $30,000,000 on mortgage, from the Central Mortgage Company of New York.

There is to be an exhibit of American Indian corn at the Paris Exposition, and a committee of the New-York Produce Exchange will supervise it.

Two members of the Kristhana Society of Philadelphia, devoted to the study of theosophy, sailed Jan. 19, for India to seek the tomb of Buddha.

Charles W. Seefield a grain dealer of St. Charles, Minn., operating 19 elevators and warehouses besides various flour mills, has failed with large liabilities.

The oldest postmaster in Louis Purdy of Yorktown, Westchester Co., N. Y., 93 years old, and appointed by President Harrison in 1841. His wife, 90, assists him.

Gen. Albert Pike, formerly of Arkansas and now of Washington, D. C., and the oldest grand-commander of the Scottish Rite of Freemasonry, was 79 years old, Dec. 19.

Reports from 49 New-York State dealers show 336,000 barrels of apples in hand, of which only 15,000 have gone out. There are also 100,000 barrels in the hands of farmers.

Mrs. John M. Francis, wife of the proprietor of the Troy, (N. Y.) Times, died Jan. 20, aged 60. She was widely known for literary ability, social attainments and philanthropic spirit.

The Typothetæ Society of New-York celebrated Benjamin Franklin's 183d birthday, Jan. 17. In Washington, Stilson Hutchins presented a marble statue of Franklin to the city.

Mrs. Clarissa Cox died at Wakefield, Mass., June 17, aged 101 years, 8 months, 11 days. Her husband died at ninety; she had had eleven children, and had not been ill since childhood.

Rev. S. B. Halliday who recently resigned the offices of assistant pastor and deacon of Plymouth Church, Brooklyn, has received a testimonial of $2,000 from 30 members of the church.

An aged colored man recently called on Charles Francis Adams of Boston to collect a check of $800,000,000 for missionary work in the West, which he said he had received from Mr. Adams at Putnam, Conn.

Rev. Dr. William J. Holland, pastor of Bellefield Presbyterian Church, Pittsburg, has been invited by the government to make an entomological tour in West Africa, having been so successful in a previous trip to Japan.

Every Form of Lameness

and wounds of every description in the horse, are carefully treated in Dr Wood's new book, 180 pages, 25 fine engravings, 25 cents post-paid. Frabein Wood, V. S., Washington, D. C., P. O. box 414. jan-4t

Leading physicians recommend Ayer's Sarsaparilla. Old and young take it with perfect safety. It cleanses the blood, strengthens the nerves, and vitalizes the system. Popular experience has long placed this medicine at the head of tonic alteratives.

Singers and public speakers find Ayer's Cherry Pectoral invaluable. It never fails to cleanse the throat and strengthen the voice.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [mch9-26t

Farm Produce Markets.

Albany Markets—Jan. 21.

FLOUR—The Argus says: Market has been steady, demand fair and receipts light.

	Jan. 19.	Jan. 18.	Jan. 21.
Com. State	$4.10@4.60	$4.10@4.60	$4.10@4.60
State Extra	4.65@5.00	4.65@5.00	4.65@5.00
Arch State & W.	4.25@4.75	4.25@4.75	4.25@4.75
O., Ind. & St. L. Ex.	4.25@4.75	4.25@4.75	4.25@4.75
Winter W. Pat.	4.25@4.75	4.25@4.75	4.25@4.75
Minn. "Patent"	4.75@5.25	4.75@5.25	4.75@5.25
Spring W. Pat.	4.25@4.75	4.25@4.75	4.25@4.75

Rye Flour in light demand at $3.25@3.40 per bbl. Granam, $4.00@4.25. Oat Meal in light demand at $4.00@4.10 per bbl. Corn Meal, fine yellow, $2.60@2.75; coarse, $2.60@2.75 per bbl. Buckwheat Flour, $3.25@3.50 per 140 lbs.

GRAIN—Corn in moderate demand: No. 2 46@ Mixed, 47@48c. Oats quiet and steady. No. 2 white Mixed (car), 34c; White, 36@37c. Rye in moderate demand. Street bids, 60@62c per 56 lbs.

HAY AND STRAW—Receipts better and all taken on the spot. Timothy, best, $15@17.50; medium, $12@14; clover, $10@11; mixed, $10@11; rye straw, best, $12@13; oat and straw, $9@10.

HOPS—Only choice in demand.

N. Y. State, 1888, best	25@
N. Y. State, 1888, common to good	18@20
N. Y. State, 1887, all grades	8@11
Pacific Coast	16@20
German	16@20

Albany Street Market—Jan. 21.

BUTTER—Good to choice, 20@22c per lb.

EGGS—Near-by and new laid, Maine, per doz: Western, 26@28c.

FRESH MEATS—Steer beef, hindquarter, 6@9c per lb; forequarter, 4@5c; mutton, hindquarter, 8@9c; forequarter, 6@6c; lamb, hindquarter, 9@10c; forequarter, 6@6c; veal, hindquarter, 8@10c; forequarter, 5@6c. Fresh pork, 6@8c.

POULTRY—Fowls, 9@11c; chickens, 10@12c; spring lambs, 14@15c; geese, 7@8c; ducks, 12@13c.

FRUIT—Apples, $1.0@$3.50 per bbl. Cranberries, $7.00@8.00 per bbl; $3.00 per crate; grapes, Catawba, 4 lbs. per lb.: Hickory nuts, $2@2.50 per bbl.

VEGETABLES—Beets, 40 per bbl.; Carrots 60 per bbl. Cabbages, $2@3 per 100. Cauliflower, $2@3 per bbl. Celery, 40@50 per doz. bunches. Lettuce, 20 per doz. Onions, $1.00@2 per bbl. Parsnips, $1.25@1.50. Potatoes, $1.25@1.50 per bbl. sweet, $2.75; spinach, $1.00; squash, $1 bbl.; Tomatoes, 60c@$1.

New-York Markets—Jan. 19.

BEANS—Marrow, 100	2.20 @	2.30
Medium, 100	1.90 @	1.97½
Pea, 100	1.80 @	1.85
COTTON—	Uplands.	Mobile Quot.
Ordinary, per lb	9½ @ —	9
Middlings	10½ @ —	10¾
Fair	11½ @ —	11¾
EGGS—State and Canada, per doz	— @	12
Western and Canada	14 @	14½
FLOUR—Spring Wheat pat., per bbl.	5.25 @	6.00
Winter	3.25 @	4.00
No. 1 spring, State and Western	3.40 @	4.00
No. 1 extra	4.00 @	4.60
Minnesota clear	4.20 @	4.60
Straight	4.60 @	5.75
Rye Flour, superfine	3.10 @	3.25
Corn Meal	2.70 @	2.85
Buckwheat Flour	3.00 @	3.15
FRUIT—Apples, Baldwin, per bbl	.75 @	1.75
Greening	1.50 @	2.50
Russet, Spitzenberg	1.25 @	1.50
Lady	1.00 @	1.50
Cranberries, Cape Cod, per bbl	1.00 @	1.50
Jersey, per crate	1.00 @	2.00
Grapes, Concord, per lb	— @	2½
Catawba	— @	5½
Oranges, Florida, choice	2.50 @	3.00
Messina	2.50 @	3.00
Mediterranean	2.50 @	3.00
Tangerines	3.00 @	4.00
Hickory Nuts	1.00 @	1.10
Black Walnuts	.50 @	.60
Peanuts, Virginia, per lb	6 @	7
GRAIN—Wheat, State white, per bus	1.12 @	1.13
Ungraded spring	1.00 @	1.09
No. 1 red, winter	1.09 @	1.09
No. 2 red, winter	1.06@1.06	1.06
No. 1 hard, spring	— @	1.06
Corn, No. 2, white	— @	44
No. 2, mixed	44@44	44
Oats, No. 2, white	34@34	34
No. 2 mixed	31 @	31
Barley	60 @	60
Buckwheat	50 @	50
Rye, State and Western	58 @	58
HAY—Timothy, per 100 lbs	80 @	85
Shipping	75 @	80
Clover	75 @	80
Straw, long rye, No. 1	80 @	85
No. 2	70 @	75
Oat	50 @	60
HONEY—White clover, per lb	14 @	15
Buckwheat	11 @	12
Mixed	11 @	12
HOPS—N. Y. State, 1888, choice, per lb	20 @	22
Good to prime	17 @	18
Med. 1887	8 @	10
Pacific Coast, 1888, best	16 @	20
Pacific Coast, 1887	8 @	12
POULTRY—Live fowls, per lb	10 @	11
Spring chickens	— @	18
Turkeys	12 @	14
Ducks, per pair	60 @	70
Geese	1.00 @	1.10
Dressed fowls, per lb	11 @	12
Chickens	11 @	15
Turkeys	12 @	15
Ducks, per lb	12 @	14
Geese	8 @	9
PROVISIONS—Beef hams, per bbl	13.00 @	13.50
India mess	18.00 @	19.00
Hogs, dressed, per 100 lbs	6.75 @	7.12
Lard, per tierce	6.90 @	7.00
Pork, new mess, per bbl	15.00 @	15.50
Short cuts	15.00 @	15.50
Family	14.00 @	15.00
VEGETABLES—Beets, Barbados, per box	— @	1.25
Cauliflower, L. I., per bbl	2.50 @	3.00
Celery, L. I. & Jersey, doz. bunches	1.75 @	1.87
Mich. and State, per doz. roots	12 @	15
Kale, Norfolk, per bbl	50 @	75
Onions, white, Bermuda, per bbl	1.00 @	—
Orange Co., red	1.00 @	1.25
Conn. white	2.25 @	2.50
Potatoes, State, per bbl	2.00 @	2.25
State, Burbank and Peerless	2.00 @	2.25
Long Island	2.25 @	2.50
Jersey, sweet	1.75 @	2.00
Bermuda	6.00 @	7.00
Spinach, Norfolk, per bbl	1.00 @	2.00
Squash, Hubbard, per bbl	2.25 @	2.50
Marrow	1.50 @	1.75
Tomatoes, Bermuda, per box	— @	1.50
Turnips, Jersey, Russia	25 @	30

Cattle Markets.

NEW-YORK, Jan 19

BEEVES—Receipts, 10,300 head. The week opened with a heavy supply and a decline in values of 1c per cwt. Matters became worse on Wednesday when on a light supply there was a further reduction of 1c. per lb. Friday trade, though slow, was steady as to values. The quality of the herds offered for sale has been from poor to coarse, with a few top steers were not sifted. The good beeves in hand were chiefly reserved for export.

[Per cental, net.]	This week.	Last week.
Good beeves	$3.60 @ —	$3.60 @3.70½
Fair	3.00 @ 3.55	3.00 @ 3.57½
Common	2.50 @ 2.87½	2.50 @ 2.87½
Poor	2.00 @ 2.35	2.00 @ 2.37½
[Per cental, gross.]	This week.	Last week.
Good beeves	$5.00 @ —	$5.00 @ 5.25
Fair	4.00 @ 4.75	4.00 @ 4.75
Coarse	3.50 @ 3.75	3.50 @ 3.75
Poor	3.00 @ 3.50	3.00 @ 3.25
Oxen	3.00 @ 4.00	3.00 @ 4.00
Dry cows	2.00 @ 2.75	2.00 @ 2.75
Bulls	2.75 @ 3.25	2.75 @ 3.25

MILCH COWS—Receipts, 140 head. The market for cows was actively disturbed on Wednesday last when 74 cows were sold at $32@45 per head and 30 cows at $40@50 per head. Friday trade continued.

VEALS AND CALVES.—Receipts, 1,750 head. There has been no change in the tone of the market, which are steady on a light supply. Range of prices: Calves and yearlings, grass-fed, 3½@4½c per lb; calves, meal-fed, 5@6½c; Western calves, 4@5c; Canada calves, dressed, 7@8½c; veals, 7@9c; buttermilks, 4@5c.

SHEEP AND LAMBS.—Receipts, 22,800 head. On Monday the values advanced ½c. per lb. Wednesday the tone was weak. Thursday values declined ½c. per lb. Friday sheep were weak and lambs easier at ½c. per lb. Quality of the fat offered very poor to good. Range of prices: Sheep, 3@5½c per lb; lambs, 6@7.50 per cwt.; dressed, 6@8c per lb.; ewes, 4@5c; culls, 2@3c.

SWINE.—Receipts, 20,300 head. There were no live hogs offered for sale until Friday, when 139 Ohio hogs, 215 lbs. per head, sold at 6½c. per lb.; values were recorded as 6½@7c. per lb.

BUFFALO, Jan. 19.

	This week.	Last week.
BEEVES—[Per cental, gross.]		
Extra steers	$4.50@4.75	$4.50@4.75
Best butchers'	4.10@4.40	4.25@4.40
Second quality	3.75@4.00	3.75@4.00
Poor to common	2.25@3.00	2.25@3.00
Stockers, western	2.50@3.00	2.50@2.75
Stockers, Canadian	2.75@3.00	2.75@3.00
Bulls	2.00@2.50	2.00@2.50

Receipts, 12,200 head, against 9,100 last week. With liberal receipts and no demand for either shipping or heavy export cattle, prices declined on these grades and also light fat poor steers. Trade in light and common butchers' steers, however, was active, everything being taken. The outlook, owing to heavy receipts at all points is decidedly unfavorable for sellers. Dispatches had been sent to shippers advising them not to send more than they have contracted for. Stockers dull and easy, bulls in fair demand and firm, cows sold at $2@$3.

MILCH COWS—Receipts and demand light; only choice wanted. Extra, $45@50; good to choice, $35@40; common to fair, $25@30.

VEAL CALVES—Offerings light; good demand. Extra, $7.00@7.50; good to choice, $6.50@6.75; heavy $3.50@4.50.

SHEEP AND LAMBS.—Receipts 12,800; unsettled; run heavy; demand light; prospects lower. Extra, $5@5.25; good to choice, $4.75@5.00; common to fair, $4@4.75. Lambs, western, good to choice, $7.00@7.25; fair, $6.25@6.75.

SWINE.—Receipts, 12,000. Everything offered was taken at a decline of 10@15c. Illight hogs sold best) closing fairly active and firmer. Medium, $5.15@5.20; Yorkers, $5.20@5.25; pigs, $5.25@5.35; stags and roughs, $4@4.50.

Dairy Markets—Jan. 21.

ALBANY.—Choice Butter in moderate supply and demand. Some creamery, choice, 26c; Western creamery, 24@25c; State dairy, 23c; fair to good, 20@22c. Western dairy, choice, 19@20c.

CHEESE firm and moderately active. State factory, full cream, 12@12½c, dairy, good to fancy 12c.

NEW-YORK.—Fresh Butter in moderate supply; under-grades plenty. Receipts, 9,512 pkgs. State creamery, fresh, 24@25c; dairy, 21c.; Western creamery, fresh, 20@22c; State dairy, choice, 20@21c; Western dairy, 19@19c. Western factory, choice, 12c.

Cheese firm. Receipts, 12,370 boxes. Factory, best, 12@12½c; good to choice, 11½@12c. night milk skims, 9½@10½c. Ohio fair, 11@11½c.

Wool Markets—Jan. 21.

ALBANY.—Market firm; trade moderate.

No. 1, Pulled	32@33	Medium Fleece	30@32
Super Pulled	30@31	Fine Fleece	30@32

NEW-YORK.—Ohio X & XX, 29@30c; Michigan X, 28 @29c; combing, 30@31c; delaine, 31@32c; unwashed western, 24@25c; pulled, 30c. Territory, 35@37c; Oregon, 18@19c, as pressed lots; California, 19@20c; secured, 30@32c; Texas, 17@20c; scoured, 37½@40c; Montevideo, 29@30c; Australian, 39@40c.

BOSTON.—Sales 1,571,000 lbs. domestic and 3,000 lbs. foreign; Ohio and Pennsylvania, 29@30c; Michigan, 27@28c; Texas, 24@25c; combing and delaine, 31@32c; unwashed, 24@25c; scoured, 36@37c; Territory, Montana, 34@35c; Wyoming, 32@33c; California, 30@32c; Oregon, 29@30c. Australian, 39@40c; English, 39@40c.

Our Apples Abroad.

—Messrs. J. C. Houghton & Co. cable us from Liverpool that their market for American apples has improved materially. At the sales to day the following prices were paid: Boston Baldwins, 7s 6d to 8s 6d, or $1.81 to $2.31; Maine Baldwins, 10s to 12s, or $2.43 to $2.16. Good demand, especially for good Greenings.

51 Broad St., New-York. DE LONG, MAYER & CO.

BROAD-CUT Center-Draft EUREKA MOWER

SIZES: 5, 6 and 7 Feet

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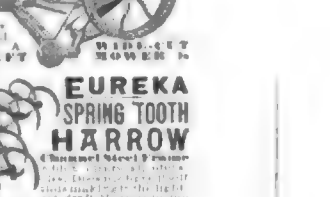

EUREKA SPRING TOOTH HARROW

Channel Steel Frame

EUREKA MOWER CO. UTICA, N. Y.

The Fireside.

A Girl's Face.

A girl's face, where the budding rose
Of youthful beauty blooms and grows
By nature's influence, sweet and good,
To fuller grace of womanhood;
Is there a sight on earth so fair?
Consider well the raven hair
That clouds the forehead pure and white;
The lovely eyes, like stars of light,
In whose clear, lucent glance is seen
The soul untroubled and serene:
The ripe, bewitching lips, that part
With smiles like sunshine of the heart:
And all the charms untasted here,
That blossom sweet from year to year.
Time changes all. The fairest day
Of short-lived summer fades away.
And on the wintry garden-bed
The petals of the rose are shed:
Time steals the splendor from the hair,
And marks the brow with lines of care:
But there are beauties of the soul
That time and change may not control:
The faith and love, that still are blind
To others' faults, and good and kind.
And swift to help with kiss'd deeds
A sister's or a brother's needs.
These grow with years in brighter grace,
And add new beauty to the face.

—*J. H. Eastwood, Cassell's Magazine.*

A Summer Tramp—V.

I should like to take my readers through one of the North Carolina mountain swamps. I remember rambling through one on the Nantahala river for a whole afternoon. It spread nearly across the valley at that point, and through one end ran a little brook, full of trout. In places it was quite dry, and there the brakes grew thickly, and among them tall spikes of phlox—the very same as many of us have seen in old gardens. With this were green orchids and the beautiful rose-colored calopogon, the bearded lip which gave it its name (meaning beautiful beard) spread alluringly for the many insects that darted from flower to flower. Most attractive of all, however, was the yellow-fringed orchid. It grew in great abundance, and is certainly one of the most beautiful we have. Its finely fringed lip is of a brilliant orange-yellow, and where the dense spikes grow thickly, the effect is very showy.

A very striking swamp plant is the bunch flower, with its tall spike of white flowers swaying in the wind. Here and there close search revealed the round-leaved sun-dew. Many of my readers know this, and some have perhaps seen how the long, sticky threads on its leaves catch the unwary flies, attracted by the honey-like fluid borne in drops on the tips of these same hairs. In summer it bears a graceful one-sided spray of tiny white flowers. There is another species sometimes found in the swamps, with long, thread-like leaves, thickly covered with the sticky hairs.

We may wander on the whole afternoon, gathering here and there a new flower, and meeting not a few old friends, whose faces have grown familiar in New-England. Just in the edge of the woodland, beyond the swamp, we come upon a stranger, which betrays its southern origin in its looks. From a cluster of thick, fleshy, mottled leaves resting on the ground, rises a tall naked stalk, bearing on its summit a loose spike of greenish flowers. Its leaves remind one of the century plant, and on hunting it up in the books we find that it is an agave.

One of the most showy flowers of the hillsides is a catchfly. It grows from one to two feet high, and bears a number of bright crimson flowers nearly an inch across. It would be a brilliant addition to our garden plants. Another curious plant, which is found on sandy hillsides, is the Schrankia. This has a very prickly trailing stem, like a blackberry briar but worse; its leaves are compound, and like those of the sensitive plant, when touched, close tightly together. It bears bright pink flowers in compact buttonlike heads. The Cherokees have given this the rather pretty name of "Bashful Briar," from the curious action of the leaves.

The flowers of which we have been speaking have no special value, but before we had been in the mountains three hours we found a plant whose good points would be appreciated by any one—the blackberry. They grow along the sides of the road, and such berries! I thought I had seen some blackberries in New-England, but they were not to be compared with these for size and number. It was interesting to note the effect of elevation on the time of ripening. When we first started out we were in the valley, and they were dead ripe, but as we got up among the mountains ripe ones became more and more scarce, till at last for two or three days, in the highest mountains, we could not get them at all. One who has not been there can have little idea of their abundance. Since our return a commission merchant informed me that last year he handled two million pounds of dried blackberries from that locality. They sell for local use at ten cents a gallon, when there is *any market at all* for them. Hardly less abundant and delicious than the blackberries are the huckleberries and blueberries. There are several species, varying in height from a few inches to almost the size of trees and bearing all sorts and sizes of berries.

These berries grow all over the mountains, and in gathering them we shall find not a few interesting plants. In the cool, shady "coves" of the mountains you may be fortunate enough to find some of the much-prized "ginseng," though your chances are small, unless you can induce some good-natured native to tell you its hiding place. It looks much like its near relative, wild sarsaparilla. Great quantities of the roots are gathered and sold for the China market. As much as $700,000 worth is exported annually. I believe they get a dollar and a half a pound for it, but it is not very profitable work, or would not be anywhere else. Ten cents a day was mentioned to me with pride as the result of a man's work. The Chinese regard the "sang" as a sort of magical "cure-all," and are willing to pay a fabulous price for it. So great is the demand that it is becoming rare, and when it is found, the secret is jealously guarded. Occasionally some thrifty settler is beginning to try transplanting and growing it, but not very successfully.

Some of the most delightful days of our tramp were on the mountain roads, away up near the summits. The scenery was grand, and the road almost always cool and shady. Then the banks along the side were almost sure to furnish something new every day. Once it was a small green orchid that almost escaped our notice, and again it was a rock entirely covered with the curious "walking fern." I shall not soon forget how that vertical face of rock looked, covered with the curious fronds. Each leaf of the fern is strap shaped, wider at the base and tapering into a very long slender tip, which bends over and at length takes root, forming a new fern, so we may have several plants all joined in this way. It is from this habit that it takes its name. It is found at the North, but is not very common.

It seemed like meeting an old friend to find the trailing arbutus growing along the road side as abundantly and vigorously as one ever saw it among the hills of New-England. Occasionally, too, we came across another old friend, the wintergreen.

When we got to the summit of Whiteside and Wayah Bald we naturally expected to find the plants quite different from those in the valleys, but in this we were mistaken. On Whiteside about the only new things we found were one or two St. Johnsworts and a very pretty little heath, the *Leiophyllum buxifolium*. On Wayah Bald the most important addition was a potentilla (*P. tridentata*), a northern plant which has strayed way down there on the mountain tops. What surprised us though was to find so many plants on the very summits whose home is usually considered to be in the lowland swamps. For example, we found on Whiteside four orchids, among them the yellow-fringed habenaria and the calopogon, all of them marsh plants. On Wayah Bald the same thing was noticeable, though to a less degree. We found before our tramp was ended that here, at least, it was impossible to say, "this plant belongs on the mountain that in the valley," for in most cases distinctions of habitat fail.

Another very striking thing was the utter disregard the plants seem to have of the proper time for flowering as given in the books. We found the wild ginger in blossom on cool north slopes in the middle of July, though its time of flowering is said to be April and May. So on Wayah Bald we gathered the flowers of trarella, which is said to bloom about the same time. Examples might be multiplied, but we have said enough to show the effect of elevation on the life of the plant.

Among the flowers which we cultivate at the North, but which are found wild here, is the flowering-shrub, whose brownish-purple blossoms exhale a delicious fragrance, often like that of the pineapple. Down in the valleys, in the cornfields, grows the beautiful passion flower, its curious lilac blossoms dotting the fields along the roads. One sees this all along the railroad from Virginia down. Some of the smaller species of wild phlox rival, in beauty of coloring, our cultivated ones, and they grow everywhere.

During our trip we recognized about 600 different plants, though of course all were not in blossom. There did not seem to be any greater variety than at the North, but most important families were differently represented, leguminose plants being especially numerous, while hardly a member of the mustard family was seen.

L. H. J.

Rollo in Virginia—VII.

The Silver Lining.

There was, indeed, as suggested at a family council, one possible solution of the problem. To sell the farm or to suffer foreclosure would be, in either case, to abandon the whole plan, still fondly cherished by all, of a home in the country, a self-sustaining home, beautiful and healthful, and a life whose occupation should be recreation, and whose rest should be study—in short, an ideal life, a sort of Brook Farm Arcadia. It was determined to save the rural home if possible. There should be one final struggle for the vine and fig tree, for the hearthstone with its cheerful blaze, fed with crackling wood from the little forest, and sending out a more genial glow than ever did city grate or furnace.

Rollo was inclined, however, though heretofore the most sanguine, to oppose any further sacrifices, as throwing good money after bad. "Our case," he said, "reminds me of the shepherd in the first Eclogue, when he lamented that he was obliged to leave his farm; though many a victim went forth from his fold, and rich the cheese that was pressed for the thankless town, his hand never came back heavy with the load of coin. I fear that I am no better farmer than he."

"Do not accuse yourself," said James. "We are none of us farmers, in the common sense, nor are we spendthrifts. We have learned much, and have still much to learn. There are perils in agriculture, but neither is commerce without dangers of a more mounting kind. Without difficulties to overcome, agriculture would never have occupied the position it does. Since you are inclined to quote, you will find something to that effect, I think, further on."

"Yes," said Mr. Holliday, "you are right. Diligence is the secret of success. Our troubles are not new. You will find that the loss of the farm is a favorite theme of the classic writers on husbandry. Let me now read you a passage from one of the best agricultural books that ever was written, which emphasizes the fact that diligence, even more than the fertility of the soil, is the secret of success in agriculture." And Mr. Holliday took down his Virgil and read as follows:

"For I remember that beneath Œbalia's stately towers, where black Galesus soaks the golden fields, I saw an old Corycian swain, who possessed a few acres of abandoned land, and it not rich enough for the ox to plow, nor fit for the herd to graze upon, nor kindly for the growth of the vine. Yet here, as he planted vegetables here and there on the thorny ground, and about them white lilies, and the poppy with its tiny seeds, matched in his heart's content the wealth of kings, and home returning late at night with unbought dainties used to pile his board. The first was he to gather the rose in spring, the fruit in autumn; and when stern winter was still bursting the rocks with frost and bridling the river's speed, he was then beginning to pluck the tender acanthus, chiding the lazy summer and lingering western gales. So he, too, was first to abound in teeming bees and many a swarm, and from the pressed honeycomb to collect the frothing honey; his lime trees and his pines were most luxuriant; and for every promise where with his bounteous tree had dressed itself in early bloom, it bore fruit in its autumn ripeness."

Mr. Holliday continued: "I am glad that you love the farm, and are contented to make it your life work, if you can. Believe me, neither the professions, business nor politics, though they may offer fame, wealth or high position to the fortunate few, give anything like the real pleasure in life that is found in a small competence upon a farm, with the companionship of books. Enrich your acquaintance with those minds who wrote when the world was young, learn to love them, and so long as you are supplied with even the poorest fare, you will want nothing more. You remember Mr. Greeley; he affected to despise the classics; yet he did not really do so, but held the present as of more value than the past. At the same time I never knew a man who approached nearer my ideal of Socrates."

"Since you speak of Mr. Greeley," said Rollo, "I will confess that I wrote to him some time ago about his book on farming. Here is his reply":

NEW-YORK, Aug. 31, 1870.

MY DEAR MR. HOLLIDAY—I have been sick this summer sick of too much hard work, with too little hard work. I now write (as I did not for some weeks) but cautiously, hoping soon to be entirely well.

Believing no other vocation so conducive to health and happiness as the farmer's, I rejoice that you have resolved to persevere in it, and am

Yours, HORACE GREELEY.

"It is like him," said Mr. Holliday. "I know that he has been terribly worried, almost broken down, and yet he can snatch a moment to reply to a letter from the son of his old friend. But I am grieved that you should so soon be compelled to succumb to adverse fortune. It is singular that Hesiod, the first writer we have on the art of husbandry, by some thought to precede Homer himself, should have celebrated in song the loss of his farm. The most acute of all his sayings concerns our purpose very much, and is couched in the form of an oracle: The half is more than the whole. Perhaps this will suggest to you a proposition I was about to make."

"I have it!" cried James. "Sell half the farm and keep the remainder. If we can do it the problem is solved. You know I have always held that a little land, well tilled, is better than a big farm neglected. But it is not so easy to sell."

"I have thought of a plan which I think may afford us relief," said Mr. Holliday. "It may be possible, and I think it is, to sell a portion of the farm in such a way as will balance our ledger, and at the same time leave us the house and the front of the farm, free of all encumbrances, upon which, with our riper experience, and relieved, let us hope, from the chain of ill-omened mishaps that have been to us even like Job's misfortunes, we may fairly hope for better fortune in the future."

To this object, therefore, Mr. Holliday applied himself, and as a financier met with more success than had crowned his efforts as a gardener. There was a demand for pleasant suburban homes by government clerks and other residents of the capital, and the farm was advantageously situated on high ground, with fine views and good air, and in such relation to the village that the new turnpike which was projected would cross the railroad where it passed the farm, and make it the site for the new station. What was once the back end of the farm thus became a front, and was cut up into building lots and sold, as was much of the surrounding property. Soon a little village sprung up whose trim Yankee houses and busy shop and store made a curious contrast to the pines and the gullied fields of a year before. Annandale had a "boom," and was destined to be the model village of Northern Virginia. One gave the land for a schoolhouse, another for a church. Then, a village society being formed, of all residents, the roads were fenced and lined with rows of yellow locusts, and a pump and watering trough were established "under a spreading chestnut tree." As for the farm, though much smaller, it was worth still as much as its purchase price, and better still, it was free. The cloud had a silver lining after all, and the heavy black masses seemed turned into cloud-capped towers. James's taste as topographical engineer and his natural bent as a pomologist now came into play. He had early planned a road across the farm, just where it was now required, and had planted orchards of apple, peach and pear, as well as vineyards, in what was at first thought very impractical situations, choosing for his operations even the poorest hillsides, where the same treatment that was given the barren fig tree overcame the natural poverty of the soil. These orchards and vineyards now proved to be a great attraction for the delighted home-seekers, as when the farm was divided, each lot had its little fruit plantation.

Rollo, too, had his experiment, but not entirely original. He had met old Governor Wise one day on the Washington boat, and being introduced by a Virginia Quaker, the curious trio fell into a conversation upon the only common ground, fruit growing. One observation of the old governor's, who was a man of very decided opinions, struck Rollo as being eminently practical.

"Plant Morello cherries," he said, "the real old Morello. Plant them all along your fenceline. Every tree at six years old is worth at least a dollar a year, and often more. You can easily have a thousand trees and scarcely know where they are, till picking time. There is no fruit at once so beautiful, so bountiful and so profitable as the old Virginia Morello, which is the old English Morello. England got them through Spain, and Spain in turn got them and the name from the Moors."

Rollo acted upon the suggestion and had reason to testify to its wisdom when the trees began to bear, as they did very early.

And here at last came the work that fitted. James and Rollo had both come to the conclusion that it was the best that paid, and that the best was most satisfactory if somewhat out of the common. Concord was the most popular grape, and the easiest raised, but the Catawba and Delaware brought higher prices. Duchess pears sold better than Bartletts; and fine smooth quinces always had ready buyers at top figures. It took labor and care to produce fancy fruit, but it paid. Moreover, Rollo discovered a decided knack or predilection for fruit culture. His dwarf pears thrived when other people's failed. If blight got among them he rooted it out without losing a tree (though there was little enough left of them sometimes). His old quince trees, by prun-

ing and scrubbing, took a new growth, and the fruit they bore was remarkable for size and beauty. The old Catawba grape vine, scraggy and mildewed, was transformed and trained "like a picture," and it rewarded the labors of the young vine dresser with a beautiful crop of grapes that were only excelled in quality by samples from the original Catawba vine in Washington. The Isabellas, too, were fine the first year or two, but later it was hard work to fight the rot, to which they seemed especially subject, and they were discarded. The Rogers 9, 15 and 4 did well in yield and quality, and the Clintons, for home use, for jelly and wine, were unsurpassed, and yielded beyond all comparison. The Delawares required considerable coaxing, but they were worth it, and samples at the fruit-growers' show excelled all competitors. The Hartford and Ives were, after trial, discarded and the increase in planting was mainly in the line of Rogers' Hybrids, Catawbas and Delawares, with a fair share of the reliable Concord for a stand by. The dwarf pears flourished, and when they began to bear, the fruit commanded an extra price in Washington. Rollo gathered not a few valuable hints in fruit-growing, and especially regarding pears, from William Saunders, the superintendent of the government gardens in Washington, and one of the most scientific, as well as one of the most practical gardeners in the country. Mr. Saunders was never tired of exhibiting his wonderful dwarf pear trees which were so large that he had to prove their quince pedigrees by showing their stocks, and enjoying the surprise of those who had insisted that such size, in dwarf pears, was an impossibility. His shrewd Scotch wit and practical common sense were of great value as a counterbalance to the boyish dreams and conceits that Rollo was too prone to encourage.

It was to fruit-growing, and fancy fruit-growing especially, that Rollo determined to devote his attention. The fruit trade of Washington was in its infancy, and the great hotels, and the large official and tourist population seemed capable of absorbing all the fine fruit that the neighboring country would raise for many years. Past experience showed that while the soil was uncongenial to vegetables or farm crops, it was admirably adapted to fruit, and what was more to the purpose, Rollo had demonstrated that he could raise fine fruit, pears, peaches, quinces, grapes and berries, almost to perfection. There was plenty of room in the business, and few competitors. The adjective "gyardan" applied to cultivated or "tame" grapes and berries, was in common use, and the word "zion" (scion), for grafted trees, or those not grown from suckers or seeds, according to the common or ante-war method of propagation, showed the popular unfamiliarity with improved methods of cultivation.

Fortune seemed to smile. The peach orchards and vineyards were now beginning to yield quite well, and promised constantly increasing returns, while the small fruits and especially the blackberries (Kittatinny) and blackcaps Doolittle and Mammoth Cluster) were laughing the poverty of the soil to scorn. Indeed, their sturdy, defiant character, developed in a wholesome and productive plant where weakness and feebleness seemed to be the rule in everything except noxious growths, was most refreshing and encouraging.

With fruit, good fruit, large and small, bringing the best prices, with promises of largely increasing crops; and the product of the poultry yard, now restocked, together with the miscellaneous products of farm and garden, a fair income was now flowing into the treasury. Fortune, so long adverse, smiled at last, and Pomona, more kind than Ceres, gave with a generous hand. There was "less labor to the load," and, with all the care of direction and management there had come a period of rest after the long season of profitless labor. The treadmill days were gone, and labor, in receiving its reward, lost its weariness.

JOHN TOBIAS.

WINTER IN THE ADIRONDACKS.—One readily falls into the ways of the winter colony at Saranac, and finds them ways of pleasantness; not at all akin to the rigor of the climate, but rather suggestive of tropical deliberation and leisureliness. The health-seekers usually number from fifty to seventy persons, and although some form of pulmonary trouble has transplanted them to this wintry clime there is no suggestion of invalidism in the atmosphere of the place. A more aggressively active set of persons is probably not to be found the world over. Now that the physicians have practically agreed that air and nutrition are the principal if not the only means of overcoming pulmonary weakness or disease, out-of-door life is the invariable prescription for all troubles of this kind. Four or five hours a day in the open air, in all kinds of weather, serve the double purpose of securing an abundance of pure air and stimulating a vigorous appetite. The temperature is often very low, but the dryness of the atmosphere takes the sting out of the cold.—*Scribner.*

THE BELLS OF JAPAN.—The bells of Japan are among its loveliest possessions. One of the sweetest of them rang out many times every day into the waiting air, in this far-away little city. Its tone was intensely thrilling and pathetic. The bells are not sounded by a clapper within, but are struck from the outside by a sort of wooden arm, or battering ram. Being withdrawn to the proper distance and released, it strikes the bell once—and the strokes are allowed to succeed one another only with a dignified and stately regularity. Tradition says the finest bells have much silver in their composition, which may account for their deep and wonderful sweetness. Whether this be so or not, the bells make a profound impression upon all sensitive or musical organizations, heretofore accustomed to the more discordant church-bells of a newer civilization. And never did the lovely temple-bell in Shirakawa ring out so sadly and deliciously as one night when a great fire laid waste a portion of the city. Thirty or forty houses made a fine blaze for two or three hours, and we watched it from the castle wall with pity and interest. The cracking of the flames as they licked up one little thatched roof after another, was terribly audible; so, too, were the helpless cries and shouts of the surrounding crowd—while the red cinders were whirled far aloft, and fell even around us. But through the confusion and tumult, the calm bell rang out its indescribably beautiful note—in quicker succession than usual, but losing none of its dignity and sweetness, for all the discordant sounds so near.—*St. Nicholas.*

WINTER CLOTHING—Includes soft, firm woolen textures next the skin. If some of the various varieties of health wear cannot be obtained, a good substitute may be found in vests and pants made of pure flannel. Looseness of fit is essential; for in such pliable folds as these garments are forced into by pressure of outer garb, body heat is entangled as in a net and retained, while outside cold is barred entrance. My patients often say to me, "Doctor, I cannot bear wool next my skin. It causes intolerable itching and is uncomfortable." "Very well," is the answer, "but try it just for twenty-four hours longer; and if you are still restless you may change." Inside the given time, cutaneous nerves have become accustomed to the new-comer, and have welcomed him as a far better friend than the one set aside; and in a week the most delicate patient would not change back again at all. Beside additional warmth, there is an electrical action aroused by friction of wool against human skin that promotes capillary circulation, keeps skin functions going and largely contributes to general health in that singular way which I have named for want of better term, vitalizing power.—*American Magazine.*

THE BUTTON CAMERA.—Perhaps the most successful and ingenious concealed camera is one arranged to be suspended from the neck, behind the vest, having the miniature lens projected through a button-hole in the vest, and constructed so as to match the other buttons. The sensitive plate is circular in form, held in a round, thin, light-metal case. After an exposure is made the plate is readily rotated forward until a new section is brought behind the lens. A convenient cord depends behind the vest from the releasing mechanism of the shutter. In taking a picture it is only necessary to walk up to within a few feet of the object, then to quickly pull the string; a slight sound or click at once apprises the operator that the picture is taken. Six negatives may be made on one plate, the size of each being about one and a half inches square. From these, enlarged pictures are easily made. In Germany this camera is styled "The Button Camera." It is becoming very popular there, especially with artists and military officials, and it is reported that as many as three hundred are now carried by the Russian police.—*Harper's Magazine.*

ELECTIONS AS EDUCATORS.—For such a presidential election as that of 1888, with its fair and open struggle between two natural opposed political principles, and its consequent influence as a political educator for the American democracy, there need be nothing but congratulations for the country, let its cost be what it may. There have been elections over which no such congratulations could be uttered—elections in which the cost was as great and the educational results nothing or next to nothing; but no such criticism can be aimed at the election of this year. There are very few voters in this country who have not in November a far larger and more distinct knowledge of the economic principles which underlie their political beliefs than they had six months ago; and, this educational result is, after all, the fundamental reason for the existence of the presidential election itself. And as we see this result continually coming into greater prominence, we may congratulate ourselves more heartily on the wisdom which gave us such an educational force, and on its new proof that democracy is not the rule of ignorance, but a system of self education.—*Century.*

A MAN WITHOUT AN ANCESTRY.—As soon as the American negro seeks to rise above the level of the former time, he finds himself confronted with the past of his race and the woes of his kindred. The white man traces his ancestry back for generations; knows whence they came; where they lived; and guesses what they did. To the American negro, the past is only darkness replete with unimaginable horrors. Ancestors he has none. Until with a quarter of a century he had no record of his kindred. He had no father, no mother—only a sire and dam. Being bred for market, he had no name, only a distinguishing appellative, like that of a horse or a dog. Even in comparison with these animals, he was at a disadvantage; there was no "herd-book" of slaves. The remembrance of this condition is not pleasant and can never become so. It is exasperating, galling, degrading. Every freedman's life is colored by this shadow. Thus the life of the negro, as a slave, freedman, and racial outcast, offers undoubtedly the richest mine of romantic material that has opened to the English-speaking novelist since the Wizard of the North discovered and depicted the common life of Scotland. The negro as a man has an immense advantage over the negro as a servant, being an altogether new character in fiction.—*Forum.*

Domestic Economy.

Little Accidents.

"Accidents will happen in the best regulated families," especially where there are children, and serious consequences often result simply because the necessary remedies were not at hand to administer at once. Unsightly scars, left by burns or scalds; mis-shapen fingers resulting from cuts, beside other far more serious consequences following in the train of severe falls or blows, might, in nine cases out of every ten, be prevented just by being able to give prompt attention at the time of the accident. The mother (who is the one supposed to look after these important little details of domestic management) no doubt intended getting everything together, ready for emergencies—but she forgot! The children were all well and the subject was allowed to pass from her mind; then some day, when an accident did happen, the requisite articles were conspicuous by their absence.

Some persons seem to have the idea that if the necessary arrangements are made, the accidents are bound to happen, and consequently they cannot be persuaded to set about the task. Influenced by the same feeling, many shrink with horror from making a will. "Oh dear no!" they tell you, they do not wish to die just yet; and so the thing is postponed time after time, probably never done at all, thus causing in very many cases, no end of trouble and annoyance. A moment's reflection will show that neither accidents nor death will happen one moment sooner for the fact of our being prepared.

I should like to persuade some mothers who read these lines to adopt the plan which I have proved to be so helpful in my own home, namely to have some particular place in the house set apart for the storing of medicines, lotions, plasters, &c., which are likely to be wanted at a moment's notice. It must, of course, be out of the children's reach, as many valuable medicines are highly dangerous if meddled with by inexperienced fingers. The spot I have chosen is the shelf in a high wardrobe which stands in my own bedroom; there I have gathered together every sort of remedy I could think of. Among other articles which I have found of great service, I may mention the following: A bottle of castor oil, useful in cases of croup, which generally occur during the night when it is impossible to purchase anything without great trouble, also very beneficial to give after a heavy blow or a fall; a box of homœopathic medicines, a bottle of arnica lotion, some tincture of calendula, a bottle of turpentine, a good-sized case of plaster and a pair of sharp scissors lying by it; a roll of fine soft cotton wool (or wadding), a skein of strong linen thread, some lint, a bottle of glycerine, a lotion for burns, and last, but not least in importance, a roll of old linen. Every scrap should be treasured up most carefully—it is of the greatest service in the treatment of sores of every description. Doubtless many other little things may suggest themselves to the mind at various times as desirable to add, but the articles mentioned are some of those which are most often in requisition.

And now a few words about the treatment of ordinary accidents. Cuts require to be treated according to their position and character. A cut finger, if the wound is only slight, is best tied up at once in clean old linen; if the warm blood is allowed to remain about the cut, it will assist in the work of healing. If, however, any foreign substance, such as glass, grit or dirt of any kind has got into the cut, it should be removed at once. This is easily accomplished by bathing the part in lukewarm water previous to putting on the linen. Should the wound be very serious, the blood ought to be examined; if it presents a dark appearance, and flows, or rather oozes, slowly from the cut, it proceeds from a vein, and is therefore not dangerous, but if it is bright red, and seems to spurt, it comes from an artery, which is quite another matter. In this case it is always wise to procure medical aid as quickly as possible; meantime, however, the wound should be tightly bound up, to prevent, if possible, a further loss of blood. When a simple, ordinary cut gapes, causing the part to look unsightly, the edges of the skin should at once be drawn into their proper place, and kept there by a strip of plaster. A cut on the head needs to be treated with great care. The hair should be cut off all round the place, to avoid irritating the wound, and a piece of lint, soaked in calendulated water, should be laid upon it, and kept on so long as the cut feels easy. This calendulated water is made by mixing 30 drops of the tincture of calendula with half a tumblerful of water.

Burns or scalds may safely be treated in the following manner: Cover the part immediately with a piece of old linen soaked in glycerine, and in a very short time the pain will be considerably lessened. If it happens to be the face, or any other part which it would be difficult to cover, apply a lotion, which can either be purchased at the chemist's, or may be made at home of equal parts of collodion and castor oil. The great secret of curing a burn, or scald, lies in keeping the air entirely excluded from the part affected. When small blisters form, as they often do, they should be pricked with a fine needle; the watery contents should then be gently squeezed out, and the place again covered in the way directed above. Supposing a child's clothing should get on fire, the best thing to do is to envelop the little one at once in the heaviest woolen thing which happens to be at hand; a hearth rug, table cover, blanket, or anything of that description. This will soon quench the flames, but should the child be allowed to run about, it is easy to picture the result.

If a child gets a heavy fall, bathe the injured part with arnica lotion, and administer a good dose of castor oil. If the blow is on the head and the little one becomes unconscious through it, lay him on his back and dash cold water on his face, also moisten the palms of his hands and let plenty of fresh air blow upon him. If on retaining consciousness the child vomits, the doctor had better be sent for, as it is not improbable that the brain may be injured.

London, Eng. AUNT CHLOE.

Glace Oranges.—Have the oranges perfectly dry. Separate carefully each carpel without breaking the inner skin. Stand them in a warm place to dry. Put one pound of granulated sugar in a porcelain-lined kettle, add to it a half-cup of water and stand over the fire to boil. Do not stir after the sugar is dissolved. After the mixture has been boiling about ten minutes, hold the forefinger and thumb in ice-water for a minute, then quickly dip up a little of the boiling syrup with them; press the thumb and finger tightly together, then draw them apart; if the syrup forms a thread, it is at the second degree. Boil gently about three or four minutes longer until it reaches the sixth degree. This may be known by taking a small portion on the end of a spoon, then dipping it into cold water and breaking it off quickly; if it is brittle, without being at all sticky, it is just right. The syrup must never be stirred, or it will cause granulation. Now take it quickly from the fire, add a tablespoonful of lemon juice, and stand in a basin of boiling water, to keep the syrup from candying. Take the fruit on the point of a skewer or with sugar tongs, dip into the syrup, lay on a piece of buttered paper and stand in a warm dry place to dry.—*Table Talk.*

Infant's Jersey.—I recently saw a baby's jersey knit in garter stitch on large steel needles. The material was white Saxony yarn, with a border of blue. Cast on 70 stitches. Knit 40 ribs (or 80 rows). Cast on 40 stitches on each end of the needle. Knit 31 ribs (or 62 rows). Knit 65 stitches and bind off 30. Knit 6 ribs (or 12 rows); add 7 stitches and knit 21 ribs. Bind off 40 stitches and knit 40 ribs. Nine rows for border, which extends up the front, and must be dove-tailed at the corners.

LILLIAN MAYNE.

Cook Book Wanted.—I should like to have a No. 1 cook book to learn to make the very finest and costliest cakes that can be made. I have several receipt books now, but they are not for fine enough cakes, and besides they don't explain well enough how to mix, that is, how to put up the ingredients well together in order. If you can find out that there is such a book, I wish you would let me know.

L. C.

Cider Vinegar.—I formerly supposed it was necessary to let the new cider become sour before putting it into the vinegar barrel. For several years past we have put the cider direct from the press, while sweet, into our vinegar barrel, and we found the result to be, a higher colored and better flavored vinegar. The result of this operation has been satisfactory to us every time. W. E. C. *West Winsted, Ct.*

Knitted Bed Sock, p. 57.—A simpler form of sock is made by knitting 4 inches rib, 6 inches plain or garter stitch, 4 inches rib. About 88 stitches would make a medium sized sock. Sew up sides and run elastic, half an inch from the top. This forms a square bag-shaped sock, which, however, when drawn on the foot, takes its shape perfectly. AUNT MOLLY.

Transfers of Thoroughbred Cattle.

American Jersey Cattle Club.

NAME. SELLER. BUYER.

Nellie W 19733, H Q Cutting, W Cochran
Nettie Winfield 44770 and Niagara Belle 49614, J M Richmond, W A F Butor
Olga 2d 9438, H I Lippincott, A H Moore
Ona Khedive 6304, G P Lapham, Memphis Farms
Pansy Hawthorn 13464, A S Haven, C Bradley
Parkland 21417, W A Fowler, F W Morrell
Passaic Queen 46615, F M Carryl, J N Kingsland
Pearl Hale 6256, G H Hewitt, J G Couch
Pedrosita 46753, J M Richmond, W A F Butor
Pedro's Beauty 46638, Pedro's Belle Dame 50699 and Pedro's Blossom 50697, T S Cooper, A H Moore
Pet's Albert 2d 47372, J M Richmond, W A F Butor
Phillis 7762 and Phryne 4389, Holly Grove Farm, G B Turrell
Pink Pogis 18676, T S Cooper, A H Moore
Precious as Heller 20961, G H Mc'ann, F W Warner
Pride of Neshaminy 17365, T K Hanna, J A Lewis
Pride of Ontario 3162, P J Cogswell, C W Talmadge
Pride's Agnes 46655 and Prince's Myrtle 46665, Holly Grove Farm, G B Turrell
Princess Rioter 20966, T S Cooper, A H Moore
Queen of Pawlet 12502, J B Webb, M Oeraide
Quee Vashti 51803, H H Kingman, Mrs J S Crosby
Rain in Harvest 50698, T S Cooper, A H Moore
Rebecca of Delhi 6 H, Est of L Dubois, M H S Mallal
Regent's Hattie 2d 48508, W McGuire, S Mohrhach
Rene Noble 6th, Holly Grove Farm, G B Turrell
Rioter Regina 3884, T S Cooper, A H Moore
Romeo's Pride 19668, H A Potter, P R Day
Romulus Buttercup 20963, T S Cooper, A H Moore
Rosa of Bethland 20677, J M Richmond, W A F Butor
Rose Heller 43995, A S Haven, C Bradley
Rose Wilshire 46, H Gallup, Mrs E A Brown
Ruby 2d 49 8, J M Richmond, W A F Butor
Sabrina's Majesty 20694, H Lippincott, A H Moore
Sap 2907, C E Rowley, G H Sands
Sister Signal 6 6, F P Lapham, Memphis Farms
Splitter 43738, Holly Grove Farm, G B Turrell
Sparkleone 2d 43671, J M Richmond, W A F Butor
Susan McMillan 24161, Mrs W J Hazelwood, S Shook
Tamora 5661, G H Hewitt, E W Meeker
Taron 46569, University of Tennessee, A O Hall
Thalia II 4548, L C Powers, G H Bonta
Tayra, Bloomfield 4020, W M Clark, H Compton
Tom Laddeser 19224, J Moore, Jr, T W Martin
Violet of Delhi 43117, Est of L Dubois, M H S McCall
Young Princess Aggie 24697, T S Cooper, A H Moore
Zina Belle 46638, J H Clough, J H Clough
Albert's Grey Eagle 2166, H E Kinne, B M Acosta
Ancilla's Gilderoy 3124, H O Westlake, L Zeh & Son
Byron Webster 6118, J Gibson, J G Winterrowd
Campbell's Wallace 12777, J L Bryant, W Linck
Carlo's Mercury 1941, H Merriman, M H smith
Champion Lawrence 8729, H F Ramey, F Dorrance
Chief of Cruickshill 2818, C W Pease, S A Foulk
Chief No Rioter 2338, W Ralph, H Lewis
Crepo Turmeric 2674, H W Bemis, W L Bemis
Dolphin of Mahoning 11616 H P Lewis, M B Camp
Fell of Pen 2484, T W Bridgett, R Smith
G F Train 1508, J G Avery, H F Hogeboom
Gilded Signal 2160, W Gentry, P H Pitts
Hesaine Stoke Pogis 3179, J D Hood, M H Allen
Hugo's Emperor 7001, C E Hill, F J Hancock
John Sample 7594, J H Carter, C N McClaskan
Kokomo 12674, C H Babcock, G V Darby
L by Victor of Hilton 12695, J H Walker, H W Bemis
La Mercy's Signal 7508, H M Baum, J H Harbert
Lompoc Chief 20 Vic, J H Clark, J W Jacobs
Lord Gold of Lee Farm Sale, A F Ball, A Fraser
Maita J 10 ise 7503, A W Hartford, W Hartford
Mary Agnes's Lock 31123, D A stenger, J K Lost
Mayor Hewitt 1040, H Merriman, H H Goss
Oakalida's Tezac 1078, J M Meyer, G Smith
Pans Pogis 14 Pansy, C Westbrook, W H Bertram
Pearlet's dettuate 1742, C S Taylor, T B Allinson
Pogis Maximum 20764, A J Fish, S M Fish
Prince of Warrack 2114, H P Lewis, C W Campbell
Prince of Fulton 21695, Belmont Jersey Cattle Co, A Field
Prospect's Pedro 11826, J A Hisley, W Mills
Rhea's Pedro 9118, A W King, H D Lloyd
Rioter of Good Hope 20697, W A & F Mallin, J E Hummer
Romeo of Elmwood 21562, J H Small, Mrs J Graff
Rurbee Mabe Pogis 21664, Holly Grove Farm, W Baylis
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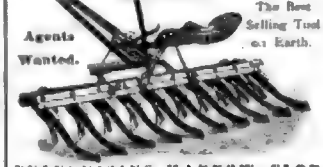

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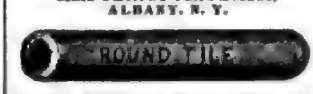

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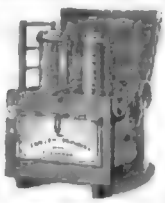

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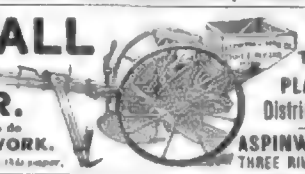

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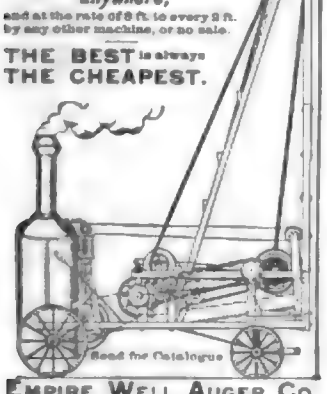

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The Cultivator and Country Gentleman

Albany, Jan. 31, 1880.

Arrangements for Silos.

Eds. Country Gentleman—I am getting ready to build a barn for cattle, with silo attached at one end. The plan I intend using is the one recommended by Mr. Waldo F. Brown in your paper of Nov 20th, with some modifications. The feeding alley between the cows will be 8 feet wide instead of 4 feet, and the barn 37 feet instead of 24 feet wide; silo at one end, rooms for ground feed, &c., at the other, and a railroad track down centre of the feeding alley to carry the heavy ensilage for distribution to cows. (1)

I propose to arrange for forty cows, and will depend mostly on ensilage to carry them through winter, though I will also make some hay to be stored above the cows. Now I want advice on the following points: Shall I feed ensilage from the top and have no doors to silos at all; the silos will be 12 by 18 feet, and 30 feet deep, inside measurement, and I had planned to have doors in corner of each, at end of feeding alley, and use from ends next to doors; but a friend who has been using ensilage says that the ensilage will spoil faster than I can feed it away to forty cows from silos of that size if I use from ends, and advises me to feed from top. This will entail great labor in elevating the ensilage out of the silo and lowering to the barn floor into the car, and I would like some one to help me with plan to get around this hard work if it can be done. (2)

With ensilage cut in half inch lengths and well weighted, how deep does it become affected by air in 24 hours after it is uncovered? In other words, how much must be used to keep from wasting it or letting it become unfit for food? (3)

What I am driving at is to apportion the size of silo to size of herd, and to be sure of losing no food. If my silos will be too large, built 12 by 18, for forty cows, I can divide by putting in a partition, and have them 12 by 9 and 30 feet deep; but this seems too small, and besides, as I will have to fill them from outside with elevator, the two next cow barn would be very troublesome to get at in filling, and the outside ones equally unhandy in getting ensilage out and into car. (4) R. R. T.

Aiken, S. C., Jan. 13.

1. The wider alleys are an improvement.

2. Cows which have some meal and dry food with the ensilage, if of medium size, will eat 60 or 65 lbs. in 24 hours, or not far from a foot and a half cubic measure, varying, however, with the compactness of the ensilage. Your silo, of the dimensions given, will hold 6,320 cubic feet; or, allowing for some settling below the top, 4,000 feet. This will feed the 40 cows about 100 days. If you feed from the top, you will have to take off a stratum each day of a little over 3 inches; if you cut down the side 3 feet wide at a time, you will remove 3 feet at a time, and a new face will be cut away every 12 days. This will probably be quite as good as feeding whole from the top, although some owners prefer the latter.

3. The condition of the ensilage from exposure varies greatly with the solid packing it has received in filling, in the pliable nature of the stalks, and in the amount of weighting; but in cold weather a few days' exposure hardly affects it.

4. The only advantage of the partition will be in enabling you to fill one portion at a time, and in removing a thicker stratum for each daily feeding; but if this will require greater inconvenience in placing the cutter when filling, and increase the labor when feeding out, it is not to be recommended. By having a strong and tight plank door at one end of the silo, so that you can wheel out the contents as required for feeding, on the same level as the stable door, you will save a great amount of labor in feeding.—Eds.

Winter-Grazing Wheat.—My observation is that no good results to a crop of wheat from winter-grazing and tramping of stock. On the contrary, the injury to the bud of the stools, on account of being left bare by the cropping of the leaves, and by having the roots partially covered (as is the case very often), is far more injurious to the crop than any little benefit ever derived from the droppings and tramping of the animals. If cattle would do the tramping uniformly, as a roller does it, it would be a different thing. But it is noticeable that they do the least of it where it is most needed. Nor is the scattering of their manure any more uniform than the trampling of the soil. It cannot benefit a stool of wheat, or other grain, to have what little foliage it may possess clipped off, leaving the bud only the more exposed; and certainly no good comes of having its roots partially severed from the soil. Both these evils are sure to result from the grazing of small stock. It would be far better to give the wheat a top-dressing of barnyard or stable manure, or other long litter, or even mould from the forest. And stock would be better served on pastures of rye, clover, or grass, or if kept in woodland range, and fed on dry forage. If the wheat land is heaved by the frost, roll it the first chance that presents, when the water is out of the soil. R. W. J. *Berry County, Va.*

Notes of the Albany Institute.

Amber Cane.—Mr. McMillan of Fairport is growing the amber cane, and has made cakes of the molasses in Albany in competition with New-Orleans. The bagasse, he believes, will yield a pulp equal to that of wood for paper making, and the refuse will yield a mineral fertilizer. Albany chemists are now experimenting in this direction.

Duroc Hogs.—Mr. Powell found them very satisfactory; they have strong constitutions; he has fed them on ensilage. Mr. Lagrange had raised them four years out of 28 years' experience with hogs; found them the best to take on flesh and thrive. Mr. Mann of Saratoga, had known them for 60 years; were very satisfactory. Mr. McMillan—The first Durocs were imported by Mr. Kelsey in 1823; were named after the old Duroc horse. Col. Curtis—The Duroc is not the same as Jersey Red, now called Duroc-Jersey.

Spraying Fruit.—Prof. Lintner—Use one pound of Paris green to 150 gallons of water; with London purple 200 gallons. Prof. Cook would use London purple in preference to other forms of arsenic; it does not destroy the foliage. In Wisconsin apples are sometimes attacked by curculio. Would plant plums with apples; spray the latter once, the plums three times. Don't put on till blossoms are gone, to save the bees. Be thorough and use a force pump worked by the wagon wheels. Mr. Powell had been quite successful with the first spraying, applied when blossoms begin to fall.

Boys and Girls and Bees.—Prof. Cook—A Michigan farmer, with a good farm and two boys, got bee books and papers, studied them in winter with his boys, in spring bought bees and let the boys manage them and have the proceeds. They are now grown men. One has gone through college on the bee profits, and the other is no expense to his father. There were three years when the bees brought in more profit than all the rest of the farm, live stock included. Even in the recent two bad years the bees paid $100 above expenses. A lady in Ohio, left a widow a few years ago, went to bee-keeping, paid her way, now has a good bank account, and at the recent State convention reported the largest yield of honey. Two of our best apiarians are girls, one of whose honey has gone to Queen Victoria's table.

Local Markets.—"What is the matter with the Albany market and farmers?" brought out a lively discussion. One man complained bitterly that farmers had to accept such prices as the city dealers chose to offer, and pay what the shop-keepers chose to charge. They were shaved on both sides. Another said he got around that by producing choice articles and looking up private customers who would pay more than the market rate. He got 35 cents for butter and eggs, and could not supply the demand. Mr. Hale asked the farmers if they knew what it cost them to produce a bushel of wheat, a pound of butter, or a quart of milk. No reply. Finally, a Montgomery county man said he figured the cost of his milk at 1¾ cents a quart—all above this was profit. A co-operative creamery was suggested for Albany county.

Growth of Fruit Culture.—Mr. Hale, still a young man, remembered the time when in Hartford, Ct., only one man sold small fruits, and he thought he did a large business when he sold six bushels per day. Now, perhaps 500 bushels are sold daily in that city.

Rye as Feed.—Col. Curtis said: I use it to good advantage. It is not a well balanced feed, and should be mixed with wheat bran. The objection to rye is the danger from ergot. It must be fed with care. Had just received report from his farmer of pigs recently killed which average 75 per cent. of lean meat. This was also the average of the preceding year.

Cost of Silo.—In answer to question, Col. Curtis said a silo for 20 cows could be built for $150. Prof. Cook said he had found that the silo enabled him to keep ⅓ more stock with an equal increase of manure and crops. The coming year he will board his silo only on the inside, and line with paper, and will also try sweet corn. Southern corn does not answer for Michigan. Silo corn should be planted for *corn*, cut when glazed, and silo filled at once. He used no stones for weighting, only loose straw and boards, and had beautiful ensilage. Set studs 15 inches apart. In planting, used Buckeye drill, outside droppers, and put in 13 acres per day.

White Grubs.—Mr. Hale used a spoonful of sulphur in each planted hill. Since using muriate of potash as a fertiliser had noticed a decrease of grubs.

Currant Worms.—H. Lomeyer of Amsterdam applied iron filings seven years ago to his bushes, and had not seen any worms since.

Corn for the Silo.

It is easy to see from the interesting letter of J. G., in the Country Gentleman of Dec. 20, why the policy in reference to kind of corn for ensilage should differ in Northern Ohio and Central Michigan. In reply to Mr. Gould's inquiries, I will say that the corn was planted and cared for the same as was our field corn. Some of it was planted in hills and worked both ways, but most was planted in drills, not crowded, and thoroughly worked. Our other corn, similarly planted and treated in the same way, matured perfectly and gave us an immense crop. None of the B. & W. corn produced ears of any value.

When we read friend Gould's dates for planting and frost, we quite understand why this southern corn is not for Michigan. He says the southern corn, if planted by May 10, would ear out in good shape. I can remember in the early days of Michigan, my father used as a rule to plant by May 10. Now the climate is less mild and the seasons later; for several years we have not been warranted in planting before May 20. Corn planted earlier than this was apt to rot in the ground, as the soil was not yet warm enough to cause it to germinate. To follow J. G.'s advice and plant May 10 in Central Michigan, would be as disappointing as it is to plant the B. & W. corn

Again, I a.. to pray for the frosts to hold off till October 5. But our frosts usually come by September 15. To pray for their delay till October, would be prayer without faith, which I do not believe in. No, this southern corn is not for Michigan. And any who are led to plant it will surely regret it. I have said that the experiment cost me one hundred dollars. I now believe the damage may be fairly estimated at three times that amount. I put five acres of the southern corn into my silo. Certainly, the five hundred bushels of corn that might have gone in had I used our common field corn, as I did last year, would certainly have increased the value $300. Another thing that surprises me is the fact that it took as many acres of the southern corn to fill the silo as it did of our small flint corn. This, of course, comes from the settling. Corn-ears do not shrink in bulk as do the stalks.

Right here I would like to ask if any one has tried the sweet corn for ensilage. What variety of sweet corn is largest and most prolific? Is there any way of getting sweet corn seed that will surely germinate and start off vigorously as soon as planted? My plan now for next year is to plant mostly common flint corn—that which we find best for field corn—and about an acre of some large prolific dent, that will surely mature to the glazing stage, and about one acre of large sweet corn. The sweet corn ears very generously, and the stalks are very sweet, nutritious and abundant.

One thing more. I have learned this summer to experiment in a small way. I ought to have planted a half acre of Southern corn instead of five acres.

This year we cut straw and put a layer on top of the ensilage two or three feet deep. We then added boards and a little seasoned wood. Upon opening the silo we found practically no waste at all. There was just a little spoiled at the corners, but hardly enough to speak of. The quality is also very excellent.

The following points are surely settled: In planting for ensilage, work for corn just as of old for corn to husk. Cut just as the corn is glazed, before the stalks die. Fill rapidly or slowly as best suits the convenience. Tread very thoroughly, especially about the sides and corners. Put two feet of cut straw on top, cover with boards and weight slightly, to hold boards down. A. J. Cook.

Michigan Agricultural College.

Stering Thin Ice.

Eds. Country Gentleman—Ice has ceased to be a luxury, and become a necessity for the summer months—to none more so than the progressive dairyman who has adopted his plans to the deep-setting process of raising cream. But the phenomenal mildness of the present winter awakens feelings of alarm, lest, with all his expensive apparatus, the summer will find him without the ice necessary to operate his creamer. Many who had an abundance of ice in former years, may have to choose between thin ice or no ice, this year. Having learned from the South Jersey people how to secure a good supply from thin ice, and thus filled my ice-house for the last six years, I take pleasure in commending the plan to your readers, who enjoy a South Jersey climate in a more northern State this winter.

Ocean county people watch the weather closely, and if there is fair promise of continued cold, they delay gathering the crop till the ice is six or seven inches thick. The thicker the ice, the quicker the work and the less the waste after storing. If the weather is dubious, they make no delay in storing the ice when it is four or five inches thick. In 1869 it was only four inches, and but few secured that, as it came in December, and almost all waited for better ice.

Their process is expeditious, cheap and quite satisfactory under the circumstances. They do not cut thin ice into uniform blocks but break it into irregular cakes, and load as easily as possible. Several teams usually work together, and one man stays in the ice-house to break up the ice into pieces with the flat side of an axe, so as to fill all large air spaces, and also to keep the pile fairly level as it increases. When the house is heaping full, they take a course which I was slow to adopt, till after three years' experience, became it seemed to me wasteful and unreasonable. They leave the ice-house door open for many days, usually for several weeks. The design is to have all the small air spaces filled by the settling of the ice before the sawdust is applied, so that when the ice is taken out in summer, it comes out in congealed irregular lumps. This I find is a much better way than to fill and cover the ice at once, and try to preserve it with numberless air chambers throughout the entire mass.

I have never had thick ice, and so cannot compare the two methods, but I am quite sure I would prefer blocks twelve inches thick and of uniform size, if I could get them.

Ocean County, N. J. C. B. Little.

From Washington County.

Eds. Country Gentleman—The winter thus far has been the mildest one on record or remembered. The only snowfall of importance was before Christmas, about six inches, making good sleighing for a week, when it quickly melted under a warm sun. Since then the weather has been decidedly spring-like. The warm days and the freezing nights have caused considerable injury to the meadows, and unless snow comes soon, great damage is likely to ensue.

The live-stock-raising business has received of late a wonderful impetus in this section, and there can now be found in almost any town of our county, specimens of the finest Jerseys and Guernseys, as well as of Holstein, Short-Horn and other breeds.

The milk-shipping and other branches of dairying are also receiving considerable attention. During the summer season, at one station on the D. & H. railroad, from 80 to 100 cans of milk daily are shipped to the Albany market. Last spring the Albany Milk Association established a separator at the above station, Smith's Basin, and the surplus milk is made into cream and butter.

There is a creamery at Glen's Falls, operated on the cream-gathering system, that is now largely patronized by the farmers. Although Glen's Falls is on the borders of the adjoining

county of Warren, yet the city depends very largely upon the farmers of Washington county for its prosperity, and a large share of the cream furnished the creamery comes from that county. About eighty thousand pounds of butter was made last season at the Glen's Falls creamery and the cash paid to the farmers that furnished the cream, has been a great help in carrying them over the past two years of poor crops, and low prices.

Last year the season was so backward and unfavorable that the corn and oat crops were almost total failures, but the hay crop was unusually heavy. The surplus hay finds a ready sale at good prices in Boston, New York and Albany, and thousands of tons have already been baled and shipped.

An adjourned meeting was held at Kingsbury, Jan. 19, to organize a farmers' club. Notwithstanding the almost impassable condition of the roads, and cold weather, about fifty farmers were present, and all were thoroughly aroused to the importance of perfecting an organization of the farmers of Washington county. The principal address was made by Mr. Geo. T. Powell of Columbia county, whose suggestions were of great assistance in giving the project a good start.

The following committee was appointed to prepare plan of organization and programme for next meeting: T. E. Cross, chairman; Andrew Minton, Jos. Wooster, Josiah Varney, and W. J. Haviland. Adjourned to meet again Saturday, Jan. 23.

Had it been known that Mr. Powell was to be present, the house would have been filled, as the gentleman has hosts of friends here.

Vaughn's, N. Y. T. E. C.

Maple Sugar and Syrup.

Eds. Country Gentleman—This is the season when all farmers who have maple groves should be arranging for the forthcoming crop, for true it is that at present there is no part of farming that pays so well as a good maple orchard. As has been so well taught in the Country Gentleman in past years, every wise and well-informed person who has a sugar grove will have a good house, ample woodshed, Champion evaporator, tin buckets and Post spouts. He will burn only good, thoroughly-seasoned wood, and will be so neat that only a first-class article of syrup will be produced from first to last. I say syrup, as I think we can not afford to make sugar. I have ready market for all my syrup at $1.25 per gallon. It has been recommended by our best syrup makers that we cover all our buckets. This not only keeps leaves and dirt from the sap, but saves boiling away all rain water. I have always practiced this method, but I fear at a loss.

One of our brightest Michigan farmers, who always knows what he is about, taps two spouts to a bucket. Last year he got almost twice as much per tree as I did. In speaking with him about it, I said: "But you can't use the covers?" He replied: "Let the covers go to grass! They are right in theory, but very costly in practice." With care, he said, the leaves and dirt need do no harm, and the little extra boiling for rain is paid for a thousand times by the extra sap. I believe he may be right; at least I shall discard about half my covers this spring, and use two spouts per bucket. In such a season as last, this plan will prove very advantageous, as the sap ran so slowly that we rarely got more than half a bucketful in gathering. If we could devise some easy way to use the two spouts and the covers, it would be a very excellent arrangement.

I think one of the greatest neglects on the part of sugar makers is in not washing the buckets out after each run, especially late in the season. This is not very difficult. A little warm water and a cloth make it quick and thorough. Then we are troubled much less with sour sap and a second-rate article of syrup. Let me urge all to keep the buckets sweet and clean.

In some cases it is impossible to prevent souring so that some mischief or damage will not occur, especially when warm weather and Sunday (we never work in the bush on Sunday) conspire to work against us. With all runs early in the week we can be masters of the situation, but late runs are too much for us. I have concluded, in case it were necessary, to try science on the thing next spring. Why not use a little soda? This would neutralize the acid and prevent the inversion of the sugar. I believe that with a little strong solution of soda and a syringe we can overcome this acid trouble. The soda can do no harm—at least it will do no harm to try it in a small way. What is science, for if not for just such emergencies?

Michigan Ag'l College. A. J. COOK.

Farmers' Institutes in Iowa.

Eds. Country Gentleman—Thus far the institutes have been rather slow in Iowa from lack of funds. But they received a new impetus, Jan. 8. On that day some thirty live men, connected with the various agricultural organizations and interests of the State, met in the Agricultural Rooms in the State House in Des Moines, and renewed and perfected the State Institute Association. A few enthusiastic speeches were made, to the effect that Iowa should be ashamed to be behind her sister States in this matter, and since, unlike the Legislatures elsewhere, our own Legislature last winter in its biennial session felt too poor to appropriate funds for the work, that must be done by private parties or by State agricultural organizations; that institutes can never be successful as a State affair unless managed by one central organization with a secretary who can arrange circuits to save time and money by avoiding unnecessary travel; that to make a local institute a real success one or two lecturers are needed from outside the given locality, accustomed to the work and able to attract, interest and instruct; that the traveling expenses of such lecturers furnished by the central organization should be paid by it so that they might have a right to suggest, and to direct the meetings; that all local expenses should be paid by the localities where the institutes are held; that to run the work properly for one year from date, till the next Legislature meets, we must have $1,000, and we might as well put our hands into our pockets and raise it on the spot. It was done within thirty minutes! Gentlemen on the spot, trustees, directors, presidents, &c., pledged the following organizations for the following sums, or in lieu thereof to pay the sums personally, to wit:

State Agricultural Society	$300
State Agricultural College	100
State Horticultural Society	100
State Dairy Commission	50
State University	50
Individuals, in sums of $20 and $30	300
Total	$1000

This is to be expended within the year by an executive committee, made up of officers from the first four organizations named above. Simply traveling expenses of lecturers are to be paid, and no per diem. For one year, at least, a considerable number of our Iowa men, best adapted to the work, will donate their time for several institutes each, and thus the work will go on.

I do not see how the next Legislature can well help responding. The work here begins now much as it did in Ohio eight years ago, and there the Legislature responded liberally at its next session. I do not see why almost any State may not begin the work somewhat in this way, where it is not already well begun.

Ames, Io., Jan. 11. W. I. CHAMBERLAIN.

Otsego County Crops and Prices.

Eds. Country Gentleman—The price of hops is now about 15c. per pound, and the market remains as heretofore. Brewers are looking for hops a little more and the signs are that the price will not further decline. Perhaps half of the hops remain unsold. A few lots were sold early at from 25c. to 30c., but not many, and much of those sold within the past few weeks have been at from 15c. upwards.

It is said that there are hard times among farmers, and, with potatoes 30c. per bushel and buckwheat 60c., it is true; but the grower who produced a good quality of hops last fall could have realized 30c. per pound for them, had he sold them in time. Butter has for some time sold for 22c., and cheese for the summer, 10½c. Pork and beef both bring an average price. It seems the evil should be corrected. The small price of potatoes has been caused by too large an acreage.

In this section, hereafter, there is no doubt that we must have close and economical management, founded on good judgment. There is money to hops in this particular locality when the price is good and growers will sell. All cannot grow hops and make money; nor can all grow potatoes or any other one crop, without having the state of the market precisely as it is now in regard to price. One extreme is apt to follow another, and it is very easy to look ahead and observe this fact. Too many potatoes this year are apt to be followed by too few. The fact that hops bring a small price one year is little argument that they will bring a small price the next—but a high price for hops is liable to suddenly increase the acreage. Hops being a perennial, will not decrease in the amount of acreage as quickly as an annual crop; the acreage decreases by lack of cultivation and hops becoming old and running out, but they will decrease in acreage as effectually.

Much profit might be made in this section from fruit. Considerable money is usually made from potatoes, and there are many things in this section which money might be derived from. Last year the crop of hay was pretty good, and meadows must now be considered in pretty good shape. Though the soil was in bad condition in the spring of last year, the growth last year was made in good part by the timely rains which occurred in the forepart of the season. The crop of potatoes was a little above the average, and other crops were good. There is no particular reason why the soil of this locality should deteriorate in value; the crops are fully as large as they have been heretofore and the condition of the soil has been maintained.

I consider that fall plowing is an advantage to ordinary soils in this section. It gives a chance for improvement through the action of the weather, which cannot be attained in any other way. The heat and cold, and rain or snow, exercise a greater influence, and one that cannot be accomplished by anything else, and this is the general result of experience. I have seen many fields, and in many cases the evidence that fall plowing was better, and gave better results than spring plowing. Crops of oats and other spring grains, and buckwheat, and potatoes, have generally seemed to flourish best with spring plowing, together with thorough harrowing. When the plowing is done then, and manure used, it does not seem to have as good an effect as when the plowing is done in the fall, and manure applied then, or during the winter, for the rain and snow to act upon. The elements have much to do with the action of manure, and especially is it better, when it is dry in the summer, that manure should be applied in the fall or winter.

The weather has been quite mild for some time, without much snow, and there has not to fact been a great deal of snow during the winter, and but little for the past three weeks, nor has the weather been very cold. J. F.

Otsego County, N. Y., Jan. 11.

An Earth-Closet Drawer.

Eds. Country Gentleman—My only criticism on Mr. Terry's plan of earth closets (page 4) would be as to the small size of the receptacles under the seat—the pails. The women-folk would have to keep "dinging" at the men to empty them, and if not attended to in time, the building would become offensive, and the handles of the pails get in such condition that to ask a hired man to handle them might involve the risk of losing the services of a hand who "did not hire to do such work."

I have had some experience with earth-closets, which I beg to relate. When I bought my farm, I found the outhouse 15 feet distant from the kitchen door and the same distance from the well, and there it had stood and was used for more than 30 years. Nothing but a stiff clay soil had prevented the well from being contaminated. Underneath the little building was a small cemented cess-pool, supposed to be water-tight. From my experience in building cisterns under round, I knew of the difficulty in making such work water-tight, and on inquiry of a man who had lived on the farm many years, I learned that the cesspool had been rarely emptied, which satisfied my mind that there was leakage, and that the surrounding ground was gradually being infected with the offensive liquids. The space between the cess-pool and the well was brick-paved, and covered by a piazza roof, and so was not moistened directly by rain, and the sewerage made slow progress in reaching the well. The cess-pool had been used so many years without affecting the water of the well, the women-folk protested that there was no danger, and that my proposed change would subject the kitchen to the prevalence of foul odors.

However, I had the cess pool thoroughly cleansed and filled up with earth, and inserted a drawer, occupying the whole space under the seat, built of inch and a half pine plank, made water-tight. In the end of the drawer was inserted a ring, to which to attach power when the drawer required removal and emptying. Dry earth or sifted coal ashes were deposited in the drawer to the depth of three inches. So large a supply of absorbents, at the start, will admit of carelessness in adding the daily supply. A box, standing in the corner of the building, a foot square by 30 inches in height, will hold two bushels of absorbents, and the instructions were that a quart should be distributed daily in the drawer. As a matter of fact, the absorbents were not added oftener than twice a week, but the air in the vicinity has always been sweet. About once in three months the drawer is emptied. A stone-boat is placed against the building, and the drawer is dragged out and placed on the boat. The contents are deposited on the compost heap, the drawer again supplied with fresh absorbents and restored to its place. The care of the matter gives very little trouble to the men-folk, and the farmer feels he is fully compensated by the addition to the supply of fertilizer. I use sifted coal ashes, of which I keep a large supply for my poultry houses. It is very generally recommended as a deodorizer, and nearly every farmer has it, the result of cleaning the cinders needed for preserving fires over night.

The great merit of this plan is its capabilities for neglect—a strange recommendation, you may say—but nearly every farmer's wife knows how the men grumble at having anything to do about the house. In fact, there are farmers who buy the most improved machinery for farm work, while they leave their wives to struggle along in the house with old-fashioned implements and methods. Luckily, for the interest of ordinary civilization, this class of farmers is growing fewer in number. It will be observed that this drawer may be handled, even when full, without the hand coming in contact with anything offensive, and the farmer could offer no possible objection to the care of it, while handling the pails might be thought of the nature of carrying chamber slops, which is women's work, and not for man to do. G. W. Farley. *Trenton, N. J.*

Our Illinois Correspondence.

Champaign County, Jan. 17.

A professor of reputation attached to the Purdue Agricultural School of Indiana has lately stated his conviction that the farms of that State are being exhausted of fertility at the rate of five per cent. per annum, by the methods now pursued. No doubt the same is true of Illinois soils, even under corn and wheat, while pastures and meadow lands are losing fertility at a faster rate, because the phosphates are taken off in the hay, and the milk sold or manufactured, and the nitrogen is evaporated by heat and the sun's rays. This latter power for soil impoverishment and exhaustion has never been sufficiently understood or recognized. Perhaps some information may be contributed to the subject of nitrogen losses, by a paragraph or two on

Summer Fallows.

It is well known by practical men and generally admitted by others, that while in a majority of cases where the soil is rich, the practice proves a beneficial one, in others it proves disastrous to fertility. These different effects of the same practice are partly due to latitude, partly to the character of the summer season following, and partly to the character of the soil. In low latitudes, as in the cotton belt for example, turning the soil in midsummer and exposing it to the fierce rays of a torrid sun, is almost sure to so impoverish it, as to reduce the crops of the following year nearly one-half.

Again, while in the Northern United States and in Canada, it does not seem to make much difference with crops following, what time in the year the forest growth is cut and cleared off, south of the Ohio river, if the forest growth is removed in the spring or early in the summer, and the bare soil surface exposed to the sun, the results are disastrous to the fresh fertility of the new land. And this fear of the disastrous effects of the sun's full rays on new land has led to the common practice of "deadening out"—that is, cutting a portion of the first growth and planting the new crops in the half shade. In the North, the sun's rays being less powerful, and the reign of hot weather being several months shorter, the loss of nitrogen by evaporation is not sufficient to effect a reduction of fertility large enough to be recog-

mixed. If in the North, a foul soil having an excess of vegetable matter, and also more than a sufficiency of nitrogen for crops, will be benefited by a summer fallow, because, the plow having buried the surface accumulations of vegetable matter, fermentation and decomposition will follow, the roots of perennial vegetation be destroyed, the seeds of noxious weeds killed, and the top soil compacted into a homogeneous mass. For these reasons, there is no better preparation for a winter wheat crop on land that has not lost the greater part of its original constituents, than a summer-fallow. But the results of such a fallow will be modified by the character of the summer season. If the summer is cool and very wet, or if very hot and dry, the processes of fermentation and decomposition will be interfered with, and the results will be less satisfactory than in a warm season of average heat and moisture.

In the case of thin lands, sandy lands, lands that have been impoverished by continual cropping, and lands destitute of vegetable matter, a bare summer-fallow, instead of improving, will injure them just to the extent that there is a loss of nitrogen. With these facts before us, it is not hard to understand why the results of summer fallowing are so widely divergent, nor why a practice that may be a good one in cool climates, may be very bad in warm and hot regions. Nor should it be difficult to make the average cultivator understand, that when he suffers his pastures to be eaten down to the bare surface before the first of July, and when he shaves the grass from his meadows in midsummer, he is offering easy access to a force which will rob his acres of fertility to the measure of five per cent per annum. The sun's rays are beneficent forces under many conditions, but under others they often commit robberies that are ruinous in their immediate results, whatever else they may be in the remote ones.

Diphtheria and the Roup.

According to the daily papers, diphtheria prevails in Chicago to the extent of an epidemic, and measures have been taken, or soon will be, to placard every house where it exists, as in cases of scarlet fever and smallpox. The present proves to be a winter favorable to the disease, for it is heard of from the Pacific to the Atlantic, and is remarkably common and unusually fatal in the mountains, at moderate as well as great elevations. What puzzles physicians and sanitarians is, the disease is as prevalent in high lands as low, in dry places as wet, and often puts on a malignant form where the hygienic conditions as to air, elevation, temperature and drainage are exceptionally good. Indeed, there seems to be some unrecognized agent which is active this winter in spreading the disease, beyond that of the unseasonably mild, moist and changeable weather that produces throat and lung inflammations, which furnish a favorable seed-bed for the growth and rapid development of the diphtheria germs.

Whether there is, or is not, any near or remote connection between the prevalence of diphtheria and the abundance and cheapness of poultry the present winter, remains to be investigated and published, if thought worth the while. Now, it is certain that roup is a very common disease among fowls at this season of the year, and, especially in cool, damp, moist weather, is very contagious and sorely fatal, if the patients are not at once attended to. A French savant, whose name has escaped me, having made a thorough investigation of roup in fowls, came to the conclusion that it was diphtheria, and nearly, if not quite, the same as the disease which has so long, next to cholera, been the scourge of humanity. As for remedies, a long series of experiments convinced the investigator that there is nothing equal to spirits of turpentine, administered in the form of the fumes of it driven off by heat, and subsequently the smoke of the burning fluid inhaled.

Considering the facts about diphtheria, that it is most common when poultry is cheapest, that it prevails worst and widest where the consumption of poultry is largest, that there is quite a close resemblance between the false membrane in both cases, that as good a remedy as any in diphtheria in the human subject has been found to be the fumes of turpentine and smoke, the suggestion is offered that the abundance of poultry, whether dead or alive, may be the origin of the diphtheria invasion.

Those who have had experience with fowls, not including equatics, know that a few days' close confinement in a crowded and unventilated house or coop in cold, raw, damp weather, will develop roup; that the disease is both infectious and contagious, that it sometimes takes a malignant and fatal form resisting all remedies, and that the causes which develop it are common in certain sections of the country, and they are therefore aware that half the live fowls sent into Chicago and the large cities have the germs of roup about them, and that of the dressed poultry, not less than ten per cent. of the whole is more or less similarly affected before prepared for market. If the germs of diphtheria of humanity and those of the roup of domestic fowls are near enough the same to produce the disease in the two organizations interchangeably, then the mystery which has hitherto shrouded the origin and causes of the general prevalence of the scourge, may be cleared up without difficulty.

Jan. 23.—Two inches of soft snow fell on the night of the 19th. The 20th was cloudy and moderate in the forenoon, colder in the after noon, cleared in the night, and the mercury fell so as to stand at zero the morning of the 21st. To-day is pleasant, nearly clear skies overhead, and most of the snow lies where it fell. Yesterday was the first zero weather we have had this winter, the lowest point having been 8° above.

So far as towns are concerned, business is very dull, in consequence of farmers, as a body, refusing to sell corn at the ruling prices, 25c. to 28c. for 70 pounds of sound ear, and 30c. and 32c. for 56 pounds shelled corn. Except for hay and hogs, farm products in the estimation of producers are ruling below their just values, and there is a strong disposition for those who can, to hold for an advance. That so many do so when the surpluses are heavy, shows pretty clearly the fair financial standing of Illinois farmers as a class, and the comparative scarcity of those scourges of agricultural communities, cut-throat mortgages and trust deeds. To this date, no ice has been secured south of latitude 41° or 42°, but there are winter weeks yet unexpended in which a full crop may be made and secured. R. P. J.

State Fertilizer Analysis.

An act "to prevent fraud in commercial fertilizers"—very similar to the measure proposed by the same gentleman last winter, except that it now includes ashes, limits analysis fee in each case to $30, forbids the sale of leather except marked as such, and provides for building a laboratory—has been introduced in the New-York Assembly by Mr. Charles E. Maynard of Eristille, and referred to the committee on agriculture. We give it below, slightly abbreviating the verbiage:

§ 1. Before any commercial fertilizer, ashes or manure, the retail price of which is $10 or more per ton, is offered for sale, the party who causes it to be offered shall file with the director of the New York Agricultural Experiment Station one certified copy of the certificate now required by Chap. 232 of the laws of 1878, to be affixed to each package, and shall deposit with said director a sealed glass jar containing not less than one pound, accompanied by affidavit that it is a fair average sample. Violations of this section shall be misdemeanors; punishment, first offense, fine of not less than $100; second offense, not less than $200.

§ 2. The manufacturer, importer, agent or seller of any commercial fertilizer, ashes or manure, the retail price of which is $10 or more per ton, shall pay, on or before the first day of May annually, to the director of the agricultural experiment station an analysis fee of $10, for each fertilizing ingredient claimed to be contained, provided, that when the manufacturer, importer or other person shall have paid the fee herein required, no agent shall be required to pay. The maximum fee for the analysis of any fertilizer shall not exceed $30. For any violation of this section the offender shall be liable to a penalty of $200, to be sued for by the director of the agricultural experiment station, the recovery to go to the State.

§ 3. Every person who sells any commercial fertilizer, ashes or manure, of whatever kind or price, shall, at the time of becoming such seller, and annually thereafter, report to the director of the agricultural experiment station his name, residence, name and brand of said fertilizer, address of party from whom such fertilizer was obtained, and shall, on demand of the director or his deputy, deliver to said director, or his deputy, a sample suitable for analysis. Any person violating either of the provisions of this section shall be liable to a penalty of $10 for each offense, to be recovered by action by any person to whom said fertilizer shall be sold.

§ 4. No person shall expose for sale any pulverized leather, raw, steamed or roasted, or in any form as a fertilizer without an explicit printed certificate of the fact, conspicuously affixed to every package, parcel or lot.

§ 5. The director of the agricultural experiment station shall pay the analyses fees received by him into the treasury of the State, after deducting expenses incurred in carrying out the provisions of this act, shall cause one or more analyses of each fertilizer to be made and published annually, and shall mail at least one copy of such published analyses to each agent of said fertilizer, who shall have reported to him, as provided in § 3. Said director is hereby authorized, in person or by deputy, to take samples for analysis from any lot of fertilizer in possession of any agent or seller.

§ 6. There is appropriated $30,000 to provide for building and fitting up a laboratory upon the grounds of the agricultural experimenting station for carrying out the provisions of this act.

§ 7. This act shall take effect on the first day of April, 1880.

Inquiries and Answers.

Uncut Ensilage.—Have any of your readers had experience with ensilage corn put into a silo without cutting, and how it keeps? I think it might be put in with the ordinary amount of farm help cheaper than to cut it. S. H. *Potsdam, N. Y.* [This method has been frequently tried, and when the corn has been sown thick, so as to be smaller and softer in growth, and extra pains have been taken to place the fodder even in the silo, it has kept well. The objections to the practice are the care required for placing it even, the greater labor in taking it out, and in the long fibrous character of the manure made from it, instead of the short manure from the chopped stalks. About one-half the force or power is required for cutting green stalks as for those which have been thoroughly dried.]

Castrating Rams.—Something like six weeks ago I sent an inquiry about the feasibility of castrating rams two or three years old the same as boars. Have not seen any reply. When a boy, my father used to go to the pasture, catch a ram, and immediately cut off his bag, letting him bleed while leading him home. On reaching the yard for slaughtering, would cut off his head and dress him for mutton, and such meat was always called good, so far as I remember. What is the best plan for utilizing good fat rams that are not wanted for service? J. D. *Valley Springs, Dak.* [This is usually a difficult question. The risk of castration is too great to make it advisable in ordinary cases, although it can be successfully performed. So far as we are aware, it is nowhere extensively practiced. The bleeding mentioned in the above communication will result in the improvement of the meat.]

Pruning Maples.—What is the best time to trim maple trees in a lawn? J. H. H. *Holmdel, N. J.* [In the absence of any information as to the age of the trees, the thrifty growth, or of the hardy or tender species, we can only advise in a general way to avoid pruning when the sap will flow freely, and probably the best time will be late in spring after the sap has ceased to flow. If the trees are young and vigorous, they may be pruned in early summer. It is always advisable to prune moderately, and if more cutting away is required, it may be done in two successive seasons. In any case, where large limbs are cut off, the wound should be covered with paint. Hardy maples, like the common sugar maple, may be pruned in autumn or early part of winter, if a moderate amount is to be done, and then the wounds will become dry and prevent the flow of sap. This flow does not seriously affect growth, but it is apt to cause decay of the wood and to injure the bark.]

Bushel Measure—Grube.—I want a rule for measuring corn in the shucks after it is thrown in crib. If you have a rule please publish it in your paper? (1) Our wheat crop that was so promising a few weeks ago, looks very discouraging now; the fly has injured it, the roots have grubs on them; please advise us, shall we plow it up, or take chances? (2) The winter has been very mild, the mercury falling to 25° only once or twice this winter. D. *Franklin, Tenn.* [1. You may determine the contents of a crib by the following calculation: Measure the length, breadth and height in feet and decimals of a foot, and by multiplying them together ascertain the cubic feet. Multiply the cubic feet by three and divide by five and you will have the number of heaped bushels of husked ears nearly; or to be more accurate, add one bushel to every twenty bushels. Unhusked ears will vary considerably with different varieties, and the best way to learn this amount, will be to fill a measured bushel-basket with unhusked ears and then by husking them you may measure the difference. 2. As there is now no certain way to prevent the harm the grubs are doing, you will have to use your knowledge of their numbers and of the amount of grain they are likely to destroy, to decide whether to plow, or take chances.]

The Brighton Grape.—I have been told that the Brighton grape does not pollenize perfectly—that is, the bunches are ragged, not compact, when grown by itself with no other variety near. What is your experience or that of your readers who have grown it in vineyards with no other variety near to pollenize it? J. H. B. *Alton, Ill.* [For the many years since we have fruited this variety, it has been remarkably free from the defect mentioned, the bunches being as nearly perfect as possible; but the vines have grown not far distant from other grapes. What is the experience of cultivators who have planted the vines remote from others?]

Sheep Ticks.—Can an application be made to kill ticks on last season's lambs without detriment to the lamb or the wool? J. M. C. *Pine Corners, N. Y.* [Yes. The ticks can be killed without injury to the lambs or their wool by using Little's or McDougall's dips, both of which have been advertised at various times in the COUNTRY GENTLEMAN. It is better to dip sheep in winter on sunny days, and then put them in dry quarters at night. The exposure is not so great as a soaking in a cold rain storm.]

Wind-Mills.—Who has had experience with wind mills as to their durability? (1) Do the mills and the pump require a good deal of care aside from keeping the bearings oiled? (2) O. H. B. [1. The several wind-mills advertised in our last and in previous volumes, are durable machines, and generally have lasted at least several years without much repair. There are many others manufactured in different parts of the country, but we could not point out the best of all, without testing the whole number. We shall be glad to learn from any of our readers how many years, under the best care and management in constant use, they have been able to run any of them, and what percentage of cost has been required to keep the best ones in long repair. 2. Like all other machines some continued care is required to keep them in good order, but not greater than can be given by the farmers who own them.]

Coloring Butter.—I enclose two slips, one out of the New Era, Lancaster, Pa., Jan. 19, the other out of COUNTRY GENTLEMAN of same week. Wells, Richardson & Co., tell us in their advertisement cut from your paper, that thousands of the best creameries and dairies are using their butter color. (1) The other slip tells us that the collectors of revenue will examine creameries and their product, and if any butter is found containing foreign oils to butter, the owners shall be held guilty of making oleomargarine, and liable to punishment. We should like to have the opinion of butter manufacturers whether colored comes under the heading of oleo. (2) S. C. H. [1. We have no doubt of the truth of this statement or of the harmlessness and excellence of the preparation. 2. It is barely possible that the phraseology of the law might be so wrested as to bear the absurd interpretation referred to; but it seems in the highest degree unlikely that the higher courts would look at it in that light.]

A Drained Mill Pond.—I have just finished draining a mill pond covering 75 acres. This pond has been in existence for a hundred years, and there is a deposit of silt of about a foot in depth; the soil under that is a thin stratum of clay; under that is sand and gravel. It was my purpose to sow spring wheat and grass seed this spring. I did think of sowing oats, but fear they will lodge. Will spring wheat amount to anything in my section? How would it do to sow spring wheat, and in the autumn seed down with winter wheat? I should be much obliged for any suggestions from your paper, or correspondents, as to the best way of treating this reclaimed land. W. H. L. *New Castle, N. Y.* [We cannot give certain advice as to the success of spring or winter wheat on this bed of silt without knowing more of its composition, of the nature of the soils from which it was washed, of the amount of animal matter or manure which was brought down with it, and of the degree of natural drainage to which it is subjected. It is not improbable that it may be too rich for the grain crop; and if so, you may at once seed it

to clover and grass early in spring with no other crop, if a smooth, mellow and clean surface can be given to the soil. If you can find a place where similar soil has been treated in that neighborhood, and the result, it would afford you better information than mere conjecture, or advice given in the absence of the important facts as to the condition of the soil.]

An Unpleasant Snail.—The slug here with sent made its appearance in a cellar two months ago. Judging from length and extent of the slimy hieroglyphics it leaves, it must be a rapid traveler. The slime is with great difficulty removed after one ventures to handle the animal. What is its name, and how is its sudden appearance on new premises accounted for? How can we be relieved of its presence? W. W. S. *Mercer County, N. J.* [The snail is *Limax flavus*, a species introduced from Europe and infesting many of our sea-coast cities. There are several ways of accounting for its appearance on the premises of W. W. S. It was probably carried there from some other locality. I believe the best way to get rid of them is to catch them and despatch them off-hand, and it would be well for W. W. S. to set about the work immediately, for the specimen sent to me has commenced laying eggs, and its relatives in New-Jersey may be of the same turn of mind. A weak solution of ammonia sprinkled over the ground is said to be a more or less efficient exterminator. W. B. M.]

Floors of Cattle Stalls.—My stable for the accommodation of two horses and two cows is built on a sandy foundation; the cow stalls are floored with concrete and are quite satisfactory. The horse stall I have filled twice yearly with clay, which is both costly and unsatisfactory. I think of excavating stalls 6 inches, sloping 3 inches to rear, stalls 12 by 12 feet, and laying down one-inch plank; on top of these making a pavement with square blocks, 6 inches long; before fitting the blocks will soak in hot coal tar, lay as closely as possible; after completing the pavement, will fill all cracks and crevices with the tar. Would you recommend such a floor? Will it be too hard or smooth? Will it be substantial? What size on top should the blocks be, and of what kind of wood? Is the length right? Is the slope the proper one to give it? SUBSCRIBER. *Girardeau, Mo.* [The slope will be about right; some persons would prefer three inches instead of two. A durable wood would be best, but well soaked with gas tar most kinds of wood will be durable. The size of the blocks will not be important; closely pressed together they will adhere in some degree, but the inch-boards on which they rest may not be enough to hold them to support the continued weight and tread of heavy animals. Two-inch plank would be better, and well soaked with tar would answer, or with cross sleepers to support them.]

Pig Ration—Cutting Weedy Hay.—Can pigs now four months old be fattened for spring market on corn and oats? If so, in what proportion shall they be mixed, shall the cob be ground with them, and how shall they be fed? Will putting boiling water on the meal cook it enough? Should food be salted, or pigs allowed to eat salt as they please? (1) Should hay that is not free from weeds be cut for animals; also corn stalks that have stood out till now and become black and muddy at bottom? (2) J. R. W. *Madison, Ohio.* [J. W. should have stated the probable weight of the pigs, and whether they have had skim-milk. Pigs may be fattened on corn and oats, but as he desires, undoubtedly, the greatest weight, let him grind oats and corn together, cob and all, bushel for bushel, as fine as he can, and then mix 30 lbs. of wheat bran with 100 lbs. of the ground corn and oats. This will produce a better result, because the wheat bran contains precisely the elements required to grow the muscle and bones. It will produce more rangy pigs, besides being conducive to health. The bran will cost less than the oats, and certainly no more than the corn. This ration may be further improved by adding to the daily ration of each pig ½ lb. of linseed meal; one ounce of salt may also be added for each pig. This ration will do very well if wet up in boiling hot water and fed warm. The bran may be omitted for the last month. If these pigs are in a thrifty condition, this ration should put on nearly or quite 1¼ lbs. live weight per head per day. 2. W. should have stated what stock he proposes to feed with the hay containing weeds and the corn stalks mouldy at bottom. There are some weeds that would flavor the milk of a cow, and yet would not be injurious to the cow not giving milk, or to other cattle. If his corn stalks have a dry mould, they are hardly proper to feed; but if they are simply wet and even somewhat decayed, this will not hurt them, and they would be much better for being run through a cutter. The hay would also probably be improved by cutting, and if the cut hay and cut stalks were mixed together, all the better. Then a little bran mixed in would make it very good feed for store stock or even for horses not at work. R. W. S.]

Animal Labels.—Please give me address of some one from whom I can get ear marks (or numbers) for my cattle. T. L. *Roanoke, Va.* [See advertisement of C. H. Dane, West Lebanon, N. H.]

Fox Terriers, p. 20.—The real use of the modern fox-terrier is the same as that to which the old, rough, long-haired one was put—the unearthing of Reynard when he runs to ground—earth. The former used, in my fox-hunting days, to be carried in front of the whippers-in. The modern fox-terrier runs with the hounds. He is patched and spotted, just the same as a genuine fox hound. He is a fine, sagacious, plucky little companion. I saw one in a fight with an English bull-dog, much larger than himself, and he punished the bull-dog fearfully, and was victorious. Their bite is severe indeed. He is a graceful, lively canine, capable of caring for himself and his master. *Jamesville, Wis.* W. H.

Unruly Bull, p. 54.—I advise T. W. F. to have the horns taken off the bull close to the head. It is the best way to tame him. I dishorned a 6-year-old, and found it greatly improved his disposition. O. W. T.

Nurs ries.—I wish to enlarge my vineyard this spring, and would be glad to learn the address of some reliable nurseries that I may write for catalogue. MRS. A. M. M. [See advertising columns.]

Butter under Difficulties.—Please give me economical butter ration selected from the following feed stuffs: Wheat bran, $25 per ton; cottonseed meal, $20; cottonseed hulls, $4; corn meal, 60c. per bush.; ear corn, 50c. per 70 lbs; bright oat straw and corn shucks, nominal. The cows are medium-sized natives, two to three months in calf, yielding at present an average of half a pound of butter per day, worth 25c. in local market. SUBSCRIBER. *Canton, Miss.* [Subscriber should have told how he feeds his cows at present to get half a pound of butter per day. The problem to be solved—an economical butter ration from his high-priced foods, butter paying only 12½c. per day per cow—is hard of solution. It is presumed that he means the price of corn meal 60c. for 70 lbs., ground cob and all. He may make up the following ration: 10 lbs. oat straw and corn shucks cut together, 10 lbs. cottonseed hulls, 3 lbs. cob meal, 2 lbs. wheat bran and 4 lbs. cottonseed meal. On analysed formula it shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
10 lbs. straw and shucks	0.13	4.10	0.03
10 lbs. cottonseed hulls	0.34	3.60	0.15
3 lbs. cob meal	0.27	2.76	0.16
2 lbs. wheat bran	0.28	0.92	0.06
4 lbs. cottonseed meal	1.60	0.96	0.21
Total	2.29	11.60	0.60

This has a nutritive ratio of 1 to 5·7, and is as moderate a ration as can be expected to produce good results. It costs about 12c. per day, and should produce from good cows a yield of 6 lbs. per head per week of butter, which would fairly pay at the price mentioned, including labor. The greatest difficulty in this ration is the danger of so large an amount of cottonseed meal fed to cows heavy in calf. Those that are six months in calf should be fed separately, omitting all but 1 lb. of the cottonseed meal. The corn meal, bran and cottonseed meal should be mixed together, and then thoroughly mixed with the cut straw and hulls, so that all should be eaten together. The cottonseed hulls would be rendered more digestible if boiled, but that would involve too much labor. If S. should feed this ration, I should be pleased to have him report the result. R. W. R.]

Improving an Unthrifty Horse.—Tell me how to fatten a healthy horse safely. He is a saddler, and eats 10 qts. oats a day, but is a light hay eater; feels well, but is not filled out enough. Is linseed good? SUBSCRIBER. *Providence, R. I.* [Probably the horse does not masticate his oats well; not half of the horses do thoroughly masticate oats. Let his oats be ground and then make up his ration as follows: 7 lbs. ground oats, 4 lbs. fine bran, 1 lb. linseed meal. Let this be well mixed together, dry. A part of his hay should be run through a cutter to mix this ground feed with. The 12 lbs. of ground feed should be mixed with 6 lbs of cut hay, without wetting, and the horse will eat the hay with the ground feed, although all is dry. This ground feed and cut hay should be given morning and evening, and a little long hay at noon. He does not mention the weight or age of his horse or how much he is ridden per day. Two quarts of oats is a small ration, if the horse is 1,000 to 1,100 lbs. weight and is used much. The combination here given will be likely to give him a start in filling up and rounding out his form. After feeding this for a few weeks it will probably be necessary to add another pound of linseed meal. Feeding it dry will cause better mastication and better digestion. The oil meal will cleanse and sooth the digestive organs and give him a sleek coat. R. W. R.]

Weather, Crops and Prices.

Meteorology for Jan. 20-26.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30 60	inches
Lowest do.	do.	.....	29 47	do.
Mean do.	do.	.....	30 12	do.
Highest temperature	do.	.....	41°	
Lowest do.	do.	.....	7°	
Mean do.	do.	.....	23°	

One clear day; five fair, one cloudy. Two days on which rain or snow fell; total precipitation, 0.78 inch. Prevailing wind, W.; maximum velocity 24 miles per hour, N. E., on the 21st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874.

	20th	21st	22d	23d	24th	25th	26th
This year	14°	28°	20°	10°	28°	29°	18°
Normal	23°	23°	24°	24°	19°	22°	21°

Total excess for the week, 7°.

New-York—*Forestville, Chautauqua Co., Jan. 23.*—January was an open month up to within two or three days; since then it has gradually grown colder, ending in a snow and wind storm. The high wind which did so much damage in Western Pennsylvania touched here, blowing down the timber in large quantities; the farmers are now engaged in getting out this fallen timber. Prospects for the hay crop next season are poor; the drouth of last season, combined with the action of frost on the unprotected fields this winter, is a combination which foretells a light hay crop. Prices are on the decline with us. Potatoes, 37c. per bu.; butter, 22@25c. per lb.; eggs, 30c. per doz.; wood, $4 50@5 per cord; hay is in good demand at from $10@12 per ton. C. E. F.

Geneva, Jan. 25.—Weather more like the beginning of April than January. Roads have been part of the time so bad that farmers could haul but very small loads to market. Apples plenty at 25c. per bush. on the street; good many cannot sell them. We have had but very few light snow storms. Farmers cannot get their logs to the mills, and some of the works will have to be closed, as the supply of last year is nearly gone. There has been an excellent barn erected at the State Experiment Station which will be used partly for caring for different kinds of cattle, which will be of great benefit to the public. J. W.

Hyde Park, Duchess Co., Jan. 23.—Sleighing here now. Live stock doing well. Hay and straw plenty, with average prices. D. B. H.

Connecticut—*Hartford County, Jan. 26.*—About ten inches of snow fell Jan. 20, which has made a few days of very good sleighing, but is nearly all gone. We have had but a few mornings when the mercury reached zero this winter; the weather has been so mild that ice has been too thin to gather. Apples quite plentiful in this market, nearly all coming from New-York State, and in slow demand at $1 50 per bbl. State potatoes continue at about 60c. per bushel, and in fair demand. The live-stock market is fairly active; new milch cows in good flesh cost from $40@50; farrow, $30@35. Beef, 6@6½c.; pork from the farmers, 7c.; western, 6@6½c. Poultry in good demand at 15c. per lb. for fowls, and 16@18c. for chickens. Eggs slow at 25c. per doz.; dairy butter, 25@30c. per lb.; creamery, 32@35c. Above prices are all wholesale. Corn meal, $1 per cwt.; oats, 38@40c. per bush.; cottonseed meal, $37@40 per ton. A. E. W.

New-Jersey—*Stanton, Hunterdon Co., Jan. 21.*—Remarkable weather here this winter; have had an excess of rain since the first of August; ground is very full of water, but no frost, except a little on the top some nights. Winter grain is looking well, and if this weather continues will be as well off as if covered with snow. This is a peach country, and the buds will suffer if it should get severely cold later on, although they are not at all forward now. Many trees will be set the coming spring; every farm has from one to eight thousand trees on it, the most of them very profitable when compared with grain. Live stock of all kinds doing well; no scarcity of fodder. Corn, 90c. per bu.; wheat, 85c @$1; oats, 35c; potatoes, 55c.; butter, 30c. per lb.; eggs, 25c. per doz. J. D.

Orange, Essex Co., Jan. 26.—Last week snow fell a few inches, which is the first this winter, except a few flurries. Weather unusually mild since commencement of winter; out-of-door operations have been in rapid progress most of the time. Men have been grading, paving and flagging the streets almost every day. Cellars are excavated, masons laying foundations, carpenters erecting superstructures, and painters about as busy as at any other season of the year. Ice dealers anxious about their harvest, as no ice has been housed in the county. The mild weather has been so favorable for the production of eggs that there is much grumbling because they can be sold for only 20 to 25c. per dozen. Nut coal, put in the cellar, $5 25 per ton; butter, 30@35c. per lb. Most dealers in milk get 8c. per quart. One enterprising farmer who keeps 100 good cows, maintains the uniform price of 8c. per quart during the year for pure, fresh milk, every morning. Apples cheap and of inferior quality to most instances. We have to pay an exorbitant price for beef, mutton, pork, and almost every article of food. Orange is the most expensive city in New-Jersey for board, clothing and house-rent. High prices are maintained by combination. Carpenters receive $3 to $3 50 per day; some superior workmen get $3 75 for nine hours; masons $3 50 to $4 for nine hours. S. B. T.

Pennsylvania—*Slab, York Co., Jan. 23.*—This has been an unusually mild and pleasant winter to date. Little snow has fallen, and no frost in the ground. On the 19th my men were plowing sod; the ground was in good condition. Warm showers, followed by abundant sunshine, reminded us of spring weather. There is no lack of water; the wells and springs are in full flow. Cattle are wintering nicely. No ice has been put up yet, and those in want are anxiously waiting for a considerable and continued drop in the mercury. Wheat, 98c. per bu.; corn, 48c.; oats, 30c; butter, 30c. per lb.; lard, 10c; eggs, 16c. per doz. J. R. W.

Maryland—*Jarbourville, St. Mary's Co., Jan. 9.*—This morning frosty; southerly wind, and bright sun; ice is melting; the mercury has risen to 50° in the shade, and is expected to rise to 60° by noon. Oysters are now in season, and are very plentiful. Dredging has been very successful this season, and the oysters are of a very superior quality. Many of the dredgers have made from $100 to $150 each. Dredging commences on the 15th of November, and ends on the 15th of March. Oysters are sold at from $1 to $1 50 per bushel. Wheat, 90c. per bu.; corn, 50c.; oats, 30c.; potatoes, 50c.; butter, 25c. per lb.; eggs, 20c. per doz.; lard, 10c. per lb.; hogs, 5c. per lb. Wheat is looking very well, and the prospect for a large crop is very flattering. Corn is all gathered, and the crop is a very large one. Tobacco is all sold, and the crop has been a very profitable one. Hogs are very plentiful, and are fattening on the mast. Cattle are in good condition, and are plentiful. Horses are plentiful, and are in good condition. Sheep are plentiful, and are in good condition. Poultry is plentiful, and is in good condition. Game is plentiful, and is in good condition. Fish are plentiful, and are in good condition. Oysters are plentiful, and are in good condition. Clams are plentiful, and are in good condition. Crabs are plentiful, and are in good condition. Lobsters are plentiful, and are in good condition. Shrimp are plentiful, and are in good condition. Terrapin are plentiful, and are in good condition. Turtle are plentiful, and are in good condition. Frogs are plentiful, and are in good condition. Snakes are plentiful, and are in good condition. Lizards are plentiful, and are in good condition. Alligators are plentiful, and are in good condition. Crocodiles are plentiful, and are in good condition. Whales are plentiful, and are in good condition. Dolphins are plentiful, and are in good condition. Porpoises are plentiful, and are in good condition. Seals are plentiful, and are in good condition. Walruses are plentiful, and are in good condition. Sea lions are plentiful, and are in good condition. Sea otters are plentiful, and are in good condition. Sea cows are plentiful, and are in good condition. Sea serpents are plentiful, and are in good condition. Sea monsters are plentiful, and are in good condition. Sea dragons are plentiful, and are in good condition. Sea unicorns are plentiful, and are in good condition. Sea centaurs are plentiful, and are in good condition. Sea satyrs are plentiful, and are in good condition. Sea nymphs are plentiful, and are in good condition. Sea gods are plentiful, and are in good condition. Sea goddesses are plentiful, and are in good condition. Sea heroes are plentiful, and are in good condition. Sea heroines are plentiful, and are in good condition. Sea demigods are plentiful, and are in good condition. Sea demigoddesses are plentiful, and are in good condition. Sea titans are plentiful, and are in good condition. Sea titanesses are plentiful, and are in good condition. Sea giants are plentiful, and are in good condition. Sea giantesses are plentiful, and are in good condition. Sea dwarfs are plentiful, and are in good condition. Sea dwarfesses are plentiful, and are in good condition. Sea pygmies are plentiful, and are in good condition. Sea pygmiesses are plentiful, and are in good condition. Sea cyclops are plentiful, and are in good condition. Sea cyclopesses are plentiful, and are in good condition. Sea centaurs are plentiful, and are in good condition. Sea centauresses are plentiful, and are in good condition. Sea satyrs are plentiful, and are in good condition. Sea satyresses are plentiful, and are in good condition. Sea nymphs are plentiful, and are in good condition. Sea nymphesses

Horticultural Department.

Editorial Notes and Comments.

Worcester Horticultural.—We have received from Edward W. Lincoln, Worcester, Mass., a copy of his Annual Report of this Society, now in its forty-seventh successful year. After some general and expressive remarks, Secretary Lincoln states briefly the condition of fruit and flower culture, and names some of the most remarkable varieties cultivated in that region. The grapes which ripened well during the late unfavorable season, were the Barry, Lindley, Massasoit and Brighton, and this fruit generally has proved worth all the pains its cultivation requires. Very little pear blight has made its appearance during the past year. Some old pears, the Beurré Diel and Flemish Beauty, for example, which years ago had become almost worthless from cracking, are now, a Worcester, as well as in portions of New York, of unsurpassed excellence, without the agency of any remedies. Of other varieties, highly commended, are the Ananalt, Belle Lucrative, and a cross of this pear with the Autumn Bergamont, effected by the late John Milton Earle, and known as Earle's Bergamont. Mr. L. speaks with force in denouncing the careless treatment of fruit trees by their owners —"you will plow, harrow, cultivate, and even hand-hoe your fields of maize; but you grudge any of that toil in your orchard, which is neglected as usual." Much attention is devoted to the interests of the markets, and the opinion is expressed that while these may be overstocked with a surplus of common or poor fruit, select supplies under the best culture, will always be in demand with good prices. The society, during the past year, has met with a great loss in the death of its long-continued president, Francis H. Dewey, who in addition to his continued services while living, has left at his death a bequest of one thousand dollars, the income of which is to be applied to the purchase of books for the library. Henry L. Parker of Worcester is his successor.

Pear Trees in Grass.—Irving D. Cook of Genesee county, N. Y., an extensive and intelligent orchardist, writes to the New-York Tribune stating, in corroboration of what we have published in former years, that the largest, most perfect and attractive pears in that locality were grown on trees in soil which had received thorough cultivation yearly since they were planted; while trees in grass bore fruit of inferior quality. A large orchard in that neighborhood had borne heavy crops of fine pears without cultivation, but it had been heavily mulched annually with straw and coarse manure. Another orchard of 1 500 trees had been manured regularly every year, and remained healthy, disproving a common opinion that the blight was produced by manure. Mr. Cook may possibly find when the next blight epidemic passes through the country, that his cultivated pear trees suffer more severely from the disease than trees standing in grass; but the fine crops of excellent fruit which grow on his trees during the many intervening years of freedom from the disease, will unquestionably more than pay for any loss to the trees when the malady occurs.

Grapes in Wisconsin.—It is well known to Wisconsin cultivators that grapes and small fruits generally will ripen well in the summers of that State, and all the special care required is to prostrate and cover the vines or stems for winter protection. The experiment station of that State, acting on this view, has planted a vineyard of one-fourth of an acre, setting the vines eight feet apart each way, 168 vines being required. The time required for preparing and cultivating the ground, planting, cultivating with horse both ways, and gathering the fruit, was only 19 full days. Among the varieties which ripen well there, are Delaware, Concord, Worden, Salem and others. There is nothing to prevent having good crops with this treatment every year while the vines are young, but as they grow older it will be necessary to extend them from the posts to which they are now confined, and to give them free trellis room.

Whitewashing Fruit Trees.—A writer in the London Garden very properly objects to the practice of whitewashing the stems of trees up as high as a man can reach, the result of which is that "the trees bear a ghostly aspect for months afterwards, causing them to look unsightly and ridiculous." The object being to destroy moss and insects, it may possibly be that the object sought might be attained if fresh lime is used; but the unnatural appearance could be prevented and the wash would be more useful to the tree if made so thin and diluted as scarcely to whiten the bark. When the wash is thick, it forms a scaly crust which proves rather an injury than a benefit. And yet we have observed that whitewashed orchards are commonly in better condition than others—not from the whitewashing, but because the owner who is willing to take this trouble, gives better attention to his orchard in cultivating and top-dressing, while the neglectful man does neither.

Apples for Northern Vermont.—Dr. T. H. Hoskins, in a valuable article in the American Garden, corroborates the opinion that hardy apples succeed better in severe climates when grafted at standard height on vigorous and healthy stocks, than when root-grafted or worked near the ground. Well cultivated in good ground, the grafting may be done the third spring from setting. The branches into which the grafts are set should be small, to heal over soon, and to prevent much exposed wounds. For the same reason whip-grafting is preferred. For the severe winters of Northern Vermont and the north of New-England generally, Dr. H. places the Wealthy first, as an excellent, productive, salable, non-spotting variety. The Fameuse and McIntosh Red are excellent but liable to scab. Scott's Winter is the longest keeper. He recommends among the Russian varieties, Antonovka, a good-sized dark yellow apple, and Longfield, keeping as well as Fameuse. Following Yellow Transparent in season, which is the earliest, are Oldenburg, Titovka and Golden White, then Wealthy.

Thinning Fruit.—This is a subject which is well worth being many times repeated, and among the latest testimonials in its favor is that of W. F. Bassett of New-Jersey, in Popular Gardening. Some extensive planters have selected varieties for planting which are known to be moderate bearers, to obviate thinning the fruit. They have found that one basket of very fine specimens sell for much more than two baskets of common quality, the cost of transportation being only half as much. This accords with the statements we have long since given to our readers, that several kinds of fruit are tripled in value when properly thinned, an operation more easily performed while the fruit is yet small.

Cross-Fertilization in Squashes.

Eds. Country Gentleman—Prof. Peck, in replying to a correspondent on page 48, says that it is admitted that cross-fertilization does not, as a general rule, affect the resulting fruit, but that there are strong indications that it does sometimes do so. The following case would seem to complicate matters still more:

In 1864 I bought from the same firm some Bush Summer Crookneck and Perfect Gem squash seed and sowed, side by side, all of the former and only half of the latter, as I had not as yet marketed it. The result was a good crop of perfectly pure and and very fine squashes, so much so that I reserved some of the finest specimens of the Crooknecks for seed, being willing to run the risk of its coming out all right. The Perfect Gems, not proving salable, I did not intend to continue raising, but, when spring came, I sowed, at the same time as I did the saved Crookneck seed, the remaining half of what I bought the year before. The result, this time, was a medley bed. There was a fair proportion of pure-looking squashes of both kinds, but the greater part of the crop was badly mixed. The Perfect Gems, properly somewhat oblate in shape and slightly ribbed, now grew oblong and smooth, in appearance like a vegetable marrow, many of them losing their creamy color and taking on a greenish hue. The Crooknecks, also, straightened out, assuming the marrow shape and smoothness, but retaining their orange color, only of a lighter shade. Irregularity was much greater, however, in the Crooknecks than in the Gems. There were no other squashes of any kind grown within at least three hundred yards of them and the pumpkins in my neighbor's cornfield were still further off.

Now, why did the Gems, raised both years from seed out of the same packet, hybridize the second year and not the first? Was the saved Crooknock seed, some of it presumably cross-fertilized, able to affect the resulting fruit while the pure seed could not? It appears curious that both varieties showed a tendency towards the marrow, which is not raised hereabouts. I wonder how the Summer Crooknock and Perfect Gem originated? *J. H. C. Monroe County, N. Y.*

North-Carolina Mountain Flora.

Eds. Country Gentleman—While a tourist passing rapidly through the country may see a great deal of the exceedingly varied and gorgeous flora of the southern mountain region, yet it requires a considerable time, for which a lengthened residence is needed, to become acquainted with it. The interesting letters on this subject by L. N. J., in the Country Gentleman, are based on a passage through the region rather than a stay in it, for I know that the party went on a flying excursion through some of the most interesting parts of it. Hence they did not see any holly trees, only shrubs, but they passed within a short distance of trees 40 feet tall, with stems over a foot in diameter. Just now some of these trees, from 30 to 40 feet high, and standing alone so that they are handsomely branched, making regular cones of dark, glistening evergreen foliage, are covered with the bright crimson berries, thus forming most beautiful objects in the varied landscape. Some smaller trees and shrubs of this species are exceedingly elegant in shape, and if they could be removed to some lawns, would be welcomed most cordially by owners who delight in pleasing shrubbery.

So too, the chinquapin, or dwarf chestnut, is really a chestnut in its leaf and habit of growth, except its dwarfness. But it is sometimes a very vigorous dwarf. Had the party referred to gone a few rods off from the Franklin road near Webster, in Jackson county, they might have seen a chinquapin considerably over 20 feet in height, and having a circumference of branches—when I measured it three years ago—of 132 feet. This is doing pretty well for a dwarf and a shrub.

Our azaleas are indeed glorious, especially the flame-colored species (*A. calendulacea*). But if L. N. J. will permit me to correct his statement as to the flowering of this variety, I would say that it varies exceedingly in color, not with age, but absolutely. Some kinds have blood-red flowers, and others are of lighter colors to light lemon yellow; while some bushes bear a variegated bloom, the majority are self colored. I know of plants growing on the roadsides which I have marked on account of their special character of flowering, and which I have now noted for four years to be always the same. Some of the lighter yellow flowering plants are especially beautiful, having the color, a true evening primrose yellow, persistent and perfectly even on every stem.

The grand kalmias are overlooked or forgotten by L. N. J. These are referred to incidentally as the laurel (*K. latifolia* or mountain laurel, called by the natives ivy), but they are far more conspicuous than the rhododendrons, forming as they do at least four fifths of the dense, abundant thickets which border the streams and fill the narrow valleys, or appear in clusters wherever the soil is damp or springs are found on the mountain sides. These are indeed the glory of the mountain region. I have crept through thickets of these shrubs for half a mile or more, where the dense growth obscures the sky and forms a close roof over head, 20 and sometimes 30 feet above the head of a man. These plants grow in deep beds of decayed vegetable matter, dry and not swampy, but consisting of a tangled mass of roots among the rotten fibrous debris of past ages of similar vegetation.

In some of these dense groves sassafras trees 3 feet in diameter are found in plenty; plum trees a foot through; dogwoods quite as large; poplars (*Liriodendron*) and cucumbers (*Magnolia*) 4 to 7 feet in diameter, and towering 150 feet to the first limb; white pines and hemlocks nearly as large; cherry and birch (our mountain mahogany) quite half as large in diameter, and the *Stuartia*, elsewhere a bush, is found in places covered in early summer with its grand camellia-like flowers, and with a tree-like trunk 30 feet high.

And while all this is to be seen overhead, the ground is carpeted with the greatest profusion of flowering plants. The exquisitely pretty *Parnassia* lives at the foot of the waterfalls, where the ever-weeping spray keeps the moss-covered rocks in which this plant grows always dripping with moisture; acres of trailing arbutus cover the hillsides, and find shelter for its modest pink bloom under the leaves; the purple-flowering raspberry (*Rubus odoratus*) forms great thickets in open places; dwarf locusts (*R. hispida* or rose acacia) are found scattered on the mountain slopes; the larger streams are bordered, as with a fringe of lace, reflected in the smooth bends and pools, by the white fringe (*Chionanthus virginica*), the common locust, the drooping sprays of the sourwood (*Oxydendron*), and the great clusters of the laurel; while the blue gentians, fire pinks, the various trilliums, painted cups, evening primrose, an undescribed species or variety of *Trautvetteria*, having six sepals with its large, handsome lobed leaves; and later on, the very beautiful, bright yellow fringed orchid *Habenaria lutea*, clothe the moist slopes and open river bottoms with a bright carpet.

And now when the warm January sun makes the dry, open southern mountain slopes pleasant, one may lie down on beds of the most gorgeously-colored galax, the glossy leaves changed by the season to an endless variety of colors, from the still bright deep green, as yet untouched, to the brown, red, and many-tinted shades between all these colors; and under these the abundant arbutus nestles, while on the overhanging rocks droop the sprays of ferns of various species; and among the rest the beautiful *Adiantum* (maiden hair fern) is abundant.

In short, the southern mountain region, with its low latitude and its high elevation, unites the South and the North, and the flora of both thrive to perfection, while the copious rainfall (60 inches per annum, and more sometimes,) bathes the mountains and valleys with moisture which produces a wonderfully vigorous, healthy and verdant foliage rarely seen elsewhere. All this beauty waits the admiration of the tourist, while the remarkable healthfulness and pleasantness of the mild temperate climate, both in the summer and the winter, tempt the rest and health-seekers to linger in the peaceful, beautiful woods, while the tourist flies through like a passing shadow, and so sees very little of the beauty. H. Stewart.

Macon County, N. C.

Two "Theories" of Fire Blight.

Eds. Country Gentleman—Fire blight in the pear, apple and quince is doubtless first caused by sun-heat fermenting, poisoning the sap or circulating life blood of the tree. Once started, blight spreads atmospherically more or less easily and widely by invisible infectious spores, bacteria. Blight can easily be propagated by inoculating a healthy tree, in the growing season, with diseased sap. Certain varieties, soils, locations and modes of culture are generally conceded to be more favorable to blight than others. The question is—(1) How far is blight preventable, or how best to prevent it? (2) How best to check it when once manifest? Why does sun-heat ferment blood-poison the sap? Partly, may it not be, from elemental lack, first in the soil, then in the sap? The writer believes that blight is often caused by inability of the root-feeders to find all the elements of a perfectly healthy, sun-heat-conquering sap, because not in the soil in the proportion needed. Deficient soil, deficient sap, easily sun-struck, sun scored. What are these missing elements—that is, supposing this theory is correct? Different soils, different deficiencies, to be ascertained only by careful study and experiment. I can only mention, in a general way, certain well-known anti-ferment, anti-fungus substances—sulphur, lime, salt, potash—in their simple or compound forms. Lime, salt and potash, in excess, are very destructive to vegetation, in root or top, and must be applied with judgment. Sulphur one part, and air-slacked lime four parts, well mixed, and dusted on a dewy morn through the tree-tops several times in the growing season, commencing when buds begin to open, and made into a whitewash and applied to trunk and main branches, should, I think, form, if the above theory is correct, a preventive or mitigator of blight. But if blight appears, blighted limbs should be, if possible, daily broken, sawed or cut off, burned or well buried, being very careful not to inoculate the least taint of poison sap from tool or hands to the healthy tissues. Wounds were best painted over to exclude air or contagion. A little salt, potash dilutions or unleached ashes to the soil may help against blight.

Prof. Budd's idea about blight differs widely. Jan. 3 he writes:

"I do not believe lack of proper soil elements has anything to do with blight. The cultivated apple is not native here, and the sorts that stand our climate come from regions with less summer heat. For instance, the Siberian crabs were not fitted to stand 100° in the shade. Sap ferment is a change from pectose into pectic acid, a sort of jelly. All fruit juice does not change at the same temperature. The sap of varieties from the Volga does not change at the same heat with those from the coast provinces. For instance, Yellow Transparent blights. Why? It is from the coast.

Nos. 184 and 185 (government list) blight little if any, because they originated where the summer heat ripens dent corn, melons and tomatoes. This constitutional difference I believe the true explanation. Bacteria are an accompaniment, and like yellow fever, when the ferment, with bacterial accompaniment, is developed, it may spread by inoculation."

Conceding constitutional differences, though hardly to the extent Prof. Budd claims, can we judiciously and profitably "hedge" against blighty constitutional tendencies until such time as all our cultivated sorts shall be approved blight-proof? I believe we can.

Walworth County, Wis. F. K. PHŒNIX.

The Poultry-Yard.

Management in Winter.

There are two things to be considered in caring for hens during winter. The first is to bring them through the cold season in such a condition that they will be fit for breeding purposes in the spring, and the second is to make them produce a sufficient quantity of eggs to pay for the extra food and attention. Fortunately, a right system of management will accomplish both results, and also keep the whole flock in a condition suitable for market without further preparation.

In order to accomplish this, cleanliness must be strictly attended to; the poultry house, the perches, the nests, the drinking vessels and feeding troughs must be kept perfectly clean. It is so much easier to keep a flock of chickens healthy, than it is to cure them after they have contracted a contagious disease, when even the ground they have walked over and everything they have touched has become contaminated.

Next in importance in their food, which, both in quantity and quality, must be regulated by the coldness of the weather; for in our section of country, Southern Kentucky, the time of the year is no index to the temperature. During a great portion of the present winter, the weather has been so mild as to admit of walking, or even sitting, out of doors without additional wrapping, while during many days of last summer a fire would have been acceptable.

The greater the variety of food given to chickens, the healthier they will be. The whole grains of wheat boiled until they crack open are about the best food we have ever used, but since the price of wheat has advanced, we cannot afford it, so have been obliged to substitute corn and oats. The corn is best boiled too, because it is thus rendered more nutritious, and its bulk is almost doubled. Prepared in this way, I have never had bad results from the use of corn in moderation, though the writers on poultry seem to unite in condemning it.

During cold weather, it is a good plan to give the fowls warm food whenever it is possible. For their morning meal, my chickens have a sort of mush made of skim-milk heated to the boiling point and thickened with three parts wheat bran and one of corn meal, seasoned with one pint of cotton-seed meal. The latter is very rich, and is intended to take the place of chopped meat; so when the cook lets me have fat meat or dripping, the cotton seed meal is left out.

Scraps of stale bread are put to soak in the milk, overnight, and mixed with the bran next morning, when the whole is placed over the fire and stirred until it boils and becomes quite thick. A pod or two of red pepper and a teaspoonful of salt would be an acceptable addition. Two gallons of this makes an excellent meal for one hundred fowls, but as soft food digests very rapidly it is a good idea to give them a small quantity of oats in addition. Half a peck of sorghum seed thrown to them at noon will keep them about the hen-house, and if they could have some raw turnips, together with their green tops or a head of cabbage to peck, it would be a good thing. At sundown they are given a gallon and a half of boiled corn, and half a gallon of oats, though a larger quantity of oats would not be hurtful.

Every morning the drinking vessels should be washed clean and filled with fresh butter-milk, or skimmed sweet milk; the former is preferred by the fowls. When the vessels are kept clean, and the milk not allowed to stay in them long enough to become rancid, I have never found it at all unwholesome. My fowls are so spoiled they will not touch water, and as they keep perfectly healthy on milk I give them all they want.

If the housekeeper will think about it, there are a great many things about the farm and garden, that can be utilized for the fowls, and yet scarcely be missed. The small potatoes which are too tedious to peel, remnants of peas, beans, and all sorts of cold vegetables, crusts of bread, and bits of meat left from the table, will afford the chickens an agreeable variety, and be speedily paid for with an increased production of eggs. When the apples are sorted over, those that are half rotten—and the wholly rotten ones too, if they are not very sour—are eagerly devoured by the fowls. All such things should be fed in moderation, however; do not give the fowls as much as they wish at once, so as to make them want it again. It is said that chickens will eat anything that cows will—in fact I have seen accounts of feeding them hay and stalk-fodder (which doubtless must be chopped fine), but I suppose that is where fowls are closely confined in a small yard; when they have the run of the farm, they can procure all they need of such things. Egg shells should be crushed and scattered about the poultry yard; slaked lime, bone meal, old plastering, sand, and gravel should be within reach. A dust-bath ought also to be provided, for that says P. H. Jacobs, "is the toilet of the hen. It is her mode of keeping her body clean. If given a dusting-place she will keep the vermin off, if you will keep the poultry house clean." He says also that nearly all ailments incident to fowls are due to a lack of grinding material in their crops, and insists that "broken glass, pounded crockery or sharp flint gravel should be kept within their reach." Mr. Jacobs is good authority on all such matters, I know; but still, I never intend to offer broken glass to my hens.

This winter we have had the coal ashes emptied in the poultry yard where the ground was muddy in rainy weather, and I have noticed the hens picking about among the cinders; perhaps they were after grinding material for their crops, then.

Last winter was a very severe one, and as our poultry yard was in a very exposed position we had windbreaks built to afford shelter for the fowls. Two close walls of plank came together cutting off the north and the west winds, forming a triangular space opening toward the south, in which the sun shone bright and warm, and there the chickens loved to congregate.

My hen-house is a very primitive affair. It must have been built of green lumber, for the wide planks which were nailed on vertically are now shrunken until I can almost get my hand through the cracks. With the addition of half a dozen latticed windows, excellent ventilation is afforded in summer, but in winter the air circulates almost too freely, so I have had the windows boarded up, except one that can be opened and shut at will, and by a good deal of persuasion succeeded in getting some tall stalk fodder hauled from the field, and placed against the walls of the house so as to render them impervious to the cold.

The hens are charmed with this arrangement, especially as it affords them the opportunity of making their nests on the ground concealed in the fodder. I found a snug nest there the other day, hid away in the corner, full of pretty brown eggs. No matter how gentle a hen is she would rather steal her nest than to lay in the hen-house, and when she does not go too far I do not object, for there are not many things more delightful than finding a nestful of new-laid eggs. A FARMER'S DAUGHTER.

The Indian Game.

In giving, as I did, my experience with the Indian Game, I had no thought or desire of engaging in a controversy with Mr. Stephen Beale. I attempted to speak of this excellent breed only as I know it from personal experience. I am glad, however, that I wrote what Mr. Beale considered a reply to his first article, for it has resulted in the excellent communication which appears in the issue of the COUNTRY GENTLEMAN for Jan. 3. I think that all readers of the paper, and especially those who are interested in the breeding of the finest grade of table-poultry, will feel like joining me in thanking Mr. Beale for his second communication, and for again calling attention to the great practical merits of this breed.

While my experience does not fully coincide with all the statements in Mr. Beale's article, notably those in reference to laying, I certainly had no desire to "build up a case on what any fowl does under new conditions," nor was I unaware that change of environment often produces greater activity in egg-production. Nor do I look for all excellences in a single breed. The Indian Game can well afford to rest upon its merits as a superb table fowl, even though it were a very indifferent layer. But even in England, where the charge of being a poor layer has sometimes been made, there have not been wanting those to defend the fowl from such a charge. I remember of reading, about the time or shortly after I had imported the Indian Game, an article in Vinton's Fanciers' Gazette, on this subject, by Mr J. G. Mosenthal, I think, in which it was asserted that the writer had a large number of the leading varieties of fowls, in addition to his sixty Indian Game hens, and that the latter laid fully as well as any variety he had, Leghorns and Hamburgs excepted.

It is my opinion that the Indian Game in this country will be found to be a good average layer for a fowl of its weight, but that its popularity will depend less upon its laying than upon its table qualities, concerning which there is and can be no dispute. I think, also, that its beautiful plumage and exquisite markings will make it much sought after by those who fancy beauty in fowls. H. S. RANDOLPH.

Providence, R. I.

A Fatal Disease, p. 963.—E. N. of Eden Mills, Ont., inquires as to cause of disease in his poultry. Two such cases happened in this neighborhood. Some 7 or 8 years since one farmer's wife lost 500 hens and chickens and 140 turkeys, which left her one turkey gobbler. There was an old corn house removed, that stood among some locust trees, on which the poultry had roosted for years; the removal left holes in the land which held water impregnated with the rotten poultry manure. The remaining turkey was seen to drink some of this water, which immediately changed the appearance of its comb and gills, convincing the owner of said poultry of its being the cause. The water was soon drained off, and the poultry became healthy. The other case was similar, except that the cattle on the farm all went to an old well with an old-time wood and stock pump; drainage cured both.

Jarbourville, Md. G. W. F.

The Apiary.

Bee-Keeping in Agriculture.

[We give an outline of the address on this topic delivered at the Albany meeting of the State Agricultural Society, Jan. 18, by Prof. A. J. COOK.]

There is a close relationship between the forces and phenomena of nature. The winds affect the moisture, and the moisture modifies the winds. We cut the forests and let loose the wind and the rain. We crop continuously, starve our soil, and go to the poorhouse. Science, which explains this relation, is man's best servant.

This connection of bee-keeping with agriculture well illustrates this relationship, and shows that the farmer needs to know the "whys and wherefores" of all his surroundings. Charles Darwin discovered years ago that cross-fertilization is necessary to full fruitage of many of our plants. Some yield nothing without it. Only insects can do this work for many plants. Early in the season the honey bee is the only insect common enough to do this work to any large extent. The honey-bee was not native to America. Thus we know why our early wild flowers are scattering, while the late ones cover the fields and marshes as with a garment.

In California, where no winter kills the insect hosts, the early flowers cover the plains. The honey-bees can reach the nectar of alsike clover; so the first bloom gives seed. The red clover must wait for bumblebees, and so the second crop alone is productive. Experiments here and the history of New-Zealand prove this. There no seed was produced till the bumblebee was introduced. Now they raise their own seed. By caging bumblebees on red clover we can secure seed from the first bloom. Hereafter as we raise our large crops of clover seed, let us think gratefully of the beautiful bumblebees, rich in their yellow and gold, whose joyous melody in the clover field means for us a bounteous crop and a full pocket-book.

We should especially remember that owing to the cold our insects largely die off, and so for a full fruitage of our plants that bloom early, we must have the honey-bee. This has been proved over and over. Any cultivated plant with sweet or showy flower seeds, must have insects or cannot bear a full harvest. Our introduced plants mostly bloom in spring. How important then the bees!

In some cases the wind may be sufficient. Doubtless in all cases insects are great helpers. How often our fruit fails of a full crop, because the cold and rain shut up the bees during the time of bloom. Thus it goes without saying that the farmer and fruit-grower must either keep bees themselves or induce their neighbors to do so, or they will fail of the best success. There must be no antagonism between the farmer and orchardist and the bee-keeper. Nature wills that they be friends.

Bees never injure the blossoms of plants; their visits are always and only a benefit. Nor do bees ever destroy sound fruit. The structure and habits of bees, no less than observation, show that this is true. Bees will never attack fruit till a puncture or break in the skin lets free the juice. Then the bee is quick to save the wasting sweet. By drawings it was shown that the wasp's jaw was made to tear, but the bee's was not, being gouge-shaped. Bees do, however, visit grapes in swarms, when, for any reason, either the puncture of bird or wasp, or by nature, the juice oozes out. They will also crowd about the cider and pomace at the cider-mill, and swarm about raisins exposed to dry out of doors. Here the parties interested must unite by screens and other care to mitigate the evil, and then bear and forbear, for all are interested that the bees do not suffer harm. The raisin industry followed the bees, and so bees have the "right of possession." Is it not right then that raisins be dried in enclosures? I am persuaded that when the farmer, gardener and orchardist rightly understand the importance of bees in the natural economy of their own operations, all disputes and unneighborly differences will disappear, and each will rejoice in the other's prosperity, if for no higher motive than mere selfishness.

For years many of our best bee keepers have urged that only specialists should keep bees. The last two years of failure have convinced many of these that it would be better to unite bee-keeping with some other industry. Bee-keeping is *par excellence* a pursuit to add to some other. It serves as recreation, and often gives a large profit. Farmers and fruit growers, as the very successful experience of many has shown, are just the ones, if naturally fitted for the business, to add apiculture to their other cares. Thus the farmer may have better crops, and may save the nectar that otherwise would go to waste, and which may be the most profitable product of the farm.

The study which bee-keeping requires will be enjoyed, and may be made the means to interest the boys and girls in the farm. The speaker had known several such cases. But let the boys and girls know that the profits are to be theirs. Then bee-keeping, in conjunction with farming, can be made a great success. How will the product of such bee-keeping be put on the market in poor condition? Unmarketable honey comes from the slovenly and the untidy, alike, whether he be a specialist or amateur.

The idea that the busy season with the farmer and bee-keeper is one and the same, need discourage no one. With proper thought and care the labor with bees in June and July may be reduced to small proportions, and can mostly be performed by a boy or girl. And here is a way to interest our girls, to give them air and sunshine, and a chance to earn money. Some of the best bee-keepers in the country are just such farm girls.

To work successfully, one must thoroughly prepare himself by studying a good book, reading one of the best bee-journals, and when possible spending a day or two with some well informed and successful bee-keeper. In the farm home, during the long winter evenings, the books can be read aloud, and the business discussed by father and children. This keeps father and children just where they ought to be as night comes on. Directions were given as to where and how to secure the bees, and the point was urged to go slow; commencing with two or three colonies of bees, and increasing as experience, success and knowledge suggested. If no money was paid out after the first start, no great loss could be experienced, and usually such a course brought success, pleasure and satisfaction. If the first purchase is made of some neighboring bee-keeper, we are likely to do better, and make a friend who will come to the rescue if breakers confront us in our work in the bee-yard.

With proper thought, study and care it will be found that the new pursuit brings pleasure and profit, and its adoption by the studious and thoughtful man will rarely be regretted.

New Advertisements.

Ames Plow Co.	Matthews' Seed Drill.
Burr, Wm. H.	Jersey Bull.
Box 14	Situation Wanted.
Box 33	Situation Wanted.
Batchelor, D.	Grass-Seed Mixtures.
Barlow & Co., A. G., & Co.	Prize-of Chinese Ax.
Bulst, Jr., Robert	Early Dundrah Oats.
Clark, John T.	Seeds.
Clarkson, H. L.	Jersey Heifers.
Callender, W. C.	Jersey Bull and Bull Calf.
Caldwell Bros.	Jersey Cows Wanted.
Chaffin & Co., R. B.	Farm for Sale or Exchange.
Cumwold Farms	Bull Wanted.
Carry, James P.	Hotel for Sale.
Calder, George	Jersey Heifer Calf.
Coe, E. E.	Percheron Stallions.
Cummings, Arthur	Poland Chinas.
Cryster, William	Farm Seeds.
Curtis Publishing Co.	Agents Wanted.
Dana, C. E.	Star Marking Label.
Demarest, M. H.	Cheshire Boars.
Edw Harrison Mill Co.	Starr Rives Mills.
Gibbs, M. F.	Farm for Sale or Exchange.
Groot, Jacob	Situation Wanted.
Green, Geo.	Help Wanted.
Hildreth, Frank G.	Grade Holsteins.
Hungarian Manuf. Corp.	Button Grinder.
Hope, James	Jersey Cows.
Hope, John	Situation Wanted.
Jones, S. O.	Keystone Thickwheat.
Jardine, W. R.	Public Sale Jerseys.
Kellogg & Co., Peter C.	Trotting Stock.
Kingsland, J. Stoger	Jersey Bull Calf.
Knowles, F. P.	Sea Shells for Poultry.
Lakehurst Jersey Farm	Jersey Bull Calves.
Maple Farm	Horses.
Married	Position Wanted.
Marsh, Wm. H.	Stallion.
M. L. A.	Situation Wanted.
McBlish, W. H. & C. H.	Cultivator.
Orange County	Farmer Wanted.
Phelps, C. C.	Cheshires.
P. O. Box 14	Gardener Wanted.
Peck, Corydon	Jersey Cow.
Pusey, Josephus	Patent Pulleyless Clothes-p
Tuttle & Co., Sidney	Trees and Plants.
Union Machine Co.	Road Carts, Carriages, &c.
Vosman, C. C.	Upright Boiler, &c.
Willcox, A. W.	Percherons.
White, Geo. W.	Cheshire Boar Wanted.
Wallace, J. C.	Situation Wanted.
Wood, Chas. B.	Guernseys and Jerseys.
Wilcox, Sam'l	Seed Potatoes.
Wagener & Co., D. D.	Holstein-Friesian Calves.

Subscribers' Wants.

WHEELER BASSETTE, *Farmer Village, N. Y.* Young Jersey Bull.

Pamphlets, &c., Received.

CLARKE, CHAS. E., 105 *Broadway, New-York.* Circular of Horoscope, Specific for Hog Cholera.

CLARKE & CO., W. B., *Boston, Mass.* "The Long-Suffering Shareholder, Railroad Dictatorial Mismanagement and Governmental Oppression."

CRAWFORD & SON, M., *Cowahoe Falls, O.* Spring Catalogue of Strawberry Plants: pp. 16.

DOW, GEO. Q., *No Epping, N. H.* Circular of Capon-ing Instruments, Poultry, Dogs, Swine, Strawberry Plants, &c.

FRUWIRTH, C., *Frid-Hof, Medling, Austria.* "Der Kreis Futterbauern in Oesterreich:" pp. 8.

JONES, D. M., *Wilmington, Vt.* "Vermont Maple-Sugar Industry:" pp. 32.

MEYER, C., Jr., *Maspeth, L. I., N. Y.* Catalogue of Acme Fertilizers: pp. 40.

PERRINE REAPER Co., *Camden, O.* Catalogue of Reaping Machines: pp. 16, illustrated.

STILSON BROS., *Oshkosh, Wis.* Circulars of Glendale Herd of Short-Horns.

WAIT, WM. H., *Watkins, N. Y.* Proceedings of Schuyler County Supervisors for 1888: pp. 64.

WATERS STOCK FARM, *Genoa Junction, Wis.* Annual Catalogue of Trotting Horses: pp. 178.

WHITEHEAD, THOS., Commissioner of Agriculture, *Richmond, Va.* Report of State Board for 1888.

WILSON, F. W., *Chatham, Ont.* Nursery Catalogue.

A Raisin Convention.—The raisin industry of California is of rapid growth. From 6,000 boxes in 1873 it has reached in 1888 an output of 800,000. The Fruit-Grower announces a convention of those interested in the industry to be held at San Francisco, Jan. 19, to consider plans of grading and packing, and the use of home names, as "California Layers," instead of "London Layers," and as emblems the American "Eagle," instead of the Spanish "Crown;" also the buying by quality and by months, instead of by entire crops.

Cornell University.—Bulletin No. 3 of this Agricultural Experiment Station reports on the progress made by Prof. Comstock in the entomological department, in the creation and equipment of what is termed the *Insectary* or entomological laboratory, a separate building to aid in the study of the life histories of insects, and for experiments in the destruction of noxious insects and for preventing their ravages. Living plants are to be kept with insects on them, that all the conditions of growth of both plants and insects may be under control. This building consists of a two-story cottage with a conservatory attached, and has a laboratory for the experimenter and his artist, and a dark room for photographic purposes. The apparatus includes microscopes, and a photomicro camera. A cold room is for the storage of hibernating insects. Much attention is given to new *breeding cages*, and a device for studying subterranean insects, called a root cage, by which their underground operations may be seen without disturbing them. Some important observations have been already made, particularly with the work and habits of the wire-worms which may result in important practical results.

From Late Exchanges.—Farmers cannot suit themselves better with an agricultural paper than to take the COUNTRY GENTLEMAN, the best of the agricultural weeklies.—*Franklin (N. Y.) Dairyman.*

—— The COUNTRY GENTLEMAN is the leading paper of its kind; every number full of practical information.—*St. Albans (Vt.) Messenger.*

—— Old and popular.—*Pittsburg (Pa.) Christian Advocate.*

Acknowledgments.

Communications for publication have been received during the week ending Jan. 26, from Prof. E. W. Stewart [2]—J. J.—J. H. C.—J. D.—Stephen Beale—G. W. T.—Thomas Bowick—F. F. Vidal—Henry Stewart [2]—T. S. Cooper—T. E. C.—H. W. Phelps—John G. Clarke—R. K. Tomlinson—B. Reynolds—Jo S. F.—J. W. Ingham—J. C. C.—Peter Macfarlane—H. B. Hall—Wm. H. Bonner—Wm. Horne—Rose Autumn—R. M. Polk—James Wood—C. H. F.—Lillian Mayne—H. Clay Ackley (please do not write on both sides of the paper)—E. L. Ross—Geo. B. Peer—D. E. Howatt—Smiths, Powell & Lamb—W. A. C.—F. C. Curtis—Edwin Wing—J. D. Van Slyck—J. S. M.—A. N. Cole—J. M. D.—A. V. S.—A. B. White—S. Ale—W. B. Marshall—W. A. Alexander—Chas. G. Sherman—R. S. Davis—W. F. Brown—J. Dunham—P. J. Cogswell—C. H. Rockwell—M. M. Friesell [2]—S. E. Todd—Parpland—J. H. C.—W. H. S. Grout—C. C. Vroman—Lillian Mayne—C. F. Turner—Subscriber—Andrew S. Long—H. C. Gardner—C. D.—F. J. R.—W. W. S.—J. E. Wing—Stephen Beale—C. S Clark—George Jackson—Phil. Thrifton.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Jan. 31, 1889.

☞ Good progress has been made during the past week in making up arrears of work in our subscription department, and we hope soon to be able to resume our customary prompt attention to all orders. We are still some days behind, however; and must ask patience for a short time longer.

Our State Society.—The 34th Volume of the Transactions of the New-York State Agricultural Society has nearly 700 pages, and covers the years 1853–1856 inclusive. A large share of the space is devoted to agricultural essays and addresses on a great variety of topics, chiefly delivered before the society at winter meetings and farmers' institutes. Full lists of the awards of premiums at the fairs, with all particulars, are also included, together with other matters.

Three institutes are to be held next week—at Auburn, Feb. 4–5; Ithaca, Feb. 6–7; Geneva, Feb. 8–9.

Western New-York.—The 34th annual meeting of the Western New York Horticultural Society was held at Rochester Jan. 23d and 24th. No better evidence of the growing interest in horticultural matters could be required than was furnished by the large attendance of members and the animated discussions which took place. The president, Patrick Barry, (whose report and munificent donation of two thousand dollars to the society will be referred to in full account next week), was represented by Vice-President W. C. Barry. Profs. Cook, Bailey, Goff, Prentiss, Joseph Harris and Caldwell were present and gave valuable information. The absence of the familiar presence of the president and of Mr. J. J. THOMAS was again the subject of much regret. Mr. J. S. Woodward received warm congratulations on his restoration to health, but, acting under medical advice, took little part in the proceedings. Officers were elected: President, PATRICK BARRY; vice-presidents, S. D. Willard, Geneva; W. C. Barry, Rochester; W. Brown Smith, Syracuse; J. S. Woodward, Lockport; secretary and treasurer, P. C. Reynolds, Rochester; executive committee, C. M. Hooker, Rochester; Lewis Chase, Rochester; S. W. Clark, Lockport; C. W. Stuart, Newark; Nelson Bogue, Batavia. J. H. C.

Nova Scotia.—We have received the Annual Report of the Nova Scotia Secretary for Agriculture for 1887. In addition to a record of the proceedings of the various county societies, which include one-half of the volume, it is largely occupied with an account of the apples grown in the province, lists of selected varieties, descriptions of those sent to the Apple Congress; information on the success of ensilage, and different modes of preparing and preserving; and varied information on cattle and their diseases.

The number of varieties of the apple sent to the congress was 118, and they were pronounced a "superb collection," handsomely shaped and beautifully colored. The six best market varieties for that region are the Baldwin, Bellflower, Ben Davis, Blenheim Pippin, Fallawater, and Golden Russet. The best for dessert, in regular succession for ripening—Early Harvest, Chenango Strawberry, Gravenstein, Ribston, Bellflower, Northern Spy, Golden Russet and Nonpareil. Several of the English varieties, the Blenheim Pippin among them, were pronounced as superior in quality to the same varieties grown in Britain.

A considerable space is devoted in the volume to ensilage, nearly all of the reports being quite favorable.

The report gives an account of the horse-shoeing competition at the exhibition held at Newcastle, which those who are interested in fine horses will deem of much value. Twenty prizes in money were offered, from five to thirty dollars each—enough to stimulate a good deal of activity and skill in the forty-one competitors. There were several good workmen, but few were of first class all around. Some pared and rasped the foot too much, others burnt it too freely, some who used neither knife nor hot shoe were poor workmen in other respects, others were slow and awkward, and others again in too much of a hurry. The time varied all the way from 25 to 56 minutes.

The English sparrow is exciting much attention in Nova Scotia; not so much on account of any mischief it has already done as from its very serious depredations in the United States, and from its "terrible indictment" there; and in ten years the progeny of a single pair might increase, according to Dr. C. H. Merriam's calculation, to 275,000,000,000, such is its hardy, prolific and aggressive character. This large number may be better appreciated by bearing in mind that all these sparrows would be enough to cover densely 700 square miles of land. The people of Nova Scotia are therefore inquiring the best course to pursue necessary for its restriction, regulation or destruction.

This society is doing much for the improvement of agriculture in Nova Scotia, and its annual reports are valuable. GEORGE LAWSON, LL. D., Halifax, is secretary.

Burpee's Seeds.—About the largest, fullest and handsomest publication of the many of its kind now soliciting attention, is the "Farm Annual" issued by Messrs W. ATLEE BURPEE & Co. of Philadelphia, and containing a long list of Garden, Farm and Flower Seeds, with descriptive matter. It makes a pamphlet of 170 pages, with brilliantly illuminated cover and is profusely illustrated with woodcuts and colored plates.

A Cheap Farm.—We are informed that the advertisement published this week by Mr. M. F. Gross of Livonia, N. Y., offers an unusual bargain for any one looking for a good farm in a beautiful section of the country, and at a remarkably low price.

Connecticut.—The State Board of Agriculture held its annual meeting at Hartford, Jan. 16, and elected for president MORGAN G. BULKELEY; vice-president, Albert Day, Brooklyn; secretary, T. S. Gold, West Cornwall; treasurer, J. S. Kirkham, Newington; chemist, Prof. S. W. Johnson, New-Haven; botanist, Dr. E. H. Jenkins, New-Haven; entomologist, Prof. B. F. Coombs, Mansfield; pomologist, P. M. Augur, Middlefield; commissioners on diseases of domestic animals, E. H. Hyde, Stafford; T. S. Gold, West Cornwall; Dr. J. W. Alsop, Middletown.

New-Jersey.—The State Board of Agriculture holds its 16th annual meeting this week (Jan. 30–Feb. 1) at Trenton. EDW. BURROUGHS, Camden, president; Wm. R. Ward, Newark, vice-president; D. D. Denise, Freehold, treasurer; Franklin Dye, Trenton, secretary.

Wisconsin.—The State Agricultural Society (T. L. NEWTON, secretary) is to hold its annual meeting, Feb. 5–8, and the following societies meet also at the same time—all at Madison: Horticultural, Feb 5–9; Short-Horn Breeders, Jersey Breeders, Sheep Breeders and Swine Breeders, Feb. 6; Bee Keepers, Feb. 6. State Poultry Association, at Hudson, Jan. 30–Feb. 5. State Dairymen's Exhibition at Augusta, Feb. 20–22.

A Disastrous Fire.—Readers will be sorry to learn that the MOSELEY & STODDARD MFG. Co., of Poultney, Vt., issue the following:

"We regret to inform you that our shops with their entire equipment of tools, fixtures and machinery, together with a large amount of stock, as well as finished and partially finished goods, were entirely destroyed by fire on Friday night, 18th January. Our loss includes all office furniture, and books, records, etc., which were not stored in safe. We succeeded in the saving of one warehouse which was filled with finished creameries and churns so that for the present we can fill orders for these goods promptly. We are now, at this early day, making arrangements to continue the manufacture of our line of superior dairy goods, and hope in a short time to be able to fill orders with our usual promptness."

Old Readers.—Mr. Jennings of Milwaukee, Wis., p. 51, says he has taken the several papers that have been merged into the COUNTRY GENTLEMAN 44 years, and asks how many subscribers can beat his record. I began to take it when a boy in 1840, making this the 49th year. How many subscribers can beat *that?*

West Kingston, R. I. JOHN G. CLARKE.

—— I claim to be a birthright reader of your paper, as I began in my father's house in 1837, and intend to read it to the end of the chapter.

Wellington, Ont. WILSON SHARLS.

—— Since 1836 I have been a constant subscriber for this paper, first under the name of "The Genesee Farmer," up to present date.

Hudson, N. Y. WILLIAM BROCKSBANK.

Corn Pack of 1888.—From the annual statement of the American Grocer it appears that the total pack in 1888 was 3,491,474 cases of two dozen tins each, an increase over 1887 of 1,180,050 cases. This large gain is due to the multiplication of canning houses in the leading corn-growing States, Illinois, Indiana and Iowa alone putting up about 1,000,000 cases or nearly one-third of the supply. Maryland and Virginia produced 1,087,450 cases, New York, 868,468, Maine, 466,200, which was 247,969 less than in 1887, the shrinkage being due to killing frosts early in September. Prices of canned corn show great variation, ranging from 50 cents per dozen for inferior to 75 and 90 cents for good, and $1.10 to $1.35 for extra. The present supply is far above the annual requirements of the country, but the low price of the article is causing a great increase in the consumption, and sending it into thousands of places where it has not formerly been an article of diet in the economy of the household. As one remedy for checking the tendency to overproduction, the American Grocer urges upon packers a higher standard of quality, and that attention be paid to quantity.

Liberal Prizes.—The Jubilee Show of the Royal Agricultural Society of England, as has been already stated, will be held at Windsor Park next June, under the presidency of her majesty the Queen. The prizes aggregate a value of nearly $60,000, the classification in pounds sterling being as follows: Live Stock—Horses, £2,006; asses, £30; cattle, £2,952; sheep, £2,507; goats, £45; pigs, £760; poultry, £234. Farm and Dairy Produce—Corn, £135; wool, £144; cheese, £360; butter, £30; cider and perry, £160; hops, £180; jams and preserved fruits, £90; hives and honey, £51; agricultural appliances, £185; butter-making competition, £53; horse-shoeing competition, £42. Total, £11,917.

Aside from the foregoing list, the Queen herself will add champion gold medals for the best stallions and the best mares exhibited in the horse classes, and for the best animals of each of the fifteen breeds of cattle for which prizes are offered—also a gold medal for the first prize winner in the champion butter-making competition.

Our American Institutes.—The London Live-Stock Journal, in the course of an editorial review of the second bulletin of the Wisconsin Farmers' Institutes, has these remarks:

How far our new county councils will ever frame their proceedings upon the model of the home action of the separate States in America remains to be seen. That this home action, in the several States of America, deserves attention, in English counties, we are quite sure. * * The university authorities during these long winter months—which some consider the greatest drawback to American life, and others consider to be the foundation of all that is best in the national character—attempt to work upon the education of the State by means of traveling lecturers. These, in the months of November, December, January, February, March and April, hold "institutes," at various centres throughout the State. The lecturers lecture, and the neighbors not only listen but read supplemental papers; discussion follows, and the afternoons passes into evening before the day's doings are finished. At the end of the season, by the help of voluntary effort, the whole of these papers, and the pith of the discussion, is summed up in an annual "Bulletin" by the Superintendent. Of these bulletins the second is before us. * * It enables us to see, "as in a looking glass," our cousins, at home; and to take some measure of their intelligence and social qualities. It must be admitted that they come well out of this scrutiny. We have no such unassisted "provincial life" among ourselves as the Bulletin reveals to be existing in America. * *

It would, plainly, be impossible within our limits to do justice to this mass of genuine

farm experience. The Superintendent—to whose zeal these bulletins are due—asserts that by the growth of corn (maize) as a forage crop the Wisconsin farmers are able to keep one third more stock; whilst the protracted summer droughts—which have been such a cause of loss in this State—are, by help of silage, made almost harmless. He reports too that there is a growing disposition to select better stock, and to feed with more intelligence. He claims—and as to this the volume itself bears ample testimony—that the main cause of the success of the Institutes has been the helpfulness and appreciativeness of the local men. Wherever the lecturers have gone, the local men have superadded—in the discussion, out of their practical experience—more information than the professional speakers were able to convey. ℞ ℞

Altogether this book is one for its promoters to be proud of. It does not seem to be on sale, but it is distributed gratis in the State; and forms a really wonderful monument of American enterprise, shrewdness, and thrift. It would be difficult to point out, where a cent in excess of what is absolutely necessary, has been spent; or to any department, in farm life, of any importance, which can be said to have been overlooked. Neither bad seasons, depression of trade, nor a faulty fiscal system, can possibly keep down a people so intelligent and self helpful as the inhabitants of Wisconsin hereby prove themselves to be.

American Live Stock Abroad.—A statement has been made up of the total imports of live stock and fresh meat from the United States and Canada, at the port of Liverpool, for the year 1888 as compared with 1887, showing a substantial increase in all items. The figures given are as follows:

1888—January to March—14,805 cattle, 319 sheep, and 85,227 quarters of beef; April to June—26,909 cattle and 110,991 quarters of beef; July to September—28,901 cattle, 17,700 sheep, and 87,985 quarters of beef; and October to December—19,556 cattle, 10,365 sheep, and 120,110 quarters of beef. Totals for the year—90,154 cattle, 28,374 sheep, and 410,303 quarters of beef. These exceed the imports of 1887 by 30,195 live cattle, 16,869 live sheep, and 120,260 quarters of beef.

The Board of Trade returns give the following table of values of the aggregate importations of live stock into Great Britain from all foreign countries:

	1887.	1888.
Oxen and bulls	£3,838,695	£5,130,697
Cows	339,053	654,983
Calves	147,087	146,155
Sheep and lambs	1,645,897	1,740,349
Swine	96,434	74,794
Total	£6,149,099	£7,727,399

The aggregate value of dead meats imported from all sources was £15,218,991 in 1888, against £14,662,100 the previous year.

Farm-Yard Notes and Items.

A remarkable showing of what Holstein-Friesian cattle can do in butter making appears on p. 94.

The Tennessee Breeders claim the following dates for sales:

May 28th—W. J. Webster, Columbia, Jerseys.

May 29th—Campbell Brown, Spring Hill, trotting and pacing horses, Jersey cattle and ponies.

May 30th—Dr. Wm. Morrow, Nashville, Jerseys. H. M. P.

At the Annual Meeting of the Cheshire Swine Breeders' Association, at Syracuse, N. Y., Jan. 8, the following officers were elected: R. E. Cox, Kirkville, N. Y., president; E. W. Davis, Oneida, vice president; G. S. Button, Chittenango, N. Y., secretary and treasurer. The first volume of the Cheshire record (700 numbers) will be published early in April.

Mr. P. J. Cogswell, Rochester, N. Y., has sold to John White, Halifax, N. S., a son of Exile of St. L. 13657 and from Success of St. L., a very rich young cow, daughter of Sir George of St. L., sire of Canada's John Bull—a very desirably bred young bull and individually very fine.

Mr. W. A. Alexander, Scipioville, N. Y., has bought of R. E. Cox two Guernsey cows—Tritonia 3068 and Tritonia 2d 2699, and a one-year bull. Mr. A. adds: "My Duroc-Jerseys are doing well, and I expect to have a fine lot of pigs to advertise in your columns in the spring."

If any Short Horn breeder has animals for sale, and has either not advertised them at all or has selected mediums that somehow do not seem to find him a sufficient market, he may be interested in the following note from Mr. Haines Brown, dated Lyle's, Pa., Jan. 23:

"My small advertisement of Short Horn calves [five lines, two times, cost $6.50] brought letters until answering them became burdensome, and Mr. Geo. D. Blair of Huntingdon county, Pa., quickly grabbed up all three of them. Your paper is worth all the rest to advertise stock in."

The Minnesota Dairymen's Association has adopted the following:

Whereas, The importation of Jersey cattle has been almost entirely discontinued by the prohibitory tax imposed on such cattle by the American Jersey Cattle Club, and

Whereas, Such tax is working disastrously to the dairy interest of the country by preventing the further introduction of fresh stock and increasing the price of these cattle. Therefore be it

Resolved, That the State Dairymen's Association of Minnesota, in convention assembled, does hereby record its protest against the exorbitant fees imposed, viz: $100 for registering bulls and $50 for cows, and would urge upon the club to so modify its rates as to allow them to register on the same terms as the progeny of imported cattle.

Resolved, That should the A. J. C. C. persist in maintaining these unjust fees, this association would recommend the publication of another Jersey herd book for the admission of all Jerseys suitable for entry or on equal footing.

This action seems to grow out of a statement presented at a preliminary gathering of breeders and dairymen at the Minnesota University, by Mr. Chas. Le Vesconte, who selected 26 animals on the island of Jersey and was astonished to learn, on applying to have them registered by the A. J. C. C., that the privilege would cost him $1500. Special stress is laid on the fact that Mr. Jonathan Smith, inland agent of the A. J. C. C., wrote to the Country Gentleman that these cattle constituted a particularly fine lot. It is thought to be a serious injury to the Jersey and dairy interest in this country that home-bred animals, however inferior, may be registered for a mere trifle, while an almost prohibitory tax is laid on importations of high quality. Of course there are two sides to the question.

The London Live Stock Journal says:

We have received a copy of the newly-issued catalogue of pure-bred Clydesdale, English Shire, Suffolk Punch, Hackney and Cleveland Bay horses belonging to Messrs. Galbraith Brothers, Janesville, Wis. The catalogue is admirably prepared, and is amply illustrated with high-class engravings of the many noted animals owned by this firm. Particulars are given of 196 horses, and at the end of the catalogue a list of the prizes won at the great Chicago Horse Show is printed. At this exhibition the stud was exceedingly successful.

Mr. Charles G. Sherman, Briar Cliff Farm, Sing Sing, N. Y., send us four Jersey tests:

1. Trudie of Briar Cliff 34144, sire, Domino of Darlington 2459, dam, Trudie 277, dropped Aug. 5, 1885, dropped calf Aug. 27, 1888; in seven day from Jan. 3, gave milk 199 lbs., butter 14 lbs. 2 oz.

2. Lorna of Briar Cliff 37816, sire, Domino of Darlington 2459, dam, Jersey Lily 14044, dropped March 30, 1886, dropped calf, Sept. 30, 1888; in seven days from Jan. 8, gave milk 140 lbs., butter 14 lbs. 4½ oz.

3. Lass Barry 39709, sire, Duke of Darlington, Jr. 8108, dam, Lady Barry 7950, dropped Oct. 25, 1884, dropped calf July 29, 1888; in seven days from Jan. 14, gave milk 159 lbs., butter 16 lbs. This is nearly six months after calving, and she is due to calf again June 20, and only four years old last October.

4 Juliett Guion 13143, sire, Walnut Chief 3130, dam, Pride of Walnut Farm 11501, dropped May 24, 1881, last calf Nov. 30, 1888; in seven days, from Jan. 14, gave milk 188 lbs., butter 14 lbs. 7 oz.

The feed of these four cows during test and for some time previous consisted of 6 qts. corn and oats ground fine, 3 qts. fine wheat midds, 2 qts. old process wheat bran, all mixed with about 1½ bush. of cut hay and fodder corn, of the best quality. They also had ½ bush. cut carrots, and what long hay they would eat, daily in three feedings.

Domino of Darlington 2459 now has seven daughters in the 14 lb list, from 14 to 16 lbs. and 1 oz. Also, one g. d of 14-8, one daughter 13-13½, and two of 10-8½, with first calf.

ENGLISH RED CAPS.

Mr. R. E. Cox, Kirkville, N. Y., writes us Jan. 11:

"I shall soon want to advertise more Percherons, Holsteins and Guerneseys. My sales since Jan 1 are two Percheron stallions, three Guernsey bulls, two Guernsey females, all from advertising in the Country Gentleman last fall *one time*. I find if I have anything to sell I have only to advertise in your paper."

Mr. A. D. McBride, Rochester, N. Y., writes us as follows, Jan. 28:

"I have recently disposed of the following animals, and find good Jerseys are in great demand at good prices: Tanstine Butler 38965, to Frank Spring, Victor; Grace Greenleaf Parks 29363 (19 lbs. 3 oz.), to M. F. Reynolds, Rochester; Walter Girl 3d 39265 (18 lbs. 14¼ oz.), to Hon. H. S. Greenleaf, Rochester; Helen Stoke Pogis 31,947 (17 lbs. 8 oz.), to John Ladd, Victor; Fair Stoke Pogis 37293, to Wm. B. Osborne, Victor; Rainbow 2d 18962 (21 lbs. 8 oz.), and her daughter Miss Rex Golden 36389, to Geo. E. Peer, Rochester; Bromide of St. Lambert, to a gentleman in Kansas. Besides this, I have sold several bull calves and heifers, may be owing to my advertisement in your valuable paper."

Mr. T. S. Cooper, Coopersburg, Pa., writes to the Country Gentleman, Jan. 21:

"The past fall brought with it a healthy demand for good Jerseys at moderate prices. Well-shaped udders with undoubted ability to do good paying work in the dairy, were prime requisites, and I am convinced that animals of this class will not go begging for a long time to come. Among numerous sales from my herd, not the least important is that of 17 cows and 1 bull to A. H. Moore of Philadelphia, who in this purchase lays the foundation of a herd that should be a source of joy and profit to its owner. At the head of the list is Lorne 5048, pronounced by competent judges the best inbred Victor-Hugo bull living. He is not only a grand show bull of rare quality, but his get are superb, and nothing but Mr. Moore's tempting offer induced me to part with him. Among the cows is Bliss 15819, winner (with four others) of silver cup valued at $300, at New York Dairy Show, May, 1887, with her sire Pedro 3187 and progeny; Belle Dame 8th, 30945, winner of 2d prize at same show; imported cows Remulus Buttercup 30942, Merry Nuna 29181, Belle Flower 29306, Lady of Linden 29118, and Aldster Lucy 29109; three superb young cows by Black Prince of Linden out of magnificent dams; three daughters by Pedro 3187; two daughters of Stoke Pogis of Linden, two by Lorne, and one by Carome Skin Prince out of a daughter of Pedro. It will thus be seen that Mr. Moore has not only secured individual merit, but that they are particularly desirable in point of breeding."

Our illustration shows a fine pair of English Red-Cap fowls, of which Mr. Stephen Beals writes us:

The Red Cap is making its influence felt as one of the most useful laying fowls. Except for size of body and coarseness of comb, it resembles the Golden-Spangled Hamburgh, though the latter is richer in color and more perfect in markings. That there is a relationship, seems undoubted. Hamburgh men claim that the Red Cap is a coarse Golden Spangled Hamburgh, but I believe that the Golden-Spangle is a finely bred Red Cap, the latter being the progenitor. Red-Caps have been bred in Derbyshire and South Yorkshire for upwards of 100 years. The origin is difficult to determine, but probably there was some Game element. Mr. A. E. Wragg, the modern apostle of the Red Cap, says there is any amount of Game spirit in it. A dubbed Red-Cap cock is the picture of a Black Red Game as formerly bred, and a match for any Game cock. It has gone under many different names, such as Pheasant fowls, Moss Pheasants, Cranmers, and Yorkshire and Derbyshire Red-Caps. They breed true to color, and there are three sizes of comb—small, medium and large. The cock should be 7 to 8 pounds, hens 6 or 7 pounds. They are non-sitters, enormous layers, and fair as table fowls. Mr. Wright calls attention to the richness of the Red-Cap egg, and Mr. Wragg says that "although only of medium size, weighing about two ounces, they are richer than those of any other variety. Have two custards baked, one with Red-Cap eggs and the other with eggs laid by any other fowl. The Red-Cap custard will be solid to the bottom, while the other will have hard work to set at all."

The Red Cap is very hardy. Last winter I saw several lots of these birds out in Chatsworth Park without shelter more than wooden house and a few trees, and they were in perfect health, though there was three or four feet of snow on the ground. They were well up on the hillside, in dry places, and frost-bitten combs were unknown. Like the Hamburghs they do best with free range, and not cuddled. The breeder named said they thrive better in winter if fed almost entirely on hard food. They are very fond of raw turnips when grass cannot be obtained. They are said to do well in confinement if kept clean and well supplied with green food, oyster shells, and grit; but are hardly a breed for small runs.

For crossing, they are invaluable, as their laying powers exert great influence. Mr. Wragg says one of the best crosses is the Red-Cap cock with Black Spanish hens, if eggs are sought for. For both laying and table purposes the Red-Cap cock with Brahmas or Dorkings would be best. Red-Cap and Houdan is also capital, and the chickens grow remarkably fast, the meat being of very superior flavor, with little bone.

Mr. C. I. Hudson, New-York, writes to the Country Gentleman, Jan. 15:

"I have purchased from Mr. V. B. Fuller, Crocus's John Bull 21665, sired by Canada's John Bull 8388, dam Crocus of St. Lambert, full sister of Mary Anne of St. Lambert 9770 and Naiad of St. Lambert 12985—three full sisters with average tests of 18 lbs. 9 oz.—I think the highest average of any three sisters. He has four crosses of Stoke Pogis 34; and he is as good looking a young bull as any one could wish—solid dark color with silver gray streak on back; very handsome head; fine large eye, deep and long body, set on short legs; good straight back and open ribs and strongly resembles his sire."

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Rations for Fast and Heavy Work.

Eds. Country Gentleman—If horses weighing about 1300 lbs each, should in team travel 30 miles a day, in three trips, going 15 miles unloaded on the trot, 15 miles with a load of 4,500 lbs on the walk, which of the following rations would be the best, given in three meals, the middle meal irregular as to time?

1. 6 lbs. ground barley, 6 lbs. ground oats, 3 lbs. oil cake, 6 lbs. bran, 15 lbs. clear timothy hay, cut ¼ inch, slightly moistened, and all mixed together; or—

2 15 lbs. ground oats, 3 lbs. bran, 1 lb. oil cake, 15 lbs. clear timothy, cut 1 inch, slightly moistened, and all mixed together; or—

3 20 lbs. whole oats, 20 lbs uncut hay (dry)

Second.—When the above rations were fed, the hay of the first ration, cut to ¼ inch, did not appear by the droppings to be as finely masticated as the hay of the second ration cut to 1 inch, and neither seemed to be as finely comminuted as when the hay was uncut. What length would you advise the hay to be cut?

Third.—Please compound a cheaper and better ration than any of the above, choosing from the following list as may best suit your purpose: Hay, timothy, at $13.50 per 2,000 lbs; corn, No. 2, 60c. per 56 lbs; corn, No 3, 56c.; oats, 37c. per 32 lbs.; barley, 55c. per 48 lbs.; peas, 65c. per 60 lbs.; bran, $16 per 2,000 lbs.; oil cake, $31; cottonseed cake, $28; malt sprouts, $10.

The ration desired is for the same horses and the same work. The cost of the first ration is 30 32; second, 29 89; third, 30.35. J. F.

J. F. has mentioned several phases of the horse feeding problem that are not as well understood as they should be, and more careful experimenting is needed. Almost all experiments, even at experiment stations, have been very incomplete. Let me say here to F. that the difference in mastication noted of hay cut one-half and one inch or uncut, was not caused by the cutting, but by the moisture in the hay. When a horse is hungry, he swallows his food with as little mastication as he can, and the moister hay is the easier he can swallow it without waiting for a sufficient flow of saliva to assist him. The uncut hay was dry and he must masticate this till the saliva flows to saturate it. It is for this reason that these answers have advised feeders to moisten the hay as little as possible to cause the ground feed to adhere to it, so that both must be eaten together. It would be better to mix the ground feed together, dry, and then mix this with the dry cut hay as well as it can be in the manger, than to have so much moisture that the horse can swallow without sufficient mastication, as the horse would be obliged to eat much of the dry hay with the ground feed, and he must thoroughly masticate it before he can moisten it enough to enable him to swallow it. This saliva performs an important part in digestion.

Hay is best cut for horses from 1 to 1¼ inches, but the cutter is usually set 1 inch, and then much of it will be longer because hay cannot be fed straight through the cutter. A machine which should cut and then bruise the fibre into almost a pulp would be a great improvement, for it might then be so mixed with the ground feed, dry, that both would be completely eaten together, and the mass in the stomach would be in a very porous condition.

2. The first of F.'s three rations is the best. The following analytical formula shows its digestible nutrients:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
15 lbs. timothy hay	0.35	6.13	0.15
6 lbs. ground barley	0.89	3.65	0.11
6 lbs. ground oats	0.51	2.76	0.24
3 lbs oil cake	0.97	0.89	0.14
6 lbs. wheat bran	0.79	2.76	0.25
Total	3.21	16.19	0.89
Nutritive ratio, 1 to 5.6.			
36 ration has	2.20	15.98	0.85
Nutritive ratio, 1 to 6.7:			
36 ration has	2.43	17.47	1.03

Nutritive ratio, 1 to 8.3.

This last ration has too wide a ratio except for a slow-working team. Besides, the bulk of hay is too much for a team required to trot 15 miles per day. It fills the stomach too full for easy movement. If the distance (30 miles) were all made on a walk the ration would do, but then would not be best, because it costs more than ration No. 2, and is no better if as good.

Horses to be rapidly driven should have their food in as small bulk as health will permit. Horses kept for fast driving should have only 8 lbs. of hay per day. This, when properly combined, is sufficient for sound health. And in this case it would be quite as well to reduce the hay to 10 lbs.

3. I will suggest to F. the ration represented in the following analyzed formula:

	Albuminoids, &c.	Carbo-hydrates, lbs.	Fat, lbs.
10 lbs. cut timothy hay	0.37	4.13	0.11
10 lbs. ground oats	0.85	4.60	0.40
9 lbs. wheat bran	1.05	6.14	0.23
2 lbs oil cake	0.86	0.66	0.13
Total	2.85	15.53	0.86

This has a nutritive ratio of 1 to 5.4, costs less than No. 1, and will be quite as successful a ration for these horses. A cheaper ration can be constructed from corn, oats, bran and malt sprouts, if the team only walked as in ordinary work, but it would not be adapted to 15-mile trotting per day. Malt sprouts, if in good condition, is the cheapest food mentioned by F. Yet, it is rather troublesome to use for horses, as it must be well soaked before feeding. This makes a valuable part of the ration for young stock in combination with bran and hay. R. W. S.

Fighting Pleuro-Pneumonia.

[Following is an abstract of the valuable paper—"A Fight with the Microbes of Lung Plague"—delivered by Prof. James Law before the New-York State Agricultural Society, at Albany, Jan. 18:]

Lung plague is the product of unbroken generation, as truly as the race of cattle on which it preys. It can be traced more than 2000 years in Europe, *invariably along lines of cattle transit*, never occurring where there has been no communication with districts previously infected; no hardship or exposure, alone, ever produced a case. In this hemisphere, its appearance is entirely due to importation; it has never appeared in Texas, Mexico or South America, which were stocked with cattle from the Spanish peninsula, where lung-plague never existed. A seed—a specific germ—is therefore always an indispensable condition of the appearance of the disease, just as much as of thistles. Fortunately, heating this germ to 135° for 20 minutes, so far changes it that it will not propagate the disease, though still capable of developing a slight fever that renders the animal henceforth unsusceptible of infection.

It follows that we must always remember that the sickness is simply the harvest of a seed that has been sown. Every sick animal must therefore be destroyed; and as chronic cases usually leave dead masses of lung charged with the germ, which lives there for an indefinite time, these store-houses must be thoroughly purged of their baneful contents, even if the store houses too must be destroyed. Every bovine that has had even indirect contact with the plague, or with a place where the plague has been, is open to suspicion for many months, and so are cattle that have come in contact with her—for she may have carried the poison to them, though seeming perfectly well herself. Also every building, yard and article of any kind, and every man or animal that has had contact with diseased or suspected animals or their products, must be thoroughly disinfected.

When called to attack the plague in Illinois in '67, the speaker found much to discourage him. The U. S. government and the Illinois cattle commission did not harmonize, and all was chaos. Promises of necessary action by the State Legislature were not readily fulfilled—an absurd law being passed which (if it could have been enforced) might perhaps have confined the disease for a time within certain limits, but would have let it rage unmolested in the infected territory. An attempt to pass an effective measure was stoutly resisted by ignorant persons in the Legislature, who actually tried to stop all action and let the plague have its way. An investigating committee were, however, easily convinced of the danger of pursuing such a course; and secured the passage of a bill giving the governor of the State authority to quarantine infested districts, prohibiting all movement of cattle *within* them as well as *from* them, and requiring persons knowing of the existence of the plague to report it.

Cook County (containing Chicago, the seat of infection) was divided into eight districts, with a veterinarian in charge of each, who examined, registered and marked with an ear-tag every bovine, no animal thereafter being allowed to be moved except on permit. Especially were the Chicago Stock Yards guarded from the entrance of any beast that had been even remotely exposed to infection. This action ended the selling of cows in dealers' stables and the introduction of city cows into such stables, which otherwise would have become centres of contagion. Moreover the killing of animals was permitted only in the presence of an inspector, thus keeping exact tally of every beast, so that none could be smuggled away without prompt detection. Whenever a slaughtered animal was found to be diseased, the remaining cattle of the same establishment were bought and killed, and the premises thoroughly disinfected before they were allowed to be restocked. Every step taken under these regulations was a clear gain, and every stable emptied and disinfected necessarily remained sound. Entire success came sooner than was expected. The last acute case was met with, July 26, after which it was only needful to watch for chronic cases at slaughter houses until all cattle that had been in the infected area at the inception of the work, and had been even probably exposed, were disposed of. That done, no new cases could arise except by a fresh introduction of the germ.

Killed cattle were justly appraised, and the owners reimbursed. Healthy and marketable carcasses were sold. Fair payment of full value is indispensably necessary, or owners will use every device to conceal the existence of the disease. The entire outlay for six months of active work, including also the tagging, registering and supervision of 20,000 animals, was under $40,000. For various reasons, more care not to pay too much for slaughtered animals must necessarily be exercised in seaboard districts; but the effectiveness of the work suffers thus in consequence.

A good many attempts were made to evade the law—by night-pasturing on open land for instance; this was soon stopped by seizing such cattle and slaughtering them forthwith, *without* compensation to the owner, except allowing him the more sum that the carcass, if sound, could be sold for. Frauds of other kinds were attempted, of which the professor related many interesting tales; but he seems to have succeeded in frustrating all. In no case on record has a large city with its suburbs been cleared of lung-plague in so short a time.

A year ago, the professor hoped to extirpate the disease in New-York before returning to his university duties in September. Drawbacks many and potent—above all, adverse decisions by the courts, need of new legislation, and failure of the appropriation—made it impossible to realize the hope. The work in New-York extended over five counties, with an insufficient force; and the same strictness could not be maintained as in Illinois. Here moreover he was dealing with 80,000 instead of 20,000 cattle, and with persons practiced in all possible ways of circumventing the authorities. Nevertheless, Staten Island was redeemed to soundness, and Westchester and New-York almost so, only Long-Island remaining an infected district—owing largely to the unwise opposition of its misguided people—the first place on the continent to receive the infection, and probably the last to be freed from its grasp.

"In thirty years," Prof. Law concluded, "this plague has never been circumscribed to such narrow limits, and never has the duty been more easy or more urgent to carry on suppression to complete extinction. What is most urgently needed is that Congress shall not leave the Bureau of Animal Industry, as hitherto, with an appropriation so inadequate that the work must be stopped for months when in full career; that every infected district be promptly quarantined, so that every bovine within it shall be held where it is, and accounted for in case of slaughter or natural death, so that every centre of infection may be speedily discovered and stamped out. Apart from the veterinarians, already specially trained to deal with this disease, all the government employés should be appointed in accordance with the civil-service rules, and not, as heretofore, at the request of local political managers. There may be departments of the government in which the 'spoils' doctrine may be applied without serious loss; but in a matter so important as this, in which $1,500,000,000 worth of live-stock is at stake and has its market value reduced 15 per cent. by the presence of the plague, intelligence and efficiency should be the one criterion in service."

Corn and Bran—Rations.—I can buy bran from flour made by roller process, at mill, one and a half miles of bad road from my barn, at $1 per cwt. Would you advise me to exchange white corn, the only grain I have to feed my work and breed mares, milch cows and yearlings, cows and pigs upon, for this bran, 45 cents being allowed per bushel for the corn shelled? I must shell and deliver the corn and haul the bran. J. M. W. A. *Warrenton, Va.* [J. M. W. A. neglects to tell the kind of hay he has to feed with his corn, so we might judge how well a balanced ration could be formed with the corn. There are certain purposes in feeding which corn cannot properly fill. It is very inappropriate food to grow calves, feed brood sows or pigs, and except in very small amount, injures brood mares, in foal or while suckling the foal. Corn has not the material to grow the bones. Hungry pigs cannot be grown upon corn. One pound of wheat bran has as much material to grow the bones as nearly 5 lbs. of corn meal; but for strictly fattening purposes corn meal is worth much more than bran. The price he quotes for bran ($20 per ton) is very high. We do not know any market where corn meal does not bear a higher price than bran. It would seem that his miller is bent on driving a sharp bargain. He does not state what price corn meal bears per cwt. It is presumed that he does not feed whole corn, but grinds it himself or gets it ground. We should advise him to exchange as little corn at those figures for bran as his circumstances will permit. If he has clover hay he may make a very fair milk ration with this and corn meal—say 15 lbs. of clover hay, cut and moistened, with 10 lbs. of corn meal mixed with it, will produce a good yield of milk. His work horses may be fed, in winter especially, upon cut hay and corn meal. Twelve lbs. of cut hay, mixed with 10 lbs. of corn meal, will sustain very good work in moderate-sized horses. His brood mares should have 14 lbs. of cut hay, 3 lbs. of corn meal, 6 lbs. of wheat bran. His brood cows or pigs will do best upon 2 lbs. of corn, 6 lbs. of bran, 1 lb. of oil meal. When the pigs are four months old they may be fed a combination of 2 lbs. of bran, 6 lbs. of corn meal. R. W. S.]

Clydesdale Stallion Prince of Wales.

Eds. Country Gentleman — The famous Clydesdale stallion Prince of Wales 673 died a few days ago, and a few notes as to this wonderful horse, whose progeny is to be found in all parts of the world, may be welcome to American readers, especially as about him has raged a fierce controversy which does not show signs of cessation. He was 20 years old, and to give even a brief list of his stock who have themselves won fame would take up a large amount of your space. During the period when he was exhibited he was only moderately successful. When he was a year old he won second at the Glasgow show of the Highland and Agricultural Society, and in 1870 he won first at the Kelso show of the same society, since which time he has been reserved for such, in which capacity he has shown the greatest influence.

Prince of Wales was bred on May 2, 1856, at Dramlurie Farm, Kilkerran, Ayrshire, N. B., by Mr. Nichol Fleming. His sire was General 323, a son of Sir Walter Scott by a Shire mare. The dam was Darling by Logan's Twin 741, out of a Shire mare, so that the granddams on both sides of Prince of Wales were Shires. It is stated that one was bought at Market Harborough and the other at Doncaster. The dam Darling was bred by the late Mr. Knox Fireside, Nellston, and was purchased by the late Mr. Lawrence Drew. The reason why she was bought by Mr. Fleming is told in the current issue of the Live Stock Journal, which also contains a portrait of Prince of Wales, from which it would appear that she was sold to satisfy one of the trustees of the Duke of Hamilton that the price placed upon the stock at Merryton was not excessive. The price paid was £650, and an arrangement was made for Darling to be sent to General, owned by Mr. Riddell, the result of which was Prince of Wales.

In 1860 he commenced his work as a stud sire, and that year he was purchased by Mr. Riddell, who retained him for a couple of years. But in 1871, says the article which we have named, Mr. Lawrence Drew, who was then the tenant of Merryton, learning that an Australian was in treaty for the purchase of Prince of Wales, mentioned it to an elder brother, who had made money in Australia and was then residing with him. Without stating his intention the brother went to Mr. Riddell and succeeded in purchasing the horse for $7,500, which was the sum the Australian was believed to be inclined to give, and presented

him to his brother Lawrence. Thus the horse came to Merryton, where he won the greatest fame, and about his use at which so much has been written and said. After the death of Mr. Drew, Prince of Wales was bought by Mr. David Riddell, in whose possession he has since remained. The price then paid was $4,500. But when it is remembered that last year three colts by him sold for $17 700, the price was by no means high. a n *H——, Bay, Jan.* 11.

The Dairy Department.

Varying Qualities of Cream.

ED. COUNTRY GENTLEMAN—I wrote you about two weeks ago for a ration for my Jersey. Since then I had the three year-old cow's milk, cream and butter weighed for three days. The milk weighed 48¼ lbs.; cream, 14 lbs., and the butter only 2 lbs. You can see that the cow's milk is rich. The cream is raised in a Cooley creamer and churned in a Davis swing churn. My man says it takes from 8 to 10 minutes for the butter to come. Do you think the quick churning tends to produce such a small proportion of butter, or is there a difference in quality of cream from different cows? Do some cows produce more butter than others from a certain amount of cream? Her feed is 6 qts. bran and ground oats, 1 lb. oil meal, 1 peck of mangels and good timothy hay. She calved July 15, and is a good feeder.

Alexandria Bay, N. Y. C. L. H.

Cream is not a measure of the richness of milk. It varies very much in composition, having from 23 or 24 per cent. up to 45 per cent. of butter in it. A large number of analyses made by Dr. Wanklyn, and given in his "Milk Analyses," show that the butter fats in ordinary cream vary in amount from 14 to 44 per cent. It is rare that 2 lbs. of cream will yield a pound of butter with only 8 or 10 per cent. of water in it, and such rich cream could not be churned in an ordinary churn. The average will be found nearer 25 per cent. of butter than more.

But again, cream raised in deep pails contains much less fat than that taken from shallow pans, and unless more time is given than 24 hours to raise the cream in the deep pans it will not average more than 15 per cent. of butter worked as dry as butter should be. In this case the butter made over 14 per cent. of the cream, which, considering the food given the cow, is a very fair yield.

Again, the time of churning is too short for a cow which has been milking six months, and most probably a considerable portion of the butter was left in the buttermilk. I have frequently found this to be the case. Some experiments I made and noted show that when the butter from cream of a Jersey cow newly calved came in five minutes in a rectangular churn, continued churning brought more butter as follows: 24½ lbs. of cream gave 5 lbs. 2 oz. of butter in 5 minutes, 1 lb. 1 oz. in 10 minutes, 4 oz. in 25 minutes, ¼ oz. in 35 minutes. Total, 9 lbs. 7¼ oz.

This cream was quite thick, and was taken from shallow pans, and water was added to this it when put in the churn. Certainly, some cows' cream, as the milk also, contains more butter, and some cream churns more rapidly than others, although when the cream is all ripened together, and is well but gently stirred at intervals, the earliest made butter gathers the rest, and practically all the butter will be got as soon as the butter in the churn is in a coarse granular condition. But it is always advisable that tests should be made at times by removing the butter and churning a little longer, to see if all the butter has been got out of the cream, especially when the butter comes very quickly.

The case in question presents these points: First, the feeding was not the best for the largest yield of butter. Two-thirds of the grain should be finely-ground corn meal, one-third only of bran, and the oilmeal added should be cottonseed rather than linseed. The hay should be made from early-cut clover, made when the crop is fully in blossom, but no heads as yet turned brown. The mangels are all right; 10 lbs. of meal per day, with all the hay that would be eaten, if the cow is a good Jersey, should give at least a pound of butter from 11 lbs. of milk; if it did not, I should consider the cow a poor specimen of this usually productive breed. Second, the cream was thin, and contained a small proportion of butter—consequently the cream was not a good test of the richness of the milk; and third, the churning was done too quickly. This may be regulated by lessening the motion of the churn. Forty-five and a quarter pounds of milk is a small yield for a good cow in three days, being only about seven quarts daily, but it is most probable that all the butter was not got out of this milk, as the butter made was unusually small in quantity. H. S.

The Demands of the Times.

[Following is substance of lecture, "The Dairying Demanded by the Times," delivered by Mr. JOHN GOULD before the New-York State Agricultural Society at its Albany meeting, Jan. 19.]

The times are not only working changes in our dairying, but demanding a general adoption of a line of method that shall not only benefit the few, but bring substantial prosperity to the many as well. The system of thirty years ago will not bring success now. Principles do not change, but the methods to reach them do, and to reach success new methods more in accord with those principles must be substituted, and with a revival of memory, to show from whence we started in 1850, let us see what the times demand of us in 1889.

The times first demand a *dairyman*—not a makeshift, but a man bound to know and succeed—one who is in love with his vocation, determined to excel in all dairy knowledge, scouting all acceptance of low averages, and striving to produce not only the most, but the best.

The times demand that this dairyman shall dairy with a *dairy cow*, bred, reared and trained for a dairy purpose—a cow with the largest development of motherhood possible; one that has few "steer" traits about her; a mother of large performance, that exchanges food for good milk, and holds nothing back for beef production. This cow should be a special yielder of milk for consumption, butter and cheese, for the dairyman must aim at a specific result rather than trust in luck, or even pin faith to a general-purpose cow that sells him $35 worth of milk per year, and at last sells her beef for $12 more.

The times demand an equalization of production, so that there shall be an abandonment of the over summer supply, and so prevent the ruinous prices of summer and the "booming"—often speculative—prices of winter. They demand a continuous supply of the fresh-made article, and when wanted. No rise ever comes in July, when the average dairyman has an over-abundance, but in January, when he is 90 days from cheap grass, and nothing to sell, it suddenly "rains porridge" on his inverted dish.

The farmer must solve the problem of cheap and abundant rations for his dairy, and with a wise combination of these, make good and abundant milk at minimum cost. It is a bold dash for the "cow to the acre" line of excellence, and simply means the most for the least outlay. It can be reached only by an adoption of soiling in some of its forms, and brings the silo to the front to aid in this to-be-desired consummation.

The dairyman must also drop all prejudice and self-constituted judgment in regard to the market, and put himself in the attitude of a student, who is desirous of supplying the wants of the consumer, and thus in pleasing get the extreme limit of prices. It is simply business discernment such as has made features of other industries so conspicuous, and is his extra profit in dairying.

The dairyman must forecast the future and see if the wants of the market will be best supplied with butter or cheese, and shape the rapidly increasing dairy industry accordingly. It appears that the world is far better supplied with cheese than with fine butter, and is likely to continue so, and he will therefore aim for butter production of the highest grade, and feed skim-milk intelligently to young stock, instead of fostering the skim-cheese industry. So long as England alone buys about 300,000,000 pounds of butter from the Continent, and we have none to sell her, because we consume all of the good butter at home, so long will we have a fair field to sell abroad, provided we compete with a No. 1 article.

Coöperation is a feature of dairying that the times demand we perfect—not coöperation with a speculator who will wring the last drop of fat out of our own profits, nor yet a coöperative effort by the dairymen to "nig," abstract, and by sharp practices, weight the industry with a standing reproach for all it should not be. Coöperation can be made—if the dairymen band together, each to do his best—a grand success, a massing of material, and receiving therefore a high-grade product, that shall secure the best recognition of the market. Coöperation means dairying with six times less invested in manufactory capital, and the saving of an unknown quantity of house labor, that in nine farm homes out of ten is worse than wasted.

The times demand that all milk and cream collected for manufactories shall be pooled for its value in solids, and not by its gross weight. The butter fats in milk determine its commercial value. The milk of dairies varies as greatly as that of individual cows in quality, and no man who offers a milk containing 4¼ or 5 and above per cent. of butter fat should be compelled to sell it pound for pound against milk containing 3 per cent. of fats.

The times demand that every State have a dairy and food commissioner, who shall be backed with ample power to hold the sale of bogus butter within close limits, and if certain requirements are not met in its manufacture, and all intent of deceit suppressed in its sale, prohibit both manufacture and sale; and as a step to this end, I would have the whole bogus butter business put under national control, then leave the States to police it as in their wisdom they see fit, but no person selling bogus butter should have the right to sell dairy butter alongside of it.

The educational feature of dairying must be made conspicuous. The dairy association and the dairy conference must be brought to the front, and the dairy school should have a prominent place in all dairy sections, so that our education should lead us as fast as possible to uniformity in dairy production. All these State aids to increase wealth and advance agriculture are repaid tenfold. There can be no great advance in progress unless education and intelligence precedes it, and makes the way plain; so at last the dairymen who band together for education, progress, honesty and justice, will, by persistent effort, win not only victory, but prosperity, and the times will demand that theirs shall be the final triumph.

Honest Products in New-York.

State Dairy Commissioner Brown, in his Fifth Annual Report (now in press), says that no imitation butter is now made in New-York State, so far as the detectives of the Department ascertain. The amount sold is very small, compared with that of former years. It has not been possible as yet to stop entirely clandestine importation or to detect all the dishonest dealers. One of the most difficult problems before the department is to prevent manufacturers of oleomargarine in other States from shipping their product directly to consumers in this State. Consignments of it to hotels and boarding-house keepers come in all manner of packages, calculated to ward off detection.

The department chemist, Dr. Clark, occupied much of the year in inspections of cheese factories, dairy surroundings, the water and food of cows, and the location of creameries and cheese factories; the object being to learn the sanitary conditions under which the people's butter, cheese and milk are produced. Different kinds of cheese and the methods of making them are described and analyzed; there is vast room for improvement.

The report of Assistant Commissioner Van Valkenburgh is on his work in New-York, Brooklyn, and their outlying districts. While he directed his attention chiefly to milk, he carried on an investigation of the butter business, to see how far dealers were venturing to violate the anti-oleomargarine laws. The search for spurious butter was made not only at the stores, but also in restaurants and boarding-houses. In the latter part of 1887, and the winter following, oleomargarine was found to constitute a large percentage of the "butter" which restaurant keepers, boarding-house people and hotel men served on their tables. Wherever the unlawful substance was discovered to be palmed off as real butter, prosecution were instituted with the effect of driving the oleomargarine out of use. During November and December, 1887, and January, 1888, a hundred arrests were made of restaurant keepers, who were detected serving oleomargarine on their tables. The effect of these prosecutions is shown by the fact that for the next six months only about twenty cases of violation of the law were discovered. Manufacturers of this article still send their drummers into New-York and Brooklyn, thinking, no doubt, that in such large towns the unlawful stuff can be got into the hands of consumers without detection. "It is necessary, therefore," he says, "to keep a continual watch for violations of this law, for if it should become known that they were not continually under the surveillance of the State agents, the trade in these goods would spring up again within sixty days and would flourish as well as ever. It will be far cheaper to keep the goods out of the market than to drive them out should they get a foot-hold again."

To those who may complain about the cost of maintaining the dairy department by the State it is shown that if the entire expense fell upon the farmers, it would be only about thirty-one cents to a farm. As the whole State helps pay this expense, the burden on each farm is about twelve cents a year.

From the statistics of the milk branch of the service in the metropolitan district for the year ending October 1, 1888, the following figures are taken: Days' service by expert inspectors, 631; milk inspections, 28,942; inspections of milk at dairies, 4 100; stores inspected, 3,405; peddlers' milk inspected, 858; creameries inspected, 196; cows inspected, 1,823; samples delivered to chemists, 168; complaints received, 115; convictions, 128; fines imposed, $3,630.

During the year the milk shipped from forty-three creameries was inspected by the lactometer test. Of the 1,720 cans 1,719 were found to be of legal quality. The one can condemned was only slightly below standard. The number of inspections of milk at dairies was 4,100, comprising 12,290 cans, and the lactometer test showed 12,214 cans to be of standard quality, while only seventy-six cans were sufficiently below standard to be marked "doubtful." Of the 8,951 cans of peddlers' milk inspected, 8,-867 were all right, and seventy-four were more or less off standard; and of the 4,671 cans of store milk inspected, 139 were below standard. That is to say, one-seventeenth of one per cent of the creamery milk was below standard, eight-tenths of one per cent of the dairy or farmer's milk; seven-eighths of one per cent of the peddler's milk, and four per cent of the store milk. Of these 28,942 cans inspected in all, only 290 cans were below standard. This is practically only one per cent of impure milk. The improvement over the year before is shown to be very gratifying.

One of the statistical tables in Assistant Commissioner Van Valkenburgh's report sets forth the amount by cans of cream, milk and condensed milk received in New York each week over the different routes which carry milk. These weekly tables are summarized by months as follows:

RECEIPTS IN NEW-YORK FOR THE YEAR ENDING OCTOBER 1, 1888.

Months.	Cans Milk.	Cans Cream.	Condensed Milk.	Estimated Value.	Price to Producer—Cts.
October.....	454,320	5,376	5,351	$750,000	3
November...	432,320	5,088	5,736	655,000	3½
December...	445,160	4,896	6,480	680,000	3½
January.....	447,680	5,136	6,451	691,000	3½
February....	442,477	5,416	6,668	690,000	3½
March	435,240	5,472	6,688	740,000	3
April.....	468,112	5,743	6,127	805,000	3
May.....	513,688	14,351	6,417	870,000	3½
June.....	561,370	22,560	6,688	900,000	3½
July.....	583,297	17,600	7,415	910,000	3½
August.....	581,033	15,240	6,737	920,000	3½
September..	479,128	8,624	5,831	795,000	3½
Total...	5,747,365	129,150	75,193	$9,931,000	

An inspection of imported condensed milk was made in June, 1888, and only one brand was found below legal quality. This was the Swiss product branded "Rigi." One or two dealers in Brooklyn were prosecuted and convicted for dealing in it after due warning had been given them.

The report of Assistant Dairy Commissioner Tuthill, of Orange county, shows that of 26,-545 cans of milk inspected under his direction in the counties of Broome, Chenango, Columbia, Orange, Delaware, Sullivan, Ulster, Dutchess, Rockland, Westchester and Putnam, only 169 cans could be found fault with when tested by the lactometer.

From the reports it appears that in an area of fully half the State, including the metropolis of the country, the people are to-day enjoying the blessing of practically pure milk, while the risk to dealers of selling them adulterated cheese or imitation butter is so great as to place those deleterious articles of food among the rarities.

Marcus A. Parry of Buffalo, and P. J. Butler of Castile, Assistant Commissioners in Western New-York, make a joint report. It is evident that fraud in dairy products is more

difficult of eradication in that section than in the eastern and central portions of the State. In the city of Buffalo 4,922 inspections were made of milk in the hands of peddlers and storekeepers, and 630 tests were made of milk suspected to have been tampered with. Of these suspected samples only about five per cent were found to be below the standard. In two or three cases during the past year the agents have been assaulted in Buffalo. The assailants are, of course, soon taught that the law is on the side of the department. On the other hand, many dealers request the agents of the department to inspect their milk.

The report on the milk business in Rochester, shows a deplorable state of morality on the part of the dealers. Suspecting the bad quality of the milk sold in that city, the department's agents took seventy-one samples of it to the chemist for analysis. Of this number, *fifty* were found to be adulterated! Instead of adulteration being the rare exception, as it is shown to be in other parts of the State, in Rochester sixty-six per cent. of the milk tested was adulterated. The report promises that these Rochester "milk and water" men will be prosecuted if they persist in their fraudulent practices.

The Vermont Association.

The 19th Annual meeting of the Vermont Dairymen's Association was held at Burlington Jan. 16–18, with a large number present. A new feature was the decoration of the hall by butter-making utensils symmetrically arranged, bundles of grain, trusses of corn, &c., as well as many large photographs of noted cows, together with an old farmer standing over an ancient dash churn with a background of the United States colors.

Among the noted speakers who addressed the assembled farmers were Commissioner Brown of New-York, John Gould of Ohio, Mr. Macpherson of Ontario, Secretary Gold of Conn. and Messrs. A. W. Cheever and Bowditch of Mass. Mr. Wm. H. Bowker of Boston gave an interesting address on "Fertilizers from the Manufacturer's Standpoint."

The butter exhibit was large and the quality of a very high standard. After awarding 13 prizes there were 20 entries which scored above 95 points in a possible 100. Prizes were awarded to the following:

Dairy Butter—Henry W. Walker, South Woodstock; E. R. Towne, Waterbury; F. L. Davis, North Pomfret; F. E. Lamberton, North Pomfret; Stephen Hewitt, North Pomfret; L. W. Pitkin, Marshfield.

Creamery Butter—A. D. Evarts, Vergennes; H. M. Arms, Springfield; Ferguson Bros., Burlington; A. A. Storrs, South Randolph; J. S. Reynolds, Essex Junction.

Creamery Sweepstakes—A. D. Evarts, Vergennes.

Grand Sweepstakes.—Geo. Aitkin, Billings Farm, Woodstock.

Dairy Cheese.—J. H. Riley, Sheldon; Mrs C. H. Clark, Underhill; N. D White, Huntington; J. C. Oliver, Charleston.

Creamery Cheese.—Essex factory, Essex; H. Johnson's factory, Williston; C. G. Peck, Hinesburgh.

Sage—Essex factory.

Sweepstakes—Essex factory.

H. L. H.

Holstein-Friesian Butter Records.

EDS. COUNTRY GENTLEMAN—During the year 1886 we have tested for butter, in our Lakeside herd, of all ages, just sixty cows, all tested for at least one week. These records (except a few by cows whose previous records had been established) have all been authenticated by the Superintendent of Advanced Registry and accepted by that work. These tests have proved so satisfactory that we feel justified in assuming that they will be of interest to all breeders of dairy cattle. Where sixty cows, all of one breed, all in one herd, all tested in one year, and including the whole number tested in the herd, show such average weekly butter records, it is no longer an assumption to claim a place for the breed which they represent at the head of all butter breeds. We are aware that this is trespassing on ground claimed for other breeds, which have been bred and fed for butter for a much longer period; but if our claim is a mere assumption, that can be easily proved by the publication of a similar number or even half the number, of records, by cows of similar ages, made by one herd of some other breed, during one year, and including the records of every cow tested in the herd during that time. It is not the records of a few phenomenal individuals but the average of entire herds in large numbers that denotes the capacity of a breed.

Of those tested, 17 were mature cows, 5 years old and over, and averaged 19 lbs. 8¼ oz. per week; ten were 4-year-olds and averaged 16 lbs. 15¼ oz. per week; eleven were 3 years old and averaged 13 lbs. 15¾ oz. per week, and twenty-two were 2 years old and averaged 12 lbs. 1¾ oz. per week.

A complete list would be burdensome, but we will mention a few individuals which are included in the above: Among the cows are: Clothilde 2d, 23 lbs. 6½ oz.; Lady Griswold, 24 lbs. 3 oz.; Netherland Baroness 4th, 23 lbs. 5 oz.; Executrix, 21 lbs. 13⅝ oz.; Beauie Fletcher, 21 lbs. 8¾ oz.; Kappijne, 19 lbs. 12⅝ oz.; Aaggie Constance, 19 lbs. 14½ oz.; Aaggie 6th, 19 lbs. 5 oz., &c. Among the 4 year-olds are: Artis Rollora, 21 lbs. 12 oz.; Aaggie Rose 4th, 21 lbs. 8½ oz.; Princess Margaret, 20 lbs. 11¾ oz.; Lakeside Prize, 18 lbs. 6¼ oz.; Artis Helen, 17 lbs. 11⅛ oz. Among the 3 year olds are: Baise, 21 lbs 3½ oz.; Soldene 2d, 19 lbs. ¾ oz. Among the 2 year olds: Argyrea 8d, 19 lbs. 5½ oz.; Netherland Myrrhaa, 14 lbs. 14 oz.; Netherland Princess 5th, 14 lbs. 13 oz.; Vienna 5th, 14 lbs. 9½ oz.; Executrix 2d, 14 lbs. 4½ oz.; Clothilde 3d's Countess, 13 lbs. 14½ oz.; Aaggie's 3d Daughter, 13 lbs. 13 oz.; 1da Rooker, 13 lbs. 12½ oz.; Neth. Duke's Nierop, 23 mos. old, 13 lbs 3½ oz.; Lady of Verona, 20 mos. old, 13 lbs. 10¾ oz.

SMITHS, POWELL & LAMB.

Syracuse, N. Y., Jan. 18.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

CHRONIC EYE TROUBLE.—After delay in getting medicine, treated as directed, for two weeks, and think it is no worse; spot in corner of eye is perfectly clear. Will continue same treatment until further instructions. When using nitrate silver solution, eye runs a thin milky substance. H. B. H. *Merrifield, N. Y.* [Report in a week or ten days, referring to previous pages containing your letters.]

LAME IN FORE LEG.—Several months ago my horse became lame in his right fore leg, I thought from a slight sweeny in the shoulder. After keeping him stabled and applying the usual remedies, the lameness disappeared, but his hoof now is quite out of shape, turning up. He stands and walks on pastern. E. P. *Amherst C. H., Va.* [You must describe the case more fully. When did he go lame first? State what month. Then when did he begin to show trouble in the foot, and what was it? Next describe the present appearance and condition of the foot and leg.]

DISCHARGE FROM MARE.—A fine 12 year-old mare was turned last April to horse. In about 10 days I noticed a discharge of whitish substance, resembling the white of an egg. Was served twice after that but is not with foal. The discharge continues, but does not get worse; sometimes will not show for 2 weeks; mostly after sucking. Upon starting forward she drops this matter. Is perfectly healthy aside from this and is in splendid condition. Has never had a colt. L. F. P. *Watkins, N. Y.* [It is useless to attempt to breed her until the discharge has ceased. Treat her as advised for leucorrhœa in back numbers; see index.]

FOAL LEG SWELLED.—A promising filly two years next summer has had, for some weeks, a slight swelling of what seems to be the tendon running from inside of knee joint down to pastern on front leg; it is indicated by slight thickness and a curve directly back, and is said to be caused by a strain. My groom says that bandages soaked in vinegar and salt seemed temporarily to reduce swelling, but it has reappeared. There has been no soreness about it. C. C. C. *New-York City.* [If there is any fever in the leg use the cooling lotion as recommended on blister directions; then in four or five days apply golden blister from top to bottom of swelling and on both sides and back of leg.]

LUMPS ON JAW.—A cow just bought of a drover has a swelling under and on one side of the jaw that I did not discover till after the purchase. Is about the size of the palm of the hand, flat, not fast to the bone, somewhat tender to the touch. Another is just back of the gullet at the base of the jaw bone, running through so as to be felt on both sides of the neck; another farther down on the under side of the jawbone. All appear to be loose from bone and skin, but quite tender. The cow is losing flesh. W. H. *Duchess County, N. Y.* [If you have other cattle of any value do not allow this cow to be with them; put her in the horse barn or some place by herself. Apply golden blister to the parts spoken of, and give a drachm of iodide of potassium in feed three times a day. Report again in two or three weeks, referring to this page.]

FAILURE TO BREED.—Two cows, one a heifer, aborted last season at half time, and now after a number of services do not breed. Are in heat every eight or ten days. What is the per cent. of cows cured of this trouble? Is becoming pregnant and having calved do not cows sometimes injure organs of generation? A. V. S. *Cornackie, N. Y.* [The percentage of cures is large indeed—probably between 70 and 80 out of the hundred. In one herd I'll out of 13 barren cows were rendered fertile, and within a week I have heard of seven successful cases out of 10 barren cows. Cows are injured sometimes during pregnancy or parturition so as to be incurably barren.]

CALF OUT OF CONDITION.—A calf dropped Nov. 1 last, has been well until two weeks ago, when, just after breakfast he suddenly bloated up badly. Linseed oil was given, causing a movement of the bowels and relieving him. Soon after, he began to lose appetite, grew constipated and lost flesh. Is inclined to gnaw boards, &c. A. B. U. *Concord, N. H.* [Give the calf small quantities of food four or five times a day instead of larger ones two or three times. Give him a teaspoonful of powdered charcoal and half the quantity of bicarbonate of soda twice a day in milk. If the milk is very rich it should be diluted one third with flaxseed tea as frequently advised in this department.]

FEET TENDER.—A filly coming two years is tender in the front feet. Frog is good and well spread at heel, but feet do not spread and get the proper growth at the toe, and one of them inclines to grow club-shape. Never noticed anything wrong till after turning her to pasture last spring. She was quite lame at one time; is better now. J. M. C. *Pine Corners, N. Y.* [Take horse to shop and have him properly shod after his toes are shortened and feet well cut down. Then have the top of each hoof rasped very thin, from the hair downwards, half an inch all the way around. Next soak feet two hours a day in warm salt water; in a week apply golden blister. In six or seven days begin to soak feet and continue it three times a week; repeat blister in a month. Write again.]

LAME IN FRONT FEET.—A gelding 5 years old goes lame at times, apparently in front feet. When travelling on hard frozen ground, appears like a stiffened horse. Front feet are very hard, and crack—he stands a little over in the knee. S. A. *Clam City, Mich.* [Soak feet in warm salt water two hours a day for a week, then take him to shop, have feet cut down, soles pared out, and heels opened; also rasp hoofs thin around the top ¼ inch (from hair downwards), put a pair of rubber pads under shoes. If you cannot obtain them there, send $1 to T. J. O'Brien, blacksmith, Albany, N. Y., for a pair. When horse's shoes are off let him stand on a sheet of paper and with a pencil make a line around foot, mark foot "left," then make a drawing of right one and send these for size. After pads are on, apply golden blister; use ½ of a box to each foot, from hoof to bottom of fetlock all the way around. Have shoes removed every 2 weeks and put fast in order; soak 3 times a week for 2 months, and blister once a month. Horse can work except a week after blistering.]

SORES ON COW.—A cow due to calve April 2, has lately had raw sores on belly, both sides; they exude a watery matter, and navel and in front of bags are swollen and hang down in a big sack. She eats and seems as hearty as ever. I was feeding her cut clover hay mixed wet with wheat middlings and chop and corn ground with the cob, and also about 1½ lbs. of cottonseed meal per day. Stopped the cottonseed meal and corn, and cut off her feed about one quarter. Gave her also ½ lb. of glauber salts each morning. Is not very fat, but in good condition. To keep her from licking the sores, I applied lard and tar in equal quantities. She seems to be getting worse. J. B. C. *Mt. Wilson, Md.* [Stop feeding clover hay, corn and cottonseed. Give one general cow drink, and a half one every 3 days for 2 weeks. Give ½ ounce of Fowler's solution in feed 3 times a day, feed a quart of it. Wash tar, &c.; off; sponge sores off twice a day and apply some of the following lotion: Chloride of zinc, 4 dr.; compound tincture of aloes, 4 oz., powdered alum, 2 oz.; powdered nitrate of potass., 3 oz.; sufficient water to make 1 gallon. Her diet may consist of hay (good), bran and ground oats.]

INFLAMED UDDER.—One week ago, a four-year-old cow dropped her second calf; udder is very red and inflamed and hard, especially front half. The last of the milk from latter is pink or the least bit bloody. Udder is very large, but gives only about three gallons per day. (1) Is there such a thing as milk caking in a cow's udder? (2) Would you advise allowing the calf to suck its mother? (3) D. L. *Aberdeen, Miss.* [1. Give her 1 oz. powdered cape aloes and ½ lb epsom salts; repeat in two or three days. Also give 1 oz. powdered nitrate of potass in a pail of drink daily for a week. Rub the udder twice a day with some of the following liniment: Tincture of aconite root, 2 oz.; spirits of turpentine, 2 oz.; linseed oil, 2 oz.; aqua ammonia fort., 1½ oz.; acetum, 1 qt.; mix. 2. Milk may become thick, stringy, clotted, red or watery within the udder. I never heard of caked milk, but the bag is said to be caked when it is hard in places. 3. Calf may run with dam at 11 A. M. and 4 P. M., and cow milked night and morning.]

Coughing Horse.—We had a horse that has had a chronic cough for four or five years. This fall we were using some heated tar, and having some left, I went in and painted the horses' feed boxes inside with this hot tar. The result is, have heard scarcely a cough since. This is easily tried, and I think will give satisfaction. Have used tar only twice. L. P. P. *Watkins, N. Y.*

Abortion Feared, p. 34.—If the owner of the cow will give daily one ounce of black haw bard, he will come out all right. As soon as such a case is noticed, give dose daily until all signs of abortion are gone. I have had over fifty cases in the last four years, and those I have discovered in time, I never failed to save. It is the best thing I ever used, and and those I have got to use it say the same. I am an old herdsman and have had two of the best herds in Illinois through my hands.

Point Edward, Ont. J. L. H.

Milk Fever.—In reading your paper, and noting cases of milk fever mentioned, I observe several references made to the kerosene and lard remedy given to your readers by my husband. In general it has been mentioned as a success, but once in a while as a failure. I should like to give a little fuller explanation of the use of it. Where there is inflammation with the fever, there should be a tablespoonful of laudanum added to the oil and lard. If the case is very severe the dose should be repeated every two hours until three doses have been given. If the cow is down, she should be turned over once in a while. It is not often necessary to give more than one dose. If given before the cow gets down, it is not necessary to give the medicine in new milk, only to have it as WARM. MRS. M. H. *La Crosse, Wis.*

Record of the Times.

Review of Passing Events.

Political.—Congress: In the Senate the substitute tariff bill was passed Jan 22, by a strict party vote of 33 to 30.—The committee on foreign relations amended the consular bill so as to secure appropriation of $60,000 to protect our interests in Samoa.—In the House Mr. Butterworth, Jan. 23, attacked the tyranny of labor organizations, and showed that the demse of steam presses in the Bureau of Engraving and Printing would cost $100,000 merely to please the hand-plate printers, beside interfering with the right of every man to earn his bread by lawful work.—Representative Burnes of Missouri died Jan. 24, aged 57.—The election case of Smalls against Elliott was defeated in the House Jan. 29 by a vote of 108 to 109.—William D. Washburn (R.) is elected senator from Minnesota: Senators Plumb of Kansas, Dolph of Oregon, McPherson of New-Jersey, Cullum of Illinois, Ransom of North Carolina and Coke of Texas were re-elected.—Legislature: A hearing on the excise bill took place before the Assembly excise committee Jan. 23.—An investigation of the construction of the new Assembly ceiling has been ordered.—Bills have been introduced increasing salaries of State officials.—Senator Cantor introduced the one-milliog canal bill.—John Wanamaker and Murat Halstead visited General Harrison last week.—N. S. Carr was elected president of the West Virginia Senate, January 21.—A list of 77 indictments for violation of election laws was found in Indiana Jan. 21.—The Ohio House has passed a bill providing for execution by electricity.—Vermont farmers petition Congress to increase duties on farm

products.—The Massachusetts Senate Committee has reported favorably on a prohibition amendment to the constitution.—The Kansas senate passed a bill, Jan. 25, restricting ownership of real estate to American citizens and limiting the area of land held by corporations.—The Arizona legislature has passed a bill changing the capital from Prescott to Phœnix.

A Connecticut Celebration.—The 200th anniversary of the adoption of the first Connecticut Constitution was celebrated at Hartford, Jan. 24. Rev. J. T. Twitchell delivered an oration on the Rev. Thomas Hooker, founder of the Hartford colony and originator of this constitution, which, adopted by the towns of Hartford, Windsor and Wethersfield, was the first one written recognizing the right of the people to appoint their rulers, and making all citizens electors. In Massachusetts but only church members could vote. It has been a model for succeeding State and Federal constitutions.

Collisions on the Elevated.—In the fog of Jan. 24 two southbound 6th avenue trains collided at 9th avenue and 104th street, where the tracks are unusually high. The first train was at the station. Glass was smashed, and many passengers cut and bruised. A moment after, a 9th avenue train ran into the second train with great force, smashing a car platform and seriously injuring several more passengers in the middle train. All the cars and engines were more or less injured.—In Brooklyn, on the Kings County elevated, two trains collided at Nostrand avenue and Fulton street, and Samuel Knittle, a passenger, jumped past the end of the station platform, fell in the street and was killed.

From Abroad.—American Minister Phelps held his last official interview with Lord Salisbury, Jan. 21; the Lord Mayor of London gave him a farewell banquet, Jan. 24; and Mr. and Mrs. Phelps have been invited to dine with the Queen.—The trial of William O'Brien for conspiracy began at Carrick-on-Suir, Ireland, Jan. 24. He was received the night before by an immense crowd and a torchlight procession. In court, disturbance prevailed and the galleries were ordered cleared. Eighty persons were injured, twenty by bayonets. In the confusion Mr. O'Brien escaped and did not return. The trial proceeded, however, and he was sentenced to four months' imprisonment.—At Clonakilty, where Father McCarthy was being tried for inciting boycotting, a crowd was charged on by 200 police and many persons injured. Several policemen were injured by stones and bottles. The Father was sentenced to four months' imprisonment.—Mr. Chamberlain addressed a large meeting at Birmingham Jan. 23. He thought other questions were overshadowing the Irish one and that the improved condition of Ireland was due to the wise administration of Mr. Balfour.—The German gunboat Olga has taken ex-King Malietoa to the Marshall Islands. Reinforcements for the German fleet left Bremerhaven Jan. 23.—Bismarck's official organ denies that any treaty exists between Germany, Great Britain and the United States in regard to Samoa.—Fighting still keeps up in Zanzibar. The Arabs have demanded that the Germans leave the coast. An English missionary and 16 followers have been killed.—General Boulanger was elected in the Dept. of the Seine, Paris, Jan. 27, by over 80,000 majority.

Minor Items.

Wolves are killing cattle in Northern Montana.

Parts of Colorado had a severe earthquake shock, Jan. 18.

Another strike has taken place on the Brooklyn street railroads.

P. T. Barnum is planning to establish another Barnum's Museum in New-York.

The Yale class of '90 has secured 104 honorary appointments,—the highest on record.

An explosion in the Nanticoke mine, near Wilkesbarre, Pa., Jan. 24, killed three engineers.

Oklahoma boomers, including 600 families, have been driven out by United States troops.

Russell P. Flower and a brother will build a $55,000 church for Trinity Parish, Watertown, N. Y.

Large displacements of rock have recently taken place in the crest of the Horseshoe fall, Niagara.

Charles A. B. Shepard, of the well known book firm of Lee & Shepard, Boston, died Jan. 26, in his 66th year.

Joseph A. Moore, Indianapolis agent of the Connecticut Mutual Life Insurance Company, is a defaulter for $500,000.

The Hoyt will case, involving $6,000,000, was argued in the Court of Appeals, Albany, Jan. 24, by Gen. Butler and others.

The New York Historical Society has bought the files of the Richmond Whig and the Enquirer, from 1804 to 1888, for about $2 500.

Vanderbilt University is to give free instruction in railmaking to Tennessee county highway officials during February and March.

Edison has parted with his legal adviser, J. C. Tomlinson, because in selling the phonograph patent $250,000 was unaccounted for.

A 20 months old hog, recently killed at Freehold, N. J., weighed 522 pounds. The owner killed two some time ago which weighed 2,000 pounds.

The liquor dealers of Philadelphia and Allegheny counties, Pa., are organizing to oppose the prohibitory amendment, if submitted to the people.

Dr. Gatling, inventor of the Gatling machine guns, has devised a torpedo boat, inexpensive, but capable of destroying any war vessel however protected.

An article in the Boston Journal of Commerce gives credit for the invention of the sewing machine to Barthelemy Thimonnier, a Frenchman, in 1829-30.

The 130th birthday of Robert Burns was celebrated by the New-York Scottish Society, Jan. 25, with speeches by Andrew Carnegie and ex-Mayor Seth Low.

The feather manufacturers of New-York have combined to resist the feather girls' union, and announced a return to old wages. One thousand of the girls struck, Jan. 24.

John W. Ehninger, a well-known New-York artist, died at Saratoga, Jan. 23, aged 60. He was a favorite pupil of Couture, an accomplished linguist and a fine classical scholar.

Mrs. Esther A. Wheeler, an early abolitionist, died at New Milford, Ct., recently, aged 83. In 1840 she left the New London Congregational church because of her anti-slavery sentiments.

The Gray county-seat war in Kansas continues, and General Myers has again been ordered there. The two contending towns, Ingalls and Cimarron, are daily receiving arms and ammunition.

Eight persons, including four policemen, were poisoned Jan. 25, by eating oat-meal mush in a Cottage Place boarding house, New York. They will probably recover, and the oat meal will be analyzed.

William Pierce, imprisoned at Auburn, N. Y., in 1839, for murder, was removed to Willard Insane Asylum Jan. 21. He had been in the State asylum for insane criminals since 1850, and was pardoned by Governor Hill.

Thomas B. Wanamaker, son and partner of John Wanamaker of Philadelphia, has given a prize fund of $1,000 to Princeton College, the interest to go to the members of the junior class excelling in early English.

Two thieves padlocked the door of Taylor Bros' pawnshop, Bowery, New York, Jan. 26, about 8 P. M., with a blockaded crowd about, smashed a window with bricks, secured watches and jewelry and got away. One was afterwards arrested.

A granite obelisk, 49 feet high, has been erected on the site of General Putnam's winter quarters at Redding, Ct., by the State commission. The site covers 37 acres presented to the State by Aaron Treadwell and Oliver B. Jennings.

"We call attention to the advertisement of Dana's Metallic Ear Label. A sample is offered free to each of our subscribers by C. H. Dana, West Lebanon, New-Hampshire."

We beg to call the attention of our readers to the advertisement in another column of H. Buist, Jr., son of the Old stand-by in the Seed business. Market gardeners and every other that plants seeds cannot go astray when they deal with such reliable houses.

As a remedy for coughs and colds, Ayer's Cherry Pectoral has never been equaled. Its name is a household word.

What enhances the beauty of fine features more than a clear skin? Even plain features are made attractive by a good complexion. To secure this, purify your blood with Ayer's Sarsaparilla. It has no equal. Price, $1. Six bottles, $5. Worth $5 a bottle.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a treatment which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 26 Warren St., New-York City, will receive the recipe free of charge. [oct15ow13t

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [dec20-13t

CONSUMPTION CURED.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested the wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive, and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYES, 149 Power's Block, Rochester, N. Y. [eow1ow13

Farm Produce Markets.

Albany Markets—Jan. 28

FLOUR.—The Argus says: Receipts continue light, and trade was not very good.

	Jan. 26.	Jan. 19.	Jan. 26.
Com. State	$4 [illegible]	$4 [illegible]	$4 [illegible]
Choice Extra	[illegible]	[illegible]	[illegible]
Amb. State & W	[illegible]	[illegible]	[illegible]
O. Ind. & St. L. Mx.	[illegible]	[illegible]	[illegible]
Winter W. Pat.	[illegible]	[illegible]	[illegible]
Minn. "Bakers"	[illegible]	[illegible]	[illegible]
Spring W. Pat.	[illegible]	[illegible]	[illegible]

Rye Flour dull and weak at $3.10@3.25 per bbl. Graham, $3.00@3.10. Oat Meal in light demand at $3.30@3.50 per bbl. Corn Meal: Rye family, $2.00@2.10 per bbl. Buckwheat Flour, 90 @95c per 100 lbs.

GRAIN.—Corn in light demand; No. 2, nominal; No. 2 mixed, 60@60c. Oats unchanged with moderate trade. No. 2 white, 30@30½c.; No. 3 white, 30@ [illegible]. Rye easy with light trade. Street bids, [illegible] per 56 lbs.

HAY AND STRAW.—Receipts fair; good demand. Timothy, best, $1.00@1.02; medium, $1.00@1.10; clover, $1.00@1.10; mixed, $1.00@1; rye straw, best, $1.00@1; oat straw, $1.00@1.

HOPS.—Market quiet except for choice lots.

N. Y. State, 1888, choice	[illegible]
N. Y. State, 1888, common to good	15 @ 16
N. Y. State, 1887, all grades	8 @ 11
Pacific Coast	12 @ 14
German	35 @ 40

Albany Street Market—Jan 21.

BUTTER.—Good to choice, 20@23c per lb.

EGGS.—Nearby and new laid, 18@21c. per doz; Western, 16c.

FRESH MEATS.—Steer beef, hindquarter, 6½@8c per lb; forequarter, 3½@5c; mutton, hindquarter, 9@10c per lb; forequarter, 7@8c; lamb, hindquarter, 10@11c; forequarter, 7@8c; veal, hindquarter, 8@10c; forequarter, 5@6c. fresh pork, 9@10c.

POULTRY.—Fowls, 10@11c; chickens, 12@13c; turkeys, 12@13c; geese, 10@11c; ducks, 12@13c.

FRUIT.—Apples, $1.00@2.50 per bbl. Cranberries, $4.00 per crate; grapes, Catawba, 40@50c. per lb; Hickory nuts, $1 per bu.

VEGETABLES.—Beets, $1 per bbl; Carrots 75c; Cabbage, $2@3 per 100; Cauliflower, $2.50 per bbl. Celery, $1 per doz. bunches; Lettuce, 15@25c per box; Onions, $1.50@1 per bbl.; Oyster plant, $1 per doz. Parsnips, $1.25; Potatoes, $1.25@1.35 per bbl., sweet, $1.75; Spinach, $2.50; tomato, $2.50; Turnips, 60@70c.

New-York Markets—Jan. 26.

BEANS—Marrow, 1888		1.90	@ 1.95
Medium, 1888, choice		1.75	@ 1.80
Pea, 1888		1.65	@ 1.65
COTTON—	Uplands.	N. O. & Texas.	
Ordinary, per lb.	6½	—	@ —
Middling	10½	—	@ 10¾
Fair	11½	—	@ 11¾
EGGS—State and near-by, per doz		19	@ 20
Western and Canada		18	@ 19½
FLOUR—Spring Wheat pats., per bbl.		4.75	@ 5.00
Winter		4.30	@ 5.00
No. 2 extra State and Western		3.75	@ 4.00
No. 1 extra		4.15	@ 4.40
Minnesota clear		4.30	@ 4.60
Straight		4.60	@ 5.00
Rye Flour, superfine		3.10	@ 3.40
Corn Meal		2.75	@ 2.85
Buckwheat Flour		1.00	@ 1.15
FRUIT—Apples, Baldwin, per bbl.		1.00	@ 1.75
Greening		1.00	@ 1.50
Kind, Spitzenberg		1.50	@ 2.00
Cranberries, Cape Cod, per bbl.		6.00	@ 7.00
Jersey, per crate		1.50	@ 2.00
Grapes, Concord, per lb.		1	@ 2½
Catawba		3	@ 4
Tokay		2	@ 2½
Malaga, per lb.		2	@ 2½
Oranges, Florida, choice		3.00	@ 3.50
Mixed Nuts		14	@ 15
Soft Walnuts		14	@ 15
Peanuts, Virginia, per lb		4½	@ 5
Dates, Aspins, unbroken, per lb		4½	@ 5
Evaporated		4	@ 5½
Peaches, unpeeled		3	@ 11
Evaporated		6	@ 15
Prunes, Southern		3	@ 5
Turkish		5	@ 7
Huckleberries		10	@ 15
Raspberries		15	@ 21
Huckleberries		10	@ 11
GRAIN—Wheat, State white, per bus		1.09	@ 1.11
Ungraded spring		1.06	@ 1.08
No. 1 red, winter		1.09	@ 1.11
No. 2 red, winter		1.09	@ 1.09½
No. 1 hard, spring		—	@ —
Corn, No. 1 white		44½	@ 45
No. 2 mixed		44	@ 44½
Oats, No. 2 white		34½	@ 35
No. 2 mixed		31	@ 31½
Barley		60	@ 65
Buckwheat		50	@ 52
Rye, state and western		56	@ 58
HAY—Timothy, per 100 lbs.		90	@ 1.00
Shipping		75	@ 80
Clover		80	@ 85
Straw, long rye, No. 1		80	@ 85
No. 2		70	@ 75
Oat		—	@ —
HONEY—White clover, per lb.		14	@ 15
Buckwheat		11	@ 12
Strained		8	@ 9
HOPS—N. Y. State, 1888, choice, per lb.		17	@ 18
Good to prime		15	@ 16
Best, 1887		14	@ 15
Pacific Coast, 1888, best		14	@ 15
Pacific Coast, 1887		11	@ 13
POULTRY—Live fowls, per lb		9	@ 9½
Spring chickens		9	@ 9½
Turkeys		9	@ 9
Ducks, per pair		50	@ 60
Geese		1.00	@ 1.00
Dressed fowls, per lb		10	@ 12
Chickens		11	@ 13
Turkeys		11	@ 13
Ducks, per lb		11	@ 13
Geese		9	@ 10
PROVISIONS—Beef hams, per bbl.		12.00	@ 12.00
India mess		11.00	@ 11.00
Hogs, dressed, per 100 lbs		6.00	@ 7.00
Lard, per tierces		6½	@ 6¾
Pork, new mess, per bbl		13.50	@ 13.50
Short clear		14.50	@ 15.00
Family		11.00	@ 12.00
VEGETABLES—Beets, Barmuda, per bbl.		—	@ 1.00
Cabbage, L. I., per 100		1.00	@ 2.00
Celery, L. I. & Jersey, dos. branches		25	@ 1.00
Mich. and State, per doz. roots		15	@ 30
Kale, Norfolk, per bbl		50	@ 75
Onions, State, yellow, per bbl		1.00	@ 1.50
Orange Co., red		75	@ 90
Onion, white		2.50	@ 3.00
Bermudas, per box		—	@ 1.00
Potatoes, Maine, per bu		1.00	@ 1.00
State, Burbank and Peerless		1.00	@ 1.00
Long Island		—	@ —
Jersey, sweet		1.75	@ 2.00
Bermuda		6.00	@ 7.00
Spinach, Norfolk, per bbl		1.50	@ 2.00
Squash, Hubbard, per bbl		1.50	@ 2.00
Marrow		1.00	@ 1.50
Tomatoes, Bermuda, per box		—	@ —
Turnips, Jersey, Rhode, per bbl		50	@ 60

Cattle Markets.

NEW-YORK, Jan. 28.

BEEVES.—Receipts, 9,871 head. The week opened with a moderate supply on native account and a firm tone to values. Wednesday the arrivals again were moderate. The markets opened about as former values, but closed weak. Friday again the supply was under estimate and trade very dull. Values unchanged. The herds offered ranged from poor to coarse, with a fair top. The cross-bred grade steers forwarded are taken for export:

[Per pound, net.]	This week.		Last week.	
Good beeves	$ [illegible]	—	$3.50	@ —
Fair	3.00	@ 3.35	3.00	@ 3.25
Coarse	2.50	@ 2.75	2.50	@ 2.75
Poor	2.00	@ 2.25	2.00	@ 2.25
[Per cwt. gross.]	This week.		Last week.	
Good beeves	$4.40	—	$4.50	@ —
Fair	4.00	@ 4.25	4.00	@ 4.25
Coarse	3.50	@ 3.75	3.50	@ 3.75
Poor	3.00	@ 3.25	3.00	@ 3.25
Oxen	3.50	@ 4.00	3.50	@ 4.00
Dry cows	2.50	@ 3.50	2.50	@ 3.75
Bulls	2.25	@ 3.00	2.25	@ 3.25

MILCH COWS.—Receipts 85 head. Trade has relapsed into its normal state of dullness, and dealers are reluctant to furnish actual sales. Quality of the cows on hand poor to fair; range of prices, $30@45 per head.

VEALS AND CALVES.—Receipts, 1,400 head. The calves on sale for the week under consideration have been most miserable, and trade has been very dull. The veals offered were also not above fair quality, and were not even in steady request. Some few tolerably choice were sold. Range of prices: Calves and yearlings taken from the pasture, $2.50@4.25 per cwt.; part meal-fed, $4.25@5.00; western, $3.25@4.25; bobs, 5c per lb; veals, 6@8c.

SHEEP AND LAMBS.—Receipts, 28,000 head. On Monday last the supply was heavy, and sheep declined ½c per lb; inside rates 4½c per lb. Wednesday, on a light supply, sheep became steady, and lambs recovered ½c. per lb. Thursday trade was quiet. Friday the markets closed unchanged. Quality poor to good. Range of prices: Sheep, 3½c. per lb; lambs, 5@6½c.; cull lambs, 4@5c.

SWINE.—Receipts, 18,000 head. There has been a generally quiet tone in trade, with a moderately steady feeling as to demand; 4 cull hogs, 264 lbs., $4.25 per cwt.; 16 State hogs, 220 lbs., 5½c; 37 ohio hogs, 18 to 150 lbs., $5.30@5.35.

BUFFALO, Jan. 28.

BEEVES.—[For model, gross.]

This week.		Last week.	
Extra steers	4½ @ 4½	4½	@ 4½
Extra butchers'	3 @ 4	4	@ 4
Second quality	3 @ 3½	3	@ 3½
Poor to common	2 @ 2½	2	@ 2½
Stockers, western	2½ @ 3	2½	@ 3
Stockers, Canadian	2½ @ 3	2½	@ 3
Bulls	2 @ 2½	2	@ 2½

Receipts 10,400 head against 11,300 last week. Another dull week and lower market, with nothing at the closing to indicate any improvement next week. Country buyers took their usual quality on Monday, but would not pay within 10c. per lb. of last week's prices. At closing buyers were making a further decline of 10@15c., and not anxious to purchase at that. Supply of stockers light; no demand. Bulls weak; receipts heavy.

MILCH COWS.—Light demand and supply; light springers and poor stuff available. Extra, $45@50; good to choice, $40@45; common, $25@30.

VEAL CALVES.—Receipts liberal. Extra, 6½c; heavy, $3.50@4.

SHEEP AND LAMBS.—Receipts, 21,400 head. Feeders and shippers took all the best offerings, leaving the pens full of common. Choice to extra sheep sold at $4.25@4.35; fair to good, $4.15@4.25; common, $3.50@4.10. Lambs in light supply; good demand; good extra, $4.25@4.75; fair, $3.50@4; common, $3@3.50.

SWINE.—Receipts, 29,000. Mediums and heavy sold 10c. lower and fairly, but light hogs were dragged by all buyers. Steady decline from opening, mediums closed at $4.85@4.90. Yorkers, $4.80. Pigs and light mixed, $4.80@4.85. Stags and roughs, $3.75@4.25.

Dairy Markets—Jan. 28.

ALBANY.—Cheese Butter in light supply; demand not active. State creamery, 26@28c.; Western creamery, 24@26c.; State dairy, 25c.; fair to good, 22@24c.; Western dairy, choice, 22@23c.

Cheese firm and higher. State factory, full cream, 12c.; dairy, good to fancy, 11@12.

NEW-YORK.—Prime fresh Butter in brisk demand; under-grades easy. Receipts, 24,000 pkgs. State creamery, fresh, 26@28c.; fancy, 29c.; Western creamery, fresh, 24@25c.; State dairy, choice, 23@24c. Western dairy, 19@20c. Western factory, 20c. Cheese in fair demand. Receipts, 10,000 boxes. Factory, best, 12@12½c.; good to choice, 10½@11½c.; eight-mile skims, 9@10c. Ohio flats, 11@11½c.

Wool Markets—Jan. 28.

ALBANY.—Market firm; sales 31,000 lbs.

No. 1, Pulled	32@33	Medium Fleece	31@32
Super Pulled	31@32	Fine Fleece	30@31

NEW-YORK.—Ohio XX and above, Michigan X, No delaine, combing, delaine, unwashed, unwashed western, Pulled, Texas, Territory, No.: Kansas, Oregon, Delaine; do. scoured, No.: California, scoured, do. Texas, Mexican, No. Combing and delaine, No. 1 combing, scoured, Noils; Mummerides, Pulled; Australian, Cape; Cape.

BOSTON.—Sales 1,700,000 lbs. domestic and foreign; Ohio and Pennsylvania, Michigan, Wisconsin; Texas, Delaine, combing and delaine, No. 1 combing, unwashed, Noils; scoured, Pulled; Territory, Delaine; California, Noils; Oregon, Noils; Australian, Noils; English, Noils.

Our Apples Abroad.

—J. C. Houghton & Co., Liverpool, cable that at the sales there, 21st, the demand for American Apples was very active. N. Y. Baldwins selling at from 15s. 6d. per bbl. Prices for other apples unaltered. We have received a cable to day (28th) from J. Lindsay & Son, Glasgow, informing us that there has been an advance this week in their market of 2@. to $1 per bbl in the prices of American apples. De Lowe, Mayer & Co.

New-York.

To make an intelligent test of this, try the following method: Hang a strip of leather in a bottle of Acme Blacking, and leave it there for a day or a month. Take it out and hang it up to dry and examine its condition carefully. We recommend leather to make a similar test with French Dressing, and punctuate with any liquid combination of Paris Paste, or with liquid Blacking that comes in stone jugs.

Wolff's ACME Blacking

Makes any kind of leather

WATERPROOF, SOFT, AND DURABLE.

Its beautiful, rich, GLOSSY POLISH is unequaled. Saves labor and consequence.

A Polish Lasts a Month for Women, and A Week for Men, on an Harness Leather

even Four Months without removing.

WOLFF & RANDOLPH, PHILADELPHIA.

Sold by Shoe Dealers, Grocers, and dealers generally.

The Fireside.

Recent Publications.

Books.—"Progressive Housekeeping, Keeping House without Knowing How, and Knowing How to Keep House Well," by Catherine Owen, author of "Ten Dollars Enough," "Molly Bishop's Family," and other popular books—is published by Houghton, Mifflin & Co. of Boston, making a very handsome duodecimo of 180 pages, and sold in Albany ($1) by S. H. Gray. We should think it certain to prove a valuable aid in thousands of homes.

A very "taking" and readable work on a topic that seems to possess inexhaustible fascination for the majority of mankind, is that entitled "Twenty Eight Years in Wall Street," by Henry Clews. With considerable valuable information well worth preserving, the author has incorporated a great wealth of personal matter—anecdotes, criticisms, analysis of character, and the like—thus making his pages at once solid and light, so to speak; and one can hardly open the book anywhere without instantly becoming interested. It is issued in octavo, 700 pages, with many illustrations; Irving Publishing Company, 16 Broad St., New-York.

Two novels—"The Apostate," translated from the French of Ernest Daudet by E. P. Train, and "A Fair Encounter," by Rosa Mulholland, author of "Marcella Grace"—are issued in paper covers by D. Appleton & Co., 1 Bond St., New-York, and sold for 50 cents each.

Criminal Speculation.—The New-Englander for January has an interesting article on the points of difference between honest business and immoral speculation—a topic that well deserves thought. The author says:

"The evils which exist in American society to day and which cause so much trouble and unrest are not the result of an imperfect social system merely. They spring chiefly from a lack of true moral principle. The popular conscience is not so keen as it should be, especially in matters where large sums of money are involved. It is difficult to persuade a man that the business by means of which he has accumulated great wealth is morally wrong. The selfish love of money lies athwart the path of every moral reform and clogs the wheels of human progress. For many years slavery was declared to be a Christian institution, because there was money in it. Hundreds of men will not see the real iniquity of the liquor traffic because they derive a large revenue from it. So it is with speculation. The large fortunes that have been quickly and easily acquired by this form of trade have made men willingly blind to its real character. It has appeared so respectable in many cases as to deceive even the very elect. But the time is coming when this disguise must be removed. The spirit of the age demands it. A moral evil requires a moral remedy. Social changes may accomplish something in this matter; but there must also be a thorough change of moral sentiment. The conscience of the people must be more finely tempered."

Shams in Furnishing.—The January issue of that beautiful and instructive monthly which we always like to commend, the Art Amateur, has the following article:

Some score of years ago, when, under the influence of the Eastlake movement, a crusade was instituted against everything which was not what it seemed, it appeared for a time as though we were finally to be driven back to bare walls, bare floors and unupholstered furniture. The reaction against the excessive and inartistic use of veneers, of grained painting, stucco and carvings affixed with glue was carried to such an extreme as to become itself ridiculous. Wall papers, varnish, "realistic" or "pictorial" treatment of any sort of surface ornament were declared to be false art, and were to be banished forever from our houses. Now, perhaps, we are again swinging too much in the opposite direction. The taste of the day is for rich ornamentation in the greatest possible variety. Architects and builders are constantly looking out for new materials, inventors are constantly devising new processes to take the place of older and more expensive ones and to allow of their giving richer decorations for less money than formerly. The tendency is to construct with cheap materials which cannot be brought to an artistic finish, and to cover these with machine-wrought decoration, or, what in reality is far worse, with mechanically designed and executed hand work.

It is a delicate matter to point out just where this tendency should be checked; for it is plain that very few can afford to use costly materials in solid construction, and still fewer can pay for elaborate artistic decoration. Perhaps the wiser plan would be to rest satisfied with the plain aspect of plain materials, and with a little ornament of the best quality; but this might be called the heroism of esthetic taste, and it is not to be expected from the majority. At any rate, if our architects are not to be asked to forego the pleasure of copying stone vaults in lathe and plaster, or of putting up great Gothic chimney-breasts over fireplaces of modern dimensions, their clients may be excused for making use of wall papers ribbed to imitate costly textiles, for buying tiles stamped to look like mosaic and for giving in to other more or less obvious shams of the sort. The bare plaster of our walls and ceilings as it is left by the builder is unbearable. It must be covered somehow, and, as we have said, the more costly sorts of "revêtement" are beyond the reach of most people. Hangings of silk or tapestry or stamped leather, panellings of oak or mahogany, are for people of considerable wealth only. For a long time those of more moderate means have had nothing but wall papers of various sorts for this purpose; but of late manufacturers have begun to provide other materials at prices which enable them to compete with the dearer grades of wall paper. The cheap Japanese cotton fabrics may be mentioned as one of these: but they do not suit every room, and their wearing qualities are not all that might be desired. A still newer material, and one that promises very well, is the Spurr wood veneer. This comes in thin sheets of fine natural woods—oak, maple, cedar, mahogany and amaranth; it may be applied directly to any plastered surface, and, when held in place by solid mouldings, there seems to be no reason why it should not last as long as heavy panelling, when removed from danger of contact with persons and furniture. From samples which we have seen and photographs of interiors which have been submitted to us, we should say that it can be used with excellent effect on ceilings, friezes and the upper part of walls. It is claimed for these veneers that they will stand heat and moisture without cracking. They certainly offer a beautiful surface, either dead or polished.

Woods and Malarial Diseases.

Edn. Country Gentleman—A good cause has frequently been injured by the impetuous ardor of its advocates. There are facts about forestry, and the necessity of preserving a certain proportion of woodland where it already exists, and planting out groves in the destitute regions: but the facts have been buried out of sight under a pile of doubtful matter by enthusiastic writers, until the subject is not likely to receive that attention which its importance demands. Even Lieut. M. F. Maury, one of the most learned and astute of modern scientists, had the weakness to assert that a few rows of sunflowers planted between the Washington Observatory and the marshy banks of the Potomac had saved the inmates of that establishment from the intermittent fevers to which they had been formerly liable: The Hon. George P. Marsh, in his book—"The Earth as Modified by Human Action"—after discussing the subject, cautiously throws the weight of his influence in favor of Maury's idea that a few rows of trees, or even sunflowers, would protect a farmhouse or a village against the malarious influence of a stagnant, putrid seething swamp where vegetable decomposition was rapidly going on! The American Horticultural Society during the present year passed a resolution embodying the same principle in a different shape—that the removal of the native forests tends to cause or increase malarious diseases.

Now, with all respect for the opinions of these learned men, and half a score of French, German, and Italian writers who have attempted to prove the same thing (without a particle of evidence that would be received in a court of justice) I would say that the truth seems to be directly the reverse, and that malarious districts of great extent have been rendered healthful and salubrious by *cutting down* the timber, clearing up the land, letting in the sunlight and the wind to dry up the stagnant water, purify the air, and destroy the miasmatic germs of malarious diseases.

All Northern Pennsylvania, when first settled by white men, was subject to fever and ague, which attacked every family and each member of the family. The strong men shook as well as the weak and the young. Its visits from house to house were not seldom but frequent, and when once it came, it was never in a hurry to go. It was the prevailing epidemic, and it remained until much of the country was cleared of its woods and under cultivation, and then it disappeared, except perhaps in the neighborhood of some pond of stagnant water full of decaying logs and leaves. So entirely has fever and ague left this part of the country that it would be hard to find a resident under forty years of age who has ever seen a case, unless it was imported, or he saw it when abroad. Mr. J. A. Foote, writing to the Rural New-Yorker, says:

"I speak as a resident of Indiana for 56 years, and assert that I believe that there is a vast improvement in the health of the people, and that the mortality from malarial diseases now is not one-fourth what it was 40 and 50 years ago, in proportion to population. An old physician tells me that there is no comparison to be made between the past and the present, in respect to the general health, and that as to malarial diseases, there is not one case now to ten in those days when there was twice or three times the extent of forest there is now."

There is no doubt that the shade of woods is favorable in preserving the rain and snow water from evaporation, for the benefit of springs, wells and mill streams. There is no doubt that a forest will break the force of the fierce blasts of winter, and make it more comfortable for men and animals who live in its midst, or on the lee side of it. There is no doubt about the necessity of preserving a certain proportion of woods for growing timber, without which it is hard to see how the business of civilized life could be carried on; but when people talk about the removal of the forest causing malarial diseases, irregularity and uncertainty of the rainfall, extremes of drouth and flood, extremes of heat and cold, and diminished humidity in the atmosphere, they are going beyond the bounds of truth and reason, and are likely to injure the cause they are endeavoring to advocate. J. W. I.

Sugar Run, Pa.

Recreation for Farmers' Families—IV.

In the preceding papers I have considered entertainments of a public character, to which no admission fee should be charged. I will now treat of recreations at home, suitable either for one's family or for an occasional evening company.

A literary and musical society, that meets regularly at the homes of the different members, should exist in every farming district. Besides the regular officers, a committee should be appointed to furnish entertainment at each meeting. This serves as pleasant pastime, and also develops talent that might otherwise remain forever latent. It also teaches young people to conduct societies in a dignified and business-like manner. One of the most eloquent and successful orators I ever heard told me that he acquired the rudiments of *off*-hand speaking, and his knowledge of parliamentary law, in the literary society which existed in his farming district years ago, and which is alive to-day.

A good dialogue will furnish amusement for a half hour or more. As it is hardly worth while to commit to memory the lines for an entertainment at one's own house, they may be read by the performers, who with a little practice can also act with good effect. I have seen it done with very little preparation.

I have also seen people who could get up impromptu charades, but if you have no talent for such things do not undertake them. These four—I-dol, In-no-cent, Mend-i-cant, Car-pet—will suggest what is necessary to any one who undertakes the task.

Drawing portraits is good fun and is easily accomplished. Two or three persons can be drawing at the same time. Pin a sheet of white tea paper on the side wall and let the "sitter" take a position which will throw the shadow of his side face on the paper. As quickly as possible trace the profile with a pencil, then with a pair of scissors cut the outline leaving a blank space in the centre. When several profiles have been drawn and cut, hang a piece of black cloth or a black shawl over a door and pin thereon the papers with the blank centers. Let the company guess who is number one, number two, and so on. It is surprising that some outlines will be almost perfect, while others will bear no resemblance whatever to the persons for whom they were drawn.

Surprise parties are sometimes pleasant, but I do not heartily endorse them. It is preferable to invite one's own guests. A novel entertainment for an evening party, and which is sure to make plenty of good fun, is arranged by asking each lady guest to bring a well-filled lunch box containing her name. The boxes should be as nearly as possible of the same size and tied up in the same manner. When refreshment time arrives, each gentleman present selects a box, which he is expected to share with the lady whose card it contains. Of course there will be some queer matching, but the more unmatched the parties the greater the fun.

For the children there is a kaleidoscope, which may be made of a piano and a few bits of different-colored worsted or tissue paper. Open the piano (not an upright) then raise the cover (that forms the front of the instrument when closed) at an angle of forty-five degrees, and keep it in place by music books put the entire length of it at the same angle. Set a lamp where it is usually placed on the piano; the light from it will then strike the two polished surfaces of the cover. Stand before the triangular opening, and slowly move the worsteds or paper, taking care not to hold them so close that the light cannot strike the polished wood. Let the children stand at the other end of the piano and look through the opening. Listen to their exclamations of delight and you will feel amply repaid for whatever time and labor the display may have cost you.

LILLIAN MAYNE.

Notes from Great Britain.

Peace on earth and good will to men, across nearly thirty millions of armed men (or readily available trained reserves), is the picture that this old European Continent of ours offers at the new year. It is not pleasant living in a powder magazine; yet this is what our neighbors are doing, and any one of half a dozen kings, emperors or statesmen may be foolish enough, or ambitious enough, to set the whole ablaze. With so great a number of men in the prime of manhood—in other words, half the able bodied men of France, Germany, Austria, Russia, Turkey, Italy and the Balkans—ready to clutch at one another's throats, is it any wonder that commerce is troubled and that agriculture languishes? Where great insecurity prevails, and a vast body of non-producers to provide for (to a sum exceeding $800,000,000 a year), things cannot be regarded as very happy all round.

The new year also sees things going on merrily in Ireland, at the usual pace. More than three hundred evictions were done for the first ten days in January, and increasingly bitter reluctance is being shown towards turning out on the bleak hill-sides during January weather. Yesterday, near Greenore, (which some of your readers have sailed from to join the North-western line at Holyhead, and have also admired the wooded heights beyond as they trend down to the water's edge,) was the scene of a pretty representative attack and and defence. Two hundred military, eighty police, a dozen emergency men, and a battering train with crowbars, &c., were compelled (the roads having been cut) to take seven miles of a circuitous route over a rough country before they reached Neal Doogan's cabin. Doogan and his friends were ready for them, and it took six hours' fight, with a good many wounded on both sides, before he surrendered, which he only did on the entreaty of Father McFadden to save bloodshed, after the Riot Act was read and the soldiers ready to fire with rifles loaded with ball.

This is a fair sample of what has been going on during the week at the cost of English taxpayers; and a simple rule-of-three sum will tell what it will cost to put Ireland into Saxon shape at this rate of expenditure for a single eviction. Somehow, after all, a determined cat got in at an aperture and continued in possession in spite of the efforts of the soldiers, police and emergency men. Were it not for the hardships inflicted upon the suffering and the weak, the whole affair would have a laughable aspect. A day or two since Pat Donovan did succeed in putting almost a tragic coloring to it. During a lull in the attack he stepped out on the roof of his castle and assured the resident magistrate (who attended to read the riot act and to commit the offenders—or rather defenders—as soon as they should throw up their hands) that he was quite ready to clear out if the landlord would pay for his improvements; or to pay any rent that might be fixed by the land commissioners, all arrears being wiped off. The resident magistrate stated that he had no authority to deal with the subject.

One of your correspondents out West took exception some months since to my description of things under Lady Matheson's care in the Island of Lewis. The commissioners have just finished their work, and I find that the state of affairs must have been worse than represented, as they have reduced the rents all round by an average of 50 per cent. and have cancelled 85 per cent. of arrears. It is thus evident that the Matheson house has been receiving far more than belonged to them for years past; while law-abiding good people, clad in satins and broadcloths have looked on scowlingly at the wretched worms that would burn when the life was being trod out of them, and who require gun-boats and marines to squeeze out of them an impossible rent. If

arrears can thus be wiped off in Scotland and satisfaction secured all round, do you see any reason why arrears should not be wiped off in Ireland as well?

The wind bloweth where it listeth, but happily for this island, the bulk of its blowing comes from the direction of the Gulf Stream. Putting aside north and south, we have 206 days from the Atlantic, as compared with 126 from the opposite quarter. The biggest scores on the eastern shores are made up chiefly during the spring months, when their drying influences are most wanted to ameliorate the condition of the soil after the winter snows and rains. Those of us who live in London—and I live within a stone's throw of its western margin, as marked in the post-office map—have cause to be thankful that the westerly gales are all of a soft nature. It is evident, too, that there is a physical cause for the "west end" being the fashionable and higher-rented sections of *all* our great cities. The air is there purer, and unvexed with the carbonic oxide which emanates from every fireplace. This is a more subtle article to deal with, and more deadly too, than the mere "blacks" which search in at our bedroom windows, and which compel one or two changes of linen per day, if you are to appear passable in the great metropolis.

There is more talk of late about establishing bacon-curing factories on a Chicago scale and method; the nearest one of any magnitude is at Hamburg, where over 1,000 pigs are slaughtered and cured daily. We have to send out about $80,000,000 each year for bacon and hog products, and it is thought that a good part of this could well be retained at home. Of course more attention must be given to breeding and feeding, so as to produce fine qualities, which come chiefly now from Germany, Denmark and Sweden. One curing house in Wiltshire pays a bonus to their suppliers, where the *fat* does not exceed a certain thickness; the real fat bacon of the old-fashioned days being now a less salable product. Mr. Harris, an authority on these subjects, states that for years the agricultural societies have been giving prizes for the wrong sort of objects altogether.

T. BOWICK.

Domestic Economy.

Duties to Hired "Help."

EDS. COUNTRY GENTLEMAN—One of your contributors said not long since these words, that he never admitted a hired man into his house, and rather than do so would give up farming. It seems to me that we are just as dependent upon our "help" as they are upon us, in order to live and let live. The habit of which our friend complains is universal. If one has doubts on the subject, let him remain for one half hour in the vicinity of one of our large railroad stations, where he will find the very atmosphere impregnated with tobacco smoke. Or let him just open the door of the smoking car, and through a cloud of smoke note its inmates. Near the door sits Patrick with his dinner pail, with a little black stub of a pipe in his mouth, smoking for dear life, as he must get off at the next station. The well-dressed business man with his meerschaum, takes his comfort a little more leisurely, while the elegant-dressed gentleman of leisure slowly puffs his costly cigar as if time hung heavily upon his hands. Here in Central New-York, especially in the tobacco-growing districts, it would be difficult to find hired "help" who did not use tobacco, and no farmer here would think of discharging a man if he had no worse habit, provided he did not use it about the house.

The majority of large farmers here have one tenant house, occupied by a man with a family, who works for him by the year; the rest of the "help" are boarded by the employer. It is true that some of our "help" come into our families without much knowledge of politeness, but we have neither known nor heard of any instances where they were not capable of being elevated by the power of example. Respectable "help" here, both male and female, if so disposed, ride in the family carriage to church, and sit with their employer's family during service. In many instances our hired girls have nearly all the privileges that the daughters of their employer have, and are invariably treated as of the family; otherwise they would seek a new place in short order.

We see nothing very remarkable about this independence in this age of sudden reverses of fortunes, for not unfrequently the poor man of to-day becomes the wealthy one of to-morrow. I could name half a score of instances that have come under my own personal observation where young men began the world as farm hands, who to-day are men of wealth and influence, and whose purses are open to every worthy enterprise. I know also of instances where girls, who began their life as servants, have educated themselves, and are now prominent teachers with good salaries. Let us make no mistake with our hired "help," if worthy, in withholding good advice and a helping hand. If I understand life's duties aright we are not to live wholly unto self, but to seek to do good to all, and especially to those living in our own households. A. C. B. *Meridian, N. Y.*

Desserts for Children.

BREAD PUDDING.—The trouble with it, as I have often seen it prepared, is that it is *fat*. One should not be sparing of something good to put in it. Lemon extract is frequently used, but the juice of the lemon, a little nutmeg or cinnamon, is better, or a few seeded raisins. Make it good and sweet, and don't forget the salt. After it has partly cooled—and it is not so good smoking hot—cover the top with jelly and the beaten whites of the eggs used in the pudding. Another important requisite to its being good is to have the bread thoroughly soaked and in fine crumbs before putting it into the oven, and it should not cook so long or so fast as to "whey."

APPLE TAPIOCA—Can be varied with other fruit. If you have canned peaches, blackberries, almost anything not too tart, left over from tea, they can be used in this way with tapioca, served with sugar and cream. It is best to have the tapioca soaked out, salted and slightly sweetened, adding the fruit just before serving.

BLANC MANGE—is always acceptable but (as boarding school girls call the stiff white kind) "marble slabs" are not as good or as easily served, as a softer custard. This can be varied by flavoring with vanilla or chocolate. When the latter is used, it is made in the same way—perhaps a little sweeter—only the chocolate is dissolved and put into the milk before the cornstarch. I was surprised to see a lady grating chocolate recently. Every one should know it is a waste of time to do so. A piece put in a little tin that will fit into the top of the teakettle will quickly dissolve without any attention being paid it. Whipped cream or whites of eggs should garnish the pudding.

PLAIN RICE—Can be made attractive and delicious. Orange rice is a delight to most children. The rice should be well cooked—and entirely in milk in a double kettle—salted and slightly sweetened, and kept warm till served. Prepare some oranges the same as you would for tea, cutting each section in halves and removing the seeds. Put plenty of fine sugar on them and let them stand an hour or longer. When dessert is wanted, mix them with the rice. There should be sufficient orange to make it quite juicy.

A BAKED RICE PUDDING—Is good, *if it is good*. I hesitate about giving an exact receipt as all mine are so large, but each housekeeper should experiment with standard dishes and have a receipt that will make "just enough" for her family. The foundation of a good rice pudding is rich milk. Cream or butter should be added, but *no eggs*; salt, sugar in plenty; flavor with nutmeg and seeded raisins. The result of the making will depend entirely upon the *baking*. It should bake very slowly, full three hours. About three even tablespoonfuls of rice to a quart of milk I think I use, and the pudding is soft and creamy. If you have been in the habit of using egg, try it without.

ORANGES—Are invariably a delight to children. It is a great mistake to consider them a luxury. It is a good idea to buy a box of them if your family is not too small and they are fond of them. If you get the "Indian River" oranges you will find them so superior to the average fruit that you will no doubt decide with others—"one such is worth a dozen common ones." If a box of them be purchased, it should be unpacked and the oranges spread out in a room where they will keep as cool as possible and not freeze.

INDIAN PUDDING.—Another wholesome dish is the old-fashioned New-England Indian pudding. It is no relation to that mixture of meal, wheat flour, eggs, &c., which is made an hour before dinner. My receipt for this, as I have intimated of others, is a generous one for a large family, but the pudding will be good "as long as it lasts." The serious difficulty connected with it in my case is in making it last. Put two quarts of milk and a large teaspoonful of salt in a double kettle to heat. When it is scalding hot, stir into it a teacupful and a half of fine corn meal (wet up in cold milk so that it will not lump. This is easier than sifting it in with the hand, as some do). This should cook in the milk a full half hour. Then pour it into a large earthern baking dish, and add one quart of milk, two teacupfuls of molasses, half a cupful of sugar, tablespoonful of butter, and an even teaspoonful each of cinnamon and ground ginger. Stir it well and put it in a "moderate oven." It needs to be watched that it does not cook fast. When it has thickened somewhat, put in a cupful of seeded raisins. Let it bake slowly for three hours when it may be served either hot or cold. When it is cold, the thin part (when hot) becomes a jelly. Whipped cream served with it is an improvement, though by no means as necessary as it is to some desserts.

POPOVERS.—When it is half an hour before dinner and you cannot think "what in the world to have" for dessert, try some "popovers." To one egg add a cup of milk, pinch of salt and stir in a cupful of flour. This will not make many and needs to be doubled or multiplied according to your family. It makes a very thin batter, about like thick cream, but that is as it should be. The first time I made them I thought it was too thin and spoiled them by putting in more flour. Small gem tins should be half filled with the batter, and they will bake in a hot oven in fifteen or twenty minutes. They should be served immediately upon being taken from the oven, or they will flatten out. Any kind of liquid "sauce" or common syrup made of coffee sugar may be eaten on them. The syrup is as good as anything to use for the children.

The substantial food must not be neglected and the little ones must understand that if they have no appetite for that they cannot eat dessert. J. W. A.

The Dress of a Business Woman.

The "woman of business" is the coming woman. She will belong to the select few compared to the many millions of working women, and among the important questions to be settled before her success is quite assured is the question of dress. While it is necessary, in order to be in style, that a woman shall sit up until midnight to remodel, finish off, or perhaps cut and fit her garments—or, if she makes salary enough, to stand an hour or two after office hours while some one else does the work for her, she will not wake refreshed in the morning, and will bring to business a tired body and a weary head. While the question of "a handsome suit if I make it myself" outweighs that of "one less elegant if I buy it 'ready-made' and enjoy the leisure I am entitled to," just so long will there be tired business women and poor work done. Granted that a "store suit" does not fit, that it will cost double the expense, that it is not therefore economical—until a woman decides that it is the best thing to do under the circumstances, she will not be a success.

Imagine a man going home to raise his coat, or to put a new ribbon on his hat! Not he. He will go in debt for a new one and smoke his Havana complacently instead. Imagine him tearing around town to match a sample before dark that his suit may be done for Sunday! Oh, no! He pays his tailor to do this sort of thing, and his mind is not vexed with any such trifles.

Suppose, fellow-worker (fem.) that you or I could go into a clothing store as a man does, and buy a "business suit" for fifteen or twenty dollars in which we might appear a Sunday or two, and then wear it to business for the next whole season regardless of the weather? Suppose a couple of dollars would buy us a straw hay or a "derby" ready to put on, wherein there need be no feathers, furbelows, or finery? Suppose, for business, we neither draped our dress as is mode, wore a veil, nor carried an umbrella? Suppose we could just wear a business suit and a business hat to business as a business woman should? Think of the luxury of a few pockets into which one might "dive" for a nickel with an ungloved hand, instead of just one which holds a handkerchief, a pocket-book, a knife, a lead pencil and a letter or two—all in one un-come-at-able pocket! Will any woman admit that it wears her out to curl her hair, to button her gloves, to arrange her veil? No, not if she has nothing else to do, but a good business woman will often wish some of these things "far enough" when she desires to attend to and be thinking of something else. And if many of these "trifles light as air" could be smoothed away, business woman would last longer and be infinitely brighter than many of them now are.

All women love dress naturally, and ninety-nine in the hundred of the women who work do it for the bettering of their wardrobe. It is quite delightful to wear fine fabrics; to revel in the beautiful colors worn to-day; to "make sunshine in shady places" by our elegance of attire, but at our business is there not some way in which a woman's dress may be stylish, serviceable and convenient? Is it not possible to get above the "tilt" of a ribbon or a rose, above the fit of a kid glove as an adjunct of a business suit, above the littleness of dress, and so attend to business during business hours in a business way? Must we be worn out by a fifty-pound ulster, which only a "cast iron" woman can carry day after day, instead of some sort of suit that shall mean business and comfort?

There are women who will object to these innovations because to adopt a certain style of business costume advertises to the world her occupation, or rather that she is not one of the envied million for whom a brother, father or husband cares. Ah, well! While this is so we must skip along in our dainty habiliments, leave our office at four o'clock and walk home leisurely. We must appear to be what we are not, give up our independence, and be ashamed of our work.

Let us rather rejoice that we have found a place in which we fit; rejoice that we are not one of the vast army of discontented housekeepers who might be doing better work to-day somewhere else than in their homes; rejoice that true independence means equal rights, and self-support means true independence. Let us enjoy our leisure among our books and music, and cut away from the "extra furbelow and ruffle." Let the woman of business have her sphere, and let us not be ashamed to belong to the army of bread-winners—to acknowledge that feminine brains can make money by using them as well as those in larger heads of closely cropped adornment, instead of being worried out of the arena by incumbrances of dress. E. S. TITUS.

Essex County, N. J.

Cooking Salt Pork.

Even salt pork may be considerably varied by various modes of cooking, and here are two or three French methods.

Pork and Cabbage.—Cut the pork in slices and freshen a little if extremely salt. Cut in slices also a firm head of winter cabbage or two small ones. Put a thick layer of the cabbage in a large stew pan; shred an onion very fine and scatter over it, also a few whole peppercorns, two or three cloves, and, if liked, a pinch of thyme and summer savory. Lay on the pork, then the remainder of the cabbage, seasoning as above. Cover with plenty of water and boil for two hours.

Pork Baked with Apple.—Cut a pound of salt pork in thin slices and freshen in cold water brought to a boil. Take two tart apples, an onion, and half a dozen potatoes; pare them all and slice. Mix all together with the pork in a baking tin, season with black pepper, add water to barely cover, and bake for two hours.

Salt Pork with Peas.—Cut a pound of pork in slices, and these in large dice. Have ready a pint of split peas soaked over night in cold water. A carrot cut in dice may also be added. Simmer all together for two hours. Rice may be used instead of peas.

Pea Pancake.—Cut a quarter of a pound of fat bacon or salt pork into small dice; put it in the pot, with an onion or two leeks, sliced fine, and fry for ten minutes, stirring often; add a pint of split peas, soaked, and four quarts of water. Boil until reduced to a pulp or *purée*. Rub it through a coarse sieve; add a little grated cracker, and simmer for a few minutes. Then serve. A bunch of sweet herbs may be simmered with it.

Pork with Pig's Liver.—Cut in dice a quarter of a pound of fat pork or bacon, with a pound of fresh pig's liver. Fry the pork lightly, then add the liver; season with salt and pepper, and fry for five minutes. Add a pint of boiling water and a pound of turnips, cut in small dice. Simmer for an hour. Most delicious with mushrooms instead of the turnips.

DOROTHY.

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Dairymaid of Bovina 40840, W L Ruff, W Bigrar
Daisy Avonnia 23438, J O Couch, T A Havemeyer
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Diana of Springdale 33322, J O Couch, T A Havemeyer
Dorothea of Pinehurst 43867, C G Foster, H L Wardwell
Duchess of Clayton 12988, J O Couch, T A Havemeyer
Duchess of Jersey 16721, J M Richmond, W A F Sutor
Dulcie Beddington 30864, S W Chapman, W H Mc Donald
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Joy of Pinehurst 33852, C G Foster, H L Wardwell
Jurina 4th 40844, O Thorne, S Thorne
Katie Drew 24011, The Echo Farm Co, J T Clark
Katydid's 2d 21046, J D Conner, H H Wheatcraft
Kerosine Belle 6th 24014, A McClintock, C C Hawkins
Kite of Bovina 4807, W L Ruff, J Archibald
Kittie O Rez 6713, J O Couch, T A Havemeyer
Kittie Magruder 24132, N C Magruder, A W Reese
Kitty C 9466, A G Barnes, W R Wood
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St Lambert's Jewel 15765 and St Lambert's Pride 15743, W Rolph, S D Jackson
St Lambert's Rebecca 15940 M B Branch-McCall, T G Barnes
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Albany, January 1, 1866.

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THE CULTIVATOR AND Country Gentleman

Albany, Feb. 7, 1880.

Locating State Fairs.

EDS. COUNTRY GENTLEMAN—In the notice of the proceedings of your State Agricultural Society recently held in your city, my attention was drawn to this paragraph: "No reference was made to the most important business with which the committee have been occupied during the year—the arrangement for locating the shows permanently in a single county." This would indicate that the subject of locating your State exhibits had been put into the hands of a committee who were either to make the decision or report their judgment to the State Society. In either case it would be well for them before deciding this most important matter to investigate carefully the results that have followed when permanent location has been adopted. If an outsider may be permitted to say a few words on the subject without giving offence, I will state some of the opinions that are entertained by a great many intelligent farmers in our State upon this subject, with some of the results which have followed in the wake of permanent location in Ohio.

There are a number of good reasons in favor of this plan, of which I will mention but the one which seems to be the most important and prominent, as urged by its advocates, which is the great advantage that will be had in superior building accommodations, especially for the officers and exhibitors. While giving credit for this strong point to the fullest extent, it will not, as I conceive, overbalance the many objections that already in our State stand out most prominently, and thus are likely to arise wherever adopted.

The one great object in all our State exhibitions, is to bring her various products together for examination and comparison, so that farmers and mechanics can form correct judgment as to their merits and value, inciting to improvements and emulation in the future. Those who are conveniently located, so as to attend them in the one place, are benefited, but the number to which these advantages are given, is but a small fraction of the whole people of any State and thus but few can or do profit by them. Ohio is perhaps as well situated for a local exhibit as any one in the Union, on account of its nearly square shape, and because Columbus, where our fair is located, is quite central and in the capital.

Our grounds are conveniently located very close to the city limits and are accessible by the Bee Line railroad, by street cars and pleasant roadways. They are ample for the accommodation of all, and the buildings are of the most approved kind, meeting all the requirements for officers, exhibitors and visitors. The only drawback is the absence of shade trees, which will be felt for many years to come, for although many have been planted there is not one that affords more shade than a fashionable parasol.

The visiting attendance is largely confined to the immediate locality, and to points along the railroad lines leading to the city. The city attendance has already become very small, in comparison with what it would be if the fair were to be held there but once only in every four or five years. But a very great objection to this permanent location is the fact that the exhibitors are largely the same, who come year after year, and are fairly designated as professional ones. Especially is this the case with stockmen, who make it a point to fit up a small herd or flock, at whatever cost or wheresoever to be obtained, and who go from county to county and State to State simply for the money there is in it. These methods practically exclude the common farmer from trying to make any show, fill him with disgust at the whole performance, and he stays at home. These are the persons who most need the benefits from these State exhibits. When our society held its exhibitions formerly at several different places—north, south, east, west and central—the attendance, both of exhibitors and visitors, was largely local; the towns or cities where held furnished grounds and buildings for the purpose, without expense to the society. The buildings were not, of course, quite so fine and stylish as those of Columbus, but answered the purpose as well. The charge for admission was then but 25 cents, and there were no entry fees except in sweepstakes, and I think the society had generally—certainly frequently—a fund on hand, over and above expenses and payment of premiums, of about $30,000.

What is our situation now? A charge of 50 cents to the show, and what is most abominable, an entry fee of 5 per cent. for all the ordinary exhibits, and 10 per cent. in sweepstakes. Do you wonder that the show is largely composed of the professional exhibitors?

Judging by the reports of its financial condition, made at the recent annual meeting of our State society, I should say it was virtually insolvent. There is a debt of $130,708.91, on which the interest is at 6 per cent. The total cost of grounds (about 80 acres) and improvements, is $230,803.51, and if put up at auction to-day, would not be likely to bring enough to pay the debt. It is rather mortifying to a citizen of Ohio who is proud of his State and her achievements in the history of our country, to make these statements, but it is done only with the hope that our method will not be adopted in your State, or indeed in that of any other one of the Union. C. HILLS. *Delaware, O.*

Plowing Under Clover.

A Case Where It Did Not Pay.

EDS. COUNTRY GENTLEMAN—I have been quite interested this fall in watching the growth of a piece of wheat sowed upon ground bearing a crop of clover plowed under in July. The field contains nine acres, about one-half of which was in fair condition and the other half quite poor. The clover was rank and heavy on the upper or rich portion, and light and spotted on the low ground. Altogether, there was probably ten tons, if it had been cut and cured.

Before plowing, the owner asked the writer's opinion about the advisability of plowing it under for wheat. I replied that I was not much of a believer in growing two crops to produce one; that the clover was a "bird in the hand," while the wheat that would follow the plowing would be the "one in the bush." The clover hay, once in the barn, would be worth not less than $70, and allowing $10 for cost of making, there would be a balance of $60, which could be turned into cash nine or ten months sooner than the wheat could, and judging the future by the past, this amount was larger than could be cleared from the wheat. "But the lot was poor and needed bringing up." That is true, but would it not be wiser to devote the bringing-up process to the poor parts first? By plowing under the present crop of clover, the main benefit will go to the parts that need it the least. The rich portions will grow richer while those parts which are so poor that little or no clover is growing upon them will be farther exhausted by another crop of wheat, with no possible benefit from the green manuring, because they will get none of it. If it were mine I should make the hay, feed it out, and apply the manure to the poor spots, spreading as fast as made in the winter. The following year I would again mow the richest parts of the field and then plow it up, turning under the manure and the increased growth of clover gained by its application, and by an additional year of root growth.

My advice was not followed, and I rather think my friend regrets it, as clover hay is worth $12 per ton at this writing, and the "bringing up" of this field has cost the equivalent of $100. The work of putting in the wheat was very thoroughly and nicely done, and two weeks after it came up and looked beautiful, but before winter set in the poor spots fell behind visibly, and as might be expected, promises a very unequal yield. Then there will be the cost of reseeding in the spring and the risk of getting a good catch, so the bird in the bush does not promise to be near so large and fat as the one that was allowed to fly away. If it was not desirable to sell the hay it could have been fed in winter dairying; and with milk at 3 cents per gallon should bring its full cash value, besides 11 or 15 tons of rich manure worth not less than $2 per ton. As the owner already takes some milk to the factory there are no far-fetched suppositions in this scheme. L. B. PIERCE.

Summit County, Ohio.

Use of Manure in the Winter.

EDS. COUNTRY GENTLEMAN—There are several reasons why the winter season is the best time for drawing out and spreading—not heaping, by any means—the manure upon those fields where it is to be used in the spring. Corn stubble intended for oats, fall-plowed land for roots or potatoes, and sod to be plowed for corn, may all be thus manured at this season with advantage and benefit. The time is propitious; there are leisure and opportunity for the work; the material is ready, and it will never be worth more for its purpose than it is now. One handling now will save much future work, and handling now may be much easier than at any other time. The land cannot be poached or cut up by the wheels, and if snow covers the ground, sleds may be used, with half the labor required for loading and unloading wagons. These advantages are obvious and unquestionable. Then what are the benefits? Can the manure be injured or its usefulness impaired, or will it serve as good a purpose as if drawn out and spread later?

Just here it may be well to object, in the most forcible manner, to the still prevalent plan of taking out manure at this season to the fields, and leaving it in piles, at stated distances, for future spreading. This is most wasteful, and there is no reason for it. Even spreading may be done from the sled or wagon without this way of measuring out the manure at so much per square rod and so many loads per acre. This is quite immaterial. Manure should be used liberally as far as it will go, and never spread out too thinly because the field is large and the supply small. There is a point in this direction where manure is thrown away, just as starvation rations for too many cattle is waste of food, when half the number might be fed with profit. Manure thus left in heaps, too, is saturated and washed by rains, and the best part of it goes into a few square feet of ground, wastefully and injudiciously enriching this and starving the remainder of the field. I did this very thing, or rather permitted it to be done, in my young days, and the result was a warning for life. The wheat grew so rank where the manure had been heaped that it rusted and fell down, and so poor elsewhere for want of food, that it failed to fill out, and ten acres of land were made useless, and over 100 loads of manure were wasted. And although this result is inevitable, still I see the practice followed, evidently by farmers who cannot think, do not read, never observe, and learn nothing from experience, because they cannot connect effect with cause, and blame the season or bad luck for what is the necessary result of a mistake.

Does manure waste when lying on the ground in the winter? This depends upon circumstances. If the manure is old and soluble, and the ground is frozen hard and is smooth and sloping, and a heavy rain comes, a large portion of it will be washed out and flow down the slope and be lost—to be found by the neighbor below, or to go down to the ocean and feed the fish. But this is the only danger. If snow lies on the ground, or the land has been plowed; or the land is level and is covered with grass or clover, these risks are not met with, and the manure may be safely spread, although such a washing rain may come under the unusual circumstances mentioned. Chemical action is not going on in manure while it is frozen, and very slowly—for all practical purposes not at all—until the manure is turned under in the spring. There may be a strong odor coming from the field as the wind blows over it, but this is not from any valuable part of the manure. Many farmers think the strong odor of a manure heap, which is so offensive to many unpracticed noses, is all ammonia. This is a mistake; it is a compound of sulphur and hydrogen—sulphide of hydrogen, or sulphureted hydrogen, a very common gas, produced by the decomposition of albuminous matter, as in rotten eggs, and also produced by the combustion of gunpowder, by which the "villanous smell" of this explosive is caused. This has no value, and the farmer who fears he is losing much valuable plant food as the smell of the manure pervades his premises, may calm his fears in this respect. Practically there is less loss by any escape of valuable matter from the manure when it is spread upon the field, than when it remains in the open yard or is kept in a manure cellar. A covered yard, where the manure is trodden hard by stock during the winter, is not a bit more saving of the manure than is the spreading of it as it is made, on the fields where it is to be used.

In practice the benefits are very great. The manure is plowed in early in the spring when it could not be unless it had been spread in the winter. It enables the land to be prepared in good time for the crops, and the food is just where the young plants can reach it most quickly and usefully. When manure is spread upon the snow, it absorbs the sun's heat and rapidly settles down to the soil. There it is safe from all danger; in many cases the ground is not frozen and the manure will decay and its products be absorbed by the soil, so as to be ready for the use of the crops. One year I spread manure in this way; it was in Eastern Pennsylvania; the snow was deep enough to keep the soil unfrozen, and it was all gone early in April, when the land was plowed and sown at once with oats. The yield was 70 bushels by weight per acre; over 50 by measure. The early plowing and the manuring were just what this crop needs, and they gave me the best yield of this grain I ever had. Last year, in my present home, I manured a field intended for millet, and to be sown with clover and grass. There is, I think, not one acre of level land on my whole farm, and this field was quite steep, but there was no washing away of manure, and the crop was as good as I expected—about four tons of cured millet per acre, with an excellent catch of timothy and clover. In short, I have not yet had any reason to regret following this practice for over 30 years, while I have had good cause to regret having neglected it at times.

North Carolina. H. STEWART.

Questions about Ensilage.

EDS. COUNTRY GENTLEMAN—A "Ten-Years' Subscriber" to your paper from Tioga county, Pa., and also other parties, ask me for information respecting silo building and filling, and to reply through your columns.

"Would a silo 16 by 28 by 20 feet deep be of good size and shape, and would it give me ensilage enough for 35 head of stock?" The dimensions you give are in good proportion. The deeper silos are now regarded as superior. The self-pressure of the deep silo is an automatic system of weighting, costs nothing for labor, and is largely a preventitive of "dragging" on the walls when settling.

"What is your opinion of weighting? The few silo men hereabout weight very heavily with stone—to exclude air, they say, and prevent the ingress of fresh air?" My opinion is that a man had better spend the time daubing than weighting a silo. Good ensilage, i. e., that made from mature corn, is not influenced by the air nearly so much as the immature sort. The heating process is one, in and of itself, of air expulsion. The heated air through the ensilage mass rises, and if no air can find its way in from sides or bottom to take its place, no occasion exists for pressure to expel what cannot be present. When the last of the ensilage is in the pit, it should be left from two to four days, according to the weather, to heat and settle. When 112° is reached with mature fodder, where the ears are glazed and dented to some extent, and 125° to 130° with fodder less well developed, the air is substantially all out of the ensilage. Now, if a cheap, air-proof cover can be put on, to prevent the action of the air on the surface of the ensilage, the plan is complete. The internal heat of the ensilage—80°—will of itself prevent air from entering more than a foot of the surface ensilage. The best cover is dry straw, put on to the depth of about 15 inches, trod down, "tucked in" along the walls with a spade, and then a few old planks, &c., put on to hold the straw down during the matting process. The heat and moisture escaping from below dampens this straw and "mats" it, making in ten days an air-proof cover.

The question now arises, does it pay to put on the cover at all? A few instances where no cover was used showed that the surface moulded about six inches in depth, and made a protecting mat of its own formation. Whether the loss of two loads of ensilage would, if saved, have compensated for the labor of put-

ting on and taking off even the straw cover, is a problem for each man's own solution.

"Will cows fed on ensilage give good milk suitable for butter making?" My own dairy is fed on good sweet ensilage and 6 lbs. of bran to each cow daily. A test of my dairy to-day by the Short's' improved oil test—not the churn test—showed that the mixed milk of my herd—November and December milkers—was 4% per cent. butter fats—a pound of butter from about 21 and a fraction pounds of milk. Some individual cows showed 5 per cent. of rendered oil, a fact that upsets any amount of theory about ensilage fed cows giving poor milk.

"What would you recommend me to plant for ensilage corn in Northern Pennsylvania?" If you are not too high up on the table lands of the State, and can risk a frost until September 20, I should take half the chances on E. & W. corn, and the other half on two of the best kinds I know of. Keep all corn for ensilage planting below nine quarts of good seed per acre. Eight quarts was the best for me. The idea is to promote grain growth to get feeding qualities of fodder.

"Is lathing and plastering a silo a good practice?" Yes; but you need to do it with water lime cement, not white lime. I would not put on a thickness of lath to lath on to get a clinch. Use bevel-edge lath, and put them on *bias*, so that the lath will run across the cracks of the sheathing boards. Those who last year built silos, using two thicknesses of boards, with half lap to cover cracks, and paper between, the whole painted with coal tar, or asphalt pot on boiling hot, consider that they have solved the question of cheap, durable silos, as the lumber used need not be better than No. 1 culls, and not even planed, or matched. The thick paint fills all cracks, makes a smooth, glassy surface, and is waterproof as well as air-resisting, if paper is put on between the boards.

"What kind of cutter is best?" Any made by a reliable firm. In buying a cutter, the idea of breakage and getting repairs, is always to be first considered, next after choosing a reliable maker. The best cutter in the world, if made in California, would be worthless to a man in case of a breakdown, as winter would overtake him before the repairs could be obtained. I have a 14 A Ross, and consider it a No. 1 machine; it is good for five tons of ensilage per hour. The Ohio, Smalley, &c., are all good. Buying of new and unheard-of companies is to be avoided. The machine may be all right, but when repairs or new fixtures are needed, the firm has disappeared and new parts can not be obtained, and the machine has to give way to another that, with its makers, has been well-known for years.

"Are partitions necessary in the smaller class of silos?" Where a man has a stock of cattle sufficient in numbers to consume a layer of ensilage, covering the surface of the silo each day, there is very little need of them. Where this would be different, the partition would be best, so to keep part of the ensilage unopened until ready to feed.

"Has ensilage become an established system so founded on experience that it can be called a success, and ready for adoption by average farmers? Would I be likely to make a manure pile of my ensilage if I should attempt it?"

Probably the owners of 10,000 silos in the United States could best answer this question. In Ohio, Michigan, Wisconsin, and the West generally, silo building is rapidly on the increase. I have yet, from my own observation, known but one to be abandoned. More than 2,000 were built in Wisconsin alone last year, and Prof. Henry—the best of authority—reports that from all directions he "hears the most favorable reports from those who are using them, even though this last was their first year of silo-filling." The professor continues: "The silo has passed its stage of trial and has come to stay."

"Can hogs be wintered on ensilage, and to a profit?" Mr. D. F. Sayre, Fulton, Wis.; John Urghart, Rio, Wis., and James Mullins, Wooster, Ohio, make a special feature of wintering shoats on ensilage for the spring run. Mr. Mullins said: "Last winter I wintered 20 shoats on ensilage, and a small ration of 'chop,' and have never seen pigs grow faster or do better." Mr. Urghart wintered 70 on ensilage and two ears of corn each per day, and reports about 100 lbs. gain on each, while Mr. Sayre is well pleased.

Other inquiries must be deferred to a future number of the COUNTRY GENTLEMAN. *J. C.*

Western Reserve, Ohio.

Experience in Draining.

EDS. COUNTRY GENTLEMAN—Perhaps there are some farms on which no underdrains or open ditches are needed. On most farms in this vicinity, however, more or less labor can be profitably expended in improvements of this kind. It is not good economy to till a field in pieces of irregular and inconvenient shape, on account of low wet places, when a few days' work would so drain the land that all could be managed alike and be tilled in regular rotation.

Very much can be done to improve the appearance of fields and increase their productiveness and convenience of working, without going to the expense of a regular system of underdraining. I began improvement in this direction some forty years ago, using only such material as the farm afforded for the purpose. Tile would have cost heavily at that time and as there were plenty of suitable stones, ready at hand they were used and the drains are still serviceable and in good order. Some of them were made by using a round stone on each side of the bottom of the ditch and covering with flat stones. Others were constructed entirely of round stones, the covering stone being large enough to bear evenly on the ones used for the sides of the opening. Small stones, from the size of hen's eggs to five inches in diameter, were drawn from the fields and filled in on top of the regularly laid bottom to the depth of eight or ten inches. Instead of the small-stone filling one drain was made to which cedar chips, made in sharpening stakes, were used to the depth of three or four inches. This drain has remained perfect with no trouble from mice or muskrats and has been in use more than thirty years.

Near the centre of one of my fields was a cold wet place on which nothing but coarse white tufts of grass would grow. Twenty rods of drain would correct the evil. On one side of the field was an unsightly and useless fence of round stones. A large ditch was dug and the stone-fence moved into it, and corn, potatoes and other crops have been profitably raised where nothing of value would formerly grow. Mice and muskrats sometimes dig holes from the drains to the surface, but have never so obstructed a drain as to hinder its usefulness. Such drains should be examined each year and if holes are found they should be filled nearly to the surface with small or pounded stone. I have frequently had the mouth of a drain stopped by muskrats, with grass and straw. Such drains need attention every year.

I have sometimes thought that if I had the drains to make again I would use the tile, but in conversation with a friend a few days ago he told me that all his tile drains, put down at a later date than my stone ones, were now filled up and useless. My drains were made with openings varying from three to six inches square, according to the amount of water. The large enough to discharge the water of such drains in the months of April and May would be quite expensive. One drain was made of good hemlock 1¼-inch boards 25 years, ago. The opening was a triangle and the boards 8 inches in width. A large amount of water was discharged a part of the year and sometimes none in August and September. This drain began to fail six years ago, and is now useless. Another was made by using a cedar rail on each side for the bottom and covering with a two inch hemlock plank. This is still useful, but not in as good condition as the stone drains.

Some of these drains begin at the foot of hills, and pass between knolls where the large amount of water in spring cannot readily find its way down to the opening. By using pounded stone to fill a few feet at the head of such a drain, leaving them without earth covering, the water can pass at once into the drain and washing of the plowed fields below is avoided.

Open-Drain Sod for Bedding.

The ditch into which these under-drains discharge extends across the whole width of the farm. A part of the year there is quite a large amount of water, and at other times in dry seasons there is none. This ditch was dug many years ago to the depth of three to four feet, eighteen inches wide on the bottom and four feet at the top. With this form rains and frost would cause it to fill up. About twenty years ago it was widened to ten or twelve feet on top, using a team and plow and common earth scraper to do the work. This form is far better than the narrow ditch, as it becomes covered with sod and can be mown, and does not fill up rapidly. There is no difficulty in crossing with a horserake or an empty wagon, but of course bridges are needed at convenient distances.

As the past summer was very dry in this section, there was no water in this ditch, and it was thought best to clean it out, especially as the thick sod in the centre could be used for bedding the cattle in the stalls this winter, and thus save straw for feeding, as hay is unusually high in price. A few furrows were plowed in the centre and the sod drawn to the barn. The work was rapidly done, as the sods were loaded with forks and unloaded through the barn floor into a part of the basement, formerly used for a beet cellar. This cellar is at one end of the stable, and the sod convenient for use. Although quite dry when drawn, the sod, as it was packed in a solid body 7 feet deep, warmed up and became thoroughly disintegrated and makes an excellent absorbent. As it is thoroughly dry and fine, the cows are kept as clean as when straw or sawdust is used. I have used muck before, but as it did not warm up when stored, it was never so dry and satisfactory as the sod. This use of sod has proved so successful that more will be stored for use hereafter as occasion may require.

After the sod was removed from the ditch, a common road machine with four horses attached was used to complete the work. Ditching with such a machine is the reverse of road making, as the earth is thrown away from the centre instead of toward the centre. A ditch can be rapidly completed with such a machine to the depth of 3½ feet and width of 18 feet on top. It leaves the ditch in good shape and with finished appearance. C. S. RICH.

Lewis County, N. Y.

Farming East and West.

EDS. COUNTRY GENTLEMAN — Samples of your paper are received and much admired. In it I think I recognize the lineal descendant of the old Albany CULTIVATOR, once published by JESSE BUEL. It is an old friend of mine, and the companion of many a noon-time hour in the attic of my father's old-fashioned farmhouse in Jefferson county, N. Y. This is the first farm periodical I can remember, and from its pages I drew my first real love for the farm, and the profession of the farmer. I still remember seeing figured in its pages strange cuts of machines designed to cut grass and grain by horse-power. It stated that, at the trial, "one of them worked fairly well, and the committee thought the other would also, only it broke a gear-wheel in starting out, and the new wheel did not quite fit."

This was about forty-five years ago, and mowing and reaping by horse-power is no longer a question to be solved. How curious it seems now to think of these old times of hand-scythes, hand-rakes and hand-forks, cast-iron plows, ox-carts and stone-boats! The spinning-wheel, flax-break and flail, too, have passed away. Well may it be said, "Old things have passed away, and all things have become new," and yet how many bright and glorious memories cluster around these halcyon days of "ye olden time!" We were young then, and knew but little of the cares of life. By and by our children will look back to their childhood and feel as we do now.

In reading the numbers sent, nothing impressed me more than the relative conservative and aggressive thought of Eastern and Western writers. I will not draw any invidious comparison between them, for no doubt each is equally enterprising and progressive in his own way, but the conditions surrounding them are different; hence the eastern man is conservative, and changes his way of doing with caution, and the further east you go, the more conservative they become. The nations of Western Europe are less so than those of Eastern Europe, while thought has stagnated in China for thousands of years.

The western man, on the other hand, is aggressive in thought and action (even the churches, not too closely tied by creed, are squarely on the broad-gauge track); he changes his course as readily as the windmill to catch the breeze. If he sees, or thinks he sees, a shorter route, he switches off and starts on the new course. In this wild scamper, this dare-devil race for success, many a bold rider is unhorsed and left behind, but the ranks close quickly, and the race continues.

Let not my eastern readers laugh at this haste and rush of the western man. It is as much the result of his environment as is the care and pains-taking of the eastern man the result of the conditions that surround him. Nor is all push thrown away. What is an uncultivated wilderness this summer will be a well-cultivated and well-peopled country next. Magnificent cities spring up as if by the magic of an Arab genie.

One of your correspondents speaks of threshing with a flail, while I suppose my "boys," the oldest well up in the twenties, have never heard the music of that instrument. But the most quaint example of down-east conservatism comes from President Chamberlain. Although he dates his letter from Ames, Iowa, he is in no sense a western man. He has never brought himself into sympathy with aggressive western thought. It is said the first George that ruled England left his heart in Germany. So, while Mr. Chamberlain rules at Ames, his heart is in Ohio, and he appears to see everything through Ohio spectacles. In speaking of his barn in your September 27th number, he says:

"For the first 12 or 15 feet deep of each mow, I am sure I can alone pitch off and mow away a ton of hay as quickly and as well as *three men* with a horse-fork can do it, unhitching the team from the wagon, making the adjustments, and hitching the team on again."

Now, I do not know how this looks to eastern eyes, for the reason my stand-point is west of the Father of Waters, but to a western man it looks so extremely conservative as to border on the line of perpetual "fog." Mr. C. does not seem to understand that one great advantage of the horse-fork is the saving of strain on human muscle, thus enabling a hand to do more work (that cannot be done with a horse) than he could if exhausted by the heavy work of pitching off. But Mr. C. would have his man pitch his load off and then descend into the "bottomless" pit and tread it down, after which doubtless he would think him sufficiently refreshed to "ding" off another load.

"What is the matter" with having a third horse on a farm that turns out 100 tons of hay, 600 bushels of wheat, and 400 bushels of oats? Is he not wanted many times during the summer? Hitch this horse to the fork and unload, not one load, but two if need be, in five minutes. Any child can drive the horse, and a lad of 14 is amply sufficient to manage the fork. There will be no straining work, and your boys would not be disgusted with the farm. No boy of intelligence will remain on a farm to do the work of a horse when the broad field of American enterprise is open before him.

As to mowing away, it is of but little consequence anyway. If a good carrier is used, the forkfuls may be well distributed over the mow; then when you want to take them out, hitch your fork to a derrick and lift them out of the mow as you want to feed them. In this way you will do your work more rapidly, and at the same time with an ease and comfort that is at least very gratifying to yourself, your boys and your men. A. S. POTTER. *Jackson County, Ia.*

Earth Closet Pails.

EDS. COUNTRY GENTLEMAN—I am glad to note the discussion of better sanitation in the matter of earth closets. I desire to give a simple, inexpensive and effective method of doing away with all foul odors and fear of contagion from impregnation of soil and atmosphere arising from the present prevalent system of dealing with this branch of animal economy.

Some two years since we had three galvanized iron pails made, of heavy material, at the nearest tin shop. The larger ones are 16 inches deep by 13 inches across the top and 10 inches across the bottom. These are placed as desired in the ordinary building such as is found in connection with most houses; only that the bottom is boarded across upon which is set the pails. There are three openings in the seat, (one, however, is made lower than the others); under these are placed the pails. The smallest pail is 8 inches deep by 9 inches across the top and 6 inches across the bottom. The seats are upon hinges; each opening has its own cover, also upon hinges; these are lifted to remove or replace the pails. Dry coal ashes are put in a box or tub in one corner of the building, with a scoop (cost 20 cents) to use as may be needed. In winter, when frozen, the pails are placed in hot water in a larger vessel (we have a large paint pail) long enough to loosen the mass which is then turned out upon the compost heap. In sum-

mer a bottle of water in which is a teaspoonful of crude carbolic acid to one quart of water, stands up high on a beam, and occasionally a little of this is sprinkled in the pails, particularly just after they have been emptied. Sometimes with an old broom they are washed out with copperas water. Any cheap deodorizer or disinfectant may be used. All house slops are thrown down a drain leading to a cesspool. A handful of copperas in a gallon of boiling water is thrown down this drain every week in the summer and also down the sink drain.

The pail system was taken from the New-York Tribune several years since. As yet we have found no objections to this method of treating the case. M. G. P. *Ghent, N. Y.*

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Jan. 23.

We are getting light snows weekly, but nothing like the low temperatures after, common in the average winter season. Why the quite severe blizzards north and west do not reach farther south, and send the mercury here below zero is a mystery which has received no satisfactory explanation so far; unless we credit the warm equatorial currents as the cause. The hour the winds are laid and the sky clears, the sun comes out bright and warm, and for several days together the nights are so mild there is scarce a crust of frost. So far, the fruit-buds of all kinds are safe, and unless we get some very severe weather indeed, there will be peaches another season as far north as the tree grows and thrives.

And now I am on the subject of the coming summer's fruit crop, I have an opportunity to call attention to the quite extraordinary excellence of the apples of '86 in this county and neighborhood, and other counties equally fortunate on the black soil. Within two weeks I have seen on the markets of Champaign county, as large, fair, fine and high-colored apples as ever I saw in my observation north, south, east, and west, for a period of more than fifty years. The varieties particularly noted were the old sorts of the highest reputation, like the Newtown Pippin, Yellow Belle-Flower, Spy, Vandevere, and others of similar age and renown. These were all large, fair, high-colored, and in general appearance incomparable; that is, equal if not superior to the best wherever grown, found or seen. To satisfy myself of the excellence of the Newtown Pippin grown here, I procured some of the best from Albemarle county, Va., and as for the other I looked over the apples displayed for sale on Water Street, Chicago, to see if home-grown apples were equal to the best products of New-York, Michigan, and elsewhere, and came to the conclusion stated above.

And now considering the enormous destruction of orchards in the black soil all through the northwest, considering that the failure of the old varieties is attributed to deterioration from age and lack of hardiness, and considering the common opinion among orchardists and fruit growers that these old sorts must give way to new, and in most cases to those of far inferior quality,—the conclusion is little less than inevitable that the fault of previous failures was not on account of the weakness of the old varieties, but due to changed conditions of climate, soil, and rainfall, deficiencies of plant food and lack of cultivation. To make a long story short—that the apple tree may be vigorous and fruitful, the soil must be as rich in the substances of suitable plant food, including abundant moisture, as the soil for the successful growth of cabbages and Irish potatoes, and when it is made so or becomes so by the agencies and accidents of the growing season, a crop of fruit may be counted on with as much or more certainty, as of Irish potatoes or cabbages,—sure for the two latter with the aid of irrigation, as blue grass in Kentucky.

The Agricultural Situation.

There are several features of the agricultural situation worth noting at this time. One is the increasing neglect and indifference of the great city dailies in matters relating to agriculture, except perhaps, on the commercial side. Twenty or even fifteen years ago, the daily press of Chicago seldom neglected to make a more or less full report of agricultural and horticultural meetings that were held in this State, or out of it in sections not remote, and in addition to these attentions paid to the cultivators of the soil, these sheets usually gave two or three columns of the Saturday's issue to matters agricultural. Now agricultural and horticultural societies meet and transact important business, there are gatherings of horse men and cattle men, dairy conventions and fruit-growers' meetings, where the usual discussions are held, the reports of which are chiefly confined to the imperfect ones of the local press; the great city daily, if noticing these events at all, dismisses them with a brief paragraph in the news columns. Just why the powerful city dailies have adopted this course of indifference to these great industries, I do not understand, and leave the subject for the thought and investigation of those who are interested in such matters.

2. The discussions preliminary to the wider, and finally to the general, use of commercial fertilizers, are now going on with results perhaps, in course of ten or fifteen years, that it will come to be understood there can be no complete and satisfactory system or methods of restoring lost fertility, except by the direct use of what are known as commercial fertilizers. Already there are those who claim there is not a 160 acre farm in the country, conducted on the system of mixed husbandry, where there is manure enough made annually to restore lost fertility to five acres. And there are others who declare from personal experience and observation, that even if manure could be had for nothing, it would be cheaper and better in the long run, to purchase a good bone and potash fertilizer than to haul and distribute the manure. To be sure, the matter of saving the manure and distributing it wisely, should not be neglected; and probably the average farm, instead of three per cent. will yield sufficient probably to fertilize ten per cent. of it; then the thought arises, where shall we go to enrich the 90 per cent. remaining, if not to commercial fertilizers? This, for the corn, grass, and cattle counties of the prairie States, is a new departure on which a few only have made the start, but it is about as certain as anything in the future, that in less than half a generation all intelligent farmers will have taken that route.

3. The problem of irrigation, how to obtain and how to use water for that purpose, is largely engaging the attention of growers of small and large fruit, and of market gardeners who gather in the neighborhood of large towns and popular cities. In the experience of the first, two crops out of three are sacrificed to a deficient rainfall, especially in the case of strawberries, blackberries and raspberries; while the latter recognize the necessity of securing without fail, crops of vegetables at the earliest moment, in order to meet southern competition on equal terms. It is apparent also to men of mature age who were born in Illinois, or who emigrated there 35 to 40 years ago, that there has been a considerable, if not a radical change in climate within that period, and that we shall have as much to fear in the future from drouths, as others have in the past from excessive rains; and therefore some preparation ought to be made for a system of irrigation on a grand scale. On this subject, only a day or two since, an aged gentleman, familiar with the history and topography of the State, and a man of large political experience—Hon. E. M. Haines of Waukegan—in discussing the important work of so deepening the Illinois and Michigan canal as to open the way for boats of large tonnage from the lakes to the gulf, said: "Some day I think there will be a great canal dug through from Chicago to Cairo, with lateral branches extending across the State. Lake Michigan water supply is inexhaustible, and we need such a canal for irrigating purposes. There is water enough to supply the whole State, and you know we frequently lose crops in dry seasons."

4. There is evidently a desire and strong intention among breeders and feeders of cattle to breed and feed so as to diminish tallow, worth 3 cents a pound, and make a gain of lean meat worth 25 cents; among horse men, so as to enlarge, harden and improve the *contours* that light weights will not fall in the articulations, and heavy weights will not develop curb, spavin and ringbone when young, and carrying no load but their own gravity. All of which problems have a close relation to the ultimate adoption of the use on grain, pasture and meadow lands of the potash and phosphate fertilizers. R. F. J.

From Northwestern Georgia.

EDS. COUNTRY GENTLEMAN—January has been a lost month with the farmers, notwithstanding the weather has been phenomenally mild. Since the 9th it has been too wet for field work up to the 27th, when it became cold, and on the 28th the mercury went down to 23°, the same temperature as it was on Dec. 31—the two coldest days we have experienced so far this winter. This will crowd work on us to be ready to plant corn by the 5th to the 10th of March, our usual time, and will cause us to prepare our grounds so hurriedly that all the work will probably be imperfect. Oats also will have to be sown in February, as most farmers have put off sowing until that month, as of late years fall-sown oats have been killed out by the winter freezes.

Our seasons have changed very much of late years; the falls are much later, also winters and springs, while the summers are long and dry. This compels us to plant early in March, whether cold or wet, in order to advance crop growth before drouth sets in, which makes it precarious for grain crops. So deep plowing, which are considered necessary to guard against the effects of drouth, amount to little when these drouths set in, in early summer. There is but one remedy for drouth on old lands where humus has become exhausted, and that is irrigation, which can only be resorted to where streams can be utilized for such purposes. The common remedy then must be a rotation of crops, and to plant such crops as will leave vegetation to plow under, and restore humus to the soil.

The most convenient and practical plan for the southern farmer to pursue, who has a superabundance of land, would be to turn out one-third of it to rest and recuperate, and plant that reserved for use on the intensive system, manuring all he can. The one-third-system of throwing out to rest, in a few years would furnish him recuperated lands that would produce fine crops and stand drouth better, and could be kept up with little manuring. Almost every farmer South has lands sufficient to pursue such a course. Our lands are not so valuable yet that we cannot afford to let them lie out idle, and rest and recuperate. We now plant too much to the horse and mule; drawing in and farming on the intensive system would greatly increase production, besides resting one-third of our farms.

The greater part of my life I have farmed on virgin soil; hence manuring with me is a job I very much dislike, and consider it a great tax on me, especially in hot, dry summers when manures do more harm than good. Rest does more good to revive an overworked system with man than resorting to physic and patent medicines. So with mother earth—rest would do her more good than resorting to artificial manures, and still working her to death. I am an old time farmer, and very reluctantly give in to these modern progressive ideas of farming, for I can bear witness that the old time farmers were more progressive in making money off the farm than the modern ones are.

Floyd County, Jan. 28. JNO. H. DENT.

Inquiries and Answers.

Ground Feed with Long Hay.—Which is the best way to feed ground feed with long hay to cows,—to feed the ground feed first, or let them eat their hay a while and then feed it, or wait until they have eaten all their hay? A. O. H. W. *Adams Centre, N. Y.* [A. O. H. W. seems to thinks there is a proper time to feed ground feed to cows with long hay. This would be true if there were a way discovered of mixing ground feed with long hay in such manner that both must be eaten together. But there has been no such way yet discovered, and probably will not be. W., however, may refer to the theory that when ground feed is fed immediately after hay, that it goes to the first stomach (rumen), is mixed with the masticated hay, and is raised and remasticated. This theory has not been well established, but it has been proved conclusively that meal, fed alone, is not raised and remasticated. Mr. Miller of Chautauqua County, N. Y., fed cows upon corn meal without hay, and found that they ceased to chew the cud after the hay was all gone from the stomach. But it does not require a large amount of hay to cause the ground feed to be raised and remasticated, and when the ground feed must be fed with long hay, we have advised that an even layer of long hay be placed on the bottom of the manger, and that the ground feed be spread evenly over it and worked slightly down into the hay. In eating this ground feed, the cows will eat more or less hay, and sometimes a sufficient amount to cause the meal to be raised and remasticated. Bran, especially, seems to be fairly digested fed in this way, better—so far as we have tested it—than corn meal. If bran and meal are both fed they should be mixed before placing on hay. E. W. S.]

Fattening Steers.—Please furnish ration for fattening young steers, in fair flesh, weighing 900 to 1,000 lbs. each, for spring market. I have upland prairie hay (red-top and blue joint), cut about July 5th, very green and nice; oat straw, cornstalks not damaged by frost, carrots, turnips, and corn on the ear, to be ground with the cob—is it best that way, or to shell the corn before grinding, considering the extra cut? Have a cutting-box and a warm stable with stanchions. Prairie hay is worth in market, 10 miles away, $4 per ton, straw $6; corn on the ear about 20c. per measured bushel. F. L. G. *Bay City, Mich.* [Considering where F. L. G. is located, he should have mentioned the price of wheat bran, as it must be as cheap as cob meal, and a small proportion would be an advantage to the ration. The cost of grinding the corn in ear should also have been given; but, as he mentions carrots and turnips, I will give him a ration out of his materials. As he mentions the price of straw at $2 per ton higher than prairie or upland hay, we use only the nicely cured hay, and if necessary, cornstalks. The great value of the carrots and turnips, is the succulent food they give to keep the digestive organs healthy. Turnips answer the same purpose as ensilage. The ration may be made up as follows: 10 lbs. red-top and blue joint, 12 lbs. pulped carrots or turnips, 15 lbs. fine cob meal. The digestible nutrients are shown in this analytical formula, in pounds:

	Albuminoids.	Carbohydrates.	Fat.
10 lbs. fine hay	0.65	4.40	0.30
12 lbs. carrots and turnips	0.16	1.80	0.08
5 lbs. cob meal	1.02	8.80	0.35
Total	1.83	14.47	0.73

This has a wide nutritive ratio of 1 to 10.1, but notwithstanding this showing of the ration, it will be successful if properly prepared and fed. The roots will greatly assist its effect. It should put on 2 lbs. per head per day. But G. must remember that this is only a combination of food elements, and an approximation to an average ration for such a lot of steers, requiring the feeder to determine the specific amount for each animal. This ration would be improved by substituting 5 lbs. of bran for 5 lbs. of the cob meal, giving it a better balance of constituents, but it may be doubted whether it would increase the gain, except during the first two or three months. If he should deem it necessary to feed part cornstalks, let him feed 8 lbs. of hay and 4 lbs. of cornstalks, or if his hay is short, 6 lbs. of hay and 6 lbs. of cornstalks will do. The pulped turnips or carrots should be mixed with the cut fodder and the cob meal, or cob meal and bran, be mixed in. This ration may be given in two feeds, and let the feeding be done regularly, at the same time every day. Cattle note the time very closely. E. W. S.]

Creamery Machinery.—Where can we get the best creamery machinery for the least money? We wish to put up one with capacity for about 2,000 gallons of milk per day. R. C. B. [Address Vermont Farm Machine Co., Bellows Falls, Vt.; Moseley & Stoddard, Poultney, Vt.; Moseley & Pritchard, Clinton, Iowa.]

Hominy Meal.—What is the value of hominy meal as compared with whole meal? It sells for considerably less than whole meal. W. H. *Cincinnatus, N. Y.* [Hominy meal is a refuse obtained in grinding hominy, and its digestible nutrients are as follow: Albuminoids, 7.68; carbohydrates, 51.06; fat, 5.31—having a nutritive ratio of 1 to 8.3, while whole-corn meal has the following nutrients: albuminoids, 8.4; carbohydrates, 4.0; fat, 4.8; nutritive ratio, 1 to 9. It will be seen that the hominy meal has a larger percentage of fat and a less percentage of albuminoids and carbohydrates that whole meal. When the value is figured in the ordinary way, the hominy meal appears to be worth 12½ cents less per 100 lbs., or, worth $2.50 less per ton. The whole meal may also be slightly more digestible and, for strictly fattening purposes, be more desirable. But for feeding stock generally, the hominy meal is undoubtedly worth as much into $2.50 per ton as the whole meal, ground equally fine. E. W. S.]

Feeding Potatoes.—"A. H.," North Collins, N. Y., asks: "What is the feeding value of potatoes at 28 cents per bushel compared with corn meal at $16.80 per ton, to feed with ensilage for butter?" Neither potatoes nor corn meal should be fed with ensilage to cows. The nutritive ratio of ensilage is so wide that some more concentrated feed should be given with it; that is, something containing much more protein than either corn meal or potatoes:—for example bran or cotton-seed meal. One hundred bushels of potatoes, worth $28, will buy 1804 pounds of cotton-seed meal at $25 per ton. Computing feeding values on the standard of timothy hay at $12 per ton, we have the feeding value of 100 bushels of potatoes, $8.70, and 1804 pounds of cotton-seed meal, $25.70. From the above, it will be seen that A. H. or any one similarly situated, had better sell his potatoes if they are marketable, and buy nitrogenous foods to balance the ensilage ration. J. M. D. *Cornell University.*

Uncut Ensilage, p. 86.—I have tried uncut ensilage and to no other way: 1. Because it saves great expense of cutting with extra hands, power, cutter, carrier, &c. 2. It keeps well, just as well as the cut, provided the sides and corners are well packed by breaking the stalks down and jamming them down under a good strong cowhide boot. 3. I cut it out eight inches long with axe, so that there is no trouble about long stalks. 4. I lay the fodder corn one way, so as to cut against the stalks cross-

wise. I have just opened my silo, and it is brown, sweet, and cattle eat it with a relish. I believe the juices are better kept in the uncut, and the stalks are juicy and tender. I put in well grown mature ensilage. I am satisfied that it is the cheapest food on the farm for cattle. Six of us have eaten of it, and all pronounce it sweet, tender and juicy. F. B. S.
Newburg, N. Y.

Japan Buckwheat, p. 900.—I purchased and sowed thinly in a young peach orchard last summer one peck of Japanese buckwheat. Sowed good phosphate at the rate of about three hundred pounds per acre and harrowed all in. The ground was poor, sandy upland facing the north. It was a curiosity to passers-by who had never seen this kind before, as the stalks were of such unusual size and so well loaded. It turned out a little more than eleven bushels. LEWIS D. CASE. *Morris County, N. J.*

Farrow Cow.—Please give ration out of the following for a good native cow, 7 years old, a large feeder; have been milking her since February and she now gives between 5 and 6 quarts of milk a day. Corn meal, bran, timothy hay and corn fodder, and carrots; the corn fodder is cut, and is not of extra quality. S. W. *Brockville, Ont.* [E. W. does not state whether cow has been bred, or whether he proposes to keep her indefinitely farrow. His timothy hay and corn fodder are neither very good milk foods, without grain strongly nitrogenous to balance them, and his most nitrogenous food is bran. As his corn fodder is cut, let him moisten 10 lbs. of this and mix with it 4 lbs. corn meal, 8 lbs. bran, 15 lbs. sliced carrots. Feed this in two feeds, morning and night, and give 4 to 6 lbs. of long timothy hay at noon. If this cow were fresh in milk this ration would produce, say 35 lbs. of milk per day, of fair quality, but is not adapted to produce the richest milk. The carrots will be excellent to feed with the dry corn fodder, keeping the stomach and the digestive organs healthy. If the cow continues farrow the corn meal may be omitted. E. W. S.]

Freemartins, p. 59.—A Guernsey cow in my neighborhood had twins, bull and heifer. The cow is a fine milker, 18 quarts a day, and the calves large and much admired. The owner was anxious to raise them. The heifer, however, had a flanders escutcheon, class 5th; highest flow of milk, 10 to 12 quarts; will go dry nearly six months. This being the case, they were sent to the butcher, and at the time were examined by a physician, who said the womb was only half the usual size, and the passage to it was almost closed. The bull had no especial defects, but his escutcheon indicated third class. No bull calf under second class should be raised, or used in the dairy. It is in the power of the bull to make or destroy a fine herd. GEORGE ELLIOTT. *Philadelphia, Pa.*

Pump.—To what "self-acting pump" does E. H. S. refer (p. 43) as best suited to watering cattle? T. S. H. *Bainbridge, Ga.*

Rations for a Horse.—How much grain per day and what kind—oats or corn, either worth 1 cent per pound? How much hay, and when to be fed—at night, morning or noon? Should ground feed be used, and, if so, the best ingredients and proportion of each? Also amount of chopped or cut hay per feed? Horse weighs 1,000 to 1,200 lbs. Hay worth $15 to $20 per ton. S. L. J. *Washington, N. J.* [S. L. J. cannot have read these answers with much care, or he would know that unground corn is not a fit food for a horse. The only grain that can be properly fed unground is oats, and very few horses thoroughly masticate well even oats. It is better for the health of the horse that all grain be ground, but there is occasionally a horse that masticates oats very well, and such horses, if at common light work, may be very well kept upon 12 qts. of oats per day, given in three feeds, with hay in the rack to eat at will. About 12 lbs. of hay and 12 lbs. of oats in such cases make a day's ration. But most horses will keep in better health and perform better service upon ground feed and chopped hay. If at slow work the horse may be fed differently than with fast driving. In either case the horse is benefited by a variety of food. A 1,200-lb. horse at slow work will do well upon the following ration: 1 bushel of oats ground with 1 bushel of corn, and to 9 lbs. of this mixture add 4 lbs. of bran and 1 lb. of linseed meal. This is a grain ration for a day, but to make it more convenient in feeding let the grain food for a week be mixed together, namely, 63 lbs. ground corn and oats, 28 lbs. fine bran, 7 lbs. linseed meal. Let this all be evenly mixed together. Now, 5 lbs. of this mixture may be given with 5 lbs. of chopped hay as the morning feed. At noon 3 lbs. of this feed with 2 lbs. of chopped hay; at night 6 lbs of this feed with 5 lbs. of chopped hay. In this way the man who takes care of the horse will be most likely to give an even ration. The mixed feed can be measured and weighed, so that by having a measure for morning, noon and night, holding the desired weight of ground feed the ration will become very uniform. The chopped hay can also be very easily measured in the same way. Let the chopped hay be put into a box and slightly moistened with a watering pot, and then spread the ground feed over it evenly. Mix well together and feed fresh. Now, if the horse is used as a driving horse, let 3 bushels of oats be ground with 1 bushel of corn, and to 9 lbs. of this add 4 lbs. of fine bran and 1 lb. of oil meal as before. In all other respects the food will be prepared the same. If the horse has light work or light driving and weighs only 1,000 lbs., the ground feed may be 2 lbs. less per day. E. W. S.]

Feeding Horses.—A team of horses, five and six years old respectively, were fed from early fall until within a month, on nice pea straw, with a liberal ration of corn. Then their coats were sleek, but when exercised would sweat freely and seem weak. The urine, passed with difficulty, was pink, containing whitish sediment. The ration was changed from pea straw to oat straw, which is badly rusted, with occasional feed of hay or corn fodder, but difficulty in urinating continues. Did put wood ashes in drinking water. What remedy? What would have been probable result of continuing the pea straw? Can a healthful ration be made having pea straw as the bulk of feed aside from grain, oats, corn or peas? Have rusted oat straw (but am afraid to feed it), and plenty of pea straw, but little corn fodder, and hay is very scarce. Horses seem to relish pea straw, but cows prefer oat straw. Will it be better to feed oat straw to horses and compel cows to eat nice pea straw? W. O. F. *La Fayette, Ind.* [Nicely cured pea straw is healthful food, both for cows and horses, and much more valuable than the best oat straw, but is slightly constipating, and better fed with laxative food. It would seem more likely that the corn was the cause of the difficulty; corn being a heating food, would add to the constipating effect of the pea straw. F. should get a bushel of flaxseed, boil 1 qt. of it in 6 qts. of water till it forms to a jelly, then chop some of the pea straw, mix 2 qts. of wheat bran with 1 pt. of this flaxseed jelly, and mix this with a few quarts of the chopped pea straw; give this twice per day for about one week, feeding besides about 4 qts. of oats to each horse, with a small amount of pea straw. This flaxseed jelly will probably correct the difficulty, but it may be necessary to give 1 pt. of this jelly in that way to each horse per day for several weeks, and afterward feed it occasionally. This jelly is very soothing to the digestive organs, and will no doubt correct their difficulty in urinating. Unground corn is not conducive to the health of horses, and when it is ground should always be mixed with cut fodder, so as to go into the stomach in a porous condition, permitting the gastric juice to circulate through the mass and fully operate upon the contents of the stomach. If F. wishes to use his corn, oats and peas as the grain food for his horses, he can do it by grinding 2 bush. of oats, 1 bush. of corn and 1 bush. of peas together. But it would be better to grind the following mixture together: 5 bush. of oats, 3 bush. corn, 3 bush. of peas and 1 bush. of flaxseed. The peas are slightly constipating, as also the corn, but the flaxseed will correct this, and the mixture will be the best kind of food for horses and cows. It will not be difficult for F. to get a few bushels of flaxseed to grind in this way. Then by running his pea straw through a cutter he will feed 4 lbs. of this ground mixture, mixed with 5 lbs. cut pea straw, given twice per day, would keep his team in fine condition and in good health. If his rusty oat straw must be fed, his cows can manage it better than horses. The ruminating animal can utilise such defective fodder better than animals of one stomach. This appears to meet all the questions, and I hope will help him out. E. W. S.]

Indiana—*Indianapolis, Jan.* 26.—The weather is beautiful at this writing, like a spring day, warm and balmy, and has been so for the two winter months, so far, with only a winter turn of a day or two, to remind us of what might be. The freezes at night, however, prevent the bugs from swelling, or any premature putting forth of the trees. A few are boiling maple sap. J. J. W. B.

Virginia—*Birdwood, Northampton Co., Jan.* 31.—This month has been remarkably warm. It would not have taken many more warm days to bring out peach blossoms, but fortunately on the 30th, at 7 A. M., the thermometer marked 29°, and on the 30th, 28°. A Chinese peach ("Peerless" is its name) is the earliest to blossom of the peaches, and it had small leaves on it last week. The fruit is shaped like the tomato. In 1870 peaches were in blossom Jan. 31. Of course no fruit. If they blossom before April 15 the chances for fruit is precarious. Maximum of thermometer, 64°; minimum, 26°; mean, 41°; rainfall, 3.85 inches. Considerable plowing has been done. The warmest January in 20 years was in 1878, with a mean of 49°. C. E. B.

Weather, Crops and Prices.

Meteorology for Jan. 27-Feb. 2.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.90	inches.
Lowest do.	do.	29.17	do.
Mean do.	do.	29.76	do.
Highest temperature	do.	42°	
Lowest do.	do.	4°	
Mean do.	do.	26°	

One clear day; two fair; four cloudy. Five days on which rain or snow fell; total precipitation, 0.72 inch. Prevailing wind, N. W.; maximum velocity 34 miles per hour, S., on the 31st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	27th	28th	29th	30th	31st	1st	2d
Day.....							
This year...	39°	31°	14°	19°	30°	39°	39°
Normal.....	29°	29°	29°	30°	30°	31°	30°

Total excess for the week, 18°.

The Month of January at Albany.

According to the reports of Sergeant Sims of the Signal Service, the highest temperature last month, being also the highest record in January since the establishment of the station, was 60°, on 17th; lowest, 6°, on 30th. Warmest day, 17th—mean temperature, 47°; coldest, 29th—mean, 14°. Prevailing wind, N. W.; highest velocity, 36 miles per hour, S. E., on 17th. One cloudless day; 18 partly cloudy; 12 cloudy. Rain or snow on ten days. Mean temperature and total precipitation for last ten Januaries as below:

1889—Mean Temperature,	30°	Precipitation,	2.82 inch.
1888	do. 13°	do.	3.04 "
1887	do. 21°	do.	3.32 "
1886	do. 20°	do.	3.48 "
1885	do. 32°	do.	3.19 "
1884	do. 24°	do.	2.28 "
1883	do. 23°	do.	2.43 "
1882	do. 27°	do.	2.64 "
1881	do. 20°	do.	2.16 "
1880	do. 31°	do.	2.96 "

General Summary for the Month.

January has been decidedly warmer than usual throughout the Northern States and from the Missouri Valley southward over Indian Territory; it has been slightly warmer than usual in the northern portions of the Gulf States and in North Carolina and Virginia, while in the southern portions of the Gulf and South Atlantic States the mean temperature for the month has been about 1° below the normal. In New England the mean temperature for the month ranged from 5° to 10° above the normal, while in the central valleys and the Lake region the excess ranged from 4° to 7°, except in northern portions of Minnesota and Northeastern Dakota, where the mean temperature for the month was from 10° to 15° higher than usual. It is slightly colder than usual on Rocky Mountain stations and on the Pacific coast.

The rainfall for the month was greater than usual along the Atlantic and Gulf coasts, except in Southeastern New England, where slight deficiencies were reported. Excess of precipitation was also reported in the lower lake region, the northern portion of the upper lake region, and from Dakota and Western Minnesota southward to the Rio Grande Valley. The rainfall in Texas and the southern portion of the South Atlantic States ranged from two to four inches above the normal for the month. In the northern portion of the Eastern Gulf States, Northern Louisiana, Tennessee, Kentucky, and Indiana less than the usual rainfall was reported, the deficiency ranging from one to two inches. Large deficiencies of rain fall were reported from the Pacific coast, only light showers having occurred in the interior of California, while the deficiencies at San Francisco and in Oregon and Washington Territory generally ranged from two to four inches. From three to twelve inches of snow were reported on the ground at the end of the month in the lower lake region, Michigan and Northern Wisconsin, and portions of Minnesota and Dakota. Northfield, Vt., reports 24 inches; Marquette, Mich., 18 inches, and Sault de Sainte Marie, Mich., 16 inches of snow on the ground at the end of the month. In the Upper Ohio valley, including portions of Ohio, Indiana, and Western Pennsylvania, about one inch of snow was reported.

During the month of January the weather has been decidedly warmer than usual in the winter wheat States of the central valleys, and the general weather conditions have been favorable, probably resulting in a slight improvement of the crop conditions as compared with January, 1888. The ground remains bare, however, in the greater portions of the wheat region, except in Southern Michigan and the northern portions of Indiana and Ohio, where from one to three inches of snow is reported. Although there is a deficiency of rainfall reported from the Pacific coast States for the month of January, the previous heavy rains make the seasonal weather conditions, as a whole, favorable for crops in that section.

New-Hampshire—*Hampton Falls, Rockingham Co., Jan.* 27.—During October and November it was very cold and wet, making it difficult to do fall work. The corn crop was poor, with little mature corn. The crop of ensilage corn was much reduced in quantity and quality. Apples were very plenty, and sold at $1.25 per bbl; latterly there has been no demand, and many are still in first hands, which are not keeping as well as usual. Potatoes were a good crop, and of good quality, especially those dug before the heavy rains; those dug late suffered from rot. December and the first part of January were very pleasant, and without snow, giving opportunity to clean up about the premises, which was generally improved. Since Jan. 20 we have had snow enough to get about on runners, but little salt hay has been moved from the marshes yet. Many are getting short of hay and would welcome cold weather. No ice made as yet, and there is some anxiety on that account. We are to receive 28c. per can of 8½ qts. for milk taken at the door for this month. A northeast snow storm prevailed all day to-day. W. H.

New-York—*Fanting, Duchess Co., Jan.* 28.—The winter thus far has been very mild, with abundance of rain. Snow fell night of Jan. 12, enough to make sleighing for two or three days, and all have made the most of it, securing some wood, and doing other hauling work. Hay is most cases plenty. Beef very plenty and selling low, 5@6c. per lb. Apples are worth their feeding value, and not much more. Potatoes are in good demand, and sell readily at $2 per bbl. Milk, the principal product here, is in excess of the demand, causing some trouble in many cases. One reason for this is the mild weather, every farmer making a little more than usual. L. W. H.

New-Jersey—*Hackettstown, Warren Co., Feb.* 1.—Prospects of an early spring. We have had no more weather yet, coldest for January being 4° and highest 60°; average, 40°. On the 9th, before the blow, it was 60°, but in two minutes the mercury fell to 40°, and just after to 32°. In 1888, for Jan. 13, 6° below zero, and in Feb. 8 and 9, 4° below zero. On the 13th of February the ice broke in the Delaware, and on the 4th of April I plowed my garden, and made it on the 10th. Winter grain apparently uninjured, and clover good; also timothy; do not think hay will be much affected around here. C. S. H.

Ohio—*Barnesville, Belmont Co., Jan.* 28.—A remarkable winter so far, with rain and mud all the time, and the worst blockade ever known so early in the season. Our apple crop was immense, and the fall so rainy and the roads so soft that it was a job to draw them to market, and we realized but little for them; altogether it was a laborious and poor paying fall's work, but we enjoy using them at home. The mercury has not been lower than 10° all winter, and apples are now lying under the trees in good condition in large quantities. Crops the past season were good, except hay, which sells at high figures, bringing readily $15 per ton. Corn a large crop, but on wet very much has spoiled; sells at about 40c. per bu. Wheat was a fair crop, and sells at $1 per bu. Apples and potatoes plenty, and almost go begging; also cabbages. Butter and eggs have not been so plenty in years at this season, which will be a boon to the poor who have to buy. J. R.

Mechanicsburg, Champaign Co., Feb. 1.—On the night of Jan. 26 it rained, then turned to snow, and the 27th it snowed all day; about four inches fell; 28th windy and blustry; to-day fair, wind southwest, mercury 18° this morning. Sleighing not very good; ground was not frozen before the snow fell. Snow is melting rapidly. Butter, 18c. per lb.; eggs, 18c. per doz. S. W.

Illinois—*Vandalia, Fayette Co., Feb.* 1.—Close, and would have been quite pleasant had it not been for a continual severe northwest wind, which blew steadily for 36 hours. The night of Jan. 26 it commenced snowing, and continued snowing all day and night of the 27th. A slow light snow, not making enough, however, for sleighing in the 36 hours. Feb. 8 clear and colder. The wheat crop never looked more promising. Wheat, 60c. per bu.; corn, 35c.; oats, 30c.; hay, $7 50 per ton; eggs, 18c. per doz.; butter, 20c. per lb.; hens, 6½c.; turkeys, 6½c.; feathers, 35c.; ducks, live, 6c.; beans, 60c. per bu. S. A.

Wisconsin—*Janesville, Rock Co., Jan.* 29.—The fine open weather continues; snow gone; days bright and sunny; mercury from 30°, 31°, 34° above zero, down to 12° below freezing point. Tobacco is upon the move; prices ranging higher. There are several eastern buyers in our market now; some St. Louis buyers too. Wheat is a little lower; flour is not visibly lower, but sticks at the old rate of $1.30 per bushel for wheat now worth 70@76c. for best winter. So the honest miller plies his trade. Corn sticks at $8.50 per ton; wheat, 70@72c per bu.; barley 60@54c.; corn, 34@36c.; oats, 26@28c.; rye, 50c.; buckwheat, 60c.; hay, $5@8.50 per ton; cattle, $2.25@3.25 per cwt.; hogs, $4.70@5.10; dressed, $5; apples, $1.75@2.25 per bbl. Business slow; health moderate only. W. H.

Belmont, Pond du Lac Co., Feb. 1.—No more weather yet; the nearest to that mark is 8° above on Jan. 21. S. S.

Iowa—*Jewell Junction, Hamilton Co., Jan.* 28.—Fine weather still continues; a little cold to-day, with northwest wind. Most of the winter we have been able to work in shirt-sleeves and overshirt. Snow is mostly gone. Ice houses are being filled out of the lake; ice is 16 to 17 inches thick. Corn at railroad station brings 18@19c. per bu.; oats, 15@17c.; wheat, 50@56c.; potatoes, 25c.; hay, wild, $3@3.25 per ton; tame, $4. eggs, 18c. per doz.; butter, 17c. per lb; chickens, alive, 6c.; turkeys, 9c.; ducks, 6c.; geese, 6c.; hogs, $4@4.50 per cwt.; cattle, shipping, $1.50@3.75; coal at mine, $3@3.50 per ton. It has been a splendid winter so far for live stock of all kinds, and we have plenty of corn and rough fodder. Hay being plenty, little corn was cut up for fodder last fall—the corn being picked off and the stock then turned in to eat up the husks, leaves and small stalks. O. S. V.

Horticultural Department.

Editorial Notes and Comments.

Recognizing Fruits.—To the many correspondents who send us single specimens of unknown fruits for naming, we offer a brief statement of the difficulties in the way. Take the apple for example—of which there are about 3,000 named, described and published varieties, besides hundreds of local and unpublished ones of more or less merit. The appearance and quality of each of these thousands of varities are modified or altered by climate, soil, culture, aspect and latitude, affecting the color, size and flavor, rendering it unsafe to pronounce on a single specimen, except in cases when old and well known ones may be offered. We are led to these suggestions by receiving from Canon City, Colorado, an apple from an orchard planted with trees ordered as Ben Davis, but discovered to be some other variety. A careful inspection shows it to resemble in several peculiar points the Buckingham, a well known apple in the southern and southwestern States, and it is probably that variety, although varying in a few characteristics. The Buckingham, known also in the South as the Equinetaly and by about twenty other names, is a better fruit than the Ben Davis in quality, but less profitable for market.

As already remarked, the great changes wrought in fruits by the various external causes above mentioned, render it difficult or impossible to pronounce on the names of any but the most familiar ones, and one reason of the confusion in nomenclature has been the hastily giving wrong names to fruits from a single inspection. Pomologists who would avoid mistakes prefer testing the fruits in bearing on their own grounds. The late Charles Downing, who did more at this careful testing of varieties of the apple than any other person, sometimes fruited for two or three years such varieties as closely resembled each other, before he could confidently pronounce on their identity or distinctness. But in most cases which came to our knowledge, he had to decline attempting to name single specimens sent to him, especially of local and undescribed fruits.

Overstocking Fruit Markets.—Occurrences are constantly taking place that show the great importance of raising fruit of better quality than the mass, and of a systematic arrangement for the market. The past season great losses have resulted from poor cultivation in the first place, poor fruit as a secondary consequence, want of care in assorting and packing, and bruised contents of the barrels or packages because the low prices did not pay for the required work. Cause and effect were thus working together. The remedy of course is to select the finest fruits; give them the best culture; employ especial care in gathering, assorting and packing; and arrange for a market long beforehand, which will not be difficult for an orchardist who has obtained a reputation for honestly furnishing only a perfect article. But a great deal of fruit is raised and managed in a very superficial manner, the owners expecting to make large sums of money by large quantities, and not from the best profits. As an instance of this loose way of doing business, it was stated at one of the western horticultural meetings that a few years ago, when the Chicago market was flooded with strawberries, that a carefully prepared statement was made that *ten million quarts* were sold in that city at a loss to the growers. Much of the crop was poor in quality, badly packed, roughly handled, and such as it was, brought better prices near home than in the large city.

Timber Trees.—A late writer enumerates the causes of failure for profit in artificial timber plantations. First, in planting too thickly together—only 3 or 4 feet apart—causing the young trees to be drawn up too slender, and when thinned to be blown over; and if they cannot be well thinned in time, they should be planted far enough apart at once. Secondly, some fail by selecting poor soil, or by planting such trees as are not adapted to it, or kinds which are not most valuable for timber. Thirdly, in allowing the tree to grow too many years, or until the annual growth has greatly decreased. It has been found that the greatest increase per acre, of the amount of wood or timber, is during the first twenty years; and the greatest amount is secured from a given area, by cutting off the young timber at twenty years, and starting new plantations. But as some kinds of timber are valuable chiefly on account of large size, these should be allowed to obtain suitable size.

Pruning.—A writer in the Boston Cultivator says that most of the pruning of fruit trees should be done when the sprouts are so young and tender that they may be cut off with the finger nails. Beginning when the trees are young, they may thus be kept in good shape with little waste of timber, the needless shoots being removed before they have made much growth.

Western New-York Society.

Meeting at Rochester, Jan. 23—1.

The display of apples, pears and grapes, canned fruit and vegetables, and evaporated fruit was one of the best ever made at a meeting of the society. Messrs. Ellwanger & Barry, of course, led the way; but S. D. Willard, Geneva; W. P. Rupert, Seneca; John Ludlow, Lennonville; J. F. Hunt, Romulus; H. O. Fairchild, Hammondsport—all of this State—and E. M. Beechley, Greenville, Ohio, exhibited first-class specimens of various fruits. Curtice Bros. contributed canned pears, beans, both yellow and green, pineapples, pears, raspberries and cherries.

Chairman W. C. Barry read the president's address, from which the following are extracts:

The spring, summer and autumn of 1880 were generally cool. March, April and May were from two to five degrees colder than the average during a period of seventeen years. September and October were four to five degrees below the average temperature of these months during the same period. November was unusually warm. The latest frost in spring was May 17; the latest on record, during seventeen years, was on June 14, 1874. The earliest frost occurred on Sept. 17 and this is the earliest on record but one, Sept. 11, 1879. The humidity of both spring and fall was very high and much above the average. Crops, generally were abundant; strawberries and some of the small fruits suffered from drouth and some of the later grapes did not ripen owing to deficiency of heat. The plum crop was not uniform: in some cases above and, in others, below the average. The same may be said of pears though individual specimens were larger than I have ever seen before. The unusually mild and wet weather of November and December ripened the late varieties of pears prematurely and although they sold for fair prices, yet there was a loss on them of at least 25 per cent. It has been feared that the mild and wet weather of the late autumn would be unfavorable to the ripening of the wood of fruit trees, especially the grapes and peaches, but our men who have been pruning report the wood in very fair condition.

The resolutions adopted at the last meeting changing the name of the Western New-York Horticultural Society to that of the New-York State Horticultural Society, instructing its officers to procure a new charter or an amendment to the old one, and also to petition the legislature for an annual appropriation of $3,500 for the promotion of horticulture in the State—all this was done by the officers and members of the society. The charter was amended but the effort to obtain an appropriation failed, as we are told because the provisions of our State constitution prohibit such appropriations. We have no good reason to suppose we will be able to procure one and the question for us now to decide is whether as a State society, we can make a creditable showing without State aid. All other State societies that I know of have State aid. Indiana now has an annual appropriation of $2,000. Fruit culture and horticulture are important factors in the prosperity of our State and I believe the provision referred to was never intended to meet such cases as ours, but it does, nevertheless.

Spraying apple trees with London purple or Paris green, after careful experiments, seems to be an effectual remedy, when properly applied, to prevent the ravages of the codling-moth. The proportion of London purple to water is half a pound to a hundred gallons. The time to spray is just when the blossoms are falling and ten days afterwards a second spraying to make thorough work. Heretofore the mixture has been used in a much stronger form and has injured the foliage. This must be avoided by all means. Better let the codling-moth have its way than injure the foliage of the trees. Healthy and abundant foliage is absolutely necessary to mature the fruit as well as the wood of the tree. It has also been ascertained by actual experiments that the ravages of the plum curculio may be prevented by spraying as recommended for the apple. Prof. Comstock, the entomologist of the Agricultural Experiment Station at Cornell University, issued a bulletin in November last, in which he says: "One of the most important results to fruit-growers of recent studies in economic entomology is the demonstration of the fact that injury to plums by the plum curculio can be prevented to a great extent by spraying the trees early in the season with Paris green or London purple mixed with water." Mr. C. M. Weed, the entomologist of the Ohio State Experiment Station has conducted experiments which, as far as they go, are very satisfactory. He has applied it to cherries, and says that three-fourths of the cherries liable to injury by the plum curculio can be saved by two or three applications of London purple in a water spray, in the proportion of one ounce to five gallons of water. I trust that every member of this society will take the matter up and experiment for himself. It costs little and there is no danger in it. Pears are frequently attacked by the curculio and other insects, and I believe that the spraying remedy may be profitably applied to them in the same manner as the apple.

I am sorry to say there is no complete remedy for either the pear tree blight or the peach yellows. These diseases have baffled cultivators for a long time, but when we consider how many scientific men are at work in all parts of the country, in connection with the experimental stations, we have reason to hope that their precise nature and a remedy may soon be discovered.

All my own experiments with artificial fertilisers have been unsatisfactory. I hope the experiment stations will clear up this matter soon, and if there be any of these fertilizers we can use with profit as a substitute for stable manure in the orchard and garden, they will let us know. Manure we must have and plenty of it.

We hear a good deal said about low prices, overproduction of fruit and all that. This is nothing new; the same cry was not uncommon twenty or thirty years ago. In my opinion prospects were never better. The consumption of fruit is increasing wonderfully all over the world, but it is natural that, as we advance, more regard is paid to the quality of fruits and the way they are placed in the market. The slovenly fruit-grower must go.

Since our last meeting several of our members have died: Hiram Sibley and Dellow M. Dewey of Rochester; James C. Allis of Holley; A. J. Caywood of Marlboro; Daniel Conger of Wolcott; C. P. Avery, formerly of Wheatland; Dr. Andrew Merrell of Geneva and W. J. Babcock of Brighton.

In conclusion President Barry urged the members to devote themselves to their work with vigor, intelligence and enthusiasm.

A paper on "Herbaceous Plants," by Geo. Ellwanger, was read by S. D. Willard. It was urged that a garden without flowers is like a house without pictures. Many foreign and some native varieties are difficult to grow, but most good garden soil will grow good flowers. Herbaceous plants are best in borders where roots of trees, &c., do not interfere. Lawns should not be broken by beds. Azaleas require special treatment. The primrose family is especially adapted for rock gardens. W. C. Barry, in his comments on the above paper, again insisted, as he did at the last meeting, on the importance of a more general study of the wild plants and flowers of the woods, which are sadly neglected and unappreciated.

Professor Goff's report contained the results of tests with a large number of vegetables. He would not condemn novelties because they disappoint. To put a new name on an old variety is a breach of honesty, which cannot be too strongly condemned. Savoy cabbage is not properly appreciated. The Dwarf Champion tomato is a valuable variety, being very uniform in size and quality. Ripens as soon as any other kind, though its claim as to being self-supporting was not borne out by the experiments with it at the station.

C. A. Green contributed a good report on "Ornithology." Birds are principally destructive to cherries, some authorities contending that they select wormy fruit in preference, and take the cherry for the sake of the worm. It is believed that birds, on the whole, do more good than harm to fruit, and the growing scarcity of birds is a matter worthy of study and inquiry. A sketch of a fashionable lady's hat was exhibited, ornamented with three tanagers. The tanager was described as a beautiful bird, a splendid songster and insect catcher—and the three birds shown would do more good than the woman who wore them.

D. M. Dunning of Auburn presented the Cayuga county report. Apple crop estimated at 1,000,000 barrels. Thousands of barrels are still unsold, but are keeping well, and will probably bring good prices. Three to four hundred acres are planted to grapes. Southwest part of county is planted mostly with Delaware, Concord and Catawba; average retailing price, 5c. per lb. Niagara did not ripen so well as in 1887, which, in marketing, rather damaged the splendid reputation of this grape. Worden is rapidly growing in favor. Ordinary plums low. Pond's Seedling and Bradshaw sold well. Pears are not grown in great variety. Our neighbor, Mr. J. J. Thomas of Union Springs, is most successful in keeping pears, his methods being worthy of adoption. Peaches are giving better satisfaction. Only enough small-fruits grown to keep up supply. Wilson strawberries bring 8c. to 10c. per quart. New Rubach is a good kind. Strawberries seem to thrive well on account of the proximity of the lake and character of the soil. The berries mature late, and thus fetch good prices. Barnyard manure is always the best. J. H. C.

Seed Catalogues and Seed Buying.

Eds. Country Gentleman—The time is at hand when the readers of the Country Gentleman will be in receipt of one or more of the catalogues annually distributed by the different seedsmen, a most important and valuable body of men who are often the recipients of much unmerited reproach. With the exception of an unscrupulous few, the members of the trade vie with each other in procuring and supplying the public with the best of seeds, chiefly for the reason that those of them who succeed in giving satisfaction are reasonably sure of retaining the customers already gained and of yearly adding to their lists. There is scarcely a more unprofitable investment than that made in poor seeds. If you buy inferior clothes, groceries, coal, &c., you can make use of them, but poor seeds are absolutely worthless—nay, worse, they often prove a positive loss, because, while waiting for them to come up, the season passes by when it is possible to raise crops the same year from a second sowing. Therefore, purchase always of well-known, reliable seedsmen.

These catalogues are generally compiled at the cost of much labor and thought, some of them containing the names of over one hundred varieties of vegetable and farm seeds, and those of more than two hundred and fifty kinds of flowers, besides plants of all descriptions. And yet what is this compared to the task of raising, or causing to be raised, such a number of different seeds and plants, afterwards testing them to make sure that they are good, and true to the description given? The plan of testing is comparatively modern, and gives those seedsmen who adopt it thoroughly great confidence in offering their wares. After the seeds are stored in the seed house, much care has to be exercised in handling the different varieties of the same vegetables or flowers, almost precisely alike to the eye, and therefore liable to be the subjects of mistakes, even by the most careful. This applies more particularly to the time of filling, in readiness for distribution, the many thousands of packages, which vary in size from those containing only a few seeds, sold at so much a seed, to those holding a pound or a quart. A pleasant and instructive sight is a visit to a well-stocked seed store just previous to the commencement of the season for filling the orders, which, as I intimated above, it will soon be our province to give, making the seedsmen jubilant or otherwise, according to our carefulness and liberality in doing so.

Catalogues are now sent out so freely that many people secure, by writing for them, two or more, sometimes half a dozen, from as many different seedsmen. In the case of a person starting to sow or plant, or intending to discard a former supplier for cause, this is well enough to enable him to make a choice, which, in the event of its proving satisfactory, it is his best policy to stick to; unless, perhaps, where he is making a specialty of some particular crop in which a certain seedsman is the acknowledged leading dealer, when it is natural to suppose that he would get the best article from headquarters. But, as a general rule, it is safest to send your order regularly to the firm whose goods, after a fair trial, have given you good average results. The firm, flattered and encouraged by your yearly succeeding orders, renews its endeavors to add to the reputation its seeds seem to be gaining, and takes special pains to please its permanent customers, thus forming a mutual benefit concern.

It is urged by those who are in the habit of making an annual collection of catalogues that the prices of different houses vary greatly, and that, therefore, they wish to ascertain the cheapest market to buy in. This is an error. The prices charged by every responsible firm are made according to the cost of the seeds to them, and while it does not follow that cheap seeds are always poor ones, it is not wise to withdraw your regular custom because the prices for certain seeds sometimes happen to be high. Your seedsman, selected on account of his uniform supply of good seeds, will keep his figures as low as possible, owing to the great competition in the business and a desire to increase his share of it. The seasons, according to their good or bad influence on the seed crops, are the cause of much fluctuation in prices, of which onions and sweet corn afford conspicuous examples. Generally, a catalogue the whole of whose contents is quoted low, evidently with a view to undersell, had better be laid aside for future reference if required.

There are some, also, profusely illustrated with highly-colored pictures of vegetables and flowers accompanied by glowing descriptions of these monster specimens which can easily be duplicated, so it is stated, by an investment in the seeds offered for sale. Such publications are apt to be the cause of much disappointment to those unversed in the culture of crops. Now, too, that seeds can more easily than ever, owing to the reduction of postage by one-half, be procured direct from the growers, there is no need for resort to the irresponsible grocery store. Novelties, nearly always over-rated, are to be found in every catalogue, and if your dealer's list of them is not too long, invest in them on a limited scale; the outlay will not be great and it may afford you much pleasure and possibly some profit. It is by such means that valuable varieties are discovered and disseminated. If you recognize among them some old friends, no harm is done; if the rest refuse to be "novel," why, try some more next year.

Make up your mind how much ground is to be planted with each kind of vegetable or flower, and calculate accordingly the amount of seed required, ordering sufficient to allow you to err on the side of thick sowing rather than thin; it is better to have no surplus which you will be tempted to save for the following season, since there are few seeds, when kept over, which give as good results as those ordered fresh every year. And, in making your order, deal straightforwardly; do not make petty reductions, claim discounts not mentioned in the catalogue, or forward money for seeds at prices quoted by other firms. Should the seeds you receive gain your approval, recommend them to your neighbors, advising them to send for catalogues, and you will find you will lose nothing by so doing, for an enterprising seedsman is not slow to appreciate and reciprocate such favors. You should also make sure, before blaming your dealer for the failure of his seeds to germinate or to yield profitably, that you yourself are well posted as to the proper time and method of planting each variety, as well as its subsequent requirements.

One word for the employés, upon whom depends, in no small degree, the satisfactory filling of your order. Above all things write legibly; if you cannot do so, seek the aid of some one who can. Read carefully the directions given and comply with them as much as possible, more especially in regard to forwarding money and the way you wish your supplies to be sent. Write down each kind distinctly in the order given in the catalogue; carry out the prices, sum up the total, and, in fact, do the whole thing in a business-like manner, by which you will be the more certain of receiving a correctly filled order. In case of any mistake, notify promptly, that it may be rectified while the circumstances are fresh in the memory, so that when, as is often the case, a line of thanks is received for the prompt and gratifying completion of the order, the employé appropriates the compliment, while the seedsman congratulates himself upon his ability to please his customers. J. H. C.

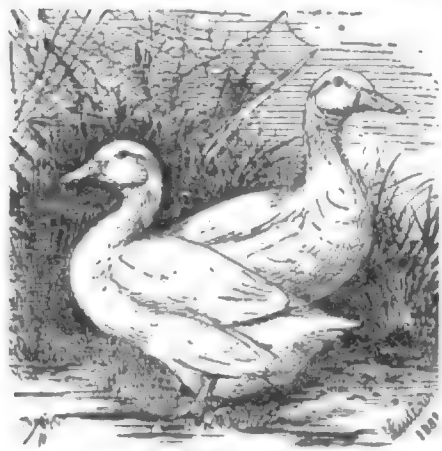
Minnesota State Society.

This society began its 20th annual meeting at Minneapolis, Jan. 15th, continuing through four days, with evening sessions, discussing with spirit and earnestness the various topics presented.

The first day was spent in preliminary business, and arranging a handsome exhibit of potted plants and cut flowers from R. J. Mendenhall's greenhouses, besides apples, grapes, jams, jellies, honey and pickles, together with a fair show of vegetables.

The president, WYMAN ELLIOTT, opened the work on Wednesday by introducing the venerable Col. J. H. Stevens, who read a paper on the "Wild Fruits of Minnesota." In the afternoon, S. H. Kenney presented a paper on the "Present Condition of the Amber Cane Industry," which was followed by a vigorous talk from Prof. E. D. Porter of the State University, on the great competition exhibited in the manufacture of sweets throughout the world. He paid his compliments to the non-protectionists and the spurious-sugar makers, who gave the people starch treated with sulphuric acid, calling it sugar or golden drips syrup. The event of the evening was an illustrated lecture on "Carnivorous Plants," by Dr. Otto Lugger of the State Experiment Farm.

At succeeding sessions, other papers were submitted, followed by discussions on "Bee Culture," "Grape-Growing," "Rose Culture," "Small Fruits," as strawberries, raspberries, currants, &c., and on the "Sugar Beet." Mr. Frank H. Carlton read a concise and instructive paper on the "Care and Culture of Bulbs."



AYLESBURY DUCKS.

A pleasant feature of Thursday evening was a spirited paper by Mrs. V. H. Campbell on the "Ethics of Horticulture." Mrs. C. was complimented by being made an honorary member of the society for five years. Prof. W. W. Pendergast of the State Agricultural School presented a paper on "Agricultural and Horticultural Education in Minnesota." A. W. Latham represented the grape-growing interest of the Lake Minnetonka district by a paper on "Diseases of the Vine," dwelling especially on mildew.

The officers were reëlected.

From evidence brought forward at this meeting from almost every county of the State, it would seem that all horticultural interests were receiving earnest attention, and that during the past eight years, particularly, horticulture had made great advancement.

Minneapolis, Jan. 21. M. M. P.

The Entomologist.

Corn and Cut-Worms.

An incident bearing on this subject, now undergoing a good deal of discussion in some places, may afford some instruction to young farmers. Some years ago, I planted in drills with a planter, six acres of corn on inverted sod; and being absent afterwards some days did not return till the crop was several inches high, when I discovered that at least two-thirds was destroyed by cut-worms. There was not enough left for half a crop. As the planter could not be run in the same rows again, without destroying the remaining corn which I was unwilling to lose, I directed the workman who had the field in charge to replant by running new rows between the old ones. "But," said he, "this will make the rows only twenty inches apart, so narrow that we can't cultivate 'em." I told him we had made provision for that difficulty, and directed him to go ahead. The cut-worms had mostly gone by the time the new rows made their appearance; and before they had come up, I directed the man to go over the whole with the smoothing-harrow, the first planting being nearly a foot high. "Why," exclaimed the man, "you will kill all the corn that is left, to harrow right over it that way!" He had never seen the smoothing-harrow before, and did not know how it operated. He did as directed, however, and when he came in at night, said, "Well, I have laid it—it's done for!" He supposed that by bending over the plants he had killed them, but admitted a day or two later that they were all right again. The operation was repeated after the second crop was several inches high, and the older plants over a foot. The harrow did not destroy one plant in fifty, and the loss of a greater number would have been better, as they were rather too thick. They all grew up together, and the season favored a well ripened crop. The harrowings had kept the field clear of weeds.

I resolved next year to avoid all this extra work by destroying the cut-worms. As expected, these depredators began their work as soon as the young plants were up. I placed two active men in the field, to trace at every cut plant the destroyer and to kill it by digging. This operation was repeated three times in the course of a few days, till no more cut worms were found. The labor amounted to four full days' work, worth six dollars in all. Several hundred cut-worms were killed, and a full crop of corn, amounting to about three hundred bushels, was saved. In other words, each man's work saved seventy-five bushels daily. This was an extreme case; but I have always found this the most economical way to save the crop. Traps for catching cut-worms have proved slow, imperfect, and less satisfactory than prompt and ready attack. OLD FARMER.

The Poultry-Yard.

Aylesbury Ducks.

In this country, at least, the Aylesbury is regarded, and rightly, as the most profitable of all varieties of ducks. Though it is hardly so prolific as the Pekin in number of eggs laid, and though it does not attain the size of the Rouen, yet for early marketing it is certainly the most profitable, for it can be made fit for the table very rapidly indeed, and will attain killing weight some weeks sooner than either of the breeds named. Most of the ducklings marketed in the spring are under eight weeks old, and I have frequently killed ducklings of the age named weighing 4 to 4½ pounds. Only a rapidly maturing bird could grow to this size in the time named, and this is the great feature of the Aylesbury duck. Consequently it has special quality of its own, and in the early part of the year, when every day's delay in marketing may mean a reduction in price realized, this is a most important matter. Ducklings increase in value until the last week in May, when they take the converse track, and the difference in returns of May 15th and June 15th is remarkably great. Therefore, as the fact is, if Aylesbury and Rouen ducklings were hatched on the same date, the former in time to be ready by May 15th, the latter would probably not be ready until June 15th, so that the advantage the Aylesbury has is most apparent. In common fairness, it must be mentioned that the Rouen attains a much greater size when older, and for Christmas ducks it is usually preferred. In fact, each breed has its own place. Hence we find that nearly all the ducks bred in the Vale of Aylesbury are for the early markets. The ways and methods of this vast business I have already described in your columns (Feb. 15th, 1888), and I need not refer to it again now.

In general shape the Aylesbury very much resembles the Mallard and the Rouen, except that it is rather longer in the body, and both in reality and appearance does not seem so deep in keel. The head is long and snaky, and the tail pointed, with the curled feather which is characteristic of the drake. The legs are placed midway in the body, which seems to be equally balanced on them, giving the boat or gondola shape, which is a distinguishing feature between the Aylesbury and the Pekin. The plumage is pure white throughout, and the lustre of some of the specimens shown is very wonderful. This season the exhibits of Mr. Henry Digby of Birchencliffe, Huddersfield, have been indeed remarkable in this respect, and he has won prizes at all the leading shows with wonderful birds.

With reference to the bill of the Aylesbury, about which so much has been written, the secretary of the (English) Waterford Club recently wrote: "The bill is the great point of the Aylesbury, and very few can exhibit specimens perfect in this respect. The color requisite for the exhibition pen is a very delicate flesh tint, with that pink semi-transparency seen in the nail of an infant. The tint must be decidedly pink, not a delicate orange or yellow. It has been said that Aylesbury alone can produce the bill to perfection, as the gravel found in the streams there is very clean, and has the peculiar property of imparting this fleshy tint. There may be a certain amount of truth in this, but it is a fact that birds which have never seen Aylesbury are produced and shown with the proper tint; and it is also a fact that the town of Aylesbury has sent forth birds with bills anything but the proper color. To insure success, plenty of water, clean gravel (free from anything of the nature of iron), and plenty of shade are necessary. The sun is the great enemy to the bill, and the plumage also, for it turns both yellow. A certain amount of risk must be run during the breeding season, for confinement at such a time would scarcely do, but with care the thing may be managed without much difficulty."

Of course these points do not require to be so strictly adhered to in the case of market ducklings, but they should be kept in mind when selecting stock. There is yet another point, namely, that pure-bred stock always bring more when sold alive for breeding purposes than do cross-breds; and it is always a good thing to have a character for fine stock, for in that case neighbors and others will come for birds when they require them. While, therefore, it would be ridiculous to pay attention to such matters as the color of the bill for ducks to be killed, and while I think too much stress is laid upon the color of the bill in any case, I do not think it should be altogether ignored. Probably if neglected it would degenerate into yellow, and be accompanied by coarseness of flesh.

As it may be helpful to some readers, the following description of how ducks for exhibition should be kept, written by one of our leading English exhibitors, may be given. Mr. Butterfield, the gentleman in question, wrote some time ago in the Stock Keeper: "I have no running stream of water, my ponds being filled from a well by a force pump. I always keep young ducks, after the growth of their feathers, in houses or sheds, out of the sun, allowing them liberty to their pond for half an hour at each end of the day. They can thus be kept in fine form, equal to that of any specimen from Aylesbury. Of course, it is necessary to have plenty of troughs with fine gravel in, and clear water *ad lib.* The beautiful flesh color of the bill can be preserved in this way. Old birds cannot be got into order after breeding till they have shed the old skin of their bills, when, of course, the same specimens must be taken. I have had them equal to any shown by those residing in Aylesbury, and have had birds even from there with very yellow bills."

The Aylesbury is most valuable for crossing, and exercises a very great influence in improving the quality of flesh and the early maturity of the progeny. Some time ago a breeder told me that by crossing Aylesburys into his Pekins he obtained birds two pounds heavier at the same age, than the pure Pekins. Such a result is important, for the reasons already stated.

H——, England. STEPHEN BEALE.

Rye as a Feed, p. 69.—I am glad to see the question put with regard to rye as a feed for poultry, and whether it is a good egg producer. I shall read answers with interest, as I have just stopped feeding my poultry on rye, with one-fourth buckwheat, for their breakfast; for a worse looking set of hens I never saw. I have a hundred Plymouth Rocks, nearly half of them last year's pullets, now full grown. I keep them in three houses, one of which has a glass side toward the south. I see that these houses are kept clean, and the earth floors constantly spaded over, where the hens delight in dusting. Living on a farm, they enjoy the wide range, and scratching in the barnyard. They have corn for their suppers. Since I have stopped the rye I feed bran, mixed with a little cattle powder, in the morning. A bucket of skim-milk is used daily, and every few days I give cracklings from a compressed cake bought for the purpose. I get but four or five eggs in a week, while my neighbors wonder, and tell me they get eighteen and twenty a day, though feeding nothing but corn. This has certainly been an "open winter." Now I shall be glad to know whether my troubles are owing to "rye as a feed."

Howard County, Md. B. C. H.

New Advertisements.

Adams, Luther ..... Farm for Sale.
Anderson, R. D. ..... Pair Ponies.
Armstrong, Thos. ..... Young Short-Horns.
Bartable, A. N. ..... Farm for Sale.
Borden, R. A. ..... Guernsey Bull Calf.
Boyer, Geo. W. ..... Hay Wanted.
Box 2 ..... Situation Wanted.
Burpee & Co., W. Atlee ..... Cattle and Sprouty Pigs.
Babcock, J. L. ..... White Scottish Oats.
Clark, Judson E. ..... Jerseys.
Cloud, Dr. ..... Bucks Wanted.
Calder, George ..... Jersey Heifer Calf.
Curtis Pub. Co. ..... Ladies' Home Journal.
Croasdale, H. A. ..... Bronze Turkeys, &c.
Douglas & Son, R. ..... Forest Trees.
Edgerton, James ..... Small Fruit Plants.
Ellwanger & Barry ..... Nursery Stock.
Elwell, Wm. ..... Farm for Sale or Exchange.
Emery & Co., J. C. ..... Creamers Wanted.
Fellows, J. P. ..... White Scotland Turkeys, &c.
Garfield, A. C. ..... Guernsey Cows.
Glimmer, Neil ..... Stock Insurance Co.
Harper & Bro., Warren ..... Commission Merchants.
Hubbs, Wallace L. ..... To Breeders.
Hunt, Thos. H. ..... Jersey Heifer Calf.
do. ..... Orchard Seed.
Howatt, Gerald ..... Situation Wanted.
Hopkins, Wm. H. ..... Jerseys.
Henderson & Co., Peter ..... Guide for the Garden.
Hubbs, Wallace L. ..... Service Stallion.
Jones, Mrs. R. M. ..... Jersey Calves.
do. do. ..... Jersey Bull.
Jarrard, Gen. W. F. ..... Seed Catalogue.
Knowles, P. H. ..... Holstein Privileges.
Kearney, Geo. H. ..... More Wanted.
Lovett & Co., J. T. ..... Fruit & Ornamental Trees.
Lagoda Mf'g Co. ..... Post Hole Digger.
Merriweather & Annis ..... Seeds.
Myers, Geo. H. ..... Jersey Cow.
Meehan & Son, Thomas ..... Nursery Stock.
Moore, L. H. ..... Chester White Pigs.
Nott, Richard ..... Seeds.
Packard, L. ..... Farm for Sale or Exchange.
Philpott, John ..... Situation Wanted.
Price & Reed ..... Seeds.
Priest, C. M. ..... Jap. Buckwheat Wanted.
Ramsden, M. ..... Scotch Collies.
Reifsnider, Jesse ..... Light Brahmas, &c.
Reid A. H. ..... Creamery Supplies.
Roesch, Louis ..... Grapevines.
Smith, Ezra G. ..... Small Fruit Plants.
Stuart ..... Help Wanted.
Sedgwick Bros. ..... Steel Wire Fence.
Timpson, Lawrence ..... Berkshires.
Union Machine Co. ..... Harness.
White, A. H. ..... Jersey Bull Calves.
Wilcox, A. ..... Steel Trap and Radiator.
Wells Rustless Iron Co. ..... Rustless Iron Pipes.
W. W. ..... Farm for Rent Wanted.
Webster, H. D. ..... Situation Wanted.

Subscribers' Wants.

GERATY & TOWLES, *Young's Island, S. C.* Potato Digging Machines.

Pamphlets, &c., Received.

ALLEN BROS., *Palmyra, Wayne Co., N. Y.* Nursery Catalogue; pp. 36, illustrated.

CLARK, J. F., 39 *Liberty St., New-York.* "Beyond the Grave, a Drama;" pp. 24—25 cents.

CLEVELAND NURSERY, *Lakewood, O.* Catalogue; pp. 48, illustrated.

COX & CO., 111 *Sansome St., San Francisco, Cal.* Seed Annual; pp. 24, illustrated.

CROOKETT, A. J., *Ogden, Utah.* Real-Estate Circular.

DANA, C. H., *West Lebanon, N. H.* Illustrated Circular of Animal Labels.

EVERITT & CO., J. A., *Indianapolis, Ind.* Seed Catalogue; pp. 64, illustrated.

FULLER & WARREN CO., *Troy, N. Y.* Very handsome Calendar for 1890.

GRAY, J. W., Box 316, *New-York.* Circular of proposed Monument to Hyatt's Hamiltonian.

HARVEY, WM. B., *West Grove, Pa.* Circular of Farmers' Convention at Kennett Square, Feb. 13-14.

HIDDANUM MFG. CORPORATION, 120 *Water St., New-York.* Catalogue of Seeds and Agricultural Implements; pp. 111, illustrated.

JERRARD, G. W. P., *Caribou, Me.* Catalogue of Seed Potatoes and Seeds; pp. 32, illustrated.

KOLB, B. F., Commissioner of Agriculture, *Montgomery, Ala.* Report for 1889; pp. 30.

LAKE FOREST UNIVERSITY, *Lake Forest, Ill.* Catalogue for 1889-9; pp. 132.

MAPES FORMULA & PERUVIAN GUANO CO., *New-York.* "Mapes Measures, Tree Measures, but Stimulants:" pp. 32.

MICHIGAN AGL. COLLEGE, *Agricultural College, Mich.* Catalogue for 1887-8; pp. 68.

PEPPARD, J. Q., *Kansas City, Mo.* Seed List.

RAWSON & CO., W. W., 34 *&c. Market St., Boston, Mass.* Hand book of Vegetable and Flower Seeds; pp. 104, illustrated.

STATE BOARD OF CHARITIES, *State Hall, Albany, N. Y.* Twenty-Second Annual Report, and Report of Committee on Insane.

STRUBLER, PHIL., *Nogersville, Ill.* Fruit List.

VAUGHAN SEED STORE, 26 *State St., Chicago, Ill.* Catalogue; pp. 96 (quarto), illustrated.

VESTON & CO., 9 *New Bridge St., Ludgate Circus, London.* Live-Stock Almanac for 1890; pp. 156, illustrated—1s.

WALKER, J. B., *Worcester, Mass.* Catalogue of Crystal Spring Jerseys; pp. 144, with portraits.

Inquiries and Answers.

Laborers Required in Haying.—I am thinking of turning a cotton farm into a hay farm. How many regular hands are required for a hay farm of 100 acres, and how many at times of cutting and curing the hay on same? W. C. *Raleigh, N. C.* [How many acres or what portion of your farm will be in meadow? If one-half or 50 acres, you should raise 100 tons of hay yearly, but perhaps it will be only 50 tons. You will probably require at least five or six good active men in haying, and three or four regular hands during the rest of the season; but much will depend on the rest of your farming, and on the machinery and appliances, and on the skill and experience which control or direct them. One good mowing machine will cut the crop, which should be secured gradually in portions of not more than three or four acres a day, or less if the grass is very heavy. Some farmers make the mistake of cutting large quantities at a time, and lose much by inability to house or stack it all before heavy rains.* We have seen hundreds of tons of clover hay ruined, because the owners had more cut at once than they could secure in rainy weather. One machine will cut enough at a time, beginning in the morning after the dew is all off, and ceasing before noon; or else beginning late in the afternoon and ceasing before any dew begins to be deposited: or both. With a hay spreader for heavy meadows, a good horse-rake, a hay-sweep for meadow stacking, horse fork for barn storage, &c., the work may be done in 15 or 20 days by a comparatively few hands—with some men with half the number required by others—not by hard driving, but by good management in applying labor.]

Fish.—Can you tell whom to apply to for young speckled trout, to stock a creek with; and when is the right time to put them in? AN OLD SUBSCRIBER. *Jarvis, Ont.* [There is no public fish-breeding or any fish commission so far as we know, in Canada; the U. S. Fish Commission distributes their fish only to citizens of the United States. Young trout fry can be procured now from dealers in fishing apparatus in New-York; but the Canadian streams are usually stocked by supplies brought from the more secluded localities in Northern Canada. The best season for stocking streams is in July or August, when the fish are becoming pregnant and before the spawning season begins. No doubt a notice to the effect that such fish are wanted through the advertising columns of the COUNTRY GENTLEMAN would bring the information required from private fish breeders in the Dominion. Newly-hatched fry may be procured now and may be put in the streams at once; the cost is about $40 per 1,000.]

Grooming.—Please describe the process of properly grooming a horse. S. L. J. *Washington, N. J.* [Grooming has a wide range, from the hurried farmer's "lick and a promise" to the elaborate dressing of the race horse or the roadster. In good ordinary usage, a careful going over every morning with curry comb and brush and a rubbing down with a coarse cloth or hay wisp at night are the essentials. Except in very cold weather the cleaning should be done outside the stable. Use the comb gently about the bony parts of the animal. A large sponge should be kept for washing off the legs when dirty, and at night after hard work in hot weather this is very grateful. A coarse comb for mane and tail and a pick for cleaning the hoofs complete the grooming equipment. Mayhew, in his "Horse Management," urges the disuse of the curry comb, because so often handled harshly, and a more general use of a simple hay wisp. The subject is too large to cover in a note. We invite comment on special points in grooming from horse-owning readers.]

Broom Grass.—Broom sedge is a pest to the southern farmer. It takes the meadows and pastures completely in two years after seeding, but is easily destroyed with the plow. How can it be destroyed or prevented without cultivating the land? Last winter I cleared 40 acres of ridge woodland, and seeded it with five varieties of grass for pasture. We had a fine season during the spring and summer, and the grass matted the ground completely. However, I soon noticed bunches of broom sedge scattered all over the pasture, and by next summer, it will probably be a sedge field. Wherever a brush-heap was burned, there is not a stalk of sedge, and the grass is thicker and stronger in these places. I assume that the ashes of the burned brush kept the sedge out. If so, what element in the ashes did it? Was it the potash? If so, would not an annual dressing of kainit keep the land clear of sedge? T. S. W. *Knoxville, Tenn.* [Broom grass (*Andropogon*) thrives on a poor and thin sandy soil—what are sometimes termed "sour soils"—which are benefited in connection with other fertilizers with potash and lime. We wish to hear from such of our readers as have been successful with any special fertilizers on this grass, but it must be borne in mind that what is useful in one locality does not always succeed in another. For instance, and which we quote by way of illustration, an English writer says: "I have seen bones applied on grass lands and produce no good whatever; and on the other hand I have seen them used with immense advantage;" and Dr. Voelcker said: "On some soils, more especially on poor light pastures, the effect of bone dust is truly marvelous, while in other localities it does not show any marked effect on meadow land." In the experiment of our correspondent, the potash of the ashes, and probably the lime, produced the resulting benefit, and we advise him to apply wood ashes, if he can get them, to the rest of the field. On small portions he may use other fertilizers by way of trial. In this way better and more reliable information may be obtained than by mere theory. But whatever may be the application used, it would be better to depend for permanent benefit, on at least a portion of barn manure. Have any of our readers any successful experience in exterminating broom grass?]

Cows for Milk.—I have about completed my dairy plant according to ideas found in the COUNTRY GENTLEMAN. It consists of a large barn (stabling 100 cows), with 3 silos 20x30x20, on a farm of 104 acres. My live stock now consists of 30 cows, mostly native and grade Guernseys. I sell the entire production at 6 cents per quart in Warren glass jars. I have a very small cream trade and do not care to increase it. I intend to increase my live stock to 100 cows, and dispose of the entire products as I now do. What kind of cows shall I buy? Does it pay to buy $150 Holsteins for this business, or had I better buy $45-cows (with calf) and sell them to the butcher at $35 when no longer kept at a profit? The ration which I have been feeding for two years is 45 lbs. ensilage, 5 lbs. cut clover hay, 6 lbs. bran, 3 lbs. oil meal. M. S. *Catasauqua, Pa.* [We should not give much consideration to the price the cows will bring for beef when past profitable milking. All machines ultimately wear out; but manufacturers, in making their selections, do not commonly ask what they will bring as old metal when that time arrives. *Present efficiency for the present purpose* (in this case, the economical manufacture of good milk) is what is to be mainly sought. We think our correspondent would probably not go amiss in taking Holsteins, provided he selects them with care, paying regard not only to individual points but to family characteristics; for one Holstein differeth from another Holstein very materially. High grades, carefully selected, might do as well as full bloods; and high-grade Guernseys, Short-Horns of milking families, or Ayrshires, might be preferred by some persons. We are not informed whether special *richness* of milk is likely to be appreciated by our correspondent's customers.]

Butter Ration.—I have clover and mixed clover and timothy hay, and the well cured stalks of planted corn, oat and corn and cob meal. Am not particular about feeding the stalks to milch cows. Shorts or bran (the same with dealers), cost $18, middlings $20, and oil-meal $36 per ton. Have never used cottonseed meal. Butter is worth 25c. per lb. Object, butter. Please give best and most economical ration for good-sized cows, two to ten years old, showing Holstein and Ayrshire blood. E. D. E. *Starkville, N. Y.* [E. D. E. wants a ration for good-sized cows, but says nothing about how long they have been in milk, how much they yield, or anything to give a definite idea of the situation. Rations given under such circumstances must always be more or less at random. He should also have stated what corn, oat and cob meal costs per ton there. It is quite evident that there cannot be a large margin on butter at 25 cts., with the grain food at $20 or more per ton. Yet, with selected cows, that make the most economical use of their food in the production of milk and butter, it probably is the best paying stock which can be fed in that locality. 2. With such selected cows, he will find the following ration an economical one: 10 lbs. clover or clover and timothy; 8 lbs. corn, oat and cob meal; 6 lbs. shorts; 2 lbs. linseed meal. All this ground feed should be mixed together dry, and then mixed with the cut and moistened clover hay. Let it be given in three feeds, smallest at noon. This should produce, with selected cows in full milk, at least 6 lbs. of butter per head per week. To show the digestible nutrients in this ration, the following formula is given, in pounds:

	Albumi-noids.	Carbo-hydrates.	Fat.
10 lbs. clover and timothy..	1.10	6.35	0.23
8 lbs. cut and corn chop....	0.60	4.14	0.20
6 lbs. shorts.....	0.64	2.60	0.17
2 lbs. linseed meal.....	0.25	0.65	0.12
Total.....	2.59	13.74	0.80

Nutritive ratio of 1 to 5. This is a ration for a cow in full milk. If she is giving but a small amount of milk, the amount must be reduced proportionally. The combination is right for cows in full milk or those giving a small amount, but the feeder must feed each according to its wants. E. W. S.]

Acknowledgments.

Communications for publication have been received during the week ending Feb. 6 from Prof. E. W. Stewart [3]—M. C. P.—M. S. Bowles—T. Beeson—Ira W. Hoag—T. S. Baldwin—J. T. F.—S. L.—C. V. C.—Islander—J. H. C.—Henry Hannan—W. R.—H. L. Rose—H. Q. St. George—B. C. N.—Mrs. J. F. Gould—J. J. W. Billingsly—T. Bell—J. F. Mills—Geo. Wickham—E. G. S.—H. F. Smith—Garry Owen Games—C. Hills—William Falconer—D. A. Clapp—James Wood—S. G. Nicholson—Lewis D. Cary—J. H. Page & Sons—Thomas Bewick—Thomas Armor—Mrs. A. L. Potter—Robert Adams—F. A. B.—R. Rensseman—G. W. Parlee—John A. Stoughton—O. B. Potter—Mansfield Milton—C. T. Leonard—R. G. Fuller—Farmer—Morgan Emanuel—Wm. H. Bonsor—Sam'l Fulle—W. R. Hurd—R. Reeder—J. S. Pierson—W. Z. Hutchinson [2]—Lewis F. Allen—A Farmer's Daughter—F. B. Savage—John F. Lawrence—Prof. A. J. Cook—O. S. Tompler—George Slight—George Clendon—James Wood—J. Hannam Clark—Lillian Mayne—L. F. S.—Chas. Lamoreux—H. Clay Ashley—Mrs. R. M. Jones—T. B. Terry—H. B.—T. E. Cross—J. G.—J. S. Rogers—C. S. R.—R. Ryder—J. B.—D. F. Appleton—Rosa Autumn—Mrs. D. R. Campell—C. V. Holster—John Gould—W. W. Farnsworth—C. Sanders.

**** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

**** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Feb. 7, 1890.

Our State Society.—We are glad to say that Mr. WOODWARD, apparently restored to perfect health, felt strong enough last week to resume the care of the office, relieving Secretary *pro-tem.* Smith.

Two Institutes are appointed for next week—Geneseo, Feb. 12-13, and Brockport, Feb. 14-15.

We need hardly call attention to the interesting letter about "Locating State Fairs," contributed to this issue (p. 104) by a correspondent well known for his prominence as a farmer, breeder and exhibitor. His statements with reference to the adoption of the capital of Ohio as the continuous site of its annual agricultural shows, are made from full knowledge and close observation of the history of this experiment. One of our contributors from the same State, who was an invited lecturer at the Farmers' Institute lately held in this city, expressed in conversation the same view of the condition of affairs in which the Ohio State Board of Agriculture is now involved.

In Ohio there were many circumstances unusually favorable for the success of the experiment. The central location of Columbus, with railroads radiating through almost every part of the State, was in itself a great point in its behalf. The movement was undertaken and carried forward by strong hands—with all the support that could be asked, we believe, both from the city itself, and in the popular approval of the agricultural community at large. And when the subject of the permanent location of a State Fair at a single point, has been under discussion, our view of the probably disastrous result of such a course has always been modified by the supposition that in Ohio, at least, it had been attended with exceptional success. But similar results are likely everywhere to follow similar causes; and Mr. HILLS' letter prognosticates what seem to us the inevitable consequences of the proposed attempt in New-York—except that under the varying circumstances of the two States, we should look here for still earlier discouragement and more complete collapse.

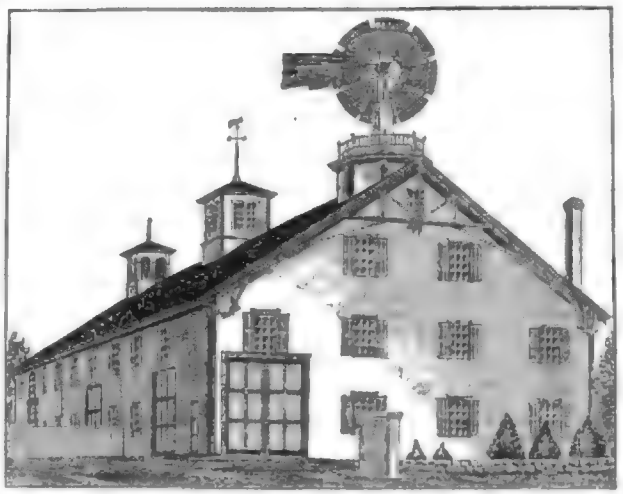
Agricultural Legislation.—The two houses of Congress have agreed on the bill raising the head of the agricultural department to the rank and pay of a cabinet officer, and providing for an assistant secretary of agriculture, to be paid $4,500. The department is not to take in either the weather bureau, the geological survey or the fish commission, as was originally proposed.

The agricultural appropriation bill as completed by the House committee includes $160,000 for seeds as usual, but the commissioner of agriculture is required to supply the seeds directly to the State agricultural experiment stations for distribution by them. This will deprive Congressmen of their usual quota.

—— Bills for the following purposes have been introduced in the New-York State Senate by the members named: Mr. Vedder—Exempting agricultural and horticultural

societies from corporation tax (reported favorably by taxation committee); Mr. Robertson—Allowing towns by vote to return to method of working highway taxes under law of 1873; Mr. Collins—Requiring adulterated lard to be so branded; Mr. McNaughton—Providing for incorporation of mutual live-stock insurance companies. In Assembly: Mr. O'Neil—To prevent fraud in sales of wool; Mr. Cottrell—Protecting rights of discoverers of bee trees; Mr. Mase—Increasing license fee for male dogs 4 months old to $1, and requiring (under penalty of $3 to $7) annual registry of such dogs at 25 cents, moneys to be devoted to paying for sheep killed. The Maynard fertilizer analysis bill (p. 86) was considered last week by the assembly agricultural committee, Mr. Maynard and Dr. Collier favoring it, and representatives of the fertilizer trade opposing certain features which they deem unnecessarily oppressive.

A Rhode Island Barn.—We give herewith a view and plans of a fine barn lately erected near Providence by Mr. WILLIAM H. HOPKINS, who invites readers interested to visit the building. The structure is 60x145, and is so arranged that the owner can drive in and see every animal from his carriage. The basement is stone, pointed on both sides; bottom cemented. It has four cross-walls running through it; 25 posts. The main floor timbers (running the length of the building supported every fifteen feet either by cross-walls or substantial posts on stone foundations) are 6x10 hard pine. The second floor should be the same joist for both floors, 2x9, all 15 feet long. The basement is all above ground on the west, and is ten feet in the clear, as is also the first floor, except the drive-way, which is fifteen feet for high loads of hay. It has a work room heated by hot water, furnished by a large stove with a coil of one-inch gas pipe connected with a thirty-inch kettle used for cooking food and warming water for stock in cold weather. On the second floor are fifty tie-ups for cattle, fastened with chains in the middle of stalls allowing ample room to lie down and lick either side. They have water in front of them at all times. The upper floor is devoted to water tanks, shafting and machinery. There are hay lofts of 300 tons capacity, which are filled from the centre by a grapple fork. Water is supplied by a 16-foot geared Eclipse Windmill capable of producing the following results: In fair winds sawing ordinary cord wood two cuts, one cord per hour; grinding corn and oats into provender from five to twelve bushels per hour; in good winds it will run a corn-and-cob crusher and grinder, at the same time reducing the product of the crusher into fine cob meal at the rate of five bushels per hour. The machinery can be so arranged that it will not clog, and can safely be left to feed itself and grind out the grist.



THE HOPKINS BARN, NEAR PROVIDENCE, R. I.

Live-Stock.—We are indebted to Prof. GEORGE W. CURTIS of the State Agricultural and Mechanical College, College Station, Brazos Co., Tex., for a copy of his new book, "Horses, Cattle, Sheep and Swine—Origin, History, Improvement, Description, Characteristics, Merits, Adaptability South, &c., of Each of the Different Breeds, with Hints on Selection, Care and Management, including Methods of Practical Breeders in the United States and Canada." It is a large-octavo of 370 pages, freely illustrated—we do not know that we can add much more to the pretty full description given by the title-page, which we quote above. The book will be mailed by the author to any address on receipt of $2.50.

Reliable Seeds.—Messrs. PAGE & REED, proprietors of the old "Albany Seed Store," which, established in 1831, has maintained an enviable reputation for more than half a century—send us their new Catalogue of Flower, Field and Garden Seeds, a profusely illustrated octavo of 40 pages, which readers likely to need seeds will do well to procure. An advertisement appears in another column.

Personal.—Mr. EMMETT S. GOFF, Professor of Horticulture at the Geneva, N. Y. Experiment Station, has been elected to the same position in the University of Wisconsin. We believe Mr. Goff is the only remaining member of the original staff of the Geneva Station, as organized in 1882. He enters on his new duties April 1.

Obituary.—We regret to learn of the sudden death of Mr. HENRY E. MAXWELL at San Mateo, Florida, Jan. 21, aged 66. He was a member of the well known nursery firm of T. C. Maxwell & Bros., Geneva, N. Y., where he has been engaged in business about forty years. He had an orange grove of 75 acres at San Mateo where ill health has compelled him to spend the last fifteen winters. Quiet yet genial in manner, he was warmly loved by those who knew him best.

Earth Closets.—No subject of more importance could secure discussion in your paper, and nowhere else could the subject find a place of publication more calculated to reach those needing enlightenment upon it. Universally used, earth closets would materially lessen the death rate from preventable diseases, and add immensely to the comfort and decency that no farmer need be so poor as not to possess. In the Jan. 24th issue a good point is made in the direction of economy by "An Old Reader," who proposes plans on a more modest scale than those offered in the suggestive article of Mr. Terry in a previous issue. I must beg to demur at one point in his plan, however. He appears to propose no receptacle for excretions, which are simply allowed to accumulate on the surface of the ground and then covered with dry earth. This is bad advice—particularly bad with the earth closet, since it often is, and he himself advises it, put close to the house. Saturation of the soil would be inevitable, and ultimate percolation through the house walls and defilement of the house air, are often found as one of the unsanitary conditions of country homes. All this would be obviated by placing under the closet a water-tight receptacle, such as a kerosene barrel sawn in half. This can be set so as to be drawn out and emptied with the least possible trouble, and its expense is certainly inconsiderable. I hope no one will construct any sort of a closet without putting a water-tight receptacle beneath it, and by all means do it if the closet is placed in close proximity to the house. F. C. CURTIS.

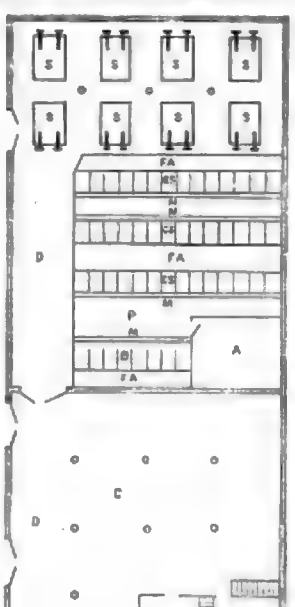


FIG. 1.—GROUND FLOOR.—A, Paddock; B, Calf Stalls; C, Storage for Tools; C S, Cow Stalls; D D, Driveways, 15 feet wide; M, Office, 15 feet square; F A, Feed Alley; M, Manure Trough; O, Grain, 15 feet square; P, Passage; S, Silo Trap.

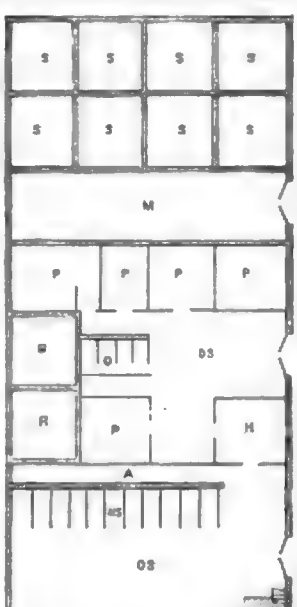


FIG. 2.—BASEMENT.—A, Alley; M, Steples; T, Feed Troughs; g g, Gutterdrains; H, Hay; B, Harness Room, 15 feet square; H S, Horse Stalls; M, Manure Space, Level; O, Grain; O S, Open Space; P, Paddock; R, Roots, 15 feet square; S, Silo.

Seed Corn.—I enclose altered advertisement for Feb. 7. The returns from advertisement of Jan. 24 have been as satisfactory as advertisements usually are when inserted in your paper. I have made but three sales so far under 1 bushel, the others ranging from 5 to 10 bushels; average price, $1.35 to $1.50 per bushel. I have reduced price on bushel to clear it up by Feb. 21. CHAS. H. THOMPSON. *Otsego, Pa.*

Another Old Subscriber.—I have on hand and well bound your first volume of CULTIVATOR, which I value highly, it being sent me in 1835 by my old relative, the late D. J. Preston of Philadelphia, since which time I have been a greatly interested reader, though I think the paper was for a few years in the name of my long since deceased brother. I have not kept all the papers since, as I sometimes have a chance of doing good by giving them away after reading and re-reading many of them. *Montgomery County, Md.* EDWARD LEA.

New-Jersey.—At the 16th annual session of the State Board of Agriculture, at Trenton last week, the following officers were elected: President, EDW. BURROUGH; vice-president, W. R. Ward; treasurer, D. D. Denise; secretary, Franklin Dye, Trenton; Executive Committee—Dr. George H. Cook, W. R. Lippincott and Morris Bacon. Full report next week.

From Recent Letters.—Your agricultural paper is the best I have seen, as it gives the best methods of farming, and the experience of the best farmers in the country, and is practical in its bearings. O. C. THAYER. *Leyden, N. Y.*

—I like your paper the best of the six agricultural journals I take. T. HALL. *Garfield, O.*

—Every farmer in the country should subscribe for the COUNTRY GENTLEMAN. S. M. CATHCART. *Alberta Sta., Ala.*

Farm-Yard Notes and Items.

An unfortunate error in Mr. GEO. CALDER'S advertisement on p. 81, made Baron of St. "*Albert*" (instead of "*Lambert*") the sire of Baron's Pride. The advertisement is printed correctly this week.

The "Informal List" of California Trotting Stock referred to in the Messrs. KELLOGG'S advertisement, is a closely printed pamphlet of eight pages containing a great deal of information, carefully tabulated. Following is the programme of the sales to be held by the firm, as at present arranged:

Trotting Stock, March 6 to 8.—California combination.

Trotting Stock, March 18 to 22.—Twelfth annual special combination.

Jersey Cattle, April 26 to 30.—Tenth annual special combination.

Trotting Stock, April 30 to May 3.—Second spring sale.

Trotting Stock, May 7 to 10.—Special stud sale.

Carriage Horses, &c., May 28 and 29.—Third spring sale.

The value of Hampshire-Downs for crossing with other breeds in producing lambs for market and superior mutton in mature animals is yearly shown in the great English shows. This year but repeats the result in many previous years in this respect. At the Great Smithfield show, already described in these columns, the cross-bred prizes went to crosses of Hampshire and Oxford-Down, and Hampshire and Cotswold. The former were three-quarters Hampshire blood since the Oxfords are themselves a Hampshire cross. If the merino and grade flocks of the United States are ever to be brought up to good mutton production, the blood of a strong and prepotent mutton breed must be used.

Mr. LEWIS F. ALLEN of Buffalo, N. Y., has sold to Henry Talcott, president of the Jefferson Creamery Company, Ashtabula Co., O., his first prize Guernsey bull at the late Buffalo exposition, and 17 high-grade Guernsey heifers. Mr. Allen retains one thoroughbred Guernsey bull on his farm for use, in grade breeding, with the few cows still left—the most valuable in his experience for exclusive purpose of butter production.

Apropos of the goat-and-sheep cross matter, page 32, we find that Phillips Bros. of Glover, Vt., say, in the Sheep Breeder and Wool Grower:

"We have looked that goat-and-sheep cross up, and find it all a fraud. The man that had the ewe claimed to be half goat has a male goat, and he tells us that he has tried to raise some lambs, half goat and half sheep, for the last two years. He has bred 20 or more ewes to him each year, but as yet he has not succeeded in getting even *one* lamb."

Messrs. J. E. PAGE & SONS, Amherst, N. S., write to the COUNTRY GENTLEMAN, Jan. 23:

"On the 18th our cow Carlotta 1266 (22 lbs. 9¼ oz. in seven days) dropped a very fine heifer calf by Clothilde 24's Artis, whose dam Clothilde 2d, and g. dam Clothilde, have a combined average milk record of 24,800 lbs for a year, and an average butter record of 26 lbs. 12 oz. in 7 days. Carlotta is the dam of Carlos, that sold for $1,000, when a calf, at the New-York Dairy Show in 1887, also of Netherland Carl, winner of first prize at Iowa State Fair when competing with Tritomia's Mercedes Prince; also made a clean sweep of the entire northwest; his full brother, Prince Imperial, was equally successful in Kansas."

The Grazier and Breeder.

Potatoes as Food for Animals.

EDS. COUNTRY GENTLEMAN—I notice with interest the article of that veteran and venerable farmer, Mr. TALCOTT, p. 72, calling in question some of my advice on feeding potatoes, and also giving some valuable experience of himself and others in feeding raw potatoes, for which I thank him. This is the right way to discuss the question. I will try and explain the true bearing of some of his facts.

First, I must confess to Mr. Talcott that my language concerning the digestibility of raw potatoes was rather strong. The tendency to avoid all labor in the proper feeding of animals is so great that the doctrine must often be laid down very firmly to reach the case. But that my friend may see that this is not a recent discovery of mine, I will give the statement made some 50 years ago by Raspail, an able writer upon the chemistry of foods. He said: "Recent experiments prove the advantage that results from boiling the potatoes which are given to graminivorous animal for food, for a large proportion, when given whole in the raw state, passes through the intestines perfectly unaffected, as when swallowed."

Boussingault in his Rural Economy gives many experiments made in 1841, and says of potatoes: "They are boiled for horses and hogs. The best mode of dealing with them is to steam them. They are then crushed between rollers, or broken with a wooden spade, and mixed with chaff before feeding." He then discusses the point as to whether the cooking increases the "nutritive equivalent," as he calls it, and says: "Nevertheless it is quite possible that the amylaceous (starchy) principle is rendered more readily assimilable by boiling, and that by this means the tubers actually become more nutritious. Some have proposed to roast potatoes in the oven, and treated in this way they answer admirably for fattening hogs, or even oxen. In this state they may perfectly supply the place of corn [grain] in feeding horses and other cattle."

His experiments led him to believe that 280 lbs. of potatoes balanced in nutritive value 100 lbs. of hay. I mention this to show his view of comparative value, but it must be understood that the fine meadow grasses, which he calls hay, were more nutritious than our hay, made up with a single grass, such as timothy.

And now to the point of digestibility. It was the custom in early times, as Mr. T. says, to cook the potatoes for hogs, and why? The digestion of the hog is very strong, but it was found that although capable of digesting grain unground better than cattle, yet the hog could not digest the potatoes raw! This is certainly a strong point to show that the potato is difficult of digestion in the raw state. The hog can digest raw carrots, beets, &c., showing that these are much more easily digested. We say of straw that it is indigestible, that is, difficult of digestion, containing so much woody fibre. Raw potatoes when properly mashed can be digested by ruminating animals much better than animals with one stomach, because it has the macerating process of the first stomach and remastication. Let us examine the cases mentioned by Mr. Talcott. The most remarkable case is that of the yearling bull, but as he says, "this was no doubt an exceptional case." It is certainly extraordinary that he could eat two bushels of potatoes per day. If the bull could really digest 120 lbs. of potatoes, it was equal to 80 lbs. corn meal, and certainly would show where his 100 lbs. of rough tallow came from. The ten steers, mentioned as fed by a young man in Duchess county, gained remarkably, and this gain can be explained when we consider the fact that the potatoes were crushed with a mallet, and the meal was mixed with them. This separated the particles of meal and gave such bulk in the stomach that after remastication it was completely digested, and if the droppings had been examined no meal would have been found to have passed undigested. It is stated that he fed only one-half as much meal as his father to a larger lot of better steers. Yet this half, when perfectly digested, produced as good or a better result than the larger quantity, and it is probable that when fed in this way the potatoes were also well digested, and this produced the extra gain.

This strongly illustrates how wasteful is the way of feeding corn meal alone.

The case of the cow Mr. Talcott mentions as fed by himself, gaining 3 lbs. per day, for 90 days, is explained in the same way. He fed the potatoes and meal mixed together, and it was all digested, and the potatoes in this case kept the digestive organs of the cow in a healthy condition, thus accounting for the remarkable gain.

Only a few months ago an acquaintance related to me the effect of feeding raw potatoes to his cows. When he fed a small amount (4 quarts at a feed) the production of milk was satisfactory, but when he fed much more (because the potatoes were plenty) the milk very decidedly decreased in quantity and his cows began to scour.

I have reports from a dozen personal acquaintances giving the same experience in feeding raw potatoes to milch cows, and as this quite agrees with my own experiments, I advise feeding only a small quantity—raw to milch cows and a still less quantity to horses. Now, in fixing the value of potatoes when fed to the best advantage, I presume Mr. Talcott would not contend that the dry matter in potatoes has a greater feeding value than corn meal. Well, 75 per cent. of the potatoes is water, consequently there is but 25 lbs. of dry matter in a bushel of potatoes. Fifteen cents would be one cent per pound for the dry matter. This would, in most places, purchase the same amount of corn meal. Potatoes at 25 cents per bushel would be equivalent in $33 per ton for the dry food contained in them. The comparison is made with corn meal, because the dry food in the potato is composed of the same nutrients, and in nearly the same proportion, although it has a slightly lower nutritive ratio than corn meal.

E. W. S.

Soiling Crops and Feeding.

EDS. COUNTRY GENTLEMAN—I propose soiling my cows next year, on account of no available pasture. I live a few miles from the city, and sell my milk there at 6c. per quart in summer and 7c. in winter. Which will be the most profitable to raise (quality and quantity of milk considered), oats cut in milk stage, millet for hay, or southern fodder-corn green? I want to feed the same fodder (cured) during winter if possible, but do not want to feed corn meal—prefer bran, crushed oats, cottonseed or linseed oil meal to make up a good ration to give a good flow of milk. My land is a light sandy soil, and I understand I cannot raise millet without stable manure, and as I have just moved on to place, my manure this spring will be limited. Would commercial fertilizers succeed with millet or oats or fodder-corn? Last year I was very successful with them.

Providence, R. I. J. T. K.

J. T. K. appears inclined to carry his eggs all in one basket, as he wishes to choose one out of several crops for soiling which shall be decided as best, and he proposes to cut and feed green and also to cure for winter fodder. If this is his view he should correct it as soon as possible. There is no crop that should be raised in exclusion of all others. On the contrary the study should be to raise as many crops as can be made profitable. Variety of food is of the first importance in milk production, as well as in all animal production. K. must remember that green oats, millet and southern fodder corn are all good, and should all be profitably raised upon the soil he mentions. Oats and peas (sown as early in spring as they can well be got in), make a most excellent soiling crop. Can begin to cut as soon as the peas are in blossom, and continue to cut till the peas are in the milk—then, if there is a surplus, cut and cure for hay. Sow with drill two bushels of Canada field peas with one bushel of oats, having a stiff straw and not liable to rust. Drill in with seed 250 to 300 lbs. of a nitrogenous phosphate, shown to be worth its cost by analysis of Connecticut Experiment Station, and K. will no doubt get a valuable crop of oats and peas, having about the same feeding value per weight as green clover.

2. The same fertilizer should give a crop of millet, and also a good crop of fodder corn. These will all be needed, and may be sown so as to come on at different times. He need not fear raising too much, for the surplus will all be needed for winter fodder. If he is to remain on the farm, a crop of winter rye, sown early, will be of great service for spring feeding. If it gets too large in the fall he may pasture moderately close. The root having become well established, it will bring on a vigorous growth in spring. And here it may be mentioned that the Germans are said, sometimes, to pasture it the first summer, and thus carry it over to mature a crop the second summer. Rye makes very good pasture, and probably the same seeding might be used two years as pasture. When sown thickly it covers the ground as well as any of the grasses.

3. K. having raised his soiling crops and laid in his winter fodder, we may consider the grain foods adapted to make up the balance of the ration. He does not wish to feed corn meal, and it is not one of the most appropriate foods unless the fodder were wholly pea and oat hay, and then 3 lbs. of corn meal would be sufficient in the combination.

With millet or rye hay he may feed 14 lbs. hay, 6 lbs. wheat bran, 4 lbs. ground oats, 1 lb. cottonseed meal and 1 lb. linseed meal. The linseed meal is necessary to balance the effect of the constipating cottonseed meal. If short-cut corn fodder is used, increase the bran 1 lb. and cottonseed meal 1 lb. K. can afford to feed well with milk at six or seven cents per quart, for the milk of a good fresh cow should bring at least 75 cents per day.

E. W. S.

Indiana Breeders' Associations.

Jersey Cattle.

The Indiana Jersey Cattle Breeders' Association held its seventh annual meeting at Indianapolis, Jan. 22. The president, D. H. Jenkins, said: "Jersey breeders are all dairymen, but all dairymen are not Jersey breeders. A few years ago people were breeding Jerseys for mere speculation, and not for the service they could get out of the cattle. Now, Jersey breeders and dairymen are very closely allied." Touching upon butter yield, Mr. Jenkins said that ninety-two registered cows had made an average of over 13 lbs. per week during the last year, while twelve had averaged 20 lbs., and one had made the record of 33½ lbs. of butter in one week. The speaker referred to the high figures asked for Jersey cattle with spotless pedigrees. The highest price paid the past year at public auction was $706 for a heifer at the Tennessee State sale; four calves sold at an aggregate of $1,790. At the Kellogg Sale in New-York, sixteen heifers in one lot averaged $146. Twenty-one head of milch cows averaged $282. Five animals, bred by T. S. Cooper, averaged $427. Two cows sold for $900 each.

Dr. D. W. Voyles treated of the manufacture of fine butter, giving his own experience.

Mrs. Kate M. Busick read a paper on "Our Jersey."

Prof. F. S. Short of the Wisconsin Experiment Station read a paper on "Testing Milk and Cream."

The officers elected for the ensuing year are: President, D. M. JENKINS, Greenwood; vice-president, D. W. Voyles, Crandall; secretary, W. C. Smock, Indianapolis; treasurer, H. H. Crecroft, Southport, Ind.

Wool-Growers.

At the fourteenth annual session of the wool-growers, the president, S. W. Duregan of Franklin, said that the wool-growing interest of the State was in better condition than for many years past. The number of sheep in the State he said was 1,060,000—50 per cent. averaged common, 25 per cent. cross-bred, and 25 per cent. pedigreed. The success of the business depends largely upon the thoroughbred idea. He recommended the feeding of sheep grain to make the finest fibre. The consumption of wool increases in proportion as the people become highly civilized. In dress goods, wool and silk are displacing cotton fabrics. There is an increasing demand for fine, lustrous wools, which must be met by the wool-growers. The speaker spoke of the increased demand for the flesh, so that there were two sources of income from the flocks. Sheep are less liable to disease. Pneumonia may sweep off great herds of cattle in a single month, or cholera blight the pork prospect, while sheep are comparatively healthy. The meeting unanimously endorsed the action of the United States Senate in giving increased protection to the wool-growing industry, and adopted a resolution requesting our Congressmen to give the Senate bill their support.

Gov. Hovey was introduced, and spoke briefly of the importance of the sheep interest. He said in conclusion: "I should like to see Indiana with flocks on every hilltop. Your industry is most promising, and well deserves the protection you claim for it."

The following are the officers elected for the year. President, L. N. COTTON, Trader's Point; vice-president, Calvin Cowgill, Wabash; secretary, J. W. Robe, Greencastle; treasurer, J. L. Thompson, Arcania; executive committee, Col. Fielding Beeler, Indianapolis; S. W. Dungan, Franklin, and Robert Mitchell, Princeton.

Short-Horn Breeders.

The eighteenth annual session of the Indiana Short-Horn Breeders' Association met, Jan. 24. There was a large attendance. There are said to be over 400 members of the society in the State. A paper on "Points of a Good Short-Horn" was read by R. H. Philips. The association was briefly addressed by Gov. Hovey, who emphasized the point that "blood will tell"—"will always pay in the long run." Referring to the need of legislation in stamping out disease, he said: "With the proper security from disease I believe the United States can rival the world in the production of live stock."

The following are the officers elected for the ensuing year: President, Judge BUCKLES, Muncie; vice-president, E. S. Folsom, Indianapolis; secretary, H. C. G. Bals, Indianapolis; treasurer, F. S. Frazee, Orange. The association adjourned.

Indiana Swine Breeders.

This association met Jan. 25. The president, C. J. Clark of Westfield, said the industry in the State was never in better condition. Prices are high, and the health of the herds is much better than formerly—owing largely to better sanitary conditions. The enormous corn crop of the present season is a great help to the breeders. There is a growing demand for the better breeds and finer breeding. He deplored the restrictions laid upon our pork by France and Germany, and recommended that a heavy duty be placed upon all imported pork. He maintained that an educated understanding of the industry is necessary to the greatest success.

A number of papers were read. The discussion of expert judging at the fairs showed that all favor it.

The officers elected for the year are: President, Wm. Hocas of Bicknell; vice-president, Frederick J. Nauer, Wabash; secretary, L. W. Pierce, Peru; treasurer, Wm. Pace, Bicknell, Ind. The association adjourned.

The organization of a National Swine Breeders' Association was deferred until Saturday.

The National Chester White Swine Breeders' Association of the United States was organized.

J. J. W. B.

Cows—Growing Pigs—Hogs.

EDS. COUNTRY GENTLEMAN—Will you give, in analytical form, rations for milch cows, and also for growing pigs and fattening hogs, choosing such grains, &c., as are most economical, from the accompanying list? The corn stalks and straw mentioned below have no marketable value, as farmers, in this vicinity, generally utilize these "coarse" feeds at home. Corn stalks, cured in shock, oat, wheat and barley straw:—Clover hay, $10 per ton; timothy, $10; wheat bran, $14; oat bran, $10; wheat middlings, $16; ground peas, $28; ground corn, $23; ground oats, $22; ground barley, $22; ground rye, $23; oilcake meal, $30; mangels, $3; turnips, $3. T. L. D. *Norwich, Ont.*

D. wishes his rations given in analytical form, and he will bear in mind that we give in this form only the digestible nutrients of a food and not the crude materials out of which the digestible nutrients are taken. It is presumed that his oat bran is what was formerly separated in this form in the manufacture of oat meal. This is very inferior to what some mills now make, giving it the name of "oat feed" which is near like middlings. He does not say how limited is the quantity of his mangels and turnips. I should use this freely at $3 per ton.

Presuming that clover hay is abundant for the use of his milch cows, of course timothy will not be used at the same price in the milk ration. If the clover is of good quality, then one-fourth to one-third oat straw could be used with it and the mixture would be quite equal to timothy. He should have mentioned the probable weight of his cows, and their usual yield of milk, so that a ration might be closely adapted to their wants. Let me first give a ration with clover hay and oat straw as the fodder. It will contain the following proportions of digestible nutrients in pounds:

	Albuminoids.	Carbohydrates.	Fat
20 lbs. clover hay	0.70	4.00	0.15
6 lbs. oat straw	0.36	2.40	0.04
20 lbs. pulped mangels	0.12	2.00	0.02
5 lbs. wheat bran	0.56	2.20	0.09
4 lbs. pea meal	0.60	2.16	0.07
6 lbs. wheat middlings	0.84	2.94	0.15
1 lb. linseed oil cake	0.30	0.33	0.08
Total	3.50	16.13	0.60

This has a nutritive ratio of 1 to 5.3—a well-balanced ration, containing a good variety of food, will produce a good yield of milk, and

keep the cows in good health and condition. It is also as economical as can be combined in proper balance out of the foods given. The mangels and the oil cake will correct the constipating effect of the pea meal.

2. If he feeds 16 lbs. of clover hay as fodder, he may use 2 lbs. mangels, 6 lbs. wheat bran, 7 lbs. wheat middlings and 1 lb. linseed cake, omitting the pea meal. This will be an excellent ration, almost precisely the same nutritive ratio, costs 1½ cents less per day, and will be likely to produce quite as good a result in milk and butter.

Great numbers of combinations may be made with his materials—but these are as good and cheap as any. D. will understand that the fodder is to be cut, moistened and the other food well mixed with it, some hours before feeding.

3. The combination to grow pigs requires food easily digested, palatable and adapted to grow the muscles and bones, giving a rangy frame on which to put fat at the proper period. This enables the greatest weight to be made at 200 days—the longest time pigs can be fed at the best profit. The pig requires a small proportion of bulky food, and I often advise cooked clover hay, but in this case we will take oat bran for bulk.

The digestive nutrients in the combination for growing pigs is shown in the following formula:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
5 lbs. oat bran	0.80	3.60	0.10
25 lbs. turnips	0.38	1.10	0.02
6 lbs. wheat bran	0.78	2.70	0.14
4 lbs. middlings	0.57	2.40	0.15
2 lbs. pea meal	0.40	1.60	0.05
1 lb. oil-cake meal	0.39	0.35	0.05
Total	2.32	10.20	0.49

This has a ratio of 1 to 4.7, and is well adapted to grow rangy pigs. When the pigs are 4 months old, substitute 2 lbs. of corn meal for the pea meal. They should weigh at 4 months 120 to 130 lbs; and now the special formation of fat will begin, and be constantly increased by the addition of 1 lb. of corn meal, or rye meal, every 15 days, until the pigs reach the age of 200 days, when the corn and rye meal may be made 10 lbs. Now discontinue the wheat middlings, but retain the wheat bran, and add 3 lbs. to the oat bran to preserve health. The ration for the last 100 days will be: 8 lbs. oat bran, 5 lbs. wheat bran, 15 lbs. pulped turnips, 10 lbs. corn or corn and rye meal, and 2 lb. of oil cake meal. This will be continued till ready for market, and they will be found to have a good appetite to the end.

The mode of preparing this combination of food has not been mentioned. When any any considerable number of pigs are fed, it will be best to cook the compound, and steaming is better than boiling, because steam cannot burn the food as boiling is apt to do. It is best fed to the pigs in a warm slop. Whatever skim-milk is to be had may be added to it at feeding. Skim-milk is a most excellent addition, especially for young pigs. The above ration is given per head, but merely as a combination of food.

4. If the hogs are already grown, and are only to be fattened, then the following formula will be right:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
30 lbs. pulped turnips	0.72	2.70	0.03
5 lbs. wheat bran	0.39	2.10	0.14
4 lbs. wheat middlings	0.66	2.10	0.10
20 lbs. corn meal	0.44	6.60	0.43
3 lbs. pea meal	0.60	1.60	0.07
Total	2.80	15.10	0.77

This has a ration of 1 to 6.3, and will fatten hogs rapidly without cloying them. They will not be so excessively fat as when fed wholly on corn meal, but the pork will be more desirable. This is not a ration per head, but is to be fed according to the wants of the hogs. They will not eat more than they can digest.

E. W. S.

Parents' Influence, p. 67.—*J. F.* refers to a book on heredity, by A. Walker. Many years ago I felt myself very much interested in that book, and having carefully looked for a confirmation of his system in a great number of animals bred by myself and others, I have come to the conclusion that there is a great deal of truth in it. I think the sire gives the locomotive system, and the dam the nutritive system. This being the case, in breeding heifers for milk, one should look to the dam for a strain of good milkers. I can state from my own experience that good common cows, good milkers, put to a thoroughbred Short-Horn bull, as a rule produce heifers who (inheriting from their dam the nutritive system) turn out good milkers, and (inheriting from their sire the locomotive system) are very like a thoroughbred in appearance. H. Q. S. C.

Cambridge, Ont.

American Berkshire Association.

The following are the officers chosen for the coming year: President, CHAS. F. MILLS; secretary, Phil. M. Springer; treasurer, Sam'l E. Prather; vice-presidents, N. H. Gentry, Missouri; T. B. Proctor, New-York; W. T. Miller, Kentucky; J. W. Hibbard, Michigan; H. G. Epler, Illinois; executive committee, C. F. Mills, P. M. Springer, D. W. Smith, F. K. Springer and S. E. Prather.

The secretary's report showed an encouraging increase in the number of entries for registry the past year, and a more general interest in Berkshires than has been known since the association was organized. Volume IX, containing 3,000 pedigrees, was issued last summer, and Volume X, with a like number, will be ready for delivery in a few weeks.

The rules of entry were so amended as to allow two years instead of one, as heretofore, within which animals may be recorded at $1 each. For those over two years old double fees will be required.

Although the offer of medals by the association in 1888 for best Berkshires at the different State fairs was not announced in time for publication in the premium lists, entries for these medals were made, and the prizes were won in several States, as follows: New Jersey, Wills A. Seward, boar Falstaff 19669, R. Tantcher & Son, sow Canada Belle VI 16836; Tennessee, H. D. Nichol, boar Royal Fearnaught 19605, and sow Esmiralda 18976; Michigan, J. W. Hebbard, boar Dandy 17034 and sow Belle of Mound Springs IV 18718; Iowa, M. K. Prine & Son, boar Proud Duke 19301, and sow Nora B. IX 19305; California, Andrew Smith, boar Redwood Duke 18905, and sow Redwood Sallie III 17701. P. T.

The Dairy Department.

Turnips for Cows—Churns.

ED. COUNTRY GENTLEMAN—The cows are now fed on turnips. Can you give any receipt that will prevent the milk, cream and butter from tasting of them? Also, the last two or three times it has taken from three to six hours or more to churn the cream. This arises, I think, from the turnips. Can you give any remedy? (1)

I have seen glass churns out west, and a patent revolving dasher, but do not know the name of the patentee. Do you know where where such churns and dashers can be got in Canada? (2) AN OLD SUBSCRIBER.

Jarvis, Ont.

1. Turnips are objectionable food for cows that are kept for butter, for several reasons. They contain very little nutriment, and still less material for making fat or butter; 1,000 lbs. of them contain only 1 lb. of fat, 11 lbs. of albuminoids and 60 lbs. of carbo-hydrates, and the last mentioned are chiefly in the form of sugar and starch. The large quantity of sap in these roots have a laxative effect upon the bowels, and thus cause a waste of nutriment, as well as producing irritation of the digestive organs to some extent. They also contain a strong volatile substance, which is rapidly absorbed by the system, and passes off by the lungs, the skin, and by the milk. To some extent, however, they are useful as winter food, when the bulk of the feeding is made up of dried fodder, as they relieve or avoid the costive effect of this dry food, and to a small extent may aid the digestion of the concentrated grain food consumed. The odor and taste of the turnips may be avoided in the butter by feeding them during the milking or immediately before or after it, as the volatile matter will pass off by the lungs or skin very quickly, and will escape, so as not to affect the milk. These remarks also apply to cabbages, but not to mangels and sugar beets. Had more information been given in regard to the whole of the feeding, a better understanding as to the effect upon the milk and cream might have been had; as it is, only the suggestion can be made that the long churning may be due in part to the feeding, if a large quantity of turnips are given to the cows, but it is more probable that the keeping of the milk at too low a temperature is the principal cause. For want of information on this point, no pertinent advice can be given, as the whole subject of the behavior of the cream in the churn would have to be gone over. The recent articles on this matter in the COUNTRY GENTLEMAN, however, will give useful hints on this point.

2. No. There are some thousands of patent churns, with many kinds of revolving dashers and glass panels. H. S.

Setting Milk in the Winter.

ED. COUNTRY GENTLEMAN—Temperature has everything to do with successful butter-making in the winter—quite as much as it has to do with the making of ice-cream in the summer. A very few degrees make a very great difference. One degree makes all the difference between solid and liquid water, and it is therefore not at all surprising that a few degrees should account for the troubles that are incident to churning cream in the winter, when the cold renders it difficult for any person to guess within ten degrees of the actual warmth of anything. To the cold hand fifty degrees may feel warm, and to the warm hand it will feel cold; so that one cannot judge accurately of temperatures by the sense of touch at this season. Then it becomes indispensable that a thermometer, accurately tested, should be used in the dairy in the winter. Out of six thermometers I have tried together, every one varied, and the greatest variance was five degrees. These were the cheap kinds, sold for 25 or 50 cents. It will pay to get a good one, even if it costs $5, unless by accident an accurate cheap one can be procured.

There are several serious difficulties which arise at this season in the dairy. One is a bitter flavor in the cream; another is the presence of white specks in the churn when the butter has come; others are, foaming of the cream in the churn, failure to gather the butter when it is in the condition of fine sand, and another is a strong, rank odor of the butter. Having tested and experimented with cream and churning a good deal, I can say with positive certainty how these troubles may and do arise, and therefore to some extent may be able to offer some explanation in regard to them that may lead to their prevention; but in my work for many years in the dairy, I have found so many results that seem inexplicable that I do not say there are no other causes for these troubles than those I have detected; but I can say that certain causes will produce these results, because I have positive and repeated knowledge that they have done so.

First as to bitter milk and cream, and consequently ill-flavored butter. This is caused by weeds in the hay—rag-weed especially—and second-crop clover is frequently largely mixed with one or more kinds of this class of strongly flavored weeds. The so-called "bitter-weed," *Ambrosia artemisiæfolia*, is exceedingly prevalent, and its other common name, Roman worm-wood, sufficiently indicates its character. This flavor is also caused by the condition of the cow; her advance in gestation; bilious disorder indicated by several symptoms, one of which is the presence of greenish slime among the excrements. Linseed oil cake sometimes causes it, through the presence of seeds of weeds with the linseed, and this happens much oftener than is expected, for a microscopical examination of the meal will frequently show the presence of foreign seeds in it. I have often seen in the western flax fields a most luxurious growth of weeds, in which the rag-weed above mentioned has been conspicuous. All these causes may be prevented, and that produced by the deranged condition of the liver may be remedied by a dose of epsom salts (a pound), repeated after two days, and moderate feeding for a few days.

The white specks are caused in this way—for one certain explanation—the cream having been kept at too low a temperature, is brought to a warm place, and set near a stove, where the jar quickly becomes heated to 100° on one side. This temperature will precipitate or solidify the curd of the milk in the cream in flakes, and when the cream is stirred, these flakes become mixed with it, and with the butter when the churning is finished. There is no way to get them out. The mode suggested by Prof. Short—to pour water in the churn and, when it has mixed with the cream by turning the churn a few times, to draw off the water with the flakes—will not do at all in practice, because the water cannot be separated from the cream; and if it is mixed with the fine butter, it will not separate the flakes to any useful extent, and the most of them will remain among the butter. Sometimes these flakes are due to albumen in excess in the milk. I have had them tested with this result, but I have never been able to produce them in any other way but that mentioned, or by churning very sour cream.

Foaming in the churn occurs when the cream is too acid and when it is too warm. The air passing in and out of the churn is entangled with the thick, viscous buttermilk, and causes it to swell; it is quite possible, too, that the carbonic acid developed in the cream during the churning and retained in the thickened milk, in which the casein is held in a very finely-divided condition, may cause the cream to "rise" or foam much in the same way as this acid causes the sponge of bread to rise and swell. This is, however, merely suggested; but it is quite certain that the foaming is due to the condition of the cream, and that it may be prevented by adding cold water to the cream to dilute it, or by avoiding excessive sourness, and too high a temperature in the cream in preparing it for the churn.

Failure to gather the butter is due to too low a temperature. The minute grains of butter are too cold and solid to adhere, and so remain like grains of fine sand in the cream. This may happen, as it has in my trials, when cream in good condition is churned in a very cold room where the temperature is not over 40° or 45°, and the exposure to this cold air in the work of the churn quickly cools the cream too much. By adding a quart or two of water at 75° or 80° to the cream, the butter will very soon gather. But it is best always to have the churning done where the air is as warm as 60° at least.

The strong odor and flavor of winter-made butter is, I fully believe, due to the over-ripening or oxidation of the cream and the production of butyric acid in the butter. The chemistry of butter is by no means clear, even to the chemists, and a great many contradictory theories are given out by different scientific students. Although I am not a professor of chemistry, I have studied the character of butter and of other oils and fats which are analogous with butter, in regard to the behavior of the various fatty acids which produce rancidity, and have given more time to this study than many professors. I am strongly convinced that the flavor of butter is wholly due to these acids, and especially to butyric acid which is formed as soon as the process of decomposition begins, and this is undoubtedly as soon as the cream is exposed to the air and the atmospheric oxygen. This view has been ridiculed by some persons, but I have lived long enough to know of many truths which have outlived ridicule as well as stronger methods of objection, and can recall a great many mistakes that have been made even by scientific people, and have been admitted and corrected in time.

We know very well that this strong flavor of butter is due to the peculiar acids of the fat, chiefly butyric; it is also known that most pungent and disagreeable odors are quite agreeable and pleasant when they are in process of development and weak. And we know that the odors of butter have a beginning point when they are barely perceptible, and from this point they gradually become stronger; also that the odor of butter, very aromatic and sweet at first, does grow gradually into the disagreeable rancidity. Further, this actual rancidity is often developed in the churn by long continued churning, because of a wrong condition of the cream, or by too long an exposure of the cream to warmth and air; over-ripeness—as it is now called—in fact. Then to avoid this, all that is to be done is to preserve the right temperature and exposure, and these bear a perfect relation to each other. A low temperature may admit of a lengthened exposure, but a high temperature only of a short exposure. And as this exposure to the atmosphere is more intense during the churning, it is necessary to so manage the cream that it may not be over ripe, or too acid, and of such a temperature as to secure the completion of the churning in not more than thirty minutes.

I would like to say just here that the period of churning has a good deal to do with the character of the butter; 25 to 30 minutes is mostly advocated as the best time. Why is this time most desirable? Is it not because it is required to develop the pleasant aroma in the butter, and secure that texture, which together make up good quality?

If this 30 minutes is prolonged into an hour, the butter acquires a stronger flavor; if to two or three hours, it becomes rancid. And is not this final ruin of the butter due to the production in this short time of the butyric acid,

which under other circumstances, and by seclusion from the air by tight packing, is only produced very slowly during some days, or weeks, or months, as the case may be?

HENRY STEWART.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]*

LICE ON HORSES.—What will destroy vermin on horses? A pair of Texas ponies here are entirely covered with them and I am afraid they will go through the stable. Insects are large and plainly seen. C. V. C. *Kingston, Md.* [Moore Bros.' lice remedy will destroy the parasites.]

COLT LAME.—A two-year-old colt has been lame about five months; has puffs on hocks inside; think it is spavin. He does not eat well; feed corn fodder, oats and bran mixed two-third oats, one bran; ½ peck a day. T. A. *Reading, Ohio.* [Apply golden blister and repeat in a month. Should further treatment be necessary, write again, giving a description of horse's action.]

STIFLE JOINT INJURED.—I have a colt seven months old injured in stifle joint, same as one described on p. 34. The lump is larger than a goose egg, making that peculiar noise when it walks as if it slipped out and in. Colt is not lame in walking or trotting, but does not step over anything with that leg right. W. W. S. *Averett, Pa.* [Treat it at once, blistering it severely as advised on page 34. Repeat the treatment in a month, and write us as to the results in six weeks.]

QUESTIONS IN CALVING.—What are the signs by which one can tell when a cow will drop her calf? (1) Does it hurt the milking qualities of a cow to milk her up to the day of calving? (2) H. C. S. *Lawrence, Kan.* [1. There are none. Perhaps you did not intend to ask this question as it appears. Kindly make your interrogative clearer and we will try to enlighten you. 2. Much depends upon the cow. Some heavy and persistent milkers require milking right through. When this is not the case it is better to dry cows off for from four to twelve weeks.]

WEAK IN HIND QUARTERS.—A cow four years old has been kept tied about three weeks in comfortable shed with plank floor, and fed alfalfa hay. Found her morning of Dec. 28, unable to rise; she has not stood on her feet since. Trouble seems to be in loins or hind legs. Cow seems perfectly healthy; eats and drinks well, and has lost little if any flesh. Am treating her for palsy with no effect, using a liniment made of equal parts of turpentine, spirits of camphor and hartshorn. G. C. *Reno, Nev.* [If she is in calf we will advise treatment, otherwise she will probably not recover, and it will be as well to kill her, and doubtless the best will be good.]

JAW INJURED.—A bull rubbed his lower jaw two years ago. Last winter a white foam would come out of mouth when chewing cud, smelled very bad. When fly time came it was washed with carbolic acid and water, and pine tar and mucca oil put on to keep flies out. It is now swelled very large and hard: one spot on side of jaw is the size of a silver dollar. Bull eats well and feels well; served 25 cows this season. I should like to raise some calves if you think it would not hurt them. F. J. B. *Trumbull County, O.* [The disease, if actinomycosis, will not injure the calves; but suppose it to be of a tubercular nature, then the sooner he is buried the better. What do you know about his sire and dam, and the family generally? Were any of them consumptive? You must send a better description.]

SORE EYE—DISCHARGE FROM MOUTH.—A mare ten years old was taken about two weeks ago with sore eye; discharged some, but now it does not: is quite sore. The outside is of a greyish-blue color, centre looks natural. Can see but very little from that eye. (1) A three-year-old heifer for a year past, while eating coarse fodder or chewing cud, loses from her mouth a liquid of a dark-green color; appears to feel well and gives good flow of milk, but has not grown well, and hair looks rather bad. (2) SUBSCRIBER. [1. See treatment for specific ophthalmia in back numbers. 2. Examine her mouth, and if there is a decayed tooth or foreign body it should be removed. Inject the mouth or pour into it with a bottle a little of the following lotion twice a day: Powdered alum, 6 oz.; powdered chlor. of potass., 6 oz.; water, 1 gallon; mix. A gill may be used in mouth each time.]

FALLING IN THE ROAD.—A young horse while being ridden showed signs of ailing, sweat about the shoulders and began to stagger. I led him home, still staggering, and after going a short distance he fell over, and seemed paralyzed. Went for a veterinarian who said the trouble was azoturia or nitrogenous urine; would not be able to walk for a week. Gave medicine, and we rigged him up in a sling and stayed with him that night. Next day took team and sled to carry him home, but first tried walking him, and he walked home apparently without fatigue. The doctor said we had run a great risk; he would not have undertaken it for the price of the horse; gave more medicine and form of diet,—a gallon of bean mash and a pint of boiled oats at a meal; said if we fed him hay it would kill him. Horse has been improving right along and his appetite is good. C. D. *West Newton, Pa.* [Your veterinary was correct as to name of disease, but mistaken regarding the hay. The horse should be exercised daily, and if he shows no lameness in either hind leg you can put him at work. Remember that this disease is brought on by high condition and rest. Horses worked every day do not have it. Neither do those in poor flesh. Your horse will be apt to have another attack if you allow him to stand three or more days. Therefore if you have not work for him have him exercised. See articles on this subject in back numbers. You may feed him now as usual.]

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Alcora, W Wiles, A Mantel		
Aurilla 2, J Potter, Mrs A Herbold		
Baldwith Mk, S J Edmunds, W Childs		
Ben Hope, H Lane, A Simmons		
Black Sands, H C Mead-rrow, H H Germaan, Jr		
Calsoma, H Dilger, L Coffman & F S Hoekman		
Christina Nelson's Knip, R H Vale, G W Webster		
Crownblett's Sir Henry Beauna, N F Shelton, S Osterhout		
Daisy Hengerie, O R Cole, A S & A C Brewer		
Dinah's Pet, T N Thornton & W B Davis, H F Holm		
Elixir, J Potter, J Richard		
Enid's Lad, J Rawlings, J C Jacks		
Fairfield Maid 2d's Lavaggion, R Baker, W H Palma		
Farnan, A F Wright, Mrs C Smedley		
Franklin McKean, J Stewart, C F Griffe		
Gobbie Konzing's Prince, Home Farm Pine Stock Co, L M Linn		
Grand Duke, Est of D Bertier, Smith & Mudgett		
Grand View Pride, D White, A Cooper		
Gretchen Violet V Bonlyn, B Hulsebosper, W A T Bennetson		
Hardi 3d's Pride, C B Cole, W H Fenner		
Hawk Tree's Sons, I F Wright, O H Forbush		
Hijah 4th, H Severy, C E Gordon		
Jeppa 3d's Pillowit Mercedes Prince, T B Wales, W H S Foster		
J V Wolfe, J Watson, J B Tuerpet		
McKean of Maple Glen, W Henderson, W J Fife		
Netherland St James, A Brodley, C Hunt		
Raleigh Jean, T H Merry, J F Houghton		
Ringold, O R Cole, H Quackenbush		
Shadeland Afton, Purcell Bros, W F Park		
Steele, G Curry & Son, W F Downey		
Tsko, N Phipps, F Edwards		
Turbine, J Klingensmith, J C Owens		
Whitsford, J B Dutcher & Sons, F T Hopkins		
Adaleil, T H Murry, R A Lattimore		
Agility, G D Barron, Mrs A Herbold		
Alice F, S B Howard, A E Morse		
Amsterdam Julie's Mercedes, T B Wales, W H S Foster		
Angelica, J B Tuckerman, S Bartlett		
Azazel's Mercedes, T B Wales, W H S Foster		
Bessie Hartman and Bessie of Maple Glen, J Stewart, C F Griffe		
Cronie, G D Barton, Mrs A Herbold		
Dewey 2, D W Cunningham, J Bell		
Elaineola, W Henderson, J L Henderson		
Eurydice 3d, J Potter, Mrs A Herbold		
Eurydice 4d, G D Barton, Mrs A Herbold		
Farewell to Reeds, I H Butterfield, C S Johnson		
First Duchess of Oneida, J H Tuckerman, S Bartlett		
Hillcombs Ka, A A May, C E Kendall		
Hortensia's Black Mercedes, Jessie Ly Cumming, Jinks Mercedes and Jalia Chilton Mercedes, T B Wales, W H S Foster		
Lady Tidbird, C Gifford, L D Millard		
Lovespar, H C McGravod, H Germann, Jr		
Maggie Midwood, A A May, C E Kendall		
Mercelia 4th, O H Cole, W Mason		
Netherland Lincoln's Artis, A A May, J T Burns		
Oconlopper's Mercedes, T B Wales, W H S Foster		
Rosilees, J N Curreans, M H Shields		
Stapleoma, F L Houghton, O H Forbush		
Surprise Challenge, J Potter, Mrs A Herbold		
Surprise Challenge 3d, G D Barton, Mrs A Herbold		
Thetis Ida's Triumph, T B Wales, W H S Foster		
Tuscanar Maid, T J McMahan, J W Zinn		
Verona Netherland, Messon Co Stock Breeders Asso, D H Whipple		

Iowa City, Iowa. T. B. WALES, Sec'y.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
St Helier's Chromite 39063, J S Walker, J Leverty		
Turkahoe 39011, M Cason, S F Hunter		
Vine King 18838, H D Bois, H Du Bois		
Vivary 12351, H H Hargett, J Rogers		
Wall's Midas of St L 11094, W S Wolo, F S Shaw		
Winfred H 17435, W H Harden, W D Brosnan		
Wisbey 4904, C W Harte, F D Brockway		
Wisley Clay 4683, R E Rogers, J Rogers		
Angelina's Blossom 39212, C G L & G W Bedell, C H Jones		
Arindam of Rhelgrove Maid, H M Brosan, J R Farnum		
Garvia 2d 17337, C H Crosby, J Leverty		
Hanneau 7106, I Marston, A Muldrah		
Hay View Lass 4907, H P Hopkins, O L Lewis		
Beautiful Princess 40381, W F Oates, North La Experiment Station		
Belle of Barton 40312, H S Eldridge, E B Sumner		
Belle of Nestledown 39849, Est of R A Fisher, P Brady		
Bryantie 40305, J S Walker, J Leverty		
Bloodmatte 39308, J B Wade, J H Fuller		
Blossom of Rhelgrove 39052, H M Brosen, J R Farnum		
Bobby's Daisy 40128, G P Ramley, W J Adams		
Bobby's Princess 40129, G P Ramley, W J Adams		
Bute's Perfection 39013, J A Middleton, J H Castleman		
Carrie Rodes 11979, T H Wilson, A T Britton		
Chief's Hattie 40308, H P Hopkins, L L Lewis		
Clarinda 3d 39067, D M McCullough, W A Brewster		
Conqueress II Topsyne 2d 11899, E M Upson, J O Couch		
Conqueress Longjo 40018, K E Cooper, J Rogers		
Creole Maid 4d 39261, M Overton, F M Morrow		
Daisy Fales 40309, R W Miller, Agt, W G Hart		
Daisy La Brun 39304, A Sherretse, J B Sanderson		
Daisy Lorraine 39012, H E Hosmer, J Rogers		
Dame LeBreez 34813, G D & C S Smith, Experiment Station Mich Agricultural College		
Dame Vera 3d 39079, T Holdane, L Crawford		
Dr Pabst 39120, M C Osborn, A B Pitts		
Dolly's Queen 3 534, L S Wells & Bro, J O Couch		
Duchess of Neptune 39273, G M Beaman, S Dutcher		
Dukeja Winfred Rose 11, H C Cone, J Rogers		
Elizabeth Butterscot 39040, H M Brosen, J R Farnum		
Euro Darling 39076, G A Lashell, J H Marshall		
Eva Clay 39067, E E Rogers, J Rogers		
Fairy Lady 39126, H H Hosman, M Frazier		
Fannie's Princess 40309, J C Steiner, L D Campbell		
Farmer's Joy 39039, J J Vanderpoth, C W Adams		
Favorite Jewel 13042, W Cowley, C H Collins		
Flirt of Bay View 40328, H P Hopkins, L L Lewis		
Flourish 34139, J Thorne, S Thorne		
Frankie Alphea 39064, G S Davis, N Odoodgree		
Gentle Belle 32586, A L Bauer, W H Read, Jr		
Glenlinda 40134, H Du Bois, J Du Bois		
Golden Fleece 24 41411 and Golden Lining 41413, S W Cox, J O Couch		
Gold Dream's Lass 39074, W Coney, J Wadsworth		
Guinure of Oakleaside 39321, J B Wade, W A Hemphill		
Happy Ladybird 40043, D L Brown, W H Brown		
Harmony 7 45 Miss H M Calhoun, T C Robertson		
Highland Philopena 39031, O Bickelhaus, W D Hollapeter		
Hitalia 31708, T H Wilson, A T Britton		
Hortensiana 17288, Woodward, McClellan & Co, D C Black		
Hosanna 39071, H J Gilbert, H N Cason		
Idlewild 2d 31567, L H Cregenhan, C C Collins		
Jewel of Elm Spring 39035, S Litsey, M Frazier		
Julia of Riverside 39211, J Marston, J Maldrugh		
Kathe 39063, G W Reeve, Mrs J Keller		
Kleolene's Princess 39067, T K Proctor, F W Ayer		
La France's Isle 40131, H N Beaun, C Milliken		
Lambda 39081, T J Phillips, J H Archibald		
Langaine Riverside 39040, I Marston, A Warren		
La Fera's Queen 39126, W H Wolverth, G H Tucker		
Lily Shumate 39055, H E Rogers, J Rogers		
Maiden of Riverside 39072, I Marston, A A Randall		
Maple Rose 39 2 3 4, C Demiss, H T Lewis		
Mallee 39064, W Morrow, W Morrow & Son		
Marie Ella 39076, J L Pike, A B Pike		
Mary Ann 39 4 5 6 7, J C Potter, D B Campbell		
Mattie Hart 3 987, N W Miller, Agt, W G Hart		
Maud S of Walnut Farm 11883, C A Ligatsinger, A O Atkins		
Mayflower of Elmwood 39071, C McDermott, J B Presley		
May of Bay View 40314, H P Hopkins, O L Lewis		
Mercury's Goldcast 34111, G P Ramley, W J Adams		
Minnie's of Kingston 40321, S Litsey, M Frazier		
Minnie Martin 7 1 9, W L Ruff, O Butcher		
Minto 39011, A T Stebbins, P D Broadway		
Miss Ida 39 7 8, J B Wadsler, J B Castleman		
Mrs Jones of Riverside 39060, I Marston, C Jones		
Nellie Mercer 9405, H M Fairfield, W S Lounds		
Nona of Bay View 40320, H P Hopkins, L L Lewis		
Nora Dew Drop 11933, J F Hardin, J Castleman		
Nora Palmer 31 2 3, E Y Hill, S S Irvin		
Olga Grainer 4 7 8, J N Hall, R F Kirk		
Ona J 39 6 5, H M Brosen, J R Farnum		
Ona Rhea 31 4 7, W L Ruff, O Butcher		
Orellon's Gem 7 4 3 4, I C Smith, E G Miles		
Oti 25 7 6, Est of W Ward, G Blanchard		
Padina 31 8 9, T H Wilson, A T Britton		
Perry's Gold Gold 39 2 3 4, S W Cox, J O Couch		
Pet Rosa Lee 32 3 3, T J Patton, A Horton		
Phillis d'Or 34 4 5, F M Byrnit, F Hooker		
Pina of Bay View 32 3 3 4, H P Hopkins, L L Lewis		
Pronounced Knits 40 6 5, S Shridge, H B Skinner		
Princess Butterscot 27 3 1, H M Upson, J O Couch		
Princess of Beech wood 34 6 6, W B Ostom, La State Experiment Station		
Proctor's Blue Bennet 41401 and Proctor's Dolores 39064, T H Proctor, F W Ayer		
Quadruple Pogis 39 3 3 4, H G Westlake, J O Couch		
Queen of Bethany 39063, H C Mead-rrow, L Bedlek		
Raymond's old Gold 39 2 4 4, S W Cox, J O Couch		
Real Queen 39 3 8, H G Westlake, J O Couch		
Reby Belle, W H Wilson, A T Britton		
Rebecca 39 2 4, H G Westlake, J O Couch		
Rhadama 39 4 3, Est J L Turner, W L Wickham		
Rieter's Gurtie 40 9 1, H Litsey, M Frazier		
Rosa Franklin 39 5 6 7 8, G W Bridger, W J Adams		
Rubens Star 33 2 3, J G Snell, S McCullech		
Ruby's Pet 4 7 1 5, W H Hand, Jr, S L Baker		
Sarah Burbet 34 9 3, I W Campbell, H N Camp		
Sarah Grady 34 0 6, Est of C C Deral, Mrs J H Carter		
Shepherdess 19 0 3, T J Hand, Mrs M Laverich		
snap Pogis' Fancy 41 6 1, Mrs O V Bittinger, J D Crawford		
Spes 19 0 3, H J Hill, C Wellington		
Tornella of Grassland 37 3 6, M M Calhoun, T Hardeman		
The Chameleon Trinket 39 6 5, W Coney, J Wadsworth		
Thistle of Riverside 31 3 0 3, I Marston, U M Jones		
Transit de Venus 19 3 4, J T Rockwell, F C Farley		
Transit de Venus 24 41 7 8, J T Rockwell, J F Maxfield		
Tritana Stella 8 9 3, H N Pond, J D Ramsey		
Vesper of Allendale 41 1 1, G H Bradley, Bordwell & Cochran		
Vin Ridge 4 6 9 0, Mrs G B Allen, E T Mason		
Violane 4 6 6 4, W Bolliger, O A C Graves		
Aaron Stubb Pogis 31 7 3, Miller & Sibley, M M Kirkman		
Alarie of Nathlia H 29 3 3, W H Hayden, G L Bradley		
Albertine Rex 17 1 7 6, L Robinson, Everett & Kinsell		
Alphonso's Injon 33 3 1, W N McConnell, C Hasen		
Autumn's Hooter 31 7 4 1, J Crook, T L James		
Becker 27 5 4, J J Hunt, J Hunt		
Cambyses 31 7 3 5, H Sloeper & M T Warfield, G W Pope		
Carrie's Rex 21 3 3 6, W P Clayton & Sons, A P Hazard		
Clipper's Signal 16 7 5, G Harlee, P Cassaday		
Dartmouth's Stoke Pogis 31 7 3 8, Lyreen Mo Stock Farm Co, Bridgman Bros		
De Kember 19 7 3 3, W J Goddard, J Powers		
Brigade's Hister 33 4 3 3, Miller & Sibley, C W Lee & Bro		
Duke de Cote 16 3 3 6, A C Jennings, H J McGwen		
Baroque Victor Pogis 31 3 6 7, E L Clarkson, V B Bostman		
Flag 39 3 3 1, Richardson Bros, H J Mentzer		
Hogarth 1 3 3 7, A C Bartlett, A H Remington		
Isermaid's Gold 31 4 3 1, W F Palmer, H Merriman		
Jim Pogis of Milford 31 3 3 6, F W Chipman, J Allison		
Lampogis 31 7 3 3, B L Clarence, W R Allen		
Lord Felix 16 3 6, C W Talmadge, J Hanson		
Maude Le Breez's Duke 39 4 4, M S Curry, J Schuster		
Meglogmire Rex 31 7 3 7, J D Walters, Esterlin, Weiler, Shumate & Claxton		
Mary's Stoke Pogis 31 7 3 5, T H Proctor, H L Stewart		
Pedro Star 11 2 3 5, W J G Dean, O J Bliss		
Pilot Knox 19 3 4, J M Brandon, J T Jones		
Prince Harrell 31 4 1 2, W H Montgomery, J N Boyd		
Prince Herbert 17 3 3 3, Syracuse & Atkinson, D Manteafe		
Prince of Bovina 13 9 5, A Burns, J Archibald		
Prince of Henrico 39 3 4, M Cayce, T C Williams		
Prince of Rosemyre 39 3 6 6, W F Smith, J B Vincent		
Royal Utopia 6 7 6, J B Cole, J B Miller		
Rubben's Prince Pogis 31 3 3 3, T L Hester, W H Carpenter		
St Helier's Chromite 39 3 3, J Leverty, H B Kellogg		
St Lambert's Jacob 21 7 3 3, H L Mudgway, J M Bevin		
Surprise's Rosen 39 3 1 1, J M Trosper, W F Rogers		
Tritia's son 21 3 3 5, A G Weeks, A C Burnham		
Victor's King 34 2 3 3 4, J Walker, O A Bonner		
Xantha's Rex 21 3 4 4, J M Woodward, J J Brown		
Abbe 2 3 4 1 4 1, J H Hagan, W Braselton		
Addie Goodrich 4 4 4 1, H L Maloney, J M Bevin		
Addie of so Mary's 4 3 3 3, W H Wilson, Mrs H C Ridgely		
Alice of Enfield 39 3 3 6, W H Hopkins, J J Beady		
Allegra Vane 34 4 7 2, G S Arnold, L E Norton		
Ariadna Fame 39 6 3 6, The Echo Farm Co, J T Clark		
Beauty of Milford 34 5 3 4, G W Smith, G W Smith		
Belle Lugar 34 3 5 1, J Brooks, G L Bradley		
Betsey Pedrothorn 39 3 3 6, W H Hurd, C S Williams		
Blanche's Briarcote 39 3 4 4, J Q Griffith & Son, C J Bell		
Bird Pogis 41 3 0 1, J H Hagan, C H Strong		
Black Girl 34 3 3 3 3, Est of W S Dunsmore, N S Hagardus		
Blossom of Guilford 41 3 3 3, A G Weeks, A C Burnham		
Blossom of Prospect 39 3 7, Miller & Sibley, A Bates		
Bonnie Belle Queen 31 4 4 3, H L Pierce, L McDermott		
Charity Lassie 40 3 3 3, H L Harvey, J Assembly		
Chinee's Nellie B 13 3 3 3 and Conqueror's Lily 39 3 3 3, P A W Carpenter, Jr, S P Carpenter		
Countess Perfection 39 3 3 3, W Bolliger, J Sherwood		
Crescent Alphea 41 3 3 3, W Baker, J Arbuckle		
Creole Maid 34 2 3 3 3, F M Morrow, W Morrow & Son		
Daisy Brooks 39 3 3 3, J Brooks, C P Averill		
Daisy of Linwood 39 3 3 3, J Hodgdon, M L Stewart		
Delhi Maid 3d 40 3 3 3, S McBurdy, L Taunt, Jr		
Dolly Tristan 27 3 4 1, Est of D Collamore, H M Condit		
Edmonias 40 3 3 7, W J G Dean, O J Bliss		
Egilka's Signal Lass 40 3 3 7, W Baker, J Arbuckle		
Emigrant 39 3 3 6, Mrs O Watson, A O Mann		
Emma Pogis 41 3 3 2, J H Hagan, C H Strong		
Epidea 39 3 4, K Waldron, R Holly		
Estelle's Jubilee 17 3 3 3, W Braselton, P J Cogswell		
Estelle's Rose 39 3 3 3, A D McBride, P J Cogswell		
Fancy Mary 39 3 3 5, Neal & Harbison, W H Harbison		
Fannie Fisher 39 3 3 3, J Hodgdon, C J Bell		
Fawn's Polly 4 3 3 3, H Fenn, O L Gregory		
Flora Dilber 41 3 3 3, P H Day, C Wiggins		
Flora's Pink 41 3 3 3, Brooks, R Osborn		
Florence Nharp 11 3 3 3, Miller & Co, J B Wilford		
Fleecy Harris 41 3 3 1, T L Hatcher, F M Vine		
Garanne's La La 13 3 3 3, P H Day, R Stipp		
Gazelle of Scarborough 6 3 3 3 3, H Goldsmith, E W Goldsmith		
Gold and Silver 34 3 3 3, W B Ostom, J C Steiner		
Hero's Coquette 39 3 3 3, S F & W Carpenter, Jr, S P Carpenter		
Highland Nymphe 4 3 3 3, W B Stubbs, A C Green		
Hollybrook of Hampden 39 3 3 3, R T Hicks, L H Sheldon		
Honey of Milford 39 3 3 1, F S Cox, S Oliphant		
Hoodie Fame 39 3 3 3, The Echo Farm Co, J T Clark		
Ida Henry 40 3 3 3, E J McGwen, A C Jennings		
Ida Sedam 31 3 3 4, S F & W Carpenter, Jr, S P Carpenter		
Ivy of Milford 41 3 3 2, F S Cox, J N Mellon		
Jessie Ridgely 34 41 3 3, J L Pickens, J H Barrow		
Jessie of Ridge Farm 41 3 3 3, R T Hicks, L H Sheldon		
Kalma of Milford 41 3 3 3, F S Cox, H K Harris		
Lady Southport 34 3 3 3, J F Maxfield, A Conklin		
Lalena 39 3 3 1, D F Cheatham, H M Dibble		
La Richesse 39 3 3 3, S F & W Carpenter, Jr, S P Carpenter		
Lorne 39 3 3 1, Mrs O Watson, A O Mann		
Lena Logan 41 3 3 3, B F Dulaney & Co, O S Hollingsworth		
Lilleona 39 3 3 7, W B Hurd, C S Williams		
Lily of Milford 39 3 4 1, F S Cox, J N Mellon		
Lizette Lauricour 34 3 3 3, H H Wheatcraft, H B Bridge		
Lita Rex 39 3 3 3, The Echo Farm Co, J T Clark		
Louise Bonny de Jersey 41 3 3 3, G S Arnold, L E Norton		
Madame Argyle 39 3 3 3, E S Henry, G L Bradley		
Magna 34 4 3 3 3, J H Hagan, C H Strong		
Maree 34 3 3 3 7, J F Maxfield, A Conklin		
Marion Drew 41 3 3 3, The Echo Farm Co, J T Clark		
Mary Lee 39 3 3 3, W Bolliger, J C Steiner		
Mary's May Alpine 41 3 3 3, W Baker, J Arbuckle		
Mauvelline 41 3 3 3, W Bolliger, A W John		
May of Guilford 41 3 3 3, A G Weeks, A C Burnham		
May Rex 41 3 3 3, J F Maxfield, A Conklin		
May Stephen 41 3 3 3, M S Peck, C Hunter		
Mettie Argyle 41 3 3 3, E S Henry, G L Bradley		
Mendota Pogis 41 3 3 3, T L Hagner, F M Hagner		
Mettie Mia 41 3 3 3, J F Maxfield, A Conklin		
Minto 41 3 3 3, Richardson Bros, J C Hartman		
Monrevelina 41 3 3 3, J F Maxfield, A Conklin		
Ocean Gem 41 3 3 3, S F & W Carpenter, Jr, S P Carpenter		
Pedrocot 41 3 3 3, J D Pridgeon, G W Taylor		
Princess of Seekonk 41 3 3 3, W H Hopkins, J J Beady		
Pride of Willow Brook 41 3 3 3, W S Turner, C Newton		
Prim Pogis 41 3 3 3, H Hagner, G W Park		
Proctor's Fuchsia 39 3 3 3, T H Proctor, H L Stewart		
Pussy Rose 34 4 3 3 3, Neal & Harbison, W S Harbison		
Queen of Shamyrock 41 3 3 3, H Harrison, W H Phillips		
Queen's Pogis 41 3 3 3, C Wiggins, C Wiggins		
Rosie May 39 3 3 4, J L Connelly, W Wilson		
Round Eyes' Pogis 41 3 3 3, J H Hagan, C H Strong		
Ruby of Guilford 41 3 3 3, W Wheeler, A C Burnham		
Ruby Vine 39 3 3 3 and Eye of Silver Spangled 41 3 3 3, T L Hatcher, F M Hatcher		
Sandwhal 34 3 3 3, T H Proctor, H L Stewart		
Selenia Jane 31 3 3 3, W H Hurd, C S Williams		
Sonia of Belmere 41 3 3 3, Est of D Collamore, H M Condit		
Starling Point 39 3 3 3, H A B Day & Bro, Mrs J Wagoner		
Sultana of Elbelwyn 39 3 4, H Brosen, J R Farnum		
Zelma L 34 3 4, W S Lounds, E B Thorpe		
Zetimar 41 3 3 3, H M Pomeroy, C E Wooster		

1 & 3 Broadway, New York. F. W. WICKS, Sec'y.

Record of the Times.

Review of Passing Events.

Extensive Car Strikes.—Encouraged by the strike of the Brooklyn horse car men the previous week, for $2 a day and ten hours work, a tie-up of thirteen roads was ordered in New York last week Tuesday and carried out, 6,000 men stopping work. The companies made no compromise and began hiring new men who ran a few cars under police protection. More or less rioting took place at various points, cars were upset, obstructions piled on the tracks and several policemen and strikers received injuries. The police did their duty most bravely. At the close of the week most of the roads were running with some regularity. In Brooklyn the situation was more serious. The police force was deemed inadequate, and Mr. Richardson refused to run a car unless granted protection. It took 600 policemen to run one car on Thursday, and they were stoned.

Political.—*Congress*: In the Senate, Samoan affairs were discussed and further correspondence was submitted by the President, indicating that Germany would recognize American rights. Amendments reported by the committee on foreign affairs were adopted. The British extradition treaty was rejected by a vote of 38 to 15. Appropriation of $300,000 to establish a zoological park on Rock Creek, Washington, was voted.—House: The Sunsie bill increasing pensions of soldiers or sailors who have lost both hands, to $100 per month, passed Jan. 28; appropriation of $300,000 for new library building, Jan. 29; Oklahoma bill discussed and passed, Feb. 1, by a vote of 165 to 103. The conference report on the bill to create a department of agriculture was adopted. —A protest of 13,000 citizens of Utah against its admission as a State has been received. —The election in the XIII district, this State, to fill the place of Senator Law (R.), deceased, resulted in favor of Peter Ward (D.), by a majority of 165.—The United States grand jury at Indianapolis have found 88 more indictments for violation of the election law—a total of 185. Eight persons were arrested and released on bail.—William L. Trenholm, comptroller of the currency, has resigned, and is succeeded by Jesse D. Abrahams, the former deputy.—*Legislature*: Senate passed, Jan. 31, bill to reorganize the Brooklyn board of aldermen. The Assembly bill appropriating $300,000 for the Washington Centennial celebration in New-York was passed, Feb. 1. Assembly: Mr. Ainsworth introduced bill giving women the right to vote in municipal elections. Hearings were had on the ballot-reform and excise bills. The report on the cost of the Assembly ceiling showed an expenditure of $163 902 90 for 53,-542 days' work; $8,733 75 for 411 papier mache panels; $11,556 30 for 2,251 feet of carved face mould; $13,396 82 for 330,185 feet of spruce and pine: $7,045 76 for 87,925 feet of quartered oak; $9,935 for extension of four granite columns. Controller Wemple has paid $231,-063.00 to contractor Smith (part for staircase) and retained $40,428 91; to Superintendent Andrews was paid $7,500.—Controller Wemple showed the working of the State account prison system produced a surplus of $194,640. 57. Superintendent Lathrop reported machinery and material on hand worth $400,799. 30. Under this system there was a net profit of $38,400 per month; under the Yates bill passed last June the net profits for five months were $300, and if the law continues the deficit for the year will be $400,000.

From Abroad.—In consequence of the victory of General Boulanger the French ministry resigned, but President Carnot declined to accept their resignations.—The Germans have declared war against King Mataafa of Samoa and proclaimed martial law in Apia, but exempting foreigners from its provisions. The British and American

The Fireside.

A Word to Country Boys.

Attend to Your Bodily Carriage.

Since I have been dividing my time between city and country, my attention has been called to the different ways in which the young people carry themselves. In the city great importance is attached to the manner of walking: so the young people, always striving for improvement, acquire almost unconsciously the habit of holding heads up, shoulders back and hands in a graceful position. Now, look at the average country boy; he usually has quite as much education as his city cousin, is probably quite as well informed on topics of general interest, and his associates are undoubtedly better, but see what an appearance he makes! He walks with his head hung down as if he had done something he was ashamed of; his shoulders droop forward, making his chest narrow, and his legs fall around in a disjointed sort of way, as though he had never acquired control of them, while his hands are dropped as if they were so heavy he would like to be rid of them altogether.

I know that the rapid growth of the country boy has a great deal to do with making him awkward; he is a long time becoming accustomed to his size, but when at last he does so, is his department better? Have not the careless habits which he contracted as a boy become fixed upon him as a man? And unless he arouses himself and by a strenuous effort regain that upright position which God originally bestowed, he may, by crowding together the precious organs of life into inadequate space, fall an easy prey to one of the many diseases which await our every violation of the laws of our being.

It does seem that a child brought up in the country, nourished on wholesome food, and daily exercised in pure air, would at least develop a perfect physique, but observation proves the contrary. Man is naturally as uncouth as he is illiterate. No man is born a gentleman; he may acquire gentlemanly habits from association, but when left to himself, his habits are no better than those of an animal. He does not even hold himself erect unless he is taught. This teaching must begin in the cradle. Oftentimes the tendency to round shoulders is contracted there; the mother or nurse, from a mistaken idea of kindness, places the little one's head on a pillow so high that its shoulders must be curved. When asleep, an infant's head should be very little if any higher than its body, which should be straightened out. Its nap will surely be longer and sweeter if it be comfortably placed.

Among people of the same class, those whose means are about equal, housekeeping mothers in the country are a great deal busier than those in town. Their work begins earlier in the morning and continues later at night. The variety of their employments, depending so much upon the season of the year and the weather, prevents their systematizing their household affairs, so that, in reality, they have less time than their sisters in town to devote to the training of their children.

The little ones are thus permitted to follow pretty much their own devices, the tired mother only stopping now and then to bind up a cut finger or rock a baby. Still, there is nothing a devoted mother will not contrive to do for her children, and if she can be brought to realize what an advantage it will be to them, when they grow up and go out into the world, to find that in manners and deportment they are inferior to no one, I believe she would manage to give considerably more of her care and attention to their outward training.

Parents in the country have one great advantage over those in town—they can choose the associates of their children, and by the exercise of a little judicious management, keep their boys free from contaminating influences.

As soon as a child learns to walk, he takes an intense interest in everything about his home, especially in every growing thing on the farm. In this way boys are taught to interest themselves in home pleasures, in caring for domestic pets, and participating in rural amusements. Having nothing to be ashamed of, I want our boys to hold up their heads and face the world with open brows and level glances.

Much of the work on a farm requires a stooping position, but it does not last all the year round, and there are other kinds that demand an upright position to keep one's back from acquiring a permanent stoop, while the majority of young men about town spend from six to eight hours every day bending over counters or desks, the telegraph apparatus or type-writers, yet when the day's work is done, their heads are lifted as high as a young prince's, and their step is springy and light.

I know, too, that a different movement is necessary in walking upon soft, broken, or uneven ground, from that required for the hard, level pavement, which is unyielding whether we put our feet down lightly or heavily. It is much easier to walk well in town than in the country. Still, if the countryman thinks about it, there is no reason why he should not learn to pick up his feet quickly, and put them down firmly, instead of shuffling them around uncertainly as if he had not quite made up his mind where they ought to go.

Military schools are of great advantage to boys in this respect. There they are taught to control every muscle of their bodies, to stand firmly, to walk correctly, and above all to hold their shoulders well back so as to give their lungs play. It is said that the boys at West Point gain several inches in the chest measure after having been there some months.

Even after a decided stoop has been contracted, however, it is not necessarily incurable. Many persons obtain great assistance from well fitted shoulder braces, and I know from experience that sleeping upon a moderately hard bed without any pillow is a most effective remedy. If the body is held for several hours in any one position it is reasonable to infer that the set of muscles thus brought into use will become strengthened. Of course it is a little uncomfortable for the first night or two, but one soon becomes accustomed to doing without a pillow.

No doubt some persons who read this will recall to mind the suit which the actor who took the part of the "Black Crook," in the play of that name, brought against his manager as recompense for his crooked back. He had walked half-bent for six years, and at the end of that time was unable to stand erect. He had himself examined by physicians who testified that he could never become straight again. The suit was gained, $10,000 in addition to his salary which he had already received, after which he put himself in the hands of a massage doctor—who straightened him in six months!

This proves that a crooked back is not hopeless, even in grown people. And if our boys could be brought to realize what an improvement it would be to their personal appearance, as well as the immense advantage to their physical well-being, they surely would make more strenuous efforts to hold themselves erect, and would also try every means possible to straighten themselves after they have grown crooked.

M. Walton.

A Summer Tramp—VI.

One of the objects of our tramp was to see the Carolina mountaineers in their homes, and we were well repaid for our trouble. Perhaps nowhere else in the country do exactly the same conditions exist. The people seem to live just as their fathers did, and that was usually in a very primitive fashion. Log cabins are the rule and not the exception, while a frame house with plastered walls is a thing rarely if ever seen west of Asheville. Most of us have a very vague idea of what a log cabin is like. We saw dozens of them, in the making of which almost the only tool used was an axe. The logs are frequently not even hewn, but piled up cob-house fashion. Sometimes one or two windows are put in, but often there are none. There is commonly a door on each side. At one end, and always outside, is the chimney, built in the houses of the better class, of stones, but very often of round sticks plastered with mud. This same material is commonly used to fill the cracks between the logs. After a time great blocks of it drop out, and as a rule the occupants are too lazy to fill the openings. Just fancy passing the winter in a hut with long gaps six inches wide everywhere in the walls! Is it any wonder they say "it is pow'ful cold in these mountings in winter"? It was not the pleasantest of our experiences to eat dinner in one of these cabins, with the rain driving through the walls and dropping on our backs and on the table. At one end of the room (the only room usually) is the great fireplace with a crane hanging in it. Here all the cooking is done. On the walls almost everything can be seen, from a rifle to a side of bacon. In one corner often stands the spinning wheel, not for ornament, but for use. Often nearly all the furniture is made by hand. As for carpets, they are unheard of luxuries.

You will always find not far from the house a spring with a gourd stuck on some overhanging bush, and by the spring a rough slab bench with a wooden paddle lying on it. That is the washing outfit of the family, but where, you say, are the tubs? That brass kettle has to answer, or perhaps in the remote valleys it is a log mounted on legs, and hollowed out on the upper side where they boil the water by dropping in hot stones. They pound the clothes instead of rubbing them.

One never knew where to look for a cabin. Many a time, up among the highest mountains, we would be tramping through deep woods when some sudden turn in the road would bring into view a steep hillside, with the trunks of the girdled trees still standing, dead or dying, among the corn, and over in one corner the cabin close by the spring. Usually there were three or four of the noted "razor-back" hogs roaming around, and right well are they named. They would hardly cast a shadow, and they can climb where a man finds it hard to follow.

The settler, in some places, does his carting in a vehicle whose wheels are sections of log sawed off, though the common wagon is a huge thing shaped like a boat on wheels, with high bow and stern, and covered with a tattered canvas top. Occasionally, even in the streets of Asheville, one sees the strangest turnout of all—a little wooden sled drawn by a single ox. Of course, every one rides horseback, or rather muleback. You will see them going to mill sitting on top of the bag of meal balanced across the horse's back. We saw one of the mills. It was supplied with water through a sluice made of hollowed logs fastened together. At the end the sluice was vertical, and the water was let out on the wheel through several two-inch auger holes. When the water is low only one hole is opened. The capacity of the mill was about five bushels in twenty-four hours when run at full speed. An old woman was shelling the corn by hand, and she could shell much faster than the mill could grind. Our driver expressed it well by saying that "it ground one kernel and then jumped on the next one."

Most of the people live in a manner well illustrated by the rapidity of motion of this mill. They are satisfied if they can get enough corn bread and bacon for a living. They vary this diet with chickens, eggs, and, in the vicinity of clear mountain streams, with trout. This sounds well, but one soon tires of such food if not used to it. Spring chickens are plenty at ten cents apiece, while eggs bring from eight to ten cents per dozen (and no question asked as to age). The regular price for trout is a cent apiece, as they run. Bread as we have it we did not see. They bake corn bread or biscuits in the ashes or in a Dutch oven, hot for every meal. Perhaps the most curious-looking mixture was the butter. The milk is churned while sweet, and whatever the cause, the result is beyond description. The first time we saw it we had no idea what it was till invited to try some.

These are just the sort of people of whom Miss Murfree has told us in her stories of the Tennessee mountains. I know of no better place in which to watch them than a country store. They come in from the mountains in all sorts of vehicles, on mule-back or afoot. One has a dozen eggs he wants to "swap" for goods, another a pair of chickens or some berries. Then begins the attempt to beat the storekeeper down. "I 'low I kin git 'em fur less than that over to Ellijay," says one old fellow in homespun, who with his wife has spent the last fifteen minutes bartering for a pair of wool cards, worth perhaps 60 cents, and off he goes. They will walk a dozen miles to save a quarter, and time is no object with them. They have almost no money. The wages of a farm hand are $10 a month without board. That is for the busy season; between haying and fodder time it is absolutely impossible for many a man to get work at any price, or even for his board. If a man is fortunate enough to live near the railroad or a steam saw-mill he may be able to earn from 60 to 75 cents a day and board himself. We met one man—a one-armed ex-Confederate soldier—who carries the mail on foot from Hayesville to Franklin, 30 miles, returning the next day, and who receives the splendid sum of *eight dollars a month* without board.

As for the manners and appearance of the people, they are, as a rule, rough and ignorant, but kind-hearted. There are many who would be considered lawless in other localities. We were in a country which has been in times past the paradise of the moonshiners. The densely-wooded mountain sides and deep ravines furnish excellent resorts for them. More than one man was pointed out to us who they "'lowed" could tell 'us all about the moonshiners if he would. Some desperate fights have taken place there, but the business is mostly broken up now, though we ran across the revenue officers once or twice, and had an interesting chat with them.

One thing which quickly strikes the stranger is the almost universal faded look of the women. This is perhaps due in part to their habit of dipping snuff. Everywhere we saw them—in their homes, on the street, in church—with the snuff-stick between their lips. There are few good looking ones. Very few either of men or women seemed to have any idea of the possibility of bettering their condition. There is many a cabin whose owner has for years climbed over a five-rail fence in front rather than take the trouble to put in a gate, or even make a gap in it.

In their way the people are religious, perhaps more religious than moral sometimes. They are slow to adopt new ideas and cling to the faith of their fathers. It surprised us many a time, after tramping for miles without passing more than three or four houses, to find a little log church half hid among the trees. I shall not soon forget the impression one of these rude sanctuaries made on me. It was in one of the wildest valleys in the Smokies. As we stepped inside the little building we found fronting us a rough box-like pulpit. At either end of the room was a huge fireplace. All around were placed rough benches, made by driving legs into a slab, and among these a few desks, for the church has to serve as a school house as well. On the wall were several projecting sticks, each with a nail on which to stick the candles which the church-goers bring with them to an evening service. The attempts to make the room cheerful were really pathetic. Across one side were the words "God bless our children" in holly, and around the room were several familiar mottoes, printed with a stencil on the backs of old hand-bills and sheets torn from some old ledger. We could not help wondering what our friends would say if compelled to worship in such a place.

The churches were almost always open, so they furnish a refuge to any storm-bound traveler. On Sunday one will see to the congregation faces he passed the day before perhaps half a dozen miles away, for distance does not keep them from church. They come in the morning and stay till night, listening to two and sometimes three sermons, a degree of endurance which, considering the quality of the preaching and the hardness of the seats, is remarkable.

Time forbids me to speak of the home-life, the schools, and the many curious customs of these simple people, who with all their failings are not lacking in hospitality. L. H. J.

A Persecuted Queen.

A woman already historic, although but in middle age, appeals peculiarly to the liveliest sympathy of American women by reason of her sufferings, strong personality and steady advancement of women's rights in the noblest sense. Daughter "of a line of kings," widow of the most picturesque and touching emperor of modern history, to think of her wandering about, accompanied by her daughters, seeking a suitable residence outside of Prussia on account of the persecutions by her son and his court! These persecutions began before the tears were dry she wept over her noble husband's bier; nay, they began ere he was buried, for, almost before her eyes and in spite of her prayers, was his body dissected; not with respectful hands but by his disgraced enemies (whom rumor loudly proclaims would gladly have slain him by a surgical operation, chiefly to prevent this distinguished woman from ascending the throne), and while hollow ceremonies were being performed at his funeral, a pamphlet was written in her own palace by these same enemies, printed under her son's supervision, at the cost of the government, accusing the chief physician of the late Kaiser of ignorance impossible in a matriculating student of medicine, much less the foremost specialist of England in throat complaints, merely because he was of the same nationality as this queen, whom they hate and fear.

Nor did they stop here. The public was sounded, through the government organ, to see if her son dared to annul the gifts of her late husband, under a clause of Prussian law that forbids an heir, sick of an incurable disease, to ascend the throne, and therefore all his acts would be void; but the usually tongue-tied press burst loose at this suggestion in such cries of indignation at the attempt to rob the widow, that the unworthy son and his minions could continue only such persecutions as have finally led her to seek a suitable residence in the German kingdom outside the limits of Prussia and the court's animosity.

Is not this enough to touch a responsive chord in all American hearts? But this is not all the claim she has to the sympathy and admiration of American women. Let me briefly picture her career: Although born subject to all the temptations of royal life, her parents cared for her education with pains and absence of show more in accordance with a Quaker household than a court; simple dress, plain food, watchful guard against all extravagance, every hour its appointed duty, a profession taught her so thoroughly that probably she could earn a liv-

ing as an artist. As soon as her married life opened a wider sphere, she interested herself in all efforts for women's welfare in Germany. I remember reading a notice posted in the railway wagon as I approached Berlin, that young women coming to Berlin could find friends at the offices of a society organized to supply this need, and warning them against designing persons about the depot, and in the streets. Of this society she was the head; another society to find employment for women was also under her protection; also one to provide for widows and orphans. At the same time her interest in artistic and literary life was so keen that all leaders of intellectual culture were met at her palace receptions; these pursuits ending only when nursing her stricken husband, and even leaving his bedside to visit the sufferers by the terrible freshets of the Elbe.

Such, in brief, is what all Germany knows of this worthy and gifted woman, and here seems a suitable place to insert the extract from a leading newspaper in Bavaria, which has led to this communication, premising that since every periodical is liable to be seized, its publication stopped, and publisher imprisoned without trial, if there appears any line considered as libeling the government or its officials, one must "read between the lines," and imagine how much more explicit the writer could have been had he dared to speak out. No paper in Prussia would venture to publish it, but Bavaria is comparatively free of Prussia; still, the greatest caution must be used to avoid conflict with the imperial authority.

The Berlin correspondent of the *Münchener Neueste Nachrichten* writes under date of Aug. 28, 1888:

"The news of the present visit of the Kaiserin Frederick and her daughters in Dresden to lease or buy the Schloss Albrechtsberg has caused here universal surprise. The so-called court intelligence—i. e., a daily official collection of the transactions at court, and published at government cost in all papers, irrespective of party, has of late purposely avoided mention of this high personage, only in exceptional cases and in the slightest manner, in spite, however, of all the efforts of certain people and influences to effect a change. I can assure you that in the widest sense of the words the people regard her with deepest respect and truest love, for in truth the Kaiserin is a noble martyr, aside from the frightful catastrophe that has robbed her of the best and noblest husband. Her position in the Berlin court was never enviable, and her unselfish (one might say increasing) efforts for the people's welfare, have had no appreciation (to nobly deserved) in the court circles, and only those knowing the wants of the people and her efforts in particular channels, can form an approximate idea of what she has done. The defamation, libels (*verunglimpfungen*) that have been circulated against her, especially since the death of her consort, are well known, but she has remained undisturbed by these attacks, but it is nevertheless remarkable that she seeks a temporary or permanent residence outside the borders of Prussia since she has a superabundance of castles most charmingly situated in Prussian dominions."

I think America would like to honor this queenly woman, and show her persecutors that there are sympathetic hearts which appreciate her life and work. I wish all our societies having the advancement of woman's personal and political welfare, would join in extending an invitation, through our President, to her and her daughters to make us a visit. After she had accepted all the invitations that such societies would offer, from Maine to Oregon, I think her son would let her live, honored, in Prussia, and by that time perhaps the women of England might be stirred to express, in some public manner, their indignation at such treatment as Prussia's Kaiser and Bismarck now show to the daughter of England's queen.

Frankfort, Germany. C. W. L.

Artesian Wells.—Harper's Monthly for February has a notable paper on Dakota, with fine illustrations. We clip a paragraph containing some remarkable statements:

"The artesian wells of Dakota are probably the most remarkable for pressure, and the immense quantity of water supplied, of any ever opened. More than a hundred of such wells, from 500 to 1000 feet deep, are to-day in successful operation, distributed throughout twenty-nine counties, from Yankton in the extreme south, to Pembina in the extreme north, giving forth a constant, never-varying stream, which is in nowise affected by the increased number of wells, and showing a gauge pressure in some instances as high as 160, 170, 175 and 187 pounds to the square inch. This tremendous power is utilized, in the more important towns, for water supply, fire protection, and the driving of machinery, at a wonderful saving on the original cost of plant and maintenance, when compared with steam. In the city of Yankton a forty-horse power turbine-wheel, operating a towmill by day and an electric light plant by night, is driven by the force of water flowing from an artesian well, the cost of obtaining which was no greater than would have been the cost of a steam engine developing the same power, not counting the continual outlay necessary (had steam been employed) for fuel, repairs, and the salaries of engineer and fireman. What has been accomplished through the aid of natural gas and cheap fuel in building up manufactories elsewhere, may some day be rivaled on the prairies of Dakota by tapping the inexhaustible power stored in nature's reservoirs beneath the surface."

THE HESSIANS IN THE REVOLUTION.—The hiring of these troops was bitterly condemned in the Commons, and in the House of Lords; and Chatham's indignant invectives at a somewhat later date are familiar to every one. It is proper, however, that in such an affair as this we should take care to affix our blame in the right place. The king might well argue that in carrying on a war for what the majority of Parliament regarded as a righteous object, it was no worse for him to hire men than to buy cannon and ships. The German troops, on their part, might justly complain of Lord Camden for stigmatizing them as "mercenaries," inasmuch as they did not come to America for pay, but because there was no help for it. It was with a heavy heart that these honest men took up their arms to go beyond sea and fight for a cause in which they felt no sort of interest, and great was the mourning over their departure. The persons who really deserved to bear the odium of this transaction were the mercenary princes who thus shamelessly sold their subjects into slavery. It was a striking instance of the demoralization which had been wrought among the petty courts of Germany in the last days of the old empire, and among the German people it excited profound indignation. The popular feeling was well expressed by Schiller, in his Cabale und Liebe. Frederick the Great, in a letter to Voltaire, declared himself beyond measure disgusted, and by way of publicly expressing his contempt for the transaction he gave orders to his custom-house officers that upon all such of these soldiers as should pass through Prussian territory a toll should be levied, as upon "cattle exported for foreign shambles."—*Atlantic.*

GLASS STAINING IN AMERICA.—Here in New-York, and in the shadow of indifference, the art of the glass-stainer, which in the hands of its more legitimate heirs in Germany, France and England, by the grafting of elements antagonistic to its growth, had become a mere shadow of its former self, has acquired new vigor, and even now blossoms as the rose. That this art, which is so nearly allied to the old world of the past, should find its renaissance in the last years of the nineteenth century amidst the dust and clamor of our new-world mart, is curious enough. But in a country where, in default of cathedrals inherited from ages gone by, our interest in the church is in part manifested by the fact that there are more than four thousand religious edifices of different denominations now in course of construction, this revival is more than curious; it becomes a question of eminent artistic importance. In the old world the field of the glass stainer is virtually limited to the Roman Catholic Church and the Established Church of England. Here, with the widening of sect distinctions, the churches of nearly all denominations are open to him, and it needs no gift of prophecy to foresee, in the near future, the clear sunshine gaining admittance to all our churches through colored glass, and carrying with it messages of faith and fortitude, of joyous hope and reverent memory.—*Scribner's.*

THE CABINET IN SESSION.—The President presides, seated at the head of the long table, facing north; on his right are seated the Secretary of State, the Secretary of War and Postmaster General; on his left are the Secretary of the Treasury, the Secretary of the Navy and the Attorney General; and opposite to him, at the foot of the table, is the chair of the Secretary of the Interior. The private secretary occupies a seat at a small desk facing the southern window, and near the President. This arrangement is not in accordance with the order of precedence observed by Congress in establishing the Presidential succession. If the Attorney-General and Secretary of the Navy should change seats, bringing the former fourth and the latter sixth—the rank alternating across the table—the order would be strictly correct. The sessions are informal affairs. No persons except those named are permitted to enter the room during the councils, and no official record of the proceedings is kept. The business done or discussed covers all leading subjects belonging to the various branches of administration on which the President may desire information or advice—department reports concerning special matters of importance, appointments to office, and questions of general administrative policy.

—*St. Nicholas.*

WORDS TO A WIFE.—In your study to master your husband's temper, do not forget to keep a firm hold of your own. Women are less selfish and less imperious, but they are more sensitive and hasty than men, and more apt, on small occasions, to mount into a flame and become indignant about trifles. Of all things in the world beware most of this fault, for by indulging it you lose the grace and vantage-ground of your sex. When your husband speaks harshly to you—as even the best of husbands may do in an evil moment—either remain silent, or, if you are pressed hard, give a firm but placid reply in a tone that expresses neither exasperation nor contempt.

—*Cassell's Magazine.*

Domestic Economy.

Two Italian Dishes.

That admirable cook and clever writer, Soyer, in recommending the use of ox heart and liver says "an ox in France is uncommonly like an English one," and what is cheap and palatable in one country may be—it is not sure to be—cheap and palatable in another. We have borrowed quite generally from Italian cooking the use of macaroni and salad oil; there are several Italian dishes prepared from Indian meal that combine economy with certain elegance and a satisfying richness of flavor. These we may with advantage add to our list of occasional lunch or supper dishes.

POLENTA WITH MEAT.—Make a thick mush in the usual way with salted water and sweet freshly ground Indian meal. Stir it very thoroughly and let it boil until well cooked, smooth and melting in texture. Nothing is more often badly cooked than this simplest of all dishes. Butter a pudding dish; pour in enough of the mush to make a layer half an inch thick. Cover with neat slices of fresh pork or sausage, pig's liver, ham or bacon. Cover with another layer of mush and bake for half an hour. Serve hot, and a nice, rich gravy made by simmering trimmings of whatever meat is used and thickening the stock with flour, will render it a dish fit for an epicure. This is a good way to use up the remains of a cold sparerib.

POLENTA WITH CHEESE.—A quart or two of fine, velvety mush and the last crumbs of a rich cheese will make another dish equal, as some think, to the finest imported macaroni. Grate a cupful of the cheese, and throw into the boiling mush such rough bits as cannot easily be used in any other form, a scant cupful to a quart of mush. Stir until the cheese is dissolved and thoroughly mixed with the mass; then pour a layer in a buttered dish and sprinkle thickly with the grated cheese. Fill up in this way, finishing with a layer of cheese, and adding a few bits of butter. Brown nicely in the oven and serve hot. The rich foreign cheeses are most suitable for this purpose, but any good strong cheese will answer.

DOROTHY.

Receipts for Cooking Pork.

Stewed.—Put into a large iron saucepan three fresh carrots cut in neat-sized pieces, three turnips divided into quarters, half a dozen medium-sized onions, a few sprigs of green sage, and three pounds of rather lean pork; pour over these ingredients a pint and a half of good stock, nicely flavored, add a sufficient seasoning of salt and one dozen pepper corns, then cover the pan very closely and allow the contents to simmer as gently as possible until the meat is done enough, which will be in about three hours. Place the meat in the centre of a hot dish, arrange the vegetables neatly round about, then strain the gravy, pour a little of it over the meat, and serve the remainder in a tureen. A fresh firm cabbage cut in quarters, and some whole potatoes may be added to the above mentioned vegetables, if approved of, and are thought by some people to be an improvement to the dish.

Curried.—Cut about two pounds of pork, fat and lean mixed, into neat slices, and fry them in a little pure fat until they are nicely browned, then drain carefully, and set the meat on one side. Put into the fat three good-sized onions, and three large apples, all finely minced, and move them about with a wooden spoon until they are quite soft; then press them patiently through a sieve, and mix with the pulp a tablespoonful each of curry paste, curry powder, and ground rice, a pint of stock, and a little salt. Stir the sauce over the fire till it boils, then draw the pan on one side; put in the slices of pork, and simmer gently for three-quarters of an hour. Serve the meat on a hot dish, with the sauce poured over, and a wall of boiled rice arranged round about.

Savory Chops.—Cut the chops half an inch thick from a good loin of pork; trim them neatly and sprinkle them on both sides with a liberal allowance of salt, pepper, finely-minced parsley, chopped onion, and finely-chopped green sage, or powdered dry sage; press this mixture firmly into the meat, let it lie for an hour, then lay the chops into a saucepan, with a slice of fat bacon and a small teacupful of stock, and stew them very slowly until sufficiently cooked. Place the chops, when done enough, on a hot dish, and put them in the oven, to keep hot while the gravy is being finished. Strain this latter into a small stewpan, thicken, if necessary, with a little roux, add a nice flavoring of lemon juice, boil up once, then pour around the chops, and serve as hot as possible.

Spareribs.—This is generally considered one of the most dainty parts of the pig, although the amount of flesh is hardly in proportion to the bones. Dust the meat over with salt and pepper, and put it in a baking tin, with two ounces of pure fat. Place the tin in a well-heated oven, and as the fat dissolves, baste the meat frequently. When half cooked, sprinkle over it a little flour, and baste again; then, about a quarter of an hour before removing the meat from the oven, season it well with very finely powdered sage. When done enough, serve the pork on a hot dish, with a little good brown gravy poured over it, and surrounded with a border of well mashed potatoes or baked tomatoes. Serve either apple or tomato sauce as an accompaniment. The spareribs is a very easy joint to carve, if the bones are well separated and the ribs cracked across previous to the meat being put to cook.

London, Eng. AUNT CHLOE.

Making Mittens.

Materials needed—half a skein of Saxony yarn and a set of medium-sized knitting needles.

Cast on 72 stitches—24 on each of three needles; knit 2 and seam 2 until the work measures 2½ inches. Set the thumb by widening on either side of a knitted 2 in the middle of one of the needles. The thumb stitches must be plain, not purled; widen 2 stitches every 4th time around, until there are 24 stitches for the thumb. With a threaded needle take off the thumb stitches; then cast on 8 stitches for a gore, and narrow two of these stitches each time across until only the original 24 remain on the needle. Continue to knit 2 and seam 2 all around until the work is long enough to reach the end of the little finger of the hand, then narrow as if finishing the toe of a stocking with plain knitting. Take up the thumb stitches, also the 8 cast on for the gore; narrow 2 of the 8 each time across until they are all narrowed, then knit plain until the work is long enough to reach the end of the thumb, then narrow off quickly.

These mittens will fit a hand that wears 6½ kid glove; they look very long and narrow, but the purling makes them "give" when stretched on the hand, and they are pleasanter to wear than silk mittens.

A crocheted mitten to fit the same hand may be made of the same material with a good sized steel crochet needle.

Chain 53 stitches and join.

First round.—1 single crochet in every stitch; 41 rounds like 1st; 43d—chain 11, miss 11, join in 12th stitch (to start the thumb); 41 single crochet; 44th—1 s. c. (single crochet) in every stitch; repeat to the end of 49th round; 50th—narrow (by missing 1 stitch) 32 s. c.; 51st—1 s. c. in every stitch; 52d—like 51st; 53d—narrow 1, 51 s. c.; 54th—1 s. c. in every stitch; 55th—like 54th; 56th—narrow 1, 50 s. c.; 57th—1 s. c. in every stitch; 58th to 70th—like 57th; 71st—narrow 1, 10 s. c., narrow 1, 13 s. c., narrow 1, 10 s. c., narrow 1, 13 s. c.; 72d—narrow 1, 10 s. c., narrow 1, 11 s. c., narrow 1, 10 s. c., narrow 1, 11 s. c.; 73d—narrow 1, 9 s. c., narrow 1, 10 s. c., narrow 1, 9 s. c., narrow 1, 10 s. c.; 74th—narrow 1, 8 s. c., narrow 1, 9 s. c., narrow 1, 8 s. c., narrow 1, 9 s. c.; 75th—narrow every other stitch to end of round.

Repeat last round to end of mitten and fasten thread. Finish the wrist with crochet in star stitch and shells, or shells alone.

Thumb—First round, 22 stitches. Repeat until there are 18 rounds, then narrow every other stitch for 2 rounds and fasten.

LILLIAN MAYNE.

Wool Comforters -- Squash. — A few years ago, in the COUNTRY GENTLEMAN, some correspondent wrote of the utility and lightness of bed comfortables filled with wool instead of cotton. Now, will some one posted in the matter tell what preparation the wool goes through to fit it for filling the comfortables, and the number of pounds of wool used in each? Also, can Hubbard squashes be canned in their dry state, as they come from the oven after baking? I know it is a common thing to can them after boiling; but who has done it after baking or steaming, when they are as dry and mealy as dry, well boiled potatoes? A. V. S.

Cook Book, p. 77.—I recommend Mrs. S. T. Rorer's book—principal of the Philadelphia Cooking school. She is most minute in all her directions for putting ingredients together. *J. P. S. East Hampton, N. Y.*

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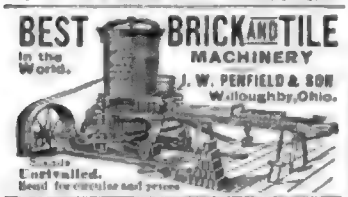

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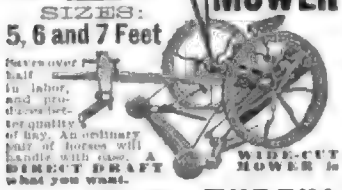

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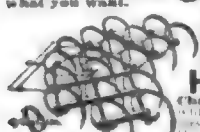

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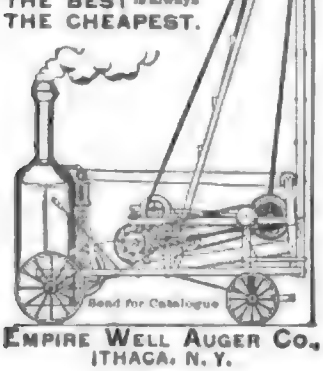

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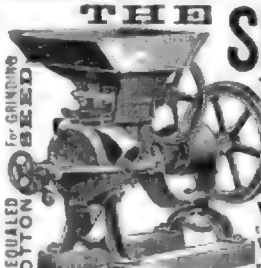

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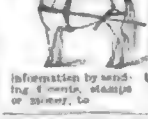

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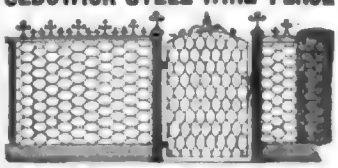

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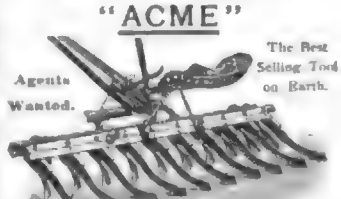

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the result is a collision, whether "coming thro' the rye," or not. Life is full of collisions. We are constantly colliding with somebody or something. If it isn't with our neighbors it is with some dread disease that "knocks us off the track" and perhaps disables us for life. Women especially it seems, have to bear the brunt of more collisions and afflictions than mankind. In all cases of nervousness, bearing-down sensations, tenderness, periodical pains, sick headache, congestion, inflammation, or ulceration and all "female irregularities" and "weaknesses," Dr. Pierce's Favorite Prescription comes to the rescue of women as no other medicine does. It is the only medicine for women, sold by druggists, under a **positive guarantee**, from the manufacturers, that it will give satisfaction in every case, or money paid for it will be refunded. See *guarantee* on bottle-wrapper.

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Pierce's Pleasant Purgative Pellets — **DR. PIERCE'S PELLETS**

Purely Vegetable and Perfectly Harmless.

Unequaled as a **Liver Pill.** Smallest, cheapest, easiest to take. **One tiny, Sugar-coated Pellet a Dose.** Cures **Sick Headache, Bilious Headache, Constipation, Indigestion, Bilious Attacks,** and all derangements of the stomach and bowels. 25 cents a vial, by druggists.

If You Desire Really Well Polished Boots, Use

E. BROWN & SON'S Royal Meltonian Blacking. It renders them beautifully soft durable and waterproof, while its lustre equals the most brilliant patent leather.

E. BROWN & SON'S Nonpareil de Guiche Parisian Polish for Dress Boots and Shoes is more elastic, and less difficult in its use than any other.

E. BROWN & SON'S Meltonian Cream, for renovating all kinds of Patent and Rus-Leather, Polo Boots, &c.

E. BROWN & SON'S Royal Lutetian Polish for varnishing RUSSIAN and every description of *Brown Leather* Boots and Shoes for Riding, Lawn Tennis, Athletic Sports, Seaside, &

E. BROWN & SON'S Royal Lutetian Cream for thoroughly cleansing and polishing all kinds of Brown Leather Boots and Shoes, now so universally adopted, for use as above

E. BROWN & SON'S Royal Kid Restorer for all kinds of Black Kid Leather, &c.

E. BROWN & SON'S Waterproof Varnish for Hunting, Shooting and Fishing Boots is strongly recommended to all Sportsmen.

E. BROWN & SON,
PURVEYORS TO THE QUEEN.
Were Awarded the Prize Medal 1862. United Telephone, 3,765.
MANUFACTORY
7 Harrison Street, Covent Garden, London, W. C. 28 Rue Bergere, Paris, France
RETAIL EVERYWHERE.

OBTAINABLE IN THE UNITED STATES FROM
Messrs. C. M. MOSEMAN & BROS., 128 Chambers & 126 Fulton Street, New-York.
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Messrs. POWER & CO., Bootmakers, School Street, Boston, Mass.
Messrs. BOYCE BROS., Grocers, southwest corner Walnut and 12th Streets, Philadelphia, Pa.

JANUARY 1st, 1889.

69th Semi-Annual Financial Statement OF THE

PHŒNIX INSURANCE CO.

OF HARTFORD, CONN.,

At Close of Business, December 31st, 1888.

CASH CAPITAL, - - - $2,000,000.00

Assets Available for Fire Losses,

$5,061,247.17

AS FOLLOWS:

Cash on Hand, in Bank, and with Agents	$668,477.69
United States and State Stocks and Bonds	149,000.00
Hartford Bank Stocks	892,150.00
Miscellaneous Bank Stocks	231,720.00
Corporation and Railroad Stocks and Bonds	2,395,472.50
County, City and Water Bonds	169,110.00
Real Estate	221,394.10
Loans on Collateral	25,925.00
Real Estate Loans	795,000.00
Accumulated Interest and Rents	22,454.20
TOTAL CASH ASSETS	$5,061,247.17

LIABILITIES.

Cash Capital	$2,000,000.00
Reserve for Outstanding Losses	205,173.25
Reserve for Re-Insurance	1,683,890.40
NET SURPLUS	1,172,413.52
TOTAL ASSETS	$5,061,247.17

Total Losses Paid Since Organization of Company,

$24,085,463.63.

H. KELLOGG, President. D. W. C. SKILTON, Vice-President
J. H. MITCHELL, 2d Vice-President. GEO. H. BURDICK, Secretary.
CHAS. E. GALACAR, Asst Secretary.

H. M. MAGILL, General Agent Western Department, Cincinnati, Ohio.
THEO. F. SPEAR, Assistant General Agent Western Department, Cincinnati, Ohio.
A. S. MAGILL, General Agent Pacific Department, San Francisco, Cal.

HOOSICK VALLEY FRUIT & STOCK FARM.—Direct to consumers. Choice Apples. Mulled Cider. Pure Horse-Radish. Grade Guernsey Butter and Calves. Address H. O. BAKER, Hoosick, N. Y.

SEA SHELLS FOR POULTRY.—Best grade, $1.50 per bbl. Obtain my descriptive circular before ordering elsewhere. F. F. KNOWLES, Guilford, Ct. [ja

INFANTILE Skin & Scalp DISEASES cured by CUTICURA Remedies.

FOR CLEANSING, PURIFYING AND BEAUTIFYING the skin of children and infants and curing torturing, disfiguring, itching, scaly and pimply diseases of the skin, scalp and blood, with loss of hair, from infancy to old age, the CUTICURA REMEDIES are infallible.

CUTICURA, the great Skin Cure, and CUTICURA SOAP, an exquisite Skin Beautifier, externally, and CUTICURA RESOLVENT, the new Blood Purifier, internally, cure every form of skin and blood diseases, from pimples to scrofula.

Sold everywhere. Price, CUTICURA, 50c.; SOAP, 35c.; RESOLVENT, $1. Prepared by the POTTER DRUG AND CHEMICAL CO., BOSTON, MASS.

Send for "How to Cure Skin Diseases."

Baby's Skin and Scalp preserved and beautified by CUTICURA SOAP.

KIDNEY PAINS, Backache and Weakness cured by CUTICURA ANTI-PAIN PLASTER, an instantaneous pain-subduing plaster. 25c.

ADVANCE IN PRICE.

TELL YOUR FRIENDS

The Ladies' Home Journal

is to be made BETTER and LARGER. It can be had now for only **50 Cents per year;** another year it will cost $1.00. We shall double the price because we cannot afford to furnish so good a paper as the JOURNAL is to be for less than One Dollar, but we shall **double its value,** and give you more of it **for your money.** AGENTS can make **hundreds of dollars** securing subscriptions at

Half Price up to July 1st, 1889.

We offer them good pay for every subscriber secured, and an extra Prize of **$500** to the person who shall send us the largest number. $400 for the second largest list, and so on. Sample copies and posters will be furnished, so that a great demand can be created in any neighborhood.

CURTIS PUBLISHING CO.
PHILADELPHIA, PA.

Cost of Coal Reduced 50 PER CENT by using the HEAT TRAP AND RADIATOR. It is the only combination for the purpose of [illegible] Full information [illegible] A. WOLCOTT, 108 Lake Street, Chicago, Ill.

PEERLESS DYES Are the BEST. SOLD BY DRUGGISTS

WANTED.

WANTED—A Situation as FARM MANAGER or SUPERINTENDENT of a Gentleman's Country Place, by one well posted in the care of stock and all kinds of farm work. No children. Can give good references. Address
jan1-3t BOX B, Monroe, Fulton Co., N. J.

WANTED—Position of Supt. or Foreman of large or small farm or country place. Having disposed of my farm, am open for an engagement as above stated. Best of references given; also security. Understand the care of stock, laying out of grounds, &c. Address MARRIED,
jan1-3t P. O. BOX 86, Chatham, N. Y.

WANTED — *April 1st* — A thorough Farmer, who understands the breeding of Sheep and raising crops for same. Also wife of farmer must make good Butter, board men and do ordinary washing for three. Farm situated on the Hudson River, near Albany. Address, with references, CALDWELL BROS.,
jan1-3t Care of Box 638, Montclair, New-Jersey.

WANTED IMMEDIATELY—A hard-working, practical FARMER, with or without family, but family preferred. If there are sons of working age, to take an Orange County Farm ON SHARES. Farm consists of 115 acres, fully equipped in all respects. An extra good chance for a thoroughly practical man. No better chance in the county; home as good. Address ORANGE COUNTY, Office of COUNTRY GENTLEMAN, Albany, N. Y. [jan1

SITUATION WANTED—As GARDENER and FARMER, by a Married Man, small family. Twenty five years' practical experience. Greenhouses, Graperies, Rose-Houses, Fruits, Vegetables, Lawns, and the general management of a Gentleman's Place. Best city references from present and former employers. Address
jan17-4t B., 1755 3d Avenue, New-York City.

CANADA HARD-WOOD UNLEACHED **ASHES**

In car lots, 14 to 17 tons. This being our only business, our long experience enables us to guarantee the quality to be the "best." Prices and pamphlet sent on application to

MUNROE, JUDSON & STROUP,
and-1y **32 Arcade Block, Oswego, N. Y.**

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ASHES!

CHEAPEST FERTILIZER IN USE,

And FREE FROM NOXIOUS WEEDS. Deliver on any railway depot in carloads of 14 to 20 Tons. Quality guaranteed. Price and analysis sent FREE on application to

CHAS. STEVENS,
Box 427, Napanee, Ontario, Canada.

I CURE FITS!

When I say cure I do not mean merely to stop them for a time and then have them return again. I mean a radical cure. I have made the disease of FITS, EPILEPSY or FALLING SICKNESS a lifelong study. I warrant my remedy to cure the worst cases. Because others have failed is no reason for not now receiving a cure. Send at once for a treatise and a Free Bottle of my Infallible remedy. Give Express & Post-Office address. DR. H. G. ROOT, 183 Pearl St., New-York.

GRASSES OF NORTH AMERICA—For Farmers and Students—Comprising their Physiology, Composition, Selection, Improving, Cultivation, Management of Grass Lands; also, Chapters on Clovers, Injurious Insects and Fungi. By Prof. W. J. BEAL of the Michigan Agricultural College. Price, $1.25. For Sale at this Office.

New Advertisements.

Terms of Advertising.

OUTSIDE ADVERTISEMENTS: Per Line.
Each Insertion (Less than 4 times $1.20)..... 40 cents.
INSIDE ADVERTISEMENTS:
Each Insertion (Less than 4 times $1)..... 30 cents.
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Each Insertion..... 50 cents.

☞ The First Insertion of ALL ADVERTISEMENTS will be on the OUTSIDE, and charged accordingly.

☞ For Advertisements ordered on FIRST PAGE, or other preferred position, FIFTY CENTS per line.

☞ Orders to correct or discontinue advertisements should reach us in all cases FRIDAY morning preceding date of paper.

☞ Advertisements for the current week are not received later than MONDAY morning; those requiring much space should be sent in SEVERAL DAYS EARLIER, to insure insertion.

MAN WANTED on a Farm of 70 acres, near Pleasdale, New Jersey; an energetic single man of good character, to raise field crops, corn, potatoes, &c., with help of a day hand. Must be a good plowman and have had experience. Not the best chance for much gardening. Address, with references, STUART, Box 1240, New-York City. [fe-3t

WANTED—A Situation as HERDSMAN or FOREMAN on a Farm, by Married Man (wife and one child). Best of reference given. JOHN PHILPOTT, Rose Creek, Minn.

WANTED—Trustworthy and competent single Man, to work on small farm. Must be a good milker. Address, with references and wages, GEO. W. BAUER, 1140 Elizabeth Ave., Elizabeth, N. J.

WANTED—Situation to carry on or share a grain or dairy farm. Family small; have fifteen years' experience in the business. Can give good references. H. D. WEBSTER, 311 East 11th Street, Wilmington, Del.

A FARMER OR FARMER and GARDENER.—Will be open for an engagement from April 1st next. Have had over thirty years' experience in some of the best establishments in this country in stock-raising, dairying, erecting buildings, growing cereal and root crops, draining and reclaiming land, laying out and keeping new work. Address GERALD HOWATT, fe7-4t Apalachin, Tioga Co., N. Y.

FARMERS. An experienced Farmer, single, Protestant, Dyrs old, is open for situation as Farm Manager. Has had ample experience and is qualified to fill such a position satisfactorily. Address Box 31, Queens, L. I., N. Y.

WANTED — JAPANESE BUCKWHEAT. Send samples, quantity to dispose of, with prices, to C. H. PELHAM, Hamburgh, N. Y.

WANTED TO RENT—With Privilege of Purchase—A SMALL FARM, near a good market. Give rent per year. Address W. W., 188 North Pearl St., Albany, N. Y.

FOR SALE OR EXCHANGE—238 acres. Fine location, good buildings; near city. L. PACKARD, Rome, Oneida Co., N. Y.

FARM FOR SALE OR EXCHANGE FOR STOCK OF GOODS.—A Farm of 116 acres, adapted for stock or grain. Good house, large barns, basement 32x64 under one barn. Never-failing water, force pump and windmill. Farm faces the main street in the village of Newark Valley, N. Y. which is a beautiful village, containing four churches, large Union graded school and railroad station within ½ mile of farm. Price low with long time for part payment, if desired, at 5 per cent. interest. For particulars address WM. H. WILL, fe7-4t Newark Valley, Tioga Co., N. Y.

FOR SALE—A very superior GRAZING FARM, in FAQUIER COUNTY, VIRGINIA. Situated on the line of the Fleetwood (Va Line Railroad), forty miles south of Washington City, and one mile from Warrenton Junction (Virginia Midland Railway).

This tract contains 1000 acres, over 600 of which is highly improved, is of superior quality for grass and grain, is well watered, has a handsome and commodious residence with modern improvements, all necessary outbuildings, stone grist mill, cutting boxes, &c. Two large streams run through the farm. This fine body of land will be sold at a sacrifice as a whole, or in two or three parts. For further information address A. N. BARTHELL, fe7-3t 37 W. North Avenue, Baltimore, Md.

FOR SALE OR EXCHANGE,

The Finest, Largest and Most Improved 178-ACRE GRAIN, GRAIN and STOCK FARM in Buena Vista County, Iowa, bordering on a beautiful lake. Six miles from County Seat and Railroad Station. Cuts 500 tons best quality of hay. Fifty thousand dollars have been spent in substantial improvements on the farm during the last ten years, and a profitable trade established in Short-Horns, Cotswolds and Shropshires, many of which have been show-winners of national reputation. The Farm will be sold with or without stock or tools, on easy terms, on account of ill health of owner. Most of the stock is from the best celebrated herds and flocks in England and Scotland, and was selected with great care and regardless of cost. Will exchange for improved city property. For particulars, apply to LUTHER ADAMS, Proprietor, 188 State St., Boston, Mass. [fa7-13t

FOR SALE—FARM of 80 Acres, situated two miles west of the city line of Syracuse, N. Y., and five minutes' walk from railroad station; first class house, with hot and cold water; good barn, and well watered. For particulars and prices, address GEO. GEDDES, je14* Pompeiana, N. Y.

MEEHANS' NURSERIES

RARE TREES A SPECIALTY. HAS 750 ACRES AT THE CENTENNIAL EXHIBITION. NO AGENTS. DEAL DIRECTLY WITH CUSTOMERS, AND GET THE VERY STOCK AT LOWEST PRICES. THE CHEAPEST AND TO BUY. ILLUSTRATED CATALOGUE OF TREES, FRUITS, SEEDS, &c., SENT FOR 6 CENTS IN STAMPS.

THOMAS MEEHAN & SON, Germantown, Phila., Pa.

SMALL FRUIT PLANTS.—Strawberry, Bubach No. 5, Jessie Wardsell's No. 5, Jewel, Pearless, Crescent, Cumberland, Sucker State, &c. &c. Also Raspberries, leading sorts. We raise the fruits of both by the acre and feel able to furnish the best for market or home use. Circulars of prices sent to all who ask for it. Address JAMES EDGERTON, Harmersville, O.

ROYAL BAKING POWDER

Absolutely Pure.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds, and cannot be sold in competition with the multitude of low test, short weight, alum or phosphate powders. Sold only in cans. ROYAL BAKING POWDER Co., 106 Wall St., New-York.

ORCHARD SEED FOR SALE.—250 Bushels of first class Seed, of my own raising. fe7-3t THOS. H. HUNT, Greenwich, N. J.

OATS—WHITE SWEDISH; a new variety; the earliest and most prolific known; very heavy grain, large and plump, stiff straw, free from rust, tillers freely, can be sown thin. One bushel to acre. Seeds from This advertisement will not appear again. Look Box 61, Brockport, N. Y.

SMALL FRUIT PLANTS.

Plants at one-half the usual price. All stock warranted. Good references. All of the leading varieties of Berries, Currants and Grapes. Send postal card for prices. REESA G. MITTEL, Manchester, Ontario Co., N. Y. fe7-3t

SEEDS—Choice Northern Grown Farm, Vegetable and Flower. Catalogue FREE. RICHARD SOTT BURLINGTON, VT. [3t

The Albany Seed Store.

ESTABLISHED 1831.

SEEDS,

Vegetable, Field & Flower,

IN ALL VARIETIES.

SEND FOR OUR NEW CATALOGUE.

Free to all on application.

PRICE & REED,

Successors to Price & Kanaberskaw,

fe7] ALBANY, N. Y. [3t

GLOBE Peach Trees with other leading kinds, in good supply for spring planting. Genuine nursery stock—Circular, Gratis, &c. Address JOSEPH J. A. ROBERTS, Malvern, Pa. fe7-3t

If you want the best Garden you have ever had, you must sow

MAULE'S SEEDS.

There is no question but that Maule's Garden Seeds are unsurpassed. Their present popularity in every county in the United States proves it, for I now have customers at more than 20,000 postoffices. When once sown, others are not wanted at any price. My new catalogue for 1880 is pronounced the most original, beautifully illustrated and reliable Seed Catalogue ever published. It contains among other things, cash prizes for seventeen vegetables, etc., to the amount of $3,500. You should not think of purchasing any seeds this Spring before sending for it. It is mailed free to all enclosing stamp for return postage. Address

WM. HENRY MAULE,
1711 Filbert St. PHILADELPHIA, PA.

FOREST TREES.

Catalpa Speciosa, White Ash, European Larch, Pines, Spruces, Arbor Vitæs, etc., etc.

Catalpa Speciosa Seed.

Forest and Evergreen Seeds.

S. DOUGLASS & SON, Wassaquan, Md.

SIGNAL 1170.

JERSEYS of the SIGNAL STRAIN a SPECIALTY. The Home of Signorette, 861 lbs. 6¾ oz. in a year; average daily gross test 3 lbs. 6 oz. Champion of her age. G. W. PARKER, Trenton, N. J. [fe7-

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UNEQUALLED IN

Tone, Touch, Workmanship and Durability.

WILLIAM KNABE & CO.,

BALTIMORE, 22 and 24 East Baltimore Street.
NEW YORK, 112 Fifth Av. WASHINGTON, 817 Market Space.

CHESTER WHITE PIGS, A. J. C. C. JERSEY CATTLE and LIGHT BRAHMA FOWLS. Stock of the choicest breeding at moderate prices. Send stamp for circular and price list. fe7- L. B. MORSE, Newark, Wayne Co., N. Y.

FOR SALE—Two SCOTCH COLLIE Dogs, sons of Ben Nevis. Color sable; seven months old. Address H. RAMSDEN, fe7-2t Morton, Pa.

BRONZE TURKEYS, P. R. COCKERELS, LARGE GREESE and JERSEY BULL. Stock fine; prices moderate. H. A. CROASDALE, Del. Water Gap, Penn.

WHITE HOLLAND TURKEYS—Six dollars per pair: Pure-Bred LIGHT BRAHMAS (Felch and Williams), from three to five dollars per trio. G. F. FELLOWS, Lyons, N. Y. [fe7-6t

BARGAINS, FARMERS!—Light Brahmas, Wyandottes, Plymouth Rocks not inbred, from raised, good layers. Gap preventive and mop cure guaranteed; No. 1 size, 10c., postpaid; 15 years' experience. JESSE REIFSNIDER, Manufacturer, Frederick, Md.

WARREN HARPER & BRO.,

Fruit and Produce

COMMISSION MERCHANTS,

110 Dock Street,

PHILADELPHIA, PA.

Splendid Location. Good Salesmen. Prompt Returns. References—Girard National Bank. [fe7-4t

TO BREEDERS!

The great New-York Prize-Winner, DUKE, the handsomest horse in America. Sire, imp. Bonnybam, the greatest Coach Stallion in the world; dam by Lida's Lexington, by Lexington, dam of Lida's Lexington (said to be by The Moor, by Sir Piliot, by Weaver's C. M. Clay, Jr., by C. M. Clay, sr., dam of Weaver's C. M. Clay, Jr., Kate by Pilot, Jr., the sire of the dams of Maud S. and Jay-Eye-See). Dam of Duke by Comet, by Black Hawk, by Sherman Morgan. Black Hawk 5 has over 125 descendants in the 2.30 list. Lexington stood the sire of Ansel, 2.18, and three others in the 2.20 list; also, one remove further, of Sunol, 2.18, as a 3-year-old; Jay-Eye-See, 2.10, the fastest gelding; Characious, 2.16, the fastest horse ever named in New-England, and Maud S. is a descendant through her second dam, of Boston, the sire of Lexington. The Moor has five in the 2.30 list, and sired Nutan, with 17 in the 2.30 list also the dams of Hinda Rose, 2.18¼, 3 years old; Red Boy, 2.20, as a 5-year-old and 2.19¾, as a 6-year-old; Bell Boy, 2.21¾ as a 3-year-old; Calista, 2.25¾ as a 3-year-old; Belle Wilkes, 2.15 as a 3-year-old, and others.

DUKE has a long, happy way of going. I drove him in September last, in 6-year-old form, and after he had covered 120 mares, a full mile in 2.32½, and a quarter in 41 seconds, with no mistakes. After standing 9 days in loose box he stood and drove one mile, hauling two men and beating the Ohio pacer out twice. They offer to put up money that the Ohio pacer can go a mile 10 seconds better.

DUKE will be allowed to serve a limited number of mares at $25 for mares not owned in Saratoga County, $20 adjoining. Address WALLACE L. HUBBS Jonesville, N. Y.

I DRINK WATER!

FROM

"RUSTLESS IRON PIPES"

MADE BY THE

WELLS RUSTLESS IRON Co.

21 CLIFF ST. NEW YORK CITY.

SEND TO THEM FOR CATALOGUE.

COLLIES

TEN LITTERS of PUPPIES,

Ready to ship, not akin, sired by Clifton Chief, litter brother to Carnegie, the best living dog in the world, and Fordham Squire, a son of Champion. The Squire.

CHESTER WHITE, YORKSHIRE, BERKSHIRE, PLAND-CHINA and JERSEY RED PIGS of all ages.

FANCY POULTRY, and EGGS FOR HATCHING, 8 breeds, including Red-Caps, Minorcas, &c.

Send at once for Prices, and our Illustrated Catalogue.

W. ATLEE BURPEE & CO., Philadelphia, Pa.

SPRING PIGS

KLAYTONIA'S SON — HOLSTEIN-FRIESIAN BULL—Sire, Jacob Wm.; dam, Klaytonia, record 20¼ lbs. butter in one week, 80¾ lbs. butter in one week. BULL CALVES by this finely bred Bull, out of good dams. Address, with stamp, jan18-3t D. D. WAUGH & CO., Boston, Pa.

FILSTON FARM HERD.

Containing some of the best blood known in America and on the Island. Headed by Matilda's Duke Pogis 1888, son of that greatest of dairy cows, Matilda 4th, 19,153 lbs. milk and 997 lbs. 14 oz. butter in 12 months; official test 21 lbs. 8½ oz. in 7 days without forcing; by Mabie Pogis 5th, full brother to Mabie Pogis 3d. Bull Calves from the best Cows only (the Heifers) for Sale. EDW. AUSTIN, Gloucester, Md. [fe7-1yr

Special Rates Renewed.

As the conditions under which Special Winter Rates for the COUNTRY GENTLEMAN were offered last year, continue substantially the same, we have decided to Renew the Offer for the current season—presenting, as will be seen, immediate inducements for Every Reader to procure at least One New Subscriber, and for Every Club Member to aid in increasing its numbers. Take early advantage of these figures:

TWO SUBSCRIPTIONS, in one remittance, $ 4
SIX SUBSCRIPTIONS, do. do. 10
TWELVE SUBSCRIPTIONS, do. do. 18

Any larger number of Subscriptions, or additions to Clubs made up under the last offer, to be at the same rate per copy, and the prizes given are for next week with the order.

☞ Any one so desiring can now remit $10 for a Club of twelve—sending in the names afterward singly or as they are obtained—which will insure to New Subscribers the immediate arrival of the paper, without delay for others.

☞ These Clubs need not be all at the same Post-Office.

☞ Remittances by Bank Draft, Cheque, Money Order or in Registered Letter. Address

LUTHER TUCKER & SON,
ALBANY, N. Y.

39th Annual Statement

OF THE

ÆTNA

Life Insurance Co.

OF HARTFORD, CONN.,

January 1, 1880.

Premium Receipts in 1879.....	$3,464,944.14
Interest Receipts in 1879.....	1,730,120.97
Total Receipts during the year...	5,135,065.13
Disbursements to Policy-holders and for expenses, taxes, &c.....	4,046,480.36
Assets January 1, 1880.....	$23,819,934.97
Total Liabilities.....	20,532,979.73
Surplus by Ct., Mass. and N. Y. standard.....	3,286,955.24
Surplus by many States.....	7,325,000.00
Policies in force January 1, 1880, 87,749, insuring.....	193,904,303.44
Policies issued in 1879, 8,983, insuring.....	16,094,567.00

MORGAN G. BULKELEY, President.

J. C. WEBSTER, Vice-President.
J. L. ENGLISH, Secretary.
H. W. ST. JOHN, Actuary.
GURDON W. RUSSELL, M. D., Consulting Physician.

NEIL GILMOUR, Manager,
Albany, N. Y.

☞ AGENTS WANTED

CHOICE ENGLISH MASTIFF DOG PUPS, from $20 to $25. For detailed pedigree and prices, address HERBERT MEAD, Lake Waccabuc, N. Y.

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IMPROVED

Butter Color.

EXCELS IN { STRENGTH PURITY BRIGHTNESS

Always gives a bright natural color, never turns rancid. Will not color the Buttermilk. Used by thousands of the best Creameries and Dairies. Do not allow your dealer to convince you that some other kind is just as good. Tell him the BEST is what you want, and you must have Wells, Richardson & Co's Improved Butter Color. Three sizes, 1qr. 2qr. $1.00. For sale everywhere. WELLS, RICHARDSON & CO. Burlington, Vt.

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VOLUME LVIII.

THE COUNTRY GENTLEMAN

ESTABLISHED 1831.

ALBANY, N. Y., FEBRUARY 14, 1895.

ONE DOLLAR PER YEAR.
SINGLE COPY, FIVE CENTS.

THE COUNTRY GENTLEMAN
Albany, N. Y.
Subscription Price, $1.00 a Year.
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Remittances should be made by Money Order, Express Order, Bank Draft or Registered Letter.
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TREE-SHOD
Tree-Shod Horses Do Not Slip
Tree-Shod Horses Do Not Interfere
Tree-Shod Horses Do Not Forge
Tree-Shod Horses Do Not Pull Shoes
Tree-Shod Horses Do Not Cut Quarters
Tree-Shod Horses Do Not Cut Heels
Tree-Shod Horses Do Not Cut Toes
Tree-Shod Horses Do Not Cut Coronets
Tree-Shod Horses Do Not Cut Ankles
Tree-Shod Horses Do Not Cut Knees
Tree-Shod Horses Do Not Cut Hocks
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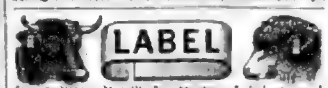

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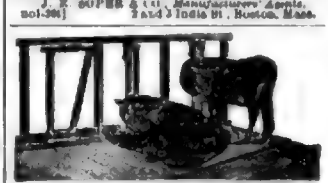

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THE CULTIVATOR
AND
Country Gentleman

Albany, Feb. 14, 1880.

Fall and Spring Plowing.

EDS. COUNTRY GENTLEMAN—This subject has been somewhat discussed in the COUNTRY GENTLEMAN, and I see that a good deal is said about it in other agricultural papers. The writers do not agree. They form their opinions from differing evidence. They work under different conditions. Soils are unlike. Winters are unlike. Treatment is unlike. All taken together, there is a fine chance for widely-differing opinions in many ways. A wet and rainy winter will operate unlike a dry one. A snowy region will leave the land in spring in a very different state from one where the ground often remains bare.

Many years ago I was a strong advocate for fall plowing. My horses were in a strong condition, had comparatively little to do, and I had found that early-sown crops, especially of oats and barley, were better and heavier than those which had a late start. Besides, I did not like to put the team to constant hard work as soon as spring opened. Among other trials, I plowed half a rich pasture in autumn, for corn in spring, and left the other half for spring. The soil was a strong loam, rather heavy, such as the advocates for fall plowing asserted would be specially benefited by the operation. There was not much snow that winter, just the kind of weather which these advocates said was the right kind to follow fall plowing and to allow the land to be mellowed and pulverized by the freezing. But there were heavy rains late in fall, during winter, and in early spring. These made the inverted earth on the sod resemble mortar. (By the way the field had been regularly tile drained.) This mortar hardened, and by corn-planting time, the plow and harrow had a hard time to reduce it. The corn was visibly inferior to that on

The Spring-Plowed Land.

This I plowed as near to planting time as practicable. It had become sufficiently dry through the influence of natural and artificial drainage, to turn over handsomely and fairly mellow. The roots of the clover had helped the mellowing. Harrowing did the work well; the soil was fresh, clear and free from grass. The crop was distinctly better on this half of the field than the other half.

I have since repeated both ways, but not always with like results. If I could only know beforehand what kind of weather we were going to have through the winter, I might always be fairly successful.

Since the invention of the Acme and other good harrows, I have an additional guarantee for good crops from fall plowing. I generally prefer to plow a part of my corn land in autumn, to save the hurry and crowd of spring work, and then as soon as the snow and frost are gone, and the soil in good condition for working, to run the Acme harrow over the inverted sod as often as once a week, till the corn is required to be planted. This reduces the earth to a good mellow state, and cuts off and kills the young grass which is always sure to find its way up to the surface through April and the first two-thirds of May, and which a common harrow will not cut off. The smoothing harrow immediately proceeds the marking. Here I have two important points gained, a mellow soil and the reduction of the grass. In earlier years, those two,—clods and grass,—I found the great drawback to fall plowing.

I would now recommend to every farmer who wishes to know which is best, to try both ways on his own land, half and half, instead of reading the arguments of writers who live a hundred or a thousand miles away. He need not be so exact as to have a land surveyor to measure each of the acres, but he may count the rows, and count the baskets of ears from each portion. He may then be able, after some years of experience, to decide which is best in his particular region of heavy or light soil, wet or dry weather, hurried autumn or hurried spring work.

I may add that on the whole I find spring plowing, just before planting, to be attended with the least amount of labor, and I can get far ahead of the grass and weeds by planting the ground as fast as it is plowed in wide strips, harrowing it immediately and thoroughly, and planting in drills or else in rows of hills but one way. The soil is then fresh and moist, and the corn is well up before the grass can contest the race for air and sunlight. Nevertheless, it is often better, in order to equalize the work between autumn and spring, to plow at least a part of the ground in autumn, and be willing to give the additional labor of keeping it clean and mellow between frost and planting, in order to avoid the greater inconvenience of too much hurry from the crowd of spring work.

AN OLD FARMER.

Experience with Ensilage.

EDS. COUNTRY GENTLEMAN—I am much interested in the discussions on the subject of silos and ensilage in your valuable paper. I have practiced this system quite extensively for twelve years, and possibly my experience may be of value to some of your readers. I have found those silos most convenient and best adapted to preserve ensilage from deterioration while feeding from the end surface, which are not more than 8 or 9 feet in width by from 15 to 20 feet in height. To expose a larger surface than this to the air, even for feeding a large stock, for as long a time as would be required between the successive cuttings down, will tend to injure the ensilage upon the exposed surface during the period between successive cuttings. I feed 100 or more cows from a single silo at the same time; and, with proper care in cutting down the ensilage, so as to leave the surface smooth and undisturbed, cutting from 2½ to 3 feet in thickness at a time, I find the ensilage in winter weather will be kept perfectly and not be injured by exposure to the air; but the exposure of a larger surface than this, even as required in feeding as large a stock as my own, is injurious to the ensilage. A certain amount of exposure to the fresh air after being cut from the silo, is necessary in order to remove the carbonic acid gas, but any further exposure is not beneficial. I have myself in several cases sub-divided silos in order to reduce the surface which will be exposed in feeding, and always with advantage.

The suggestion of feeding from the top of the silo instead of the end, is interesting. I have myself planned, for distant parts of my farm, (in order to save the time and labor in harvest time of drawing the entire ensilage to my cattle barn from these points), deep silos in the form of wells. These may be built of stone and lined with brick in cement, and made 10 or 12 feet in diameter, and to as great depth as can be got without reaching water, a roof being placed above them. This ensilage can be drawn from time to time as required for feeding in winter, drawing enough for one or two days at a time, and by packing it in barrels it can be readily lifted from the silo by a windlass or a chain-lift into the wagon or cart, and fed from the barrels as wanted. Thus I expect to be able to get the products of my distant fields to my barn for feeding at much less cost than this can be done in harvest time. The amount which may be thus drawn at a load when the ensilage is cured, will be very much greater—at least twice or three times as great—than can be conveniently drawn at a load when the corn is whole and green. The wall silo will afford undoubtedly the very best means of preserving the ensilage against deterioration by exposure of the surface while feeding, because at each successive drawing from the silo it will be an easy matter to tread down the surface, and, if necessary, a little fine cut hay or straw may be spread over and trod down upon the top of it so as to entirely protect it from exposure to the air; but this precaution will not be at all necessary in cold weather. I intend to build some of these silos the coming spring.

It is important always to keep in mind that cattle, in order to the best health and thrift, should never be fed wholly upon one kind of food. One feed per day of good hay, and the addition of from two to to four quarts of meal, will be found important factors in the feeding of cattle with ensilage as well as with other food. O. B. POTTER. *New-York, Jan. 30.*

From Northern Illinois.

EDS. COUNTRY GENTLEMAN — Confirmed grumblers as we farmers are, we cannot, at all events, complain of the weather. A particularly fine summer and fall have been followed by a very mild pleasant winter up to the present time. Instead of snow, we have had rain, which, while it has not broken up our roads, has prevented our suffering from the intense cold we always have when the ground is covered with snow. In great contrast to last winter, all our live-stock look well and thrifty, and have required far less feed.

Prices, particularly for cattle, grain and hay, are too low to leave any margin for profit, and even hogs which began well, and of which there was said to be a short supply, are now falling fast—possibly in some degree from the open winter which has allowed of the fattening of pigs much younger than usual. For sheep there has been a decided demand for feeding. A neighbor told me he fed last winter and made $1,000, and his brother had lost $1,000 in feeding cattle this winter. They and a neighbor are feeding 5,000 head, principally from Colorado and Montana, being obliged, however, to get them from the Chicago stock yards. I see it suggested that feeders of sheep should get them direct from the western ranches instead of having to pay toll to middlemen, and the stock-yard charges which are exorbitant. But I understand this would be difficult, as the railroads are said to discriminate largely in favor of Chicago. Millers have told me that they were obliged to get their wheat for grinding through Chicago instead of direct shipment to their mills.

Crops of all kinds were good in this section,—corn better than at any time since 1860. This time last year we were buying in Nebraska; now at 12 months' credit sales, without interest, it is selling at 28 cents per bushel; oats, 16 and 19 cents. Rye yielded well and was a profitable, crop as the straw was in good demand for a paper mill and brought almost as much as straw and grain together in other years. But our main-reliance cattle are "down in the doldrums"—are almost unsalable. Fat cows have sold as low as two cents per pound in Chicago, and a butcher here told me he bought for $1 50 per cental. He said: "I ask $3 per cental for fore quarters, but take what I can get." How is it? Have our western ranches already produced this glut in the market? A few years ago nothing sold so readily as beef, and other countries cannot have increased their product so much. Denmark is said to be the only country in which agriculture now pays a fair profit, and their exports are mainly confined to beef and butter, having almost a monopoly of the East India market for butter, which they ship in air-tight cans. Our butter, which won't stand a trip to Europe, would hardly bear the test of the Suez canal. Why are our butter, lard, salted and cured meats looked upon with such disfavor in Europe? Is there a European league to keep out our products or are they really inferior?

Hope remained in Pandora's box when all else had fled. So with us, our hope is the Anglo-Swiss Milk Co. whose immense pile of buildings is gradually growing to completion. At 1,500 feet in depth their artesian well gives 300 gallons per minute; every thing is being done to be solid and durable without regard to cost. They are building, they say, not for present needs, but future growth, though with some misgivings about our roads and the cool indifference of the farmers. They expect to begin operations in June, and have put out a prospectus giving probable prices and requirements from contractors—60c. per cental for summer milk, four months; $1.10 for four cool months; $1.40 for four winter months—farmers to bring milk in cans which they furnish. After such an outlay of capital they will be obliged to pay enough for milk to break down the present creameries and this will revolutionize the existing methods of farming hire. Many of our farmers are now testing the matter—weighing milk and food, and figuring cost. Some have visited Elgin and Dundee to see how it works there, and they report farmers in that neighborhood rich; fine houses and barns, none but milch cows, no calves, no hogs, all meadows, with other feed—bran, shorts, &c.—bought in Chicago; but it seems to me that if ever a farmer could raise corn to advantage it would be when he has large stores of manure from stabled cows and necessarily much spare time for the milkers. J. T. L. *Lee County, Jan. 28.*

New-Jersey State Board.

The 16th Annual Meeting of the State Board of Agriculture convened at Trenton, Jan. 30, with delegates from nearly every county board of agriculture in the State, as well as granges, the State Horticultural Society, the Cranberry Growers' Association, the State Experiment Station, the Agricultural College, and the Geological Survey. The report of the Executive Committee showed encouraging progress. The reports of the county boards of agriculture from eighteen counties show increased interest. A report from Atlantic County says there is not a self sustaining farm in the county. Nearly all county boards complain that interest and taxes paid by farmers are too high, and cost of transportation is too heavy. There is a large increase in the amount of milk produced. Largely increased acreage in peach orchards is reported, and increased acreage in other fruits and berries. Sheep growing is reported steadily on the decline, owing to the immense number of dogs. Farm help is reported scarce, and constantly changing. But little disease is reported among cattle, and fatality small. Injurious insects are reported greatly on the increase, and their depredations on growing crops becoming more and more harassing with each succeeding year.

Col. F. D. Curtis of New-York addressed the Board on the "Possibilities of the Dairy." He was listened to with marked attention.

President Burrough read his annual address, referring to the work of the Agricultural College and Experiment Station, and to the question of drainage, giving a synopsis of the work of the Legislature in past enactments for the reclaiming of low lands. He also spoke briefly of western and southern competition in farm products, which has so reduced the profits of the New-Jersey farmers that their lands have decreased correspondingly in value, until the assessed valuation in many cases exceeds what would be obtained for the land, if sold. He spoke favorably of the progress that has been made in experimenting with the beet sugar and sorghum industry, and expressed his faith that this would yet become an important industry in the State, believing that the only encouragement necessary, would be a mill for the reduction of the cane, which could be operated with a small capital. He stated that during 1887 there had been imported from Europe and from British American Provinces, over eight million bushels of potatoes, 1,900,000 bushels of peas and beans, 500,000 bushels of wheat, and 100,000 tons of hay, and urged upon farmers the necessity of organized demands upon their State Legislature, and upon Congress, for the enactment of such laws as would prevent the importation of such immense quantities of farm products, which could so readily have been produced at home, urging that county boards, granges, and other agricultural societies should cooperate with each other and with the State Board in making such organized efforts. In connection with the adulteration of food products, he urged the necessity of the appointment of inspectors, whose duty it should be to inspect food products wherever found on sale, and especially to inspect beef animals on the hoof and prevent their slaughter and sale when not in proper condition. In conclusion, he urged upon farmers the necessity of a wider knowledge of chemistry, recommending that text books on agriculture be introduced into the public schools in farming communities, and congratulated his audience on the progress that had been made by the farmers of New-Jersey during the past, expressing the hope that the agricultural industry of the State would receive such protection as it is entitled to, intellectually, financially, socially, and morally.

Lieut. E. W. McGann gave an address on the work of the Signal Service in New-Jersey.

J. B. Rogers presented a report on weights and measures, showing that there was no standard in the United States, and that there was a wide difference in measures, even within the State.

Chemist Wiley of the Department of Agriculture gave an outline of what his department has been doing.

Prof. W. O. Atwater, Chief of Division of Experiment Stations, spoke at length on the work of his department at Washington, and of the many State departments acting with him.

The Blish bill, reducing the number of

chosen freeholders to three for each county, was discussed at length, without action.

P. H. Jacobs gave an address on "The Poultry Interest of New-Jersey." He advocates the holding of poultry fairs in winter, during which time the fowls are in full plumage. He hopes the State Board will do everything possible to encourage the formation of a State poultry association. Mr. Voorhees called attention to the fact that there is such an association now.

Mr. Baker of Cumberland presented the report of the State Premium Committee, showing astonishing yields of various crops throughout the State, among which may be mentioned a yield of 8,034 pounds of grapes from one acre, which sold for $252.26, first premium to Asher B. Rue of New-Brunswick of $35; 1,611 quarts of raspberries from one acre, raised by Chas. H. McKirgan of Newark; 978 bushels of apples from three acres, raised by William B. Lippincott of Hartford; 775 baskets of tomatoes, from two acres, raised by same party; 24,300 quarts of milk from twelve cows, first premium, $100, to the same party; 3¼ tons per acre of timothy hay from five acres, by John H. Denise of Freehold; 2¾ tons per acre of clover hay on five acres, by same party; 195 bushels of rye from five acres by D. A. Vandevere, of Manalapan; 379¼ bushels of potatoes from one acre, by the same party; 9,446 heads of cabbage from two acres, by Chas. H. Dudley of Burlington County; 610 bushels of onions per acre, raised by John H. Vanness, Pompton Plains.

The Committee on Legislation reported, the important items being as follow:

In regard to the recommendation of the Harris bill, now before the Legislature, providing a jury trial for persons dealing in oleomargarine, the committee reports adversely, believing the present law had best be left as it is.

In the matter of the bill for the establishing of a Meteorological Bureau in the State of New-Jersey, supported by State appropriations, the committee reports favorably.

A draft of bill providing for the arrest and punishment of persons trespassing upon farm lands, the committee reports adversely, and expresses the opinion that the present law is more satisfactory than the one proposed.

In the matter of the demand of farmers of Warren County that a stringent dog law be passed to provide that owners of flocks of sheep shall be fully reimbursed for any damage done by dogs in the State, and in the draft of bill submitted by Monmouth County, requiring that all dogs shall be registered, and wear a collar bearing the owner's name and the registry number, after considerable discussion, the matter was referred to the Executive Committee of the State Board, to take such action as they may be able, looking to the passage of a law that shall decrease the number of dogs allowed to run at large, and the designation of some person or persons in each township, borough or ward, to kill dogs not legally protected.

Director Alvord of the Maryland Experiment Station opened a discussion on "The present status of the ensilage question." He stated that silos may be built from any description of building material, at a cost varying from one dollar to two dollars or more per ton capacity, and also asserted that the cost of such silo storage is less than any other form of farm storage.

Major Alvord was followed by Mr. E. B. Voorhees with a paper on "The Chemical Features of the Silo," and by Ellwood Evans and many other gentlemen taking part in the discussion.

Mr. P. T. Quinn of Newark followed with an address on "The Advantages and Improvements of Agricultural Fairs," and recommended that the managers of the several fairs throughout the State and throughout the country, meet at least once a year to compare notes, and thus gain an experience that can only be expensively bought otherwise by years of failure in many cases. He thinks that the only road to success for agricultural societies is for the manager to cater to all classes of exhibitors neither excluding horse racing nor offering more encouragement to it than any other department.

Committee on Tax Laws, appointed at the last meeting of the State Board, reported that the farmers of the State of New-Jersey were carrying from three to six times their just taxation. They recommended a law to be passed that all obligations held and not reported to the assessors shall be null and void, and no recovery can be had for such debt or obligations when not reported.

Prof. P. T. Austin followed with an address on "The Past, Present and Future of Scientific Agriculture."

Prof. A. C. Apgar spoke on "The Study of Plant Life in Schools." He thinks the science of agriculture should be taught in our public schools, and that one day in each week might be profitably passed by teacher and pupils in the open field, in the study of plant life and growth, in simplest forms, in order that farmers' children may become acquainted with the simple principles underlying all plant growth and reproduction.

E. B. Voorhees made report on the New-Jersey Experiment Station, which was received with interest, from the fact that strong opposition had been felt to the expenditure by the State of large sums of money for this station, a committee having been appointed last year to visit the station and inspect its workings. Mr. S. B. Ketcham, chairman of the committee appointed to inspect the State college, presented his report, showing that the opposition had been laboring under a misapprehension as to the work done. The committee believe the money expended in this way makes as good a return as any money expended by the State of New-Jersey.

J. D. Taylor spoke of home markets and their protection; immigration, and the dangerous classes of people overrunning the country; the compulsory education of the Indian and the colored population of the South; of coinage and its effects on the markets of the country.

He was followed by J. H. Buchanan, who outlined the work now being done in Congress for the farmer.

The State Grange and Patrons of Husbandry reported gratifying progress in the State, 193 new granges having been organized in the United States during the year.

Entomologist Lintner of New-York delivered an address on "Our Insect Enemies, and How to Meet Them." The damage done by insects to farm products throughout the State is something enormous. He states that the damage done by the chinch bug alone in one of the States amounted to $73,000,000 last year, and that similar damages have been done by other forms of insect life in all parts of the United States and Europe. He referred to the wide extension of the knowledge of these injurious insects in the past few years, stating that our information on this subject, as given by lexicographers in the past, is very similar to Dr. Johnson's definition of "net-work"—"interstices between the intersections." He states that there are 320,000 known species of insects, and also that the single increase of a single plant louse in one year, if placed in line, end to end, would reach from the earth to the sun, and from the sun to the nearest fixed star, and still onward, ten times the distance traversed, and that one insect increases in its natural growth 10,000 times in thirty days. He recommended the farmers of New-Jersey not only to pray against their insect enemies, but to supplement their prayers with the force pump and London purple.

He was followed by Prof. Geo. D. Hulst on "Entomology in New-Jersey, Beginning and Prospective Work of the Experiment Station in this Department," in which he outlined the work of the station since its establishment, and requests farmers to forward to the department specimens of any new or unfamiliar insects they might find, but to send the same in boxes. His address was followed by an extensive discussion on insects injurious to cranberries, cabbage, corn, and fruit trees, and also in regard to the fly that has made its appearance on cattle in great numbers.

W. W. Case made an address on "Money-Making and Honey-Making," followed by discussion.

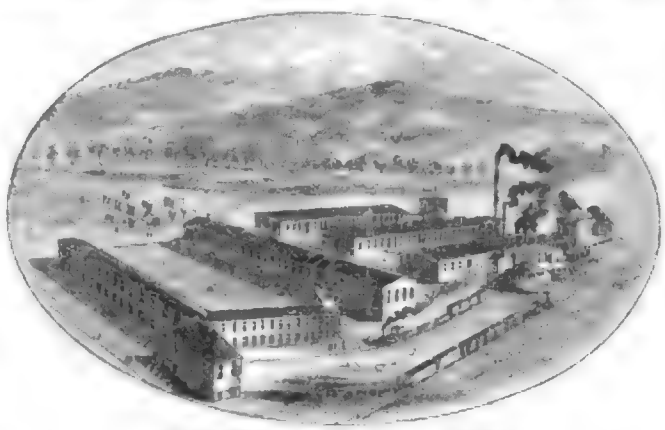
The committee to nominate officers for the ensuing year presented their report as follows: For president, Hon. Edw. H. Burroughs, Camden; vice-president, William R. Ward, Essex; treasurer, D. B. Denise, Monmouth; secretary, Franklin Dye, Mercer; executive committee, Dr. Geo. H. Cook, New-Brunswick, Joseph H. Roe, Gloucester, and William R. Lippincott, Burlington. Dr. Roe requested that his name be withdrawn, and Mr. Morris Bacon of Greenwich was substituted. The report was adopted.

The committee on weights and measures appointed last year reported much complaint of the many so-called standards in different places, in many cases within a short distance of each other. They have little progress to report. The matter was referred to the committee on legislation to formulate a law.

The committee on roads reported progress, but were unable to submit a draft of the proposed bill.

A discussion on institute work brought forth a resolution that the executive committee hold at least one institute meeting in each county during the year.

It was also suggested that in future years less time be given to scientific papers, and more to discussion of practical questions, and also that some subjects be introduced that will interest the ladies and other members of the family of the farmer, to secure their attendance.



THE CHAMPION WAGON FACTORY AT OWEGO.

The Champion Wagon.

Like all things that "come to stay," the Champion wagon, in its infancy, was slow in growth, but it took root, and has now assumed remarkable proportions. About twelve years ago the first Champion wagons were made in a very small way in Southern New-York. It was an easy matter to convince users that this invention greatly relieved the horses from the annoyance—and in frequent instances from great suffering—caused by the whipping and pounding from side to side of the pole on the old-fashioned wagon; but the construction being radically different, people were naturally skeptical on the subject of durability. Real merit, however, asserted itself, and time convinced those who used the Champion that it was *stronger* than the old-fashioned wagons that from time immemorial have punished the noble horse.

The late firm of Gere, Truman, Platt & Co., Owego, N. Y., having watched the Champion come into general use in their vicinity, were convinced that if manufactured on a large scale, with modern appliances, it could be placed on the markets successfully, and in the autumn of 1885 they commenced sending them out to the trade. From the start, the demand was quite up to, and in many instances beyond, their ability to supply, notwithstanding additions made to their already large factory.

On the 19th of June last, when the Champion wagon business was in a most encouraging condition, their large four-story brick factory was totally destroyed by fire. In less than ten days, a new stock company—the Champion Wagon Co.—was organized, with a cash capital ample for conducting the business on a scale even larger than before. A new site was purchased, affording the benefit of side tracks from two of the large competing trunk lines of the country.

The new works have been erected, as shown by the accompanying engraving. They are equipped in the most approved manner, having capacity for turning out one finished wagon every fifteen minutes. These works are so constructed that it will be almost impossible to suffer very great loss from fire, the buildings being detached, and all having from two to three fire walls. The large experience in the wagon business of the managers of the Champion Wagon Co. has enabled them to plan the new factory so that every piece of work is well done, and no pains or expense will be spared to keep up the standard.

Earth Closets and Water Closets.

Eds. Country Gentleman—Mr. Terry's article on his new earth closet has drawn out valuable comment and suggestion. His method of storing and using the absorbent material is worthy of praise; it is simple and very convenient. The use of pails is criticised, and with good reason. Those who experimented with the patent earth closets in vogue some years ago, had enough of pail-carrying, I think. As for the movable box advocated by some, I once had an experience with one which was by no means pleasant. The box was mounted on runners and drawn by a horse. The drawing took place twice, after which the horse was excused, and the box withdrawn from active service.

I agree with "An Old Reader" that the shallow-vault plan is much the best. In a house which I occupied for several years, the closet was built in the wood-shed, with vault like the one he describes, bricked and cemented. As the ground was level, the closet was reached by two steps; the vault extended beyond the outside wall about eight inches, covered by a leaning trap-door. In place of the ordinary seat was set a patent commode which discharged muck by the closing of the cover. Aside from occasional leveling with a hoe, the contents of the vault required no attention, except to wheel them away twice a year. The product was composted with earth, and after lying a few weeks it became entirely inodorous and could be freely handled, or used over again as absorbent. The objection to the use of muck, that it is difficult to dry, may be met by hauling it in winter and leaving it to freeze and thaw. Then, as the surface dries in the spring, scrape it off and barrel it, and in a few days the new surface will be dry and can be barreled. It is the lightest of all materials to handle; sifted ashes come next, while road dust is very heavy.

This plan, however, does not provide for the disposal of house slops, which, in the old way, were emptied in the deep vaults. I therefore dug a place in the yard, convenient to the house, six feet square and about a foot deep, and lined with boards. From the centre a tile-drain was laid a few feet, connecting with a garden drain. A well-hole over the first tile was filled with small stones, and the bottom of the square dished towards it. A filling of muck was thrown in and the slops emptied on it. The water went off, the muck held the fertilizing matter, and there was no perceptible odor. Several times in the season the muck was wheeled away and a fresh filling put in. Frequently it was used at once as a fertilizer, the light muck being easily handled. Flowering shrubs were planted on one side of the "hole" to conceal it from view.

For entire saving of labor nothing equals the water closet, which carries everything away. If to a sewer, of course all fertilizing matter is lost, but under proper circumstances it may be saved in a storage well or cesspool. An unfinished brick house which I once took and completed, had a two-story closet on the rear, lining with a double piazza afterward built. At bottom was a small square vault connecting with an 8 inch tile pipe, which ran down to a brick cesspool on the edge of the garden. The lot (on a village street) had a rapid slope to the rear, so that the basement rear was level with the surface. Water closet fixtures were put in the upper closet. The lower one was a simple closet with double seat for the emptying of slops. The vault, about three feet deep, I bricked and cemented on the sides, giving it a V-shape. Waste-pipes from the kitchen and the bath-room united and discharged in this vault, so that the entire house wastage met here, and owing to the descent and shape of the vault went off "with a rush." Once a week the soapsuds of the wash gave it a thorough cleansing. The drain had a large cement-tile trap a few feet from the house, and a wooden ventilator led from vault to roof of closet extension. A steam pipe ran into each closet, and kept them comfortable in winter. For the first two years the water supply came from a 6 by 4-foot tank on the second floor (or third rear) with only a moderate pressure. Afterwards a village water supply was put in, having a strong head. This arrangement worked perfectly, and at no time did any odor enter the house.

The cesspool had a pipe or drain near the top, defended by a wire nozzle, which carried off the surplus water to a distant drain. The top was covered with a heavy plank under a foot of earth. In this top was set a galvanized

iron canal-pump, and from time to time the contents were pumped on a small compost heap, which furnished a fertilizer for the garden and the lawn. I do not favor the use of cesspools, but as there was no well on the place, and the subsoil a compact clay, this one never gave any trouble. However, the simpler plan of "An Old Reader," and the one I first described, is preferable for most farm houses. But aside from cleanliness, two important points should receive more attention than they do—nearness to, or connection with, the house, and comfort in winter. Much ill health and serious sickness have been caused by both the use and non-use of cold and far-away closets.

The old-fashioned "privy"—which, by the way, in some parts of Massachusetts used to be called the "college"—was constructed on social principles, with numerous seats of varying size. I remember one that had five, besides a child's. As the country carpenter always made round holes, it was necessary to have a graduated series. By the use of a narrow ellipse we have dispensed with these, and a child can safely use it. The single-seat plan is also more modest, and is better adapted to the earth closet system. HOYT.

—— The remarks of Dr. CURTIS, p. 111, show the importance of emphasizing more distinctly the thorough dry absorbing in the closet vaults. I mentioned the careful exclusion of any surface water, and enough dry absorbents to render the contents perfectly dry. Observing, as I have for many years, these two requisites, the contents of the vaults under my charge, have always been perfectly dry—there could be no leaching away; and the man who shovels out the contents always finds them as dry as ashes. But most men are more or less careless, and will not sufficiently observe these two requisites, and Dr. Curtis therefore very properly urges the additional precaution of a water-tight receptacle. Formerly, I used a box or trough on runners, coated with gas tar, to be drawn out and emptied; which with the rest of my arrangements would be best for general use; but as I always found the contents dry, with no danger of leaching, I adopted the present course, described on page 64.

AN OLD READER.

The State Fair.

Are We to Localize it?

EDS. COUNTRY GENTLEMAN—I wonder if it is too late to enter protests against the permanent location of our State Fairs? I was not a little surprised to read the communication of Mr. HILLS (p. 104), as Ohio has always been cited as a State very wise in regard to its fairs, and we have been told that it had demonstrated the wisdom of permanent location. When permanently located, better buildings can be erected, contributors can be better accommodated, grounds made nice and attractive, in fact, you can make a *grand* exposition that could not otherwise be made—this has been the constant plea; and now from Ohio, the State that has tried the experiment, comes a vigorous protest!

For one, I am not surprised that protests should be made, but that they should come so soon in the history of permanent location from the pioneer State in this business, is a little surprising. Look at the money that has been expended, the magnificent buildings erected, the very superior accommodations afforded to exhibitors; all this done and then the managers have to resort to unusual charges in order to keep up the glitter and show, even to the banishment of the ordinary farmer from the grounds—the very person for whom these fairs should be conducted, and who should receive the benefits, if any benefit at all attaches to these things! The professional exhibitor can go anywhere and under any conditions, and, perhaps, get that for which he goes; but the ordinary farmer can only go and be benefited, as fairs are occasionally brought within his reach, and under conditions that make it possible for him to compare his products with others. I venture nothing in saying that magnificent buildings and elaborately ornamented grounds do not count when you undertake to estimate the advantages the working farmers of our State are to receive from a State fair. It must be conducted, and only conducted, in the interest of the farmer, if the farmer is to be the one benefited.

That nothing was said at the late annual meeting of our State Society in regard to permanent location, is not surprising. Those who have this scheme in hand are not anxious to submit the question to the thinking, working farmers of the State for their approval. It can only be accomplished by ignoring the judgment and choice of those who are not locally interested in the project. Again and again have I heard our farmers say—intelligent men who knew what they were saying—that when this was accomplished, it would cease to be a State fair, and become merely a local institution, and that all general interest would cease. I believe this to be true, and the testimony from Ohio corroborates it. For forty years I have been watching to see what these fairs accomplish, and in what way they best do their work. If merely a local fair, it must conform to the needs of a locality; if a general fair, for the good of large numbers, reaching the farmers of this great State of ours, it must so plan its operations that all localities shall, so far as possible, be reached, and all interests served.

I say unqualifiedly that the old plan of rotation, supported as it was by the generous contributions of localities immediately interested, has given better results, and will continue to give better results to the farmers of the State, than any permanent location can. I care not how much money may be expended in costly buildings and nicely fitted grounds; these fairs can prove a success only as they reach the farmers from time to time, at convenient distances, and amid surroundings with which they are familiar. As our farmers' institutes have become a blessing in a larger sense than ever before in the history of agriculture; but mind you, they must *come to* the farmer as near as possible, or else it will be giving to the rich, who need no gifts, and withholding from the poor what belongs to them. Imagine our farmers' institutes held only in one chosen location; then, however magnificent the place of meeting and attractive the surroundings, all the good they accomplish would be received by a favored few, while the masses would live on as though such things had never been.

Had I a trumpet tongue, I would sound in the ear of every farmer—"Take heed of what is being done! For the benefit of a single locality, an effort is being made, that when completed will have cost this State, not a few thousand dollars only, but an expenditure of hundreds of thousands will be required. Out of whose pockets will this money come? Out of yours, my brother farmer, however remote may be your habitation and your interest! Who can forget that our State capitol, that was to cost $4,000,000, has already exceeded $18,000,000; is yet, and long will be, unfinished; and now the cost for repairs exceeds even the appropriation for finishing. It is not in our line, farmers, this extravagance of outlay, when better things can be done with far less money." IRA B. SHERMAN. *Sidney, N. Y.*

Southwestern Michigan.

An Experiment on Barren Sand.

EDS. COUNTRY GENTLEMAN—The mild weather continued up to Feb. 5, when the blizzard flag was hoisted, and this morning (6th) the mercury was down to 3°, the lowest so far this winter. The snow scarcely covers the ground, but there is some ice in the fields, caused by a rain on evening of 4th inst. I took down my cutter that day and drove to the post-office, and that is the extent of my sleigh-riding this winter. The indications are now for fair and warmer weather again.

Last week I attended a farmers' institute in Crawford county, a little northeast from the central part of the State, in the region of the jack-pine plains, 130 miles north from Lansing. Here are 15 counties of sandy-plain land, stretching nearly across the State from northeast to southwest. In patches here and there, of varying extent, stand some excellent pine; but the principal growth is Jack pine—a stunted species—and a few scarlet oak grubs, usually several rods apart, giving the country the appearance of an open park recently planted to young trees. The soil has been unusually burned over, but there has not been enough material to make the heat so severe as to kill the trees outright. Settlers have often tried to make farms out of this barren sand, and many abandoned sheds and shanties are standing soleant in the little clearings along the railroad as evidence against the fertility of the country. The Michigan Central has built a line of railroad from Bay City to the Straits of Mackinaw through the heart of this region. The company owns much of the land along the line. Some of the agricultural college lands are located here, so that there is some inducement, mingled with State pride, to make the attempt at reclaiming these lands to the uses of agriculture.

For several years Dr. Kedzie, the professor of chemistry at the college, has been studying this problem. He has analyzed the soil, and made some researches as to the chemical processes going on in similar soils, that work the changes found in fertile lands. His opinions do not coincide with those who teach that fertility is a fixed element in the soil, and that its destruction by the growing crops must be replaced directly in measure and in kind by some outside application of those wasted forces of nature. He believes rather that nature provides for a renewal of these elements by a chemistry of its own, when the conditions favorable for such a process are present in the soil. He believes, further, that such conditions can be controlled and induced, or provided. If this be true, it presents the great agricultural problem now to be solved.

When the fund of $15,000, appropriated by the general government to each State for experimental purposes, was received, the first move by our official custodians of the fund, was to secure 80 acres of typical jack-pine land to experiment upon. The essential requirements were that it should be—first, fair faced land, but such as would be generally conceded to be as poor and sterile as the average, or perhaps below the average; second, that it should be near the line of railroad; and third, that a deposit of marl should lie contiguous, so that its application for experimental purposes should not be too expensive. Such a piece of land was found, owned by the railroad company, adjoining the village of Grayling, the county seat of Crawford county. This the company gave to the college for the purpose, and a beginning was made in the spring of 1888. The whole 80 acres was fenced in, and 20 acres on each side was cleared and plowed, and the last of May 20 acres were sown to different varieties of grass, some hardy trees set, and some seeds were planted. From the time of sowing the seed to July 4th, only two slight showers fell, and many varieties failed to germinate. After this there was a moderate, but not average, precipitation, so that some of the grasses and plants made a very satisfactory growth.

The institute referred to at the beginning of this article was to gather facts and evidences from the resident farmers bearing on the problem of the future fertility of the plain land. It was held at Grayling, and I arrived a day in advance of the meeting to look over the farm, and to interview the inhabitants in order to better understand the questions likely to be presented at the meeting. There were present from the college, President Willetts, Dr. Kedzie and his able assistant Frank R. Kedzie, Dr. Beal, Prof. Taft and Secretary Reynolds. The intelligent native settlers for twenty miles around attended the meeting, and manifested a good deal of enthusiasm over the enterprise started here. Several papers were read by resident farmers on various topics, from which I gathered that corn was the most precarious crop grown, although one essayist reported having raised 65 bushels of ears to the acre of the early eight rowed variety, and he exhibited a string of ears grown this year that furnished the proof that failure with corn was not the rule. He reported also having raised 23 bushels of wheat. He started in 1880, and seeded to clover on second plowing. Fresh upturned breaking always proved a failure for seeding to clover. He had turned under clover, or a sod for every crop, and showed by his yearly yields that the land was steadily improving in fertility. There had been no failures from winter-killing with clover, but wheat had once or twice been smothered by ice, while the clover sown with it had come through all right.

Another farmer had tried market gardening to supply one of the lumber towns. He dressed two acres with manure hauled from the village, and grew lettuce, onions, radish, cucumbers, melons, squashes, and cabbage, and had cleared as high as $450 from the two acres. He could distinctly see a difference in the color and fertility of the soil, where clover and the grasses had had time to form a sod before plowing, and the crops improved in yield also. Bordering these plains on the north lie some of the finest hard wood timbers covering a soil somewhat similar in character below the deposit of leaf mold which had accumulated at the surface. It was the general belief among those longest on the ground that those plains had been annually burned over by the Indians, which would account for the barrenness of the soil.

In Dr. Kedzie's paper on the results of the year, he gave a list of the plants, among the many that had been tried, which had seemed most promising for this class of soils. They were spurry, a favorite plant in Europe for light sandy soils; vetch, used in Europe both as a manurial and as a fodder crop; alfalfa, yellow lupine, a deep-rooted plant whose root hairs take strong hold on the soil, largely used in Germany and Italy to enrich sandy soils; mammoth clover, June clover, Hungarian grass and millet. These the doctor had tied in bundles to illustrate the fact of growth. They were shown at the State fair at Jackson last fall, and will be placed in the agricultural museum as the first growth from the sandy plains.

Dr. Beal, who has charge of the tree-planting and the experimental grass plats, related his successes and failures. There had been so little rain during the year that some of the plantings had scarcely survived, and a fair expression of opinion could not be arrived at regarding many of the plantings.

Taking the unfavorable character of the season into consideration, the results of the first season's operations are highly satisfactory. The marled strips of grass gave evidence of receiving considerable support from the application. Salt was a failure, but plaster gave its usual push and color to the clover. The failure will prove a success, in that it determines a question, and narrows the probabilities down to a few practical facts. The value of 2,000,000 acres of Michigan land hinges upon the results of this experimental farm.

Van Buren County, Feb. 6. A. C. GLIDDEN.

Inquiries and Answers.

Silo.—How large should a silo be to feed forty cows six months? (1) What size of lumber? (2) Will the corn fodder do without cutting? (3) How many acres to fill it? (4) What is the best fertilizer for the corn? (5) What kind of corn, and how far apart? (6) Can millet be sown in April in time to be followed with buckwheat? (7) Can winter rye be harvested soon enough for sowed corn? (8) How much lumber for my silo? (9) E. H. H. *Deposit, N. Y.* [1. If each cow eats 50 pounds of ensilage in twenty-four hours, they will consume a ton a day. Some will eat more, some less, and the amount of dry food may vary. In six months they will want 180 tons, and the silo to hold this amount should contain about 9,000 or 10,000 cubic feet. You may easily calculate this amount with different shapes according to your convenience. 2. The lumber should be large enough to make strong and stiff walls, say six or eight-inch studding or girts, inch and a half or two-inch plank, or plank and boards, with tarred building paper between. (3) The fodder, if laid carefully and flat will do without cutting, but will be more difficult to feed, and it will make the manure bad to handle. It should be cut to three or four inches, but better if only half an inch. 4. You will need ten, twelve or fourteen acres, varying with the richness of the land and the cultivation. 5. Barn manure is the best fertilizer. 6. Any common kind of corn will answer, sown thick enough, or in drills three feet apart. 7. Millet cannot be sown very early without danger of injury by frost. 8. A late crop of corn after rye would hardly have time to mature sufficiently. 9. Your carpenter can give you the bill of lumber, after you have fixed on the dimensions and character of the silo.]

Highest Priced Cow, p. 67.—You say 10th Duchess of Geneva is the highest; $35,000. By referring to the ANNUAL REGISTER OF RURAL AFFAIRS of 1874, p. 235, I see that the 6th Duchess of Geneva was sold to Mr. Davies, for $40,000. In speaking of that sale to others, I have had hard work to convince them of the price that were realized at that sale, Sept. 10, 1873. J. O. *Chicago, Ill.* [The sale of 8th Duchess was not consummated, Mr. Davies stating that his agent exceeded his authority in making so high a bid. All the other transactions on the remarkable occasion referred to, were carried out, and the money paid, to the best of our knowledge and belief.]

Bees.—Please inform me where I can get all information with regard to bees, their care, management, and where to procure a full colony to start a bee yard. B. H. *Norfolk County, Va.* [For information, send $1.50 to this office for Cook's Bee-Keeper's Guide. For bees and material in general, write to A. I. Root, Medina, O.]

Agricultural Chemistry.—Please tell me where I can get the analysis of corn, oats and wheat—the grain. I am desirous of using a fertilizer that will make and furnish the grain, and want to know what to use. W. A. S. *Alexandria, Va.* [Send $2 to this office for that excellent book, which every farmer should have, Johnson's "How Crops Grow."]

Castrating Rams.—I have lambs dropped from Jan. 1 to 15. Will it be a good plan to castrate in February by tying a cord very tight around the bag? Is there a better way? S. G. S. *Nassau, N. Y.* [With a sharp knife cut off, square across, one-third of the end of the scrotum or bag, then push down the testicles, and taking hold of one at a time with the thumb and finger pull it out with a quick jerk. It is easily, quickly and safely done. The best age is at ten or twelve days. In some parts of England and Ireland the shepherd pulls the testicles with his teeth, they being somewhat difficult to get firmly between the thumb and finger.]

—— J. D., p. 96, makes inquiry in regard to castrating old rams. My practice has been to castrate whenever I have those that I do not want for stock purposes, and I frequently get them in exchange for other rams. My method is to put them on good feed for about two weeks, or until they are gaining in condition nicely. In the operation I twist the cords off, and use lard with a little carbolic acid mixed together in the openings, and keep them housed from storms and cold winds for a few days. With good care, I think the risk is small.

East Smithfield, Pa. W. A. W.

Yarrow.—Please find enclosed a weed found in timothy hay. Would like to have you give name and what effect, if any, it would have on a mare with foal, if fed to her with hay. W. A. *St. Lawrence County, N. Y.* [This is the common "yarrow," or "milfoil," *Achillea millefolium*. It belongs to the great family Compositæ and has, in common with many other members of that, family, a bitter taste, and is said to have tonic or stomachic and astringent properties. It ought to have no bad effect on the mare, even if she should eat it, but its dry, hard stems would not seem to be a very tempting morsel to her. C. H. P.]

Currant Worms, p. 84.—"H. Lomeyer of Amsterdam applied iron filings seven years ago to his bushes, and had not seen any worms since." Will he please tell how he applied it, and where it is to be had? INQUIRER.

Grand Rapids, Mich.

Taking out Ensilage.—In answering B. R. T., page 84, question two, you did not help him in getting ensilage out of silo in case he should decide to feed from top. My way would be to have door, say 2½ feet wide,

from bottom to top of silo, boarded up with short plank crosswise, fitting closely. They need not be very much nailed, as the ensilage will press them tight. When he has fed down the width of a plank, take it off, and so on. Let him rig a tight chute of half-inch boards long enough to reach from top of ensilage to the car. G. S. *Hampshire County, Mass.*

Buying Grain and Feed.—In what part of the country can I purchase corn oats, bran, middlings, corn meal, cob meal and oilcake meal the cheapest? I wish to buy it by carload. A. H. M. *Philadelphia, Pa.* [These inquiries are too broad concerning the price of grain and feed to come within our knowledge. A purchaser at Philadelphia would naturally find the lowest prices upon oats at St. Louis, Chicago, or Milwaukee and also of grain middlings at St. Louis or Kansas City. Corn meal could hardly be handled in large quantities, but the corn could be purchased as low as anywhere at Chicago or St. Louis. He would find the price of O. P. oil meal as low of Mann Bros. & Co., at Buffalo, N. Y., as for N. P. oil meal of the Cleveland Linseed Oil Co., at Cleveland, Ohio. M. can get low rates of freight through the Pennsylvania Railway Co. E. W. S.]

Poplars, p. 66.—The poplar to which R. M. M. refers is doubtless the yellow poplar of Piedmont, Va., (*Liriodendron tulipifera,*) the tulip tree. The timber of this, especially when cut from the mountain sides, will answer his purpose admirably. This is the wood that is largely used by cabinetmakers. Here it is cheaper than white pine or hemlock, but in northern localities would be too costly for studding. *Crozet, Va.* W. F. M.

Butter Ration—Warbles.—Would like a ration for cow, especially for butter (weight 1,000 lbs.) compounded from corn meal, cottonseed (whole), wheat bran and Lespedeza or Japan clover. We always cook the cottonseed till you can crush them between your fingers easily. (1) Please tell me how to get warbles out of my cow's back. (2) D. L. *Aberdeen, Miss.* [1. D. L. should have cottonseed meal to feed in small quantity with the cottonseed to make the best balance. But a fair ration can be compounded without the cottonseed meal. His ration to be the following: 16 lbs. cut Japan clover, 6 lbs. boiled cottonseed, 2 lbs. corn meal, 6 lbs. wheat bran. The corn meal, cottonseed and wheat bran should be thoroughly mixed with the clover. This is a day's ration, and may be given in three feeds, smallest at noon. It should produce a good result in quantity and quality of milk. There is an excess of oil, but probably not so much as to be specially injurious. 2. The best way to get warbles out of his cow's back is to squeeze out and destroy these grubs. Where the opening is not large enough in the skin for the grub to be pushed out, make the opening a little larger with a sharp knife. When squeezed out in this way and destroyed, they will have no warbles the following year unless they come from some other source. This grub is the larva of the gadfly, and the eggs are laid in the summer, so they develop and become very annoying in the winter and spring. Dilute carbolic acid is sometimes used on this grub, but it is not as effectual as the way given here. E. W. S.]

Stump Pulling, p. 66. — The best and cheapest stump puller is a cartridge of dynamite. Confine one under the stump, touch it off, and out goes the stump. It is much easier handled than the cumbersome machines, and much more dangerous. I hope R. W. C. will try it. E. H.

Concrete for Dairy.—As I intend, after cessation of frost, to build a spring-house with concrete walls, I should like information. In a little work by O. S. Fowler he described his dwelling at Fishkill, and in telling how the concrete was mixed, carefully relates that lime and sand, and large and small stone were used, but no cement or water lime. It would be a satisfaction to know if this building is still standing. I have an extract from the "Fortnightly News," which says that a mixture of five parts of cement, two of lime and thirty-six of sand has an ultimate strength of four tons to the inch, being sixteen times that of brickwork, and the cost only one-half. With a mortar mixed as above, and a due amount of stone added, the cost would certainly be reduced, and would not a wall constructed of it be almost if not quite as strong? C. T. P. *Brandy, Va.* [The Fowler house is still standing, if not removed by man or overthrown by earthquake. The walls of that house were very strong. A wall built with quicklime is cheaper, so far as the lime is concerned, but it takes much longer for the walls to harden, and it must be built much slower. But after it once becomes hard it has great strength. A dairy house may be built of quicklime from 12 inches above the surface of the ground. The quotation which he makes from the Fortnightly News undoubtedly refers to Portland cement, which is much stronger than the ordinary Akron or Rosendale cement. But five parts of Akron cement and two parts quicklime, will make a very good wall with thirty parts sand. The mortar will harden slower, because of the quicklime, but it will make a strong wall. But if F.'s sand and stone are near the wall, a dairy house will not be expensive if he uses all Akron or Rosendale or other good common cement. If he has the book, "Feeding Animals," he will find all the necessary details given for building this wall; if he has not, he will find it profitable to send $2 to the COUNTRY GENTLEMAN for it. His wall for a dairy house will not require to be more than 12 inches thick, and one barrel of Portland cement will give one coat upon the inside and outside of the wall, which will render it very impervious to moisture. E. W. S.]

Windmills, p. 66.—I have a friend in Michigan (in which State windmills are in general use), who has had a Perkins mill for ten years, bought second-hand, and it had run fifteen years, when it blew down from the tower. All the damage done was a few slats broken from the wheel, which is ten feet in diameter; it cost him $20, and that is all the expense in ten years. It cannot wear out, as it has anti-friction ball bearings. I have seen a number of mills, but this make seems to be the most popular, and speaks well for its durability. C. S. R.

—— I have had a windmill in use on my farm four years last October, and have used it for pumping water for from 90 to 200 animals, and it does not keep the mill running generally more than a quarter of the time. It is a ten foot wheel Eclipse mill and Wheeler pump. Have not had five cents' expense on either pump or mill, except for oil. I keep it well oiled, and it is still in first class order. *Hamilton County, Iowa.* O. S. T.

Explanation of Terms.—Please explain terms used in your analytical feed formulas—albuminoids, carbohydrates, protein, &c.; also, how are the figures in the formula to be understood? Satisfactory definitions of above terms cannot be found in Webster. A READER *Kendaia, N. Y.* [We advise Reader to send $2 to the COUNTRY GENTLEMAN for the book "Feeding Animals," as it will give him information in every department relating to this subject which he is investigating. The term *nutrient* is often used, and it means any single chemical compound, such as starch, sugar, fat, gluten, casein, albumen, &c., which is capable of nourishing the body or repairing its waste. Every fodder used in feeding animals contains several of these nutrients, and they are contained in very different proportions in each feeding stuff. Those nutrients containing nitrogen, such as gluten, casein, albumen, &c., are called *albuminoids.* Those nutrients which contain only carbon and the elements of water, such as starch, gum, sugar, fat, &c., are called *carbohydrates,* meaning carbon and water. But in the formulas the fat is given separately, because it has a nutritive power 2.4 times as much as starch, &c. There are many other nitrogenous compounds than those given, and the term *protein* is used to mean all the nitrogenous compounds collectively. The figures in the formulas are to be understood just as they read—that the quantity of food mentioned contains so much albuminoids, carbohydrates, and fat, and when added up, show what the whole ration contains. E. W. S.]

Pig-Raising.—Would it pay to raise hogs in South Carolina? The price for pork is 5c. per lb., live weight, and the prices for feed as follow: Corn, 55c. per bush.; rice flour, 30c.; white oats, 45c.; mixed oats, 35c.; wheat bran, $1 per 100 lbs.; corn bran, 90c.; common meal, 60c. per bush.; oat meal, $7.50 per bbl.; hay, 95c. per 100 lbs.; wheat, $1.50 per bush.; cottonseed meal, $25 per ton. For about two months the hogs could be turned out every year, there being plenty of acorns during that period. There being truck farms in the neighborhood, manure would be an important item. What would be the best breed? ISLANDER. [The situation does not look favorable for profit. It would seem that he contemplates purchasing all the food for the hogs, and at the prices he names it would take a very expert operator to make it pay the cost at 5c. per lb., live weight; and if an expert manager would find it a difficult accomplishment, certainly there would be no probable chance for a new beginner. 2. There is no doubt that farms may be selected in South Carolina where pig-raising as a general business may be profitably carried on by establishing a system somewhat similar to the one given in answer to A. B., on page 12, Jan. 3. The principal part of the food must be raised on the farm, and cost very much less than the prices here given by Islander. It would seem that the climate of that State should be favorable for pig raising, and as the growing season is much longer there than in the Middle States, green food could be furnished for a much longer period, producing 60 to 80 lb. shoats with very little grain. Had he given a farm and its situation, capability of production, &c., where he proposed to enter into this business, more specific suggestions could be given. But under the circumstances no regular system can be suggested, except upon the purchased foods he mentions, which scheme is quite impracticable. E. W. S.]

Lime and Salt, p. 66.—If R. C. H. S. will use one barrel of salt to three barrels of lime on his sandy loam, he will find it beneficial. E. H.

Weather, Crops and Prices.

Meteorology for Feb. 3-9.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			.....	30.18 inches.
Lowest	do.	do.	.....	29.44 do.
Mean	do.	do.	.....	29.86 do.
Highest temperature		do.	.....	38°
Lowest	do.	do.	.....	2°
Mean	do.	do.	.....	19°

Five fair days; two cloudy. Four days on which rain or snow fell; total precipitation, 0.62 inch. Prevailing wind, S.; maximum velocity 26 miles per hour, S., on the 6th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	3d	4th	5th	6th	7th	8th	9th
Day	3d	4th	5th	6th	7th	8th	9th
This year	21°	10°	24°	8°	19°	16°	32°
Normal	21°	21°	21°	22°	23°	24°	26°

Total deficiency for the week, 21°.

New-York—*Setauket, Suffolk Co., Feb.* 4.—The month of January gave us 9 rainy days; 9 cloudy, 12 fair and 10 clear; 1¼ inches snow, 6.26 inches rain. Mean temperature, 30°; mean barometer, 30.005; highest temperature, 58°, on the 9th; lowest, 10°, on the 20th. S. B. S.

Canton, St. Lawrence Co., Feb. 7.—We are having the first heavy snowfall of the winter, measuring 2½ feet on a level. December and January were phenomenal in mildness, no snow to speak of and little freezing weather; meadows must be injured badly by so much exposure. No wheat sown last fall—it is too uncertain a crop. Spring wheat is raised to some extent, and does fairly well. Oats and barley are the leading grain crops, but these are all subordinate and come only in the line of rotation for it cannot be gainsaid that in St. Lawrence county grass is king. Ensilage will come later on, but for the present our meadows and pastures must be our reliance to a great extent. Our soil is better adapted to raising hay than corn and it is seldom we fail of a good hay crop, although last year was a notable exception; hay now sells at $10 per ton, and tendency is upward. No trade in cows yet, but prospect of good prices in April. Winter dairying is not practiced much, owing to the supremacy of cheese interests. Our facilities for trade with Montreal give us a market unsurpassed by any county in the State. Prices of produce remain about the same except butter, which is lower. L. T.

Oneonta, Otsego Co., Feb. 6.—Fine sleighing for the past ten days, with fair prospects of continuance. Winter was very mild to middle of January. Coldest day was Feb. 4—20° below zero at 6 A. M. The 5th it rained nearly all day, with mercury at 38°, but this morning it was down to 2° again, and has continued very cold; at sunset 3° below. Beef, 5@6 c. per lb; pork, 6@7c.; eggs, 25c. per doz.; potatoes, 30c. per bu.; apples, 50c.; straw $30 per ton; western corn has been selling here at 45c., now 47c.; oats, 35c.; wheat, $1.25; rye, 65c.; hay, $12 to $14 per ton; corn meal, $19; middlings, $21; bran, $19; cabbages, $8 per 100. P. V. W.

New-Jersey—*Paterson, Passaic Co., Feb.* 5.—Very little snow; mild month of January; possibly six inches of frost in the ground. Late sown grain is weak in appearance. L. W. B.

P. E. Island—*Kings County, Jan.* 31.—The weather for the last two months has been more like that of April and May than of December and January. Winter as it usually appears has not yet set in. No snow yet, nor very frosty weather. In fact the weather has been decidedly warm, and plant life is pushing forth as in spring months. The buds of the lilac are bursting into leaf, and willow buds are ready to burst. Some full-blown pansies have been found in sheltered situations. We have seldom experienced finer weather; still people are clamoring for sleigh rides. Pneumonia is very prevalent, and deaths are quite frequent. Markets fair. J. A. M.

Virginia—*Surry County, Feb.* 2.—Not a flake of snow was seen all January. Coldest day, 30th, with a minimum of 20°—not cold as New Yorkers count cold. Total rainfall was 3.60 inches. Highest temperature, 68°, with a monthly mean of 42°. Frogs were heard to "peep" more than once, and a grasshopper was "out" once at least, and appeared to be lively enough. There are snow birds here, but they do not congregate in flocks, as they usually do in cold, snowy weather. Up to Feb. 1 the winter has certainly been remarkably mild and open, and has fully justified the prediction of B. F. J., made in November last. Farmers have been plowing whenever they chose all winter. Garden seeds, such as peas, kale, lettuce, onions, &c., have been planted, and all farm work is well advanced. Since the rise in peanuts, farmers are more hopeful, and a large area will be planted to them this year. Seed peanuts are now held at six cents a pound. We have a good farming and truck country, and only need a little more enterprise and good honest work to make this section very prosperous. Farmers will sow oats and plant potatoes the latter part of this month, and so on to the first of April. Most farmers do their own work, with the aid of a little hired help. B. W. J.

Ohio—*Tallmadge, Summit Co., Feb.* 6.—We are experiencing our first very cold weather, mercury standing at —4° this morning at 8 A. M. Icemen begin to look happy, and ice cutting, on a thickness of 8 or 10 inches, will begin to-morrow. A supply of ice will enable some of my neighbors to ship a carload of milk daily over the Pittsburg & Western railroad during the coming year, receiving 11c. per gallon of 8½ lbs. There is an abundance for man and beast in this region this winter, and prices of many articles are low. Hay and butter being relatively the best prices. L. B. P.

Indiana—*Greencastle, Putnam Co., Feb.* 9.—Black Bros. of this city sold and shipped in 1888 2,230 horses and 1,331 mules at $85 to $200. This week they shipped one carload of horses, said to be the best lot ever shipped from here, to J. Chamberlain & Co. of Vermont. The horse and mule market is brisk, and demand for street cars at St. Louis, and farm work South, is good. We have had two good snows so far this month, and thermometer a little below zero once. Some ice is now being harvested; weather getting warmer. T. C. C.

Illinois—*Champaign County, Feb.* 8.—Strong and continued west and southwest winds, with a moderate temperature, were the orders of the day for the week past up to last night. In course of the after evening the gale blowing came round gradually from the southwest to the north, and to-day it is very raw, gusty and disagreeable; the mercury being down to 12 to 15 plus. Previous to to-day, for ten days, all, or nearly all, the weather signs abroad in the heavens, night and day, indicated an early spring, and this northern squall does not weaken my faith in the future. S. T. J.

Wisconsin—*Janesville, Rock Co., Feb.* 6.—On Monday we had an April rain and wind—at night the wind blew a regular blizzard, and the mercury continued to fall until it touched 8° below zero. The cold continued through yesterday, and the mercury ranged from 3° to 10° below. To-day is bright and cold, with no indication of being warmer. Icemen are now jubilant, as they have been unable so far to get good ice. Tobacco is doing a little better. Buyers are more numerous and spirited. The coal trust still holds coal at $6.50 per ton. Business and health only middling. Wheat, 72@76c. per bu.; corn, 24@26c.; oats, 23@25c.; barley, 40@50c.; potatoes, 42c.; apples, $1.75@2.25 per bbl.; hay, $5@8.50 per ton; butter, 14@19c. per lb.; eggs, 14c. per doz.; cattle, $2.25@3.25 per cwt., slow; hogs, $4.50; dressed, $5.75; sheep, $2.50@3; turkeys, 11c. per lb.; chickens, 10c. W. H.

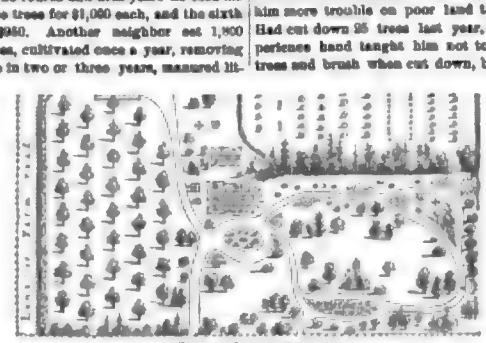
Iowa—*Jewell Junction, Hamilton Co., Feb.* 5.—Our fine winter continues; this morning 6° below zero, and a northwest wind, but not snow enough to whiten the ground; wagons are used altogether now. Not much corn being marketed; fat hogs sold out pretty close; fat cattle about half sold; live stock generally healthy; cream now 10c. per qt.; butter, 12c. per lb.; eggs, 12½c. per doz.; corn, 19c. per bu. in ear, and 20c. for 56 lbs. of good corn; potatoes retailing at 30c.; butchers' stock of cattle, 2@2½c. per lb.; fat steers, $3 on per cwt., asking $3.50@3.75; fat hogs, $4@4.15 gross. O. S. T.

Nebraska—*Falls City, Richardson Co., Feb.* 6.—January was mild and pleasant, with few cold days; one light snow fall gave two days' coasting and sleighing. February came in sunny and bright, but on the fourth a cold wave swept over the eastern part of the State. New-England people cannot form a correct idea of the uncomfortable atmosphere, in Nebraska, when it is cold. The houses are so thin, and cheaply built, that they do not keep out the frost. Market prices about as last month; some things a little cheaper. Fresh meats, a cent or so less. Eggs and butter have fallen a trifle. Fuel is the heaviest item of expense, for people must keep warm, if possible. S. H. H.

Horticultural Department.

Editorial Notes and Comments.

A Pleasant Country Residence.—The accompanying plan of the surroundings of a country house, include about two acres, sixteen rods facing the public road, and extending back twelve rods to the rear of the carriage house. The carriage road enters nearly in front of the dwelling, forming a slight curve, and sweeping in a circle in front of the house for returning, or passing on to the carriage house. On the left, is a standard pear orchard, or such cherry, plum and apple trees of select and handsomely growing varieties as may be preferred, planted in quincunx form. This orchard may be seeded to grass, if kept closely shaven with the lawn mower, and top dressed with fine manure or compost, late in the autumn of each year. But to be allowed to grow up with tall grass, without the annual enriching, the trees would prove a failure. The foot walk, four and a half or five feet wide, traverses the ornamented garden as indicated in the plan, passing the beds of flowering shrubs, and the circular and arabesque beds, and in front of the shady seat at *c*, the summer house at *b*, and a branch enters the fruit garden on the right, a portion of which only is exhibited. This fruit garden is occupied with dwarf pears, gooseberries, raspberries, currants, and other fruit-bearing shrubs of small growth, and being placed in rows both ways they are easily cultivated with a horse.



A Pleasant Country Residence.

Most of the ornamental grounds are a smooth lawn, cut with the hand lawn mower once a week; with a few scattered small trees and groups of the larger shrubs. The hand labor required to keep these grounds in order, besides the use of the lawn-mower, is confined to the planting and dressing of the flower beds.

Apples in Nova Scotia.—Secretary Lincoln of Worcester quotes the statement that Annapolis and Gaspereau valleys contain about 600 square miles of arable land, and that one-tenth of this area or nearly 40,000 acres are planted with apple trees. Nearly half a million barrels of Gravenstein, Baldwin, Tompkins King, Russets and other varieties are produced and exported. Over three-fourths are yet young trees. It is expected that the product will be greatly increased in future, and that there will be five million bushels in ten years. The climate of Nova Scotia appears to be specially favorable to the growth of the apple. To obtain and hold the market for so large a crop, it will be necessary to adopt some course to secure the shipment of only the very best selected specimens, and to exclude all imposition and fraud in shipping.

Apples for Minnesota.—O. F. Brand, superintendent of Experiment Station at Faribault, Minn., furnishes the Prairie Farmer valuable information relative to hardy varieties of the apple which will endure the severe winters of that region. He would not plant such tender apples as Northern Spy, but those American varieties which for the past 20 years have proved capable of enduring the climate and of bearing fruit into old age. The Talman Sweet and Seeknofurther, he states, are two such varieties. He adds that in Minnesota and Wisconsin he has found more trees of the Talman Sweet which have reached a very old age, than any other except the Oldenburg. The latter he finds to stand "far ahead of any other and all other varieties both as a young, middle aged and old tree," in producing the most fruit on varied soils and localities, in the hands of common planters. Mr. Brand has planted an orchard of 900 Oldenburgs and nothing else. He thinks it greatly superior to the newly introduced Russian varieties, and remarks that if any one will go through the country where 10,000 Russians have been planted, and then look where 10,000 Oldenburgs have been planted, he is confident from his observations that he will find 100 of the latter alive to one of the Russians.

Cultivating Orchards.—A New-Jersey correspondent of Popular Gardening describes the unlike management of two orchardists in his neighborhood. One of them cultivates well and keeps the borers out, while the other allows grass and weeds to overrun his orchard. They have planted the same varieties. The first mentioned has choice fruit and large profits; the other poor fruit and a loss. Another neighbor planted 1,000 peach trees, of Oldmixon, Stump, Crawford, and others, plowed and harrowed till September, manured every autumn with barn manure, and allowed no borers. The fourth and fifth years he sold his crop on the trees for $1,000 each, and the sixth year for $950. Another neighbor set 1,900 similar trees, cultivated once a year, removing borts once in two or three years, manured little or none on his naturally poor soil. His fruit is poor, and he claims that the nurseryman cheated him.

Covering Raspberries.—C. L. Smith stated at a Minnesota Farmers' Institute, that the increased product of the Turner and other hardy raspberries, by protecting in winter, "will pay the expense ten times over." He uncovers early in spring, stamps the straw covering well around the plants, and cuts out the old dead canes. There is no doubt that for the sharp winters of Minnesota, protection will give all the benefits claimed for it. In the Eastern States, where the winters are not so severe, covering would be less all-important, but even here its advantages would repay the labor, as our hardest winters often greatly check the vitality of the exposed canes without killing.

Western New-York Society.

Meeting at Rochester in January—II.

Report from Erie County—N. F. Varney: In the southwest portion of county fruit is more profitable than farm produce. Strawberries were good. Currant crop much shortened by neglect to destroy the currant worm. Mr. V. personally netted 4 1-3c. per lb. after paying commission. Red raspberries generally as certain as any crop, but suffered last season from drouth. Preservers paid 6c. per qt.; picking cost 2c. to 3c. per qt. Blackberries not raised to any extent. Cherries were plentiful, selling in Buffalo at from 4c. to 6c. per lb. High winds did much harm to melons. Pears were a light crop. There was a large crop of quinces, which sold as low as a dollar a barrel. Of grapes there was a very heavy yield, prices ranging from 6c. to 8c. per lb. early in the season, to 2c. to 3c. later on. Well-established vineyards, kept in good cultivation, yielded 4 to 5 tons per acre. Hundreds of acres of grape vines will be planted the coming season. Plums and peaches are not planted very largely. There was fully a two-thirds crop of fall apples; prices were low, averaging not more than $1 25 per three-bushel barrel. Evaporated apples, 25c. per 100 lbs.

Genesee County—Mr. Cook of South Byron: Apple-growing, owing to low prices, was not an encouraging business last year, but we must endeavor, by good culture of orchards, and paying greater attention to quality of fruit, and the packing of it, to command better prices. Spraying is no longer an experiment but an almost certain remedy for the codling moth. Pears are largely grown; the crop was good and paid well. The culture of small fruits is being largely increased. There is a growing tendency toward beautifying farm homes, and closely-shaven lawns adorned with flowers and shrubs were now frequently seen.

Livingston County—J. F. White of Mount Morris gave one of the most interesting talks of the meeting, especially with regard to his own peach orchard of 140 acres. He first set out 700 trees, and the spring following only one was left. The jeers and laughter of his neighbors, however, stimulated instead of discouraging him, and he at once planted 2,000 more, adding more every year as he could procure and prepare land, until now his orders for peaches this season ran as high as 1,500 baskets a day. Had picked as many as 2,368 baskets in one day, requiring 50 to 60 hands. If beginning to plant again, however, would confine himself to six or eight varieties. In reply to Vice-President Barry, he named Waterloo, Alexander, Early Rivers, perhaps Foster, Early Crawford, Oldmixon and Late Crawford as being suitable for his purpose. Markets his peaches in Northern Pennsylvania, Western New-York and Canada. Peach yellows gave him more trouble on poor land than on rich. Had cut down 25 trees last year, and his experience hand taught him not to remove the trees and brush when cut down, but to cover them with soil and take them away the following spring, thus preventing the spores from spreading. Mr. Wheelock, another large peach grower of 20 years' experience at Mount Morris, endorsed Mr. White's statement as to the greater prevalence of yellows on poor land, and thought that where trees were well fed, comparatively little trouble would be experienced from the yellows. For his own part he used barnyard manure and wood ashes liberally.

Monroe County—C. M. Hooker. Fruit crops generally were good in 1888 with the exception of strawberries. There was a fair demand for small fruits, which, though less extensively planted, were good and brought good prices. Cherry crop was moderate, with high prices. Pear crop, though better than that of 1887, was light. Of plums there was a good supply, with good prices well maintained. Peaches were abundant but of indifferent quality, the cause of which was chiefly due to the yellows, still doing much damage. Yet the cultivation of peaches was receiving increased attention. Grape crop was very heavy, though the quality was not as good as usual, bunches not ripening well and lacking sweetness; prices were lower than ever before. Quinces were very plentiful with low prices. The apple crop was, perhaps, as great as in 1887, especially of Baldwins. Quality not up to the average. Summer and fall fruit sold fairly, but the price of winter fruit was low; 1,100,000 barrels of apples were sent abroad. This year the chances are that the crop will be profitable. Do not fail to use arsenical solutions freely to keep off moths. Considerable quantities of fruit were canned, and a good business done. There is a good prospect of an increased planting of trees the coming season.

Prof. A. J. Cook of Michigan Agricultural College, and Prof. L. H. Bailey of Cornell University, made brief addresses, the latter asking for the recently-established horticultural department at the university the support of fruit-growers of every kind, and stating that he came there to claim the sympathy and acquaintance of the members present.

Onondaga county—Mr. Wells. The past was a cold, cloudy, wet season. Pear and plum crops were moderate, but prices better than in 1887. Apples abundant, prices good. Grapes did not ripen properly, except the early varieties, which were two weeks later than usual. Prices, however, were fair. The mean daily temperature in May '87 was 65°; in July, 70°. In May '88, it was 57°; in July, 68°. Average, May to Sept. '87, 67°; average, '88, 64°. From this we may infer that a hot May and July will ensure a good grape harvest.

Ontario County—E. A. Bronson of Geneva. The fruit crops were worth more to the county than all other crops combined. Grape-growing was the most important industry. Considered Moore's Early an excellent variety. Both crop and prices of strawberries were good. Jessie has proved very productive and one of the best for table use. Raspberries, of which the Golden Queen is a hardy and productive variety, yielded well and brought good prices. The same may be said of cherries, two desirable varieties of which are Early Richmond and Windsor. The currant is a very favorite fruit. The plum crop was below the average, although the trees had blossomed well. The net returns from the quince crop were not flattering, and growers are getting weary of sending to eastern markets. Early shipments, however, did well, including some 3,000 barrels of Orange and Champion. Pears brought good prices when put up properly. Good sorting and packing determine the question of profit or loss. Nothing is gained by selling to middlemen who pay but one price whether for choice or inferior fruit. Of pears, the Vermont Beauty was a favorite sort. The grape crop was heavy and prices averaged low. The Concords, even, were deficient in quality. The apple-growers' experience had been very discouraging. Thousands of barrels were still unsold in the county. Poor sorting and packing were partly the cause of European low prices. The Stump apple was not yet appreciated; eventually it will become more popular. Peaches only realized moderate prices, although there was but one-third of a crop. Hiad's Surprise is a promising variety.

In the discussion which followed as to the methods to be adopted with a view to obtaining better prices for apples, C. A. Green said that foreign shippers do not examine the contents of the barrel but simply shake it, and if it rattles it is rejected. C. H. Perkins of Newark held that Canadian, Ohio and Pennsylvania apple growers realized better prices than those of Western New-York, because the former packed carefully in three-bushel barrels, while the latter used barrels and packages of all sizes, and the apples were as nondescript as the packages. Western New-York can challenge the world as to quality of apples, but with such negligent sorting and packing it is not to be wondered at that the prices realized are not what they might be. C. M. Hooker denied that quality and packing were the only or chief causes of low prices in England; it was the excessive shipments. He maintained that the methods of Western New-York growers and packers would compare favorably with those of any other State or country. Still, he had always insisted, not only on good sorting and packing, but on the selection of good keepers, such as Baldwins, which average fair prices. Mr. Perkins mentioned that he had exported 15,000 barrels of apples to Europe, handled 1,000,000 lbs. of evaporated apples and 200 car loads of cider apples the past season. N. F. Varney (Erie Co.) corroborated Mr. Perkins' statement as to the different sizes of barrels to be seen in Western New-York. D. M. Dunning recommended shaking every half bushel as placed in the barrel. Mr. Allen advised barrels to be kept dry after heading up. If left exposed to rains, the wood swells, squeezing the apples, and leaving them slack when the barrel dries again.

Orleans County—Virgil Bogue: Where spraying was adopted, apples paid well. Thorough cultivation should be given during the early part of the season for best results in orchards; considered it better than pasturing them with sheep. Pears, plums and cherries not largely grown. Fruit sales of different kinds amounted to about $200,000. Of quinces there was a large crop. A neighbor sold Bartletts at 3c. per lb. for canning, at the rate of $600 per acre. Sold Anjou and Duchess at $5 per bbl; Baldwin apples at $1 25. Plums netted him $300 per acre, manuring with hen manure and ashes. Growers should plant lightly of other varieties of apples, but hold fast to Baldwins as being a late, remunerative variety; late sorts are wanted. Mr. Bogue also insisted on better packing and uniformly sized barrels. Orleans county has no canning factories within its boundaries, and some are much needed. The apple crop of the county was about 1,000,000 barrels, averaging $1 per barrel—probably 75¢. net. Evaporated apples brought 30c. per 100 lbs. Quinces aggregate 750,000 barrels. The Niagara grape has been extensively planted, but the growers are still waiting for returns. Mr. Bogue, after making reference to the utility of a picker, mentioned a case he knew of where three men picked and barreled eight acres in a week with the aid of Cook's picker, which, however, costs $30.

A member stated a case in which a buyer had refused to take fruit picked by a machine, while another offered more than the prevailing price for machine-picked fruit. Mr. Harris said he preferred those picked with apple-gatherer, while expense was only half as much. Use five men—two shaking, one on ground, and two to handle picker; these could gather 300 barrels a day. In reply to a question, Mr. Bogue said the picker could be used for pears. After considerable discussion, the general opinion seemed to be that, with intelligent help and well formed trees, apple gatherers can be used at about half the cost of hand-picking.

Seneca County—E. C. Peirson of Waterloo: Last season "hard times" was the cry in horticulture and agriculture in Seneca county. Small fruits were grown largely and yielded satisfactorily; grapevines were planted extensively; the crop was abundant, but prices ran low, owing to two causes, a large crop and one not well ripened. Apples abundant, with fair market. Pears light, at good prices. With regard to plums, both crop and prices were good. The improvement of home grounds is not advancing satisfactorily, owing to the fear of increased taxation for improvements, and love of the almighty dollar. Mr. Peirson added his testimony to the necessity of better sorting and packing fruit, as well as a systematic spraying of trees. Considered the Baldwin a good market apple. C. A. Green did not think it good enough for the present age. J. H. C.

Chrysanthemums.

"Will you please give me the names of twenty varieties of chrysanthemums that you regard as the very finest in cultivation—such varieties as you yourself, if confined to twenty sorts, would select?"—is not an infrequent question. But it is subject to many considerations. Some varieties that are suited for one purpose are almost worthless for another; some have good constitutions, others poor; some are tall, others low and bushy; some are early, others late; some are mildewy, others healthy, and so on, and yet every one of them under favorable conditions may prove most excellent.

People who live near the sea coast in the South and other mild parts of the country can enjoy a great many varieties of chrysanthemums as out-door garden plants; whereas those who live far inland and in rigorous parts of the country can only expect to enjoy the queen of autumn as an indoor plant. Now while some varieties, as Domination and Gloriosum, are grand, either for outdoors or indoors, Robert Bottomley and Pietro Diez are excellent varieties for indoors, but worthless outside. And if we have to transplant our chrysanthemums from summer-growing to fall-blooming quarters out-of-doors, such fine varieties as Ceres, Julius Scharff, and Striatum Superbum, are such poor rooting sorts that they can only be transplanted at the expense of many of their body leaves. Except in mild localities the late-blooming varieties are of no use as outdoor blooming plants, and this is much to be regretted, as I have had such magnificent varieties as Jessica, Cullingfordii and Soleil Levant in superb condition in the open garden; indeed, never finer than they were last fall.

One would naturally suppose that the earliest-blooming varieties would be the best adapted for outside work, which is true in most cases, but we have a bold exception in the case of Madame Desgrange, our largest and finest early white; I never yet have had a full crop of good flowers from it out-of-doors, as I have had from Elaine or Jessica—the majority have been deformed—but in the greenhouse I get most of them of good quality.

For outdoor work, were I limited to one variety, I would choose Gloriosum, for it comes in early and lasts till late, and bears a greater profusion of flowers than does any other variety I know. It belongs to the Japanese set, and the flowers are pale yellow, large and in immense masses. Add another, and let me have Elaine, which is an old white variety, but still indispensable; a third, and I would select Red Dragon because of its beautiful combination of crimson and gold, vast profusion, healthy constitution, and low-growing habit. It also is an old sort. And so on, not at all restricting myself to the newer or finer kinds, but to the sorts that I have found upon trial to be the best for outdoor work. I grow and bloom, entirely out-of-doors, over a thousand plants a year in some 250 varieties, new and old, for I am always adding and discarding, and those in the following list have behaved themselves admirably. The first two, although small-flowered, are early, copious, bright and gay, and very healthy: Mrs. Cullingford, white, small; Golden Mdlle. Marthe, yellow, small; Red Dragon, crimson and gold; Gloriosum, pale yellow; Elaine, pure white; Gloria Mundi, yellow, incurved; Baron Beust, bronze, incurved, fine form; Gloria Rayonnante, satiny purple; Domination, white, very large; Jardin des Plantes, yellow, incurved; Fair Maid of Guernsey, white; Admiration, Japanese, rose-purple; Source d'Or, brown and gold; Mrs. Foreyth, white; Mdlle. Croisette, pink-purple and white; Alfred Salter, lilac; Etincelant, amaranth and yellow; Fabian de Medians, lilac and purple; Golden Prince, yellow; Hiver Fleuri, creamy white and Rose; Lady Selborne, white; Lady St. Clair, white; Julia Lagravere, crimson-red, small; Nuit d'Hiver, bronze-yellow; L'Ami Boucharlet, crimson-purple and violet; J. Delcanx, crimson maroon, velvety; Jessica, white; Moonlight, white; Ethel, white, late; Minnie Miller, purple, late; Mrs. N. Hallock, white, late; Sœur Dorothee Soulie, rose and blush; America, white, lilac-tinged, single, fine, late; Asa Gray, white, lilac-tinged, single, fine, late.

Beside being excellent out-door varieties, all of the above are capital for the house or greenhouse, and they are quite cheap. A few years ago America, Asa Gray, James Y. Murkland and some other single varieties were plentiful enough in florists' catalogues, but since a year or two they have dropped out of most of them. But I cannot afford to drop them, for, while well grown, in their season (after Ethel and Cullingfordii are past), they are the very best chrysanthemums for cut flowers that I have got.

In order, however, that every one may make a good selection of such sorts as he is most interested in, John Thorpe has kindly prepared for me, for this article, the following list of chrysanthemums. As some of your readers may ask, who is John Thorpe?—I may say that he is the secretary of the New-York Horticultural Society, and was the first president of the Society of American Florists, and he knows more about chrysanthemums, and has done more to popularize them than has any other man in America. Descriptions of the varieties may be found in the leading florists' catalogues.

The following lists include the largest and finest and most desirable varieties in the several classes:

Japanese Varieties.—White-Flowered—Mrs. George Bullock, Robert Bottomley, Mrs. Langtry, Madame Lacroix, Le Cygne, The Bride.

Yellow-Flowered—Grandiflorum, Soleil Levant, Phœbus, Jennie Y. Murkland, Mrs. H. Cannell, Mrs. R. Elliott.

Crimson-Flowered—Jeanie Delcaux, Thibout et Keteleer, Eclatante, Mrs. R. W. Clarke, Valle d'Andorra, E. Molyneaux.

Bronze—Comte de Germiny, William Robinson, Incomparable, W. W. Coles, Delle, La Dauphinois.

Other Splendid Varieties—G. F. Moseman, Mrs. F. Thompson, Thomas Cartledge, John Thorpe, Triomphante, Mrs. J. N. Gerard.

Earliest Blooming—Roi des Precoces, Blanc Precoces, Madame Desgranges (white), Yellow Madame Desgranges, M. E. Nichols, Lord Mayor.

Latest Flowering—Christmas Eve, Ethel, Governor of Guernsey, President Arthur, Mrs. Carey, Belle Valentinoise.

Chinese Varieties.—White-Flowered—Mrs. Neale, Princess Teck, Empress of India, Isabella Butt, White Globe, White Venus.

Yellow-Flowered—Jardin des Plantes, Golden Empress, Mr. Bunn, Emily Dale, Lord Alcester, Golden Queen of England.

Crimson-Flowered—Refulgens, King of Crimsons, Princess of Wales, Lord Derby, Prince Alfred, Arigena.

Bronze-Colored—Bronze Jardin des Plantes, Bronze Queen of England, Cherub, John Salter, Lord Wolseley, Sir Stafford Carey.

Other Splendid Varieties—Alfred Salter, Lady Slade, Nil Desperandum, Jeanne d'Arc, Miss Mary Morgan, Venus.

Earliest-Flowered—Golden Dr. Brock, Chevalier Domage, Madame Domage, Gloria Mundi, Brazen Shield, Beverley.

Latest-Flowered—Cullingfordii, Barbara, Felicity, Mrs. Wanamaker, Progus, Julie Lagravere.

Six of the Best Anemones—J. Thorpe, Jr., Mrs. Judge Benedict, George Sands, Mrs. Holmes, Louis Bonamay, King of Anemones.

Six of the Best Pompons—Bob, La Desirée, M'lle d'Arnaud, Capt. Nemo, Orange Beauty, Anais. (These are six beauties. J. T.)

Six Sweet-Scented Chrysanthemums—Scapin, Pompone; Nymphæa, Incurved Japanese; Progue, Chinese; General Canrobert, Pompone; Dr. Sharpe, Chinese; Lord Derby, Chinese.

Finest New Varieties, Japanese—Mrs. Andrew Carnegie, American; Mrs. W. K. Harris, American; Beauty of Castlewood, American; Mrs. Alphaus Hardy, from Japan; Avalanche, European; Lilian Bird, from Japan; Kioto, from Japan; Mrs. Pottier, from Japan; Celeste, American; Coronet, American.

Finest New Varieties, Chinese—Mrs. N. Davis, Chas. Gibson, Lady Dorothy, Perle Precieuse, Amy Furse, Elsie, Jubilee, Violet Toumien, Belle Poitevine, Chas. Holk. (All Incurved Chinese varieties from Europe.)

Finest New Varieties, any other sorts—Tanaka Kakaka, Peter B. Mead, Llewelyn, E. H. Fuller, Advance, Miss Annie Hartshorn. (This is a very distinct and curious lot of new ones. J. T.)

WM. FALCONER.

Brighton Grape, p. 36.—So far as I can learn, the Brighton does not fruit well in the Hudson River Valley, at least when planted by itself. I know a large and thrifty vineyard near me, which the owner is going to graft, because in the three years the vines have fruited, the yield has been very poor—bunches loose and scraggly. I hear of other large vineyards of this grape that have been dug out. It seems to be deficient in pollen—many of the blossoms barren, &c. On the other hand, I know of Brighton vines in this vicinity, scattered through a vineyard of other varieties, that bear well, bunches compact and large.

West Park, Ulster Co., N. Y. J. H.

The Poultry-Yard.

How to Select Bronze Turkeys.

It always pays to get good stock for breeding purposes. First-class birds cost more, but their product will bring more, for when the parent stock is strong, fresh and vigorous the same qualities will be transmitted to the offspring. Then too, one is apt to consider a pure breed better worth the care and attention necessary to bring it to perfection. A Kentucky boy will carry a blooded horse five times as often as he will carry a common plug, and I know that a Kentucky girl will go out in the hardest rain that ever falls to drive up her flock of bronze turkeys, when if they were only common ones the merest sprinkle would suffice to keep her indoors.

In the selection of turkeys, their age, size, symmetry, and general appearance of healthfulness should be taken into consideration. The marks of age are unmistakable. The plumage of young birds is black and glossy, their legs and feet are smooth and of a dead black. They are sleeker in shape, and their movements are quick and lively, or, as my little cabin help expresses it, "acty and spreey!" Young hens have no beard, and their heads are covered with short, black hair, growing among the wattles. As they grow older, their legs become scaly and somewhat lighter in color, until when four or five years old they are a light pink.

My experience teaches that hens may be kept until they are five or six years old for laying purposes, but after three years old they should not be allowed to sit, as they are usually so clumsy and heavy they are liable to break the eggs in the nest, or crush the little turkeys after they are hatched. Young hens begin laying earlier in the season, but old hens continue later; eggs of the latter are also considerably larger.

When from 7 to 8 months old, the hens should weigh from 14 to 16 lbs., and the cocks from 20 to 25 lbs. Birds of the same weight are often very different in shape. A model hen has a long, handsomely-shaped body, a broad breast and back, a small head, slender neck, and legs of medium length. When in good condition the plumage shines and sparkles with golden bronze and purple hues, their wings and downy feathers lie close to their bodies, the head is held erect, the wattles and gills are scarlet when the bird is animated, the eyes bright and clear, while an appearance of general alertness and briskness pervades every motion.

It is a good plan for the poultry breeder to keep some of his finest hens himself, and purchase a handsome male elsewhere, as any in-breeding detracts from the stamina of the offspring. If this course be followed, he not only improves his stock year by year, but has the advantage of keeping hens on the place who are acquainted with their surroundings and his mode of management.

When the whole stock is to be bought, it should be procured as early in the season as possible. In fact, I should much prefer wintering my own fowls to having some one else do it for me. Winter is a very trying season on turkeys, and special attention should be paid to their food; they are apt to lose their appetite and begin to droop if fed for a considerable length of time on any one kind of food. A variety is absolutely necessary to keep them in good condition. Do not overfeed them at any time; at the end of every meal make the flock wish that the feeding-pan held a little more. Turkeys do not require as rich food as chickens, nor are they as accommodating in eating every and any sort of thing. Five or six years ago I left home during winter, leaving one whom I considered a very prudent person in charge of my fowls. This person was of a very generous disposition, and after the pork season was over, "divided the scraps of meat which we had always given to the chickens among the turkeys also, and the consequence was that when I got home thirty of my turkeys were dead. People should exhibit the same amount of common sense in caring for fowls as they would in attending to any other kind of live stock, and regulate the food, both in quantity and quality, according to the season of the year and the temperature of the weather.

To-day is very cold, and instead of giving the fowls buttermilk, which would have had ice upon it in a few minutes after it was put out of doors, my little colored assistant has put a kettle of sweet skim-milk upon the stove and thickened it with meal, making, when boiled, a sort of porridge. This is seasoned with a pinch of salt, and given to the fowls, in shallow pans, as hot as they will drink it. It is needless to say that this dish is most highly appreciated, and in truth it is far from being unpalatable to any one.

Just at this time, my turkeys are very choice and dainty in regard to their food; they think, because there are so few of them, they ought to be specially favored, and consequently they turn up their noses in the most scornful manner at many foods which they devoured like cormorants a few months ago. So their diet has to be changed pretty often, trying one thing to-day and another to-morrow, to find something they will eat, always avoiding a preponderance of those foods which tend to produce fat. Oats, scraps from the table, and bits of fresh meat, are relished occasionally, and a moderate quantity of corn will help to keep them warm in very cold weather. Some kind of green food should be given them every day, and if they cannot procure sand and gravel for themselves, both should be provided. A dusting-place must also be accessible.

Their meals should be given to them at regular hours. In winter they should have their breakfast as soon as they come down from their perches in the morning, a lunch at noon if the weather is cold or rainy, and a good warm supper about half-past four in the afternoon, with some sort of grain as dessert.

The favorite food with my fowls at present is sorghum seed. They prefer it to either corn or oats, but as it is something I have never given them before, they are allowed only a small meal each day until its utility is further tested.

No devotee to hygiene could insist more upon the necessity of fresh air and cleanliness than do turkeys. They show their faith by works too, and sicken and die when deprived of them. So, except in very bad weather, they are allowed to roost out of doors, in the highest locust tree in the yard, but on bitter nights, such as we are having now, they are driven into an old disused hen-house where I suspect they amuse themselves pecking a few stray chickens which have also taken refuge there. For turkeys consider themselves the aristocracy of the poultry-yard, and impose dreadfully on all smaller fowls. In cold weather, turkeys are very phlegmatic, and like to stand around the house with their heads drawn down between their shoulders. They should not be permitted to do this, but ought to be driven away from the house out to the feeding places of the cattle, or to the stock-barn in very severe weather, where they can pick up scattered grain and hay seed, thus obtaining a variety of nutritious food, and, after their enforced exercise, they come home at a brisk pace, looking lively and bright and ready for a hearty supper.

Centreville, Ky., Jan. 20. A FARMER'S DAUGHTER.

Rye for Poultry, p. 69.—Rye is a valuable grain if properly fed. Ground with oats, say five bushels of rye and two of oats, and mixed with boiling water, it forms one of the most hearty foods we use. It should be fed to cockerels, growing (not young) chicks, and occasionally to laying stock. It is the most economical feed at present prices of staple grains. Sown where fowls have access to the plot of ground, it gives green food very early in spring, and in open winters affords a relish to the chickens. W. C. H. *Orange County, N. Y.*

—— W. J. O. can starve his hens to death on rye; they will not eat it unless compelled to by starvation; and the longer they are kept on it the poorer they will be. E. B.

Fond du Lac County, Wis.

Artificial Incubation.—Will some one who has had practical experience with incubators tell me what it has been, and if there is any profit in using them on a farm on a small scale? Has any reader tried Corbett's method of hatching chickens? I am much interested in poultry raising, and anything in regard to the rearing of poultry will be read with pleasure.

La Motte, Iowa. A. L. F.

Turkeys, p. 49.—Having read the article "Selling the Turkeys," I would like to know something about "Selling the Eggs." Hens weighing 14 pounds, only five months old, are worth raising. FARMER'S WIFE. *Waynesboro, Va.*

[Any one who can supply them will do well to advertise.]

New Advertisements.

A. B. C. ..... *Situation Wanted.*
Air Pump Company ..... *Wind-Mill Pump.*
Adamson, A. L. ..... *Black Farm for Sale.*
Adamson, W. R. ..... *Cattle Ditch, &c.*
Archer, W. ..... *White Fly Wheel.*
A. T. M. ..... *Situation Wanted.*
Box 680 ..... *Situation Wanted.*
Burpee & Co., W. Atlee.. *Seeds.*
Brown, P. C. ..... *Jersey Bull.*
Biddle, F. C. ..... *Plymouth Rock Cockerels.*
Cheen, A. M. ..... *Farm for Sale.*
Cahill, Wm. T. ..... *Poultry and Pigs.*
Curtis Publishing Co. ..... *Ladies' Home Journal.*
Cosatt, Davis ..... *Merino Rams*
Dietrich, E. A. ..... *Percheron Stallion.*
DeWolf, D. E. ..... *Jersey Heifers*
Hammond, J. H. ..... *Creamery and Farms.*
Farquhar, A. B. ..... *Keystone Corn Planter.*
Farm B. ..... *Farm for Sale.*
Great American Tea Co.. *Teas, Coffees, &c.*
Goodell. ..... *Seeds Free.*
Henderson & Co., Peter.. *Seeds*
Hale Brothers ..... *Small Fruit Plants.*
Harlem Novelty Works.. *Novelties.*
Hayes, W. J. ..... *Holstein Bull Calves.*
H. K. ..... *Situation Wanted.*
J. C. ..... *Situation Wanted.*
"J." ..... *Situation Wanted.*
Johnson, Wm. Fall ..... *Stallions*
Kellogg, H. B. ..... *Help Wanted.*
Landers, G. M. ..... *Silvery Turkeys.*
Nicholson, W. H. ..... *Jersey Bull Wanted.*
Owen, Charles H. ..... *Jerseys for Breeding.*
P. O. Box 471 ..... *Farm for Sale.*
Pierce & Co., B. T. ..... *Berry Packages.*
Pratt, C. ..... *Holstein-Friesians.*
Proctor, T. R. ..... *Jerseys*
Qua, Frank ..... *Steam Roller.*
Ramsey & Co ..... *Spraying Pumps.*
Simpson, Wm. ..... *Jersey Heifer and Calf.*
"S." ..... *Farm to Lease.*
Sprague, G. D. ..... *Jersey Cows.*
Scott, O. A. ..... *Bonanza to Agents.*
Talcott, R. A. ..... *Raspberry Plants*
Thompson, Geo. W. ..... *Real Measures, &c.*
Underhill, Alfred ..... *Vineyards, &c.*
Williams, S. & J. C. ..... *Potatoes, Berries, &c.*
Wheeler, Theodore ..... *Kentucky Prince Mare.*
White, J. S. ..... *Position Wanted.*
W. B. W. ..... *Help Wanted.*
Wehonkey, P. C. ..... *Samples.*

Subscribers' Wants.

EUGENE HAM, *Verbank, N. Y.* Pair heavy young mules or draft mares.

JOHN WILLOCK, *Preston Falls, Ont.* Who sells Marchess, mentioned on p. 98?

Pamphlets, &c., Received.

ALBANY HYGEIA Co., 122 *State St., Albany, N. Y.* Invitation to Turkish, Russian, Roman and Electric Baths.

BELCHER & TAYLOR, *Chicopee Falls, Mass.* Catalogue of Agricultural Implements; pp. 60, illustrated.

CHILDS & JONES, *Utica, N. Y.* Catalogues of Dairy Apparatus and Supplies; pp. 32, illustrated.

CLAPP, JULIUS M., 66 *Hanover St., Boston, Mass.* Circular of Dakota Farm for sale.

DANA, C. H., *West Lebanon, N. H.* Breeder's Memorandum and Circular of Live Stock Labels, &c.

ELLWANGER & BARRY, *Rochester, N. Y.* Select Rose Catalogue; pp. 32.

EMERSON, P., *Wyoming, Del.* Nursery Lists.

GIDDINGS & READ, *Rutland, Vt.* Potato Lists.

GILLETT, EDW., *Southwick, Mass.* Wild-Flower Catalogue; pp. 32.

HERRICK, LEANDER F., Sec'y Agricultural Society, *Worcester, Mass.* Seventieth Annual Report; pp. 116.

HOBB, S. M., Commissioner of Agriculture, *Nashville, Tenn.* Biennial Report; pp. 44, with large folding Map.

IOWA SEED CO., *Des Moines, Iowa.* Catalogue; pp. 60, illustrated.

LEONARD, S. F., 120 *W. Randolph St., Chicago, Ill.* Seed Catalogue; pp. 64, 4to, illustrated.

MCGREGOR BROS., *Springfield, O.* "Floral Gems;" pp. 60, illustrated.

MOSHER, HOUSE & ANNIS, *Rochester, N. Y.* Seed Circular; pp. 4, large 8vo; illustrated.

NOTT, ROWE'D, *Burlington, Vt.* Catalogue of Seeds, Nursery Stock, &c.; pp. 24.

PLATT, T. E., *Redding Ridge, Ct.* Potato List.

REEVES, R. C., 105 *Water St., New-York.* Catalogue of Seeds, Implements, &c.; pp. 32, illustrated.

ROBERTS, J. A., *Malvern, Pa.* Nursery List.

ROBINSON & SON, CHAS., *Berry Plains, Mass.* Catalogue of Riverside Holstein-Friesians; pp. 16, with portraits.

ROOT & CO., J. B., *Rockford, Ill.* Garden Manual; pp. 96, illustrated.

SALZER, JOHN A., *La Crosse, Wis.* Plant and Seed Catalogue; pp. 60, illustrated.

SIMPSON, WM., 91 *Pearl Row, New-York.* Pedigree of Trotting Stallion Witchcraft 3697.

Inquiries and Answers.

Transplanting Large Trees.—A correspondent at St. Louis asks for information and our opinion relative to removing shade trees from 6 to 8 inches in diameter, sending us a printed circular, with an engraving representing a cumbersome contrivance for carrying from half a ton to a ton and a half of earth on the roots of each tree. The circular appears to have been written by a person quite ignorant of the principles of vegetable growth, as he says that if small trees are removed many of them will be sure to die, and that even "a small insect" may kill a small tree, while the large trees are so sure to grow that their success is warranted! We have frequently for many years pointed out the contrast in success between removing small and large trees, in favor of the small ones; but we may repeat a single fact showing that while a large portion of the roots of small trees is taken with the trees in transplanting small ones, a very small part can be secured for large ones. We have repeatedly shown that the roots of trees extend at least as far from the base of the stem as the entire height, and a tree 8 inches in diameter is usually at least 25 feet high. It therefore has a circle of roots 50 feet in diameter. The method of removing such trees by this "tree planting company" takes up a mass of earth four feet in diameter, or a square of roots occupying an area not more than 16 square feet; while the whole area of the roots occupy 50 times 50 or 2,500. The four-feet ball of earth therefore takes just a hundred and fiftieth part of the roots. It is no wonder therefore that such large trees, if they survive at all, present a feeble and sickly appearance for several years afterwards. There are several other reasons against the removal of such trees, which want of space forbids enumerating. There are some instances where it becomes desirable to remove trees even three or four inches in diameter, (weighing less than one fourth as much as the large ones above mentioned,) which may be transplanted by the mode figured and described on page 685 of the last volume of the COUNTRY GENTLEMAN, at far less labor and expense than by the use of the timber for casing the heavy ball of earth, used by this company.

Lucern.—Please tell me whether alfalfa has been or can be successfully grown in this climate. If it will thrive here, what kind of a soiling crop for milch cows would it make? H. M. *Woodsport, N. Y.* [Lucern or alfalfa will succeed well as far north as Woodsport, on a deep rich soil which has a good natural underdrainage. If you will drive a few miles from your place, to the residence of J. H. Baker of Aurelius (8 miles west of Auburn), he will show you a good field of three or four acres of lucern. The limestone rock beneath gives it good drainage. It makes good feed for cows.]

Oats in Orchards.—I have about four acres of rich beech land, set in apple trees, and wish, if practicable, to sow oats and seed it to clover, but some of my neighbors think that oats will injure my apple trees, if not kill them. The trees have been set out three years last fall, and bore a few apples the past season. Will the oats injure the trees; if so, what is the cause? I am very pleased with your paper, and think every farmer should take it—not one can afford to do without it. F. M. *Winslow, Ark.* [A crop of oats, followed with clover, will have a strong tendency to check the growth of the young trees; but the degree of harm done will depend much on the present size and vigor of the trees and the richness of the soil. If the success of the orchard is more important than the oats and clover, it may be well to plant it with corn or some other crop which receives repeated cultivating and hoeing. We have had occasion in former years to contrast the growth of young trees in sowed grain and clover with that in hoed crops; and while the former was only three or four inches, rarely more, the growth of the latter was over two feet. But in your rich soil the difference may be much less, and the practice possibly be allowed.]

Family Cow.—I wish to know if a Jersey cow 12 years old, price $90, would do to buy for a family cow. W. A. M. *Michigan.* [For your intended use, you may probably procure a younger and as good common cow at much lower price, of which your local knowledge would enable you to judge. A twelve-year-old Jersey would be chiefly valuable for breeding.]

Vetches—Clover.—What is the proper quantity of vetches for green fodder to be sown on an acre? Also, is it desirable to mix oats or other grain with the vetches; if so, the quantity? (1) A 10-acre field half sod, the remainder cut stubble, the whole to be plowed in the spring for oats. I intend sowing clover seed with oats, the field to be pastured after the harvest and plowed the following spring for root crops. (2) What quantity of clover per acre shall I sow with the oats? (3) A. C. A. *St. John, N. B.* [1. About the same quantity of vetches, as for peas, should be sown to the acre, two or three bushels. At the north where only the spring or summer vetch succeeds well, it is better sown alone, and not with any grain. 2. Clover does not always succeed well when sown with oats, the leaves of which are apt to shade the young clover too much. Turning in animals for pasture the same season would be rather hard on the clover, which would be injured by the treading while the plants are small and the ground soft. The best success in seeding with oats is when only one half or less oats is used for seed than the usual quantity, but even this does not succeed in the best manner except in rather wet seasons. If you will try the experiment of sowing clover seed on two pieces of ground side by side, one with oats and the other on winter rye, you will be surprised at harvest at the contrast, the clover in the rye usually exceeding several times that grown in the oats. 3. A peck of clover seed is a good seeding; six quarts are more commonly used. Much depends on the condition of the ground at the time of sowing; six quarts would do better on a fine, moist and rich mellow surface than a half bushel of seed on a hard dry crust.]

Barberry Seed.—A few months ago the COUNTRY GENTLEMAN published a short article in favor of the barberry hedge fence plant, strengthened by a few wires for farm fences. I would like to know of whom the seed can be bought, and the probable price per pound; when to sow it and the length of time required to mature. J. J. *East Shelby, N. Y.* [Barberry seed are not commonly on sale by seedsmen, but if you will apply to Thomas Meehan & Son of Germantown, Philadelphia, they will doubtless furnish you the desired information, by sending their catalogue or otherwise. The seed are to be treated like small-fruit seed and sown in spring. Four or five years of growth, with two or three included and stiffened barb wires, placed as the plants grow up and include them, will make a good hedge and barrier.]

Under-Ground Water Pipes.—Will you give me some advice in regard to bringing water to my house, 125 rods from a spring? Some writer in your paper last summer said that lead pipe was not safe to bring water in for drinking purposes. Galvanized iron rusts quickly—I know of some that rusted out in eight or ten years. Now what is the best for the purpose—how would tile do? What would they cost per rod? How large a pipe would I need to supply two half-inch and one three-fourth inch pipes? How deep would it need to be laid? Is there any ditching plow that is cheap enough, so that I could afford to buy it for a job of that kind? YOUNG FARMER. *Perkiomen, Pa.* [Lead pipe is often corroded by the water and rendered poisonous, although some kinds of spring water do not have this effect, and those which deposit a coating of lime are safe. But we would not advise their use in any case. We recommend the Restless iron pipe (advertised in our columns), as the best and cheapest pipe. We have used it, and found it all that it is recommended for. An inch pipe will convey considerably more water than a half-inch and three-quarter pipe both together. It should be laid deep enough to be out of the reach of frost—probably two and a half feet. If you can find a ditcher who understands the business, you would probably get the ditch cut as cheaply and more satisfactorily than in any attempt to use a ditching-plow, which would require too much care and attention for you to become familiar with its requirements and use for a single moderate job.]

Applying Lime.—Please refer me to some number of your journal containing information as to the application of stone lime for agricultural purposes. I am about to use some on my farm, and as its advantage must depend much upon the mode of application, I desire to learn what I can about it. F. S. J. *Upper Marlboro, Md.* [The most important point to observe in the application of lime to land, is to have it well pulverized so as to be evenly spread and to become finely diffused through the soil. If distributed in large and hard lumps, it is of little value. It must therefore be slaked into fine and dry powder, by applying about one-third as much water as there is lime before spreading. If it has been air slaked, it is thus already reduced to powder. A good way to slake the fresh or stone lime is to place it in heaps and then cover it thickly with earth, which gradually reduces it to powder, when it may be spread from the wagon. It is common in some places to put it when fresh in small heaps over the field, left to slake by rain and air, and then evenly spread from the heaps. The quantity to the acre must vary considerably with the condition of the land, some needing more than others, and experiment is required to determine this point—usually from twenty-five to fifty bushels to the acre. Formerly, much larger quantities were used, and on the other hand smaller amounts have sometimes been as successful. The mode we recommend for all special fertilizers is commonly safest—namely, the application to small measured areas, to determine the best course and quantities by actual experiment.]

Unthrifty Horse, p. 87.—If "Subscriber" would get a proper person, and have the points and sharp edges only rasped off, I incline to believe the horse will quickly improve. I have known horses almost starved to death from uneven and pointed teeth. The only mill to grind a horse's food, of any kind, is his teeth. I do not believe in ground feed, except for slow horses at slow work. WM. HORNE. *Jamesville, Wis.*

Acknowledgments.

Communications for publication have been received during the week ending Feb. 11, from Prof. Chas. E. Peck—H. F. Hillenmeyer—J. A. M.—Miss Mary A. Ripley—Spurr & Taylor—A. L. Crosby—B. S. Galloway—Wm. Crozier—Chas. G. Sherman—Dan'l Batchelor—W. R. A.—J. H. C.—U. D.—George Q. Dow—S. B. Strong—Prof. E. W. Stewart—John P. Pitkins—Thomas Bowick—Stephen Beale—C. B. Campbell—B. W. Jones—J. S. Fowler—E. L. Rose—A Teacher of Agriculture—H. C.—W. F. Massey—G. S.—W. Z. Hutchinson—W. A. Wood—G. S. T.—Henry Stewart—Edwin Haviland—M. W. Philips—G. W. Blatchley—Henry Mussen—Theo. Mayer—C. H. P.—Ira B. Sherman—Mrs. E. W. Hunt—T. A. Hendrick—A. C. Gliddon—Inquirer—L. B. P.—An Old Reader—H. V. Howe—G. C. K.—C. A. Burton—Wm. Horne—H. C. Greene—M. J. Keane—Mrs. D. H. R. Goodale—T. B. Terry—R. W. Matheweon—Mrs. S. H. Rowell—Dr. R. W. Reiss—J. Hannam Clark—Prof. E. W. Stewart—Henry Stewart—F. T. Edmondson—Dexter Wheeler—W. F. Brown—Galbraith Bros.—Savage & Farnum—Prof. E. W. Stewart.—A Farmers' Daughter—S. W. J.—J. C. P.—C. L. H.

°,° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°,° We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Feb. 14, 1880.

Careless Correspondents.—We have postal-cards from WM. WEBB, J. W. HOLDRIDGE and JOHN C. CRIDER, no address given in either case, and postmark absolutely illegible. If this notice is seen by either of these gentlemen, let him write again, giving his address, and he shall have attention. We also have a postal-card from New-York City, Jan. —, with the message side entirely blank. The sender no doubt thinks he is badly neglected.

We take this occasion to repeat the notice often given before that it is entirely useless to send us inquiries or matter of any kind for publication, written on both sides of the paper, or (worst of all) on the back or in the body of a letter about business. Every business letter goes direct to the publishing department, and remains permanently on file there. Nothing could be done with the inquiry without copying it off—a task from which we must respectfully ask to be excused.

Our State Society.—Three farmers' institutes are to be held next week—at Chatham, Columbia Co., Feb. 18-19; Randolph, Cattaraugus Co., Feb. 20-21; Fredonia, Chautauqua Co., Feb. 23-23.

An article from the pen of Hon. IRA E. SHERMAN, page 126, deserves general attention.

New-York Assembly.—The Maynard Fertiliser Analysis bill (p. 86) has been favorably reported by the committee on agriculture. The O'Neil bill to prevent fraud in sale of wool has been favorably reported by the committee on trade, as follows:

"It shall be unlawful to offer for sale wool washed on sheep's back, or otherwise containing unwashed tag-locks or other substance foreign to the fleece, which is intended to defraud the purchaser. Any person violating this act shall be fined not less than $25 nor more than $100, or imprisoned not less than thirty nor more than ninety days, or both."

Two dairy bills were introduced last week—one by Mr. Flaherty, increasing the salary of the commissioner from $3,000 to $5,000, and authorizing him to enter and inspect places of business believed to contain adulterated products—the other by Mr. Cottrell, appropriating $30,000 for dairy schools. It authorizes the dairy commissioner to establish not more than four dairy schools for free instruction to young men and women. The dairy commissioner is authorized also to hire suitable farms and purchase dairy cows and implements and apparatus. The products shall be sold and the proceeds paid into the State treasury. The dairy commissioner shall also appoint such superintendents and teachers as may be necessary, and fix their compensation.

Obituary.—Col. RICHARD PETERS, an enthusiastic breeder of fine live-stock, the introducer of the Angora goat into this country, and a man of great public spirit and enterprise, died last week at his home in Atlanta, Ga., aged 79.

—— Our English correspondent, Mr. STEPHEN BEALE, writes us from London as below:

"JAMES HOWARD, the well known agriculturist and breeder, and chief of the great firm of J. & F. Howard of Bedford, agricultural implement makers, is dead, the cause being apoplexy. Mr. Howard was in his 68th year. He has taken prominent part in both agricul-

tural and political movements, and was a member of the House of Commons for several years. He was also one of the most successful breeders of the Large White Yorkshire pig. He was first president of the Agricultural Engineers' Association, a member of the council of the Royal Agricultural Society, and a leading member of the Farmers' Club. His genial presence and kindly support will be greatly missed."

The County Societies.—A meeting of delegates from 22 county agricultural societies was held in this city, Feb. 5, to consider plans to promote greater efficiency, mutual service, and general benefit; and particularly to take action on the disbursement of the pool moneys, of which an act of the Legislature, passed in 1887, required 5 per cent. to be turned over to the State Comptroller to be divided among the county societies of the State for prizes. Owing to a mistake in the bill, the comptroller could receive, but not disburse, the money, and none of it was paid out last year. The friends of the town societies in the Legislature of 1887 attempted to pass a bill giving the town societies part of the money, and this the county societies object to. It was decided to form the "New-York State Association of County Agricultural Societies," membership to consist of the president of each society or his proxy, and one delegate from each society, the annual meeting to be held the first Tuesday in February. The bill now before the Legislature, providing for the distribution of moneys collected under the Ives' pool bill, was approved, with the understanding that the sums were to go to county societies and not to societies in the counties. A committee was appointed to confer with Senator Deane on his amendment taxing gross receipts, &c., and it was afterwards voted to endorse all its provisions except one which limits the racing to 20 days annually. Officers were elected:

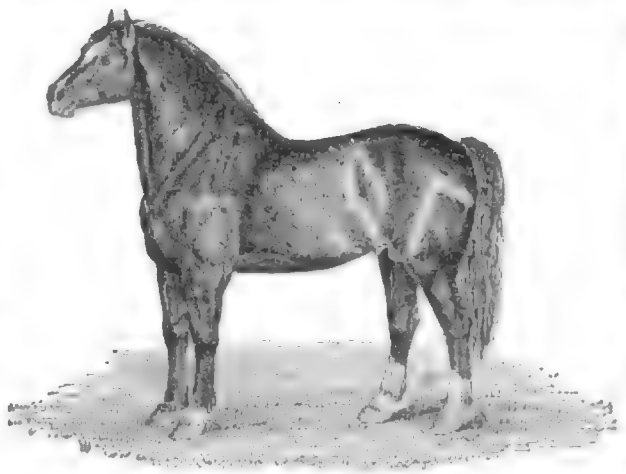
President—Col. A. B. LAWRENCE, Wyoming.
Vice Presidents—H. D. Lyndis, St. Lawrence; Nat. W. Foster, Suffolk.
Secretary—E. B. Long, Westchester.
Treasurer—John P. Phelps, Oswego.
Executive Committee—F. W. Foster, Gilbert A. Dean, Robert Wemple, George Sherwood, C. O. Parsons, E. S. Bobo, E. H. Lord.

Vick's Caprice.—We receive from JAMES VICK, Rochester, N. Y., a very skillfully packed blossom of this new and interesting rose—one of the finest hardy roses now offered. It has stood the last two winters without protection. The flowers are large, semi-cupped, very symmetrical and fragrant; color a soft, satin-pink, distinctly striped and dashed with white and carmine. We should think it a decided acquisition.

Wisconsin.—The 17th annual meeting of the State Dairyman's Association is to be held at Augusta, Eau Claire Co., Feb. 20–22. H. C. Adams, Madison, president; D. W. Curtis, Fort Atkinson, secretary; H. E. Loomis, Sheboygan Falls, treasurer.

Pumps in Winter.—Noticing Mr. Terry's remarks on protecting pumps in winter (p. 64), I will give my own experience with pumps. We have two wind-mill force-pumps. Each of the wells are about 13 feet deep, and platform raised about 2 feet; cylinder is placed 6 feet below floor. The dairy pump is under a porch; has floor and well cover only over it; has been in use five years and never frozen. The pump is a Trahern force-pump, made at Waukegan, Ill. The stock well is supplied with a No. 8 Eagle pump, made by Ramsey & Co., Seneca Falls, N. Y.; stands unprotected save by two coverings of boards. The first winter it was put in, it gave some trouble by the valve freezing to sides of the cylinder. I wrapped the cylinder with some pieces of bagging, took them off in spring, and covered again in the fall. Has never troubled me any since. Last winter the mercury was frequently down among the thirties, and twice spirit thermometers recorded 45° below. E. O. F. *Britton, Wis.*

Cut Stalks and Litter.—I observe Mr. Waldo F. Brown's recent article on saving manure (p. 24) and thought some of our Wisconsin farmers were a little ahead in their methods. We cannot afford to throw our cornstalks in the yard, to be pulverized for manure. Corn is cut early, when stalks are in good condition; then run through a straw cutter and fed to the cattle, and we consider it very good food. The cows seem to share in our opinion. A large part of the manure made on our best dairy farms is drawn directly from the stable to the field, in the winter season, when the farmer has the most leisure. Straw for bedding is cut up into about two-inch lengths. Thus the manure spreads easily and does not interfere with the harrow. Most of our manure is used upon the surface, not plowed under. The value of a straw stack and cornstalk pile, tramped under foot, is not great, although the mechanical effect of the application of this coarse manure may be very valuable, upon heavy soils. E. O. F. *Britton, Wis.*



YOUNG PERCHERON STALLION LA DAR.

From Late Exchanges.—The COUNTRY GENTLEMAN is the most able agricultural paper in the United States.—*Whitney's Point (N. Y.) Poultryman.*

——Among agricultural weeklies, there is none more generally read.—*Towanda (Pa.) Review.*

——Beyond question the farmer's own paper; recognized authority on all subjects connected with an elevated and scientific treatment of the affairs of the farm.—*Centreville (Md.) Record.*

Illinois.—The Agricultural Experiment Station of the State University at Champaign has issued its First Annual Report, a pamphlet of 16 pages. Prof. G. E. Morrow is agriculturist; Dr. T. J. Burrill, horticulturist and botanist; Dr. Wm. McMurtrie, chemist; Wm. L. Pillsbury, secretary of the board of direction.

St. Louis.—The Annual Spring Race Meeting will be held for thirteen days, commencing June 1; Trotting Meeting, Oct. 1 to 5; 23th Annual St. Louis Fair, Oct. 7 to 12, inclusive. Arthur Uhl, secretary, 715 Chestnut St., St. Louis, Mo.

Wisconsin.—The Short-Horn Breeders met last week at Madison, and chose officers: President, W. H. JACOBS, Madison; vice-presidents, Geo. Harding, H. B. Drake; secretary and treasurer, George Wylie; executive board, T. P. Holt and F. B. Fitch.

The State Horticultural Society met also at Madison, and elected—president, J. M. SMITH, Green Bay; vice-president, B. F. Adams; secretary, S. S. Hoxie, Evansville; corresponding secretary, C. A. Hatch, Ithaca; treasurer, Mrs. Vie H. Campbell.

A Wide Discrepancy.—The Chicago Farmers' Review points out that Statistician Dodge of the U. S. Department of Agriculture, in his December report places the Iowa corn crop of 1888 at 275,232,000 bushels; wheat, 24,196,000 bushels; oats, 67,000,000 bushels. On the other hand Secretary Shaffer of the Iowa State Agricultural Society gives the following figures based on returns from over 1,000 correspondents in all parts of the State: Corn, 321,909,982 bushels; wheat, 19,314,000 bushels; oats, 78,061,814 bushels.

Frozen Wheat for Seed.—An associated-press telegram from St. Paul, Minn., says:

The experiments carried on at the State experiment farm with frozen wheat are attracting the attention of the leading grain men of the State. This is the first time an attempt has been made to ascertain whether frozen wheat is worth anything for seed. The results of the experiments have been surprising. About thirty samples of frozen or frosted wheat of all grades, from about No. 3 down to the poorest sort of shriveled, shrunken, frozen grain, have been employed for the tests. Fifty seeds of each were selected and planted and are growing in the greenhouses. Each sample is labeled and account is taken of the proportion of seeds in each class that germinate and grow. This proportion is large. Some of the seeds were about the next thing to mere chaff, and yet many of them have sprouted, and as a rule seem to be having a healthy growth. The stalks are now six or eight inches high and some of them are stooling out. It remains to be seen whether they have sufficient vitality to mature. The experiments up to the present point have been very encouraging.

Farm-Yard Notes and News.

The 14th annual meeting of the Ayrshire Breeders' Association will be held in the Fifth Avenue Hotel, New-York, Feb. 21, 2 P. M. After the president's address there will be a paper by James Chessman, secretary New-England Creameries Association, on "The Ayrshire Breed." At some time during the meeting, among other subjects of interest, will be propositions from both the New-York and New-Jersey Experiment Stations, to test Ayrshires, selected by a special committee, in competition with other breeds. All interested in Ayrshire cattle are invited to attend. The Executive Committee is to meet at 9 A. M. J. F. CONVERSE, Woodville, N. Y., president; C. M. Winslow, Brandon, Vt., secretary.

Our illustration this week is of a capital young Percheron stallion called La Dar. He is black grey, 16 hands, weighs 1600; was foaled April 16, 1886; bred by JOHN W. AKIN, proprietor of the Elmwood Stock Farm at Scipio, N. Y.; got by Revier 2974, dam Josephine 3001. La Dar and his sire and dam are remarkably smooth-formed animals, with wonderful action. These three Percherons made the remarkable show-ring record of 16 prizes and gold medals in 1887 and 1888 at the largest eastern fairs. Mr. Akin's stock now consists of 200 Percherons and French Coach horses, all which, he writes us, are in fine healthy condition, and there is every indication of a good season's trade, as people are taking more interest in improved horses every year. Several sales are reported this month, and some new arrivals, in the way of pure-bred colts.

Messrs. SPURR & TAYLOR and Dr. MORROW, Nashville, Tenn., claim May 30 for a sale of Jerseys.

Messrs. B. B. LOMB & SON, Sinclairville, N. Y., report demand for first class French Coachers, both sexes, to be very flattering. Last week they sold to Mr. E. S. Payson of Boston, Mass., the beautiful French Coach yearling filly Rosa 2nd 218; she won the admiration of hundreds of horsemen at the Buffalo show and at New-York State Fair last September, and at both places won first prize in her class, which was the only times she was ever in the show ring. She was sired by the government stallion Acquila and out of that grand mare Rosa by Noteur, who has made herself famous in the largest show rings of France, where she has been a successful competitor and as the result of her show ring career has to her credit 4050 francs, equal to $810.

Mr. D. F. APPLETON, Essex county, Mass., reports to the COUNTRY GENTLEMAN test of Jersey cow Lady Ramapoo 26239, from Dec. 11 to 18—17 lbs. 5¼ oz. butter, salted, ounce to the pound, and worked ready for market. During the test she made an average per day of 35 lbs. of milk. Her feed average per day, given in three feeds, was 15 lbs. of middlings, 14 lbs. ground oats, 12 lbs. of corn meal, and 2 lbs. of oil meal, with all the hay she would eat. Lady Ramapoo is a daughter of Ramapo 4679 out of Gray Therese 5322, she by son of Alphea 668, he by Dolphin 466 out of Alphea 171.

The directors of the American Southdown Association have agreed to suspend until April 1 the rule raising to $5 the recording fee for imported sheep. S. E. PRENTISS, Springfield, Ill., is secretary.

Mr. T. B. PROCTOR writes us as follows from Utica, Feb. 9:

"Since the appearance of my advertisements in the COUNTRY GENTLEMAN of a special sale of 20 registered Jersey females, and offering the Berkshire boars Bob Tombs, Lord Ruston, and the first-prize boar Miss Pearlree's Emperor, I have sold nearly all the Jerseys offered and all the Berkshire boars. I mention a few of the sales not named in former letters:

"Mr. Henry L. Stewart of Middle Haddam, Conn., who bought three Jerseys—two cows and a bull calf—Jan. 8th, was so well pleased with the animals that on their arrival in Connecticut he ordered another advertised in the special sale—Clasp 17822—a fine, large, handsome boar, and has written about another for one of his neighbors. Hon. Reuben Tower of Waterville, N. Y., bought Stella's Pride 10855, together with her bull calf. Mr. Wm. Bayne of New-York bought the two-year-old heifer Bunker's Lily 47712 for his farm at Bedford, N. Y.

"Mr. T. W. Chirney of Huntington, N. Y., bought the boar Miss Pearlina's Emperor, winner of first prize under one year at State Fair 1888. Mr. S. H. Goodman of Muncie, Ind., ordered the boar Bob Tombs and Mr. H. Cordenio Smith of Marcellus bought Lord Preston imported. Mr. Edward Kemp of New-York bought for his farm at Seabright, New Jersey, four fine young sows safe in pig, and Mr. George B. Blodgette ordered a young boar, for a prize-winner, for his farm in Rowley, Mass., and he writes me that he got just what he wanted. Mr. G. N. Proctor of Fitchburg, Mass., who bought the young bull Bunker 24, purchased the fine yearling boar Homestead. In every case my customers have expressed themselves as thoroughly satisfied with their purchases. The special sale of registered Jerseys offered this week through your columns, contains even a finer lot of cows and heifers than the first list."

Mr. G. K. LANDERS, Williamsport, Pa., writes to the COUNTRY GENTLEMAN, Feb. 7, as follows:

"I have had over 300 letters from ads., among which nearly every State in the Union is represented, and two foreign countries; have shipped 60 turkeys, and have 7 puppies left out of a litter of 11; sold to-day one of the best of my Holstein cows and calf to parties in Maryland, at a good price—all on account of a $12.00 investment in advertising in your paper; have also found many who wish to purchase milk routes; will decide on one of the many applicants this week. Too much cannot be said of your journal as an advertising medium."

Mr. CHAS. V. HOLDER, Bloomington, Ill., writes to the COUNTRY GENTLEMAN, Feb. 1:

"I have the following recent Percheron sales to report: Magnificent 4 year imported stallion Madero 9008 (18126), weighing over a ton, to W. A. Shelhamer, Auburn, Ill.; imported stallion St. Cyr 9066 (11300), a 3-year-old and a grand good one to J. F. Durston, Syracuse, N. Y.; imported stallion Herculanum 9007 (18468), imported mares Crichenne 9003 (9381) and Judith 9002 (9678), to W. P. Pattillo, Atlanta, Ga., for his stock ranch at Fort Worth, Texas—a trio of superb animals, and should make their mark; imported stallion Soupir 9001 (18487), a magnificent 2-year-old, to G. A. Heath, Shelby, Iowa; to Kemp Bros., of Dakota, grand 4 year-old stallion St. Jacob 4681 and 15 registered Holstein Friesians; to J. W. Holder, Chenoa, imported mare Idalidi 9001 and stallion colt. My horses are doing finely, and I have a grand lot for this season's trade that will suit the most critical. Have a number of coming three and four-year-olds that weigh from 1,600 to 1,900 pounds. I can credit the COUNTRY GENTLEMAN with a large number of my sales."

Mr. WM. CROZIER, Northport, L. I., N. Y., writes to the COUNTRY GENTLEMAN, Feb. 4:

"The season of 1889 commenced with c. c. My grand cow Miss Browny 7208 dropped a beautiful c. c. Miss Browny was bred on the Island; sire Browny 158, now giving 46 lbs. milk per day, and has not been really dry for five years. Carlo's Bossy 17449 also dropped c. c.; she is full sister to Nero 7366, both by Carlo 180, J. H. B., and out of Bossy 213, Jersey H. B. She is milking 36 lbs. per day. Also I have a young daughter of Gipsy's Rioter 5990, out of White Frost 8303, foundation stock I. J.; her dam was a sister of Coomassie; also her sire was of Coomassie blood. Beauty Messenger 17450 is now due, and I am in hopes she will do as well as formerly. I have six Gipsy's Rioter heifers, all in calf to their half-brother Gipsy's Rioter 5th. I sold six to go to Newport, three to Babylon, L. I., and four to North Carolina. Milk sells for six cents per quart in the dairy, and butter 40 cents per pound."

The Grazier and Breeder.

Rations for Winter Dairying.

Eds. Country Gentleman—Please compound ration that will increase quantity and quality of milk. In our herd are eighteen milch cows; of these four are thoroughbred Jerseys from the best butter strains and the rest are high grade Jerseys. Two of the eighteen are 2 year old heifers that have just calved. Last spring we were persuaded by our farm manager to allow our cows to go over and not breed them till fall, so that hereafter we might make winter butter. Most of them have received the bull. We are now in the rather costly predicament of having this number of cows giving only about 200 lbs. of milk a day and making about 50 lbs. of butter a week. What can we do to be saved from this costly dilemma. In December, from mismanagement in feeding, we milked but about 140 lbs. a day. To increase their flow they were fed 8 lbs. of ground oats and 8 lbs. of bran on 10 lbs. of sweet corn fodder and clover hay, each cut and moistened, and all thoroughly mixed. Recently they have been getting 5 lbs. corn, 4 lbs. oats, ground, and 4 lbs. of bran, on 25 lbs. corn fodder and 10 lbs. of rather poor clover hay. This was divided and fed to them morning and night. Then at noon they were given about a peck of cut potatoes mixed with two quarts of the foregoing mixture, corn, oats and bran. Their butter yield has increased somewhat with this feeding. Its nutritive ratio of course is very poor, being only 1 to 10.

During the past season we raised some white beans but these are too badly stained for market. Can they be utilized for the cows? Corn is worth 43c. a bushel; oats, 35c., and bran $17 a ton. Oil meal, O. P., can be delivered here for about $37 a ton. Timothy hay sells for $13 per ton, and clover for $12—clover is scarce.

How would you feed the two heifers that have just calved, to increase their flow of milk? These are now giving about five quarts each a day, and of very good quality.

Our cows are kept in good warm well-ventilated stables and are turned out each day for water which they get from a large tank supplied from a deep well (artesian) by a windmill. The water of course is very cold. Would you advise warming it for them?

Tioga County, N. Y. B. F. T.

B. F. T. presents rather a mixed-up case. The herd has evidently been badly mismanaged. Feeding the herd properly, so as to carry them over from spring to fall without breeding, should not necessarily be very expensive over product, for the cows, although giving less milk, should give richer milk as they recede from the time of calving, making nearly as much butter. But it appears that the milk is not rich, although small in quantity, because it is stated that 200 lbs. per day made only about 50 lbs. of butter a week—equal to about 28 lbs. of milk to 1 lb. of butter.

It is highly probable that not more than two-thirds of the fat is obtained from this milk. It is not said how this milk is set or the cream raised. If this milk were heated in a water bath to 135°, immediately after milking, and set in shallow pans in a temperature of about 60°, the amount of cream and butter would be largely increased, and the cream would churn in the same time as from fresh milch cows, and probably it would take not more than 17 to 20 lbs. of milk to a pound of butter. But if the cream be raised by cold deep setting, then it should be set directly from the cow, and the cream may be heated to 130° when skimmed, and after ripening will churn much better for it, and make more butter.

2. The ration of 8 lbs. ground oats, 8 lbs. wheat bran mixed with 10 lbs. sweet corn fodder and clover hay, if well prepared and regularly fed, should have done very well in developing quantity of milk. But the recent ration of 5 lbs. of corn and 4 lbs. oats ground together, and 4 lbs. wheat bran on 25 lbs. of corn fodder and 10 lbs. of clover hay, has a great excess of rough fodder, and the noon feed of 1 peck of cut potatoes and 2 quarts ground mixture would not cure it, as the raw potatoes would not dispose of the excess of fodder. Raw potatoes are not easily digested except in very small quantities. Had this ration contained only 10 lbs. of corn fodder and 10 lbs. of clover hay, with 4 quarts of mashed potatoes mixed with 2 quarts of ground feed, it would be likely to succeed very fairly, although not the best developing ration for rich milk.

3. He may utilize his discolored beans by grinding in the following proportions: 100 lbs. of beans, 300 lbs. corn, 200 lbs. oats, all ground finely together. With this 600 lbs. of ground feed, mix 400 lbs. wheat bran. This mixture would have, of albuminoids 11.3, carbo-hydrates 50.7, fat 3.5, having a nutritive ratio of 1 to 5.2.

Or, if there is plenty of beans, grind 200 lbs. of beans with 400 lbs. of corn, and then mix with it 400 lbs. of bran. This mixture will contain, of albuminoids 12.5, carbo-hydrates 52.4, fat 3.2, having a nutritive ratio of 4.8.

This last would be sufficiently strong to make a well-balanced ration with clover and corn fodder. Let the ration be compounded as follows: Eight pounds of clover hay, 8 lbs. corn fodder, 16 lbs. of mixture of beans, corn and bran. This would be a good ration for cows in full milk. For those nearly dry, less of the same compound, say two thirds, might be given. This given in analytical formula shows the following digestible nutrients, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat
8 lbs. common clover hay.	0.46	3.20	0.13
8 lbs. corn fodder	0.39	3.75	0.08
16 lbs. beans, corn & bran...	3.09	9.36	0.51
Total.....	2.07	14.31	0.67

Having a nutritive ratio of 1 to 5.9. But this ration would be still better with 16 lbs. of clover hay, without corn fodder.

The feed of cows, after going dry and before calving, should be a fair ration of hay, with from 6 to 8 lbs. of bran. This is a cooling and safe ration, keeping up the condition of the cow and developing a healthy calf. Until the cows are 6 months in calf, this ration may be improved by deducting one pound from the bean mixture and adding 1 lb. of old process linseed meal. This will improve its digestibility and add to its effectiveness as a ration.

4. If the beans do not hold out and a ration is to be made without them, grind 400 lbs. of corn with 200 lbs. of oats, and then mix with this, 400 lbs. wheat bran and 100 lbs. old process linseed meal. This will be the grain mixture of the ration. Let it be compounded as follows: Sixteen pounds of clover hay, 16 lbs. of the ground mixture, the clover hay being cut and moistened and the ground mixture being thoroughly mixed with it.

This may be given in two feeds, morning and evening, or three feeds, smallest at noon. Let it be understood that this is a full ration for cows in full milk, and that if their milk is in small quantity less is to be given. This combination of food should be a successful one; yet it will be seen that it requires a man of some experience to apportion this ration successfully. This combination of food is as good as any that can be made from the foods mentioned, and is appropriate for his heifers in milk, but care should be taken not to overfeed.

5. It is difficult to give advice with reference to warming the water. But it certainly is not conducive to the best results in milk production, that cows should drink at a tank in the open air from very cold water. Yet as he does not say how far this water is from the stable, whether there is room in it for warming tank, or what changes would be required for warming it, I cannot well give advice upon the subject. The trouble should be overcome in some way. E. W. S.

Previous Impregnation.

Eds. Country Gentleman—Dr. Moore, p. 74, asks reports on the above subject. For many years I have read and seen reports of such character as to make it almost certain that the first conception of a cow, mare or sow, or almost any other animal (and also of human species) is sure to affect the subsequent progeny.

One case was where a fine young pointer slut was being moved from South Carolina to Mississippi, and in passing along the road, tied behind a wagon (she being in heat) was served by a black cur dog. She brought a litter of pups, half cur and half pointers, which her owner killed. When she came in heat next time he was very cautious to breed her to a fine thoroughbred pointer, and strange to say, some of the pups were exactly like the father of the first litter of pups—curs in appearance. Nor did she ever after bring any pups of which some of them did not partake of the cur nature. The result was she was condemned as useless for breeding purposes. That instance can be vouched for, on as good authority as the United States affords.

When in Kentucky some 30 or more years ago, I was with several breeders of fine horses, and in speaking of breeding their fine young mares, I found them exceedingly particular about breeding to first class animals the first time, claiming that the impression made on them by the first conception had a tendency to injure the subsequent offspring, if the sire was an inferior animal.

My father, for 30 or 40 years, raised Game chickens for the pit, and he was very careful not only to have full Game cocks on all his walks, but equally certain that none of his brood hens had been where any ordinary dunghill cock ran, as he was fearful that the eggs might be impregnated, and their good qualities impaired.

In a conversation with a most excellent physician one day, on the subject of the resemblance of a family of children, whose mother had married twice (the second children looking very much like the first husband of the woman), he said he had not any doubt that her second children partook of the nature of her first husband, and the striking resemblance justified the belief. In this case the woman and her family were brunettes, her first husband a blonde. Her first children were blondes. Her husband died, and she married a man of dark skin, and all the last set of children were like the first—blondes. Truly, the ways of creation are mysterious!

I had a case to happen some years ago, which seems strange, and shows that there is no established way to breed out color of horses. A fine mare was put to a very fine stallion. Both mares and horses for many generations had been bay; we reasonably expected a bay colt, but it came a light sorrel, white face and feet. Years before (some 50 or 60) it appears that there had been a sorrel mare, and thus the color was perpetuated, as I suppose.

Gordon County, Ga., Jan. 20. Wm. H. BONNER.

Cause of Death in Sheep.

Eds. Country Gentleman—I notice "J. W.'s" answer to inquiry of "W. R. C., Hague, Va., (p. 73), about "Loss of Sheep in Virginia." I do not think he is correct, neither do I believe that catarrh, bronchitis and inflammation of the lungs run by steady gradations from one to the other. A sheep could have either disease independent of the other, and may have catarrh (nasal) for months without ever having bronchitis or pneumonia. I cannot understand how pine tar swallowed can benefit nasal catarrh. If I understand J. W. aright, it is intended for a local application.

I would like to ask W. R. C. if he noticed that any of his sheep were much swollen. Was the stomach distended with gas? It seems to me hardly probable that W. R. C. should lose so many sheep, so suddenly, from pneumonia. He would have noticed some of them ailing for certainly a few days, and the evident distress, rapid breathing, &c., make up a picture of such a nature that it would have been described. Last winter I did not lose a sheep. I had five die during November and December from colic. They were apparently all well when turned out in the morning, and by 10 A. M. one was found dead. All seemed well at night, found one dead in the morning; all were found while warm. They were all fat, but the stomach was enormously distended with gas, and the lungs compressed into a space not larger than one's hand. I do not know the cause—never saw one of them sick, but found each one within a few hours of its decease. Several of my sheep have a discharge from the nostrils and a number have coughs, but I am sure that none of mine died from pneumonia. Would like to hear further from W. R. C.

Chesterfield County, Va. W. C. ADAMSON.

Ewes before Lambing.—At this season, as lambing time approaches, it is important to have the ewes in the best condition of health, as thereby much trouble is saved, and vigorous lambs are secured. With the mutton breeds it is much the safest not to give the ewes any grain if they have been fairly well wintered on clover or mixed hay, with more or less turnips. If they have had insufficient keep, and need strengthening, it will be best to give very moderate rations of oats. In no case should corn be given. In our own experience nearly all our troubles at lambing time have followed grain feeding. The blood thereby is made too rich and heating, the udders become badly distended and caked, the flow of milk is often retained, milk fever is liable to set in and the wool become loosened, the lambs are dropped in a weak condition, the ewe is restless, and the percentage of loss becomes very heavy. We would decidedly prefer to have ewes poor and weak. After the milk flow is established, oats and wheat bran can be given to great advantage, and should be increased to about all the ewes will eat in connection with good clover hay and roots, if they can be had. Regular exercise is very important for ewes during gestation.

Mutual Live-Stock Insurance.

Following is the (condensed) text of the McNaughton bill now before the New-York Senate—see p. 111:

§ 1. Five or more citizens may form themselves into a society for insuring, on the co-operative or assessment plan, the lives of horses, mules, jacks and jennies.

§ 2. Such persons shall sign, acknowledge and file in the office of the superintendent of the insurance department, a declaration of their intention to form such a society, and said declaration shall contain the corporate name by which such society shall be known (which name shall not closely resemble the name of any other corporation); the place where the principal office shall be located, which shall be at some place within the State; the particular objects of said society—the duration of its existence not to exceed fifty years; the number of managers, not less than 5 nor more than 13; and the names of the managers for the first year.

§ 3. On approval of the attorney-general, the superintendent shall deliver to such corporation a certified copy of the papers, with license to engage in the business, and on such certified copy and license being filed in the office of the clerk of the county where the association is to be located, the said corporators and those that may hereafter be associated with them or their successors shall be constituted a body politic and corporate, and lawfully entitled to commence its business, and shall possess the power to sue and be sued, complain and defend, in any court of law or equity.

§ 4. The managers so named in said declaration shall hold office for one year or until others are elected. They shall choose from their number a president and secretary, and shall appoint such other officers as their by-laws shall prescribe. The election of trustees, directors or managers shall be held at the annual meeting mentioned in section ten of this act.

§ 5. The corporators or managers, shall have power to make and amend by-laws, and may have a common seal.

§ 6. Every such corporation shall on or before the first day of March of each year file with the superintendent of the insurance department a report for the year ending on the 31st of December immediately preceding; verified under oath by the officers, which shall state date of organization, number of policies issued or members admitted, the number of losses paid, amount received from each assessment, number of claims for which assessements have been made, the total amount received for benefit fund, and disposition thereof; reserve fund, if any, and its amount; number of policies of memberships lapsed, number in force at beginning and end of year. No deposit of securities with the superintendent shall be required from such corporations.

§ 7. The annual report to the superintendent of the insurance department shall be in lieu of any other report required by any other law.

§ 8. All such corporations, with their books, papers and vouchers, shall be subject to inspection by the superintendent of the insurance department. When said superintendent, on investigation, shall be satisfied that any corporation organized under this act has exceeded its powers, failed to comply with any provision of law, or is conducting business fraudulently, he shall report the facts to the attorney-general, who, if he shall be of the opinion that the facts require such action, must thereupon apply to the supreme court, for an order requiring the officers to show cause why such corporation should not be restrained from continuing to transact business. Such corporation shall be entitled to be heard, and a trial by jury; and in case the facts shall be duly established by the verdict of the jury, the court may close the business of the corporation, appoint a receiver or take such other order as the interest of the corporation and the public may require.

§ 9. There shall be paid to the superintendent of the insurance department by every corporation organized under this act the following fees, viz.: For filing declaration, $10; for filing annual statement, $1 for each hundred members or fraction thereof, not exceeding $25 from any corporation; for each certificate of authority and certified copy thereof, $5; for expenses of examination, the necessary outlay for railroad fare and hotel bills, not to exceed for any such corporation $50 in any year. All fees, when collected, shall be paid by the superintendent at the end of each month to the State treasurer, and no other charge shall be made of any such corporation, by such department.

§ 10. All corporations organized under this act shall hold within the county in which the principal office is located, a stated annual meeting of their members for election of officers.

§ 11. Each notice of assessment, shall truly state the cause and purpose. The manner of making such assessments and the cost, expense and collection thereof shall be regulated by the by-laws of the corporation.

§ 12. Any officer or agent of any corporation organized under this act, whose duty it is to make any report or perform any act as provided in this act, who shall refuse to comply with any of the provisions of this act in respect thereto, or who shall make, in any report or statement aforesaid, any intentionally false statement, shall be guilty of a misdemeanor, and punished by a fine of not less than $100, nor more than $500.

§ 13. Any applicant, solicitor, agent or veterinary surgeon who shall knowingly make any false statement with reference to any application for membership, or for the purpose of obtaining any money or benefit in any corpora-

tion organized under this act, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than $100, nor more than $500, or by imprisonment in a county jail not less than ten days, nor more than one year, or by both fine and imprisonment.

§ 14. The words "horse" and "horses," as used in this act, shall be considered and construed in their generic sense, as including stallions, geldings, colts and mares.

Jersey Bull Rioter's Pride 11694.

EDS. COUNTRY GENTLEMAN—If I have seemed to claim a great deal for this grand old bull, at the head of my herd, may I be permitted a few words in explanation? I do not say he is the best bull I know of, because I own him; but I made him mine because he was the best bull I knew of. When I resolved to buy a St. Lambert bull, I had this advantage—I knew, probably, more about that herd than any one else, except their owner. I said to myself, as I journeyed towards St. Lambert, "Stoke Pogis 3d is the best bull in the world, and Pride of Windsor the best cow; so I will get a bull as close up to one or other of these animals as I can." On arriving, I was shown six aged bulls, and many younger ones. Before learning name or breeding of any of them, I inspected them long and carefully, and at last chose the best. In fear and trembling lest his breeding should not justify my opinion, I asked his pedigree, and you may imagine my satisfaction when it was read out: "Rioter's Pride, son of Stoke Pogis 3d and Pride of Windsor." My next choice to him was a splendid fellow, and when I asked his pedigree, what do you think it was? Rioter's Combination, also son of Stoke Pogis 3d and Pride of Windsor, and thus full brother to the one I had chosen. Combination went to the States, where he had better opportunities, and has covered himself with glory, having already ten daughters with records of 14 lbs. and upwards.

Rioter's Pride came to my very small herd, so remote from others, and so isolated by our Canadian laws, that he has got comparatively few calves. Of these, one in my herd made, at 35 months old, 14 lbs. of butter a week, and gave 14 quarts of milk daily, on ordinary feed, and she was a perfect model of a dairy cow, with large, beautiful udder and fine teats. I sold her, and she was accidently killed soon after. Another gave me, last summer, 28 lbs. of milk daily, on first calf, and very light feed. Another, in my brother's possession, is a fine milker, and her daughter exceeds her. Another, that I am trying to buy, is said to have a wonderful udder, and to milk 40 lbs. a day, at 4 years old. Another I sold to a New-York gentleman, and he wrote me she was so good a milker that he wanted to buy a son of Pride. Two more I sold to Mr. Webb, who refuses to part with them. I quote from his letter: "They are good milkers; Waif is finer than Belle, has the best udder and is the best milker." Waif is pure St. Lambert, being a daughter of my Girl of St. L., a prize-winner every time shown; three times in my prize herd; first prize and sweepstakes over Canada at Ottawa, 1887, as shown against Mr. Fuller's beautiful herd, bronze medal in milk test. I am glad to say she has dropped me another heifer, by old Pride, which is not for sale. Belle is Lady St. Lambert, her dam being my Belle Steuben, 450¼ lbs. butter in 10½ months, on first calf, and 17¾ lbs. butter a week for me on ordinary feed, silver medal in milk test.

In 1887, as I had not exhibited for three years, and Mr. Fuller's magnificent Canada's John Bull had had it all his own way, I resolved to show the old bull, then in his tenth year. At Toronto, accordingly, he took first over Canada's John Bull and many others, sweepstakes over a fine lot, including a splendid grandson of Mary Anne, and discretionary prize for a bull and six of his get. At Ottawa this was reversed, he being put second to John Bull. At Kingston, 1888, third and last time shown, though then in his eleventh year, he took first over all Mr. Reburn's and a fine lot.

One of his bull calves took first over Canada, and I then took him South. At one year he took first at St. Louis, and at 2 years first again and also sweepstakes, same place. His other calves have been prize-winners 16 times, only shown at three fairs. I never saw more uniform stock—remarkably long and level in back, wide over hips, exceedingly deep in flank, thin in thigh, capacious in barrel, fine in head and limbs, soft and rich in skin, fine udder show, good style and carriage. One of the best judges in America said to me: "That is the best dairy bull of any age, or any breed, that I ever saw." MRS. E. M. JONES.

Brockville, Ont., Jan. 28.

The Dairy Department.

How to Feed Cows for Milk.

EDS. COUNTRY GENTLEMAN—Feeding for milk ought to be ranked among the fine arts. I think I have now reduced it nearly to perfection. Like most farmers, it long seemed to me a waste of labor to cut good, bright hay when cattle would eat it greedily long, and seemed to enjoy cutting it for themselves. So, after giving them a liberal allowance of corn-stalks, cut fine and mixed with ground feed, I would complete the ration with some dry hay. Observing that my cows often appeared indifferent to the hay at first, but after tasting it would go on and consume quite a quantity, the question arose whether, like human cattle, they did not often eat to please their taste, rather than because they needed it. So I resolved to try the experiment of giving only cut feed, in sufficient quantity to satisfy them, three times a day, and no dry hay for dessert.

About this time I broke my cutter, and while getting it repaired, set an old copper-stripped cutter at work, which cut stalks too long, but answered well for hay. Up to this time I had been getting about 175 quarts daily from 13 fresh cows. On the new diet they rose to 215 quarts in a short time, and for some weeks past have been averaging 200 quarts daily, with much less variation than usual. While feeding cut hay alone they did better than on stalks and hay, but my stalks were somewhat damaged. When using stalks, I now mix them with a nearly equal bulk of hay, having a heap of each by the cutter, and running through some of each alternately. I prefer this to clear stalks, especially when they are imperfect.

The latest and finest touch in the art of feeding I will now describe. My mixing box had become old and leaky, but I thought if the water merely passed through the hay, wetting it sufficiently to hold the ground feed, there would be little waste, and it would save the handling of the slops and wet hay in the bottom of the box. But I soon discovered a strong odor from the drain. I then prepared a new tight mixing box, put a plug in the bottom with a space under to set a pail, and drew off the water just before distributing the feed to the cows, and again spread it on the top. This thoroughly moistens the feed and saves handling the sloppy hay and stalks at the bottom, and equalizes and sweetens the whole mess. The water when drawn off foams like beer, and when left standing, as it should be, from one feeding to another—the new mess being prepared as soon as the old is taken from the box—it has a dark red color like wine, and if the hay is good and the box kept clean, it is a pleasant drink.

It is wonderful how the cows relish this moist, rich food. I think it equal to fresh grass, and my best milkers—only common stock—are giving 18 and 20 quarts per day right along, with no appearance of decline, though they have been milked from two to three months.

I am satisfied that the results pay well for the labor, which is not great when well systematized, with a good cutter and horse power. Hay does not require to be cut less than two inches in length, but should be shaken out before putting through the cutter where there is any danger of stones. Undoubtedly much of the benefit comes from a proper balancing of the coarse and fine foods. Where the ground feed enters the stomach in a mass it is less thoroughly digested and distributed than where it is more divided. The moisture also favors milk production.

I find that the above yield—which is 25 per cent. more than an average of dairies—cannot be uniformly sustained without giving each good milker about 15 pounds of ground feed daily. At present I am using a mixture of two parts wheat bran and one part hominy, costing together one cent per pound. So I am not getting "something for nothing;" but this is better economy than light feeding, for one quart of milk will buy three and a half pounds of feed, and this amount of feed added to a light ration will make two, and perhaps three, quarts of milk, besides lessening the demand for hay and increasing the value of the manure. It is obvious, therefore, that liberal feeding is the most profitable where there is a sure return. Besides this, the animal is kept in better condition where the food is nutritious and not over-stimulating—just as a man will do a large day's work without injury, if well fed, without artificial stimulants.

Putnam County, N. Y., Feb. 1. E. SNYDER.

Delivering Milk in Bottles.

EDS. COUNTRY GENTLEMAN—Will Mr. CHAS. G. SHERMAN (page 51) kindly give the readers of your valuable paper his method, in detail, of bottling and delivering his milk?

Birmingham, Ct. READER.

We use the "Warren" glass jar, with flat top, and the new paper cap under cover, instead of the ring generally used. This cap makes a tight-fitting cover, so that even should the bottle-cover shake off, the milk could not slop out, and the bottle of milk can be rolled about the floor on its side with no stopper except the paper cap, and not a drop of milk run out. The bottles are made to order, with "BRIAR CLIFF FARM MILK (or cream), SING SING, N. Y.," on one side of the bottle, and the notice, "*This bottle to be washed and returned*," on the other. We use quart jars for milk and pints for cream.

The milk is strained into forty-quart cans in the weighing room, adjoining the stable, and when a can is filled, it is taken immediately to the dairy and the milk strained into a tin vat or tub standing over a Lawrence capillary refrigerator. As there are few of these in use in this country, a short description may be of interest.

They are made in various sizes, and are constructed of a series of well-tinned oval copper tubes, one above the other, the ends being fixed into the chambered boxes. A perforated copper trough at the top receives and distributes the milk over the cooling tubes, through which *cold water* is flowing, and thus the warm milk, at a temperature of 90° to 96°, is *immediately* cooled to a temperature of 40° to 44°, or whatever temperature the water may be that is flowing through the tubes. In summer we use ice-water from a vat placed above the cooler.

Another great advantage gained by the use of this cooler is that the milk becomes thoroughly aërated by the exposure to the air in passing slowly over these tubes. It is well-known that milk is preserved in proportion to the *rapidity* with which it is cooled; the vital organisms, the cause of rapid decomposition, being destroyed by *sudden* cooling.

A trough under the tubes collects the milk into a can, from which it is taken and put into the bottles standing on the tables ready to receive it. The covers are snapped on and they are ready for the delivery wagon, which is fitted with racks for the bottles, so that they cannot hit each other *en route*.

The driver then goes his rounds, leaving the number of quarts that each customer requires, and gathering up the empty bottles. These are at once thoroughly cleaned by steam, soap and hot water, turned over on a table to drain and are ready for the evening's milk, which is cooled, bottled and stands on the table until morning when it is sent out with the morning's milk. Particular attention is given to cleanliness in every detail, not only as regards the stables and the cows, but the milkers themselves. The food given the cows must also be of the very best quality to produce the best results, and therefore we reject all brewers' grains, starch food and refuse food of all kinds, feeding only freshly ground corn and oats, wheat bran and middlings with cut carrots and beets for an appetizer. The grain is all fed mixed with cut hay and fodder corn, wet enough to cause the grain to adhere to it, so that it is all eaten together.

CHAS. G. SHERMAN.

Keeping Cream.—I can hardly agree with the directions given by H. S. (p. 73) for keeping cream for churning but once a week. My experience has been that cream cannot be kept open at the temperature named (50°) for a week, without becoming bitter, although not sour. But it may be submerged in a Cooley can and kept as fresh as the first day drawn. If one has not the Cooley cans, any ordinary can or pail may be used. Invert a tin pan over can, weight it, and cover completely with water. Then follow directions given by H. S. for ripening, &c. E. G. F. *Brillion, Wis.*

Milk Yield.—On moderate feed without forcing from Jan. 1, 1888 to Jan. 1, 1889:

Ayrshires.—Lady Essex 4th, 365 days, 8,793 lbs.; Duchess of Smithfield, 375 days, 7,399; Alline Douglas, 331 days, 6,813; Mandina, 330 days, her first year in milk, 5,940.

Jerseys.—Postmistress II, 310 days, 4,644 lbs.; Golden Edith, 365 days, 4,090.

West Farms, N. Y. H. B. C. WATSON.

The Veterinarian.

Experience with Milk Fever.

EDS. COUNTRY GENTLEMAN—That parturient apoplexy or milk fever can be cured after the disease has advanced sufficiently to be recognized by the unprofessional eye, is beyond dispute, and corroborated by the testimony of numerous correspondents of the COUNTRY GENTLEMAN and others throughout the country who have been successful in treating it; but my own experience, extending over a period of more than fifteen years in breeding and raising Jerseys, has been quite the reverse—a very discouraging one, attended in almost every case with fatal results. The season of the year has had apparently but little to do with the appearance of the disease, or the severity of the attack, or the result.

I am not a veterinarian, and make no pretentions to wisdom about the effects produced or expected from remedies used by the profession; my business is to look after the thrift and general welfare of the stock in health, and to employ such means and sanitary care as will best promote that condition always; and when an animal gets sick, I shift the responsibility upon the best professional veterinary talent obtainable. I am favored by location in being within easy reach of a number of surgeons, educated, experienced, and possessing the necessary diploma, and when required I secure the services of one of these, and devote my special attention and the whole time of a detailed attendant night and day—all our energies combined in an effort to restore the animal to health.

One of the veterinary surgeons to whom I have given preference, has attended the herd for a number of years whenever such services were needed, and as case after case of milk fever terminated fatally, he, as well as I, became discouraged, and after all his resources were exhausted—including a study of several post-mortem examinations—and a course of treatment that was successful nine times out of ten in other hands had failed, we gave it up, and with the next case changed doctors. The new man was opposed to excessive doses of medicine, and used almost exclusively homœopathic remedies, though rather more generously than allowed by that school, his main dependence being aconite, belladonna and nux, and out of 12 or 15 cases lost them all, including six valuable cows within as many months, none of them representing a value of less than $500—one or two at more than double that sum—milk fever always chooses the best for its victims.

The next veterinary surgeon for whom I sent, and who had previously assured me that there was no excuse or reason for the cows dying as they did, and strongly intimated there was something wrong in the treatment—that he lost no cases of the disease—adopted an entirely different course, and called for brandy, alcohol, any stimulants that would make the cow drunk, averring that this was the proper and only way to combat the fever successfully, which to me seemed rather paradoxical, but relying more upon his judgment than my own, I furnished the material, and she was dosed, and his other directions carried out. The cow was on her feet when the doctor left her, and had by no means reached a point which he would consider beyond hope. I had my own private views, the outgrowth of previous experience, but ventured no remarks. The next day I dispatched a messenger to tell the doctor not to come, as the cow was dead—her last spree was too much for her constitution to bear—and with the loss of this cow what little faith I may have had in the whiskey cure was gone, too.

It was not very long before an opportunity was again offered to test the skill of one of the learned professors of veterinarian science. Another cow had calved, and next morning was down with the fever. As soon as possible the doctor was on the spot—a new one this time, and another of those who had saved all his patients heretofore. He came with his saddle bag loaded with bottles filled with various fluids of different colors, the corpulency of the bottles indicating the school of veterinary practice to which he belonged. He had also a large syringe with which, together with his medicine, he vainly tried for 24 hours to get a passage through the bowels. He was a faithful doctor, and labored devotedly through the whole night and most of the following day, watching every symptom, and change in the condition of the doomed animal. His ambition, I think, was stimulated, and his anxiety to cure the case intensified, because there had been so many unsuccessful attempts before. But alas for his hopes! He saw the cow die in spite of all that he and others could do for her, and left under the impression that he had struck a new kind of milk fever, though the symptoms were familiar.

The fifth and last veterinarian to undertake a case, a man of intelligence and well up in the line of his profession—as all the others were—had often assured me of his success in treating milk fever, and believed he had found a remedy that was about a sure thing, as he "had never known it to fail." I promised him he should try, and soon the opportunity was offered. A cow of great value, that had, two years before, dropped twin heifer calves,

and had produced 17½ pounds of butter a week, was about to calve again when I observed the unmistakeable and never failing indication of the approach, or presence, of the first stages of the malady—a shifting of the hind feet, a restless movement of the weight of the body from one to the other, dullness of the eye and apparent disinclination to move; these and other familiar warnings prompted me to send at once for the doctor—the one with the "never-failing" scheme. His arrival occurred an hour or two after that of the calf. He did not think the cow's condition serious; I did, and told him so. Perhaps my convictions arose from a sort of chronic want of confidence in any remedy or course of treatment that could be suggested by or employed by man, to cure a case of milk fever. However, at the end of three days, after all possible attention had been given, and the means employed in all their details suggested by the doctor's skill and experience, were exhausted, the cow died, after passing through about the same order of symptoms, and enduring the same sort and degree of suffering all the others had done.

The anxiety and pecuniary losses occasioned by the death of so many valuable cows was not without its lesson. I observed, without exception, that from the beginning a costive condition of the bowels existed, and in most cases it was impossible to remove this trouble, even by the aid of the most powerful purgatives and injections, after the fever had set in; and again, that cows in high condition of flesh were most liable, though occasionally a thin one would be attacked. Post-mortem examinations revealed a condition of the mantfold, or third stomach, completely parched and dry, utterly destroying its capability to perform the functions required of it, and to all appearances inactive and dead beyond redemption, besides a badly congested condition of the brain and bowels.

In order then to controvert if possible and to ward off some of the dangers (I have long ago abandoned all hope of a cure), I began a course of preventive or preparatory treatment of all cows expected to calve, by reducing their rations at least a month before they were due, withholding meal or rich blood-heating food of all kinds, allowing only such diet, in a limited amount, as would naturally produce a loose condition of the bowels—skope or mashes of bran were found to be best, once or twice a day. Ten days or two weeks prior to parturition, a purge was produced by giving a pound of epsom salts, repeated if necessary; and from this time until after the calf was dropped, the bowels were kept open, epsom salts being the agent; and whether it required one pound or ten, this object was accomplished, if possible, and the course observed at all seasons, summer and winter. Since the adoption of this course, not a single case of milk fever has appeared in the herd, and I have almost forgotten the former feelings of dread always present as the time approached for the cows to calve.

In addition to the veterinary assistance, and other means employed to save the sick cows, I also tried many of the suggestions and experiments that came to my knowledge wherein others had been successful, among them kerosene oil and lard which has been published frequently as a "sure cure." I tried it faithfully in different stages of the disease, without observing the least benefit or effect.

Morton County, Ind. GEO. JACKSON.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

LAMBS SCOURING.—Some of my lambs that were dropped in May, 1858, are scouring badly and getting poor and weak. What shall I do for them? R. K. W. *Smyrna, N. Y.* [Give a teaspoonful of the powder twice or three times a day:—Powdered opium, 4 dr.; powdered extract hæmatoxylon, 2 oz.; bicarbonate soda, 4 oz.; mix.]

BLOAT IN COW.—A young cow 4 or 5 years old, got into an orchard about two months ago and ate too many apples. Ever since has been bloated more or less, especially at night. Is also troubled in getting up after lying down. Seems weak in hind legs or back. Eats well, and gives fair mess of milk. S. A. *Augusta, N. J.* [Give one of the following powders twice a day in half a pint of warm molasses: Powdered sesnibar, 1½ oz.; powdered carbonate of ammonia, 1½ oz.; powdered gentian, 6 oz.; mix. Make into six powders. Great care in her diet is necessary. Ground oats, bran and whole flaxseed steeped would be best. Hay in moderate quantities also.]

BLEEDING AT NOSE.—An eight-year-old driving horse frequently bleeds at the nose. Has no cough, good wind, and is in good condition. First noticed bleeding three months ago, very slightly; six weeks ago he bled between two and three quarts. Fed him at time 6 quarts of oats, 6 quarts of bran, with 1 quart of corn meal and 1 peck of carrots a day, and some good timothy hay. Since have reduced oats and bran to 4 quarts, leaving out the corn meal. Yesterday he bled almost as much as at last time. When bleeding, seems to be in a perspiration, afterward eats slowly, and is careful of his head. Bathed his nostrils with cold water, and injected water into them, which stopped the bleeding, and kept him warm; seems all right to-day. P. M. *Bay City, Mich.* [These cases are very difficult to cure. Be sure that the collar or throat latch are not tight. Give teaspoonful of the following powder in feed three times a day: Powdered acetate of lead, 2 oz; gallic acid, 6 oz.; mix. We may change treatment in two weeks.]

COLTS SCOURING.—Two colts about nine months old, weaned four months ago, are inclined to scour. Feed was half unground oats and half bran 3 quarts per day to each colt, and a small quantity of hay, timothy and clover mixed. They eat part of litter which is clean wheat straw, drink creek water twice a day, and are kept in an almost underground stable. Have given medicine and reduced feed, but they still scour. F. A. B. [Feed oats and hay only, except to add ¼ pound of whole flaxseed steeped to each feed of oats, and give a tablespoonful of powdered wood charcoal in each meal. Put same quantity of bicarbonate of soda in drink.]

WORMS IN HORSE.—My three horses have worms. The horse goes to rolling, looks at sides several minutes, gets up again, trots or walks a few steps with his hind legs drawn close to the front ones, repeating the same thing over and over for several days. If no medicine is given, will turn over dead. On opening the body you will find thousands of worms all through his intestines and stomach; holes eaten in them and black and blue. The remedy used around here is 1 pint each of warm milk and molasses, and a little soda, which relieves for a while, sometimes for months. S. S. *Long Moss, Tex.* [Feed worm and tonic powders, and give a physic ball, and repeat in one week.]

WART ON COLT.—A colt coming three years old has a large wart ten inches back of left fore leg on belly; is 3½ inches in diameter, 1 inch deep, surface raw. C. B. C. *Mt. Vision, N. Y.* [It must be dissected out or excised with an ecraseur. A veterinary surgeon should be employed.]

REFUSES TO SERVE.—A nine-year-old jack refused to serve mares during 1858. I think my groom gave him some powdered cantharides. What will correct him? M. A. B. *Cardwell, Va.* [Give him one of the following balls every six days: Powdered Barbadoes aloes, 15 dr.; powdered sulphate of iron, 12 dr.; powdered gentian, 12 dr.; and a sufficient quantity of Venice turpentine. Mix and make 3 balls. Give him 20 drops tincture of nux vomica three times a day. This may be continued for two weeks, then reduce the dose 5 drops, and continue a week, when another reduction may be made, and so on until you give 5-drop doses for a week, then stop. Report result after trying him, and refer to this page.]

RINGBONE IN MULE.—A valuable mule has ringbone caused by being stepped on, in turning to plow, by a large horse. Often in turning the horse would step on her front foot and get her lame before the man who plowed with the team told me what was the cause of lameness. I am not able to use her at all now. Enlargement extends to ankle joint. J. H. R. *Gallion, Ala.* [Ringbone, no matter what its cause may have been, is a very difficult thing to cure. By cure we mean the removal of pain and consequent lameness. The enlargement remains. Apply golden blister or have the actual cautery (firing) operation performed, and then use the blister 24 hours after.]

LUMP ON BREAST.—A horse, for the last four years has had a lump on breast, at lower point of shoulder, near windpipe. Is just under lower part of collar. Has never appeared to be tender to the touch or to hinder about working. Within a few days it has grown as large as one's fist, and very tender. Is, and always has been, hard, but not fast to bone or throat. O. W. *Middletown, N. Y.* [The tumor was the result of collar injury or some external violence—collars are responsible for these as a rule. Recently there has been another injury and it is quite probable that an abscess is forming. The whole mass should be dissected out, and it ought to have been done years ago. I have recently removed two from horses belonging to different trucking firms in Albany, and both very large tumors, one the size of a man's head. If you cannot get it operated upon, blister it, and if it gets soft in any part put a lancet into it and let out the pus.]

HAIR NOT COMING IN.—A horse, lame in left hind leg, was blistered with turpentine and pulverized cantharides. After a few days I greased it well, but the new growth of hair does not appear. Have used the same blister often, but never experienced this trouble before. What can I do to start hair growing? S. H. *Loveland, O.* [Wash the parts thoroughly with soap and warm water twice a day, and after each washing apply some of the following lotion: Powdered alum, 2 oz.; powdered nitrate of potass., 1 oz.; tincture of opium, 2 oz.; sufficient water to make 1 qt.; mix.]

Transfers of Thoroughbred Cattle.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Albert Roger 21776, W H Harpending, C B Lakin		
Ali Gold 18951, The Columbia Jersey Cattle Co, J A Shannal		
Baron Argyle 21764, H S Henry, L F Averill		
Beneficator 19043 J S Cockrell, M C Hambrick		
Black Duval 17319, A B Reed, W P Cobb		
Buffer's Son 21971, G Blanchard, T M Merrill		
Canada Chief 20977, J Bignell, H G Attrell		
Count Portsmouth 20959, C B Hill, H K Snyder & Co		
Count Yamada 21962, Est of C T Ransom, C E Hill		
Cyrus Rex 21946, T M Harris, H K Hill		
Captured Cream's Pogie 19953, J P Pomeroy, G S & W Phelps, Jr		
Duke of Moreau 17941, P W Myer, W R Stewart		
Fulch Aubano 19474, Wm. C. Archbuldger		
Gerard Sheldon 21793, G Blanchard, T M Merrill		
Ida's Hector of St L 21 17999, Miller & Sibley, L Harrison		
John Hull of Anglesea 19958, T R. Proctor, M W Angle		
Judge Patterson 21979, S A Rodgers, A B Guyon		
King Kappa 21 94, Est of C T Ransom, C E Hill		
King Oxford's Lass 21955, G H McLean, H C Warner		
Knight of Erin 19948, G Hunter, A O Barnes		
Occasion's 2d Lambert 20999, W S Stewart, J O McCoy		
Okahello of 20 Lambert 19946, C E Hill, H K Snyder & Co		
Palmetto Duke 21788, H R Meiver, J B Jones		
Pansy's Fedro Pogie 21959, I Marston, W Mills		
Pogie Victor 21962, G E Morse, J Rittenhouse		
Prince of St Joseph 21767, W W Osmer, H Tullis		
Sayegan 19966, R T Hill, J C Hart		
Sea Vermont 2d, G W Washburn, C N Griffith		
Roger O Mills 21959, W Cobbin, J S Simmons		
Rosedon's Rover 17321, D C Harter, D Shively		
Signal's John Bull 20966, J T Chastain, J T Roberts		
Signal of Delaware 21969, G W Furlow, A Maddain, Jr		
Signal Wood 20981, S A Pouit, M W Coulson		
Sir Alfred's Duke 19958, H R McIver, J B Jones		
Victor's Commodore 21780, A A Rogers, A L Keeler		
Wantge's Pansy 21781, G H McCoy, H C Warner		
Will Tree 21964, W Cannon, M P Butler		
Abbreath 22445, W Mitchell, A J McRoberts		
Ada Kate 20 24464, L Harrison, J Lang		
Alphea Iowa 18980 and 2 Alphea Vesdinda 17481, Est of C T Ransom, C E Hill		
Alphone St Helier 20961, H Burnett, A Howard		
Arbanelphia 24154, A W Thompson, J C Gribbling		
Arbabara 21961, Est of C T Ransom, C E Hill		
Augures Fancy 4th 21964, S C Kent, W E Brough		
Auntie Rose 21780, S A Pouit, M W Coulson		
Baroness B 20967, H Burnett, A Howard		
Beauty Medora 24461, O B & C E Smith, W S Albertson		
Beauty's Rosebud 22774, T P Blodgett, M J Hoban		
Belle of Herdsdale 22774, Est of W Ward, G Blanchard		
Belle Rivier 4661 and Rose's Favorite 24462, Est of C T Ransom, C E Hill		
Bettine Houghton 20436, J V Delano, J Mapwaring		
Bloom of Guilford 24461, W S Burnham, J W Wheeler		
Butter Dantine 24477, Est of W Ward, G Blanchard		
Clara Rose 24614, T M Harris, K S Hall		
Clyde Lass 20 3, H Burnett, A Howard		
Cora Verdana 24464, C B Phillips, W P Robinson		
Cowboy's Mink 24456 and Cowgirl 24459, Skannal & Bryan, S M Bryan		
Dahlia May 24464 and Delthora 24463, Est of C T Ransom, C E Hill		
Dicha D 24472, S A Foulk, M W Coulson		
Dolly of Thurlow 24233, S M Fellon, G W Furlow		
Elfinmah 24264, Est of C T Ransom, C E Hill		
Elsie of Forley Vale 24261, M M Rowe & S W Corbin, J M Broaddrus		
Emma Valley 24264, C H Thompson, G M Trainor		
Estelle Houghton 24464, J V Delano, J Mapwaring		
Ethel of Clover Lawn 24263, W S Albertson, G L Schneider		
Eula 24463 and Eula 2d 24464, J T Duigan, J Mapwaring		
Fannie of Inglewale 24272, J T Ragin, H Coles		
Fannie Rivers 24262, W L Crabb, J G Boone		
Fanny of Morgan 24274, W Stewart, J C McCoy		
Flower Sulmer 2d, 24471, C E Hill, H K Snyder & Co		
Florence of Grenville 24273 and Florence of Tableward 24264, Est of C T Ransom, C E Hill		
Foreign Beauty 24265, J J Dingle, H G Attrell		
Front Ridge Maiden 24269, J Cloud & Son, F Morris		
Gem of Clover 2d 24263, H C Kent, A Hyke		
Georgia Mirkel 24260, J B Y Warner, A H W Brown		
Gerard's Alphea Jean 24264, M Williamson, C A Murray		
Grey Wing 24215, C E Hill, H K Snyder & Co		
Ida Buckingham 17201, T A Mole, D C Moran		
Inconna 24260, J M Talmadge, M L Stewart		
Irma Alphea 24264, Est of C T Ransom, C E Hill		
Ivorytine 24474, Est of W Ward, G Blanchard		
Jersey Jennie 24267, J Campbell, J S McFarlane		
Jessie of Fair Play 24 2 2, H Stevens, C C Graves		
Kahsay 15357, M M Milner, A G Berger		
Kate Kirtley 24261, A C Hilebor, S Thrash		
Kitty Hazelton 24467, J T Duigan, J Mapwaring		
Kitty Pendleton 24 24, H Burnett, A Howard		
Lady Arthur 24 2 2, F W Smith, C E Hill		
Lady Buck 24 24, W F Boswell, S S Black		
Lady Bessie 3 0 1 and Lady Walpsney 24 24, Est of C T Ransom, C E Hill		
Lily Teodles 24 60, C B Pomeroy, H P Robinson, Ag't		
Lina's Maid 24 57, H Burnett, A Howard		
Lora Gillsbey 24 24, H M Rowe, H Coleman		
Lula's Pride 24 72, C Barber, P Warren		
Lydia of Nanton 24 24, W Mitchell, W F Sharp		
Mabel of Thurlow 24 27, S M Fellon, G W Furlow		
Magic Belle 24 69, Skannal & Bryan, J A Skannal		
Mamie W 24 66, Est of W Ward, G Blanchard		
Mary Dabney 24 78, F J Allen, Overseer		
Matilda Beauty Rose 24 61, and Matilda Rose Cox 24 63, J H Walker, H H Greenleaf		
Maud Parrot 24 77, C B Pomeroy, H P Robinson, Ag't		
May of Guilford 24 24, A C Burnham, J W Wheeler		
May Keighey 24 25, Est of C T Ransom, C E Hill		
Minnie Rose 24 59, J T Duigan, J Mapwaring		
Nellie's Bonnie 24 22, J H Walker, H H Greenleaf		
Miranda 24 21 cert, C E Hill, H K Snyder & Co		
Miss Cora Belle 24 21, W S Stewart, J C McCoy		
Miss Dolinda 24 56, Est of C T Ransom, C E Hill		
Miss Fanny K 24 73, S A Foulk, M W Coulson		
Miss Marine 24 77, D B Nutts, Mrs N Nutts		
Miss Patty 24 24, C E Hill, H K Snyder & Co		
Miss Allie St Lambert 24 24, Est of L L Cramer, J A Wilcox		
Mollie Matthews 24 35, M R Harrison, G Bowerman		
Moonlite's Souvenir 24 33, D J Leichheim, J W Hostetter		
Mowa 24 24, Est W Ward, G Blanchard		
Naptha 24 24, C E Hill, H K Snyder & Co		
Odessa 24 24, W Mitchell, G E C Sharp		
Ona of Nantham 4th 24 63, H Litsey, J Caldwell		
Orange Branch 24 60, G H McLane, H C Warner		
Patsy of Vernon 24 61, J Campbell, J S Macfarlane		
Patty Wise 24 29, E Burnett, A Howard		
Princess Ethe 24 58, J Campbell, J S Macfarlane		
Princess Ella 24 57, M M Rowe & S W Corbin, J M Broaddrus		
Princess Mink 24 60, Skannal & Bryan, S M Bryan		
Prim's Molly Gloss, P B Day, F A Matzenanes		
Pogie Duchess 24 58, Skannal & Bryan, J A Skannal		
Queen Phœbus 24 21, C E Hill, H K Snyder & Co		
Ramona 24 51 and Ramona's Mary Anne 24 52, Houghton Farm, E Mayne		
Remarkable Milne 24 76, Est C T Ransom, C E Hill		
Royalist's Vermonia Maid, C E Hill, H K Snyder & Co		
Sadie Gl's Pet 24 54, A D Lee, O Konrad		
Sally Houghton 24 60, J T Duigan, J Mapwaring		
Seema 24 53 (Guitar, A G Barnes		
Sleepless 24 41 79, G V Purman, J B Davis		
Starlight Netgate Kd 24 24, W B Burgess, I Poulson		
Stella's Gem 24 80, Est C T Ransom, C E Hill		
Tamadee 24 31, J H Gest, D E Walker		
Tangleweed Lass 24 53 and Thetis 24 55, Est C T Ransom, C E Hill		
Tribulation 24 51, Est W Ward, G Blanchard		
Turcoolene 24 24, Est C T Ransom, C E Hill		
Verbena Beauty 24 23, H K Keys, W E Brough		
Victoria of Belgehill 24 24, G A Bell, J E Parsons		
Victor's Wardella 24 25, J H Walker, H S Greenleaf		
Vinquette 24 40, Foster & Bolton, H K Snyder & Co		
V K's Gazelle N 24 26 and V K's Lois Mae 24 28, J E Walker, H S Greenleaf		
Walter Girl 24 29 2, A D McBride, H S Greenleaf		
W H Gazelle 24 24, J H Walker, H S Greenleaf		
Willing 24 24 cert, W N Burgess, I Poulson		
Zadie Gardener 24 14, H M Rowe, R Coleman		
Zaulia 24 15 cert, G Whipple, C Melendy		
Zillah Xn 24 25, J T Duigan, J Mapwaring		

1 & 2 *Broadway, New-York.* F. W. WOODS, *Sec'y.*

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Aaggie Viola's Will, H Smith, K M Van Zant		
Ansel's Prince, F C Stevens, H M Kimball		
Bell's Boy, J J Dwight, G H Ames		
Captain Van Beers, S W Evans, D R Moon		
Carl Henry, H Smith, J W Robbins		
Duke of Orpenn, J L Henderson, J M Weaver & Son		
Duke of Rice, J Urquhart, G P Chapin		
Kootstra 36, J H Dorsey & Co, J E Ingram		
Lavinius, J F Sanderson, H A Walker		
Maryhurst, Francis Rice, W Gerrit		
Mary, Lachawanna Breeders Assn, D W Miller & D G Mead		
Mechthelde 2d's Sir Henry, F C Stevens, N Nestor		
Nannette's Dedit, H C Jewett, H C Jewett & Co		
Netherland Helmer, D Dorsey & Son, O P Williams		
Prince of Marion, G McGregor, W Hanson		
Prunelier Jr, F M Harwood, L C Allen		
Robert Fortune, W J Steed, S L Steed		
Rosbwell, Est of C Kleinhans, Mrs H Kleinhans		
Sir Waldorf Pleasant View Stock Farm, H S Hardy		
Valiant 2d 6	Webb, J H Jackson	
Watson, G M Shattuck, J C Henderson		
William Penn, B S Heniker, E W Brown		
Aurelius, H C & J Jewett, H C Jewett & Co		
Ashtaroa, G M Shattuck, J C Henderson		
Artis Balloon M, F H & J L McCormick, F H & N McCormick		
Aaggie, G M Shattuck, J C Henderson		
Aarica 8th's Chilton, D Dorsey & Son, C P Williams		
Bakker Twist, B Harris, L C Allen		
Bonnett, A P Wright, O W Lee		
Bessie Kantle, D Dorsey & Son, W Holt		
Bonnie Bird, G McGregor, W Hanson		
Barnett, L C Allen, C C Harris		
Cherubine, G McGregor, W Hanson		
Clifden Gazelle, D Dorsey & Son, H D Pillow		
Delight, H C & J Jewett, H C Jewett & Co		
Elsie Rooker, F H & J L McCormick, F H & N McCormick		
Fashion, G McGregor, W Hanson		
Frenah R, H R Reardman, S L Warner & Son		
Harriet, H C & J Jewett, H C Jewett & Co		
Hengelik, W M Seaton, A N Kinnie Jr		
Kantje Clifden, D Dorsey & Son, C P Williams		
Lady Anita, E E Hershey, J Morgan Jr		
Lady Beauliet, H E Boardman, S L Warner & Son		
Lady Hane Bonney, W B Lind & Co, E Robins & Long		
Lakeside Gem 2d, G Peters & Bro, H Maggert		
Lassie Mae, F H & J L McCormick, J L McCormick		
Lark, H C & J Jewett, H C Jewett & Co		
Madam Helen, Est of C Kleinhans, Mrs K Kleinhans		
Maserbo, G McGregor, W Hanson		
Mary Hathaway Netherland, Pleasant View Stock Farm, H S Hardy		
Medora, H C & J Jewett, H C Jewett & Co		
Nimnia, G McGregor, W Hanson		
Osberg, L C Allen, C C Harris		
Pauline Sunbeam, F H & J L McCormick, J L McCormick		
Pyame, Pfame 3d and Popsey, G H Shattuck, J C Henderson		
Pride of Sharonville 24, C F Bacon, W K Sexton		
Rhoda 2d, J M Dadfield, J B Findley		
Rose Mae of Poplar Grove, F H & J L McCormick, J L McCormick		
Rose H, Westervelts Bros, J S Hedditch		
Rosepha 3d, T F Judd, D E Dowson		
Samantha, G M Shattuck, J C Henderson		
Sweaters, J R Hall Jr & Co, A Hoag		
Tabit, A P Wright, H H Allen		
Thilda, G McGregor, W Hanson		
Thora, F H & J L McCormick, J L McCormick		
Tintia and Tilo, G McGregor, W Hanson		
Tulamar Maid, J W Judd, M R Shields		
Twins a-While 2d, W B Ijams & Co, M A Lowe		
Vida 2d, O H Forbush, O Conant		
Woodland Fern and Woodland Linetia, W J Steed, S L Steed		
Waimandoe, W Brown, F G Alford		
Xennia, Winternurte Bros, J S Hedditch		
Zoebia, P C Peirce, O Conant		
Zulma, G McGregor, W Hanson		

Iowa City, Iowa. T. B. WALKER, *Sec'y.*

American Devon Cattle Club.

NAME.	SELLER.	BUYER.
Lester 3654, W P Addison, Hunter Bros		
Garcia 1115, J A Hill, W D Pomeroy		
Rose Red 3662, J Blakeslee, U Judd		
A 1 Jack 3541, R Byrd, S Wilson		
Jessy 1645, Chapman Bros, A S Worden		
Clifford C 540, E C Commans, J W Goetz		
Ottawa 3659 and Middleton 3658, W Forsyth & Son, J A McCutcheon		
Mountain Sprite 4397, S S Gregory, V B Wakeman		
Matchless 5th 6092, Woodhull 3656 and Steuben Girl 3652, J Guernsey, J A Brodie		
Red Prince 4665, Maid of Ulen 4715 and Cynthia 3653, J Hilton & Sons, H W Beal		
Sir Clifford 4321, L B Hall, J A Gray		
Princeton of Maryland 3643, Rose Hill 3645, Lady of Oak Grove 3644 and Cinderella Belipse 3642, L B Hall, B F Perry		
Pluckley 4467, Zou 1st 7091, Daisy Glycerine 7420, Alabama Lady 3639 and Princess Christine 1st 3638, L B Hall, J W Robinson & Son		
Herron 4674, Mrs A C Howard & Son, F Herron		
Rena Bly 5615 and Rena 5th 6611, Mrs A C Howard & Son, R J Howard		
Defender 4666, W H Jones & Son, F A Davis		
Bonaventa 4711, W H Jones & Son, A I Grubham		
Bleak 4667, A Johnson, C B Miller		
Earnest 5th and Rosemelle 4725, W T Kasson, F Judd		
Red Lady 4726, J Mather, F N Dennis		
Queen Beauty 7076, J McMillen & Son, F Ewing		
Maud 7713 and Lady Mab 6631, J McMillen & Son, J Hamilton		
Queen Rose 1164, P McArter, F Acker		
Julia North 4681, J S North, J S Peters		
Red Jerome 3d 4682, J W Pullick, H H McCoy		
Shadewald Front 4644 Powell Bros, R G Houston		
Matchless Prince 4683, Matchless 7th 4684, Lawn Beauty 4685, Peggy's Cherry 4686 and Morning Star 4687, G Pritchard, A S Worden		
Ruth 4134, I W Putnam & Son, W S Goddard		
Bright Rose 4697, N H Reed, M W Thayer		
Marjorie 3634, E D Richards, T B Wilson		
Brittany 4696, S E Smith, A L Grubham		
Iona 3637, A S Stevens, T Bolton		
Ben Harrison 4694 and Frances Cleveland 4695, H T & O A Tyrrell, ———		
Bright W 4675 and Sam's Girl 4677, C A Woodward, G Winton		
Revis 4671, 1 York, J McGee		
Basil 4688, 1 York, J W Hastings		
Beech 4694 and Maude 7722, 1 York, J W Meekhee		
Federalist 4668 and Wing 4669, 1 York, W A Ramsay		

Zanesville, Ohio. F. W. REED, *Sec'y.*

Record of the Times.

Review of Passing Events.

Political.—Anti-Saloon Republicans held a State convention in Albany, Feb. 6-7. Ex-Judge Noah Davis, Rev. Dr. MacArthur of New-York and Mrs. J. Ellen Foster of Iowa made addresses. The excise bill now before the Legislature was condemned. Judge Davis severely criticised it before the Assembly committee.—General Curtis introduced a new excise bill in the Assembly, Feb. 7. It put licenses for hotels, saloons and clubs in large cities at $500; in smaller ones, $250; villages, $125; for beer and wine, $100 to $300; storekeepers, $75 to $250. This is more than the rate of the commission bill, and midway those of bill vetoed last year.—The $400,000 appropriation bill for the Museum of Natural History, New-York, was passed, Feb. 5.—Bills were introduced increasing the salary and power of Dairy Commissioner Brown, and to establish four dairy schools, with appropriation of $30,000.—In Congress: The Senate passed the Fortification bill, Feb. 9.—Report of Conference Committee on bill to incorporate the Maritime Canal Company of Nicaragua was adopted in the House, Feb. 6, by vote of 177 to 60.—In the West Virginia Senate a resolution was passed, Feb. 7, by strict party vote, that election returns relating to the governor should be referred to the joint committee without reading. After protest the Republicans left the hall, breaking the quorum.—A bill forbidding treating to drinks under fine of $50 to $100 has been introduced in the Pennsylvania Legislature.

From Abroad.—Impressive services were held in the Capuchin Church, in Vienna, Feb. 5, over the body of the late Prince Rudolf. All the city was in mourning. The true manner of his death is still in doubt, the latest story being that he and the Baroness Marie Vetsera committed suicide together at the lodge at Weyerling.—The Parnell Commission has taken up the American part of the case, and a witness named Beach or Le Caron testified to being a government spy and learning about the revolutionary plans of the American League, whose meetings Mr. Parnell attended.—Parnell's Scotch action against the London Times has been dismissed, with costs against the plaintiff.—Mr. Kilbride, M. P., has been sentenced to three months' imprisonment for violation of the crimes act.—Mr. O'Brien has had his clothing restored, and has been removed to an infirmary.—The publication of the original English text of Mr. Gladstone's letter to the Marquis of Rico absolves Mr. G. from the charge of having proposed arbitration between Italy and the Pope.—A London edition of the New-York Herald has appeared. Its Sunday issue is denounced by the Pall Mall Gazette.—The steamer Nereid and ship Killochan collided off Dungeness, English Channel, Feb. 8, and both vessels were sunk, and 24 persons drowned.—The steamer Glencoe collided with the bark Largo Bay off Beachy Head, in the Channel, Feb. 4, and the former was sunk, with a crew of 50.—Two professors in the Pasteur Institute, Paris, have identified the generative microbe of diphtheria. The discovery of a preventive by means of a vaccine virus is expected to follow.—A riot broke out in Rome, Feb. 8, among unemployed people, and 10,000 ran riot, breaking into shops and banks, until dispersed by the military. Socialistic teachings said to be the cause.—The Catholic missionaries in East Africa have been released by Bushiri on payment of a ransom by the Germans.—Two immense conflagrations have recently taken place in Mandalay, Burmah.—A severe winter is causing the starvation of 250,000 Chinese in Shan-Tung and Manchooria.

Minor Items.

Joseph Cook began the 14th course of his Boston Monday lectures, Feb. 4.

The famous Polo grounds in upper New-York are being cut through for streets.

It is proposed to call the Columbia College annex for women, Barnard College.

The Pacific Guano Company of Boston has assigned, with liabilities of $1,000,000.

Cashier Gookin of the Manhattan Elevated Railway company, New-York, has disappeared with $10,000.

Henry Dieckman, a St. Louis miller and speculator, has gone to Canada with $150,000 of trust funds.

The Newburgh and Poughkeepsie, N. Y., barges made their 1st trips, Feb. 7, and ice gathering has begun.

California ice-men have gathered a fine crop of ice on the Truckee River, solid, clear, and 12 to 20 inches thick.

The Court of Appeals has decided that the Third Avenue Railroad Company, New-York, has no right to run cable cars.

W. W. Bussey, teller of the Eagle & Phœnix bank, Columbus, Ga., absconded, Feb. 5, with about $50,000. Cause, gambling.

A dynamite bomb was exploded at Stevenson's malt house, New-York, Feb. 8, shattering windows and breaking foundation.

The illustrated catalogue of the Stebbins art collection sale, New-York, this week, was advanced in price from $25 to $30.

The Iowa supreme court has decided that liquor in original packages can be sold in the State only by persons holding permits.

Eight masked men broke into a farm house near Findlay, Ohio, at midnight, Feb. 7, bound and gagged the inmates and stole $5,000.

The Coronado Water Company of San Diego county, Cal., has developed a water excelling the Bethesda in purity and medicinal qualities.

The White Cap nuisance is breaking out all over the country; some old people have been shamefully treated and one man made insane.

Rev. William Patterson died at Poundridge, Westchester Co., Feb. 6, aged 80. He was for 53 years pastor of the Presbyterian church at Poundridge.

A Pasadena (Cal.) nursery company advertises, in addition to ordinary field and nursery stock, umbrella, camphor, nutmeg, rubber and redwood trees.

Mrs. Maria F. Montgomery, who during the war carried secret dispatches across the State of Missouri to General Lyon, died at St. Joseph, Mo., recently.

A verdict of $30,000 has been rendered against a Philadelphia Traction Company in favor of C. T. Osbaun, a newsboy, who had his leg cut off by a car.

Rev. Robert Collyer of New-York has presented to Cornell University the old bell which used to call him to work in an English factory between 1831 and 1838.

A carload of trotting horses, valued at $150,000, arrived in Chicago from California, Feb. 8. Among them were Anteo, Antevolo, Norval, Arab and May King.

The Pennsylvania road is testing a new car heater in which water is heated in coils of copper pipe in the dome of the locomotive and then conveyed to the cars.

"Rednosed Mike" is on trial at Wilkesbarre, Pa., for the murder of Paymaster McClure and Hugh Flanagan last October. His confession implicates two Italians also.

John Cuyler died in New-York, Feb. 8, aged 86. Was for 44 years sexton of the Mercer street Presbyterian church. His funeral was largely attended by city sextons.

Boston has a new hotel for men called the Boston Tavern. It is fire-proof, eight stories high, and cost $900,000. It is the first hotel to adopt the cold-blast still system of water supply.

A big cave-in occurred in the White Bridge tunnel of the Delaware & Hudson Canal Company, Carbondale, Pa., Feb. 5, covering an area of two miles long and three-quarters of a mile wide.

A petition, signed by well-known Boston literary men and others, has been sent to Congress, praying for the protection of the ancient temple ruin of Casa Grande, near Florence, Arizona.

The elegant home of Henry C. Nevins in East 53d street, New-York, caught fire from a basement furnace, Feb. 4, and a dumb waiter shaft carried the flames to the upper stories which were burned. Between fire, water and axes, the damage was near $100,000. The rooms were modeled after those of a French palace of the 16th century.

The Montreal carnival opened Feb. 4. Governor General and Lady Stanley attended, also about 500 New-Yorkers. The ice palace was stormed on the 6th in the midst of a blizzard, by nearly 2,000 snow-shoers. The Albany carnival came off Feb. 2—without the fort, and with the sad accident of one boy killed and two with limbs broken, by a bob which steered wild.

The street car strike in New-York ended Feb. 5, in the defeat of the labor organization which ordered it. Little violence occurred the last few days, but a striker was shot dead by a policeman on the 4th. The companies have taken on their old men wherever there were vacancies. The strike has cost the men over $100,000 and the companies about $350,000. The Brooklyn strike ended on the 6th, the men renouncing the Knights and applying for work individually.

Mothers should remember, when a physician cannot be procured, that Ayer's Cherry Pectoral promptly relieves the croup.

A beautiful young lady became so sadly disfigured with pimples and blotches that she was feared she would die of grief. A friend recommended Ayer's Sarsaparilla, which she took, and was completely cured. She is now one of the fairest of the fair.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a recipe which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 39 Warren St., New-York City, will receive the recipe free of charge. [oelliowtf

Consumption Rarely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [lm28-29

CONSUMPTION CURED.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive, and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYES, 149 Power's Block, Rochester, N. Y. [oeflowtf28

Farm Produce Markets.

Albany Markets—Feb. 11.

FLOUR—The Argus says: The market has been fairly steady with light trade. Receipts have been fair and quotations unchanged.

	1889. Feb. 9.	1889. Feb. 2.	1887. Feb. 11.
Com. State	$4.20@4.60	$4.20@4.60	$3.70@4.00
State Extra	4.70@5.00	4.70@5.00	4.10@4.30
Amb. State & W.	5.30@5.70	5.30@5.75	4.40@4.65
O., Ind. & St. L. Ry.	5.30@5.70	5.30@5.75	4.40@4.70
Winter W. Pat.	5.20@5.70	5.70@5.70	4.70@5.15
Minn. "Bakers".	5.30@5.75	5.30@5.75	4.60@5.00
Spring W. Pat.	6.30@7.10	6.30@7.10	6.00@6.15

Rye Flour in fair demand at $4.00@4.30 per bbl. Grease, $4.00@4.25. Oat Meal in light demand at $4.40@4.50 per bbl. Corn Meal quiet; fine family at $3.70@4.00 per bbl. Buckwheat Flour, $3.10@3.40 per 100 lbs.

GRAIN.—Corn in light demand; No. 2, 44@44½c. No. 3 mixed, 43c. Oats quiet; stocks ample. No. 2 white, 34@34½c; No. 3 white, 34@34½c. Rye in good demand and steady. Street lots, 84@85c. per 60 lbs. Barley in fair demand. State, 70@73c.; Canada, 75@80c.

HAY AND STRAW.—Receipts fair; demand active. Timothy, best, $16@17.50; medium, $13@14; clover, $12@13; mixed, $11@13; rye straw, best, $13@15; oat straw, $6@10.

HOPS.—Market firm; trade moderate.

N. Y. State, 1888, choice	18	@20c.
N. Y. State, 1888, common to good	15	@18
N. Y. State, 1887, all grades	8	@11
Pacific Coast	14	@20
German	30	@40

Albany Street Market—Feb 11.

BUTTER.—Good to choice, 22@25c. per lb.

EGGS.—Near-by and new laid, 16@17c. per doz.; Western, 16c.

FRESH MEATS.—Steer beef, hindquarter, 11@12c. per lb.; forequarter, 7@8c.; mutton, hindquarter, 9@10c.; forequarter, 5@6c.; veal, hindquarter, 12@13c.; forequarter, 7@8c. Fresh pork, 9@10c.

POULTRY.—Fowls, 15@16c.; turkeys, 18@19c.; geese, 12@13c.; ducks, 14@15c.

FRUIT.—Apples, $1.00@2.00 per bbl.; Cranberries, $3.00 per crate; Grapes, Catawba, 25c. per lb.; Hickory nuts, 60 per bus.

VEGETABLES.—Beets, $1.20 per bbl.; Carrots 75c.; Cabbages, $1.50@2 per 100; Cauliflower, $2.50 per bbl.; Celery, $1 per doz. bunches; Lettuce, $1@1.50 per box; Onions, $1 50@1 per bbl.; Oyster-plant, $1 per doz.; Parsnips, $1.50; Potatoes, $1.30@1.50 per bbl.; sweet, $4.25; Spinach, $3.50; Squash, $7.00@8.00; Turnips, 75c.

New-York Markets—Feb. 9.

BEANS—Marrow, 1889	$ 00	@ 2 05
Medium, 1889, choice	1 70	@ 1 75
Pea, 1889	1 70	@ 1 75
COTTON—	Galveston.	N. O. & Gulf.
Ordinary, per lb.	—	@ 7¼
Middlings	10½@—	@ 10¾
Fair	12½@—	@ 13¼
EGGS—State and near-by, per doz.	22	@ 25¢
Western and Canada	12	@ 13
FLOUR—Spring Wheat pat., per bbl.	5 75	@ 6 00
Winter	5 30	@ 5 65
No. 2 extra State and Western	3 35	@ 3 65
No. 1 extra	4 15	@ 4 40
Minnesota clear	4 30	@ 4 60
Straight	4 90	@ 5 30
Rye Flour, superfine	3 95	@ 4 10
Corn Meal	2 75	@ 2 90
Buckwheat Flour	3 00	@ 3 30
FRUIT—Apples, Baldwin, per bbl.	1 00	@ 1 37
Greenings	1 00	@ 1 50
King, Spitzenberg	1 50	@ 2 00
Cranberries, Cape Cod, per bbl.	6 00	@ 7 00
Jersey, per crate	1 00	@ 1 50
Grapes, Concord, per lb.	1½@—	@ 2
Catawba	2@—	@ 3½
Oranges, Florida, choice	2 25	@ 2 75
Fair to prime	1 75	@ 2 25
Hickory Nuts	75	@ 1 00
Black Walnuts	25	@ 50
Peanuts, Virginia, per lb.	6	@ 7
Peanuts	7½@—	@ 8½
Dates—Apples, sun-dried, per lb.	4	@ 5
Evaporated	4@—	@ 6½
Peaches, sun-dried	10@—	@ 11
Evaporated	8	@ 12
Plums, Southern	—	@ 7
Cherries	15	@ 16
Blackberries	6@—	@ 8½
Raspberries	25	@ 30
Huckleberries	—	@ —
GRAIN—Wheat, State white, per bus.	1 10	@ 1 12
Ungraded spring	1 09	@ 1 12
No. 1 red, winter	1 07	@ 1 08½
No. 2 red, winter	1 06@—	@ 1 06
No. 1 hard, spring	—	@ —
Corn, No. 2, white	—	@ 44
No. 2, mixed	42@—	@ 43
Oats, No. 2, white	34@—	@ 35
No. 2, mixed	34@—	@ 34½
Barley	70	@ 80
Buckwheat	50	@ 55
Rye, State and Western	60	@ 62
HAY—Timothy, per 100 lbs.	80	@ 90
Shipping	70	@ 75
Clover	65	@ 80
Straw, long rye, No. 1	80	@ 85
No. 2	60	@ 65
Oat	50	@ 55
HONEY—White clover, per lb.	14	@ 16
Buckwheat	11	@ 12
Strained	7	@ 9
HOPS—N. Y. State, 1888, choice, per lb.	20	@ 22
Good to prime	17	@ 19
Best, 1887	7	@ 11
Pacific Coast, 1888, best	14	@ 20
Pacific Coast, 1887, fair	7	@ 11
German	35	@ 40
POULTRY—Live fowls, per lb.	—	@ 12
Turkeys	11	@ 13
Ducks, per pair	65	@ 85
Geese	1 50	@ 1 75
Dressed fowls, per lb.	11	@ 13
Chickens	12	@ 17
Phila. broilers	23	@ 25
Capons	17	@ 21
Turkeys	12½@—	@ 14
Ducks, per lb.	14	@ 15
Geese	11	@ 13
PROVISIONS—Beef hams, per bbl.	12 75	@ 13 00
India mess	18 00	@ 19 00
Hogs, dressed, per 100 lbs	6 75	@ 7 25
Lard, per tierce	6 87½	@ 7 00
Pork, new mess, per bbl.	12 75	@ 13 00
Short clear	14 00	@ 15 00
Family	14 00	@ 15 00
VEGETABLES—Beets, Bermuda, per box	—	@ 1 75
Cabbage, L. I., per 100	2 00	@ 3 50
Celery, L. I. & Jersey, doz. bunches	1 00	@ 1 50
Mich. and State, per doz. roots	30	@ 40
Kale, Norfolk, per bbl.	50	@ 60
Onions, State, yellow, per bbl.	75	@ 1 00
Orange Co., red	65	@ 75
Clean, white	2 00	@ 2 50
Bermuda, per box	2 00	@ —
Potatoes, Maine, per bbl.	1 87	@ 2 00
State, Burbank and White Star	1 00	@ 1 25
Long Island	—	@ 2 12
Jersey, sweet	2 00	@ 2 50
Bermuda	4 00	@ 5 00
Potatoes, Irish Magnum, per sack	—	@ 2 00
Spinach, Norfolk, per bbl.	1 00	@ 2 00
Squash, Hubbard, per bbl.	2 00	@ 2 50
Marrow	1 00	@ 1 25
Tomatoes, Bermuda, per box	—	@ —
Turnips, Jersey, Russia, per bbl.	60	@ 65
Canada, per bbl.	—	@ 65

Cattle Markets.

NEW-YORK, Feb. 9.

BEEVES.—Receipts, 10,185 head. The week opened with a fair demand and a steady tone in values, which was fully sustained on Wednesday, when the supply was light, owing to detentions on route, by severe weather, of a number of carloads due. Friday the markets opened at former values, but closed weak, the arrivals being heavy. The herds offered for sale were chiefly of coarse quality, ranging from poor to fair. Some choice grade steers were reserved for export.

[Per central, net.]	This week.	Last week.
Good beeves	$10 00 @ —	10 75 @ —
Fair	9 00 @ 9 75	9 00 @ 9 62½
Coarse	8 00 @ 8 87½	8 00 @ 8 87½
Poor	7 00 @ 7 87½	7 00 @ 7 87½
[Per central, gross.]	This week.	Last week.
Good beeves	$6 10 @ —	$6 30 @ —
Fair	5 00 @ 5 15	5 00 @ 5 10
Coarse	4 00 @ 4 90	4 00 @ 4 95
Poor	3 00 @ 3 95	3 00 @ 3 95
Oxen	3 87½@4 70	3 00 @ 4 65
Dry cows	2 25 @ 3 50	1 87 @ 3 62
Bulls	2 30 @ 3 50	2 00 @ 3 75

MILCH COWS.—Receipts, 135 head. The week opened with a dull feeling, and on Wednesday values declined $5 per head. Friday there was no improvement. Sales were 15 cows at $60 per head, 15 cows at $38@39 per head.

VEALS AND CALVES.—Receipts, 1,418 head. The arrivals are so light that values remain steady on a fair demand. Quality of the calves offered, poor to coarse. Quality of the veals, lean to fair. Range of prices: Calves, grass-fed, 7½@8½c. per lb; Western calves, $3. Best per cwt; veals, 6@6c. per lb.

SHEEP AND LAMBS.—Receipts, 28,320 head. On Monday values declined ½c. per lb. This was followed on Wednesday by a further decline in sheep of ½c. per lb; lambs being unchanged. Thursday the feeling was dull. Friday the markets closed firm. Quality of the flocks offered, poor to good. The best sheep were from Ohio. Range of prices: Sheep, 3½@4c. per lb. Lambs, 6½@7½c. per lb. Yearlings, $6.00 per cwt.

SWINE.—Receipts, 21,605 head. Trade for the week under review has been dull. The offerings were light. Twenty-seven state pigs, 85 to 120 lbs., sold at 5½@5¾c. per lb. Hogs nominal at $5.25@5.75 per cwt.

BUFFALO, Feb. 9.

BEEVES—[Per central, gross.]

	Last week.	This week.
Extra steers	$4 [illegible]	$4 [illegible]
Best butchers'	3 [illegible]	3 [illegible]
Second quality	2 [illegible]	2 [illegible]
Four to common	1 [illegible]	1 [illegible]
Stockers, western	3 [illegible]	3 [illegible]
Stockers, Canadian	3 [illegible]	3 [illegible]
Bulls	2 [illegible]	2 [illegible]

Receipts 10,800 head against 8,800 last week. Early receipts of sale cattle were not as heavy as last week, and better prices were expected, but buyers refused to take hold unless at a further decline of 10 to 15 cents. Quality was mostly inferior, but there was sufficient good shipping and heavy cattle to supply the demand. Market closed firmer and prices have probably reached bottom. Stockers quiet; receipts light. Bulls common in fair supply; no choice.

MILCH COWS.—Demand and supply light; extra, $40@45; good to choice, $30@35; common to fair, $20@25.

VEAL CALVES.—Choice to extra, $6@7; heavy, $3.50@4.

SHEEP AND LAMBS.—Receipts 17,000 head; feeling weak; local butchers' filled up at $4.25@4.75 for common to fair; good to choice sheep were wanted at $4.50@4.75; extra, $5@5.10. Lambs active. Extra, $6@6.25; good to choice, $5.90@6.00; common to fair, $4.00@5.00.

SWINE.—Receipts 24,500; market active, 5@10c. higher early, closing 15@20c. lower, but firm. Medium, $4.75@4.80; Yorkers, $4.60@4.70; pigs and roughs, $3.50@4.25.

BOSTON, Feb. 9.

BEEVES, NORTHERN.—Good extra, dressed, $9.50 @9.75 per cwt.; fair to good, $8@9; second quality, $6@6.50. WESTERN. Alive—Extra, $5.10; good to prime, $4.50@4.75; light to fair, $4@4.25.

MILCH COWS.—Fair trade at $30@40, per head.

CALVES.—Sales of 307 at 3@7c. per lb.

SHEEP AND LAMBS.—In lots at $5@6.50 per head. Spring lambs, 8@9c. per lb.

SWINE.—Western fat hogs, alive, 4½@5c. per lb; country dressed, 6@6½c.; pigs, $1.25@5 per head.

Dairy Markets—Feb. 11.

ALBANY.—Choice Butter in light supply; demand fair. State creamery, choice 26@26c.; Western creamery, 24@26c.; State dairy, 20c.; fair to good, 18@19c.; Western dairy, choice, 18@20c.

Cheese firm and unchanged. State factory, full cream, 13c.; dairy, good to fancy, 12½c.

NEW-YORK.—Best grades of Butter firm; undergrades steady. Receipts, 10,417 packages. State creamery, fresh, 28@30c.; fancy, 31c.; Western creamery, 24@26c.; State dairy, choice, 22@24c.; Western dairy, 19@20c.; Western factory, choice, 17c.

Cheese quiet. Receipts, 6,391 boxes. Factory, best, 12½@12¾c.; good to choice, 11¾@12c.; night-milk skims, 9@10c.; Ohio flats, 11¾@12c.

BOSTON.—Western creamery, extra, 29@30c.; extra firsts, 28@28c.; factory, 23@26c.; Vermont, extra, 28@29c.; dairy, choice, 24@26c.; Eastern creamery, good to choice, 28@29c.

Cheese, Northern, choice, 11½@12½c.; Western, 11¾@12c.; sage, 14c.

Wool Markets—Feb. 11.

ALBANY.—Market quiet; sales 10,000 lbs. fleece.

No. 1 Pulled	32@33	Medium Fleece	30@32
Super Pulled	30@31	Fine Fleece	29@30

NEW-YORK.—Ohio X & XX, 35@36c. Michigan X, 32@33c., combing, 30c.; delaine, 31c.; unwashed, western, 28@30c.; pulled, 28@35c. Territory, 28@35c. Montana, 30c.; Oregon, Pacific, &c. scoured, 35c.; California, 31@c.; scoured, 42c. Texas, 26@27c.; scoured, 37c.; Montevideo, 24@25 to; Australian, 30@34c.

BOSTON.—Sales 2,000,000 lbs. domestic and foreign; Ohio and Pennsylvania, 32@33c.; Michigan, 30@32c.; Texas, 28@30c.; combing and delaine, 32@33c.; unwashed, 28@29c.; scoured, 40@43c.; pulled, 36@40c. Territory, 32@34c.; California, 32@33c.; Oregon, 30@31c. Australian, 32@40c.

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The Fireside.

Notes from France.

That part of the interior which is best known to visitors, is on the line running from Calais to Paris. France, like Ireland, has her hills chiefly on the outside, and the route named is therefore a fair sample of much of the country. It has been asserted that England was at one time joined to the Continent, and the outcrop of the strata in railway cuttings give fair proof of this. Again, the range of hills, eastward of Boulogne, has the same contour as our chalk ranges, either north or south of the Thames. Inside all these hills a flat and marshy country, along the river valleys, and an open plateau beyond at three or four hundred feet of elevation, constitute the chief features right up to Paris.

That open country is chiefly distinguished by the absence of hedgerows, and by the multiplicity of subdivisions in the open field. There is also a paucity of snug English homesteads, the people being chiefly clustered in the small country towns. They have thus a considerable distance to walk to their daily work, and the manure has to be carted out and the produce carted back in corresponding measure. You will not be surprised that I only noted one flock of sheep and two small herds of cattle in the three or four hours' journey. Neither is it difficult to understand why the rural interests preponderate so much more than they do in England—the relative position of population being the reverse of what it is at home.

Rural interests find their way into the metropolis to even a greater extent than they do in London. For one thing, Paris is dependent, for its fuel, very largely upon the forests, whence cord-wood is brought in in profusion. I do not think their forest management is particularly advanced; they leave far too much of the birch tree standing, and that is a species of wood that does not pay well for the time it takes to grow. Poplars of three or four varieties are most abundant, and they are chiefly noticeable by the great clusters of mistletoe by which they are adorned. Fontainebleau and Chantilly appear to give the chief stores of firewood, and water communication helps the carriage greatly.

Again, the green-painted wains and green-colored tilts of Normandy are met with every morning. They bring in apples and other less valuable produce, some of them coming from such a distance that they cannot make more than two journeys a week. It is but little money that they can take back, after all expenses are paid. There is a market for cattle and sheep every day of the week; horses are displayed on Wednesdays, and dogs on Thursdays. I rather like the Paris horses, and should take the first hundred of them, all round, in preference to a similar number drawn in the same way in London. For one thing, the streets, being kept 50 per cent. in better order, washed every night by an army of *ouvriers*, and a sprinkling of fresh grit added, you have fewer broken knees, while the frequency with which you meet stallions in harness, give a martial character that is unknown elsewhere. The dogs most in demand appear to be the *caniche*, the poodle and the mastiff. The former is a curious animal, half-human in its antics and playfulness, while the grotesque forms into which the canine hair-dressers shape him, and the poodle proper, is rather a peculiar phenomenon. I have picked up a very nice four-months' mastiff at about two sovereigns in English money. Of collies, you hardly see one in a day's journey.

Everything is dear in Paris, and I am afraid that from the number of unemployed there must be a large stratum of discontent underneath. Here are the current prices (for best quality) of several food productions, personally ascertained: Beef, 1 franc per lb.; mutton, 80 centimes; butter, 2 francs; cheese, 4 francs; lump sugar, 60 centimes; bread (4-lb. loaf), 1 franc.

In regard to the latter item it is evident that the heavy import duty on bread stuffs is not the only addition which the town consumer has to pay; the price of wheat being fully $3.50 per quarter (480 lbs.) higher than in Mark Lane. It is not pleasant to note that France is going back considerably in her production of butter for export; Denmark has now the lead for outside supply in the English market, having sent 604,512 cwt. in 1888 against 490,968 cwt. supplied by France.

I went through the grounds and buildings of the exhibition which comes off during the present year. Agriculture will be well represented, the total amount of the prize list for that department being about $30,000; the restrictions are few in number, and do not go further than the requiring of a certificate that there has been no contagious disease in the district during the previous three months. Prizes are offered for chickens of all breeds under the sun, for geese, ducks, turkeys, guinea fowls, rabbits and ostriches. To every first prize in each division for cattle, sheep, pigs and poultry will be added a medal of gold; to every second prize a medal of silver; and to every third prize a medal of bronze. The juries will be composed of French and foreign breeders and agriculturists, each jury being divided into sections with a president who has a casting vote.

France, with its thirty-six millions of population, ought to be a progressive nation; but as matter of fact, the population is stationary, if not retrogressive. We of the United Kingdom add nearly half a million to our numbers every year; and hence we have to find our way to every corner of the earth. But our Gallic neighbors are distinguished by the smallness of their families, as well as by the large numbers of couples who are childless. My courier, an Italian resident in Paris—a handy fellow, who is at home in five or six European languages—disputes this, and gives the assurance that it is otherwise in the working class quarters. But I have the official figures to fall back upon, as well as an exhaustive article with full diagram, just published by the *Revue du Monde*. A very little makes a Frenchman happy, and a day's cheap enjoyment along with wife and children, is more often indulged in than with us, whether in town or country. I cannot see that the vast interior, with hundreds of square miles of flat country, where the geological stratification is of the most horizontal character and mineral treasures few, ever indicates that the French should be a warlike people, or that their numbers should be decimated by military efforts. Were they to cultivate the arts of peace more, and the art of war less, their numbers would increase and their prosperity also. T. BOWICK.

Paris, Jan. 26.

Property Rights of Old People.

The millennium has not yet come, and until that happy era dawns upon us, avarice and selfishness will exist in the human heart. Justice and mercy will vainly cry over wrongful oppressions, over hearts saddened by misuse, over physical sufferings occasioned by unjust deprivations.

There are two conditions of human life which, in their weakness, call for the sympathy and protection of those who are strong: one is the helplessness of infancy, the other the helplessness of age. That there are those who, to benefit themselves, will take advantage of the weakness of old people to defraud them of their rightful belongings and then misuse them, is one of the sad things of life. And when such injustice is perpetrated by a son or daughter toward a parent, it is an act over which angels might well weep.

I was once acquainted with an old lady who was the owner of a valuable farm, a snug bank account, and much personal property. Though over seventy years of age, her mind was clear and intelligent, her health comfortable. In connection with her only son, a young man of 25 years, the large farm had been admirably managed since her husband's death. Finally the son married and brought his wife to the farm to live. Everything moved on pleasantly for a while, until one day Satan put his foot in the door and suggested that this old mother, who had labored and planned and sacrificed during a long life to accumulate something for her old age, should, on account of her advanced years and prospective infirmity, deed all this property to her son; a condition of the stipulation being that she was to have a life home on the place, and be well provided for while she lived. So seductive were the plans that were laid, so fair were the promises made to her for her future, of the ease of her life and her freedom from care, that finally through the love and trustfulness of her heart, the good old mother signed away all her earthly possessions.

It would be a long story to tell of the oppression that this old martyr endured in the next ten years, for alas! she lived to be very old. Little by little her liberty was taken from her until she became the merest nonentity in the home where she had so long been the leading spirit. Her wishes were disregarded, her spending money was reduced to the most meagre allowance. At the time the property was transferred, she occupied a large, pleasant bedroom, in which she had slept for forty years. It was hallowed in her memory, for there her children were born and there a number of her loved ones had passed from life. The things in this room were valued relics of her household goods, arranged to suit her own peculiar tastes. The young mistress conceived the idea of converting this room into a parlor. What cared she for the old mother's precious memories or comforts, so that her ambition was gratified? Her husband had a deed to the place which made her part owner, so why not do as she liked with what was their own? So a small bed-room, with but one window and no fire capacity, was given to the old mother in exchange for her pleasant room. Having no rights that she could sustain, she was compelled to submit to whatever treatment was given her. A short time before death released the grieved old heart from its thralldom, she said to a friend: "The greatest mistake I ever made was when I signed away my property. I had lived for 75 years, but never learned in all that time what a protection money is to an old person, until mine was beyond my control. With it went my freedom, my rights, my comforts."

Another striking illustration of this subject once came to my knowledge. An excellent old couple had, through a long life of hard labor and close economies, accumulated a competency for their old age.

The responsibility of the large farm became too great for their advanced years, so a much trusted son-in-law was placed at the head of affairs. This arrangement lasted for a while, and then the same transaction of the former instance was enacted, the whole property being transferred to the daughter and her husband, and in return the old people were to be cared for while they lived. Soon after this the old father died. For a number of years the aged mother lived with her daughter, according to the stipulation, then the daughter died, leaving the mother dependent on the son-in-law. The man's true nature then asserted itself.

There are people who are seemingly honest, whose reputations are good; but like Peckniff of Chuzzlewit fame, their true characters are never known until some peculiar circumstances or condition of life calls for action that will be a test of their real natures. It was so with this man. When he found himself the legal owner of all the property, and absolute power vested in his decisions, it was astonishing the greed and selfishness that he manifested. The old mother was made to suffer great privations, many of the comforts to which she had always been accustomed being withheld from her. Ere long he married again and the feeble old woman was in his way. Finally her persecutions became unbearable, and she was compelled to seek refuge in the home of a relative. She saw the dear old home and all of its belongings, the result of her's and her husband's life of toil, the property of one who unjustly owned it, while she was a mere pauper in life.

The love of money is one of the strongest passions in the human mind. For it men will commit the most terrible crimes, life will be hazarded, fearful risks be run; and the fear of neither the gallows nor the grave will stay the hand that is itching for gold.

Occasionally filial love and a sense of duty are stronger than the desire for money. Where such is the case old parents may safely trust their future to the care of son or daughter. But human nature is too weak and life too uncertain for a feeble old person to take the risk of placing the means for his comfort and independence beyond his control. When sons and daughters urge old parents to abdicate their property rights in their favor in return for care given them, it may be safely construed that the love for gain is stronger than filial affection.

There is nothing more pathetic in life than a feeble, dependent old person, whose subsistence is grudgingly given by hard-hearted, penurious relatives. It is a fate from which every human being might pray to be exempted. And when old people possess property which is the result of their own labor they should keep it in their control that they may be independent of a hard, selfish world during the mental and physical infirmities of old age.

NELLIE BURNS.

A Public School Idyl.

Ram it in, cram it in,
Children's heads are hollow;
Slam it in, jam it in,
Still there's more to follow—
Hygiene and history,
Astronomic mystery,
Algebra, histology,
Latin, etymology,
Botany, geometry,
Greek and trigonometry—
Ram it in, cram it in,
Children's heads are hollow.

Rap it in, tap it in—
What are teachers paid for?
Bang it in, slam it in—
What are children made for?
Ancient archæology,
Aryan philology,
Prosody, zoology,
Physics, climatology,
Calculus and mathematics,
Rhetoric and hydrostatics—
Hoax it in, coax it in,
Children's heads are hollow.

Rub it in, club it in,
All there is of learning:
Punch it in, crunch it in,
Quench their childish yearning
For the field and grassy nook,
Meadow green and rippling brook;
Drive each wicked thought to flight,
Teach the children that they are
But machines to cram it in,
Bang it in, slam it in—
That their heads are hollow.

Scold it in, mold it in,
All that they can swallow;
Feed it in, feed it in,
Still there's more to follow.
Faces pinched, and sad, and pale,
Tell the same undying tale—
Tell of moments robbed from sleep,
Meals untasted, studies deep,
Those who've passed the furnace through,
With aching brow, will tell to you
How the teacher crammed it in,
Hammed it in, jammed it in,
Crunched it in, punched it in,
Rubbed it in, clubbed it in,
Pressed it in, crammed it in,
Rapped it in and clapped it in,
When their heads were hollow. —*Punch.*

Man's Duties in the Household.

While it is true that woman makes the home, this fact does not wholly exclude man from a share in the household duties. Too many mothers bring up their sons to have no part or lot in home affairs, but their daughters are initiated into all sorts of drudgery, including that of waiting upon their brothers. Those daughters afterwards wait upon their husbands and sons in the same way, and their brothers expect the same treatment from their wives and daughters that they received in their youthful days, and thus the men of the world are spoiled.

Now, while I entertain a great measure of respect for a noble man, I have the same or a greater amount of reverence for a noble woman. I do not look upon the man as a hero, and upon the woman as created only to drudge for him. A noble man and a great orator once declared that his versatility was accounted for by the fact that his mother, having no girls, taught him to assist in the performance of her numerous and never-ending household duties.

A man is usually expected to learn one trade or profession; that is all that is expected of him, but a woman, the weaker (?) vessel, is expected to be a thorough housekeeper (which involves a dozen trades), to be able to make her own dresses and bonnets, to shine in society, and in some cases to help support the family.

I never could understand why a girl is taught to open her bed and windows when she rises in the morning, while her brother is not taught to do the same thing—the sister must do it for him. A girl must "pick up" her clothes when she takes them off, but this is never expected of her brother. A girl is supposed to be able to take her clean clothing from her bureau drawer when she wishes to put it on, but her brother must have his clothing "laid out" on the bed for him. If the hired girl leaves, it is the mother or the daughter of the house who must "make the kitchen fire," while the husband or brother takes a morning nap.

If company is to be entertained, it does not enter the head of husband or son that it would be kind to lighten the cares of the wife or mother. But really, women are to blame for this state of affairs. The trouble lies in the early education of boys. It is of no use for a wife to undertake to correct in her husband, habits which an unwise mother has done her best to foster, but she can train her own boys differently. My boys shall be taught to help

their mother in a hundred ways; they will in consequence be not less manly, but better able to perform the duties required of them when they shall go out into the world.

LILLIAN MAYNE.

SCULPTURE.—Sculpture must first be a commonplace, a fashionable necessity in the home life, before it can flourish greatly and nationally in a commonwealth like ours. The field of the sculptor as the rival of the painter in the daily affections of amateurs is practically unworked, scarcely suspected: yet the signs of its presence are on all sides. One straw is the removal of an old prejudice against plaster casts, used in lieu of costlier materials. As to what is now called sculpture—backed as it is by no large mass of trained, cultivated fosterers—the silent nation of marble and bronze statues which men think of when sculpture is mentioned becomes already oppressive. Our parks will soon offer the cluttered chaos of the cemetery and become a derision. But will not then a wider taste, wearying of easel pictures and pictures on the wall, carved woods and bric-à-brac, turn to statuary for agreeable, companionable forms of art, at once calmer in temperament and more indestructible than the fashionable decorations of our homes? It is only by beginning at the fireside that we can cultivate the public taste to the level of Athens and Florence, and have the knowledge to bid our sculptors grapple with those grandest forms of art that for their backgrounds demand a sea, a landscape, or a steepled town.

—*Century.*

STANLEY AND AFRICAN SLAVE TRADE.—Probably no man has ever excelled Stanley in his wise treatment of the Africans. He seems to have a natural instinct of the best way to manage these people, who combine great childishness with natural ferocity. Stanley is firm, but kind; considerate, and generous. The natives know that he is strong, and they have faith in his honesty and truth. He has managed the savages with wonderful skill. The slave-traders hate and fear him, and many people have thought that if he were ever surprised and cut off in Africa it would be by the malice of these bad men, who fear for their trade. Stanley, like Livingstone, saw enough of the horrors of the slave-trade to be in deadly earnest to do all that lay in his power to stop it. Tippoo Tib, the Arab trader, has long been a slave-dealer, though he has pretended to give up that horrible traffic since he has been associated with Stanley. Very likely, if he ever got a chance to go into the slave-trade again, without being found out, he would do it. And, if Stanley stood in his way, some men think Tippoo Tib would not hesitate even to kill Stanley, and so be rid of him. Tippoo Tib is now a very great man in Central Africa. He is enormously rich, and he can raise a force of many thousands of men whenever he has occasion to call for them.—*St. Nicholas.*

TO A YOUNG WIFE.—Always attend conscientiously, to the kitchen, pantry, wardrobe, and, if you have children, to the nursery. But beware of becoming altogether a mere housekeeper or bringer-up of bairns. You have a duty to perform to yourself, as well as to your husband and your family; and if you neglect this duty, you may soon become unworthy to be either his wife or their mother. Cultivate your gifts, and do not prove by neglecting your accomplishments that your only object in acquiring them was to catch a husband. Dress well. Married women often err here from want of a high motive. In the fair sex, outward decoration, when genuine—for painting is vile—is, in my opinion, a positive duty, a duty not to a husband merely, or to any fellow-mortal, but to God. The Author of the Universe, as all His works testify, delights in the utmost possible magnificence and luxuriance of external decoration; and it is plainly our duty, being endowed with reason, to follow His hint, and, where He has created a fair object, to set it forth with every graceful trapping that is in keeping with the character of the work. Good dress is, in fact, a sort of poetry addressed to the eye which it is in the power of every well-conditioned woman to compose; and a woman who has no taste for decoration is a deficient creature, as much out of nature as a bird without wings.—*Cassell's Magazine.*

THE TALKING-MACHINE.—As saving time, the phonograph promises to outstrip the typewriter. The business man can dictate to the phonograph as fast as he can talk, and the wax cylinder, inclosed in a suitable box, can be sent off by mail to read out its message thousands of miles away. I see no reason why the newspaper of the future should not come to the subscriber in the shape of a phonogram. It would have to begin, however, with a table of contents, in order that one might not have to listen to a two hours' speech upon the tariff question in order to get at ten lines of a musical notice. But think what a musical critic might be able to do for his public! He might give them whole arias from an opera or movements from a symphony, by way of proof or illustration. The very tones of an actor's or singer's voice might be reproduced in the morning notice of last night's important dramatic or musical event. It has been remarked, by the way, that business letters and orders by phonograph would not be so binding as when put in black and white upon paper. A little wax cylinder covered with microscopic dots would not be considered as good evidence in court. But if the speaker's voice, inflection, accent, were so reproduced that witnesses could swear to the personality, would it not suffice? How could there be any dispute over a man's will, when the voice of the dead man was heard?—*Atlantic Monthly.*

RUSKIN ON RAILROADS.—He has boldly attacked the leading vice of our age, which he would consider to be the predominance of the mercenary and commercial spirit, and a corresponding consequent lowness of all our ideals of life. Against this persistent vicious force nothing, however lofty, however holy, can hold its ground in the estimation of our majorities as a chief incentive to action. In his drastic manner he has described this spirit of cupidity in the most powerful terms, but in none more pithily than in the passage in *Fors Clavigera* relating to the benevolence leading to railway enterprise: "The benevolence involved in the construction of railways amounts exactly to this much and no more—that if the British public were informed that engineers were now confident, after their practice in the Cenis and St. Gothard tunnels, that they could make a railway to hell, the British public would instantly invest in the concern to any amount, and stop church-building all over the country for fear of diminishing the dividends!"—*Harper's Magazine.*

THE DOCTOR'S WORK.—When I consider what the education of a doctor entails, what endless study and investigation, what patient labor; when I reflect upon the continual risks that he must take, the continual self-control that he must have, balanced by continual compassion; when I remember how he is ever contending in a face-to-face and hand-to-hand encounter with disease and death; I think that he should be an industrious and thoughtful, a brave and noble gentleman. To the invalid he is more. He is the master-mechanic of what may be a very troublesome machine. He is the autocrat of the table and of the lodging, of raiment and exercise. His advent is the event of the day. His utterances are oracular, his nod Olympian. His learning is boundless, his wit irresistible, his goodness not to be disputed. He takes the responsibility of living off shoulders which tremble beneath it, assumes the battle with pain, and fights the sick man's duel for him. He condones the cowardice of shrinking nerves and puts them to sleep. He encourages and stimulates and bolsters the sufferer into shape again.

—*Scribner's Magazine.*

The little girl who wrote on her examination paper, "The interior of Africa is principally used for purposes of exploration," was wiser than she thought.

"Wot school of medicine yo' b'long to, Doctor?" "I don't b'long to no school, sah. I's graduated.

When the fishes begin to dance, look out for a snowball.

Domestic Economy.

Further Receipts for Pork.

BREAKFAST SAUSAGES.—When a loin of pork is going to be roasted, it is sometimes thought advisable to cut off the rind and about half an inch of the fat adhering. When this is the case, what is cut off may be made to form the foundation of a truly delicious breakfast dish. Scrub and scrape the outer skin until you are certain it is perfectly clean; then lay it flat out upon the table, skin downward; spread over it a layer, half an inch thick, of sausage meat, or finely-minced meat of almost any kind, well seasoned with appropriate seasonings. Roll the rind up tightly in bolster form, and bind it round and round with string, or narrow tape; then lay it in a baking tin and bake in a well-heated oven from three-quarters of an hour to an hour and a half, according to the size and thickness of the sausage. When sufficiently cooked, remove the fastenings, and when quite cold, brush the meat over with two or three coats of strong glaze—an item very easily manufactured, and which housewives should never be without, as it is such a wonderful improvement to nearly all cold dishes. Serve the sausage on a dish covered with a pretty dish paper, and garnished tastefully with fresh green parsley. Of all the breakfast sausages I have ever tasted, this I think is the most delicious, and it forms a most convenient mode of utilising any odd pieces of cold meat which we may happen to have at hand. While the sausage is cooking, it should be basted frequently, for which purpose a little pure beef dripping should be put into the pan with it, and it must also be turned about pretty often, so that all parts may be equally browned. If preferred, the sausage may be boiled in stock, but baking is generally considered the more dainty method.

BRAWN.—This is another very favorite breakfast dish, made with a small pig's head with the tongue and feet. They must be pickled for ten days in the ordinary way—every housewife has some manner of pickling special to herself—and then be washed quickly. Cut off the ears and put them with the feet into a saucepan with as much cold water as will cover them, and boil gently for an hour and a half. At the end of that time drain them, and put them into another and larger saucepan with the head and the tongue; cover with cold water and boil slowly and evenly until the bones will easily leave the meat. When this stage has been reached, remove the bones and the skin from the tongue, and chop the meat into tiny pieces. Season rather highly with pepper, cayenne, powdered mace, and grated nutmeg, and after being well stirred and moistened with a little of the liquid, press the meat firmly into a brawn mould, and place a heavy weight on the lid. Next day turn out the brawn—dipping the mould, if necessary, in hot water for a minute—and serve on a neatly folded napkin, prettily garnished with sprigs of fresh parsley, and accompanied by good vinegar and well made mustard.

PORK CHEESE.—Take three pounds of fresh pork, composed of more lean than fat, and chop it rather coarsely; season it well with a savory powder made with a teaspoonful of pepper, a teaspoonful of finely minced parsley, half a teaspoonful each of powdered sage and dried thyme, a dessertspoonful of mushroom powder, a tablespoonful of onion, just minced as finely as possible, and a tablespoonful of salt. Mix thoroughly, moisten with strong stock, and press the meat into a plain but pretty mould, and bake in a slow oven for about three hours. Allow the dish to stand until next day—or till required—then turn out and serve in the same manner as directed for brawn.

PANCAKES.—Make some good batter with two eggs, three tablespoonfuls of flour, a teaspoonful of salt and some milk; beat it well and set it in a cool place to stand several hours previous to being required. Cut any remains of cold roast or boiled pork there may be at hand into neat, rather thin slices; season them nicely with salt and pepper, and dip each slice into the batter, which should be made sufficiently thick to coat the meat well. Have ready in a frying pan some boiling beef dripping, and as the pork is removed from the batter drop it gently into this, and fry for a minute or two, then turn and cook the other side also. Before turning the pancakes, another spoonful of batter may be poured on each, thus rendering them all the more dainty. When finished cooking, the pancakes should be a lovely golden brown, with the outside quite crisp. Serve as quickly as possible after being cooked, and very hot. AUNT CHLOE.

London, Eng.

Baby's Mittens.

Use ¼-oz. Berlin wool and fine ivory crochet needle. Make a chain of 30 stitches and unite. Work 3 rounds of single crochet and then a round of treble crochet.

Fifth round—Work 18 treble crochet, and take the 17th and 18th together; 6th—Treble stitches without increasing; 7th—Like 6th; 9th—Like 5th; 10th—1 treble, 1 chain, miss 1 loop. Repeat. You ought now to have 33 stitches.

Eleventh round—Single crochet, but into the 16th or centre stitch; increase by working 3 instead of 1; 12th—Treble; increase at the centre stitch as above, by working 3 into 1. The next 3 rounds increase 6 stitches by working 3 into 1 on each side of the centre stitches. Now join these 12 stitches where you have been increasing so as to form the thumb, and work on these 12 stitches separately from the rest of the hand.

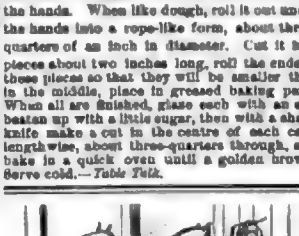
Work 4 rounds in single crochet. Work 3 more rounds, decreasing every time. Work 2 more, decreasing twice. Sew up the top and go on with the hand.

You ought to have 30 stitches for the hand. Work 2 rounds of treble crochet. Work 1 round of treble crochet, decreasing above the thumb and also on the other side in the 15th stitch.

Work another row in this way and then do 2 more rounds, decreasing 4 stitches in each round. Sew neatly together on the wrong side. Run a ribbon in the hole and turn back the cuff to form a gauntlet. LILLIAN MAYNE.

Early Spring Fashions.—The majority of the new ginghams are striped in fine patterns, the finest being merely a white thread woven in the warp, producing a striped effect and the widest not often over an inch in width. Inch bands in different color, with or without lace stripes, are already sought after. Careful purchasers, however, avoid all lace-striped fabrics and all open-work patterns in cotton goods, for all these fabrics thicken so much in the first wash that lace patterns lose all their sheerness and beauty. A familiar example of this is the open-work striped white cottons, which were sold a few years ago for dressing sacques and white dresses. The goods were so pretty that they easily found purchasers, but no laundress was ever able to prevent the open-work stripe from thickening and presenting a coarse appearance after washing. Lace-striped ginghams will wear and wash in about the same way. There are so many beautiful ginghams without lace stripes, but with sometimes raised threads in carving line, outlining stripes and other patterns so dainty and attractive, that will wear well and wash well, that there is no excuse for buying a gingham that loses its beauty in the hands of the first laundress. The Scotch ginghams with a ground figured with tiny figures like the old-fashioned "brilliant" cottons, are exceedingly pretty, though they are no longer a novelty. The best qualities of Scotch gingham in new patterns range in price from 40 to 45 cents. French zephyr ginghams are from 35 cents up to 75, and some elaborate ornate patterns are more expensive. A sheer pretty cotton in cross-barred and striped effect, called Madras cottons, are 35 cents. Satines are little worn except in districts remote from the great trade centres of the East. A cotton gown has no right to take on the gloss of silk, and any dress which is so difficult to laundry as satine, is not likely to find favor long with practical persons. Now that satine is out of fashion, it seems vulgar.—*Good Housekeeping.*

Biscottes.—Mix a half cup, four ounces of granulated sugar with a half pound of flour, turn it on a marble slab or meat plate and make a hole in the centre; put into it two ounces of butter, the yolks of three eggs, and a half teaspoonful of vanilla. Work the butter and eggs together, and then gradually work in the flour and sugar. Mix and knead well with the hands. When like dough, roll it out under the hands into a rope-like form, about three-quarters of an inch in diameter. Cut it into pieces about two inches long, roll the ends of these pieces so that they will be smaller than in the middle, place in greased baking pans. When all are finished, glaze each with an egg beaten up with a little sugar, then with a sharp knife make a cut in the centre of each cake lengthwise, about three-quarters through, and bake in a quick oven until a golden brown. Serve cold.—*Table Talk.*



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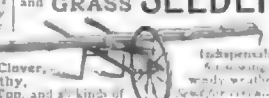

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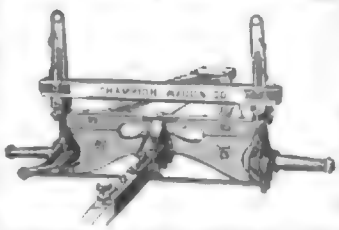

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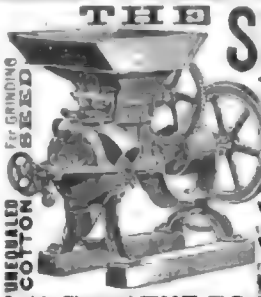

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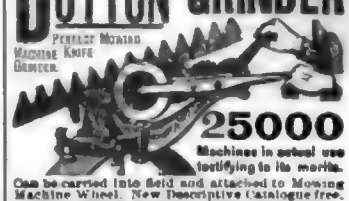

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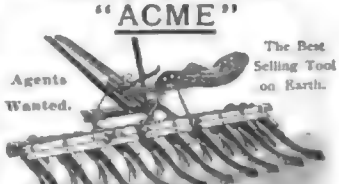

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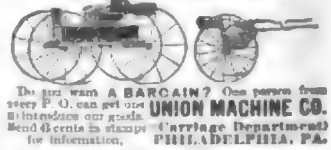

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**SEED SPELTZ

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THE CULTIVATOR AND Country Gentleman

Albany, Feb. 21, 1889.

Testing Seeds.

Among perhaps the most practically useful divisions of work which the agricultural stations are engaged in, is that of testing garden and field seeds. They are thus enabled to point out to the public the difference between reliable and unreliable dealers, and purchasers are justly entitled to this information. It thus becomes an important benefit to reliable dealers, who suffer in many ways from counterfeits.

Cultivators themselves have not always given the subject sufficient attention. They have made hasty and superficial trials of seeds, and not unfrequently have done the seedsmen injustice. They have planted in badly prepared ground, and sometimes the seeds are buried at the depth where they cannot grow, and other defective treatment has rendered success impossible and uncertain. Instances are too common where unjust censure has been given to seedsmen, on account of the failures of the planters to give the seeds a good, fine, mellow soil to grow in, and to place them at proper depths, with a sufficient supply of moisture for their germination. It is of great importance for cultivators to know good seed from bad, and also to know whether failure is to be attributed to poor seed, or to poor planting and cultivation.

On the other hand, dishonest venders have opportunity to do cultivators a great injury, as they may lose a good crop entirely from this cause, after the ground has been handsomely prepared, and skillful and honest seedsmen suffer with them, in the injury done to an honorable business. Some seeds retain their germinating power for years, but are rarely so good as fresh ones, while others are of little or no value unless perfectly fresh. Old seeds may be mixed with fresh ones, and all sold as fresh, the portion of the good seeds which come up aiding in the deception. Spurious kinds may be mixed with genuine; and sometimes to prevent detection the spurious ones have their germinating power destroyed by heating. Sometimes again, the seeds of bad weeds, which resemble in appearance the seeds of good kinds, are mixed with them. Sand, the grains of which are as large as clover seed, has been colored to resemble it, and largely mixed through it and sold extensively to farmers.

The agricultural stations are provided with means for determining the percentage of good and bad seeds in supplies offered for sale. The directors become familiar with the appearance of different kinds, both genuine and spurious, and may readily detect them by sight, but they depend on actually submitting them to the practical test of germination, counting the percentage which grows. They determine the time required for different kinds to germinate, which is often necessary to prevent disappointment from false expectations on the part of purchasers.

But farmers and gardeners themselves should give more attention to the subject. They should know all the requirements for success from good culture—fine soil, proper depth, and sufficient moisture; and becoming familiar with the appearance of the many kinds of seeds, should themselves test them on a small scale beforehand. This they may do in winter in regularly warmed apartments, in suitable soil, in boxes, pots or pans, kept in all the proper conditions, counting the number planted and the number which appears. They may test old seed, and determine its germinating value.

But they should not stop here. They should make collections of the seeds of all kinds of noxious weeds, as well as of those of a more harmless character which may be used for adulteration. These should be placed in glass vials or boxes, and distinctly labeled. The knowledge which may be thus obtained would be of much practical use as well as satisfaction.

Such a collection might be easily augmented by purchasing of a reliable seedsman (if a botanist, all the better) a general collection of such kinds as cultivators should know.

A more frequent use of the means for ascertaining if injured, or sprouted, or frozen, or unripe seeds will grow, would often save the trouble of making inquiry through the agricultural papers for the information which the inquirers could best obtain themselves in the way which we have pointed out.

Roots under Straw Stack.

EDS. COUNTRY GENTLEMAN—Enclosed find rough drawing of an arrangement I made under straw stack last summer, for keeping my turnips, potatoes and ruta bagas, which I find works well and costs very little. I cut three good sized posts, with forks at one end, about 9 feet long; put them in ground deep enough to be firm. Then took two heavy poles about 16 feet long, and placed them in forks of uprights. Good-sized poles were then laid against

Root Room under Straw Stack.

the ones in forks, ends resting on ground, and slightly sunk, to keep from slipping out of place. They should be put at an angle to bear considerable weight. Against the south end upright post I nailed an old door-frame with door, so that when filled, could put the room under lock and key.

I built the frame just before threshing my wheat. When the machine came, I put it so that the straw, in coming from same, would fall over the skeleton room. I also made a skeleton vestibule to the door, and had it also covered with straw, and find it quite good, as it keeps rain and snow out of one's neck when unlocking the door. H. R.

Thorn Mills, Md.

Broom Sedge in Maryland.

EDS. COUNTRY GENTLEMAN—In a late number of your paper (p. 110) is the inquiry: "Have any of our readers had successful experience in exterminating broom sedge?"

I think your Tennessee correspondent betrays a little want of observation, or of skill as a farmer, or he need hardly have asked your advice. I know not the geographical extent of this Andropogon, but have reason to suppose it is nearly peculiar to the worn out lands of Maryland, Virginia and other Southern States. If this idea is correct, a little account of it might interest those readers who have never seen it.

As nature provides plants, either grasses, weeds, briers or bushes and trees, to occupy the soil where cultivation is for a time suspended, this andropogon, which we here call "old-field sedge grass" has been specially adapted to the uplands of this latitude where the soil has been exhausted by cropping with corn and tobacco. There are some running briers and many small plants interesting to the botanist found growing among it, but the prevailing "sedge" gives aspect to the landscape as completely as timothy to a field devoted to its growth.

I could assign no limit to the duration of the roots of this perennial grass. There is an uncultivated farm near this place quite overgrown with it. A portion has been sodded with it for more than fifty, and probably one hundred years. Other portions of it that last produced wheat or corn, have yielded to its possession within thirty or forty years, and the whole upland part is now (in midwinter) covered with the brown grass, two feet or more high. Before the grass is dead and the elasticity gone it waves beautifully, but we had better not say this of the dried grass. But wherever found, we regard it as merely holding possession until the land is wanted for other crops. It appears that it bears seeds, rather infinitesimal in size and weight, that are carried by the winds and may grow on any neighboring lands that bid them welcome. We frequently see tufts of it in grass fields in the vicinity where the sod is of a few years' standing.

The growth of this grass is found where soil is of medium quality. In parts of these "old sedge fields" manured by cattle, as in the neighborhood of any isolated tree, instead of andropogon, we find the poas and other grasses that cattle graze jelosely. In other spots—as where the soil has been washed from the hillside—it is said to be "too poor to grow sedge." The whole history of this grass has much interested me as a means employed by the hand of nature to care for these neglected lands. The first growth on the bare soil may have been mullins, daisies and other annuals and biennials, but by degrees the little tufts of andropogon are extended, and crowd out the grosser and less tenacious plants. If seedling trees started, the annual burning of the sedge destroyed them, and at length there is presented only the prevailing sedge with a few choice flowers among it.

Now, I would say to your Tennessee correspondent that he should have no more labor in subduing this grass than in preparing a field of timothy sod for corn. In a course of culture extending through three, two or only one year, he should apply manure that would ensure a good crop of wheat or corn. If then on the wheat ground he sows plenty of seeds of other grasses, clover, timothy, orchard grass or herds grass (*Agrostis vulgaris*), and they become well rooted, the andropogon will trouble him no more. I could not promise him that he would easily get rid of it without plowing. It grows profusely on granite soils that abound in potash, and any manure he could apply would only subdue it indirectly by fitting the ground for other more nutritious grasses. L. B.

Coburn, Md., Feb. 9.

Perennial Rye Grass.

EDS. COUNTRY GENTLEMAN—This grass (*Lolium perenne*) is known in the British Isles as "ray grass," and in many meadows there it is the predominating variety. Is it of any use for farmers in our Northern States and Canada to sow the seed of it? My experience satisfies me that it is of no use whatever. Eighteen years ago I began to doubt the hardiness of this variety, and by permission made a separate trial of it in plats on the lands of the late Senator Samuel Campbell, at York Mills in Oneida county. Three successive seasons the seed was sown, and each year it came as thick as hair on a dog's back, and each succeeding winter it was killed root and blade, so that not a sprout appeared again. Several times since then I have tried it, but always with the same winter-killing result.

Four years ago a plat was sown with the perennial rye grass seed at the New-York Agricultural Experiment Station, and there it came up well, but totally disappeared by winter-killing. The same, too, at the Ohio Station. In all my grass hunting I have never seen a culm and panicle of it in any meadow or pasture, and have so stated, repeatedly and publicly. And yet there are many tons of the seed of this grass annually imported from Europe.

Almost all of our writers on grasses, taking their cue from English authorities, recommend perennial rye grass for mixtures in meadow and pasture. Dr. W. J. Beal's good book is a distinguished exception. Nearly all of the seed-houses advertise perennial rye grass seed, and recommend it highly in their catalogues. The following excerpt, as an encouragement, from the writings of J. H. Millard, an English farmer, is now going the rounds of the American papers, to wit: "I have never seen a good pasture without from 15 to 75 per cent. of perennial rye grass on it." If any one will show me a meadow or a pasture anywhere on this continent north of the northern line of Pennsylvania and east of the Rocky mountains, where a bunch of this grass may be found in flower next summer, I will, if alive and well, gladly strike my task and go to see it.

I learn from correspondents that the perennial rye grass does well in some of our Southern States when sown in mixture with other varieties. But for seeding down here at the North it might just as well be dumped from the ship into New-York Bay. Italian rye grass and Pacey's rye are often confounded, in name, with the perennial rye. The first named is a vigorous variety to grow in a meadow mixture for a two years' lay, but it is not a perennial. Pacey's is a dwarf kind, very succulent, and a good grass either for pasture or for lawn.

Oneida County, N. Y. DAN'L BATCHELOR.

Windmills in Michigan.

EDS. COUNTRY GENTLEMAN—In answer to G. H. E., p. 96, will say: In 1878 I purchased a Perkins windmill, manufactured at Mishawaka, Ind. The mill was 13 feet to the water, and the water was raised 10 feet above the platform, in all about 23 feet. This mill has raised the water for 100 head of live stock in the summer and nearly double that number in winter. For four or five years of the time has also furnished the water to cool the milk of 40 cows. Up to this time there have been no repairs on the mill, and the only cost, except oil, has been painting the mill and derrick twice. The first pump was one that had been used before, and was taken out at the end of four or five years and a new one put in which is yet in use.

Two years ago I had put up at my residence a mill of the same make. Water 33 feet from surface, raised 26 feet above surface, in all 61 feet to tank which supplies water for domestic use (three hydrants in house), water closet, and runs a water motor which carries soft water to the third story of the house; supplies thirty or forty barrels a day. Except in very hard winds it is allowed to run all the time. No repairs. A good pump, properly set, ought to last without many repairs many years. Get a good pump and have it set by a mechanic who knows his business. Set firm and true, so that it will not get out of line, keep well oiled, and repack once in a while. The value of a good wind-mill cannot be appreciated for farm or domestic use except by trial. H. C.

Three Oaks, Mich.

Minnesota Experiment Farm.

This establishment, comprising about three hundred acres, mostly of choice bottom land, is situated nearly midway between Minneapolis and St. Paul, and is an adjunct of the agricultural department of the State University. The entire department is under the able management of Prof. E. D. Porter. This experiment station has but recently been established, and of course is not yet fully fledged. However, much has already been accomplished in laying out roads and grounds, erecting the most necessary buildings, &c. Still much remains to be done of what may be termed preliminary work before the fullest practical results can be expected.

Through the courtesy of Prof. Porter, the members of the State Horticultural Society were invited to visit the farm, and were pleasantly entertained, being shown through such portions of the establishment as were available in winter, and finally refreshed with true farmer hospitality by a generous supply of doughnuts, apples and cider. The school connected with the station is accommodated in a unique and beautiful building, located on a commanding eminence quite removed from the other farm buildings. It is spacious, consisting of three floors, the first being used for domestic purposes, containing a dining-room for one hundred, with kitchen, laundry, store-rooms, closets, &c. The second floor is devoted to office, reception-room, school-room, recitation-rooms, &c., while the third floor is occupied as a dormitory for the forty pupils now in attendance, the whole being in charge of Prof. Pendergast and an able corps of assistants.

The young men we found here as pupils were from different portions of the State, and seemed to be a manly set of fellows, bent on business. They are taught mathematics, chemistry, mechanics, natural philosophy, accounts, botany, history, physiology, book-keeping, and, in summer, practical farming and horticulture. Besides these, instruction is given in entomology and veterinary surgery. In all these branches the State furnishes the most complete and thorough instruction free of charge so that the pupil has no expenses, except for board, and that is furnished for less than three dollars per week. The State not only furnishes able professors in each department, but ample material and most convenient rooms with complete appliances for every kind of work. Mr. S. B. Green, Professor of Horticultural and Applied Botany, has every modern help with green-houses for testing seeds and plants. Profs. Brewster and Harper are supplied with a well-furnished laboratory where the students are given good drill, especially in agricultural chemistry. Prof. Lugger, the Entomologist, has a combination of work room and museum where he devotes himself to the

great army of vicious insects which prey upon the crops of the field, garden and orchard.

The dairy department is well managed, being headed by a huge Holstein bull, weighing 2700 pounds, flanked by a handsome herd of cows, both of Holstein and other breeds. The arrangements for feeding and converting the product of the herd into butter and cheese are in every way complete.

It does not require special gifts of discernment or imagination to see in the future great benefits flowing all over the State from such an institution as this. No investment by the State can in the end prove more beneficent or of greater material advantage than this, where young men are trained to compel the earth to bestow its most abundant treasures at the least cost; where they are taught to dignify labor by the intelligent application of philosophical and economical principles; where they are taught to become intelligent farmers, skilled horticulturists and good citizens.

Onondaga County, Jan. 21. M. M. FRISSELLE.

Dry Earth Closets Again.

EDS. COUNTRY GENTLEMAN—I am glad of the discussions relating to dry earth closets recently published in your paper. This matter is too much neglected, and it is well to repeatedly direct the attention of people to its importance. Considerable agitation backed by good reason is necessary to bring about a reformation in the habits of people. The good reason in this case is the loss of comfort, health and even life, caused by impure air and drinking water, the impurities of which are due to privy vaults sunk in the ground in close proximity to houses and wells. To my mind the only argument in favor of the old-fashioned privy vault is its convenience, but this is many times overbalanced by its dangerous character. In view of this, the extra cost and attention required by the dry earth closet are scarcely worth mentioning. This kind of closet pays for itself in comfort alone, just as cleanliness of person or clothing does. It is to be hoped that, through the country and in the villages where a proper system of sewers is lacking, the dry earth closet will soon be the rule, not the exception, as at present. If the compost derived from this source is not wanted where it is made, it will readily be taken by progressive neighboring farmers, who will be glad to have it to spread upon their land.

The details of the earth closet may vary according to circumstances. The essential things are a water-tight receptacle and an abundant absorbent, with a convenient method of disposing of the contents when the receptacle is full. To the farmer who has hired help and horses, the large boxes, to be drawn out by horse power once in six months or a year, may be quite satisfactory, but to those not so favorably equipped, a less cumbersome apparatus is desirable. Objection might be made by some to the galvanized pails because of their small size and the frequency with which they must be emptied. An apparatus intermediate between these has been used by the writer with perfect satisfaction for three years. It consists of a box made of good sound plank one inch and a quarter thick. This is lined with galvanized sheet iron or zinc to prevent all leakage or absorption. This is an important point which has been well advocated by some of your correspondents. The ground beneath the box should be as dry and sweet as elsewhere. A neighbor used an unlined box for a time, but it soon became so impregnated with excremental matter that it emitted foul odors, was unpleasant to handle, was pronounced unsatisfactory and discarded for the old fashioned vault in the ground. The box in my own case is 3½ feet long, 18 inches wide and 18 inches deep, inside measurement. This is just large enough to nicely fill the space beneath the seat. It is sufficient to last a family of six persons two or three weeks before it is necessary to empty it. Two handles are fastened to the back side of the box with screws, and when filled it is drawn out by means of these handles through an aperture in the rear of the building. This aperture is closed by a door swinging on hinges at the upper side. Small rollers might be placed under the box to facilitate its removal, but these are not necessary, as it is easily drawn out when full by one man. The contents are shoveled into a wheelbarrow and conveyed to the compost heap. It requires no more than ten or fifteen minutes to complete the work and return the box to its place. In very cold weather the contents are frozen stiff, but with a light pick ax they are easily broken up and loosened. The coal ashes of the furnace and the kitchen stove are sifted, and used as the principal absorbent. A barrel containing the ashes and a dipper with which to throw them into the box when required, stands in the apartment. A layer of dried, finely-broken peat, such as is used for bedding in stables, is placed in the bottom of the emptied box to absorb any superfluous moisture that may settle there. But with a liberal use of dry ashes this is scarcely necessary. After my experience in the use of the dry earth closet, I am prepared to say that I would not return to the use of the ordinary privy vault, even if there were no danger of poisoning well water by it. The greater cleanliness and the comparative freedom from disagreeable odor alone make the dry earth closet with its little extra labor, preferable. C. H. P.

Handling Uncut Ensilage.

EDS. COUNTRY GENTLEMAN—On page 26, S. H. inquires about keeping ensilage without cutting, and as I have had two years' experience, will give it. In 1887 I built a silo in one corner of my cow barn, 14 feet square and 16 feet deep. I first ceiled it on inside 12 girts with rough boards, then put on tarred paper, then a course of matched boards. The first year my corn was lodged badly, and was very crooked, so that it could not be packed very tight. I put in 55 two-horse loads, covered with chaff about 6 inches, wetting the chaff a little, then put on a cover of one-inch boards, and weighted with six loads of stone. Nov. 26 opened silo and found corn mouldy a few inches on top and a little in corners, but not so bad but what the cows ate it all without wasting a hundred pounds.

Last season I planted southern white corn in rows 3½ feet apart, hills 16 inches apart, three to five stalks in a hill. It grew from 10 to 12 feet high with large stalks. I put about fifty loads in silo without cutting, put on a little hay, and covered with one-inch boards and weighted with three loads of stone; opened silo Dec. 5 and found corn in as fine condition as when first put in, except being a little acid, and not a forkful wasted yet on account of mould.

I know I can fill my silo a great deal cheaper than I could if I had to cut up the corn. In harvesting, I cut the corn with a corn cutter and lay in gavels; then lay the corn across the wagon on a low rigging, so that it is kept straight. I can drive on the barn floor so that the wagon is on a level with the top of silo. I have a rope arranged with pulleys so that I can put it around the load and dump the whole load with the team, as quick as I can pitch a forkful of hay with a horse-fork. Three men—one to cut the corn, one to draw, and one to stow it in silo—can put in from twelve to fifteen tons per day if it is near silo.

In taking out, I cut it in sections with a broad-ax and pitch it out and into the manger with a pitchfork, just as I would hay from the mow, and think it could not be done faster or easier if it were cut short, and as for the coarse fibres in manure I do not know anything about them, as none of it gets there except what passes through the cow's stomach. Charles Emmerson of Gt. Bend has two silos, and puts his corn all in uncut for 20 to 40 cows, and thinks he prefers it to cutting. G. W. BLATCHLEY.

Susquehanna County, Pa.

From Western New-York.

EDS. COUNTRY GENTLEMAN—The past January will go on record as one of the mildest experienced for many years. In 1886 the mean daily average was 17°; in 1887, 15°; in 1888, 12°, and this year 26°. There were only four really clear days, with nineteen cloudy ones, the remainder being partly cloudy. Rain or snow fell on 21 days, with a rainfall of rather less than 3½ inches. For the first eight days of the month the temperature was remarkably even, the sixteen readings of the thermometer varying only 4°, and six consecutive readings registering 32°. The temperature on the morning of the 20th was within 2° of zero, but by night had risen to 34°. During the night of the 10th we were visited by a heavy gale, accompanied with snow, the wind attaining the velocity of 56 miles an hour at 9 A. M. High winds again prevailed on the 20th and 21st.

Some plowing was done during the month by wide-awake farmers and gardeners, but the majority were too slothful to take advantage of such an opportunity to lighten their spring work. From inquiries and observation I do not think the wheat plants are injured so far, and at this writing they are snugly covered with a layer of snow six inches thick, under which I hope they will remain for the next six weeks. Wheat itself has steadily declined for the last three months or more. Nov. 1 I quoted it at $1.16 to $1.18 per bush.; Dec. 1, $1.10 to $1.12; Jan. 1, $1 08 to $1.10, and now the price is 98c. to $1. Corn has declined also, being quoted at 42c. to 44c. per bush. Oats same as last month, 32c. to 34c. per bush. Hay, timothy, $16 to $18 per ton; baled, $12 to $14; straw, $10 to $12. Dairy products are lower, new dairy butter being quoted at 22c. to 24c. per lb., and eggs 20c. per doz. Evaporated raspberries, black, sell at 18c. to 20c. per lb.; red raspberries, 25c. to 26c.; dried cherries, 12c. to 14c.; dried plums, 5c. to 6c.; evaporated pared peaches, 15c. to 20c. Potatoes and onions still remain at 50c. per bush. There is a rather better demand for cabbages at $3 to $5 per 100 heads.

It is many winters since gardeners and farmers have had to put up with such low prices for their potatoes, onions, cabbages, carrots, beets, turnips and celery combined: some one or more of these products frequently sell badly, but it is not often such a general depreciation takes place. And it is now that they need to be cautioned not to repeat the common error of abandoning crops because they fail to profit by them *every year*. A few years' experience in the markets will enable a man to judge about what quantity of each product he can dispose of without waste; he should then annually raise that amount, keeping pace with an increasing demand, if there be one, but on no account wholly giving up a crop unless he has failed with it two or three consecutive seasons. Prices will sometimes vary greatly, but taking three or four seasons' average, it will commonly be found that matters are not so bad as they look. Take peas, for instance—a very fascinating crop. In 1886 my pea crop averaged only 61c. a bushel; in 1887, 69c., and last year 74c., the average of the three years being nearly 68c., so that I should have done decidedly wrong if I had given up growing peas because of the low average of 1886. Potatoes will be cheap this spring, and in consequence, as is almost always the case when they are so, a smaller acreage will be planted, for the reason that, owing to the large crop the previous season, prices rule so low that growers get disgusted. The man who raises the same crops regularly, at the same time studying the market, is the one that makes money in the end, if there is any to be made in the business. Holding back for higher prices is another error, sometimes a costly one. This very afternoon a man told me he had been helping a neighbor draw his wheat to market—a two years' crop, some 1,500 bushels. In October he was offered $1.21 per bushel for the whole of it, but he thought he could obtain more later on; now he needs the money and has to sell at $1. Many similar cases have occurred in this neighborhood this winter.

A letter from Lawtey, Florida, dated Jan. 26, says: "Strawberries are the principal money product here. Although they require a great deal of water, the present season so far has been too wet for them, while last season was much too dry. A great many of them are now in bloom, with once in a while a ripe one. Our earliest peaches are going out of bloom. I fear they are a 'little too previous,' for Jack Frost will be apt to give them a touch with his chilling breath." J. H. C.

Monroe County, Feb. 5.

The Ithaca Institute.

The Farmers' Institute at Ithaca was a decided success. The Cornell professors always give their meetings additional interest, and the farmers living in this vicinity have imbibed and evince a spirit of inquiry and progress.

One of the most interesting features was the practical address of Mrs. Wm. Hungerford, who told how she had made good butter for thirty-one years. She illustrated her system by exhibiting the milk-pans in which she set the milk, and also exhibited the skimmer with which she removed the cream. It was one of her own invention, and was double the size of the ordinary skimmer, and without holes. With this skimmer she could take off the whole quantity of cream on a pan at one time. She first turned the edges of the cream over towards the middle, and then lifted it off clean with one effort. She had also invented a screen, made of thick paper tacked to a frame of lath, the screen being as wide as the pans, and long enough to cover three pans. The lath, made smooth, rested on the edges of the pans. The effect of this cover was, that the cream did not dry up on the edges of the pans and make so many white specks in the butter. Mrs. Hungerford said they had used the Genesee salt and the British salt, and she would like to know which was the best. She said about fifty persons had pronounced the Genesee the best, and only one person had favored the foreign brand.

Col. Bowen moved that a committee of five be named to judge the butter shown by Mrs. Hungerford, and report which was the best. The chairman selected Geo. T. Powell, Col. Bowen, C. M. Titus, J. A. Woodward and Col. F. D. Curtis. Mrs. Hungerford had two samples of butter, both of the same churning, one salted with the Genesee, N. Y., salt, and one with British salt. No one but herself knew the kind of salt in either parcel. The committee tested the butter, and each one named his choice, and the result was, they all agreed that one had the best flavor which Mrs. Hungerford said was salted with the Genesee salt. There was a perceptible rankness in the taste of the other sample, which injured its quality. Both were salted one ounce of salt to the pound of butter.

A pleasant part of the meeting was the presence of the large class of students in the agricultural course of the University—forty-one in all. These young men evinced warm interest in the exercises, and were earnest listeners all through. An impromptu reception was held at the Ithaca House after the evening meeting, where the students called in a body on the speakers, and an hour was spent in a social way, which gave much pleasure to all present.

Prof. Caldwell gave an instructive address on "Farmers for Farmers," and was present at each session to answer questions. Of course Prof. Roberts did his part well. He opened the institute in a way to create a home-like feeling, and invited all to visit the University and inspect the work of the experiment station. Many of the farmers did so, and a number afterwards expressed their approbation of this work, and of the value and importance of the experimental work already done.

A resolution, introduced by Col. Curtis was passed by a unanimous vote, that the appropriation of the Congress of the United States for experimental work for New-York should be applied to maintain the experiment station now inaugurated in connection with Cornell University. Prof. Law was in attendance to aid in the discussions, and to respond to the inquiries which came from the question box. Mr. James Wood, the newly elected president, of the State society, gave an address on sheep-breeding, which was listened to with close attention.

At the evening session the institute workers were welcomed by the mayor of Ithaca in a brief and appropriate address, followed by President Adams, who gave a history of the growth and development of agricultural education up to the present perfect equipment furnished by Cornell. He outlined the skill that was required in other business professions, and said that agriculture could no longer be pursued successfully except as a higher education was brought to it, and a higher degree of skill and intelligence employed in its conduct. He expressed his interest in the institute work, hoped it would be continued and thanked the New-York State Agricultural Society for what it was doing to encourage and sustain a more enlightened system of agriculture.

At the close of President Adams' remarks, Hon. C. M. Titus, chairman, called upon Col. F. D. Curtis to respond to the addresses of welcome, which, in behalf of the State Society he did, thanking the farmers of Tompkins county and the citizens of Ithaca for the very warm reception they had given the State institute. He spoke of the progress that was being made in agriculture, and words of eloquent praise for the university that was doing so much for the young men of New-York State and the United States to fit them for farmers, and to elevate farming to the position of a profession. This impromptu address called out a warm response from the audience.

Col. Curtis discussed pigs from a practical standpoint, showing how cheaper and better pork could be produced. He advocated no breeds, but recommended the selection of swine that were calculated to produce the most weight of actual meat in a given time rather

than a mass of fat, which was unpalatable, and not wanted by consumers.

He discussed the character of foods, and told how to rear and feed pigs to make more lean meat, which was to feed more roots, turnips, grass, clover, apples and grain foods, with a large proportion of bran, linseed meal and other nitrogenous foods. We must avoid an excess of starchy and oily foods, which would not make good meat. The Colonel seems perfectly at home on the pig question, and made an exceedingly interesting and profitable address.

Prof. Batley, who is a most entertaining speaker, put an immense amount of philosophy into a "seed" and suggested modes of culture and care to produce the best results. Mr. C. K. Chapman, a young farmer, told how to succeed in raising potatoes, and that by deep planting, i. e., in furrows, the ground could be cultivated largely with the harrow. John A. Woodward of Pennsylvania urged the importance of care, and illustrated his subject with lifelike pen pictures, and portrayed in most eloquent diction home duties to the "best crop of the farm—the boys and girls." No parent, no boy or girl can hear this address without reaching out to higher aims and better acts.

Geo. T. Powell closed this interesting institute with an address on "Fruits and Fruit Growing," delivered without notes, and so full of facts so well expressed that it made the Cornell boys proud of the profession of farming, and inspired them with a love of horticulture. O. P. C.

A Tile and Drain Convention.

The annual meeting of the Ohio Tile, Brick and Drainage Association was held at Columbus, Feb. 13 and 14, with sixty members in attendance.

Perhaps one of the most instructive papers was that read by F. W. Evers, on "Mapping and Construction of Tile Drains." Among many good points made by this speaker are the following:

It might seem, at first sight, to be a very simple thing to lay out and construct a good tile drain, but experience teaches me differently. It requires as much skill to dig a ditch straight, giving it a true, even grade and smooth bottom, as it does to build a brick wall straight and plumb. Many seem to think that because tile drains are soon covered and out of sight, and partly out of the reach of criticism of the passer-by, that almost any kind of work will answer. This is a great mistake. Tile-drainage pays, but it pays in proportion to the quality of the work. Among the rules necessary to insure success in tile draining are the following: 1. Decide upon the outlet; 2. The area of land to be drained; 3. Size of tile; 4. The location of the drains.

All this is preliminary work, but it must be done. Usually the outlet and proper course of the main drain is evident, but at other times it will require much study. At all events, never rest satisfied until you secure a good outlet.

The beginner usually starts out with too small a tile for the main drain. It should be large enough so that the whole area of which your main is the outlet can be thoroughly drained. Locate the main drain at the foot of the slope, or in the lowest ground, where you can secure the greatest number of laterals running parallel to each other, and at right angles, or an angle of 45° to the main. At first put in the laterals through the wettest ground, remembering to keep them parallel. Then you leave the field in shape to add other drains in the future, as your experience may dictate.

The distance between the laterals and the depth of the drains will depend upon the character of the soil. A drain three feet or more in depth in stiff clay will drain a little below the first year or two, but the longer it is there, if the work has been properly done, the better results it will give. We tile-drain not only to get the water out of the soil, but to get the water into it as well. The first object is to remove the surplus water; second, to give the air a passage, and third, to permit the rain with its fertilizing elements to filter through the soil.

In digging drains, throw an equal amount of dirt on each side, make the bottoms round and smooth for the tile to lie in, keep your feet out of the ditch after it is graded, laying the tile with a hook, standing on the bank, and do not fit the tile too tight if the soil is a stiff clay. After laying the tile, cut enough of the top soil from the side of the ditch to cover them, and your are ready for the filling machine to complete the work.

One of the best implements for filling ditches can be made in less than an hour and cost less than one dollar. Take two plank, 10 feet long, 14 or 16 inches wide and 2 inches thick. Place them on edge 8 feet apart at one end and eighteen inches apart at the other. Gain in a 2 by 6 joist 10 feet long, one foot from the end of the planks at the wide end, and spike it solid. Gain in a 2 by 4 near the narrow end. Both the 2 by 6 and 2 by 4 should project over the planks one foot to admit of a brace nailed on under the cross-pieces and outside of the planks. Use two persons, one to each corner at the wide end. With the earth equal on both sides of the ditch, two rounds will generally fill it rounded full. This machine is worth all it costs if you have no more than thirty rods to fill.

The farmer who has had faith enough in tile draining to construct one or more drains on his farm, should have pride enough and place value enough upon the work done to prepare a map showing the location of every drain. This map is of value in more ways than one. If one has done considerable tiling he is apt to forget where some of the drains are. If you do, by reference to the map, you can locate every drain. Then, too, it would be a source of satisfaction to know the number of rods of drain, the size of tile in each and the cost of the whole work. Such a map would have a commercial value, and should be considered a part of the property of the farm. If the farm is sold, the map is handed over to the purchaser. As a kind of record of the farm it would be invaluable to those coming into possession of the place after you.

Mr. S. E. Hagy read a short paper entitled "Thirty-five Years Experience, and now Looking on." He stated that he had drained all the wet land on a 100 acre tract, laying about 6,000 rods of tile, all of his own manufacture. Before draining, there were places on his farm that he could not use for any purpose, being too wet to tile and too wet for grass. The best of it could not be plowed until too late for crops to mature. But a marvelous change has taken place. Since the farm has been drained it produces better wheat, oats, corn, grass and potatoes. It gives better fruit and garden vegetables; better horses, cattle, sheep and hogs; better milk, eggs, butter and wool.

Mr. E. G. Osman prepared a suggestive paper, showing how the advantages of tile-draining could best be brought to the notice of the farmers. The first law is for tile manufacturers to keep a good supply of a sound article, kept to a uniform standard of excellence. So much for the supply. Now as to the demand. It is thoroughly demonstrated that tile drainage is of almost incalculable benefit to the farmer, as well in dry as in wet seasons. Those who have thoroughly drained their farms, would under no circumstances return to the old system of permitting nature unaided to struggle on against the calamities of floods or drouth. Tiling has come to stay. The thing for us to do is to convince the doubters of its importance. How can the average farmer be made to see that he cannot get on so well without tile-drainage as he could with it. It is undeniable that the lines of pressure around the farmer are growing tighter. His business is not as profitable as formerly, while the average of his expenses is not proportionally lessened. This makes him conservative in expenditures for improvement. Is not this a fact? Many a farmer can easily double his products by drainage, without increasing the cost of cultivation, getting the yield of two farms by the working of one. "But the cost" says one. Rarely has any draining been done where the increase of crop has not paid the cost in at least five years, more often in two or three, frequently in one. L.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Feb. 13.

It has been wintry and March-like since the first of the month, with light snows and strong gales, one day blowing from the south and southwest, and the next from the northeast quarter of the heavens, all round to the northwest, but the mercury has not been within three or four degrees of zero and the snows have kept the surface of wheat fields from drying out, and so far the crop has not been seriously damaged. Considering the moderate temperature, the winter has been a dry one, and there are no present indications of a change. Still, after so long a continued drouth and half drouth, we may reasonably look for a period of wet weather to set in, unless the surface water and soil moisture have been so largely withdrawn from their old haunts that the former habits of the season have been materially, if not radically, modified and altered.

The roads have been too rough to admit of easy hauling, and those only have marketed their corn, of which there is a large surplus, whose pecuniary engagements have required them to do so. The price hovers around the average figures of 27c. for 70 pounds in the ear, now going above them, and then falling below, keeping time with the daily cable advices from Liverpool, the single market, apparently, for our surplus products of grain and meat. If Liverpool market regulates the prices of what we have to sell, why should it not regulate also the cost of what we have to buy, in cases where the price is from ten to fifty per cent. less than at home? For whose benefit is it the farmer is deprived of the right of selling where he can sell dearest, and buying where he can buy cheapest, and why is he not suffered to exchange products free from the burden of a special tax?

The ice harvest opened last week, and an enormous crop is being gathered in, of which the store houses for beer take the greatest part. The ice is from six to eight inches thick and cut in blocks about two feet square. At least fifty two-horse teams have been engaged for a week, and will continue a week more. The teams are paid at the rate of 40c. the load for hauling the ice from the creek two miles away, facts and figures which tell the rate of wages going in Central Illinois in the winter months.

The degree of cold that has frozen ice in timber-sheltered creeks, six inches thick and more, has penetrated the open ground one foot at least, and all apprehensions of a cloddy soil for spring and summer crops, have been removed. After wet and open winters, if cattle have been turned on fallow land or out or corn stubbles, there is a clod left for every hoof-mark, clods seriously interfering with plowing and seeding and not dissolved until melted by copious late spring or summer rains. Whether a soil is liable to clod in proportion to its fertility, and whether rich soils clod in warm climates where there are no winter frosts, I do not know; and whether soils that have no such weakness, are comparatively barren, I am not sure. At any rate, if stock is kept off crop land after this date, the soil will break up "as mellow as an ash heap," and the evidences of nitrification showing conspicuously on every acre of the bare surface common after dry winter months, the yield of grain and vegetables is certain to be great, provided of course, protracted and heavy rains do not set in later on. S. F. J.

Inquiries and Answers.

Grafting-Wax.—Will you give me directions for making grafting-wax for apple trees? D. R. *Tioga, Pa.* [There are many variations in the quantity of the ingredients used by different grafters, the essential requisite being to form a composition that is soft and pliable enough to be freely applied, and yet not to melt or run in the hot sun. The following ingredients and directions are given in Thomas' *American Fruit Culturist*: Melt together three parts of resin, three of beeswax, and two of tallow. A cheaper composition, but more liable to adhere to the hands, is made of four parts of resin, two of tallow, and one of beeswax. Some grafters use linseed oil instead of tallow in equal parts. The wax may be applied directly to the graft, or it may be spread when softened by sufficient warmth on what is termed "grafting paper" cut into strips, and wound around the graft when inserted.]

Farm Horses.—Please give best and most economical ration of a part or all of the following foods, for farm horses of 1,100 lbs. weight—grain ration to be mixed with cut timothy hay moistened—grain ground: Rye 50c. per bu.; corn, 50c.; oats, 35c.; wheat bran, 60c. per 100 lbs. S. [The most economical ration for farm horses, of the foods mentioned, would be to grind fine a bushel of rye with a bushel of corn, both kinds costing the same price per bushel, of the same weight. And two kinds of of grain, although similar in composition, ground together, are better than one, because variety of foods improves the appetite, and is conducive to health. The ration may be combined as follows: 12 lbs. cut timothy hay, 8 lbs. ground rye and corn, 2 lbs. wheat bran, 1 lb. linseed meal. The digestible nutrients in this ration is shown in the following formula in pounds:

	Albuminoids.	Carbohydrates.	Fat.
12 lbs. cut timothy hay.....	0.40	4.80	0.12
8 lbs. ground rye and corn..	0.67	5.10	0.39
2 lbs. wheat bran.....	0.30	2.30	0.05
1 lb. O. P. linseed meal..	0.30	0.13	0.08
Total.....	2.00	12.33	0.55

This has a nutritive ratio of 1 to 7, and for ordinary work on a farm, this will keep the team in fine condition and full strength. When not at work the quantity of grain might be considerably lessened. If the horses had very severe work, such as heavy plowing when the soil is somewhat dry, the amount should be increased. The linseed meal performs a very important office in keeping the digestive organs in a healthy condition, and giving a sleek coat. The usual caution must be given, that the hay should be moistened as little as possible, and cause the ground feed to adhere to it. The ration should be principally given morning and evening, with a very small feed at noon. Horses should not be fed wet feed, because they will often swallow it without proper mastication and flow of saliva. If the meal would adhere to the hay, it would be better fed dry, for then they must masticate it and wet it with saliva before swallowing. S. W. S.]

Chinese Lily, p. 66.—Will they form new bulbs the same as the calla lily? (1) What time would be best to set them? (2) J. H. S. *Canton, N. Y.* [1. Not exactly, but more after the fashion of poet's narcissus, daffodils, or even tulips, hyacinths or onions, except that the offset bulbs are held together by a stiff brown coating. 2. In fall, any time from August onward. When to plant depends on when to bloom. Allow five to seven weeks according to conditions of cultivation from planting till blooming time in doors. Out of doors in a warm sheltered place and with some rank mulching they will prove hardy, but should not be planted before the end of September or first of October, as they are apt to start early into growth and get frost nipped, and in growing them on from year to year the bulbs should be lifted in June, and kept dry and out of the ground till the following September or October when they may again be planted. This is to prevent growth starting in August or September, which renders the plants an easy prey to winter's frost. The Chinese lily is a true *Narcissus*, and belongs to the amaryllis family of plants; the calla lily is *Richardia æthiopica* and belongs to the arum family, and neither belongs to the lily family at all. The name "lily" used so commonly for many kinds of plants that are not true lilies at all, is meant for lily-like plants.]

An English "Quarter."—What is it? We see wheat quoted at so much "a quarter" in London; how much is that a bushel? By the weights and measures act of 1879 the quarter of 480 pounds was established to replace all other quarters and promote uniformity in business. Yet the old quarter of 504 pounds is still in vogue as regards English wheat, while foreign wheat goes for 496 and 500 pounds to the quarter. The staid old Agricultural Economist ignores the government quarter altogether and quotes English wheat by the 504 pounds per quarter and foreign by the 496 pound quarter alone. The quarter being a quarter of a ton, it is a little singular that the even and convenient 500 pounds is not adopted at once. But the English are very conservative. In Liverpool, as at San Francisco they have adopted the cental or even hundred pounds, but it troubles the London merchants greatly to translate it into their different quarters. H.

Ration for Three Pigs.—How shall three pigs be fed to get good large-framed hogs? I'igged Nov. 1st and in a thriving state. They get a teacupful of bran "canell" and corn meal, skimmed milk and dish-water three times a day; want to grow them as fast as is reasonable and get them with boar for service as soon as possible. Which way can I improve on their feed? Can buy any kind of feed. They are cross between Berkshire sow and Jersey Red boar—both large hogs. J. P. P. *Wheeg, N. Y.* [J. P. P.'s pigs should have no corn meal, because this does not assist in developing the frame, the most important matter for P.'s purpose. Let him use the following combination: 3 lbs. wheat bran, 3 lbs. wheat middlings, 1 lb. of linseed meal. This is the proportion of the food and contains the proper elements to grow the muscles and bones and enlarge the frame. If he has turnips, beets, cabbages or the refuse of them, to mix in, it will promote health. This may be wet up with skim-milk and dish water, and will be all the better if fed a little warm. This will give him a rapid growth, but he should not breed them too young. There is no profit in breeding younger than nine months. S. W. S.]

Colts and Jerseys.—Please give ration for development of medium sized colts (Vermont stock, not coach or draft), one 6 months, the other 18 months old; also best better ration for grade Jerseys, 700 to 800 lbs. Rations to be made from any or all of following: Good mixed timothy, red-top and clover hay, corn and cob meal, bran, middlings, oats and old process linseed meal. I wish to use corn and cob meal for cows to save buying. S. F. S. *Almora, Pa.* [S. F. S. will find a ration given to D. A. P., on page 47, Jan. 17, nearly fitting his six months colt. Adapting it to S.'s feed mentioned, the ration may be as follows: 2 lbs. ground oats, 2 lbs. wheat bran, ½ lb. linseed meal, mixed with 2 lbs. of cut clover hay, given in three feeds. This would be about the average ration for the first six weeks, then should be increased by the addition of 1 lb. of hay for the next month. This ration will produce a good result in even growth. And as he has, probably, plenty of skim-milk, another good way would be to feed it three times per day two or three quarts of warm skim-milk, with ¼ lb. of fine bran, ½ lb. of ground oats, and a tablespoonful of linseed meal, stirred into the warm milk at each feed, and then let it eat what it will of clover hay between feeds. This will produce a rapid growth of muscle and bone, and give it an even development. 2. For the 18 months colt it may be as follows: 5 lbs. cut hay, slightly moistened, 3 lbs. ground oats, 3 lbs. wheat bran, ¼ lb. linseed meal. Let the ground feed be well mixed together, then mixed with the moistened cut hay. This is a day's ration, to be given in three feeds. This will produce also a steady, even development of this colt to 2 years old. If, then, the colt is to be pastured, when the pasture becomes scant, give him each day 1¼ lbs. of wheat bran, with ¼ lb. of linseed meal, mixed

with a little cut hay. The next winter, when 2¼ years old, it may be fed the following ration: 8 lbs. cut hay, 4 lbs. corn and oats, ground together, 3 lbs. wheat bran, ½ lb. linseed meal, given in three feeds. The colt should, of course, have daily exercise. 3. S. will find in recent answers numerous rations given for Jersey cows and grades of his weight. He may not feed identically the same foods. Let him combine the following ration: 14 lbs. mixed meadow and clover hay, 8 lbs. cob meal, 5 lbs. wheat bran, and 1 lb. linseed meal. This cob meal, bran and oil meal must be well mixed with the moistened cut hay. Give in three feeds, smallest at noon. It should produce a good result in milk and butter. E. W. S.]

List of Fairs.—Will you let me know whether there is a list published pertaining to fairs through the country? C. S. C. [We publish the list early in summer.]

Weather, Crops and Prices.

Meteorology for Feb. 10-16.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.41	inches.
Lowest do.	do.	29.71	do.
Mean do.	do.	30.01	do.
Highest temperature do.	.....	34°	
Lowest do.	do.	6°	
Mean do.	do.	19°	

One clear day; five fair; one cloudy. Three days on which rain or snow fell; total precipitation, 0.21 inch. Prevailing wind, W. W.; maximum velocity 24 miles per hour, N. W. on the 14th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	10th	11th	12th	13th	14th	15th	16th
Day	3d	11th	12th	13th	14th	15th	16th
This year	28°	16°	28°	14°	19°	16°	21°
Normal	34°	35°	29°	29°	28°	29°	31°

Total deficiency for the week, 84°.

New-York—*Vermillion, Oswego Co., Feb.* 11.—Winter is passing pleasantly; the mercury dropped below zero but once in January. Little snow up to the 8th ult., when enough fell for sleighing. Storms were all rain up to that time. The deepest snow fell last week, with strong wind, which filled up roads and stopped business for a while. Live stock has been doing well, and drawn lightly on winter provender. Hay has sold in market for $12 per ton, but has fallen $3; wheat, $1.10 per bu.; corn, 45c.; oats, 35c.; barley, 40c.; rye, 60c.; buckwheat, 60c.; potatoes, 30c.; butter, 23c. per lb.; cheese, 12c.; eggs, 28c. per doz. Stock of all kinds very low, cows selling last fall from $12@16 per head. S. S. D.

New-Hampshire—*Dover, Strafford Co., Feb.* 14.—We have had three weeks of fine sleighing, and there is more than a foot of solid snow, which is being improved by farmers and lumbermen. Apple market in a bad condition, many orchardists still holding their fruit, as there is no demand for it. The milk and dairy interest is receiving much attention. The adjoining town of Durham has established a creamery on the Cooley system, which is doing a paying business. Hay, $15 per ton; potatoes, 75c. per bush.; milk, 3½c. per can for the Boston market. J. H. H.

Maryland—*Montgomery County, 2d mo.* 15.—Winter so mild that filling ice houses has become an uncertainty. Those owing ponds generally have secured ice from 2 to 4 inches thick, but many depending on their neighbors' ponds are yet uncertain. Live-stock generally looking well. Dairymen much pleased with ensilage. I hope your correspondent J. Q. (Western Reserve) will continue his useful remarks, as much labor and expense may be saved by reading them. L.

Virginia—*Halifax County, Feb.* 9.—Winter has been mild and pleasant up to Feb. 4., when the wind shifted from southwest to northwest and north, and the mercury dropped to 10° above zero—the coldest thus far. It is still cold, but plows are kept going, preparing the land for oats, corn and tobacco; live stock is doing well so far, but feed of all kinds is becoming very scarce, baled hay selling at $20 per ton; wheat, $1 per bu.; oats, 35c.; butter, 20c. per lb; eggs, 12½c. per doz. J. A. H.

West Virginia—*Bunker Hill, Berkley Co., Feb.* 12.—Two or three inches of snow fell yesterday, but is now melting slowly. This interferes with threshing of clover seed, nearly all of which is "in the rick" out of doors. We hope for a favorable spell of weather so we may get through threshing out the crop, as it is nearly time it should be sown. Very little business going on, and farmers do little except attend to their stock and get in their firewood. The past week or two has been unfavorable for the growing of wheat, because of rain and then turning suddenly cold and freezing the ground solid. The present snow is a decided advantage in the way of protecting the plants. Property at sales brings fair prices. Sheep selling unusually well, but cattle, either fat or stockers, are a drag. I saw to-day, passing on the turnpike by my place, clean, smooth steers weighing over 1,000 lbs. gross, that were sold for the Baltimore market at 3c. per lb. gross, something I do not remember to have seen in this section for many years. Wheat, 85@90c. per bu.; corn, 37@45c.; hogs, 4@4½c. per lb. Stock of all kinds getting on well, feed plenty. Health of community only fair by reason of many sudden changes of weather. Good farms with fair improvements bring $40 per acre, close to schools, churches, post office, turnpike and railroad. E. L. H.

Ohio—*Mechanicsburg, Champaign Co., Feb.* 12.—Last week was stormy and cold—two blustry days, six cloudy; 7th mercury was at zero in some places; here 8° above in morning, and 28° at noon; 10th was fair, mercury 34°; 11th cloudy and blustry; not enough snow for sleighing; to-day fair, mercury 10° above. Live stock have good appetites, and require lots of feed. Last year we had no fair, but this year there are prospects of a fine one. Mechanicsburg has the finest fair grounds in the State. Butter has sold here for 18c. per lb., and in mid-winter too! Young heifers have been bought for 2½c. per lb.—ready to kill. Corn sold at 35c. per bu., less than cost of raising. Hay is about the only thing that brings a good price. One is at a loss to know what to raise to make any money on. Corn, 35c. per bu.; oats, 30c.; wheat, 90c.@$1; beans, $1.80; potatoes, 50@60c.; apples, 60c.; hay, $10 per ton; butter, 18c. per lb; eggs, 18c. per doz.; hogs, 4½c. per lb.; cattle, 3½@4c. E. W.

Ottawa, Champaign Co., Feb. 13.—We are now favored with fine winter weather. The farms have a good covering of snow, making the wheat growers look pleasant. The live stock feeder's countenance is wreathed in smiles—except when the prices of his fat stock present themselves before him! W. S. P.

Illinois—*Mendiwells, Feb.* 11.—The Hessian fly is destroying the wheat crop in Central Illinois. In some places whole fields have been destroyed. The dry, freezing weather has also aided in killing wheat.—*From dispatch.*

Wisconsin—*Janesville, Rock Co., Feb.* 12.—Our last few days give February the palm for cold—winter is here in good earnest. Last night mercury was at zero, and to-day the cold is awakened. The freezing will be of much benefit to the logging camps, which have been waiting for a chance to move. Many other kinds of business are much improved by the change, as the sleighing has been poor. Wheat, 85@95c. per bu.; barley, 45@54c.; corn, 35c.; oats, 24; rye, 52c.; potatoes, 45@55c.; apples, $1.75@2.25 per bbl; hay, $6@8.50 per ton; butter, 18@20c. per lb; eggs, 14c. per doz.; cattle, $2.40@3.40 per cwt.; hogs, $4.25; dressed, $5.25; tobacco, 9½c., 8½c., 9½@10½c. per lb.; broomcorn nominal. Health and business fair. W. H.

Kansas—*Wichita, Sedgwick Co., Feb.* 9.—Our corn crop was almost an entire failure, only those with farms of a loose, sandy soil, along the river bottom, having anything like a full crop, while some did not have an ear. Oats were above the average, some yields of over 100 bushels to the acre. Wheat did fairly well, about an average, but acreage very small. Money is scarce and hard to get, and prices very low. Of all the grains, only wheat brings anything like a fair price, but only one farmer in ten has any to sell. Live stock very low and slow of sale, with exception of fat hogs, which, considering the scarcity of corn, are none too high, from $4.60@4.85 per cwt. Fat cattle bring from $2.75@3.40 per cwt., while cows range from $18 to, possibly, $30, only good milkers just fresh, bringing the latter price. Prospects for a good crop year now very favorable. Have had an open winter thus far, with snow enough to thoroughly wet the subsoil, which will offset the effect of a drouth, our main cause of crop failure. G. A. B.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

SPLINT—HOCK SWELLING—ITCH.—A twelve-year-old horse has two splints, one on the outside of each front leg. Came last summer and made him lame; they stopped growing, but are tender to touch. Same horse has been lame in hind legs in hock. A soft swelling in front of hock can be pushed in, and soon on each side of hock, but comes back again. Swelling on left leg the largest, but right leg the most lame. No heat or soreness. Right leg was hot once last fall after drawing a heavy load and then was very lame. Cannot hold back going down hill. Has done nothing for two months. (1) A mare with foal due last March has the itch badly. At first there is a little kernel under skin, then the hair comes off, and when she can bite it, she will make it sore. (2) H. S. *Clyde, N. Y.* [1. Apply golden blister to splints and hocks; the latter should be blistered on all the inside of hocks, also on both sides at the seat of thoroughpin. 2. Crude petroleum, 1 gall.; sug. hydrargyri, 1 oz.; fish oil, 2 oz.; sulphur, 2 lbs. Mix. Rub some of this on affected parts and wash off in three days. Repeat once a week. She may need further treatment.]

LUMP ON JAW, p. 7.—Have treated cow as directed for three weeks, and the lump has grown fast, and is much larger than when treatment began. Have you anything further to suggest? W. H. H. *Huntsville, N. J.* [The growth is evidently a malignant one. I believe your best course is to kill her. Keep her away from other stock if you do not. I do not wish to prescribe further for her.]

HOGS DYING.—My hogs refuse to eat; generally a cough, slight weakness in hind legs, constipated, sometimes vomiting. They die in from 24 to 48 hours; have lost fifteen. Examination shows their lungs, liver and spleen to be diseased; intestines appear all right. Have been feeding whole corn and ground rye; good, comfortable, clean pens. INQUIRER. *Red Bank, N. J.* [Carbolic acid, 2 oz.; tincture of aconite, 2 oz.; glycerine, 4 oz.; mix. Give 15 drops to each full-grown hog three times a day.]

LUMP ON COW'S JAW, pp. 374, 477, 1888.—Have blistered and treated several times, and seem to have killed it where it first appeared, but it gathered again a little higher up. Now it is near the centre of the face, and little more than half way between the muzzle and the eye; is now blistered and much swelled so as to be partly closed. In case on p. 7, "Discharge from Navel and Vagina," treatment was successful. S. W. T. *Salem, N. J.* [I am of the opinion that the cow is incurable. Treat her now and then as previously advised.]

BROKEN SORE—LICE.—What shall I apply to shoulders of horse where the skin has been broken by the collar, and after being allowed to form a scab was again broken? A small amount of pus was noticeable in the wound. (1) Also best application for cattle in a lousy condition? (2) H. M. *Toronto, Can.* [1. Wash well with soap and warm water, using a sponge, then apply some of the following lotion: Powdered alum, 2 oz.; compound tincture aloes, 4 oz.; chloride zinc, 4 dr., and a sufficient quantity of water to mix. Do this nights; mornings use Moore Bros.' gall lotion. 2. See back numbers.]

DIARRHŒA—COUGH.—What is best remedy for diarrhœa in calves; also for cough in yearling heifer a little off her feed, probably from cold taken on cars in transportation? W. E. S. *Werehouse Point, Conn.* [A remedy for one kind of diarrhœa will not prove efficacious for all. If you will state your case I will advise you. The heifer may have 20 drops of the following medicine put upon her tongue four times a day: Fluid extract digitalis, 1 dr.; fluid extract belladonna, 3 dr.; mix. Also give a tablespoonful of the following powder on tongue three times a day: Sulphur, 4 oz.; powdered chlorate potass., 6 oz.; mix.]

BLACK HAW.—On page 94, under head of "Abortion Feared," J. L. S. speaks of "black haw bard," &c. Are "black haw" and "black haw bard" the same thing, and is it administered in the liquid or solid extract? The druggist here knows what black haw is, but not when connected with the word "bard." S. F. *White Plains.* [The word was probably intended for *bark*. It can be given in fluid extract or bark. Mr. J. L. S. says he has had over fifty cases. Now epidemic abortion occurs as a rule without giving any warning; hence J. L. S. may have been, and no doubt was, often mistaken.]

LUMPY TEATS—LAME PIGS.—A cow which a year ago had a small lump on teat, and gave stringy milk for a short time, has had this winter one or two lumps on same quarter, and gave gargety milk, but quantity much decreased. After a time the lumps disappeared, but the milk did not increase. She is now dry, being due to calve about March 1, but two of her teats are lumpy. (1) Some shoats about ten months old begin to be lame and refuse to eat much; have been fed apples, milk, swill, bran and middlings, with some corn, but not much until three or four weeks back. Have been confined in pen since Jan. 1, with cement floor and raised sleeping place. They have two pens to run in, about 10 by 12 feet each. When driven up they squeal and grunt as if it hurt them. Were feeding them for spring market. (2) E. T. S. *North Ridge, N. Y.* [1. Give ¾ lb. epsom salts twice a week, until a week after calving. If there is milk in bag, milk her. Rub her bag with some of the following liniment twice a day: Spirits of turpentine, 3 oz.; linseed oil, 3 oz.; aqua ammonia fort., 1½ oz.; acetum, 1 qt.; mix. Paint the lumpy teats with tincture of iodine daily. 2. Stop feeding corn and apples. You have brought this condition about by forcing the animals. Reduce food, and give them some epsom salts in swill every three or four days. Also give 10 drops of the following medicine three times a day to each: Tincture aconite root, 1 oz.; glycerine, 4 oz.; carbolic acid, 1 oz.; mix.]

IN HEAT AFTER SERVICE.—Are there sure indications of when a mare is with foal after a few months? Have a mare which has appeared several times to be in heat since she was taken to horse. FARMER. *Orleans County, N. Y.* [There is no method by which we can tell. It is probable she is not pregnant, but it does occur that animals will show symptoms of heat and be pregnant at the same time.]

LOLLING TONGUE.—Can you give me a remedy for stopping a heifer rolling out her tongue and trying to chew or swallow it? An almost constant habit, and a great fault. W. H. S. *Warehouse Point, Ct.* [By using appliances it may be kept in place, and after a while the habit may be given up, but it may not. Habits are not easily cured. Put a halter on and run stiff pieces of leather down the sides. If this does not work, I will suggest something else, but if you get the idea and carry it out properly, it will be successful I feel sure.]

SORES ON HORSE.—An 11-year-old horse bought a year ago has always worked hard and been fed heavy grain. Is in good spirits, but eye is dull, and he has a breaking out of small bunches under the skin over his body and under mane which discharge and mat in the hair. Sores heal soon and break out in a new place. Has also sores on lips, and as soon as one heals another breaks out. O. P. *Port Plain, N. Y.* [Give him a dose of physic. Then feed him 1 oz. of Fowler's solution in feed twice a day for a week, and repeat, when we will change the treatment. Has he any lumps or enlargement of glands between his jaws? Or sores (ulcers) in nostrils?]

LUMP NEAR VULVA.—A five-year-old Jersey cow, giving milk, due to calve in four months, has a hard lump the size of a hen's egg between the thighs, covered by tail, midway between vulva and bag. She did not like to have it handled at first; now it does not seem to hurt her. She is hearty and in excellent condition every way. Lump was noticed three weeks since. Have treated it with hot water applications. It does not seem to be enlarging, and is movable. S. S. S. *Canandaigua, N. Y.* [Rub a little of the following on the enlargement once a day: Tincture iodine, 2 oz.; powdered iodide of potass., 2 dr.; spirits of camphor, 1 oz.; mix. We may use something more later on.]

COLT BLIND.—A 4-year-old colt was foaled blind in right eye, the other all right, but last Saturday I noticed the good eye had a glassy appearance, and six hours after the whole eye was covered with a milky-looking substance. Have been blowing burnt alum in eye, but have very little faith in it. If anything can be done, please prescribe through your paper. W. D. H. *Hartley, Del.* [Give tablespoonful of the following powder to feed three times a day: Powdered nitrate of potass., 4 oz.; powdered colchicum root, 2 oz.; powdered iodide of potass., 3 oz.; mix. Give him a dose of physic; keep him in a dark stall. With a camel's hair pencil put a little fluid extract of belladonna in the eye nights and mornings.]

FAILURE TO BREED.—A thoroughbred heifer three years old last May, dropped her first calf in October '87; in order to rest her she was not sent to bull until Christmas 1887, and in February, 1888, a string-like discharge of mucus was noticed. Shortly after this she came around and was sent to bull; as she failed to take after several services, I rested her from about May or June until Jan. 15, '89, keeping her on low diet. A few days ago the same discharge was noticed again. Is in good health and condition. If she comes around again shall I use injectio vaginæ or do you consider her fit only for the butcher? O. G. K. *Morristown, N. J.* [Do not think of killing her until you have used the "injectio vaginæ" treatment.]

DRY COUGH IN COW.—A young cow due to calve about April 5, two weeks ago began to have a dry cough; is running down very fast, has not eaten anything in three days. Feed has been good timothy hay, and change of clean oat straw with grain in. She appears to be bound up, does not chew her cud. Have given her four doses of raw linseed oil with no effect. G. F. *Port Plain, N. Y.* [Keep cow away from other cattle. Give her a tablespoonful of the following powder four times a day: Powdered chloride of potass., 4 oz.; powdered rhubarb, 8 oz.; sulphur, 6 oz.; mix. Give three tablespoonfuls of the following powder in a pail of drink daily: Powdered nitrate of potass., 3 oz.; powdered chloride of potass., 6 oz.; mix. Give her spiced gruel out of a bottle, and if she has no appetite give Moore Bros.' cattle tonic twice a day with some old ale.]

Horticultural Department.

Plans for Farmers' Grounds.

The owners and occupants of small or moderate-sized farms would often desire to give them a pleasing appearance, if they could do so at little expense and without occupying much ground. They have only seen costly plans of handsome landscape gardens, and are often discouraged from any attempt to imitate them, and omit any attempt at ornament. In order to show how a pleasing result may be reached without difficulty, we give two plans of the surroundings of the farm dwelling, where not more than an acre of ground need be occupied with the ornamental portion, and where easy access is given to the adjacent fields in cultivation.

In fig. 1 the dwelling (*D*) stands eight or ten rods from the public road (*R*), and is reached

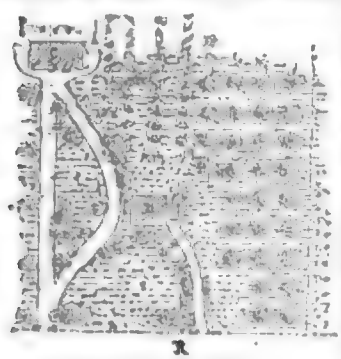


Fig. 1.

by the curved carriage road, through a grass lawn planted with a few ornamental trees. The straight road on the left is for reaching the carriage barn (*c*) and other farm buildings with heavy or rough loads without driving close to the dwelling. A foot-path on the right gives access to the house to foot passengers on that side. The apple orchard is still further to the right, and still further are the cultivated fields. A convenient open space in the rear of the dwelling gives room for hanging clothes, shaking carpets, &c. In the rear of this space is the fruit garden, with rows of dwarf pears, grapes, currant, raspberry and gooseberry bushes, and lines of strawberries. Vegetables may be grown between the bushes and dwarf trees. The space occupied with ornamentals, a half acre or more, may be easily kept as smooth as a carpet by a few hours each week with the hand lawn mower. If, instead of the ornamental trees planted on this portion of the ground, some handsome-growing fruit trees, as standard pears, take their place, they may be kept in a fairly thrifty condition by keeping the grass constantly short with the lawn mower, and with the annual top-dressing of fine fertilizers which the ground will receive; and thus the lawn mower becomes a tool of real utility and economy, by allowing these fruit trees to grow on this portion of the ground which otherwise, if occupied with tall grass, would render them stunted and worthless.

Fig. 2 represents a modification of the preceding plan, where the farm lane on the left is

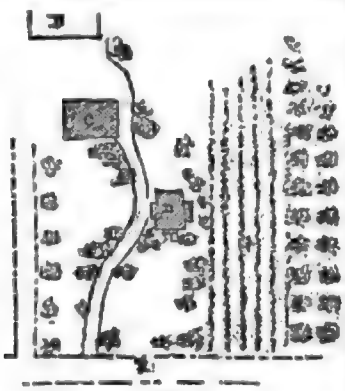


Fig 2.

entirely separate from the ornamental grounds, and still reaching the carriage house and barn buildings. The garden (*G*) on the right is laid out so as to be cultivated by horse-power, the small fruits being planted in lines or rows with the vegetables between them. This vegetable ground is thus capable of being plowed every spring with two horses, and afterwards cultivated with one horse during the summer, as often as once a week, keeping the weeds down at little cost, and giving a much finer growth to the small fruits and vegetables, than they could receive if the work had to be done by hand. An average estimate places the labor of keeping a garden clean with the horse cultivator at less than one-tenth of the work when done by hand.

A simple plan, like the preceding, kept in neat and finished order, is greatly superior in appearance to a showy and ostentatious one allowed to become disfigured by neglect.

The Mixing of Seed.

Eds. Country Gentleman—Recent articles on the mixing of melons bring to mind an occurrence of 25 years ago. I had a most excellent variety of watermelons, and it was almost a daily occurrence for me to be applied to by my neighbors for seed, which I was pleased to furnish. I heard from nearly all that they had fine melons, but many said that they were not like mine—that they were mixed—and I supposed they planted the seed near or in some lot with other seed. I had but the one variety, and had been cautioned by the gentleman who gave them to me not to plant within one-quarter mile of any others, nor suffer gourds or squashes to grow near them, as they would surely mix. I was cautious, and for two or three years I had what appeared to be the "simon pure" seed, and saw no sign of any mixture. One day I cut a fine melon of 30 lbs. weight, with very sweet, thin rind, and white seed, and saved all the seed, as a present for my father, thinking this one surely pure, and gave them to him to plant for his own eating. He did so next spring, in his garden, no others in a half mile that he was sure of, and took great pains with the vines. The result was that there were thirteen different kinds grown from these seeds. Some were worthless, some good, and some really superior to the original. This is a clear case of one of two things: either the seed planted were from a mixed melon, or bees or something else mixed them after they bloomed.

I should think Prof. Peck or some other botanist would be better able to tell the cause of such results than ordinary farmers. Why does white wheat turn red, after being sown on red land for one or two years? This I tried several times. I took great care to get nice, white wheat, grown on grey sandy land, sowed it on red clay land for one or two years, and it was red. I have heard of telluric effect even on cotton, and one cotton-grower in Mississippi never would suffer common cotton to grow on the same land with his finest cotton, fearing a mixture, even from the ground. Why these effects? Wm. H. Bowman.

Gordon County, Ga., Jan. 31.

Hibiscus Culture.

Eds. Country Gentleman—This genus of plants comprises some of the most satisfactory species for the amateur florist, of any class of plants in cultivation. The flowers of the leading kinds are showy, and the plants of the easiest culture, whether grown as pot plants or planted out in the flower garden during summer. The varieties of the Chinese species, *Hibiscus rosa-sinensis*, are the most suitable for this purpose.

Small plants, started in the fall and grown on in a moderate temperature during winter, and shifted into larger pots as they increase in size, will form fine specimens by spring, which can be either planted out in the open ground or grown as pot plants during summer. Any soil suitable for a general collection of plants answers their requirements, but to insure a rapid growth, a compost of turfy loam, leaf-mould and thoroughly decomposed manure, in equal parts, is the most suitable. Such of the kinds as have a straggling habit should have the points of the shoots, while growing, pinched back, to induce a compact habit. Abundance of water is necessary during their season of growth, and especially after the flower-buds are formed, dryness at the roots often causing both leaves and flower-buds to drop prematurely.

Hibiscus rosa-sinensis—The type from which so many excellent varieties have been produced—is a native of China and Japan, and in its native habitat often attains a height of 15 feet. The flowers vary in color, and are to be seen single, semi-double and double; the leaves are of a dark-green, glossy color, which, with the large, showy flowers, make beautiful plants.

Of the many varieties having fixed characters, the following are some of the best:

H. carminatus perfectus—A very large, showy single variety, scarlet and rose, with crimson markings.

H. brilliantissimus—Another very large single-flowering variety, flowers scarlet and crimson.

H. collerii—Buff-yellow, with a scarlet crimson base. A fine variety, compact in habit, the flowers lasting in perfection a long time.

H. grandiflora—A scarlet-crimson single variety, free flowering, and fine for planting out, being always in bloom.

H. versicolor.—The flowers of this variety are single striped, white, crimson and rose.

H. minnesotus—A very attractive semi-double variety, flowers large, a vermillion-scarlet in color.

H. schizopetalus.—This is a distinct species, requiring a higher temperature during winter than the *rosa-sinensis* type, but well adapted for out-of-door planting in the summer. The petals are deeply cut, giving the flowers an attractive appearance. They are orange-red in color, and drooping in habit. A plant well worthy of culture by every one.

Mahoning County, Ohio. MANSFIELD MILTON.

Western New-York Society.

Meeting at Rochester in January—III.

S. D. Willard of Geneva read a paper on the "Cultivation of the Plum for Market": For plums, land must be of the right kind, and selected without regard to expense if found adapted. Always purchase young trees. Cultivate and feed with no niggardly hand. Careful observation will show that all varieties do not thrive equally well on the same soil. Study the wants of the different markets. In some localities the Damson plum is preferred to choice varieties. Of the new plums the Stanton seems likely to prove a popular variety. Among varieties adapted to the soil of Geneva may be mentioned: Bradshaw, Reine Claude, Copper and German Prune. Reine Claude is short-lived, but very productive. In answer to questions Mr. Willard said a convenient distance for planting Reine Claude was 10 by 16 feet. Plums might be cultivated profitably for from 15 to 18 years, and the Lombard might last 25 years even. Guell will fruit as soon as Bradshaw. Plums need all the feeding you can give them. Give them shallow cultivation. In speaking of pests Mr. Willard said the green aphis is a sore trouble to cultivators, and one very difficult to overcome. Favors the spraying of leaves with Paris green, though care should be exercised in doing it, since the plum is not as hardy as the apple. As to black knot, a law is required compelling growers to cut down trees on the first appearance of this disease. Careful growers frequently examine their trees with knife in hand ready for use on any branch where the knot can be detected. In marketing, proper handling and assorting is absolutely necessary to ensure profitable returns. The plum is easily damaged, and shipped in that condition at once injures the reputation of the grower. Where intended for preserving, less care is required, though good and bad fruit should never be mixed. Considers clay loam as best for plums. Pruning may be done after the fall of the leaf, cutting off about one-half of the previous season's growth. Had not found it necessary to thin his plums, the insects doing all that was required in that way.

Following came a paper on "The Chautauqua Vineyards" by A. S. Watson. They are planted along the southeasterly shore of Lake Erie for forty miles, extending inland for three miles. The soil was noted for its capability of withstanding drouth and its freedom from winter injuries. Next the lake it was a sandy loam underlain with clay. Back of this it was more gravelly, and still further back is a soil of clayey loam. The Concord is the leading grape, and is grown in nine-tenths of the vineyards. Seven hundred carloads were shipped from this section last fall. Many lots were sold at $20 a ton, though, as a rule, better prices prevailed.

A report from Wayne County was then read by A. J. Case, who represented the northern part of it. Fruit growing had advanced greatly, but insects were giving greater trouble than ever. The strawberry crop was poor, to be attributed to the alternate freezing and thawing during March and April, and the dry summer. Red raspberries were being largely cultivated, Shaffer's Colossal proving one of the best paying varieties. Forty tons sold in Sodus for evaporating. In blackcaps, growers still cling to Ohio. For a late variety Gregg is the best. More attention is being paid to blackberries, though not so profitable as blackcaps, which were very remunerative last season. The cultivation of cherries is increasing; last year's crop was fine, prices good, and growers felt well paid. Peaches were a good crop, in spite of great damage by borer, with fair prices. Plums yielded well, but prices were low. Lombard and German Prune are favorite varieties. There are 400 acres planted with Niagara grapes. The frost on the night of Oct. 10 killed the main grape crop. The apple crop was an average one. The price of evaporated apples had fallen during the year from one of good profit to one of less than the cost of the article. Up to Jan. 19, 98 carloads had been shipped, containing 40,500 cases. The year before the shipment was 106 carloads.

Questions were taken up—"What is the Best Early Variety of Grape" being first called for. C. A. Green suggested Early Moyer, C. M. Hooker the Brighton, E. A. Bronson the Worden, Messrs. Varney and Wells Wyoming Red, and C. M. Dunning the Gaertner (Rogers No. 14). In the course of the discussion the Green Mountain was favorably mentioned, and the Winchell had some supporters.

The cold storage question was taken up. E. A. Bronson described a building on brow of hill 10 by 20 feet, 8 feet high, simply built, with 6 inch space between the two walls filled with sawdust. Air pipe was laid 100 feet from house beginning at level of ground and entering building when 6 or 8 feet deep. There was by this means no difficulty in keeping a moderately cool, uniform temperature. Ventilation, of course, was under complete control. Prof. Cook spoke very favorably of the sub-earth system of ventilation, detailing a plan in use in his own house. He thought a temperature of from 38° to 50°, say 45°, could be maintained uniformly. Mr. Hubbard, Fredonia, described a building above ground, 100 by 30 feet, which had one air space of 4 inches and three of 3 inches, costing $600. Most of the speakers advocated dead air spaces as being effective in keeping out excessive heat or cold.

The members examined an "apple gatherer" which had been set up. It resembles an inverted umbrella, having a hole in the bottom emptying into a box; over it is an open parasol padded, and it is claimed that the apples can fall on any part of the gatherer without coming into contact so as to bruise one another. Many who had seen it in use spoke of it as a very useful implement.

Prof. Cook of Michigan spoke on "Spraying Trees with Paris Green." He said he feared the fruit growers of Western New-York did not appreciate their talented and indefatigable State Entomologist, Dr. Lintner. He advised the use of colored poisons as being less likely to be the cause of mistakes. Spray directly blossoms fall, not before, as we do not want to destroy the bees. Be thorough in dosing the trees. Put on insecticides with a dash, going on all four sides with force pump. You will find on examination that every apple has received a little drop of poison. Plum curculio will attack the apple if the plum is not there. Put plums near your apples and then fight for both kinds. Kerosene emulsion will certainly kill scale lice. Dose thrips and rosebugs with the same. The following specific items were mentioned:

London Purple.—One pound to two hundred gallons of water. Used to destroy codling moth, curculio, leaf-rollers, tent caterpillar and canker worms. For codling moth apply just after the blossoms fall, and again two weeks later. This kills all the other insects mentioned except the curculio. For curculio apply as soon as the calyx falls and again twice at intervals of ten days.

Kerosene and Soap.—Soft soap one quart, or hard soap—preferably whale oil soap—one fourth pound; two quarts hot water; and one pint kerosene. Stir till all are permanently mixed. Then add water till the kerosene forms one fifteenth of the whole compound. This kills aphides or plant lice, bark lice, and many bugs; apply with force pump. Apply when insects are at work.

Buhach or California Pyrethrum.—Use one ounce to three gallons of water. This is a specific for cabbage caterpillars, cherry and pear slug, &c. Dash it on to the insects, with spray bellows or force pump.

White Hellebore.—Use one ounce to three gallons of water. This kills currant slug. Apply with force pump.

Carbolic Acid and Soap.—One pint crude carbolic acid, one quart soft soap and two gallons hot water. Thoroughly mix and apply with a cloth to trunk and large branches. Two weeks after blossoms fall and again three weeks later. This prevents the borers from working and kills the bark lice.

Good Pumps.—Field Force Pump Co., Lockport, N. Y.; Goulds Manufacturing Co., Seneca Falls, N. Y.; Nixon Pump Co., Dayton, Ohio.

Nozzles.—Perfection and Nixon.

Small Hand Pumps.—J. A. Whitman, Providence, R. I.; Lewis hand pump, Catskill, N. Y.

Dust and Spray Bellows.—A. Woodason, Philadelphia, Pa.

Fungous Diseases of Fruits was treated by Prof. Prentiss of Cornell. As a remedy to

apple fruit and leaf scab he recommended spraying of trees with soda-hyposulphite solution in the proportion of one-half ounce of the soda to two quarts of water. For grape black rot, he suggested sulphate of copper and lime. The loss from peach yellows was beyond calculation, at least 75 per cent. Some orchards during the past year had been given up in despair. The disease was most prevalent in dry sandy soil. The pear blight is the most intermittent of diseases, coming and going: loss from it the past season estimated at 10 per cent. The plum black knot was more or less prevalent: loss estimated at 50 per cent: Lombard peculiarly liable. Loss from plum fruit rot estimated at from 10 to 25 per cent. greatest among Lombards. Both pear blight and plum black knot can only be effectually treated with the knife promptly applied.

In the discussion which followed, Dr. Van Dusen said he knew of only two instances of of grape black rot in vineyards in Wayne county, in one of which 80 cartloads of manure was applied to one acre perhaps, inducing, black rot. Mr. Crane considered injury done to new canes was by ammonia from excessive use of manure. Mr. Hubbard, Fredonia, said heavy manuring was an injury to vineyards. Apply manure often and moderately. Sulphate of copper is a remedy for downy mildew but not black rot. Where bags were applied to bunches just after growing out of blossom black rot was stopped. Where applied later black rot appeared. *J. H. C.*

The Entomologist.

Cabbage Destroyers.

The New-Jersey Agricultural College Experiment Station has issued a bulletin of 21 pages, occupied with an account of the insects which feed on the cabbage, prepared by George D. Hulst—a plainly written account of the careful experiments performed for destroying these depredators. The insects figured and described are the white cabbage butterfly and its larva and the cabbage plusia, besides cut worms, cabbage aphis and cabbage root fly. The white butterfly is commonly seen in the day time hovering about cabbages, laying its eggs mostly on the underside of the leaves, and hatching in from five to eight days into the green caterpillar. The *plusia* is darker in color, and flying in the night is rarely seen. The larva has something of the character of a measuring worm. It is larger and longer than the butterfly larva, and is less hairy. Some years they are scarce, in others they are more numerous and destructive than all others. The eggs are mostly laid on the upper surface of the leaves, where hot water will reach and destroy them.

Of the many remedies tried for the destruction of these caterpillars the three which stand at the head for efficiency, are hot water, pyrethrum, and kerosene emulsion. Other remedies are of little use. When the temperature of the water is above 160° the plants are scalded; when below 140° the insects are not killed. Between these two points the remedy is efficient.

Pyrethrum is safe and perfectly effective, if fresh, when mixed with from six to twelve parts of plaster, or fifteen to twenty of air-slaked lime. Or pyrethrum powder, a tablespoonful to six or eight quarts of water, answers well, and also destroys plant lice when sprinkled on the plants.

Kerosene emulsion, (made as recommended in the COUNTRY GENTLEMAN on former occasions,) diluted with twelve parts of water, is thoroughly effective. Its odor also acts as a repellant, by preventing the butterflies from laying their eggs on plants so treated.

No good remedy has been found for plant lice, but pyrethrum powder applied with a hand bellows, has been found most efficacious. The cabbage-root fly may be killed with a weaker solution of kerosene emulsion, or one part to fifteen of water, the roots at planting being dipped in it, and twice afterward enough poured around the plant to wet the soil an inch. The roots being more tender than the leaves, a weaker solution must be used.

White Grubs on Strawberries.—Some cultivators assert that if strawberries are planted on ground which has been kept cultivated with potatoes two or three years, the white grub will not attack the strawberry plants, or that even one year in potatoes, if thoroughly cultivated, will be sufficient. Others state that one season of well-worked summer fallow will be sufficient for preceding the planting of the strawberries. The question suggests itself whether the potato crop is of any benefit, other than the thorough cultivation given it. Have any of our readers any practical information?

The Poultry-Yard.

Questions about Eggs and Hens.

EDS. COUNTRY GENTLEMAN—We Down-easters are all trying to produce brown eggs for market. Why? Because some epicure in Boston gave the impression about twenty years ago that they were richer. New-York and New-Jersey poultry men are all trying to produce a *white* egg. Why? Because some old fellow in New-York city gave out notice many years ago that they were richer. Chicago wants a speckled egg. Why? Because they think them richer. All of which is pure nonsense, and the very fact that the good livers of these different cities do not agree, is proof of it. One egg is just as rich as another so far as the color of the shell is concerned. It seems to me that perhaps a small egg would be richer than a large one, being more concentrated, as it were, and if I were one of those rich, fussy, high livers, always looking for something a little better, I should select small eggs for my table.

No doubt there is a great difference in the quality and flavor of the contents of an egg, depending entirely upon the quality and variety of food given the hen that produces it. And those who are so particular should buy their eggs only from such poultry farms as feed their birds upon the sweetest and soundest of feed, and give them the purest water, and keep everything about their hen houses neat and clean. All kinds of fish feed will cause an egg to taste strongly of the same; tainted meat, sour and mouldy food will be noticed in the egg. Feed your hens for a week on celery, and observe how strongly your eggs will taste of the same.

Of course for setting purposes, and the general market, it makes but little difference, but if you are catering for the trade of such people as notice these things, then you will have to be extremely careful about your feed. Another important matter, if you are shipping eggs every day or two, is to carefully wipe every egg as soon as brought in from the nest. An egg will absorb the odor from any filth left on the shell, in a short time, and it should be removed at once. If a person desires large eggs he can only obtain them from his old hens, and it is always advisable to keep a large stock of such over, as they will also make the best sitters and mothers. Pullets will lay much better in the winter, especially if hatched early, but for the first season their eggs will invariably be small, too small for anything but to use in your own house. Old hens, as a rule, make poor winter layers, generally holding back to do their business in the spring and summer.

Here is a question that puzzles me: How is a man who keeps 1,200 hens to ascertain which are his best layers, and how is he to know where those are that lay but few? It is a very important matter to him, and I wish some of your readers would suggest a plan. It is all well enough for a person who has only 50 hens or so to keep watch of them, and discover which are which, but such a course is impracticable to follow with the man who keeps a very large lot. He would have to remain on watch in his poultry-house from morning until night, for six months, to do it.

The man with lots of hens has of course many in the lot that are poor layers, worthless to keep, the same as with a lot of cows. The poor milkers can be picked out easily, fattened and marketed, but not so with hens. Some sure, positive proof is wanted. I have no doubt that I am feeding and caring for at least 100 hens to-day that are unprofitable for me to keep, and this means quite a sum or loss to me, but how am I to tell them *positively*, is the question. I want to keep a good layer as long as I can—do not care if she is four years old—but I cannot get rid of a poor one too soon, no matter if she scores 98 points and would win every premium in the country.

One more subject pertaining to eggs, and I am done. Contrary to most advice that I have seen in print, I believe that a pen of hens will commence laying sooner and lay better when there is a male bird with them than otherwise. At least it has proved so with me after careful experiments for several years. It is natural, and the presence of a cockerel or rooster promotes egg laying. Their presence excites the hen to the business for which nature intended her, and beats red pepper, ginger and all your egg food out of sight. Biddy does not want to give an egg to the world until it is made perfect in all its details, and she looks to her companion to help her out a little in some matters.

Rockingham County, N. H. GEORGE Q. DOW.

Young Turkeys.

EDS. COUNTRY GENTLEMAN—I have tried for four years to raise turkeys and every year failed, with one exception, and out of 23 turkeys I raised 5. This last year I had 28 hatched and not one did I raise. They live to be three or four weeks old, and then drop off one at a time until they are all gone. I wish some of the successful raisers of turkeys would give their methods of feeding. Perhaps the "Farmer's Daughter" who had so good success the past year can give me advice.

I fed hard boiled eggs, cooked rice, oatmeal, crackers and milk, and now and then some meat. QUINSIGAMOND.

Worcester County, Mass.

During the latter part of February turkey hens are selecting suitable places for their nests, and it is well for the poultry-keeper to acquaint himself with their favorite resorts and to restrict their range if necessary. About the first of March the hens usually begin laying, and it is my custom to have them driven up every morning into a well-ventilated house where nests have been prepared. There they are fed, watered and confined for several hours each day, until having become accustomed to the nests they naturally seek them even after they are turned out, instead of wandering off in search of others.

The nests, which are composed of soft grass or hay, are made in shallow boxes placed on the ground, so that the hens can step in and out of them without danger of breaking the eggs. The fresh eggs should be taken from the nest each day and kept in a cool place. Some poultry-keepers say the eggs should be placed on end in a box of bran, and their position reversed every day, but that is not necessary, though it is reasonable to suppose they should not remain very long in any one position. Turkey hens should be treated with the greatest gentleness and consideration, so that when they begin sitting they will not fear your approach, but will permit you to lift them quietly from the nest and put them out for a short run, a dust bath, or to procure food and drink, which has been previously placed within reach. If their natural wants are attended to there would be fewer complaints of hens dying on their nests, or becoming infested with vermin. Fifteen eggs are as many as a turkey hen will conveniently cover; rather than to give one a larger number it is better to put the remaining eggs under a chicken hen. A Plymouth Rock hen easily covers ten turkey eggs, and all that they both hatch may be given to the turkey hen. Sitting hens should be carefully handled and kept gentle so that the young turkeys may be taken from the nest without disturbing the mother, who, during the time she is hatching, should not be lifted from the nest at all, as she will be liable to break her eggs on returning, for the shells become very brittle at that period.

The little turkeys are so tender and so easily crushed that it is best to remove them from the nest when they are a few hours old. I usually place them in a clean flannel cloth in an open box or basket, where they are kept for several days until they learn to eat heartily and to stand firmly on their shaky little legs. When the weather is warm and bright, it is a good thing to put them out on the short grass for an occasional airing, and to offer them something to eat, which they invariably refuse for the first day or two.

Every one who raises turkeys has a favorite way of preparing their food, and is very positive in asserting one that no other is half so good. Several years ago I came across the following receipt in a newspaper which I tried on a flock of puny little turkeys that looked as if they were about to die. It worked like a charm, and has ever since proved so efficacious that I have been afraid to try any other. "Into a shallow pan placed over the fire, pour one pint of fresh sweet milk, and into this put two eggs well-beaten, and stir the mixture until it boils and assumes the consistency of jelly." The quantity will be sufficient for a flock of fifty young turkeys for one day, and may be prepared in ten minutes. At first, the bright yellow color of the custard seems to be its principal attraction, for if the little turkeys get the smallest bit in their mouths they instantly try to throw it out, but after a day or two they come to like it very much.

After they have learned to know my voice and to come and eat from my hand when I call them, I put them back with their mother, who has finished hatching by that time, and has been put out on the grass in a large coop. The mother hen has a most voracious appetite after her long period of incubation, during which she has been too anxious to eat very much; so she should be liberally fed upon grain and broken bread, the custard being reserved for the little ones alone. The coop should be tall enough to allow the hen to stand erect, and be well ventilated under the eaves, but tight enough below to confine the young turkeys. It should be built without any floor, and so light as to be easily moved every day to a clean spot on the short grass, for the brood will not thrive unless kept perfectly clean and dry.

If the weather is suitable, the little flock may be turned out when four days old for a few hours' sunning, but they should be watched, for sometimes an old hen that has hitherto showed herself a model of prudence and discretion, will take a foolish notion to drag her delicate little ones through the tallest grass she can find, or hide them away in some inaccessible place. Three or four hours is long enough for them to remain out the first day, and the length of time should be increased as they grow older. Sweet milk may be given them in shallow pans, but it should not be left in the coop, for they will play in it like bad children until they are thoroughly wet, and then lie down and die. Little turkeys come into the world totally devoid of common sense, and judging from their actions during the first few months of their existence, their sole aim is to make way with themselves as speedily as possible.

At first they should be fed four or five times a day, but after they are ten days old, three times is often enough, and as their range becomes more extended, twice is sufficient. After one week the custard, after it is thoroughly cooked, may be thickened with the crumbs of soft batter bread (or egg bread as we call it) and seasoned with a pinch of black pepper. Both black and red pepper are excellent tonics for fowls, and when given to them in cold, rainy weather, help to keep them warm and lively. Some sort of green food, as chopped onions or lettuce, is good for little turkeys, but as soon as they are strong enough to run out all day, they learn to eat grass and clover, which answer every purpose. Like other fowls, their natural food is grasshoppers, bugs, and other insects, and the sooner they are compelled to subsist principally on them the healthier they will be; though I saw somewhere an account of a whole flock of turkeys being killed from eating potato bugs, which they swallowed alive and were then unable to force into their gizzards.

After a few weeks buttermilk may be substituted for sweet milk, and soft batter bread soaked in sweet milk and heated to the boiling point may be given to them instead of egg custard. Until they are several months old they should be protected from morning dews and sudden showers. Cared for in this way their wings never droop and have to be clipped, nor does their plumage get ugly and ragged as they advance toward maturity, and they are so full of life and grow so rapidly that they are apt to escape the many diseases which the poultry books tell so much about; though it often happens with the turkeys, as with all other young things, that there are one or two weaklings in every flock. If such is the case, let them die as soon as they will, and spend your time and energies in promoting the growth and welfare of the remainder. After a month or six weeks, a flock of fifty turkeys requires no more care and attention than any one brood of chickens, and when their range is an extensive one, no more food need be given them until they are five months old than would be required for the same number of chickens. Unless the season be very unfavorable or some accident befall them, there is no reason why nearly every turkey that is hatched should not be raised, provided the locality be a dry one, and the parent stock strong, healthy and vigorous. A FARMER'S DAUGHTER. *Oakville, Ky.*

About Feeding.—Rye is the poorest of all grain for poultry, and will kill young chickens. Hens will not eat it if any other is to be had, unless you throw down a sheaf of it and let them scratch it; if they think they are stealing it, there will not be a kernel left. Corn, oats, wheat, and buckwheat are best for hens; buckwheat is best of all grain for chickens, but all fowls should have a variety. Boiled oats and buckwheat I think best to make hens lay. When hens are confined in winter they should have green food, apples, potatoes, cabbage, onions, the second growth of hay run through the feed cutter twice, steeped in boiling water, the water poured off for drink. They should also have meat, and salt pork is the best; nail up a chunk inside the hen house as high as they can reach, and see how soon it will vanish; lard scraps, beef tallow scraps are excellent, but I object to the meat scraps pressed in cakes that we get in the market, on account of diseased meat. Your correspondent Geo. Q. Dow has said some very sensible things about habits and houses. Crockery is poor stuff for hens; old house mortar is much better. My hens eat a barrel of coot-clam shells from the sea shore every year; they cost a dollar and I never have a soft-shelled egg; oyster shells have too much lime. Get one of Wilson's $6 bone mills, grind all the clam shells and all the small bones, and your hens will pay for the mill. You can grind your hominy for your puddings and feed for the chickens.

Litchfield County, Ct. L. F. SCOTT.

New Advertisements.

Allenwood Stock Farm.... *Breeding Stallion.*
Adamson, A. L..... *Stock Farms for Sale.*
Bell, G. H..... *Agriculture.*
Biddle, F. C..... *A New Cherry.*
Bean & Son & Meissner.. *Gasoline.*
Bond, T. S..... *Seeds.*
C. D. C..... *Insect Cages Wanted.*
Clark, Thomas S..... *Farm for Sale.*
Clarkson, R. L..... *Jersey Bull calf.*
Corning Farm..... *Help Wanted.*
Cloud, H. K..... *Hydraulic Rams, &c.*
Childs & Jones..... *Hay-Spring Tooth Harrows*
Cloud Dr..... *Manure Packings.*
Carter, John S..... *Dairy Machinery.*
Coe, W. H..... *Chemistry.*
Curtis Publishing Co..... *Help Wanted.*
Chaney, Master Ralph.... *Silver-Gray Dorkings.*
Cooper, T. S..... *Butter Bulls.*
Chillester & Son, W. H... *Agents Wanted.*
Curtis, F. D..... *Agent Wanted.*
Dunning, Wm..... *Fruit Farms for Sale.*
Dillman, M. M..... *Farm for Sale*
De Cou, S. C..... *Nursery Stock.*
do. do..... *Hedging and Ornamentals.*
Dy, L. D..... *Prize Jersey Bull.*
Foster, Prof. E. H..... *Farms for Sale.*
Fowler..... *Situations Wanted.*
Farley, F. C..... *New Jersey Farm for Sale.*
do. do..... *At Lockport Bull.*
do. do..... *Jersey Bull.*
Filley, L. J..... *Farm for Sale.*
Graff, H. C..... *Herefords.*
H. F..... *Help Wanted.*
Henderson & Co., Peter.. *Farmers' Manual.*
do. do. do.. *Garden Manual.*
Hillside Farm..... *Jersey Heifers.*
Jones, Herbert A..... *Chester White Pigs.*
Jenkins, H. B..... *Alderney and Jersey.*
Kellogg & Co., Peter C.... *Public Sales Horses, &c.*
Lussen, Louis M..... *Horticulture.*
Little, W. B..... *Trees.*
Lightfoot, W..... *Situation Wanted.*
Lock Box 1231..... *Young Hay Wanted.*
McBride, A. D..... *At Lockport Bull.*
Morris, F..... *Pigs, Jersey Calves, &c.*
Moon, W. H..... *Trees.*
Morrison, C. H..... *Chester White Pigs, &c.*
Milne & Son, James..... *Grub and Stump Machine.*
Nash, Deane H..... *Acme Harrow.*
Ordway, Mr..... *Wanted.*
Pratt, H. C..... *Early Swedish Oats.*
Park, G. W..... *Seeds.*
Richardson Manufg Co.. *Worcester Buckeye Mower.*
"Rochlands"..... *Evergreens.*
Rawle, Jr., J..... *English Mastiff Dog.*
Schnebly, L. R..... *Short-Horn Bull.*
Sharer, J. Geo. & D. L.... *Farm at Public Sale.*
Steinberger, S. W..... *Jersey Turkeys.*
Smith, John S..... *Real Estate for Sale or Rent.*
Seymour, Thomas..... *Farm for Sale.*
Smallwood, W. W..... *Percheron Stallion.*
Sloan, T. ..... *Hose to Train Horses.*
Syracuse Chilled Plow Co.. *Syracuse Plows.*
Talcott, E. H..... *Jersey Creamer.*
Taylor Bros..... *Public Sale Holsteins.*
Truman, C. H..... *Creamery for Sale or Rent.*
Whitemore, A..... *Jersey Bull.*
Worden, Byron..... *Holsteins.*

Pamphlets, &c., Received.

AMES PLOW Co., *Boston, Mass.* Catalogue of Farming Implements and Machines: pp. 96, illustrated.

CHILDS & JONES, *Utica, N. Y.* Circular of Adjustable-Bar Spring Tooth Harrow.

CLARK & SON, O. W., *33 Seneca St., Buffalo, N. Y.* Seed Catalogue: pp. 32, illustrated.

DREER, HENRY A., *714 Chestnut St., Philadelphia, Pa.* Garden Calendar: pp. 136, profusely illustrated—see advertisement, p. 160.

DWYER, T. J., *Cornwall, N. Y.* Nursery Catalogue: pp. 16, illustrated.

FITCH, L. S., *Oakwood, La Porte Co., Ind.* Catalogue of Clydesdale, Cleveland Bay and English Shire Horses: pp. 48, with portraits.

GREEN, CHAS. A., *Rochester, N. Y.* Nursery Catalogue: pp. 48, illustrated.

HENDERSON & Co., PETER, *35, Cortlandt St., New-York.* "Everything for the Garden:" pp. 140, with woodcuts and colored plates—See two advertisements, p. 160.

HICKS, JACOB, *Sec'y Queens Co. Ag'l Society, Old Westbury, N. Y.* Forty-Seventh Annual Report: pp. 72.

HOUGHTON, HON'T. M., *Labor Commissioner, Hartford, Conn.* Fourth Annual Report: pp. 264.

KRAUSCHEDT, J. D., *Piqua, O.* The Miami Strawberry: pp. 8, with colored plate.

LITTLE, W. S., *Rochester, N. Y.* The Diamond White Grape: pp. 12, illustrated—see advertisement, p. 143.

LOVETT, J. T., *Little Silver, N. J.* Guide to Horticulture: cap. 8vo, with woodcuts and colored plates. See advertisement, p. 158.

PEERLESS REAPER Co., *Canton, O.* Very handsome photo-lithographed Showbill.

PERRY & Co., A. D., *Syracuse, N. Y.* "Everything in Seeds:" pp. 72, illustrated.

SANDERSON, LUCIEN, *New-Haven, Conn.* Circular of Fertilizing Materials: pp. 8.

SCOTT & SON, BONT., *Erie and Catharine Sts., Philadelphia, Pa.* Catalogue of Roses and Other Flowers: pp. 96, illustrated—see advertisement, p. 143.

STATE REFORMATORY, *Elmira, N. Y.* Annual Report: pp. 62.

STEELE BROS. Co., *Toronto, Ont.* "Everything in Seeds:" pp. 116, illustrated.

WILKIN, BONT J., *Sec'y American Humane Association, 161 Montague St., Brooklyn, N. Y.* Twelfth Annual Report: pp. 94, illustrated.

Inquiries and Answers.

Inverted Sod and Cut-Worms.—I have an old pasture that I wish to plow for cropping the coming season, and should like to put potatoes, turnips, corn and cabbages on it; but I am afraid that it will be full of grubs, cut-worms and the like, so I am in some doubt as to the policy of plowing it. I intended to plow it last fall, but so much wet weather put my other work back that I could not get it done, and if I plow it at all, it will have to be done this spring or wait until another fall. It has not been plowed in a great while, and would not be now if there were not so many spots which have nothing but moss on them. P. V. W. *Oneonta, N. Y.* [We cannot of course know what the probability is of having your future crops destroyed by future cut-worms and wire-worms; but the kind of land you describe is quite apt to be infested with cut-worms, and not unfrequently with wire-worms. A summer-fallow, by thoroughly destroying all living herbage, would probably clear out the cut-worms; or if you plant the field this spring, the operation of digging them out, commonly adopted, if promptly and thoroughly performed, may save your crops. The cut-worms would not interfere much with your potatoes. Dr. Lintner, in a late bulletin, furnishes a number of facts to show that a spoonful of common salt, sprinkled over a hill of corn, will prevent the cut-worms from eating it; for although they are not hurt even if buried in salt, they will not eat the plant if there is a little salt in the sap. The land you describe as so poor that only moss grows on portions of it, although not excluding cut-worms, would give but small crops of potatoes and cabbages, and enriching crops, or crops with manuring, would be desirable.]

Grafting Cherries.—I wish to graft some seedling cherries—will you please inform me what kind to get, and if seedlings from sour cherries will do, or does it require a seedling from sweet cherries to graft sweet cherries on? C. A. C. *Cold Spring, Ky.* [Sweet or heart cherries may be grafted on sour or morello cherries, if the work is properly done; but as the heart varieties outgrow the sour ones, and thus produce a distorted appearance, hand some trees are produced by using stocks of the same variety.]

Corn and Oats.—What variety of corn would you advise me to plant to secure the heaviest yield? Also heaviest yielding varieties of oats, and where I can obtain them? J. E. H. *Buckland, Va.* [As there are some hundreds of varieties of corn, some of which are adapted to one locality and some to others, we could not safely prescribe what would do best on your soil and in your latitude. Your best way would be to ascertain by inquiry what varieties do best in your region, and test a few on a small scale. From the experiments which we have made by procuring seed from different States, we do not find any advantage in the change of seed corn from a distance, but rather a loss. Nevertheless, it may be well, as opportunity presents, to try a few of the most highly recommended varieties which may be procured from different sources. As a general rule, the best corn for any place is the one which has been gradually improved by continued yearly selections in that locality. Nearly the same remark, or in part, will apply to oats.]

Poison Oak.—Can you tell me how to kill the poison oak that has taken firm hold in a grass yard? I wish to eradicate it completely. B. C. *Louisville, Va.* [The poison oak or poison sumac (*Rhus toxicodendron*) is rather more tenacious of life than most plants of its character, but it may be killed by cutting it off close to the ground in summer when in a vigorous state of growth, and repeating the cutting afterwards as fast as any part makes its appearance.]

Salt.—What is the value of refuse or coarse salt as a fertilizer, especially on hay land? W. C. *Raleigh, N. C.* [Salt, sown on land at the rate of six or eight bushels or more to the acre, frequently but not always affords a moderate benefit. As soils vary, actual trial is required to ascertain the amount of benefit. Strips, a rod wide, may be sown with it, and the difference between the treated and untreated strips determined by weighing both, and making some allowance for variations in the soils.]

Canada Thistles—Scabby Pigs.—How can I kill Canada thistles? I have a number of large patches in a field of ten acres. (1) What to use on hogs that have become scabby. (2) S. W. S. [1. Canada thistles may be destroyed by totally excluding air and light from the plants—in other words keeping them plowed under for an entire season so that not a vestige can appear above ground. The course which we have many times successfully adopted is to turn the whole crop well under, using a heavy chain for the purpose when necessary, attached to beam and whippletree. This operation is first performed about the time they are beginning to blossom, then repeating the thorough plowing in three or four weeks or before a single leaf or stem can reach the light, and two or three times afterwards by the first of October. If the work has been thoroughly done, and no plant has been allowed to breathe at the surface, the patch is effectually killed. If a few plants in fence corners or around stone heaps have escaped, they will still live. A partial remedy, but really a failure, is to plant corn or potatoes on the land, and depend on keeping the thistles killed by hoeing; but a few plants will be sure to escape a few days and perpetuate the growth. Mowing when in blossom is another partial, but not complete remedy. 2. Harris, in his work on the pig, says: "Clean out the pens, scald the troughs, scrape out all decaying matter from under and around them, sprinkle chloride of lime about the pen, or what is probably better, carbolic acid. Dry earth is a cheap and excellent disinfectant; use it liberally at all times. Wash all the inside and outside wood work with crude petroleum. It is the cheapest and best antiseptic yet discovered. In the absence of anything better, we use petroleum for all diseases of the skin in pigs."]

Breeding for Sex.—I have used a Short-Horn bull for the last three years on grade Short-Horn cows and common stock, and out of 100 calves in the threeyears have 55 males and 45 females. Is there any way that I can regulate the sex? Several years ago I tried an experiment of breeding by alternate heats to govern the sex, but it did not prove a success with me as the result was about half and half. Any information thankfully received. O. S. T. *Jewell Junction, Iowa.* [We know of nothing new to add to the already voluminous literature of this vexed question. See annual index to back volumes of the COUNTRY GENTLEMAN, under the title "ANIMALS, Sex, Controlling," for all that is now known, which we must say is not very much.]

Three Breeds.—What is the difference between Jersey and Guernseys? (1) Are the Guernseys sometimes called Swiss? (2) J. B. W. [1. Jerseys are rather smaller and finer than Guernseys, and give milk somewhat richer in butter fat, but need greater care and skill in managing and feeding, to obtain the best results. 2. We really could not say: Devons may sometimes be called Ayrshires by uninformed persons, for all we know. Of course the Swiss and the Guernsey breeds of cattle are absolutely distinct.]

Boarding a Silo.—Prof. Cook is quoted (page 84) as saying that the coming year he should board his silo only on the inside. Is his silo in a barn, or outside? If the latter, will not his ensilage freeze? At the Cobleskill Institute I was told I should have to put two courses of boards on the outside of my studding, with building paper between, and the same on the inside, to keep it from the frost. As it will take a good deal of lumber in that way I should like to hear a little more about it, as I am now getting lumber to build one, and if I can save a part of it would like to do so. P. V. W. *Oneonta, N. Y.* [I would not advise building a silo with a single wall. No doubt the ensilage would freeze next the wall, and late in winter or upon the approach of warm weather the frozen mass would fall and quite likely ferment before it could be fed. We know a double-walled frost-proof silo is a grand success. We have no facts to speak for one with single walls. I have thought I should like to know from actual experience just how a single-walled one would behave. It is possible that the frost would injure the silo. The more I think of it the more I am persuaded that we must have our silo frost-proof. This being the case we must have the double walls and dead air space. My silo is in the barn; yet the ensilage would freeze but for the one-foot dead air space. A. J. C.]

Digging Potatoes.—Being interested in the writings of T. B. Terry, on the Newberry potato harvester, I should like to ask—1. Will it separate the potatoes from the earth and place them in the cart successfully? 2. If so, would it be practicable to draw them to the ends of the rows, and deposit them in piles. 3. In turning around at the end of the rows will the cart follow the machine practically and the potatoes be deposited in the cart? 4. The circular claims that all machinery is shielded positively from the dirt, making a long lived machine—is that a fact? J. N. [If J. N. will re-read my letter in which this potato digger was spoken of, he must notice that it is a new machine, with some good points; but not yet sufficiently perfected so that one could write positively about its working or future value. The owners were more sanguine than the writer of its practical utility. I sincerely hope they may be right; but only years of actual trial can determine. I would not say a word to discourage these hard working farmer inventors; neither do I want to encourage any one to invest in such a complicated and costly implement until it is well settled how it is going to work and last. In the article mentioned the writer said he would not advise the use of either the McCallum or Hoover digger in land where there were many small stones. The manufacturers of the Hoover think I did them an injury; they have recently patented an attachment for keeping stones out of the elevator chains, and now claim that their digger will give satisfaction on even very stony land. T. B. T.]

Acknowledgments.

Communications for publication have been received during the week ending Feb. 16, from Prof. R. W. Stewart [2]—E. Davenport—J. R. M.—Herman A. Clarke—W. F. Massey—C. S.—W. A. Pollard—J. H. Baker—Prof. A. J. Cook—J. A. H.—G. B.—Aunt Chloe—Mrs Sara M. C. Aldrich—P. D. Curtis—L. S. —R. B. Bartlett—John M. Stahl [2]—Thomas Bewick—T. A. Stanley—Wm. G. Coxson—Spurr & Taylor—Edwin Wing—Wm. Falconer—Wm. S. Foster—J. F. Pease—T. S. Terry—L.—David Buffum—Mrs. Alice Chittenden—J. G. S.—Geo. B. Robinson—G. V. Young—Cesar P. Kemp—Miss Hortense Dudley—G. Keller—M. W. Phillips—R. D. Gilbert—A Subscriber—F. C. Whipple—Geo. Q. Dow—Isaac L. Kip—H. Brown—H. M. Culbertson (*please do not write on both sides of the paper*)—Hixon Hunt—R. M. Gibson—Gerald Hewitt—John W. Netherton—Prof. R. W. Stewart—Mrs A. McCall.

** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Feb. 21, 1880.

Our State Society.—Two farmers' institutes next week—Watkins, Schuyler Co., Feb. 26 and 27; Friendship, Allegany Co., Feb. 28 and March 1.

It is expected that the fair this year will be held at Albany.

Agricultural Legislation.—The president has signed the act providing for a Secretary of Agriculture in the cabinet, and appointed the present commissioner, Mr. Colman, to fill that office.

A bill providing for national farmers' institutes in the several States, was introduced last week in the Senate by Mr. Spooner of Wisconsin. It directs the secretary of agriculture to appoint a superintendent of institutes, at $6,000 salary, with two assistants at $4,000 each, and fifteen district clerks at $3,000. Not more than 400 institutes are to be held annually, and the cost is not to exceed $500,000, exclusive of printing a million copies of a report, at the close of each season.

Three bills of agricultural interest were introduced last week in the New-York Assembly—one by Mr. Nixon, requiring inspection alive of all animals slaughtered for human food (intended to protect feeders in the State from the competition of the Chicago dressed meats); one by Mr. Baker, providing for distributing among existing county agricultural societies appropriations that have lapsed under the law of 1841; and one by Mr. Stranburg, fixing tare on each bale of hops at five pounds. The Ways and Means Committee reported favorably on Gen. Husted's bill for distributing among county agricultural societies money received under the Ives pool law.

Obituary.—We observe the death, Feb. 7th, at his residence in New-York, of Mr. CORNELIUS H. DELAMATER, in the 67th year of his age. The deceased was the senior proprietor and for over 30 years the chief manager of the extensive establishment known as the Delamater Iron Works, in that city, at which the Monitor and Dictator were constructed during the war from Mr. Ericsson's designs, in a remarkably short time. As showing the capacity of these works, it is stated that Mr. D. once contracted to build a fleet of thirty gunboats for the Spanish government at a cost of $60,000 each, within eight months from date, and completed the contract with 30 days to spare. His summer residence was at Rosecon Farm, near Northport, Long-Island, where he had a beautiful estate of over 1200 acres, and had been long and largely interested in the improved breeds of domestic animals.

Northeast New-York.—The "Kingsbury & Queensbury Farmers' Club" has been organized in Washington and Warren counties, with these officers:

President—G. W. L. SMITH, Smith's Basin.
Vice-Presidents—Miss Mary Caldwell, W. J. Haviland, H. D. Vaughn.
Secretary—T. R. Cross, Vaughn's.
Treasurer—E. T. Hitchcock, Kingsbury.

Cornell Experiments.—The First Annual Report of the Experiment Station at Cornell University, Ithaca, N. Y.,—to which are added the first four bulletins already published, with some other matter—is received from the distinguished Director, Prof. I. P. ROBERTS. It is evident that painstaking and excellent work has been done; and the financial management

appears to have been successful, as $40 is still on hand of the national grant of $15,000. Payments may be summarized as below:

Buildings	$4,070
Office Expenses and Printing	1,210
Salaries	920
Equipment, Labor, &c.,	
Agriculture	1,903
Horticulture	2,220
Entomology	2,115
Chemistry	921
Botany	2,561
	$14,004

Superior Apple Trees.—Col. F. D. Curtis advertises this week an opportunity to purchase apple trees that will be certain to give satisfaction to the buyer.

An English Farmer's Accounts.—Mr. Clare Sewell Read, the well-known English agriculturist, in a recent paper gave an interesting statement as to the losses incurred in the present condition of farming in Great Britain. He said that while there might be fewer farms to let now than there were at one time, no applicants were found for the stiff lands of the eastern counties, or for the light lands which were so fashionable for sheep farms in Norfolk a few years ago. As to foreign competition, he thought the worst of it was over, but its effect had been most serious. The account for his own farm of 750 acres in Norfolk, for the year 1887, was as follows, taking the pound at $5:

Expenses.		Receipts.	
Rent and taxes	$3,640	Wheat	$2,445
Malts	415	Barley	4,145
Labor & tradesmen	7,870	Dairy and poultry	1,110
Cattle	4,085	Cattle	7,635
Seed grain, &c.	720	Sheep	3,330
Manures	810	Pigs	630
Feed	3,975	Cottage rents	275
Insurance	55	Loss	3,190
	$30,510		$30,510

To this absolute loss of over $3,000 in one year is to be added the interest on $40,000 invested in the cultivation of the farm. In former times the English farmer had been in good credit with capitalists, but now banks and men of money will no longer grant him loans, though they are quite ready to invest "in every bubble scheme or swindle all over the world."

Getting What is Wanted.—I received any number of answers to my advertisement of "help wanted." G. S. Champlin, Jr.

—— My advertisement of real-estate has proved satisfactory in every respect. J. G. Alexander.

—— We are well pleased with the results of our advertisement, "hay press wanted." Geo. L. Siegel & Co.

—— My advertisements of Jerseys and Shropshires with you have brought me a good class of customers who mean business. Geo. M. Tallcot.

—— I never get better returns from any paper than from yours. James Edgerton, Grower of Small Fruits.

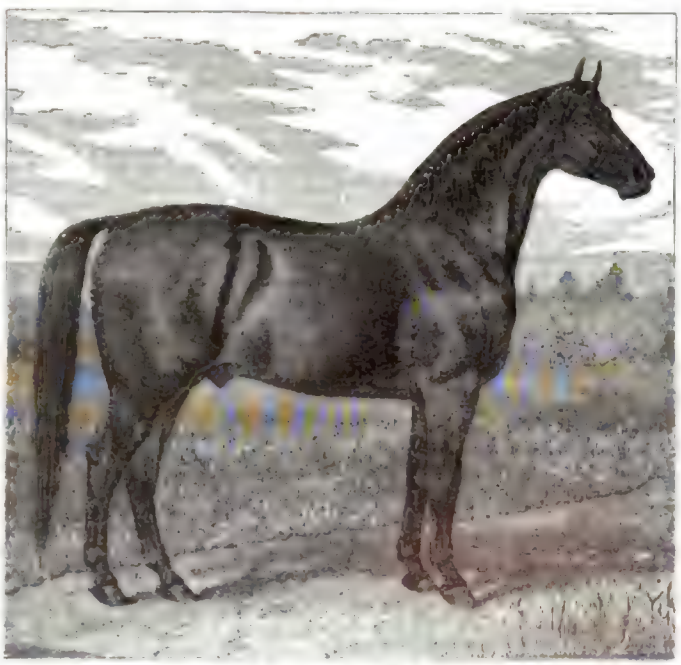
Seeding on Rye and Millet.—The Elmira Farmers' club, as reported in the Husbandman, discussed the practice of sowing grass seed with or to follow immediately rye and millet. Members differed as to the best time for the work. Mr. Collins, familiarly acquainted with the crop, said the seed of the millet might be safely sown as soon as the risk of spring frost had passed. J. McCann had found it best to sow as late as the middle of June. Others would sow rather earlier, if grass seed and clover were to be sown with the millet, but they would use less seed or about twelve quarts to the acre, that the thinner growth with millet might prevent crowding or smothering the young grasses.

For rye, a good effect would follow plowing sod in July or August, sowing the rye, and turning it under the following June, and then sow Hungarian millet. The green rye crop should be turned under a fortnight before sowing the millet, that the ground might become suitably settled, and then thoroughly harrowed. Seeding with grass and clover on millet was regarded as practicable, or quite as sure as with oats, with the exception of its greater lateness. The millet should be taken off as early as practicable to give the young grass more room to grow in early autumn, and to get the advantage of safe curing in summer weather.

To these statements we may add that in seeding to both oats and millet, it is important to sow thinly, or about one-half the usual amount; and to prepare the soil in the best manner by fine pulverization. And afterwards, if the summer proves a moist one, the grass and clover will succeed much better than in a long drouth. In seeding on rye and oats at the same time, we have always found a great contrast in favor of the rye.

The Acme Harrow.—Mr. Nash, the maker of this favorite and very useful pulverizing implement, enlarges his advertisement considerably this week, as will be seen, p. 158. A large farmer in Minnesota writes:

"I do not know of anything that will do the execution of the Acme Pulverizing Harrow, Clod Crusher and Leveler and stay with a man as long. The one I have has been in use nine years constantly, and will last another nine years when I get the coulters sharpened. The secret of its success, is that it cuts or cultivates the entire surface of the ground, and if properly managed, leaves no uncultivated ridges just below the surface."



PRIZE CLEVELAND-BAY STALLION CONSORT.

Farm-Yard Notes and Items.

We give this week the portrait of one of the grandest coach stallions ever bred in America—the Cleveland Bay called Consort, repeatedly a winner of first prizes against a strong and numerous list of competitors at the Chicago shows. He is a rich bay with black points, 16¾ hands high, and weighs over 1400 lb., but his easy, graceful action would do credit to a much lighter horse. He was bred and is still owned by Messrs. George E. Brown & Co. of Aurora, Ill., who imported his sire, Cockrobin, and his dam, Undine.

Messrs. B. B. Lord & Son, Sinclairville, N. Y., issue a sixty-page Catalogue of their French Coach, Percheron, Trotting and Road Horses. They breed the highest class of stock, and have been notably successful, as we need hardly remark, in many important competitions. Their victories at the great shows held last fall at Buffalo and at Elmira are still fresh in the minds of horsemen of this State.

The first annual exhibition of the Hudson River Poultry, Dog & Pet Stock Association, at Newburg, Feb. 7-12, was notably successful. The entries were over 1,300, embracing 1,039 chickens, 123 of other kinds of fowls, 36 of pet stock and 60 dogs. Vice-president-elect Morton, we notice, captured two first prizes on mastiffs. E. L. Raqua, Highland Mills, is president; J. H. Drevenstedt, Washingtonville, secretary; H. M. Waring, Newburg, treasurer.

The proceedings of the Third Annual Meeting of the American Columbarian Association, at Buffalo, Jan. 17-18, are printed. The society has now 52 members. D. E. Newell of New-York is president; George E. Peer of Rochester, secretary-treasurer.

The Illinois State Veterinary Association met at Springfield, 8th, listened to a number of professional papers and an address on the relations of veterinary science to agriculture, by Prof. G. E. Morrow; and agreed to support a proposed law requiring veterinarians to be registered but leaving castration, spraying, and gratuitous services without restriction. The regular annual meeting will be held at Chicago in June. W. L. Williams of Bloomington is president; J. F. Pease of Quincy, secretary.

Mr. George Calder writes us that his advertisement on p. 101, costing $3.60, sold the fifty dollar heifer very quickly; "and I was obliged," he adds, "to disappoint several applicants. This is not the first time that I have had occasion to testify to the value of the Country Gentleman as an advertising medium."

The Third Annual Meeting of the American Branch Association of the North Holland Herd Book was held at New-York, Feb. 13th. The by-laws were amended, reducing registry fees to one dollar for members and two dollars for non-members. Officers were elected:

President—P. E. Sanford, Warwick, N. Y.
Vice-President—Geo. P. Farmer, Montclair, N. J.
Secretary-Treasurer—Fred. H. Beach, Dover, N. J.
Directors—Dr. E. F. Brush, Mount Vernon, N. Y.; H. F. Shetter, Flushing, N. Y.; J. H. Gardner, Taftsville, Conn.
Inspector—Edward B. Sanford, Warwick, N. Y.

On another page of this issue will be found an advertisement of the dispersion sale of one of the finest and richest bred herds of Holstein-Friesian cattle in New-York, the property of Taylor Bros., Collins, Erie Co. The herd is largely made up from the renowned Netherland and Aaggie family with a few descendants of such noted sires as Billy Boelyn and Rip Van Winkle. The two herd bulls Aaggie Rosa's Prince and Aaggie Rachel's Imperial are as richly bred for milk and butter as any bulls of the breed. Aaggie Rosa, dam of the former, is one of the greatest members of the Aaggie family, and Netherland Prince, his sire, has produced more great milk and butter cows than any other bull of the breed. Aaggie Rachel's Imperial is as well, if not better, bred than Aaggie Rosa's Prince, such noted animals as Sir Henry of Aaggie, Deruyter, Jacob First, Jacob Second, Rooker, Netherland Prince, Prince Imperial, Lady Netherland, Carlotta Netherland Dowager, Deschot, Aaggie Rachel, &c., being found in his pedigree.

Messrs. Galbraith Bros., Janesville, Wis., write to the Country Gentleman, Feb. 8:

"Anticipating an unusually strong demand for Clydesdale and English Shire horses this season, we laid in an extra large stock of first class stallions from 3 to 6 years old last summer and fall; but as our January sales aggregate fully three times as many as same month last year, the prospects are that we will be sold closely out as usual by middle of April. Our first importation for 1880 arrived safely Jan. 23, bringing our present stock up to 190 matured stallions now on hand for sale. We can offer intending purchasers a magnificent selection not only in Clydes and Shires, but in Suffolk Punch, English Hackney and Cleveland Bay horses."

Mr. W. W. Smallwood, Warsaw, N. Y., writes that his advertisement this week is his first experiment in that direction, always having had to buy before; and goes on:

"These two horses have added thousands of dollars to this section. We are selling grade colts at three years at good prices as many a one we can raise and grow. In June of '87, two neighbors and myself went to France and purchased nineteen registered Percheron mares for stock purposes—some of them had foals the past season—also a French coaching stallion, three years old, that has done a good season's service in the stud. We sent last season by B. B. Lord & Son for a Percheron stallion by Brilliant, which will make 1800 lbs. when mature. So you see we intend to raise the best."

Messrs. Spurr & Taylor, Nashville, Tenn., writes to the Country Gentleman that their Jerseys are doing very nicely this winter, and note three births since the 1st of January: By Ethisel's Harry 12062, a bull out of Normandy Girl 1737, Jan. 9, and a heifer out of Fanny White 9804, Feb. 7; by Fancy's Harry 9777, a heifer out of Harry's Ruby 33051, Jan. 8.

At Savage & Farnum's Inland Home Stock Farm, Grosse Isle, Wayne Co., Mich., there is an instance of the docility and kindness of the Percheron stallion. Their magnificent stallion Pluviose 3755 (663), whose portrait appeared on p. 729 of the Country Gentleman for 1882, and a little 350-lb. imported Shetland pony stallion, Tom Thumb, live together in the same box stall and one of the most amusing of the many pleasing sights and incidents that one meets with during a day's inspection of this splendid stud, is to watch the capers of the two. Pluviose weighs 1850, Tom Thumb 350, and they will play and roll in the straw and nip each other for hours at a time like a couple of puppies, the big fellow always being very careful not to hurt the little one. Once in a while the Shetland will lose his temper and go for Pluviose quite lively, but the sensible Percheron will stand and look at him with an expression as near to a laugh on his face as it is possible for a horse to have, and when the pony tires himself out with his hard play, he will lie down in the middle of the stall and go to sleep, and Pluviose will move as carefully about to avoid injuring him as a mare would were it her foal.

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The Grazier and Breeder.

Cob Meal—Dairy Improvements.

Eds. Country Gentleman—It is said by high authorities that one pound of corn and cob meal, ground very fine, is equal in feeding value for milch cows to pure corn meal; that the potash in the corn cob has the special virtue of changing the tendency of the food to put on fat, converting it to milk production. If this is even partially true, would it not be well to add to the ration (everybody does not use corn and cob meal) some ingredient to supply the needed potash? Some of our State experiment stations might be induced to make experiments in this line.

The writer is now securing 22 lbs. butter per day from 24 cows—4 or 5 Jerseys, balance Jersey grades. Feed, 1¼ lbs. cottonseed meal, one heaping pint wheat bran, one pint corn meal, mixed with as much raw cottonseed as cows will eat up clean. This is for one feed, not one day. We feed twice a day. Then as much ensilage (not cut up) as the cows will eat. Ensilage mixed with some sorghum, peavines, native grasses, cornstalks grown broadcast. Averaged 28½ lbs. butter per cow in December, when the ensilage was nearly all sorghum, grown broadcast. The herd averaged over $66 per cow last year; over 270 lbs. butter per cow. Use a hand separator operated by lever or sweep power, and would not be without it. A machine such as we use will easily separate the milk of 50 cows per day (400 lbs. per hour). Dixie. *East Mississippi.*

Dixie's statement concerning the relative value of corn and cob meal ground very fine and of pure corn meal, is qualifiedly true, but the supposition that the potash in the cob is what gives it its extra value is all imaginary. The reason why corn and cob meal will produce as good a result in milk as pure corn meal, is simply that the ground cob separates the particles of meal and gives bulk to it in the stomach, making it porous so that the corn meal is more perfectly acted upon by the gastric juice. But the same weight of the cob in short-cut oat straw mixed with the fine corn meal will produce even a better result, because it has a greater bulk according to weight than the cob, and carries the meal into the stomach in a still more porous condition, and will cause the meal to be raised and remasticated by the cow. The better digestion of the meal is the secret of the cob's virtue. The cob of corn, fairly cured in crib, is counted to weigh 14 lbs. to the bushel. This is 1 lb. of cob to 4 lbs. of corn meal, and when 4 lbs. of corn meal are mixed with 1 lb. of short-cut oat straw, there would be the same relative proportion, but it would be better to feed a larger proportion of straw. The ordinary feeder persists in feeding full corn meal alone, or separate from the coarse fodder, and when so fed at least one-fifth of the meal passes into the droppings undigested, which is saved when mixed with the cob or with other coarse fodder.

Feeders have been very slow to recognize the fact that nature feeds grain and stalk together. Animals in a state of nature eat whatever there is of grain or stalk together. When the animal is placed under artificial conditions and the concentrated grain is fed separately, there follows a large waste of the nutriment in the grain. Western cattle fed upon corn in the ear require three times as much grain to produce the same result, as when the grain ground is mixed and fed with coarse fodder, and is raised with the cud and remasticated.

2. D. will no doubt succeed in reaching 1 lb. per day from his grade Jerseys, and he would probably have reached it ere this if his small amounts of bran, corn meal, and cottonseed meal and raw cottonseed had been mixed with cut fodder, so as to become completely digested.

The writer reached 6½ lbs. per week per head with ten grade Jerseys, including three heifers with first calf, and these heifers had been in milk seven months. These ten head produced 65 lbs. of butter per week during February, March and April last year, also producing the milk used in two families. But the ration was a stronger one than Dixie gives, and the grain feed was all blended with cut hay and ensilage. The ration was as follows: 30 lbs. corn ensilage, 4 lbs. cut meadow hay, 4 lbs. malt sprouts, 4 lbs. wheat bran, 3 lbs. corn meal, 1 lb. O. P. linseed meal. This was given in two feeds, morning and evening. It should also be stated that these cows were fed by the same man, milked by the same persons, and all done at the same times on every day in the year, and this regularity has much to do with the result. Irregular feeding and milking lose many millions per year to the dairymen of the United States.

Dixie's 2½ lbs. of cottonseed meal per day helps much in balancing the raw cottonseed which he feeds. It improves raw cottonseed much to grind it. It is then easily mixed with other feeds. D. need not be troubled about his scarcity of corn meal. His ration has abundance of carbohydrates in the ensilage and cottonseed oil. His great necessity is to get his ensilage and other fodder cut, and well mixed with the concentrated part of the ration.

E. W. S.

Veal Farming.

Eds. Country Gentleman—I notice letters on p. 53. Having tried veal-raising for three years with success, I take pleasure in giving the method we follow, by which more money can be got out of an ordinary farm dairy than from making butter or cheese.

First, when the cow comes in, begin to feed grain in small quantities, giving but little corn meal at all. I prefer shorts, oil meal, old process, and oat shorts, given with hay. Where there is no ensilage, wet the hay, cut or uncut; then put the grain on it, so that the cows will have to eat the whole mess. Feed all the cows can eat at regular hours, in two or three feeds, as best suits your convenience. I used to feed three times, but this winter twice, with better success. Be sure and give your cows all the water they can drink, and a little salt every day, and you will find the flow of milk to be almost as much in March as in the flush of feed in June.

Put two calves on a cow as soon as you can buy them. If the cow is inclined to kick, take an ordinary holdback strap, wind around above the gambles, cross and buckle up tight, and you are ready for the strange calf, which must be hungry. Then put both on the cow at once, her own calf first. Stand by the cow for a couple of times, and the work is done. Do this every time you change calves, for if the cow kicks the calf a few times, he gets afraid, and will not do as well. Tie up your calves and keep them so. Have regular hours for letting them suck, and see that they suck the cow perfectly clean.

If you have quite a number of calves—some young, some nearly fattened, and a few ready to ship—and are shipping three or five to-day, then see how many you can have ready for next week's shipment. Let those you select have all they can possibly eat, and you will find they gain two pounds each day. Keep buying small ones, and changing as soon as your calves are fat and will weigh, hog-dressed, 80 to 100 pounds. When you change calves, do not change both at a time, as if you leave one, the cow will not mind it; if both, your cow will not do as well. When you put a young calf on a strange cow, do not give it over half it wants for the first three or four days, but increase as the calf grows, as sometimes the milk is too strong, and will cause them to scour, and some years a good many will die. As a preventive, I use a dessert-spoonful of slaked lime in half a pint of cold water. The first dose will usually be enough; if not, repeat in twelve hours. This is the best medicine I have ever used, and have never lost over three or four.

Keep your cows warm in the barns and stables, and there will be no trouble with sore teats; let them stand in the barnyard through all the March winds (the old way), and every teat will be sore, and one calf to every three cows will be enough. But that is not the way we do it.

Keep on the watch for calves, and many times you can buy them almost fat for a small price, and the oftener you change the more money you make. Buy good, large, bony calves, as the more bone and larger the calf, the quicker he is ready to weigh 100 pounds. A small calf is no profit to buy, as it takes too long to get returns. If you send your calves to the city, see that they are nicely hog-dressed, as they bring a better price, and in warm weather pack in ice. As the season advances, get a good stock of young calves, and give them just enough to keep them growing until you need them. I use them for strippers, and usually keep one or two for that purpose, and they will soon learn to go from one cow to another, and it saves a person stripping them. When I am bothered to get young calves, I sometimes buy those that have been as young as I can get them, commencing first as I would with any young calf. After they have got a taste of new milk once, they will suck every time.

When I cannot buy those, I take the milk to the cheese or butter factory, and as fall butter or cheese usually brings the highest price, I am ready for that. But some years I can get calves the whole season through, and think I can make more money that way than any other. If your stock is high-priced, or you want to save calves, it is not so convenient, for you have no milk.

Nearly every one takes the Country Gentleman about here, and those who do not, *will*, for we are having farmers' institutes every month, with plenty of practical professors, on every side of us, and if we do not improve, 'tis our own fault. H. Clay Ackley.

Madison County, N. Y.

Stanchions Best for Cows.

Eds. Country Gentleman—In your paper of Jan. 17, I notice J. C.'s answer to J. G., about stanchions (p. 53). I will give my experience with them. My cows have always been kept chained in stalls 4 feet wide, until the present winter. Last fall I put in stanchions with posts 3 feet 4 inches apart from centre to centre. Each cow's manger or feeding trough is partitioned off by itself, so that she gets only her own allowance of feed. The log which separates the clay platform on which the cow stands, from the manure gutter, is placed 4 feet 6 inches from the feed-trough, outside measurement. Usually the manure gutter is 6 or 8 inches deep, but I object to this depth, on the ground that the cows will slip off and strain themselves, thus causing abortion. My gutter is 3 inches deep next the log, and slopes to 4 inches in the centre of the trough. The platform has slope enough away from the feeding trough to carry off all liquid that happens to fall into it, and the manure gutter has slope enough to carry all liquid out of the stable.

I help feed and milk my own cows, and often, when chaining them in the old stalls, would get pretty badly hurt with their horns, and, worse still, the hind legs and hips of the cows were covered all winter with a thick coating of manure. This was good neither for the flavor of the cream nor for the health of the cows. With the stanchions I now have, there is plenty of room between the cows to sit when milking, there is never any filth on the cows, and they look better and yield heavier than they have done at any time since I have had them under my care.

In regard to their suffering in stanchions, I consider that fear as groundless. My cows are in the stable day and night, except for half an hour morning and evening, when they are turned out to water. The first place that suffering or inconvenience shows itself is in the milk-pail, and as my cows have increased steadily in milk since being put in stanchions, I consider whatever suffering they undergo good for them. *J. J. Montgomery, Md.*

Developing Heifer—Rations for Calves.

Eds. Country Gentleman—Please give me the proper quantities of the following for a Jersey cow two years old Sept. 18, 1888; weight, 700 lbs.; dropped calf Nov. 4, 1888. I wish a ration for quality as well as quantity of milk; do not want it so large that there is any danger of over feeding: Cob meal, 85c. per 100 lbs; clear corn meal, $1.05; ground oats, $1.20; wheat bran, 95c.; wheat middlings, $1; oil meal, $1.50. My hay is meadow and timothy mixed.

Also I would like the proper ration for heifer calf three months old, and bull calf nine months old. Would this bull calf (which is large and growthy) be able to get my two-year-old cow in calf if he can serve her? Would the calf got by such a union be strong and healthy, and make a valuable cow, or would the age of this bull calf be objectionable?

Montgomery, N. Y. T. B.

If T. B. has read carefully the rations given for young Jerseys during the last two months, he has seen some that fit very close to his case. But if he wishes to develop his heifer into a persistent long-milking or long-season cow, she should give milk some 14 months with her first calf, and therefore should not be bred till 6 or 7 months after calving, or till May next. His bull calf will then be old enough for service. By milking the heifer with her first calf this long season, it tends to establish the long-milking habit. We have found this practice to succeed best.

2. B. may give his heifer the following combination: Twelve pounds of mixed cut hay, 5 lbs. cob meal, 5 lbs. wheat bran, 2 lbs. middlings, 1 lb. oil meal. The cob meal, bran, middlings, and oil meal must be mixed well together, dry, and then well mixed with the moistened cut hay. This should be given in three feeds, smallest at noon. When the heifer gets used to this, say in three or four weeks, add another pound of oil meal. This will be a good developing ration. But it may be found too much at first, and the feeder must give less of it. B. will understand that all heifers of the same weight cannot digest precisely the same amount, and therefore we do not give exact rations per head, but only the combination of food in about the average quantity eaten by such cows.

3. He does not say whether he has skim-milk for his heifer calf. This is always an advantage up to six months old. It may be presumed that he has no milk for it. In which case, let the food be ¾ lb. wheat bran, ¾ lb. middlings, 1 tablespoonful of flaxseed, stirred into and boiled for 20 minutes in 6 qts. of water. Let this be fed warm, half morning and evening. Then moisten 4 qts. cut hay and mix with it ¼ lb. bran, ¼ lb. middlings, ¼ lb. oil meal. The calf will eat this through the day. Let it be fed in this way for three weeks, when the calf will get accustomed to the cut and mixed feed, and the liquid part of the ration may be omitted. The day's ration will then be the following: 1½ lbs. of cut hay moistened, 1½ lbs. of fine bran, 1 lb. of middlings, ½ lb. of oil meal. This will be well mixed together and given in three feeds. At the end of three weeks the hay will be increased to 2 lbs., and the middlings to 1¾ lbs., bran, 1½ lbs., oil meal, ½ lb. as before. This ration will require a slight increase each month until the hay is 3 lbs., bran, 2 lbs., middlings, 2 lbs., oil meal, 1 lb.—this will be enough to nine months old.

4. The ration for the bull calf may be as follows: 5 lbs. cut hay, 2 lbs. ground oats, 2 lbs. bran, 1 lb. middlings, 1 lb. oil meal. This is a day's ration, to be given in three feeds. It contains the elements to grow the muscles, bones and frame, and develop his masculine power. He will be ready for service at a year old.

The proportions of this ration are all right, and will need only an increase in quantity as he increases in weight. This food is also appropriate for the heifer at nine months.

The proper development of a heifer or bull calf requires the same food elements, but the bull calf may be fed a little stronger.

It will be found profitable to keep on hand a little flaxseed, to be boiled to a jelly in six times its bulk of water and mixed in the food in small amounts occasionally, to keep the digestive organs healthy. E. W. S.

Previous Impregnation.—Noticing in recent issues inquiries on this subject, I would say that many instances might be given to establish a rule. It is recorded of a mare bred to a zebra, and subsequently to a horse, that the horse colt had visible stripes around its legs and across its back. A white woman having raised a large family of negro children, showed symptoms of the negro in her eyes and countenance. I once saw a family, the father a fair-complexioned Frenchman with blue eyes, the mother a fine type of Indian squaw. There were ten children; the eldest showed the Indian predominating, while it gradually diminished until the youngest child was a very pretty white. Numerous instances might be given, but these are enough for the purpose. The only way I can account for the mystery, is that the fœtus being connected with the mother by means of the umbilical cord, the blood of the mother circulates with and commingles with the blood of the fœtus, and *vice versa*, and becomes corrupted. If this be true, then it settles a great principle in breeding—that the blood of the mother makes a greater impress on the offspring than that of the male parent. A hint to wise breeders of fine stock is sufficient. Advice to people is useless, as Providence has wisely blinded them. F. A. *Columbus, Ohio.*

Cottonseed Meal not Pure.—Last spring I bought four tons of cottonseed meal in Richmond. On examination it showed a quantity of black specks, fragments of hulls. Not being acquainted with the article, but suspecting something was wrong, I sent a sample to Prof. E. W. Stewart, who pronounced it to be "good undecorticated cottonseed meal, worth very little more than half as much as the best decorticated." His letter was published in your paper for 1888, page 187. As I bought this stuff for decorticated, and paid $25 per ton, this showed a heavy loss. Repeated search in Richmond failed to find any cottonseed meal of better quality. All shows too much husk.

A few days ago I wrote to a feed firm in Mor-

folk, stating my difficulty, and asking them if they had any genuine decorticated meal. They promptly and honestly replied that they had not; that their was undecorticated. The Richmond people, however, sell the stuff as decorticated. As this swindle is probably not confined to Richmond, it will be well for farmers generally to know what they are buying.
Louisa County, Va. GEORGE CLENDON.

Unruly Bull, p. 54.—In reply to "T. W. F.": I saw two grown bulls, last summer, that had their horns sawed off below the skin, without any bad results, and they were rendered kind and gentle. Mr. John W. Cauthew of Hancock county, Ga., had a very vicious Jersey bull—so very bad that no one was safe within a hundred yards of him. A son-in-law, Mr. Grant, laid him on the ground, had four or five good men put a pole across his back, to hold him still, and sawed his horns off below the skin, having dissected a place for the saw to run. Mr. Grant says the bull made no manifestation of any pain whatever, and in one hour was after a cow that was in heat—as if nothing had happened to him. He is now safe and kind. So, practically, the horns are useless, and it removes all danger to saw them off, and more humanity is shown than to run the risk of death by such a beast. Dishorn the bull in April next. W. H. B. *Cullowee, Ga.*

Burn Infectious Matter!—Pasteur found, when investigating that terrible disease, anthrax, or splenic fever, that the microbe or organism that caused it (*Bacillus anthracis*) is exceedingly tenacious of life, and is enzootic in some localities. Most remarkable of all, he discovered that where cattle that had died from anthrax had been buried six feet deep in a loamy soil, the bacilli ultimately appeared in great numbers in the soil at the surface. Sheep fed on grass that grew over the spot, contracted the disease, and died of it. The soil at some little distance from the graves yielded no microbes of anthrax, and sheep pastured on other portions of the field remained healthy. It is now well established that contagious and infectious diseases are each due to some form of minute organism, and the specific form of most of them has been discovered and cultivated outside the animal body. Many of them are known to endure great extremes of heat and cold, and long periods of latency. Some species of *Anguillula*, to which belong the vinegar eels, and the form present in clover sickness, will survive through repeated and protracted dryings. The thought suggested by these facts is—is simple burial of infected bodies sufficient? Is anything short of cremation effectual in ridding our farms of pestilence?
Michigan Agl College. EUGENE DAVENPORT.

Feeding Raw Potatoes.—I wish to corroborate from experience what Mr. Talcott says (p. 72) in regard to feeding potatoes to live-stock, especially milch cows. The article is timely and valuable for many dairy men who have potatoes on hand and do not wish to sell them at present prices. I have repeatedly fed them without grain and also with, but the best results for milch cows were in feeding them cut or crushed in buckets or boxes with meal on top. Buyers are offering only 25 cents for prime potatoes here now, and I think the better way is to feed and plant rather than to sell at that price. I have been feeding turnips to cows this winter, raised by sowing with a drill seed of the Yellow Globe variety between rows of potatoes at the last hoeing in June and no further care except to thin them a little where too thick. I have gathered them by the wagon-load and fed a half bushel apiece at once, tops and all, without cutting. They gnaw the large ones as they would pumpkins, with much benefit to themselves, and the hay they consume is largely balanced by milk yield. I have some in the ground yet, damaged very little by the moderate winter weather prevailing so far. W. H. S. C. *Kennedy, N. Y.*

—On p. 106 is an inquiry about feeding potatoes to cattle as a complement of ensilage. Some years ago in connection with other farmers I tried a number of experiments to ascertain the value of potatoes as feed for stock. When cooked and fed to hogs they were found quite valuable, but as feed for cattle we found their best effect was reached by feeding them uncooked in limited quantities. We assumed that a large part of their effect in this case rose from their keeping the systems of the cattle in good order. Feeding half a peck at a time, once a day or three times a week, gave the potatoes a value of about 25 cents per bushel. But if we should feed them largely, instead of meal, the result would be ruinous.
Odessa, Md., Feb. 9. L. B.

The Dairy Department.

Calves for the Dairy.

EDS. COUNTRY GENTLEMAN—"H. S." p. 83, failed to give his experience in regard to the effect it would have on heifer calves, to prepare them by high feeding, for the show ring. Or should they become very fat from any cause, will it detract from their future usefulness for dairy purposes? E. H. P. *Barlow, O.*

My remarks were intended to apply to the rearing of heifers for the dairy, and not for the show ring. I do not consider the show ring to have any relation to the business of a dairy, and would not advise any one who carries on a dairy to feed his calves or cows to make them fat for the purpose of taking a premium. Any animal that becomes very fat by any sort of feeding is wholly unfit for the dairy, and should be gotten into the butcher's hands as soon as possible.

My plan of feeding on warm skimmed milk is not conducive to fattening, but makes bone and muscle. The skimmed milk contains less than half a pound of fat in 100 pounds; if it contains more, the dairyman is losing money, and throwing away butter, which is too costly to feed to calves. It contains the nitrogenous matter to make flesh, the mineral matter to make bone, and the sugar to sustain the animal heat. It is thus a perfect food for the healthful growth of the young animal, but lacks the fat for fattening it. Consequently, when given in the right quantity, it will make just the animal required for the dairy—a cow with strong, healthy bone, without tendency to the too prevalent diseases which affect the bones, especially the fatal "big jaw" (*Actinomycosis*), which carries off so many good cows, especially among the Jerseys; with large muscular and udder development, large digestive power, and ability to make a large quantity of rich milk from the abundance of the food that can be healthfully disposed of.

This is the result of the feeding I advocated and have practiced for many years with success, and not the production of fat, or any tendency thereto, which is wholly ruinous to a dairy cow. E. S.

Dairying in Northern Ohio.

EDS. COUNTRY GENTLEMAN—I have been a reader of your incomparable paper for the last twelve years, and have often thought that your writers and correspondents bring out general facts much better in reply to specific questions, than in the ordinary essay or newspaper article. I will therefore state my case, hoping that others as well as myself will be benefited.

I have a good and fairly productive farm of 200 acres—the old homestead—which I do not care to leave if I can manage to reach even a moderate success. I have the reputation of being a good farmer—that is, I raise crops of wheat, oats, hay and corn that are rather above average, and I think the productive capacity of the land (pastures excepted) has at least not diminished. I find that the care and work of the farm take all my time and thought during the summer, and the repair of tools, machinery and buildings presses upon one at all times and seasons, and I am constantly annoyed by the small leaks and losses, which are the result of not being able to give everything attention at the proper time. This, perhaps, is the reason why I have been no more successful at stock-breeding and feeding—at least when coupled with the low price of beef (I recently sold some smooth grade heifers at 3 cents per pound), which can only result in loss.

During the past year I have repaired and refitted my barns, so that I now have capacity for storing about 100 tons of hay. We have 180 feet in length of horse and cow stables, and something over 3,000 square feet of sheep and young cattle pens, with large feed floors and 7-foot alleys. I shall also finish in the spring, and fill next fall, a 100-ton silo, which can be enlarged as occasion demands. All the stock is watered in the barn.

Now for some time I have thought of turning my attention to winter or "all the year round" dairying, but I am confronted by two facts: One is, I have no practical knowledge of the buying, breeding and management of dairy cows, and the second is, it would be impossible for me to milk more than three or four cows, and I should thus be placed in a position of entire dependence on hired help.

The plan which I have in mind is something like this: To get a good man who has had experience, and who has cows or capital enough to buy them to put them on my place, to the number of 25 or more, and give his entire time to caring for them and their product. I on my part to furnish pasture in its season, hay, corn fodder and ensilage, with such an amount of soiling crops—bran, oil meal, &c., per cow as may be agreed upon—in short, that he in the way of cows and care, and I in furnishing the best of feed, and plenty of it, may together make a success, and money for both parties.

Now if any of your correspondents or readers have had any experience on either side of this question, or have any knowledge of its working, I wish they would give us the benefit of it, and also the general details of the contract. In particular I would like to call the attention of Messrs. T. B. Terry and John Gould to this question, as they are from my own State, and the "speciality" part of it is directly in line with their teachings. D. C. *Medina County, O.*

The probabilities are that in Northern Ohio dairying is the sheet anchor of profitable farming. Wheat can not for years to come be profitably raised on the Western Reserve in competition with the West. By this I mean depending upon it for the main money crop of a farm. The plains and ranches of the West will also undersell us in beef, as Mr. C.'s sales of stock indicate. The only way for the farmer of Northern Ohio—outside of fruit and truck-gardening—is to make 365 days of summer on the farm, make the dairy the chief industry, turn the grain raised on the farm into home feeding for milk, and sell the grain condensed in the form of butter, and fine young pork and veal.

Mr. C. has a large farm, and barns all built. The silo is to come—but build one that holds 150 tons instead of half that. Dismiss all thoughts of partnership business, and "boss" and direct your own affairs. Your farm of 200 acres should, with the fertility you describe, soon be able with a good silo to carry from 60 to 75 cows and 25 head of young stock. While it is not wise to start with that number, it is very easy to *grow* into that proportion. As possibilities present themselves, be prepared to accept of them. Dairying is a business in which one must be a constant student, so in addition to the COUNTRY GENTLEMAN take two good, thorough dairy papers, of which the first choice should be Hoard's Dairyman, the best dairy paper in the world.

In buying cows, remember that a well selected native is far preferable to a skim milk or minimum-producing thoroughbred. Buy good, not too large, cows, and breed them to a sire of dairy type; not a "beefer," as you are already discouraged about raising beef. Aim to have cows come in in October and November. Do not yet engage in "all-the-year" dairying; wait until winter dairying is overdone, which will not be in twenty-five years, and then adopt it, as a resort between summer and winter dairying. Let the dairy go dry when summer prices are low, and you want to fill silos, &c. Then when October comes be ready to push the dairy for at least nine months, possibly ten. Have your stores of food ready in form of summer-purchased bran, clover hay, ensilage made from the best of matured silo corn; stables double-boarded and lined with building paper and all ventilation needed, and never let the cows know that there is any going into winter. Put them into the winter early in the fall, then there will be no drop in yield of milk. Resolve that you will treat the mother cow in the best way possible, treat her like a dairy cow and not like a rustling steer; allow no cruelty or needless exposure. Make a study of milk production and feeding rations. I would rather start a man out in dairying who knew nothing of the business, but who was willing to learn and anxious to acquire information, than to take chances on a man who "knows all about it," and who discards all information save what he has "gathered from his experience."

The dairy secured, in whole or part, start at once to breed into a certain type or line of stock, and keep in that line. Don't breed Holsteins this year, Jerseys next and Herefords the year after, but intensify the blood you introduce, and make it strong by raising only the best and thus fix the type. Feed the heifer calves and heifers as though they were already in milk. Don't try to fatten them or cultivate the lymphatic temperament at the expense of the muscular. Yes, rely upon hired help. I do not now recall a single large dairyman who is independent of hired help. Better have two good men and have all the income of the dairy, than to give half for doing what one fourth of the actual increase of the dairy will amply repay. The woods are full of smart, faithful young married men, who will quickly respond to a well paid, steady job. At least it is so hereabouts. Such men ask good wages and expect to earn them, and several such that I know are fully competent to run a farm, and will, some day.

If you propose to furnish food for the stock, then furnish it to your own, not company stock. After the expenses are paid, the net profit of a 25-cow dairy will look pretty small when divided in halves, and only one of the halves yours.

What kinds of food, you may ask, do I want the most of? My own experience is that I have never found any ration so good or cheap as 50 lbs. ensilage, 3 to 6 lbs. clover hay, and from 6 to 10 lbs. good bran. The corn should be thinly planted, not sown broadcast, allowed to stand until mature—grain dented—and then cut into the silo, grain and all. This ration should be fed to producing cows that are putting feed into milk, not using it to warm ice-water, or taking the chill off from barnyard air.

The question of selling produce now comes in. Your place is not situated favorably for selling winter milk for city consumption, so you must rely upon making your own butter, or selling milk or cream. Two of these plans leaves the skim-milk on the farm to feed pigs, and if fed to them sweet and warm, with corn meal, the experiment stations put the value of the milk at 25 cts. per 100 lbs. to make 4-cent pork. If butter is made, make it by the best known way, and the kind that the market wants, and send it when they want it. Do not make long keeping butter, but sell it as fast as made. Butter is made to sell, not keep. Sell it in a better market. Do not "trade it out," but get money for it. Do not do just as the majority of farmers do in your county, and then join with them in the wail of anguish that "dairying does not pay"—by their plan and system. Pattern after such men as F. D. Curtis, Hiram Smith, C. R. Beach of Wisconsin, Henry Swan of Kent, Ohio, &c. The man who has both "experience and capital" will be a hard man to find to go in company with. It will be easy to find dairy failures enough to run your farm, as they have farms in the past, into insolvency, and if you fail, fall on your own responsibility, not on the irresponsibility of some one else. By the plan of winter dairying, one has his entire winter to devote to his dairy, and when the rush of mid-summer work comes, they are then "shippers," and can stand a little neglect if need be. An extra pit of ensilage provided against the day of summer want, when drouths and fierce heats wither and burn, will be your best soiling crop. This eliminates the great number of crops, and concentrates the labor and fertility on these three—oats, ensilage corn and clover. Do not be afraid to feed bran, for every ton of fifteen-dollar bran you feed makes the manure into which it goes, $9 richer in plant food. No system of dairying is complete that loses any of the fertility at the barn. Save all there, liquid and solid, and do not be afraid of manure drawn to the fields in the winter losing value, as compared with the usual leak from washing manure piles, and stable floors with cracks.

Do not spend any time in trying to patch up old plans and systems of dairying. Start from a new station. Take the accepted success of 10,000 leading dairymen in this country, and go with *them*. Do not start out with the "Old Man of the Sea" on your shoulders, but with the best methods that can be found. Pay no attention to those who are still governed by moon signs, and decry all progress as "book larnin." Start out to dairy, and dairy with a dairy cow. Make dairying and raising dairy cows your aim. Let some other man, who likes beef-making better, raise the beef. Do one thing, and do that the best, and let the other farm industries count in as helps and aids, not to divide the chief effort, and each day will show new possibilities. One success will beget another; twice failing in a certain method is fair warning not to make the third. Lastly, have plenty of abundant and cheaply grown and prepared food; feed heavy; do not feed a poor cow two years, so as to sell her for beef; sell her the first chance, and buy or put a home-raised heifer in her place.

This is my opinion, as I see it, and what I try to live up to. That thousands are succeeding by this general plan, is evident; that tens of thousands are failing to do more, if even getting a living out of the dairy, is evident. But the times not only change, but the methods by which we farm and dairy must be made to conform with them, or else we financially die.
Western Reserve, O., Feb. 2. JOHN GOULD.

Cream Spoiling.

EDS. COUNTRY GENTLEMAN—In winter the cream that is brought from our dairy and put by a stove to turn, always becomes cheesy and rancid, giving the butter a stale taste. Can you tell me why it is and a remedy for it? The milk pans are always nicely cleansed and aired. MRS. F. *Charlottesville, Va.*

Although nothing is said of the way in which the milk and cream are kept, so as to afford a guide for advice, it is certain from the results that they are kept there too long or too warm before the cream is churned. It is quite possible to keep milk and cream so as to churn once a week in the winter and have very good butter. If the temperature of the milk is as low as 50°, and from that to 60°, the cream may be skimmed after the milk has stood two days, and be sweet; the cream may then be kept at 40° to 45° for four or five days without injury, if at every addition of fresh cream it is gently stirred with a large spoon from the bottom, so as to thoroughly mix the old and the new cream, and thus neutralize any excess of acid. The last day before churning the cream jar may be brought into a warm room so as to warm it to 60° or 65° all through, and there will then be no danger of rancidity or a cheesy taste or smell. It is necessary to avoid heating the sides of the cream jar too much, or the

sour milk in the cream will become hard curd, which when stirred will form small white specks which cannot easily be separated from the butter. The cream must be warmed through gradually. A good way is to set the jar in water heated to 80°, and stir gently so as to bring all the cream to the sides of the jar.

H. S.

Combination for Butter.—Please give properly balanced ration for producing butter from Jersey and Holstein cows, weighing from 900 to 1,400 lbs., composed of clover hay, corn ensilage, corn meal, cottonseed meal and wheat bran; last three, $20 per ton. Ensilage corn was cut in half-inch lengths and put in silo when it had commenced to glaze, ears and all; clover was cut when blossoms had commenced turning. Barns are warm and dry, and cows well cared for. J. V. P. *Memphis, Tenn.* [The ration asked for has been published in these answers a number of times, or those approximating to it very closely; and it is suggested that those who regard these answers as valuable should keep a file of the COUNTRY GENTLEMAN, which may easily be consulted. We will give a combination of food appropriate for these cows, but not a ration per head, as that would be impossible for cows ranging from 900 to 1,400 lbs. The definite quantity for each animal must be apportioned by the careful feeder. The combination may be the following: 30 lbs. corn ensilage, 8 lbs. clover hay, 6 lbs. corn meal, 6 lbs. wheat bran and 2½ lbs. cottonseed meal. In analytical formula, it shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
30 lbs. corn ensilage	0.39	3.60	0.15
8 lbs. clover hay	0.69	3.20	0.12
6 lbs. corn meal	0.50	3.78	0.39
6 lbs. wheat bran	0.79	3.72	0.15
2½ lbs. cottonseed meal	0.87	0.56	0.35
Total	3.24	14.86	1.16

This has a nutritive ratio of 1 to 5.1. It is a ration well adapted to develop a rich milk secretion. It is adjusted to a proper balance, even to the half pound of cottonseed meal. The relative proportions of food may be the same for different sized cows. This is a full ration to feed the large cows, and the small ones should receive a quantity in due proportion to capacity for digestion. In this consists the skill of the feeder. When it is well understood that the animal is plastic in the hands of the feeder—that it may be developed in various ways by various combinations of food elements and modifications of surroundings, he will then work intelligently in the production of certain types, and there will be a much greater uniformity in animals of every class. Experiment stations are now beginning to work to this end, and they will ultimately have a great influence in bringing about the improvement. E. W. S.]

Transfers of Thoroughbred Cattle.

[American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Allen O'Neal, G W Losh, J H Edwards		
Ballad, Richardson Bros, F M Hay		
Biron Fawkes, T B Harvey, J J Bishop		
Brunette's Rioda, J H Walker, J H Simonds, A F Brady		
Commessie Royal, H D Baker, J Heisler		
Count Yamada, C E Hill, J H Law		
Dumbarton Pogis, A D McBride, J H Bleman		
Earl of Reardon, J H Baker, H Brown		
Gerard Sheldon, T W Bull, D J Sears		
Gray Rioter, A B Darling, J C & D Pennington		
Hector Chief, J W Kelly, R McMillin		
Hero of Batavia, C A Graves, J D Fields		
Kittenny Boy, J T Dunigan, J Manwaring		
Manwedon, R F Cranston & Sons, A A Ehrich		
Mediator, Richardson Bros, G S Atkinson		
Nibbetts's Pedro, F A George, O F Harlow		
Old King Cole, S L Baker, J D Johnson		
Oilbelle's Albert, R F Traytes & Sons, J S Bates		
Ona's Catamo, S Litsee, T W Lipscomb		
Prince Rinaldo, G W Farlee, H Hopkins		
Real Queen's Stoke Pogis 3d, H G Westlake, C N Gilbert		
Rex of North Carolina, D I Fort, W S Smith		
Royal Beauty's Duke, W Clark, W J Wyman		
Sanchez of St Lambert, Mrs J Gray, J D Carter		
Seltzer, J R Wylie, Miss M M Calhoun		
Signal Actinate, J G Crevolin, A J Manny		
Sir George Actinate, C M Lakin, W H Sargeant		
Spanish Peak's Pogis, J A Weightman, W J Hood		
Squire La Rose, H B Batts, J Y Henderson		
St Martin's Duke, Hill Bros, C E Hill		
Victor Rapidus, J H Walker, J H Simonds		
Wahalak, H L Muldrow, J D Morgan		
Watson, Jr, J G Jackson, R H Coppedge		
Xerxester 3d, D F Gulliver, J E McDonald		
Agile, H O'Daniels, R F Holly		
Alphea Vendrada, C E Hill, W Stoddard		
Annie McClintock 2d, T Reed, R A Potter		
Baroness of R. Meadow, F L Hopkins		
Beauty's Style, H H Wheatcraft, J T Henderson		
Beechwood's Belle, W H Crawford, S McKeen		
Berri Pogis, Mat W Ward, G Blanchard		
Beta C, C E Hill, M J Hood		
Bet's Favorite, C E Hill, W S Weightman		
Bettina Haughton, J Manwaring, C J Lottingwell		
Betty Goodwin, W W Bull, R A Potter		
Blossom's Rose, H H Wheatcraft, J T Henderson		
Boonia Lou, Est of J L Turner, J Manny		
Carine Pogis, F R Day, J S Clark		
Cecil C 2d, W S Weightman, M J Hood		
Celestia 3d, J C & D Pennington, A B Darling		
Charlie Dickinson, W C Garth, A Hume		
Clasp, T R Preston, H L Stewart		
Clouden, F R Day, J S Clark		
Conscript, Richardson Bros, J Waimder		
Coomessie Amy, W F Harvey, J G Caldwell		
Cosy Golf, C Golf, H Golf		
Countess Charlie, N C McLean, C A Baker		
Count Oxford's Ida, T K & H H Feller, R H Fuller		
Cox Belle and Croton Napoleon, W J Hasselman, J T Henderson		
Dant of Seneca, Mrs M O'Daniels, R F Holly		
Doreen Lady, W J Hasselman, J T Henderson		
Dinah Dunraven, L M Fenton, Baldwin & Murph		
Dixie of St Lambert, D F Gulliver, J Manwaring		
Dot Bloomfield, H H Wheatcraft, J T Henderson		
Ellen Duff, Porter & Wylie, Miss M M Calhoun		
Elsie Burnside 3d, C G L & G W Bedell, C H Jones		
Emblo of Rock Hill, W H Smith, M K Reading		
Etta C, C G L & G W Bedell, L Smith		
Eula, J Manwaring, C J Lottingwell		
Eva Luckie 2d, Porter & Wylie, Miss M M Calhoun		
Flora of Irvington, R Peaton, Jr, J C Smith		
Francos C W, G F Ward, H Neafie		
Front Edge Moestar, F Morris, J Chapin		
Gertrude Cleery, T E Y Hill, J C Hart		
Gleecane Pogis, Est of W Ward, G Blanchard		
Goshen Queen 2d, S Gardner, W Cuno		
Grace Fowler, Porter & Wylie, Miss M M Calhoun		
Gussie W, J S Wylie, Miss M M Calhoun		
Hartford Lass, G S Foster, C L Tuttle		
Ida Hugo, F R Day, C Wiegand		
Ida T, W H Throckmorton, C A Webster		
Inula's Sue, J H Walker, J H Simonds		
Irma Alphea, C E Hill, W Stoddard		
Jimpey, D D Heintheimer, O M Brown		
Julie G of Atlanta, Porter & Wylie, Miss M M Calhoun		
Kate Fisher 2d, Est of W Ward, G Blanchard		
Kathy Tormont, W R Rhoads, Mary Jersey Farm		
Katie Cicero, G S Foster, C L Tuttle		
Kolfee Sarah, F R Day, C Wiegand		
Lady Rogers, S Snook, Mrs A B Clark		
Lady Ya La, C Golf, H Golf		
Lady Sacha, C E Hill, F Ogden		
Lakeside Belle 4th, Porter & Wylie, Miss M M Calhoun		
L D's Mabel Girl and L D's Pogis, J H Walker, J H Simonds		
Leah Pierrot, F R Day, C Wiegand		
Leonetta, G H Hancock, A P Mitchell		
Lettie Ware, W H Throckmorton, F Parks		
Libbie W, G F Ward, H Keafie		
Lily Nankeen, Hill Bros, C E Hill		
Lily of Ohio's Bertha, Est of J L Meredith, Mrs M R Ross		
Lisgar's Dido and Lisgar's Pogis, J H Walker, J H Simonds		
Lorna M, S Snook, J B Grey		
Lottie Edwards, R Peters, Jr, J H Smith		
Lucy Latimer, E H Andrews, C Hill		
Maggie Townsend, Porter & Wylie, Miss M M Calhoun		
Mamie Beal, E Y Hill, J C Hart		
Mamie Metcalf, Porter & Wylie, Miss M M Calhoun		
Mary Anne of Orrville, J W Hostetter, D J Lockhein		
Maud's Little Pet, R Libsey, W W Lipscomb		
May Zephyr, C E Hill, W S Weightman		
Medora Emerson, C C Nichols, J Rhodenus		
Minnie D 3d and Minnie May of Atlanta, Porter & Wylie, Miss M M Calhoun		
Minnie's Belle of R, Minnie's Daisy, Minnie's Isadore H, Minnie's Landseerss, Minnie's Maud, Minnie's Nelly I, Minnie's Perfection and Minnie's Trope, J H Walker, J H Simonds		
Miss Susie Pogis, Est of W Ward, G Blanchard		
Morgan Lily Pogis, J Parifoy, M L Comstock		
Nannie Townsend and Nettie Payne, Porter & Wylie, Miss M M Calhoun		
Nora of Fox Lambert 2d, G S Hutchinson, P Stevenson		
Oleo C, W Crain, G L Myers		
Ona B Pansy, H H Wheatcraft, J T Henderson		
Pandora's Beauty, W P Harvey, J G Caldwell		
Pride's Blossom, C G L & G W Bedell, L Smith		
Pusine, Richardson Bros, A F Meservey		
Remarkable Miller, C E Hill, W S Weightman		
Rex Ruby 3d and Rex Ruby 4d, Porter & Wylie, Miss M M Calhoun		
Rieder's Pomeroy, J H Walker, J H Simonds		
Rosaline of N, I Marston, Muldrugh Bros		
Rowena of Generostee, E Y Hill, J C Hart		
Rufa's Eva, G F Ward, H Neafie		
Salada Koffee, F R Day, C Wiegand		
Sallnak, Est of W Ward, G Blanchard		
Salora, W J Chinn, G S Myres		
Sally Countess 2d and Sally Cow 2d, Est of W Ward, G Blanchard		
Saucy 2d, F L Armstrong, S McKeen		
Schnitzsche C E Hill, Hill Bros		
Sida, E Y Hill, J C Hart		
Signal Castle, J H Walker, J H Simonds		
Signal, F R Day, C Wiegand		
Silver Heels 2d, J H Walker, J H Simonds		
Simplex, Richardson Bros, A F Meservey		
Stella's Gem, C E Hill, C M Hill		
Sunado 3d, Est of W Ward, G Blanchard		
Susan Goodwin, W W Bull, R A Potter		
Sweet Root, E S Williams, C H Hoffman		
Tanglewood Lass, C E Hill, F W Smith		
Tenesie La Pas, W Filler, R A Potter		
Theta, C E Hill, W S Weightman		
Tribulation's Hope, Est of W Ward, G Blanchard		
Vashti's Queen, W W Bull, R A Potter		
Victor's Charlotte and Victor's Violet, J H Walker, J H Simonds		
Vigi's Twinkle 2d, H G Viets, A C Greene		
Violinole, W J Hasselman, J T Henderson		
Vista, W Crain, G L Myres		
Vi's Anna Pogis, J H Walker, J H Simonds		
Walla, C E Hill, Hill Bros		
Weltmanson, G F Ward, H Neafie		
Yum Yum Blossom, C G L & G W Bedell, L Smith		
Zerona of Generostee, E Y Hill, B B Harden		

I & I Brockway, *New-York.* F. W. WICKS, *Sec'y.*

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Aaggie Fidelia's Prince, G R Morehouse, N H Glover		
Altha, R M Patrick, C Mackey		
Aunt Esther's Netherland, Smiths, Powell & Lamb, J F Chase		
Ben Hogen, J Kocher, Jr, J Y English		
Black River Chief, H C Markham, S Studer		
Bonny Lass 35's Royal Aaggie, J C Rich, O Hill		
Captain's Ontario Duke, A Edmonds, A J & H C Gardner		
Celia K's Dutchman, M M Wheeler, H Higgins		
Comsack, H C Jewett & Co, H C Jewett		
Count of Clover Hill, M E Moore, J R Thompson		
Dora Clothilde 5th, G R Morehouse, N H Glover		
Grace's Ben Harrison, Est of F W Maron, J S Hedditch		
Jacobia, B K Johnston, J L Shields		
Karl of Silver Lake, Rose Bros, D C Young		
King Gerben, W C Tripp, W Rankin		
Kleckel Calafilia, S I Lisle, J H Allyn		
Kroonzie Dandy, L H Payne, A Tucker		
Lad of Prospect 3d, D J Wood, W M McNair		
Morton, H C Jewett & Co, H C Jewett		
Mutoma, Prentice, W H Biggs, W M Keller		
Neera 3d's Grandson, E M Wheeler, G Swallen		
Netherland Horace, J Lightner, Whitacre & Boyd		
Newman's Frits, W H Biggs, St Joseph's Academy		
Orlando, H C Jewett & Co, H C Jewett		
Pietertje Prince 4th, W A Pratt, C I Colwell		
Prince of Dixon, J H White, A Edmunds		
Promoter Netherland, D B Whipple, T Everly		
Rolf of Ridgeland, H H Winkburton & Son, J Hunt		
Sir Alexine, F C Stevens, J M Johnson		
Sophia De Brave Hendrik, E Huidekoper, J F Stoner		
The Brockton Boy, W Rankin, W C Tripp		
Vrede's Jean, Thompson Bros, P Johnson		
Winkje's Boy, Lackawanna Breeders Assc, H Black		
Wohelma Twist, J W Comstock, C P Swartz		
Aaggie Bertha 6d and Aaggie Homespun, H F De Graaf, J M Ham		
Aaggie of Chester, J Lightner, J Boyd		
Aaggie of Iowa, J Lightner, D D Whitacre		
Acorn, Est of J F Weeks, N S Carlisle		
Arnolda, L P Morton, J M Ham		
Atropine, Est of J F Weeks, N S Carlisle		
Aurora 4th, W A Pratt, C I Colwell		
Beauke, L P Morton, J M Ham		
Cloverdale Belle, G H Beckham, P Coe		
Dila's Daisy, J T Shelhamer & Son, J B West		
Dimple of Silver Lake, Rose Bros, D C Young		
Edrita Beelyn, G K Morehouse, N H Glover		
Effie Richmond, H H Wilkington & Son, J Hunt		
Eyle I, D Wolf, J A Weis		
Fanita, W H Biers, St Joseph's Academy		
Flora, J T Shelhamer & Son, J B West		
Franzje 3d, L P Morton, J M Ham		
Helena Nichols, H K Wood, Peveril Bros		
Heney, S L Warner & Son, H L Walker		
Hillside Butterfly, J A Frye, M G Sedano		
Hollo, R G Packard, T A Peters		
Iola, G R Morehouse, N H Glover		
Jenny Rohde, J H & J S Ramsey, Bayman & Powell		
Konemesse 2d, H P DeGraaf, J M Ham		
Lady Adelaide and Lady Blanche 8, G R Morehouse, N H Glover		
Lady Berdette, S N Culver, H D Tilson		
Lady Consul Lady Gulliver, L P Morton, J M Ham		
Lady Jane, G H Beckham, P Coe		
La Rose, L P Morton, J M Ham		
Liberty, R Richardson, W H Dickason		
Lily of Ellerslie, L P Morton, J M Ham		
Long Speed, Smith & Gardner, Bayman & Powell		
Maid 8, W L Minier, J Wallace		
Meadow Lily 3d, L P Morton, J M Ham		
Mousie 2d and Mousie Jamaica, H F DeGraaf, J M Ham		
Netherland Cora, G R Morehouse, N H Glover		
Pietrze, G McGregor, W Hanson		
Primula, L P Morton, J M Ham		
Rapkalia Lincoln 4th, T N Figuers & Co, A H Morse		
Rosabelle Nell, J H & J S Ramsey, Bayman & Powell		
Rosamond, L P Morton, J M Ham		
Spruce 3d, Wilson & Pankey, J M Freeman		
Sue Pet, French Bros, H K Wood		
Vander Mar 2d, L P Morton, J M Ham		
Zeba D, G B Beckham, P Coe		

Iowa City, Iowa. T. R. WALSH, Sec'y.

Record of the Times.

Review of Passing Events.

Political.—Congress—Senate: Resolution to appropriate $250,000 to protect American interests in Panama, passed, Feb. 11 (and in House 13th).—Mr. Evarts spoke, Feb. 13, on the Texas election outrages.—House: The contested election case of Smalls vs. Elliott of the VII South Carolina district was brought up Feb. 11, and decided the 13th in favor of Elliott.—New-Mexico was excluded from the territorial admission bill, by a vote of 130 to 109, Feb. 15, the others being agreed to.—The Mills committee reported adversely the Senate tariff bill.—In joint meeting, Feb. 13, the electoral vote of the United States was counted, and Benjamin Harrison and Levi P. Morton officially declared elected President and Vice-President.—A delegation of southern colored Republicans headed by John M. Langston, called on General Harrison, Feb. 11, and asked that the ablest lawyer in the country might be appointed Attorney-General.—The New-Jersey legislature is in a deadlock over the liquor question.—The West Virginia government is almost in a state of anarchy. Senators were taken from their beds and brought to the bar of the senate, the withdrawal of the Republicans leaving no quorum.—In the New-York Assembly Mr. Rhodes introduced a bill providing for whole Saturday holidays in July and August, in place of the present half holiday bill. Mr. Curtis, bill providing for erection of a memorial hall in Albany for war relics, &c., to cost $400,000.

From Abroad.—Heavy snow storms have prevailed in Europe.—The Parnell letters held by the Times have at last been produced. They were bought of Pigott, once Mr. Parnell's supporter, and now a resentful enemy.—LeCaron's testimony before the Parnell Commission failed to connect the home rule leader with revolutionary methods.—Mr. Parnell will bring suit for libel against the Times in the Irish courts.—William O'Brien was conveyed from Clonmel to Tralee jail, Feb. 11. His escort was stoned by a large crowd.—Irish landlords, some of them Home Rulers, returning to London, report that Mr. Balfour is winning, and the plan of campaign breaking down. Tenants' rents have been reduced from 20 to 50 per cent., there has been a good harvest and a mild winter, and increase in prices. Under the Ashbourne act purchases of land by tenants steadily increase and the buyers become conservative.—Being defeated on the question of adjourning the revision of the constitution, by a vote of 307 to 218, the French cabinet resigned, Feb. 14. General Boulanger issued a manifesto. M. Floquet organized his ministry in April, 1888. President Carnot has asked M. Melline to form a new French ministry.—A White Book, comprising the Bismarck correspondence about Samoan matters, was introduced in the German Reichstag, Feb. 15.—Riots in Pesth, Austria, caused by students opposed to the army bill, have been quelled by the military and 48 persons arrested.—Rev. Father Damien, a missionary to the Sandwich Islands, and stationed at Molokai, which is inhabited by lepers, is himself dying from leprosy, but still ministering to the welfare of his charge.—The new Japanese constitution, proclaimed Feb. 11, establishes a House of Peers, partly hereditary, partly elective, and partly nominated by the Mikado, and a House of Commons of 300 members. Right of suffrage to men over 25, paying taxes of $25 yearly. Liberty of religion, speech and public meeting granted. Parliament to have legislative functions and control of finances under limitations.

Deaths.—Rear-Admiral Ralph Chandler, U. S. A., died at Hong Kong, Feb. 10. In 1847 he took part in the seige and capture of Mazatlan, Mexico; in 1854 was connected with the Koszta affair in Smyrna; surveyed the Panama river in 1858–9; during the war took part in the battles at Port Royal, Sewell's Point and capture of Norfolk, commanding the Huntsville, Mannose and Sangamon. Since then has commanded the Don, Tallapoosa, Swatara (landing five parties in eastern seas to observe the transit of Venus in 1874) and Wabash. He became a commodore in 1884 and rear-admiral in 1886, commanding the Asiatic squadron.—Dr. John C. Dalton, president of the College of Physicians and Surgeons, New-York, died Feb. 13, aged 64. He first taught in this country physiology illustrated by vivisection and was the author of many medical works.

The Ceiling Investigation.—Speaker Cole and Assemblymen Sheehan and Gallup testified last week before the New-York Assembly committee that they did not remember any papier maché clause in the contract. They understood that the ceiling was to be of oak, like that of the Senate chamber. Architect Rowe said he drew the plans and specifications under the supervision of Supt. Andrews, and inserted the alternative clause at the latter's suggestion. Assemblyman John Martin testified that he had been offered a bribe to secure a report clearing the building committee. Sinclair & Co. of New-York, who made the ceiling, say the work is such as they have done for 50 years, will neither shrink nor break and is absolutely fireproof.

Minor Items.

A small herd of buffalo has been discovered in the Red Desert, Wyoming.

The grain receipts at Baltimore are said to be five times greater than last year.

Applications for liquor license in Philadelphia occupy 18¾ columns of the Record.

Sidney Bartlett, LL. D. of Boston, is 90 years old, and still in the active practice of the law.

The sale of the Stebbins collection of pictures, New York, Feb. 13, amounted to $200,000.

The First Congregational church of Pittsfield, Mass., celebrated its 125th anniversary Feb. 7.

The half breeds of Dakota object to paying taxes so violently that the militia have been called out.

Excellent crops of ice have been gathered the past two weeks on the Hudson river and elsewhere.

The second trial of Treasurer Kerr of the Broadway railroad, New-York, for bribery, began Feb. 15.

Three large Rochester breweries are said to have been sold to the English syndicate for about $3,000,000.

The Republican clubs of New York, Brooklyn and Newark gave dinners in honor of Abraham Lincoln, Feb. 11.

A boy of eleven, crazed by cigarette smoking, has been taken to the insane asylum at Middletown, N. Y.

The latest design in dog harness has a handle on top, so that the pet can be picked up and carried like a satchel.

A "walking delegate" stopped a funeral procession in Brooklyn last week until a nonunion driver left the line.

Michael Bizzolo, alias "Red-nosed Mike," has been found guilty of the murder of Bernard McClure at Wilkesbarre, Pa.

The Edgar A. Poe cottage at Fordham, N. Y., is offered as a present to the city, and possibly may be placed in Central Park.

An excursion is proposed for next May, to give the Canadian statesmen an opportunity to see the resources of this country.

Sixty three plans for the new Episcopal cathedral, New-York, are on private exhibition in the Diocesan House, Lafayette Place.

A fire in Philadelphia, Feb. 10, destroyed Wyeth & Co.'s laboratory and drug house and other buildings, with loss of nearly $750,000.

The fire in the Calumet & Hecla mine, Michigan, which started last November, broke out again Feb. 14, compelling a cessation of work.

May wheat rushed up to 1.10½ on the Chicago exchange Feb. 12, an advance of 13 cents in the week. In New York the dealings were 13,000,000 bushels.

Joseph Donoghue, the young champion skater, arrived from Europe Feb. 11. On reaching Newburgh, his home, he was given a torchlight procession.

Colonel Goshen, formerly well-known as Barnum's giant, died at Clyde, N. J., Feb. 13. He weighed over 600 pounds; his coffin was 9 feet long and 3 feet wide.

Another subway explosion occurred in New York, Feb. 11, at Pearl and Wall streets, tearing up the pavement and jarring the building. A man in a nearby cellar was stunned.

The jar of a passing train on the New Haven road, near Bedford Park, N. Y., Feb. 11, exploded some dynamite on a rock, shattering the car windows and injuring some of the passengers.

Barn-burning continues to alarm the farmers of Cecil county, Maryland. Notices are sent that barns will be burned at a certain time. In one such barn an egg was found filled with chemicals.

Mrs. Mary E. G. Dow, president of the Dover, N. H., horse railroad, has just declared a 5 per cent. dividend, which added to that of six months ago, makes 11 per cent. and a surplus besides. When she took the road in hand it was in debt.

The Ohio & Western Coal and Iron Company of New York made assignment Feb. 11, with liabilities of $3,300,000—assets are 7,000 acres Hocking Valley, O., coal land, buildings, furnace, cars, &c; 700 men will be thrown out of employment.

A strike has occurred among the molders in the D. M. Osborne & Co. works, Auburn, N. Y. The company obtained eleven new men from Trumansburg, and, although the strikers guarded the railroad tracks, succeeded in conveying them to the factory.

The inventory of the estate of the late Miss Catherine Petroon of Richmond, Mass., shows $450,000 worth of stocks and bonds, 50 bonnets dating back 50 years, 70 shawls, a full collection of dresses, silks and satins, of equal age, and 300 glass vials wrapped in tissue paper.

The British steamship Chancellor, with 4,181 bales of cotton, in Charleston, S. C., harbor, was discovered on fire Feb. 13. She began loading last December, was found to be on fire in January, was sunk and the forward cotton discharged. The second fire broke out in the December-stored cotton in after hold.

The Presbyterian Historical Society of Philadelphia has the conch shell used by David and John Brainerd to call the people to their meetings; an idol 150 years old, worshiped by a

The Fireside.

Recent Publications.

Books.—The Report of the U. S. Commissioner of Education (N. H. R. Dawson, Interior Department, Washington) for the year ending June 30, 1887, is a closely printed octavo of 1300 pages, containing a good deal of valuable matter, no doubt, but it seems to us to need editing, arrangement, and particularly "boiling down." A volume of one-quarter the size of this might contain, we should think, everything worth preserving that is here given, might probably be issued with some degree of promptness, and would be likely to prove far more serviceable for practical purposes than this big book that comes lumbering along a year and a half after it is supposed to have been finished.

—— A duodecimo volume of Essays, by Henry T. Kine, author of "The Egotist," is published in very pretty style, with a portrait of the author, by the J. B. Lippincott Co. of Philadelphia; and sold for $1.25. These papers deal chiefly with every-day matters of present interest, largely those connected directly or indirectly with the administration of the law, Mr. King being a member of the legal profession.

—— From D. Appleton & Co., 1 Bond St., New-York, we have two paper-covered novels —"Raleigh Westgate, or Epimenides in Maine," by Helen Kendrick Johnson, and "My Cousin, Miss Cinderella," translated from the French of Leon de Tinseau by E. W. Naylor.

Periodicals.—Among recent issues in the National Library (Cassell & Co., 104 Fourth Ave., New-York, $5 per annum) may be mentioned Taylor's Holy Living, Carlyle on Burns and Scott, and Defoe's "London to Land's End."

—— The January Westminster Review (Leonard Scott Publication Co., 29 Park Row, New-York), has a vivid chapter on "Life in a London hospital," well worth reading; a plea for the issuing of one-pound bills by the Bank of England—which some persons seem to think would be a momentous step, pregnant of all sorts of national misfortunes; a short paper on the city of Vancouver, "the new queen of the Pacific" the author calls it; and sundry other contributions that space will not permit us to notice.

—— The New-Englander has this month a letter from a Japanese student at Yale, who thinks that the character of his people has been misconceived and misrepresented, and sets himself to the task of giving the truth on certain points not generally understood by foreigners.

—— That beautiful juvenile monthly, St. Nicholas, is giving its readers a particularly interesting and valuable series of papers on "the routine of the republic," explaining how the work of our government is practically carried out. The installment for the current month deals with the White House and the personal duties and occupations of the president.

—— The February Lippincott is likely to have a large sale, as it opens with a story called "A Transaction in Hearts," which reminds one of Amélie Rives and "The Quick or the Dead." Perhaps a quotation from Scribner's Magazine, also for February, may not be out of place here. Writing of Sir Walter Scott and his imperishable romances, Ex-President Andrew D. White has this to say:

Never was there a more healthful and health ministering literature than that which Scott gave to the world. To go back to it from Flaubert and Daudet and Tolstoi is like listening to the song of the lark after the shrieking passion of the midnight pianoforte; —nay, it is like coming out of the glare and heat and reeking vapor of a palace ball into a grove in the first light and music and breezes of the morning.

It is not for nothing that so many thousands have felt toward Scott a deep personal gratitude, which few, if any other writers of English fiction have ever awakened. My own case is doubtless typical of thousands. In his novels I first came under the spell of genius in fiction, and in my reading of them the first happened to be what is usually called the least inspired—"The Monastery." But no matter, I gave it three readings, end over end, and followed it with other novels from the same source as rapidly as my dear family Puritan authorities would permit, or as often as they could be evaded.

I cannot but think that anything which shall recall to the readers of "Madame Bovary," and the "Nabab," and "Anna Karénina," the existence of "Ivanhoe" and "St. Ronan's Well," and "Guy Mannering," and "The Fortunes of Nigel," or even of "The Talisman" and "Count Robert of Paris," will be of use to them; and if it shall lead them to go further into the great fields which Scott opened, passing through Victor Hugo's "Notre Dame," and finally reaching Manzoni's "Promessi Sposi," the most beautiful romance ever written, it seems to me that there may come a blessing not merely to their minds, but also to their hearts and souls.

A New Vocation.

As the elegancies and luxuries of life grow more common, the increase of wealth produces new needs which are constantly creating new employments. One of the latest of these, and and to which women are admirably and specially adapted, is the vocation of reader to invalids or elderly people. In a number of cities ladies follow this as a business and make a good living by it, and it seems destined to be one of the increasing occupations of the future as education, intelligence and wealth become more general. There will always be invalids and always a crop of well-to-do old people for patrons, and the woman who can make herself useful in this way will not lack for employment. There is no school-room drudgery connected with it to wear her out, body and soul before her time, as is the usual lot of teachers in our graded schools, but rather it is a delightful ministering to her intellectual peers, and one can readily imagine the work to be in entire consonance with the tastes of the most cultivated, refined lady who is forced to be self-supporting.

In many families among the wealthy classes there are aged parents, whose dim eyes can no longer see the printed page. Children are too busy and full of cares in this rushing American life, and grandchildren often too heedless, to stop their work or their pleasures to read to these forlorn old folks, who, though surrounded by luxuries on every side, actually suffer from starvation of the mind! Think, then, what a beam of light is this visiting reader, who forms the link that connects them with the bustling circles of humanity, of which they have been hitherto only a silent part—"the world forgetting, by the world forgot"—because they could no longer see!

Perhaps it is a blind or partially blind scholar, or one of literary tastes, who, but for the kindness of others—a kindness too often given grudgingly, to the shame of humanity be it said!—must ever sit in that darkness which is greater anguish than physical night. Perhaps it is a sick man or woman slowly convalescing, whose keen interest in the outside world has become intensified by long weeks of deprivation of the accustomed daily journal. To all such the visiting reader is a prize for which they are willing to pay a good sum.

Reading seems such an easy thing that doubtless many young women will catch at this prospect of a new and less laborious field than many of the paths trodden by impecunious womankind, but the fact is that good reading is one of the rarest of accomplishments. Hundreds of girls are good piano players, and creditable artists and painters, who will mangle an essay or poem beyond all recognition by its author, were he so unfortunate as to be present to listen to it.

There are some persons who read an anecdote or humorous sketch about as spiritedly as they would the Lamentations of Jeremiah, while scarcely one person in twenty knows enough to give the proper inflections, and therefore utterly fails to read conversational passages intelligibly. It is simply because the writer's meaning is not understood. We might almost say that readers, like poets, are born and not made. Lacking that subtle insight, that sympathy with the author, the possession or absence of which constitutes the difference between good and poor readers, they lack everything, and all the schools of elocution and labor of voice drill in the world will not supply what nature has failed to give.

An hour or two spent in the cheerful morning room of a brown-stone mansion, reading the news of the day to a bright, companionable old gentleman, then a brisk walk in the pleasant air to the house of some refined old lady or sweet invalid girl, who is longing to hear the latest sermon of a noted divine or the choice things in the last magazine, certainly seems the very acme of the agreeable in the way of earning one's bread; but please to bear in mind, dear miss or madam who aspire to this profession, that to secure such places you must know your business thoroughly.

Know that if there is one thing more irritating than another to a sensitive auditor, it is to have a reader stumble over and repeat words or spoil the pleasure of the entire article by ear-torturing mispronunciation. It is like sitting on needles and pins for nervous persons to be compelled to listen to botchy reading, to anticipate two or three seconds in advance of the dreary voice and measured sing-song sentences just what will come next, and get themselves into a fever speculating how many times more you will come to a dead stop at an innocent comma and thus mar the whole meaning.

The leading society belle of a smart little town was not long since heard to attempt the following sentence, descriptive of the confusion of a spring house-cleaning: "Here a closet gave up its contents, and there a cupboard disgorged its bowls." The charming girl took the end of chewing gum from her pretty mouth and with an exceedingly self-complacent air, rattled off: "Here a closet gave up its countenance and there a cupboard disgrouged its bowels!"

A really fine reader has it in his power to confer so much pleasure on others that the wonder is why it has been allowed to almost become one of the "lost arts." The hostess of a country party blesses her lucky stars when she discovers among her guests one who knows how to read, feeling that she has secured an attraction as rare as it is pleasurable, and instances are not uncommon where a popular minister's hold on a congregation is his beautiful rendering of the Scriptures and the hymns.

In a greater measure, because reaching those who are cut off by age or sickness from the usual channels of information, does the visiting reader give enjoyment to others, and earn her daily bread as well, by means of a clear articulation, a sympathetic voice that carries the listener with her through moods, merry or tender, as depicted on the page, and lastly, a quick appreciation and comprehension of the author's meaning. Garret Owen Gaines.

American Girls.

A hasty glance through the columns of your paper, which is mostly devoted to the pursuits and interests of the farmer, is frequently rewarded by a nice little article relating to the duties of the farmer's wife and daughters. Taking advantage of the liberty allowed us, I, a girl, wish to say a few words about girls—American girls in particular, who seem to have become objects of severe criticism and unjust censure by some writers. A gentle, rebuke is beneficial, but why cannot these critics give wholesome advice without resorting to comparisons which are odious? For one, I am heartily tired of those English girls whom writers are continually holding up to us as paragons. Mrs. Frank Leslie, not long ago, wrote a defense of the American girl, for which I felt truly grateful to the fair author. I wonder that some other lady, on whom God has so generously bestowed wisdom, does not follow her example.

"Why should the American girl wish to be vulgar, slangy or mannish?" asked a leader of society and one of our prominent literary women. Are our girls guilty of all these charges? Is it just or right to compare the shop girls and factory girls of America with those in Europe who, perhaps, move in a higher circle of society and have had double the advantages? Yet in my travels about New-York city I have received as much kindness and politeness from these same "shop girls" as any lady could expect.

My experience is limited, but I believe that if inferior in a few particulars, we are fully equal, and even superior in many respects, to our sisters across the water. Take, for instance, that class which comes here looking for employment and independence—are they any better qualified to fill the positions now open to women, any more self-reliant and dignified than the American women? In fact, I notice about here that the foreigners, both girls and boys, have much to learn from the natives in manners as well as [in trades. Perhaps we show a want of respect for superiors that may be one of the faults which need correction. Are not American women winning distinction in the Old World, not by their aggressive and self-confident manners, but by their individual merits? Is not Leonard Jerome's daughter, now Lady Randolph Churchill, a credit to our nation? And many others also?

Our population, especially the female portion, has increased so rapidly that it is impossible for the daughters and sisters to depend upon fathers and brothers for support; consequently they are obliged to fall into the ranks, and in many cases share equally with the men, the burdens in the struggle for a foot hold in this busy world. Are they not assuming these new responsibilities which God has seen fit to place upon them, with a cheerfulness, bravery and dignity which call forth admiration?

Last week I read with much sorrow a denunciation of the laziness of the girls of the present generation, and their inclination to throw all the work on the mothers. Putting down the paper I searched diligently and carefully through my circle of acquaintance, and all those families who have come under my immediate observation—with what result? I found many instances which could be cited as proofs that the sins of a few cannot justly be attributed to the many. I meet every day girls, who now, after years of hard work and study, are earning good salaries; those who go out as dressmakers, thus relieving a father of their support without being unmindful of mother's cares. I could point out in our small village more earnest, industrious, church-going and dutiful daughters than lazy, disrespectful ones, so frequently quoted, but I lack both time and space.

Mrs. Sherwood extols the American man, nor does she mete out to them any more praise than they deserve, for we all have reason to be proud of our countrymen, and must appreciate their considerate treatment of our sex; but are there not some characteristics in the women that demand equal attention? I think so.

Saratoga County, N. Y. E. S. H.

A Farmer's Pocket-Knife.

I have owned a number of pocket-knives, but was never able to find one which had superior steel until I extemporized the best knife I ever owned, by employing the blade of my father's old razor. My paternal ancestors came from Scotland, and one of them brought with him this razor, the handle of which consisted of two slabs sawed from a buck's horn. On one of the concave sides of the blade there are beautiful figures and flourishes, and the words, "Fine India Steel," as legible to-day as if recently executed.

My paternal grandfather and my father migrated from a little hut on the mountains, near New-Haven, Conn., to Central New-York, then the far West. That razor was taken with them, and my father used it for forty years. As he did not inherit sufficient mechanical skill to keep the edge in order, he was accustomed to take it to Ithaca, fifteen miles, once a year, to have it honed and strapped. But fifty cents per annum amounted to so many dollars for putting that razor in cutting order, that it was laid aside as "no good," and a new American razor was purchased for a dollar. When friends began to smile at the appearance of a beard on *my* face, I asked my father if I might have that old razor. "Yes," he replied, "but you can't make it shave." Well, I purchased a combined hone and strap, and in a few minutes that razor would shave the face as neatly as a hot knife will cut butter. For twenty-five years I used this razor, until I gave up shaving, and the thought occurred that this old blade would make a capital pocket knife. So I filed off the head of the rivet and fitted a wooden handle. As the shank was wrought into a graceful curve, it was necessary to straighten it. So a wet woolen rag was wound several times around the blade to prevent it from being heated. The shank only was thrust into a glowing fire, and as soon as red hot, a few blows of a hammer straightened the crooked shank without affecting the temper.

That old razor makes the best knife I ever owned. When not in use the blade is thrust into a part of the old case, in which the razor has been kept for more than two hundred years. It is the neatest budding or grafting knife that I ever owned; for skinning an animal I never saw a butcher's knife that would equal it; for castrating, it has a keener edge than a surgeon's lancet; and in three minutes the edge can be prepared to shave.

I mention these particulars to induce others to extemporize a good knife by employing an old razor. My father would never allow a man or boy to drive a team about the farm without—

"A string and a nail and a pin on his sleeve,
And a knife in his pocket, to whittle and cleave."

Many times I have been in environments where a *good* knife has rendered material aid. I think if an ill-natured cur should fasten his teeth on me my razor-blade would disembowel him so quickly that he would not feel the edge. I always taught my children to carry a good knife in their pocket, and to keep the blades always in order. Sereno Edwards Todd.

The Artists' Ball.—The Water Color Society of New-York gave a costume reception at the Academy of Design, Feb. 6, at which the dresses were strictly historical, all "fancy" costumes being excluded. The exhibition rooms were splendidly decorated with tapestries, velvet stuffs, brocades and rugs; the gas-light tempered with broad scarfs; 50 artists, headed by President J. G. Brown as a Venetian

noble, and Daniel Huntington, president of the National Academy, as a cardinal, led the opening procession: the oldest families of New-York were represented in brilliant dresses of historic times, glittering with diamonds and other precious stones. The display was the most brilliant on record, and the receipts, $4,000, go to the Society of Decorative Art.

OUR RAILWAY INTEREST.—Our railway interest is the greatest on the globe. It ought to be our chief pride; but how deplorable its condition! By reason of over-capitalization, unnecessary competition, oppressive legislation, dishonest financiering and reckless management, it drifts like an overloaded and waterlogged ship, helpless, in the trough of the financial sea. It is not impossible, indeed, granting continuance of the circumstances surrounding our railway interest, that the child is now born who will see few if any of the roads paying interest on their stocks. Does such a suggestion strike the reader as absurd? Once upon a time a foreign syndicate invested twenty-five millions of dollars in what was very properly considered our best and safest railroad stock, on a guarantee for a certain number of years of eight per cent. per annum. What would have been thought of the suggestion then, that before very long, the buyers of that stock would be glad to receive four per cent. instead of eight, on their investment?—*Poor's.*

Domestic Economy.

Hot Deserts for Cold Days.

PLUM PUDDING AND SAUCE.—Soak a pint of crumbs in milk for an hour—stale cake crumbs are best—of any kind that you happen to have. It need not be all of one sort, and a little molasses cake is good. A pint of milk is sufficient unless the cake is very dry; in that case add a little more. When softened, beat it up thoroughly, and add half a cupful of molasses, half a cupful of chopped suet, an egg, a dessertspoonful of mixed spices, cinnamon, nutmeg and cloves, and a cupful of fruit. Raisins, Zante currants and citron, mixed, are best, but raisins alone will do nicely, or even dried apples, stewed very slowly with a little molasses until tender, and then chopped, make an acceptable substitute. Boil in a tin pudding-mould for an hour. A lard pail makes a good mould.

For the Sauce, rub together smoothly a large tablespoonful of butter and one of flour; let them bubble in a saucepan for a minute or two, stirring constantly, then add a cupful and a half of milk. When this comes to a boil and is perfectly smooth, add a tablespoonful of sugar, and when that is dissolved strain it into a sauce-boat, dot some bits of butter over the top and grate on a little nutmeg. Serve hot, and it will be found a most acceptable sauce for this and many other puddings. If well made, no one would realize that it was the most economical of all pudding sauces.

PEACH DUMPLINGS.—Soak some dried peaches over night, stew, sweeten and flavor with a very little extract of bitter almond. Make a good paste, cut out rounds as large as a saucer, cut a hole in the one designed for the cover, and put them together with two or three tablespoonfuls of the peach between. This must be simmered until the syrup is thick and rich. Wet the edges of the crust and pinch them firmly together. Bake and eat warm with cream.

COTTAGE PUDDING.—One egg, butter the size of an egg, a small cupful of sugar, a cupful of milk, two of flour, with two teaspoonfuls of baking powder. Mix quickly and bake in a square pan. Cut in squares and serve with a liquid sauce. A glass of currant or raspberry jelly, dissolved in a syrup of sugar boiled with water, makes a pretty and agreeable sauce.

SUET PUFFS.—Scald a cupful of Indian meal with a cupful of boiling milk. When it has cooled add half a cupful of chopped suet, a cupful of flour, with a teaspoonful of baking powder, a beaten egg, and make into balls with the hands, adding as much meal as is needed to make them stiff enough. Fry in deep fat like doughnuts and eat with maple syrup.

RICE PUFFS.—A pint of cold boiled rice, two eggs, a good handful of raisins and flour to make balls, as in the preceding receipt. They may be dipped in egg and cracker crumbs before frying. Eat with sweetened cream or a liquid sauce.

MOCK MINCE PIE.—Rub to crumbs a pint of milk crackers and soak in sweet cider until they become pulpy. Add two tablespoonfuls of chopped suet, fruit and spice to taste, a half cupful of molasses or sugar—molasses makes the richer pie—a little candied lemon peel and any of the additional flavors liked in mince pie. Add a little more cider or a little more cracker dust, as is required to make the consistency such as would be right for mince pie—neither stiff enough to be dry, nor soft enough to run—bake in a fine melting pastry, and you will have a very fair mince pie, which may be made at any time as an impromptu, with little labor, and which is sometimes preferred to the heavier genuine article. DOROTHY.

A Salt-Pork Dinner.

For many years the COUNTRY GENTLEMAN has never failed to reach me, and its housekeeping articles have proved a mine of valuable information. I am indebted to Aunt Chloe, Dorothy and Palmetto for many a dainty dish, but there came a time last March when their lore failed me. This is a tale of the blizzard, and it seemed to me my experience might be of benefit to some of your readers, who may at sometimes find themselves in like circumstances, as regards a dearth of provisions.

It began as you know on Sunday night, and Saturday is the day on which Charlie always goes to the village several miles away for our weekly supplies, which at that time had run unusually low. On that particular Saturday he came limping in with lugubrious countenance, suddenly grew white, and fell back into a faint. On examination I found that the sprained ankle would prevent a trip to the village on that day. "It never rains but it pours," and a few hours later, the returning stage left three unexpected visitors, cousins of Charlie, who had come for a week's sport in the mountains. I did not need to search cupboards; I knew well that salt pork and winter vegetables must be the "chief of our diet." I consoled myself by thinking that after Sunday our friends could find their sport, and replenish our larder with pheasants, rabbits and quails, but "man proposes and God disposes." For five weary days I fed our guests upon salt pork. I do not mean to say that we had nothing else, but we had no other meat, and it may be interesting to some to know in how many ways, necessity, the mother of invention, led me to serve it.

All of these receipts suppose, if not absolutely home-cured pork, at least the sweetest of its kind, with fat pinky-white, and nicely streaked with lean. Cut one pound in thin slices, and cut off the rind with a sharp knife. Soak it for half an hour in a pint of sweet milk, and then put it on to stew with a pint of boiling water. Simmer slowly half an hour and add one quart of pealed and quartered potatoes; three medium sized onions, sliced, a couple of stalks of celery cut in dice, the milk in which the pork was soaked, and pepper to taste. Just before the vegetable are done, add a tablespoonful of minced parsley, a tablespoonful of butter cut in bits and rolled in flour, and enough hot milk to make the gravy of the right consistency. Pour over slices of nicely browned toast. This with a dish of macaroni, and risen waffles for dessert constituted our first day's dinner.

Meantime there being nothing in view for Sunday's dinner but pork, I chose a slice thick, square piece weighing three pounds, and soaked it over night in sweet milk. It is just as well to use skimmed milk for this purpose. When about to prepare the pork for baking, gash it across the top with a sharp knife, making incisions an inch deep, and half an inch apart. Make a dressing for these spaces with a little stale bread, well crumbled, a teaspoonful of onion fried in butter, and poured over the bread, and a seasoning of pepper and powdered sweet herbs, especially sage. The dressing should be rather dry, but if the butter does not make it moist enough, heat a little of the milk in which the pork was soaked and pour over it. Press as much of this into the incisions as will go in, and tie a bread piece of muslin around to keep it in. Put it in a baking pan with some of the milk in which it was soaked, and bake slowly, basting often. It should take at least two hours. Half an hour before it is done remove the strip of muslin, and let it brown. The gravy must be thickened and seasoned with minced parsley. Serve with baked sweet potatoes, baked white potatoes in cases, and cabbage, boiled, chopped, and heated with butter, pepper, salt, and a little vinegar; this makes dinner by no means to be despised. Sunday night the snow began falling, and there was an air of sullen determination about it, and the clouds, that promised poorly for the larder that was to have been replenished with game. I forgot to mention that the cabbage was boiled in some of the milk in which the pork was soaked. Cooked in this way it is very delicious if allowed to cool, then minced, seasoned, and mixed with two beaten eggs, and two tablespoonfuls of melted butter and baked for three-quarter of an hour covered, then uncovered and allowed to brown.

I had plenty of eggs, and we found that salt pork fritters with shirred eggs was not at all a bad meal, followed by hot buckwheat cakes, with maple syrup, and eaten by roaring fires, while the snow was steadily piling higher and higher. Mince fine some salt pork baked as above, stirring it into a fritter batter, and baking in plenty of smoking hot fat. A new fritter batter, for which I am indebted to my friend Juliet Corson, is made by beating the yolk of an egg with half a cup of milk, a cup of flour, salt, and pepper until it is a thick, smooth batter. If there is not enough milk add more. Stir in the pork, and just before baking add the white of the egg beaten to a stiff froth. They should be fried like doughnuts, and lifted with a skimmer.

If you have never tried broiled rashers of salt pork—not bacon—do so now. Cut some very thin slices, and soak them in cold milk, overnight. Next morning wipe them dry, lay on a hot gridiron, and broil on both sides. Serve with stewed potatoes and corn dodgers. It may also be fried, rolling the slices in flour and frying in a little hot fat made by trying out one or two slices of the pork. Make a cream gravy as follows: Pour out from the pan all except about a gill of the gravy; stir in a heaping tablespoonful of flour, and when it is smoothly mixed, stir in gradually a pint of hot milk—that in which the pork was soaked—season with pepper, and minced parsley, and serve with baked potatoes.

ALICE CHITTENDEN.

Wool Comforters, p. 117.—I furnished the article, which was published during the autumn of 1877. The wool has to be cleansed and carded as for spinning, the cleansing is easily done by those prepared to do it. The quantity used is from one and a half to two pounds each. It requires two pounds of unwashed wool for one pound of batts. People in this vicinity club together and send their wool to C. F. Schofield, Montville, Conn., who cleanses and cards it, putting it in pound sheets about one yard square. This can be divided into sheets of any desired thickness. The old custom cards are fast going out of use; the Schofield family introdmced one of the first machines in this country and bid fair to have the last. Wool has to be oiled before carding for spinning, so that the cards and the surroundings are full of oil, which it is necessary to clean before carding for batts; for this reason it does not pay to do a small lot.

Durham, Ct. R. W. M.

Cornecbs for Fuel.—In the West, corncobs are a marketable commodity for fuel, and loads of cobs are brought into the cities from the farmers in the country, and sold to the city people, who prefer them to wood for summer use, and in the winter use them for kindlings to light the coal fires. Some pour a little kerosene over a few, and use them as torches to start the fires; they ignite quickly, and are very convenient. Cobs are kept picked up and saved in this country more economically than hard-wood chips in the East. They make a quick fire for summer use, and answer every purpose for cooking. Wood and coal are very expensive, and it is a matter of economy to use these for a substitute, and if farmers' wives in New-England once tested their utility, they would gladly save them for use in the cook-stove. S. H. R. *Fall City, Neb.*

Devonshire Cream.—The easiest and surest way to make this delicate dish is to steam it. Have a wide tin pan for the milk that will fit tightly into a vessel in which water can be boiled, in such a way that the bottom of the tin will be two or three inches above the water. Four three or four quarts of milk, fresh from the cow, into the tin pan and let it stand in a cool place twelve hours or more. Have the water boiling and set the tin of milk carefully on top. Do not touch the milk, the water must boil all the time until a rim of bubbles half an inch wide forms all around the pan of milk. The milk must not boil. Take it off and set it in a cool place for twelve hours or so. Just before the cream is wanted, take it off with a skimmer and serve in a glass dish.—*Good Housekeeping.*

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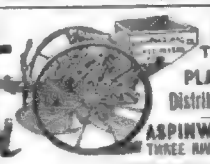

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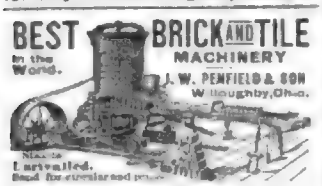

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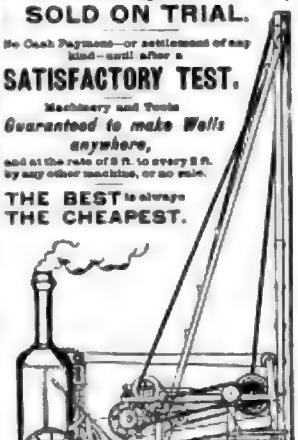

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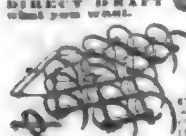

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WANTED—By an Englishman, by the 1st of May, '90, of great experience and ability, with references, a position as GARDENER or GARDENER and ESTATE MANAGER. Thoroughly understands the laying out of pleasure grounds and flower and kitchen gardening. Also, has good knowledge of farm work; has been employed for two years by the J. I. C. on landscape gardening.
W. LIGHTFOOT, *Gardener*,
Jekyl Island, Brunswick, Ga.

FOR SALE—FARM of 50 Acres, situated two miles west of the city line of Syracuse, N. Y., and five minutes' walk from railroad station. First class house, with hot and cold water, good barn, and well watered. For particulars and prices, address GEO. GEDDES,
jan30 Fairmount, N. Y.

A CHANCE to get superior APPLE TREES at a low rate. I will deliver home-grown trees at any station within 30 miles at Two Cents each. Order now. F. D. CURTIS,
Kirby Homestead, Charlton, Saratoga Co., N. Y.

SEEDS. Cooice Garden Seeds, Shrubs, Apple Trees, and Small Fruits; 61 leading varieties of POTATOES. The Wonderful Black Barley, weighs 65 lbs. to measured bush. Catalogue free. C. E. BOYD, Worthington, Minn. [feb1-3t

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GRAPES PLANTS of Best Quality. Warranted true to name. Lowest Prices and Largest Assortment of old and new varieties. At dozen rates, free by mail. Special attention called to promising Novelties. Send for *Price-List*. Address BUSH & SON & MESSNER,
feb1-4t Bushberg, Jefferson Co., Mo.

If you want the best Garden you have ever had, you must sow

MAULE'S SEEDS.

There is no question but that Maule's Garden Seeds are unsurpassed. Their present popularity in every county in the United States proves it, for I now have customers at more than 31,000 post-offices. When once sown, others are not wanted at any price. My new catalogue for 1890 is pronounced the most original, beautifully illustrated and readable Seed Catalogue ever published. It contains among other things, cash prizes for premium vegetables, etc., to the amount of **$3,500.** You should not think of purchasing any seeds this Spring before sending for it. It is mailed free to all enclosing stamp for return postage. Address

WM. HENRY MAULE,
1711 Filbert St. **PHILADELPHIA, PA.**

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5 A. J. C. C. HEIFERS—3, 6, 6, 7 and 7 months old; solid color, black points; from good butter stock, and sired by prize bulls. Must be sold to reduce stock. Will accept best offer for the lot and deliver them on cars here. Address
feb1-3t HILLSIDE FARM,
Box 288, Orange, New-Jersey.

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TEN LITTERS of PUPPIES,

Ready to ship, not akin, sired by Clifton Chief, litter brother to Carnetsons, the best living Collie in the world, and Pordham Squire, a son of Champion The Squire.

CHESTER WHITE, YORKSHIRE, BERKSHIRE, POLAND-CHINA and JERSEY RED PIGS of all ages.

FANCY POULTRY, and EGGS FOR HATCHING, 25 breeds, including Red-Caps, Minorcas, &c.

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Absolutely Pure.

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FOR SALE OR TO RENT—First Class CREAMERY, with De Laval Cream Separators and other improvements employed. Address for particulars C. H. VROMAN, Rodman, N. Y. [feb1-3t

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FOR SALE—FARM of 130 acres; 7½ acres in grapes. Good water, fine orchard, good buildings. Excellent chance for Milk Route. One mile from town. M. H. GILDERSLEEVE,
Hammondsport, N. Y.

FOR RENT, SALE or EXCHANGE—MY REAL ESTATE in this Village, 47 acres, one storehouse, three dwellings, plenty of outbuildings. Good chance for a merchant, a farmer and a physician. JOHN S. SMITH, Flatbrookville, Sussex Co., N. J.

EXECUTOR'S SALE.—The FARM of the late Wm. W. STACEY, in Fayette, Seneca Co., N. Y., 8½ miles from Geneva, N. Y., will be sold at Public Auction, at the Franklin House, Geneva, N. Y., on Thursday, March 13th, 1890, at 1 o'clock, P. M.
feb1-2t J. GEO. & D. L. STACEY, Executors.

NEW JERSEY FARM—*Great Bargain*, taken under foreclosure—30 miles from New-York, 7 from D. L. & W. R. R.; Small House, Large Barns, Young Apple and Pear Orchard; mostly in grass; some heavy Timber; 54 acres; $3,500.
feb1-2t* F. C. FARLEY, Trustee, Millburn, N. J.

FOR SALE—110-Acre FRUIT FARM; first-class in every way; within two miles of Dover, Del.; 8-room cottage house; nice shade; good barn and stable; rich land; 1,200 peach trees, 5 years old; 1,000 pear trees, 2 years old; 150 apple trees, 10 years old; 3 acres in berries and other fruit. Running water, fishing, gunning, boating on the farm. One price—$4,500. No exchange; terms easy. Owner,
feb1-4t WM. DENNEY, Dover, Del.

FOR SALE—43-Acre FARM; 6-room house, good barn and stable; good neighborhood; half-mile from railroad station; 1,000 peach trees, 3 years old; 300 pear trees, 10 years old; 3 acres in berries and other fruit; 6 acres in wheat, 16 acres in clover. Running water. Price, $2,000; terms easy. Possession April 1, 1890. Fruit on this farm will pay for it in two years. (NO EXCHANGE.) Two hours from Philadelphia. THOMAS S. CLARK,
feb1-4t Dover, Del.

FARM OF 315 ACRES—In Piedmont Valley, Va., 114 miles from Greenwood Depot, C. & O. R'w'y; half hour by rail from either Staunton or Charlottesville, 6 passenger trains daily. School and four churches near. Splendid neighborhood and known to tourists as the finest and most beautiful section in Virginia adapted for fine fruit, large or small, grass or grain; directly in the celebrated Albemarle pippin belt. Will sell entire or in two lots (160 acres and 155 acres); both have meadow and timber, are well watered and fenced and have beautiful building sites. To be sold at a great bargain; ½ cash, and balance to suit purchaser.
THOMAS SEMMES, (Owner),
feb1-3t 1300 Penna. Ave., Washington, D. C.

FARM FOR SALE
AT A GREAT BARGAIN,

In Adams County, Ohio, 50 miles east of Cincinnati, 8 from the river—300 acres, rich soil—in the midst of the famous "White Burley Tobacco District." One dwelling house, two tenant houses, two large tobacco barns, stables, etc.; good fences; 20 acres young orchard; 20 acres locust grove. Last year tobacco alone sold for $1,200. Splendid fruit and sheep country. Can be divided and worked as two farms. Price, $4,000. This is really a great chance. Terms easy. Write for particulars. PROF. S. H. FOSTER,
feb1-4t Fairhaven, Minn.

FOR SALE CHEAP—A Fine James River STOCK FARM of about 700 acres; about 150 acres low ground. One hundred acres in a fine state of cultivation, about 250 acres under fence. A good frame house of five rooms, kitchen, pantry and woodshed, a large barn. Manager's house of four rooms; hen house, implement shed, large corn crib, &c. All the buildings are in first rate order; most of them have been erected during the past few years. This farm is eight miles from Richmond, convenient to schools, church and railroad, in a very healthy locality, and is offered for sale on account of the owner being obliged to leave it for five months in the year on account of business. For further particulars apply to A. L. ADAMSON,
Real Estate Agent, Manchester, Va.

FOR SALE—One of the best FARMS in Connecticut, situated in Hartford County, six miles from Hartford; contains of about 175 acres, and is well watered. The barns are new, elaborate and of the most approved construction, supplied with running water, and stable accommodations for 60 head of cattle. Three hundred quarts of milk are now being made, which is retailed in Hartford, the route going with the farm. A large farmhouse, also five tenement houses for help or to rent. The farm has been very profitable, as can be shown by the books, milk and tobacco being the specialties. It has been in the family for three generations, and is only offered on account of the ill health of the proprietor. Any one meaning business call on or address
feb1 2t L. J. FILLEY, Broomfield, Conn.

EARLY SWEDISH OATS—75 cts. per bush. Pure seed. Large yielder; heavy, stiff straw. The best. H. C. PRATT, Canandaigua, N. Y.

$3525 Agents' profits per month. Will prove it or pay forfeit. New portable last out. A $5.00 Sample sent free to all.
feb1-4 W. H. CHIDESTER & SON, 28 Read St., N.Y.

FOR SALE—Running Stallion *Welcher*; thoroughbred; foaled 1881; by Warwick, dam Luna, by Asteroid. Welcher is a great race horse, a winner at all distances; see performances and pedigree. Stands 15 hands; rich brown and very handsome (no white); lots of bone and extraordinary fine trotting action; for style and symmetry is unsurpassed; invaluable as a sire to produce roadsters and fine, range carriage and saddle horses, which are scarce and in the demand at fabulous prices for home and export trade. Would Exchange for Carriage Horses. Terms, &c., address
ALTONWOOD STOCK FARM,
feb1-3t Mamaroneck, N. Y.

ALPHEA-UROTAS BULL CALF—Handsome solid orange fawn from great prize butter stock. Send for tabulated pedigree. Price low. E. L. LARKSON,
14 West 18th St., New-York.

FOR SALE—A J. C. C. BULL, 14 mos. old. This bull is a grandson of Duke of Darlington 7231; dam a 14-lb. cow. Color, grey, shading to dark brown, with full black points. A fine animal every way. For price and pedigree address
feb1-3t A. WHITTEMORE, Milwaukee, Wis.

ROCKLANDS HERD. This entire herd, import'd and reg'd HOLSTEINS, best strains. Bulls, Cows, Heifers and Calves for sale. Very lowest prices. Easy terms. Two young BULLS fit for immediate service, $80 each, or both for $150. Address
feb1-3t "ROCKLANDS," Gordonsville, Va.

FOR SALE—Thoroughbred ENG. MASTIFF DOG, by Rawle's Oscar out of Rawle's Lorna Oscar by Dudley's Danger out of Dudley's Jane Lorna, by Mead's Nero out of Mead's Onyx. Weight 180 lbs. Good points.
J. RAWLE, Jr., Bd. Bethlehem, Pa.

SHROPSHIRES.—Sheep bred out of imported stock from Lord Portland's prize-winners (England shows) at reasonable prices. Apply to
LOUIS M. LUSSON,
feb1-3t 917 Cherry St., Philadelphia, Pa.

CHESTER WHITE & BERKSHIRE PIGS, all ages. GUERNSEY CALVES. All stock strictly first-class, and old stock prize-winners.
feb1-13t C. E. MORRISON, Londonderry, Pa.

BERKSHIRES.—Young Sows of high caste; Sallie's Sweet Minerva's Sambo blood; no one has better choice Young Sows; Sows in Pig. Red Irish Terrier Dogs. Litter of Puppies from the best pair of coon-treeing Dogs on continent; natural tree Dogs. Also Trained Dogs on coon and squirrel. H. C. GRAFF, Kensington, Ohio.

CHOICE Improved CHESTER WHITE PIGS—Registered, transferred, crated and f. o. b. cars, by express or freight. Two mos. old, $12 each, or $20 pair; not akin. Only a few pairs left. This offer will not appear again. Orders booked and pigs shipped soon as matured. One BOAR over one year, weight, 600 lbs. To prevent inbreeding, will sell him, f. o. b. for $40, reg., trans. and crated. First N. Y. draft takes him. A bargain. Own brother sold for $60, 11 mos. old. Address
HERBERT A. JONES, Hinsdale, N. Y.
☞ Two YOUNG SOWS in farrow for sale.

CHESHIRE HEADQUARTERS.

TEN of the SEVENTEEN Premiums awarded to Cheshires at Great Buffalo Fair last fall, were awarded my herd, three herds competing. Two fine Sows, own sisters, 15 mos. old, due between the 15th and 20th of March. One won first premium at Buffalo; price $60. Other not shown; price $35. Four October Pigs, $15 each, two boars and two sows. First money takes them. E. S. COE, Kirtville, N. Y.

PIGS, Jersey Calves; Rough-Coated Collies, Bay Rock Hen-glen; Standard Bronze Turkeys, Ducks, Eggs. $1.50. SPRING PIGS cheap. (Mention this paper.) F. MORRIS, Nursery, Pa.

Mammoth Bred Selected BRONZE TURKEYS.—Toms of 37 and 38 lbs. weight; 36 to 40 lbs., price $6 to $7. Satisfaction guaranteed. Address
feb1-3t* E. W. HOLLENBENGH, Chambersburg, Pa.

Trios Bost Bronze Turkeys, 80 lb. weight. One Gob, and 3 Hens, not akin; my mammoth blood. Huge and fine; grand breeders; prize birds; $20 to first order. DR. CLOUD, Kennett Square, Pa.

BARRED PLYMOUTH ROCKS—Ten choice 1-year Hens, $13; 12 grand early Pullets, $15; fine Cockerels, $5.25 each. Golden Wyandotte, White Fly Rock, Light Brahma, Buff Cochin, Langshan, B. Minorca, and S. C. Brown Leghorn Cockerels, $3 each. Also EGGS. B. K. CLOUD,
Kennett Square, Pa.

G. K. LANDERS, WILLIAMSPORT, Pa., is Originator, Importer and Breeder of HEAVY WEIGHT BRONZE TURKEYS. Hundreds for sale. Also, ENGLISH MASTIFF FEMALE PUPS, from Bridget of Floetoe 3115, A. K. R., an imported dog, for sale—$25 to $100 each. My entire Herd of HOLSTEINS, testing 60 to 80 lbs. per day, for sale at slaughtering prices. CALVES from above stock, $30 to $50 each. No Circulars. Write for wants, enclosing stamp. feb1*

FELTON Strawberry and other varieties. Apples, Pears, Peaches, Grapes. Other Nursery Stock. Cat. free. Low Rates. H. C. DE COU, West Moorestown, N. J. [feb1-3

GLOBE Peach Trees with other leading kinds, in good supply for spring planting. General nursery stock—Currants, Osage, &c. Address
jn16eo* J. A. ROBERTS, Malvern, Pa.

SIGNAL 1170.

JERSEYS of the SIGNAL STRAIN a SPECIALTY. The home of Signorette, 880 lbs. 6¾ oz. in a year average daily grain less than 5 lbs. Champion of her age. G. W. FARLEE, Trenton, N. J. [eo*

CHOICE ENGLISH MASTIFF DOG PUPS, from $30 to $100. For detailed pedigree and prices, address HERBERT MEAD,
Lake Waccabuc, N. Y.

ACME PULVERIZING HARROW, CLOD-CRUSHER AND LEVELER "Its various qualities fit it for easy, rapid and efficient preparation of land, and in cheaply working the broad fields of a large farm into as fine a condition as a garden." Will be sent on trial. See advertisement on page 158.

FILSTON FARM HERD.

Containing some of the best blood known in America and on the Island. Headed by Matilda's Stoke Pogis 14888, son of that greatest of Jersey cows, Matilda 4th, 16,158 lbs. milk and 927 lbs. 8½ oz. butter in 12 months; official test 21 lbs. 6½ oz. in 7 days without forcing; by Stoke Pogis 3rd, brother to Stoke Pogis 2d. Bull Calves from the best Cows only (no Heifers) for sale. EDW. AUSTEN,
aug5-1yr* Glencoe, Md.

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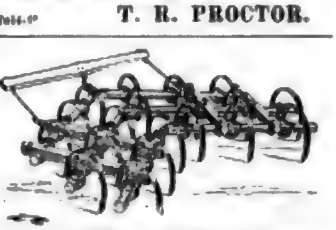
(9) Bagg's Hotel Farm,

UTICA, N. Y.

Another Special Sale of 20 Registered Female JERSEYS, consisting of imported Cows and some Daughters of Bunker, all in calf to John Bull's Stoke Pogis; also several young Daughters of John Bull's Stoke Pogis. They are offered at exceedingly low prices---$50 to $150---and are an unusually choice lot. Send for Catalogue, with pedigrees.

feb1-4* **T. R. PROCTOR.**



PATENT ADJUSTABLE

BAR SPRING TOOTH HARROW.

BEST IN USE.

Manufactured by

CHILDS & JONES, Utica, N. Y.

Send for Circular and Prices. Send for our New Catalogue of Dairy Apparatus.

THE WORCESTER BUCKEYE MOWER.

Has Patented Self-Oiling Pitman, Patented Hardened Steel Chafe Plates,

Maintaining the SHEAR CUT throughout whole life of machine.

A NEW SCYTHE—WILL NOT BREAK AT HEEL.

Many other New and Valuable Improvements. DON'T FAIL TO SEE IT. Send for New Circulars.

AGENTS WANTED in unoccupied territory.

Manufactured by

THE RICHARDSON MANUFACT'G CO.,
m1 Worcester, Mass. 13t

WELLS, RICHARDSON & Co's IMPROVED Butter Color.

EXCELS IN { STRENGTH PURITY BRIGHTNESS

Always gives a bright natural color, never turns rancid. Will not color the Buttermilk. Used by thousands of the best Creameries and Dairies. Do not allow your dealer to convince you that some other kind is just as good. Tell him the BEST is what you want, and you must have Wells, Richardson & Co's Improved Butter Color.

Three sizes, 25c. 50c. $1.00. For sale everywhere.
WELLS, RICHARDSON & CO. Burlington, Vt.

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GOOD NEWS TO LADIES.

Greatest offer. Now your time to get orders for our celebrated Teas, Coffees and Baking Powder, and secure a beautiful Gold Band or Moss Rose China Tea Set, Dinner Set, Gold Band Moss Rose Toilet Set, Watch, Brass Lamp, Castor, or Webster's Dictionary. For particulars address
THE GREAT AMERICAN TEA CO.,
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Entered at the Post Office at Albany, N. Y., as Second Class Matter.

THE CULTIVATOR AND

COUNTRY GENTLEMAN

ALBANY, N. Y., THURSDAY, JULY 31, 1862. VOL. XX., No. 5.

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GRAND SHORTHORN SALE.

SELLING KIND

Heifers - Freemen

On Wednesday, March 19th, 1902,

At 1 o'clock sharp, in the Auction Mart, Dublin, the Property of Messrs. Thomas Bellingham & Son, Ballinlough, Co. Meath.

Catalogues will be ready shortly, and may be had on application to the Auctioneers, Dublin.

BALLINLOUGH HERD.

Established 1870.

Pedigree Shorthorns.

Bulls and Heifers for Sale.

Apply to Thomas Bellingham & Son, Ballinlough, Co. Meath.

SHORTHORN BULLS.

Pedigree Shorthorn Bulls

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Has Twice the Capacity of Any Other Machine of Same Bowl Dimensions.

Skims Faster, Cleaner and Runs Easier than Any Other Machine.

Has Self-Balancing Bowl, Self-Centering Bowl Spindle, Self-Adjusting Bearings, Self-Oiling Gearing, Self-Locking Supply Can, Self-Locking Cream Spout, Self-Locking Skim-Milk Spout, Self-Locking Bowl Cover, Self-Locking Crank Handle, Self-Locking Tinning Device, Self-Locking Supply Can Cover, Self-Locking Supply Can Faucet, Self-Locking Bowl Cover Nut, Self-Locking Bowl Cover Nut Wrench, Self-Locking Bowl Spindle Nut, Self-Locking Bowl Spindle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle, Self-Locking Bowl Spindle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut Wrench Handle Nut, Self-Locking Bowl Spindle Nut Wrench Hand

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THE CULTIVATOR AND Country Gentleman

Albany, Feb. 28, 1890.

Fertilizers in Connecticut.

The Connecticut State Agricultural Experiment Station at New-Haven, as we learn from the recently issued Annual Report for 1889, Part I, has made a chemical examination of the 140 commercial fertilizers largely sold in the State, and the analyses of home-mixed fertilizers and waste products has brought the whole number of fertilizer-analyses up to 364. About 130 samples of feeding stuffs are now undergoing analysis; and 11 samples of suspected butter and 50 samples of molasses. The interest of the public in the work of the station is increasing, and it has been visited by a larger number of Connecticut farmers and citizens than ever before.

From the many valuable statements founded on chemical analysis of various fertilizing substances, we give a few in condensed form: Two samples of Canada wood ashes were analysed; and one of them, better than common or average ashes, contained 6.21 per cent. of potash, and 1.95 per cent. of phosphoric acid. The other, about the average quantity, had 3.09 per cent. of potash and 1.43 per cent. of phosphoric acid. According to the prices of these ingredients given in the report, the first would be worth about $11 a ton, and the other over $7, at market prices; but on land especially needing them they might be worth much more. A sample of ashes from a brick kiln had only 2 per cent. of potash. Tobacco stems had about 3 per cent. of nitrogen and 5 per cent. of potash, and would be worth at market rates about $14 per ton. "Tobacco dust" contains much sand, and is of less value as a fertilizer than tobacco stems, while the price is three times as great, being used mostly as an insecticide. Hen manure is more valuable than cattle droppings, because all is in solid form, while much liquid is lost from cattle-yards. It is sold at $15 a ton. Slaughter-house refuse, according to valuation at the station, is $6.74 per ton, but having usually much wetness, it may not be worth more than half that sum on the farm. Kainit has risen steadily from $8 a ton at the opening of the year to $10 a ton in October. It is about 12.4 per cent. potash, making the wholesale market price of its potash from 3 to 4 cents a pound. There has been a decided advance during the year in prices of nitrogen in nitrates, ammonia salts, and high-grade organic matters. The prices of superphosphates have not fluctuated. Muriate of potash has retailed from $3.90 to $4.20 per pound. The cheapest source of organic nitrogen is cottonseed meal, $25 per ton, or 13 or 14 cents per pound, while blood, fish, &c., are 16 or 17 cents per pound.

The analyses are given of six samples of home-mixed fertilizers. They furnish a favorable report. The ingredients were purchased in market, and in most cases the actual costs were considerably less than regular rates, so that in every one (with a single exception) the average valuation is higher than factory-made superphosphates. Money may be thus saved by farmers who are willing to do the work otherwise performed by manufacturers. It is right that manufacturers should make a fair profit on the cost of mixing, bagging, hauling, cartage, rent of buildings, &c., and the analyses made of 140 samples show that most of them are reasonably just in the amount of their ingredients.

It should be constantly borne in mind that the agricultural value of a fertilizer is often a very different thing from the market value. As this report very justly remarks, the effect on the crop "depends largely upon soil, crop and weather, and these vary from place to place, and from year to year, and cannot be foretold or estimated except by the results of past experience, and then only in a general and probable manner." And hence the importance, as the COUNTRY GENTLEMAN has often urged, of actual field trials in different localities and on different and unlike soils, to ascertain whether the increase in the crop will pay the cost of the manure. In the absence of such tests, farmers must work more or less in the dark. And in still greater darkness must those be compelled to work who have not even the guide of analysis to show them what substances or quantities they are using, a condition which applies to many of the farmers of New-York, where no adequate means have ever been taken for the analysis of commercial fertilizers. A provision of this kind, which we have repeatedly urged year after year, we trust is now about to be realized, and farmers of New-York to have the same advantages as those of Connecticut and other States.

Ensilage without Silos.

English farmers, as it is well known, have been in practice for some years, of building square stacks of green fodder and then placing them under heavy pressure, instead of packing the fodder in well built silos according to the practice commonly adopted in this country. The stacks are built on plank floors resting on cross-timbers; and when finished, plank held down with cross-timbers are placed on top, and the upper and lower cross-timbers are drawn together with chains instead of the common practice of weighting. We are not informed definitely what portion of these ensilage stacks have been injured or spoiled by the exposure at the sides, but there would be doubtless less of it injured in England, with less variations in the climate from heat and cold, and with less freezing in winter at the exposed sides, than in our sharper winters in this country.

It appears that in the trial made at the Geneva Station, with a stack of green hay, 14 feet square and 4½ feet high after settling, the fodder at the sides where exposed, was spoiled for two feet in, and for one foot on the top, and half a foot only at the bottom where the whole heavy mass was on it above. According to the published statement, there were when opened only 300 cubic feet of uninjured fodder at the centre; and as the original space occupied by it was 882 cubic feet, nearly two-thirds of the whole amount was lost.

But as this stack was opened in September, only five weeks after it was made, and before any of it could have been frozen, there might have been a greater loss, had it been exposed a month or two on its four sides to the freezing winds of winter.

Maj. Alvord gives in a recent number of the Boston Cultivator some account of another experiment performed last year in Massachusetts. A stack was made of uncut cornstalks, butts outward, 16 feet square and 10 feet high after settling. It was weighted with one foot of soil thrown on the top, which would be rather over half a ton to the square yard, and about the usual weight employed in this country. It was opened the first of November, and the only information given as to its condition was that the owner found "a lot of well kept forage which cows ate greedily." The quantity spoiled is not stated. It is not probable, however, that it would keep any better than the fodder at the Geneva Station, especially at the sides; but the earth covering probably excluded the air effectually, and there is no reason why the top and bottom should not be in good condition—the bottom layers having about 90 cubic feet to the square yard of green pressed fodder upon them, or a ton and a half to the square yard.

Additional experiments of this character, with ensilage without silo, will be interesting. They should be varied in different ways, and the results given by accurate measurement. It is questionable, however, whether farmers will be willing to sacrifice two feet of good fodder all around the outside, to protect that which is within, and whether they will not generally prefer good plank double walls and partitions, to the two feet walls of frozen and rotten ensilage to protect the interior.

Not Too Old to Succeed.—A western man, 65 years old, went to Louisiana a year ago, says the Sugar Bowl, and on 33 acres of land, with the help of only a 9 year-old boy, raised 9 bales of cotton and 300 barrels of corn; also, aided by a large garden, supporting a family of five at a cost of $58. Next season he will work 50 acres and aim for 15 bales.

A Satisfactory Windmill.

EDS. COUNTRY GENTLEMAN—I have noticed from time to time inquiries in your columns regarding the efficiency and durability of windmills, and beg leave to give a brief answer out of my own observation and experience, to G. H. E.'s question in your issue of Jan. 31. My windmill, the first ever erected for domestic purposes in the place where I reside, is a Halladay Standard, and of the adjustable kind, viz., so constructed as to relieve itself when the wind is too violent for the safe performance of the work allotted to it. (Such mills cost more, but are much better, than solid-wheel mills.)

The shaft of the mill is 35 feet from the ground, on a substantial tower, constructed as follows: Two sills 7 by 7 inches, 30 feet long, are tenoned and pinned firmly together upon a 12 inch hard brick underpinning wall, laid in cement mortar, and founded below frost, rising above ground 2½ feet; four 7 by 7 posts, one in each corner, 25 feet long, are drafted and framed so as to taper to the plates on top, which are 6 by 6, 5 feet long, but project about a foot, so that the framed portion is just 4 feet square on top; tenons are draw-bored and pinned in to two of the plates, which are halved out so as to receive the other two, which are also halved out so as to drop into them, and lock the whole together, where they are spiked, leaving a level surface for the upper platform, which is just 5 feet square. This platform is covered with inch boards, laid in two floors, crossing each other, thereby making a much stronger platform than single 2-inch plank would afford. A man-hole is left, through which two pieces of 5 by 6 timber rise as made against the plates, to support the turntable and mill; these masts rise above the top of tower from 6 to 10 feet, and extend below the top to a second floor, six or eight feet lower, laid upon trams framed in the posts, where they are securely set in cleats and nailed and braced. A third floor is laid below this, and even another on the sills; these make convenient storage places for tools, and also a good place for a lathe and shaft for a grindstone and other light machinery.

The whole tower is sheathed up, corner boards put on, small windows on each floor, and then shingled, with trap doors to the man-holes, and one door on the south side giving access to the ground floor inside the underpinning where the pumps are located. It is warm, no danger of freezing, and by plain ladders from floor to floor the top is accessible in a safe and comfortable manner.

Inside the walls is the well (which can be either driven or dug); mine is so located that the pitman of the mill is exactly over the north side of the well, within which the pump is bolted to a piece of plank, 3 by 10 inches, securely fastened.

Now as to efficiency. The mill, by actual tests, has pumped easily, in a fair wind, 250 gallons an hour, forcing the same through 300 feet of 1¼-inch pipe to a 1,000-gallon tank in the garret of the house, from which it is drawn to the bath room, kitchen and water-closet, giving hot and cold water on all the floors, with a hose attached for lawn, and stops and hays at the barn. The pump is 5 inches bore and 6 inches stroke, located so as to suck the water about 6 feet and lift it the remainder of the elevation, which is 80 feet above level of water in well.

As to care and durability—if carefully and well put up, such a plant will need an average annual outlay of about $1 per year for oil and repairs. Once a month is often enough to oil it, and there is nothing about the care of the mill and pump to take five minutes per day. I know of several mills that are pumping, grinding and sawing wood, economically, and am convinced that any man of average intelligence can make it a profitable addition to his farm machinery whenever there is feed to cut, scythes to grind, water to pump and stock to care for; and whenever a gravity supply of water is not obtainable, let him put such a plant into his premises, and his tired wife will by her smiles of cheerful appreciation reward amply the investment that will save her many hard strokes of the pump-handle. The principal thing is to get ample storage capacity to tide over a calm, and to make all joints tight and avoid loss by leakage. For a family of eight persons, and ordinary demands for house and stable, a storage capacity of 2,000 gallons is ample, and in most cases a 50-barrel tank will answer. Much will be saved by using self-closing faucets. Such an outfit will cost, complete, about $400, but if one has mechanical tools, no skilled plumber is needed, and much of the work can be done at odd times, so as to reduce the cost to below that figure. The Halladay mill is made at Batavia, Illinois, and from the makers much useful information can be obtained on the subject of G. H. E.'s inquiry. JOHN A. STODDARTON.

Hartford County, Conn.

Dakota Artesian Wells.

EDS. COUNTRY GENTLEMAN—I notice the paragraph you clip (p. 117) from Harper's, written by our Commissioner of Emigration, P. F. McClure. As you state, it contains some "remarkable statements." I have visited the cities referred to, and have seen the wells, and can vouch for his statements. I should like your readers to know something of our part of this very remarkable country, "the Big Sioux Valley" and its wells, though few of them are artesian, and every one furnishes pure wholesome water.

There are many different depths, some of them only 4 feet; yet the water is good. These are mostly in sloughs—not the eastern kind of a slough, but an old lake bed where years ago water undoubtedly covered the surface, but now wild hay grows in quantities from 1½ to 2 tons to the acre. The other kind of wells are deeper and dug anywhere in the valley and lands adjoining, naturally drawing toward the Big Sioux river, some 20, some 100 feet. I can cite you two wells that are good examples in our county. One west of here, depth 80 feet through a series of different colors of clay, sand and gravel, when a water vein was struck (fortunately while the men were at dinner); it burst through the sources and the well now has 70 feet of pure water. Another, on our farm—we dug 22 feet and found blue clay. Fearing we had a bad job, we took a common 2-inch auger and had welded a rod, and bored 7 feet, and it struck a stone. The men disheartened, at this, called to my brother, who was at the top of the hill. He descended and took hold of the auger and was grateful to hear water. The auger was raised, and with it came water, forced up 20 feet, and the last man out of the well had damp feet. This was five years ago, and through that 2-inch hole comes all the water that is used on the farm for cattle, horses, sheep and house, numbering sometimes over 200.

I could give other cases, but it is not my intention to bore the readers of your paper, only to let them see we have a remarkable county, plenty of pure water, good hay and the pure clear air of Dakota; also will rank high in the live-stock circles; and to those looking for good new homes, our latch-string is out. Maidens who want husbands, don't delay.

Codington County, Dak. OSCAR F. KEMP.

Deep-Rooted Grasses.

EDS. COUNTRY GENTLEMAN—I send you samples of cow grass, which I use in all my mixtures for both pasture and mowing. Cow grass is more permanent in its character, and will succeed upon clover-sick land, and produces a more abundant though later crop. The plant has a more luxuriant and permanent growth, and it flourishes upon poor soils. Where red clover will not do for permanent pasture, it cannot be excelled. I also use trefoil, of which I send you a sample. It produces abundantly, both for hay and pasture; comes early in the spring, does well on all soils, and cattle, sheep and horses prefer it to all other grasses. Lucern and sainfoin, both deep-rooted plants, should always have clean, rich land, as they grow heavy crops, can be cut four times in one season, and will be permanent for ten or twelve years. Our dry seasons seem to be a benefit to them, especially the alfalfa, which has produced 41 tons 17 cwt. of green fodder and 13 tons of hay per acre. This seems to be high, but it has been proved by actual experiment.

Both alfalfa and sainfoin, it may be said, are farm plants which will send down their long, fibrous roots deep into the ground, and when all other grains are dried up for want of moisture sainfoin and alfalfa look fresh and green. When Mr. Edward Wiswall came here last summer from Troy, as he was recommended by you, and saw the alfalfa stand fresh and green all over my pasture, he was astonished, and purchased mixed grass seeds for some 40 acres. A letter received from him in the fall said that his field of mixed grasses was beautiful. All who visit me can see

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...ing the ground, and the seed is sown in the ordinary manner. The ground is then rolled, and the seed is covered by the roller. The seed is then harrowed in, and the ground is rolled again. The seed is then harrowed in, and the ground is rolled again. The seed is then harrowed in, and the ground is rolled again

first year, to be repeated with the second growth the same year. As for the second year, my experience does not go so far, and I leave the subject for the present.

Drouth and the Apple Crop.

In the various explanations given of the causes which, in this region and in others on and off the black soil of Illinois, produced or helped to make the phenomenal crop of apples of the best sorts last year, the agency of the severe drouth of '87 has never, to my mind, been sufficiently recognized. And the fact that the two years following the great drouth of 1881, gave us apple crops quite beyond the common experience, seems to enforce this opinion. Both these drouths were sufficient to greatly weaken the hold of blue and other grasses in all orchards, and in many, to kill them outright. These conditions left to the tree roots nearly a monopoly of the moisture and plant food in the soil, where the roots live, grow, and feed, with the result of vitality and strength enough to perfect a great crop of fruit. Besides, the dead grass roots themselves contributed to the soil's riches, instead of, as when alive, robbing and impoverishing it. No doubt the almost complete failure of the crop of '87 resulted in starving and killing most of the insect enemies of the apple, and contributed to the soundness of the crop of '88, but the absence of insects did not cause shy bearers (in this region) like the Newtown Pippin, and Yellow Belleflower, to blossom, set, and mature a crop the first time for years. No doubt, too, the very heavy rains in July were sufficient to saturate the soil and keep it moist for the remainder of the season, and perhaps, the very unusual size of the fruit was the result. All of which facts and circumstances go to show the folly (in this latitude), of suffering grass to take possession of orchards and hold it, and the certain good and great results which will be sure to follow cultivation in all cases, and irrigation, where irrigation is practicable. Amateurs and others who intend to avail of irrigation and apply fertilizers, should begin the work now, for experience in California and Colorado has demonstrated that when the soil of orchards is irrigated to maturation in winter or as soon as the frost is out of the ground, there is need of little more water during the hot and dry season.

Feb. 19.—A snow storm of 6 inches falling on the night of the 17th, a cold, clear, raw, windy day yesterday, and the mercury down to 5° below zero this morning, and the main feature of the coldest snap of the season. The roads are so rough and below the snow so soft that there is small chance for sleighing where there has been none this winter. E. P. J.

Southwestern Michigan.

ED. COUNTRY GENTLEMAN—Since my letter of Feb. 6 there has been average winter weather. The mercury has not been so low as at that time—8d—but there have been several snow storms, giving us continued sleighing, and keeping the fields of wheat well covered. A twelve hours' storm on the 16th exposed some parts of the wheat fields, which showed green and bright, so that we are assured that up to the present time—Feb. 19th—the plant has suffered little, if at all, from the mild exposure during the first part of this critical period. To-day we are having a moderate blizzard from the southwest, at a temperature of 10° in the morning and 13° at noon, with probably about eight inches of snow on the land in the woods, and not badly drifted along the fences by open fields. Those weather prophets who based their predictions on Candlemas day—when the woodchuck came forth and saw his shadow—that there would be six weeks yet of winter weather, have so far been confirmed in their faith by the facts, and should the coincidence continue, the old legend will still annually assume an air of grave respectability despite the many failures in the past. All such superstitious weather signals die hard. They are born of a desire to peer through some loophole into the future, to enable us to forecast the coming season, which to the farmer seems a very desirable gift. So long as old earth swings regularly to its limit of oscillation, I will chance the coming of seed time and harvest, and trust to the law of compensation to even up at last a season's seeming deficiency.

So far the winter has been an unfavorable one for feeding sheep. The mild weather has cloyed the appetite for grain, so that not enough would be eaten to keep them constantly gaining in flesh. The tendency now is toward self-feeders—that is, racks for boxes for grain, where a supply runs constantly into a trough as fast as it is eaten out by the animals. Cattle, sheep, and even hogs, are fed by this plan. They soon regulate their eating by their desire for food. Stock always fatten fastest when every want is satisfied, and this plan seems fitted for supplying the demand of nature for food on short notice.

Our State Weather Signal Service has adopted a new feature for the monthly report. A map of the State is printed with each monthly bulletin, showing the areas of precipitation for the month, the normal precipitation for the month, figured as an average for the last 18 years, and also the snowfall for the month. These three maps accompany the bulletin for the month of January. Each county has its boundaries defined, and the depth in inches and hundredths of an inch is shown in each. Thus, not only a bird's-eye view is presented of the State at large, but every locality is credited with its appropriate record of precipitation. It is intended that in each bulletin is used hereafter the normal condition will appear, and also the actual precipitation for the month. Five thousand copies of this bulletin are printed, and copies will be furnished from the Signal Service office at Lansing, free, as long as the supply lasts. The weather service is now under control of the State Board of Agriculture. Lieut. N. B Conger, its efficient director, is very desirous of making it of practical value to the farmers of the State. Weather signals are displayed in 106 towns in the State, and upon the baggage cars of 26 trains on eight of the principal railroads. The plan of showing the actual precipitation and snowfall in the manner indicated is of far greater value than the former method of showing the facts by tables of figures. The snowfall chart for January shows that the wheat fields of the State are well covered, except in the centre of the southern half of the State. The showing for this month and next will be watched with much anxiety, as that will determine, in a large measure, the question, "What shall the harvest be?"

Boards of trade expend large sums for the testimony of experts upon this very point. The facts upon which speculators base their operations largely are here presented to farmers from authentic sources, and they stand upon an equality, regarding the outcome of the crops of the State, with those persons who take the "bear" side for speculative purposes. Take the crop of potatoes as an illustration: The rainfall for August and early September predetermines the outcome of the crop for winter use. The rainfall charts for these months show at a glance, to a certainty, what the digging will disclose. There is a good deal of ironical skepticism thrown at the service at present, and farmers, as a rule, have shown little charity for the less than 20 per cent. of mistakes in the forecasts which have been made in our State service. The future for farmers must depend more and more upon the intelligent use of the means at hand for furthering their interests, and those who employ these agencies wisely will certainly be benefited. A. C. GLADDEN.

Van Buren County, Feb. 19.

Plows, Harrows and Cultivators.

The rapidly increasing demand for the implements of the Syracuse (N. Y.) Chilled Plow Co., has made it necessary within the last year for them to increase largely their plant in all its departments. They have added a new Green engine of 400 horsepower, and new machinery, greatly facilitating their capacity for doing the finest work, in large quantities, and at minimum cost.

This company claim that the popularity of their plows rises largely from the fact that they construct them to correspond with the conditions of the soil in which they are to be used. They make one line in all sizes from a small one-horse to a three-horse plow, in both right and left hand, that is particularly adapted to hard clay or very stony land; these plows will hang to the ground under all circumstances. Another series of wood ream plows, much lighter, is adapted to use in sandy or light loamy soil. This plow has a sloping land side, which tends to keep the clods and earth from falling into the furrows, making work much more comfortable and easy. These plows are made in all sizes, right and left hand, and are very popular in the far West and South. The line of hillside plows made by this company is most varied, and they sell more of this style than all the other American manufacturers combined.

Their line of sulky plows is most complete, comprising the regular land-side sulky in both right and left hand, and a reversible sulky plow which will do perfect work on either level land or hillside.

In addition to plows, they make a full line of cultivating tools, including a spring tooth harrow which combines several improved features; steel frame cultivators; single and double shovel plows and wing shovels. This company is the sole manufacturer of the celebrated Chapman railway hay pitching apparatus.

The policy of the Syracuse Chilled Plow Co. has always been to turn out none but the best goods, and by conscientiously adhering to this principle, they have established a very enviable reputation.

Helping the Ice Crop.—Let me tell readers so far south that it is difficult to get good ice, how they can do it. I cut 8-inch ice in pieces 10 feet square, and shove them under the ice; in one or two nights, they will freeze solid. If a little care is used in not letting pieces of ice get between the block and the main ice as the ice goes under, the water will wash off the lumps. This makes 10-inch ice. I think 2 inch ice could be doubled and then shoved under again making 6 inch ice from 2 inch. My first trial was partly a failure. It was on a large pond and deep water, with a high wind which blew the water after the ice was cut and formed an under current and it melted the ice I shoved under; so instead of 10 inch thick it was 6 and 8 inches thick, but it was frozen solid the first night. The water did not freeze over for three days. This can be prevented by cutting in more shallow water and not in so windy weather. Three men can double up a hundred tons of 8-inch ice in one day. HARVEY BOWEN. *Vermillion County, Ill.*

Inquiries and Answers.

Ensilage—Soiling.—Would you sow peas and oats, and what quantity of each per acre, to cut and put in a silo for immediate use, to be fed out during summer and before time for filling silos with corn ensilage? I desire to avoid pasturing on account of noxious weeds, and to keep up a constant flow of milk. How soon after filling silo can I commence feeding with safety and profit? (1) What is the best book on soiling? (2) S. H. *Norfolk County, Va.* [1. A mixture of two bushels of oats and a bushel and a half of peas will make a good growth and yield more than either separately. Sowing portions in succession, to be fed as cut, or as soiling, would save the labor of placing the mixture in the silo, and afford earlier feed. The mixture, however, might be used for ensilage, for later feeding. Corn is the cheapest fodder for this purpose, and by planting the smallest and earliest varieties, as soon as they will be safe from frost, an early succession may be secured. Ensilage should be left after filling, till settled and the heat passed off. 2. None is now in print.]

Milk Ration.—Please give me daily rations for cows to produce the most milk from the following: Mixed clover and timothy hay; old process linseed meal; wheat middlings, $20 per ton; buckwheat middlings, $16; wheat bran, $18; corn meal, $19. W. A. P. *Belmont, N. Y.* [W. A. P. should have mentioned whether his cows were fresh in milk, or how long they have been yielding milk, and the amount given. He may construct the following ration: 14 lbs. clover and timothy hay, 3 lbs. corn meal, 5 lbs. buckwheat middlings, 4 lbs. wheat bran, 2 lbs. old process linseed meal. This ground feed must be all thoroughly mixed with the moistened cut hay, and the ration may be given in two or three feeds. It is very important that the feeds should be given uniformly at the same time each day, and that the milking should be done with regularity, and there should be no changing of milkers. All these things have an important effect upon the result. But common dairymen are proverbially indifferent as to regularity in feeding or milking, and they appear to think it of no importance how often milkers are changed, and the result is that they get, as an average, only about $25 as the gross proceeds from a cow per year—a sum for which she cannot be fed. E. W. S.]

Trapping Boxes, p. 10.—Sportsmen are organizing to protect this cunning little animal from wanton destruction. Where they are so numerous as to be a nuisance, the fox hunter is ready to pay more for the fox than his pelt will bring. If the men, therefore, who trap them, would use the pen instead of the steel trap, they could get a better price. The Inter-State Fox-Hunting Club, recently organized at Waverly, Clay Co., Miss., will buy foxes for their annual meets, rather than see them killed for their skins. The droppings from a pet fox, put in a small sack and dragged in a circle, and then to the place where the trap or pen is located, will bring them to the spot. Do this late in the evening, letting some fall out occasionally. Put pen or trap on an old road or path. C. V. T.

Butter Ration.—I have four Jerseys, eight grade Jerseys, and want the best ration for first-class butter, both as to yield and quality. Have plenty of corn fodder; very little hay; scant pasture; middlings easily accessible; as also corn, hominy chop, flaxseed meal, cottonseed meal, and corn on cob, whole or ground. L. H. *Carroll County, Md.* [L. H. is likely to find some difficulty in producing the best result in handling milk cows without any experience, trusting all to hired help, who are apt to be careless of directions given. His foundation fodder for a good milk ration (corn fodder, and that probably of field corn) is not desirable, as it furnishes not much more than mere bulk in the stomach, assisting digestion. Still a ration may be combined with it which, if all directions are well followed, will produce good results in milk and butter. This combination of food may be the following: 14 lbs. short-cut corn fodder, 4 lbs. cob meal, 6 lbs. wheat middlings, 2 lbs. hominy chop, 1 lb. cottonseed meal, 1 lb. linseed meal. The corn fodder should be cut as short as one-fourth inch, and should be moistened some hours before the ground feed is mixed with it. The cob meal, middlings, hominy chop, cottonseed and linseed meal, should be mixed together in the proportions given, dry, then 14 lbs. of this mixture should be mixed with 14 lbs. of the short-cut corn fodder. This may be given in two feeds, morning and evening. The easiest way to mix these feeds for 12 cows is: Take 48 lbs. cob meal, 72 lbs. middlings, 24 lbs. hominy chop, 12 lbs. cottonseed meal, and 12 lbs. linseed meal; mix these materials all thoroughly together, so that the parts will be all evenly distributed. Now 12 times 14 lbs., or 168 lbs. of short-cut corn fodder, is placed in a large box, which may be say 8 feet wide, 12 feet long, and 1 foot deep, and is thoroughly moistened with a watering-pot. After this water gets well soaked into the corn fodder, then the ground feed is spread evenly over it, and worked evenly into the mass of wet corn fodder. It is then ready for feeding, but will keep for 12 hours, and when fed should be distributed among the cows, half in the morning and half in the evening, according to their several individual needs. There must be judgment in the feeder to properly apportion the food—for cows of the same weight do not eat precisely the same. This ration is probably more than some of the cows will eat at first, but they will increase their digestive power. This is intended as a ration in full milk. They will be fed less as they shrink to a small amount of milk, and the oil meal will be omitted the last two months of milking. E. W. S.]

Feeding for Milk, p. 138.—I wish Mr. RYDER would give details of daily rations for cow referred to, *i. e.*, each kind of food and pounds. I do not understand whether he pours the liquid drawn off over the top of the feed in the box at times drawn, or over the next batch. Does he steam the cut fodder and hay, or merely dampen with hot water? J. J. O.

Cincinnati, O.

—Having read Mr. Ryder's most excellent article, I would like Mr. R. to inform your patrons if he used cold or hot water in mixing feed, and what size box he had and what material the box was made from. J. W. H.

Baltimore, Md.

Richness of Milk.—Mr. HENRY STEWART'S interesting article in the COUNTRY GENTLEMAN of Feb. 7th, leads me to ask whether he has made butter tests of Jersey or other cows, and if so, what is the highest per cent. of butter fat that he has found in any milk? H. H. [The per cent. of butter in milk varies with the breed of the cow, and with the individual cows of any breed. The breed of the cow, however, has the most to do with this variation, for it is well proved that the Jersey and Guernsey cows, on the average, yield more butter than any other breed. No one can make an estimate at all approaching accuracy as to the yield of any one breed, because only a few cows reach the highest point, while the largest majority approach the lowest point. As far as the particular question proposed goes, I can say that the highest percentage of butter actually churned from the milk of any cows I have personally tested, has been 6.38 per cent. from a Jersey. This was actual fat, or butter free from moisture and salt, and not butter as ordinarily put up for market. I have tested cows of the following breeds, viz., Ayrshire, Dutch, Guernsey, Jersey, and natives, and the Jersey gave the highest proportion of fat in the milk, closely followed by the Guernsey, which gave 6.12 per cent. In giving this reply to the question, it is only fair to say that these figures are by no means the highest claimed for these breeds, some cows having been credibly reported as having given considerably more than these. H. S.]

Castrating Rams, p. 86.—I have kept a small flock of sheep for thirty years, requiring the service of one ram, and usually procure a new one every year; consequently have one on my hands as often. My practice has always been to castrate them in spring, as soon as March storms are over and the weather gets warm, but before the grass starts much, as full feed might produce inflammation, and later flies might trouble—care being taken to keep them dry and not exposed to storms for a few days. I regard cording as barbarous and risky. I use sumac quills. I have castrated one nearly every spring for a long time and never had one but did well and got fat enough for any butcher for fall. It may be necessary to wash the parts occasionally with castile soap, and use turpentine if the flies bother, but I never had occasion to. Do not pay any attention to the superstitious notion that the moon's place in the zodiac has anything to do with it; the moon has other business, sufficient to occupy her time. When you have the quills, a sharp knife, and a stout courageous boy to hold your ram, go ahead; put on the quills above the testicles; tie them tight; cut off testicles; in twenty-four hours take off the quills, and if you take proper care of your ram, he will soon be well. S. H. *Columbia, Conn.*

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

HEAT AFTER SERVICE.—A cow after being served will come in season in about three weeks. She has done this now for some time. Could you suggest any remedy? C. S. *New York.* [Stop service, and give her treatment frequently recommended in back numbers for barren cows.]

FREEMARTIN.—I have a heifer which does not breed; she is a twin and the other is a bull. What is your opinion about her? If the other were a heifer, I think it would make a difference. H. L. W. *Wilmington, Del.* [You will find many notes on freemartins in previous issues—see index. It is not probable that she will breed.]

DEFECTIVE UDDER.—A cow which calved two days ago has an exceedingly large udder and no milk; was the same last year, and I should have butchered her but she accidentally got with calf. This is her third calf; milked all right on first calf from three quarters of udder, the other quarter not making any milk. T. B. *Wauconda, Ill.* [She is incurable.]

TUMOR ON JAW, p. 84.—Blister has been on about five days; the lump has broken, and is running slightly a bloody matter. What further treatment is needed? R. W. *Adrian, Mich.* [Sponge parts clean, then inject with some of the following lotion once or twice a day: Chloride of zinc, 4 dr.; water, 1 pint; mix. Continue the medicine internally.]

ASTHMA.—Bought a 9-year-old mare the other day. She at times breathes hard, coughs a little, and has a jerking in her flanks; some times you cannot detect it, then it will come worse while standing still. Driving to buggy does not seem to affect her, but loping her on back makes it worse. E. H. S. [Give treatment recommended for asthma in back numbers.]

WEAK IN HIND QUARTERS, p. 114.—The cow remains about the same. She should have a calf May 1. What treatment do you advise? G. C. *Reno, Nev.* [Keep her bowels moderately loose. Give 1 drachm of salol 3 times a day, also give her 40 drops of tincture nux vomica every 4 hours during the day for 10 days, then 35 drops every 4 hours for a week, and each week give 5 drops less at a dose. Cow must be turned two or three times every 24 hours.]

SKIN HUMOR, p. 84.—The mares are much improved; older one is free from blotches, younger has only a few left. Drove them for the first this morning, and they traveled with great vim. Ate quite well during treatment, and although the younger seemed considerably ill did not find it necessary to change regular course of feed. Are shedding coats in immense quantities, and in some places they look a little bare. W. P. S. *Netherwood, N. J.* [Give them ½ oz. Fowler's solution in feed twice a day, and each noon ½ oz. of cream tartar.]

SCOURS.—I have lost two valuable calves lately from "scouring." One was three days old, the other, one week. I have another two weeks old to-day that was taken yesterday, and will die unless I get a remedy. Passages are thin, like curdled milk. The calves strain and appear in pain; refuse the udder, become stupid, droop and die. Cow is fed eight to ten quarts of cob meal mixed with bran, corn fodder fed in the yard, and a liberal supply of hay at night. SUBSCRIBER. *Greenwich, N. J.* [You can find ample information on this subject in back numbers.]

HOCK SWELLING.—My 6-year old horse has enlargement on inside of hock (right leg behind), at or below button, which is raised about half an inch, and extending upwards. Enlargement is soft except at one point; has been there for four years. Horse was never lame to my knowledge before now, and only a little when he trots; shows it more going up hill, especially with load or when slippery. Horse advised about a year ago, badly spavined, came out all right, worked hard all summer, had a number of hard mountain drives with load, and has just come home from a 60-mile drive all right. S. T. C. *Ulster County, N. Y.* [Put shoes on both hind feet that are long behind, and have the heel calks twice as long as toe calks; then apply a box of golden blister to the affected parts. Give three weeks' rest, and repeat the blister in four weeks, giving ten days rest. Horse may be walked after blister is washed off.]

MARE DISTRESSED.—A large brown mare about once or twice a month seems to suffer great pain, paws the ground, lies down, rolls heavily and violently, rubbing the skin off of joints, groans, turns her head to the side and snaps her teeth; her bowels however act and she discharges wind freely. Gets quite sore after an attack. P. T. B. *Memphis, Tenn.* [The symptoms are those of colic, but the same are noticed in other diseases. Have the mare's teeth attended to. Give her a dose of physic, also feed her a tablespoonful of the following powders twice a day: Bicarbonate soda, 8 oz.; powdered charcoal, 6 oz. Mix.]

OUT OF CONDITION.—A 6-year-old horse, weight in good condition about 1,100, was very fat last spring; worked on farm past season; has done only light work this winter; am feeding him oats and corn ground together, with clean timothy hay and oat straw; seems to feel lively but will not eat enough to keep in good condition. H. B. S. *Elton, N. Y.* [Have the horse's teeth examined and attended to if necessary, then give him one of the following balls and repeat in five days: Chloride of mercury, 2 dr.; powdered barbadoes aloes, 1 oz.; powdered gentian, 4 dr., and sufficient quantity of syrup; mix and make two balls.]

CURB.—My stallion, while being worked for the fall races, commenced to hop after showing a mile in 2 30. We were anxious to lower that, and pushed him hard which forced a curb. The trainer blistered him, and apparently cured him. A slight enlargement is noticeable, and after a fast drive he goes a little tender. Can a permanent cure be made? C. S. C. *Richmond, Va.* [Put high heeled shoes on behind, calks at heels twice as long as toe calks, and apply golden blister. Let the animal have three weeks with only walking exercise. Do not attempt to speed the horse until curb is cured. If necessary, repeat the blister in three or four weeks, that is, if any curb still remains. This is a point of leverage, and where great strain is felt during high speed, therefore strengthen it well before applying the task.]

FILLING LAME AND AILING.—A filly coming two years old goes lame behind. Does not rest hind legs ahead as she should; rather drags them forward. Passes little urine at a time and that thick and high colored. (1) A filly coming one year old is out of condition; has appeared dull all winter (since weaning); eats little grain. She passed a great many small worms fore part of winter, now many larger ones from 6 to 9 inches long, some dead and some alive. Eats and feels better. (2) C. S. C. *Elizabeth, N. Y.* [1. Give her one-third of the following medicine every day: Venice turpentine, 18 dr; fluid extract colchicum, 3 dr.; raw linseed oil, 1 qt. Mix. Mix in feed twice a day two tablespoonfuls of the powder until all is used. Bicarbonate potass., 1 lb. 2. Feed Moore Bros.' worm and tonic powders and give a gill of raw linseed oil twice a week.]

LARGE BAG.—A cow that dropped her calf last Friday, Feb. 1, has a large bag, but scarcely any milk. Bag does not appear to be much caked. She went dry 8 to 4 months, was fed on starch and barley grains two weeks before she calved. We let the calf suck and bunt her all it will, and wash bag with cold water and rub it well two or three times a day. I had a case about the same two years ago, and lost the cow for a milker. Having a dairy of 60 cows am desirous to learn how to treat these cases when they come along. W. N. W. *New York.* [If the bag is caked, it should be treated as advised for garget; if not, it requires treatment as recommended for agalactia in back numbers. Some cows have flashy bags that look the very counterfeit of a model udder, but they contain scarcely any milk. Such udders have very little secretory function, and are not benefited much by treatment.]

PEA STRAW FOR HORSES.—My letter of inquiry on page 66 was only answered in part. I asked also about horses fed upon pea straw which affected their kidneys, but was not answered. A few days ago one of the same horses was found in severe pain, and given an ounce of nitre. Later he was found lying on his back with heels against manger, evidently in great pain. He was driven up and another ounce given, but as soon as allowed his head he assumed former position for ten or fifteen minutes, then got up, passed urine, and by noon was ready for his feed. Horses have not been fed any peas or pea straw since January 17. They do not seem to hold out to do much work, and sweat freely. They get two or three ears of corn and two or three quarts of oats three times a day, and oat straw which is a little rusted. Urine passed is of a dark color, sometimes pinkish with a white deposit. They seem hungry, but do not flesh up, and have severe attacks frequently. They are young, and we do not want to lose them. W. O. F. *Lafayette, Ind.* [I did not see the inquiry referred to. When you find any food disagreeing with an animal, stop feeding it. There is no need of feeding horses such things. Oats, bran and hay are reliable and the best material we have. In cold weather a little whole corn and carrots judiciously added are excellent. When a horse shows pain such as you describe give a physic ball and ten grains of morphine in a little water as a drench. Feed your animals now for ten days, twice a day, two tablespoonfuls of the following powder: Bicarbonate soda, 1 lb.; powdered wood charcoal, 8 oz.; powdered nitrate potass., 8 oz; mix.

OUT OF CONDITION.—A valuable draft horse one year old, has been ailing for six weeks. His difficulty in urinating, water highly colored and in reduced quantity; appetite poor; seems to be rather stiff about the neck, and in standing in stable, holds his head higher than usual and back from manger. Have not used him for some weeks. S. P. *Philadelphia, Pa.* [Give him a ball of the following every three days: Powdered barbadoes aloes, 2 dr.; powdered nitrate of potass., 1 oz; powdered gentian, 1 oz., and a sufficient quantity of Venice turpentine; mix. Make three balls. Also give tablespoonful of powdered bicarbonate of potass. in feed three times a day. Also give one of the following powders twice a day in a pint of old ale: powdered gentian, 8 oz.; sulphate of quinine, 4 dr.; mix. Make eight powders.]

LAME BOAR.—A six month-old boar about two weeks ago was found lying on left side unable to move; eyes inflamed and blinking rapidly. When lifted on his feet had no strength in fore legs; pressed his nose heavily on the floor, all the time shivering as with cold. Bathed spine with gargling oil; gave ginger tea, which strangled him; and put hot salt in a sack along his spine. Next morning he was able to stand but was very lame in left shoulder. Gradually improved, and to-day I let in a small young sow for half an hour. They ran round in the pen, but the boar was unable to raise himself up, and afterwards was as lame as before. Is in fair condition, not fat; food is wheat bran, ground rye and corn meal mixed with warm water, and occasionally a little salt or sulphur. R. S. *Stillwater, N. Y.* [Give ¼ dr. of salol and 20 drops of fluid extract of colchicum three times a day in a little warm molasses. Give 2 oz. of sulphate of magnesia dissolved in warm water and mixed with swill; repeat the latter in three or four days.]

Colts Scouring, p. 134.—Give 8 oz. paregoric; 4 oz. castor oil; wood charcoal enough to thicken it a little. Dose, one ounce given in two eggs well mixed. This remedy has never failed yet for me with calves and colts. *Bowling Green, Ky.* RAGAR.

Weather, Crops and Prices.

Meteorology for Feb. 17-23.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.61	inches.
Lowest	do.	do.	.....	29.49	do.
Mean	do.	do.	.....	30.16	do.
Highest temperature	do.	do.	.....	44°	
Lowest	do.	do.	.....	1°	
Mean	do.	do.	.....	24°	

One clear day; four fair; two cloudy. Two days on which rain or snow fell; total precipitation, 0.65 inch. Prevailing wind, W.; maximum velocity 36 miles per hour, W., on the 19th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	17th	18th	19th	20th	21st	22d	23d
Day	17°	19°	19°	20°	21°	22°	23°
This year...	28°	34°	28°	30°	30°	28°	2°
Normal.....	29°	29°	24°	27°	28°	30°	28°

Total deficiency for the week, 17°.

New-Brunswick—*Elgin, Albert Co., Feb.* 9.—An open winter here, with scarcely any snow, making it hard on the lumbermen. Have had many rains; the heaviest on Feb. 6, which overflowed a great many streams. Snow again as I write. J. C. S.

Vermont—*Middlebury, Addison Co., Feb.* 20.—A pleasant month so far, with the best of sleighing, which is being used to its utmost; the pulp mills are rapidly filling up, and the ice harvest is at its height. Potatoes are moving slowly at 30c. per bu.; onions at the same. The hay is nearly all pressed and delivered at $10 per ton for No. 1. What few apples held back are a drag on the market. The Vermont Board of Agriculture held a session here on the 13th and 14th; the entire board was present, and interesting papers given by Capt. Abell, Sec. Albert Chapman and others. The sheep interest remains about the same; milk and the dairy seem to be receiving their share of attention, which we trust will raise the standard of old Addison county. A. B. C.

Connecticut—*Hartford County, Feb.* 18.—At this writing the weather is quite warm, with light rainfall, which has taken off nearly all the snow in the south part of the county, and nearly all the sleighing is gone in the north part. The ice crop has been fairly good, and is about all gathered. The hauling of logs to the several saw mills, and thence to the railroads, has been continued for about four weeks through the north and west of this locality. Railroad ties are in good demand at $40 per 100. Live stock are quite low; a carload of fine, young, high-grade Jersey heifers, fresh this coming spring, were bought for about $20 each. Northern and western horses are being shipped in; prices for fairly good workers and drivers range from $150@250 per pair, weight about 1,900 lbs. each. Potatoes plenty at 50@55c. per bu.; apples in slow demand at $1.75 per bbl.; pork, 7c. per lb.; beef, 6c.; fresh eggs, 30c. per doz.; butter, dairy, 25@28c. per lb; creamery, 30@32c.; corn meal, $1 per cwt.; oats, 40c. per bu.; No. 1 hay, $16@18 per ton. A. D. W.

Virginia—*Surry County, Feb.* 15.—The winter continues remarkably mild and equable. Not a half inch of rain this month to date, and only a slight fall of snow, not enough to cover the ground. Lowest thermometer since Dec. 21, 18°, the 7th inst. The fields and roads are dry, traveling is good, and plowing going on apace. There may have been winters like this before, but I do not remember any. Farm work is well advanced. Corn, 60c. per bu.; bacon, 12½c. per lb.; butter, 30c.; dried apples, 4c.; dried peaches, 10c.; peanuts, 5@6c.; lard, 10c.; eggs, 15c. per doz.; blade fodder, good, $1.25 per cwt. For splitting rails, 50c. per 100, the rails 10 to 11 feet long; for cutting cord-wood, 75c. per cord; shingles, cypress, $4 per M; pine, $2½@3.50; building lumber, $10 per M feet; land, $3@10 per acre. R. W. J.

Norfolk County, Feb. 18.—An old-fashioned thunder shower yesterday, with little wind, but lightning as vivid and thunder as boisterous as in an August storm. It was the heaviest fall of water of the winter. The temperature following was nearly 70°. Thus far it has not been lower than 20°, and we have not had snow enough to date to engage in a snow balling frolic. Three warm rains are rapidly bringing forward the new sown peas and all winter vegetables, and the prospects are good for an early spring. We may have cold weather yet. The 2,000 market gardeners around Norfolk are preparing for a vigorous spring campaign. The soil is now in most excellent shape, and ready for an immense potato crop, while some have already planted. Just before the thunder storm of yesterday morning the first spring frogs got in their music. These "lays of the first minstrels," coupled with the singing of the birds, show that spring has come again. A. J.

Kentucky—*Pine Valley, Oldham Co., Feb.* 15.—We are now having our first winter weather, and a tolerably fair ice crop has been gathered. Live stock has wintered well, and is looking fine. There is a great scarcity of hogs, and as a result, we have to take a very low price for our corn, or hold it over another year. R. M. C.

Illinois—*Vandalia, Fayette Co., Feb.* 19.—Clear and calm; temperature at zero. Snow about three inches deep; falling the 17th, but on muddy roads, so that there will be no sleighing. Roads in awful condition, nearly impassable. Markets unchanged. Wheat crop badly damaged by the freezing and thawing in the last three weeks. H. A.

Wisconsin—*Janesville, Rock Co., Feb.* 19.—The cold is intense. Last night 6° below zero, and thus has it been for three nights, after a foggy, continued rain. We have had ten inches of snow at times during the week. To-day is bright and cold, the mercury—12.30 P.M.—14° above zero. Tobacconists busy sorting and packing for eastern markets—some one or two for St. Louis parties. The price is a little stronger. Broomcorn is out of our market entirely) I never see a load now. Our new (last summer, creamery did quite a business, but the firm sunk money. I regret to learn. Wheat, 74@75c. per bu.; rye, 50c.; barley, 44@55c.; corn, 35c.; oats, 26c.; apples, $1.70@2.50 per bbl.; butter, 14@20c. per lb.; eggs, 14c. per doz.; cattle, $2.25@3.25 per cwt.; hogs, $4.70; dressed, $5.25; hay, $6@8.50 per ton; coal, in trust, $9.50. Business fair; health good just now. W. H.

Dakota—*Acton, Walsh Co., Feb.* 14.—Since December, weather has continued mild. Jan. 1 live stock of all kinds were feeding over the prairie. On the 16th a heavy snow storm set in from the north. Thermometer was 30° above zero, but dropped steadily to 10° below zero, and snow ceased, but heavy wind drifted the snow to the south of us, impeding railroad travel. The cold wave checked diphtheria, which was making sad inroads across the river in Marshall county. Feb. 1 came in with another heavy snow storm from Manitoba, wind blowing 40 miles an hour. We now have about 15 inches of snow on the level. The question of frozen wheat for seeding purposes has been pretty well ventilated through the local press, but in many sections of Dakota and Minnesota the wheat was destroyed beyond hope. The legislature of Minnesota is coming to the rescue of northern counties; meetings are being held in the different townships to find out how much seed will be required by those who are not able to buy for themselves; the State will furnish the seed, the farmers agreeing to pay back in two or three years; all good men will say this is a generous proposition. The Dakota legislature was talking of doing the same thing, but the treasury is empty. Think of a territory with over 400 millions of taxable property being bankrupt! However, Walsh, Pembina and Grand Forks counties are able and willing to assist those within their borders who have had the misfortune to lose their crops; steps are now being taken to find out the amount that will be wanted. There is still some wheat in farmers' hands, but not enough to affect the outside markets to any extent. Markets in grafton: Wheat, No. 1 hard, 94c. per bu.; No. 1 northern, 85c.; No. 2, 75c.; No. 3, 60c. and so on down to 20c.; oats, 25c.; barley, 35@40c.; potatoes, 40c.; apples, retail, $2.75 per bbl.; eggs, 30c. per doz., and market fully stocked, butter, farmers' rolls, 15@16c. per lb.; creamery, 22c.; wood, $5@5.50 per cord; prairie hay, $5@5.50 per ton. S. P.

Agricultural Department.

Editorial Notes and Comments.

Mowing Machines.—Our readers will find in another column a letter from Mr. Ketchum, in which he gives his reasons for preferring the Kirby machine to the Wood. We have no doubt that Mr. K. is correct in his opinion, and that the Kirby is the best machine for those who can afford to pay for it. But we have also no doubt that the Wood machine is the best for those who cannot afford to pay for the Kirby. The Wood machine is the cheapest, and it is the lightest, and it is the most easily managed. It is the machine for the farmer who has but a few acres of grass to cut, and who has not the means to purchase a machine which will do the work in a little more perfect manner. We have used the Wood machine for several years, and have found it to do its work well, and to be very durable. We have also used the Kirby machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Manny machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Ketchum machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Buckeye machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Champion machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Excelsior machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Empire machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Eagle machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Star machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Crown machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Diamond machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Gem machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Jewel machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Pearl machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Ruby machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Sapphire machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Topaz machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Turquoise machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price. We have also used the Zircon machine, and have found it to be a very good machine, but not so much better than the Wood as to justify the difference in price.

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pose of desolation. Do not plant too many trees on lawn, but shrubs. Secure the best and hardiest, which require little attention.

W. C. Barry remarked that pretty good evidence is afforded by the amount and style of ornamentation surrounding the houses as to what kind of people they are who reside therein. A serious obligation of parents is the bringing up of their children in the love of flowers and trees.

The treasurer's report showed that the receipts for the year had been $204; disbursements, $204; balance, $10.

Prof. Caldwell presented the report of the chemistry committee. He gave interesting information as to the use of nitrates as fertilizers. No matter what occurs, plant food cannot leach below 15 inches in depth. Nitrates behave about the same in sand as in soil. Cannot find any soil that will not hold back phosphates, and cannot find soil that will hold nitrates. Nitrates should be put on when there is a crop there, whereas phosphates can be put on at any time.

Stable manure owes its value to nitrogen. Nitrification goes on rapidly in summer, through bacteria. The more tillage, the greater formation of nitrogen. T. B. Terry's plan of cropping all the year round was commended. Market gardeners reap the benefit of their constant planting by using all the available nitrogen.

In reply to questions, the professor said that he did not think there was any loss by spreading manure in winter. Nitrogen in fresh manure is in a condition to be absorbed. Soil can take up free nitrogen in the air; also by aid of bacteria. There is no loss in nitrate of soda by heavy applications in spring; it gradually becomes fixed in the soil and converted to nitrogen. Nitrate of soda is better plant food than sulphate of ammonia. J. H. C.

Entomology and Bees.

Insects and Fruit Culture.

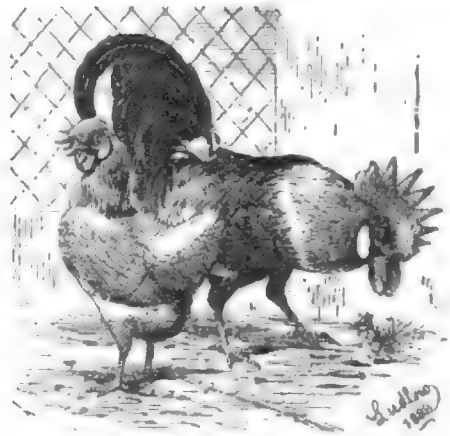
Following is a synopsis of a valuable lecture delivered last week at the farmers' institute at Chatham, N. Y., by Dr. J. A. LINTNER, State Entomologist:

The agricultural interests of the State, Dr. Lintner said, were suffering a serious depression. Old methods of farming were no longer remunerative, and new methods and new branches of industry had to be sought and followed. In this emergency, when the ordinary crops could no longer be cultivated with profit, the farmers of Columbia county had wisely turned their attention to two interests which were yielding a good return, viz., those of dairying and fruit-growing. The latter was admirably adapted to this locality, for it was doubtful if better apples could be grown in any other part of the world than in this county. Fruit culture had been wonderfully extended in recent years. The fruit crop of the United States, which in 1850 was valued at $9,000,000, in 1886 amounted to $187,000,000. This extension had necessarily brought with it a great increase in plant diseases and fruit insects. Thus at present we know 239 species of insects operating on the apple tree. The attacking insects are rapidly increasing, through change of food plants and introduction from abroad.

It is fortunate that with this increase of pests, we have increased in even a greater extent in our knowledge of methods for their destruction. We are now better prepared to deal with our insect enemies than is any other country on the globe, and we are doing it more successfully. We have in the arsenical preparations most valuable means of controlling most of our fruit pests. This is illustrated in the signal success that is attending the spraying of apple trees with a mixture of Paris green or London purple in water, to protect from the apple-worm of the codling-moth. There was no longer any necessity of producing worm-eaten apples. They should be regarded as a disgrace to the fruit-grower.

The doctor explained in detail how the arsenical mixture should be prepared, and how, and when, and how often it should be applied. It not only protected from apple worm, but by preserving the foliage from destruction by the many leaf-eating insects, permitted the fruit to develop in size, flavor and keeping qualities, such as could not possibly be attained without preserving all the foliage of the tree—as essential to the fruit as the lungs are to man.

Recent experiments had also proved that curculio attack on the plum, cherry and apple could also be prevented by spraying with London purple—for the plum and cherry, a week earlier than for the apple. This spraying was so important that a good force pump should be regarded as an indispensable implement upon every farm—as uniformly found upon it as a plow.



A GOOD PAIR OF BROWN LEGHORNS.

The following were pointed out and enlarged upon, as the principal requisites of the successful fruit grower:

He should know the pests that injure him—their common names at least, and their habits and transformations.

He should be able to distinguish his insect friends from his foes, so that he could protect and multiply those that were his allies.

He should acquaint himself with the best insecticides in use, and how to apply them most effectively and economically.

He should avail himself of the entomological publications issued by the U. S. Department of Agriculture, by the several States, and by the experiment stations. Our literature of economic entomology is now the best in the world, and is largely attainable free of cost.

He should know the importance of protecting and encouraging insectivorous birds, of which there are a large number especially commissioned to arrest the multiplication of injurious insects. Upon the English sparrow he should make a war of extermination, as it is an unmitigated nuisance and an increasing evil. It drives away the four species of our native birds—the robin, Baltimore oriole, yellow-billed cuckoo and the black-billed cuckoo—which, so far as we know, are the only ones that can feed on hairy caterpillars, which are among the worst insect pests of the fruit grower.

In conclusion, Dr. L. urged his hearers to make a vigorous fight against insect pests. It could be successfully done; it would afford relief from an excessive taxation, and it would often supply the missing factor in the solution of the difficult problem that so many were endeavoring to solve, viz., "How to make the farm pay?"

To a Beginner with Bees.

ED. COUNTRY GENTLEMAN:—"Perplexed" writes that she and her sister became, about a year since, the possessors of a colony of bees in an old box hive. The bees have not swarmed since they have had them, and she thinks not for three years. She adds, "we know nothing of bees except that they sting;" and asks why the bees do not swarm, what kind of a hive they should procure, and for "other hints suited to a perfectly new beginner."

The past two years have been very poor years for bees, and it is probable that the light harvest explains why the bees have not swarmed. Bees breed rapidly, only when they can gather, and so in poor seasons they do not become populous, and need not to swarm.

"Perplexed" had better by all means transfer her bees into a good Langstroth hive with Langstroth frames. This hive if not the best is certainly very excellent; and the one most in use in the United States. To tell in a brief article how to handle bees, and not get stung, how to transfer, and manage the bees "to secure both pleasure and profit" would be quite impossible; but I can give three hints that I am sure will do for "Perplexed" all she asks: First, she should purchase a good manual and study the mysteries of the hive, and learn how all necessary manipulations are performed. This will in itself give the pleasure, and lead to the profit. She should also subscribe for one of the several excellent bee papers published in the United States, that she may see what others are doing, and learn of the many improvements that are constantly being made in this industry. Again, "Perplexed" should, as soon as spring opens, visit some experienced bee-keeper—there must be such near her home—and see how easy it is to handle and care for bees. Such an object lesson will be a substantial aid, and with the knowledge gained from book and paper, will change "Perplexed" to "Eureka." A. J. COOK.

Michigan Agricultural College.

The Poultry-Yard.

The Leghorn Fowl.

It is now fast approaching twenty years since the Leghorn made its appearance in this country, and it is yet regarded with large favor. In fact, during the last year or two there has been a great revival of the Leghorn, and the recent show of the Leghorn club, held at Derby, was a wonderful tribute to the hold which the breed has obtained. Here were gathered no fewer than 174 pens of Leghorns alone, amongst them a large majority of very fine specimens. Something of the revival I have spoken of is the result of a series of challenge cups for Browns and Whites, subscribed for by Leghorn breeders.

The Whites came first into Britain, I believe, in 1870; the Browns in 1872. The former did not command much attention. But at that time there was considerable prejudice against white plumaged fowls for practical purposes, some remnants of which yet remain. When the Browns came over they were immediately taken up with spirit. After a year or two the Leghorn club was established, the first of the Specialist clubs which are now so common. The opposition which the Brown Leghorn met with, due to ignorance, helped make it better known, for there is no better advertisement to man or book or animal than to be well "slated." Now the breed is spread all over the country, and in Scotland especially it is very largely kept. Had it not possessed very great economic powers it could not have stood the fire to which it was subjected, but its hardiness, its splendid laying qualities, and its attractive appearance have placed it in a position of great prominence.

Early in the present decade friends of the Leghorn were dismayed at the way in which the Brown variety was bred. The cry was all for color, regardless of size, and as the only fowl which the Leghorn resembles in color is the Black Red Game, that breed was resorted to in order to obtain the rich plumage which is a characteristic of it. The result was lamentable. The desired color was obtained, but there came also the longer leg, the small body, and the harder feathering of the Game, as well as the enfeeblement of the laying powers. For a time, the birds exhibited in Brown Leghorn classes were not Leghorns at all, but cross-bred Game Leghorns. Happily the folly of this was seen, and a return was made to a better state of things. Yet the Brown Leghorn as seen in our shows is not like that which was first introduced, and I think it is smaller in body. Some birds which I imported about 1875 were much shorter on the leg than any I have seen or read of either in England or America. In fact, the only ones at all like them were on exhibition at the Copenhagen show, four years ago. Still the breeding of Game blood with the Brown Leghorn has been abandoned, and year by year the birds are more nearly resembling the older type. Certainly as a breed of laying fowls the Brown Leghorn has no equal for those who live in places where a dark plumaged fowl is an essential, save it be the Minorca, which produces a larger egg—not a larger one, however, than the White Leghorn.

Since the introduction of the Brown and White varieties, we have had several others. The Black, the Cuckoos, and the Rose-combed varieties have come to us from America, but the Piles, the Duckwings, and the Mottled have been the result of efforts in crossing by English breeders. They, however, need considerable attention to bring them to the perfection of the older breeds, but with this attention there is no reason why they should not do well. It will also be remembered that at the time of the Copenhagen show I gave in your columns particulars of several colors which up to that time had been unknown in England, and I had not heard of them as having been known in America. These were Dappled-Greys, Yellows or Chamois, and Partridge-colors, the latter a richer variety of the Browns. The yellows were also to be divided into pure yellow and buffs, the latter of which may be designated as Chamois. At the recent show of the Leghorn Club, Mr. Verry exhibited a couple of these buffs, which he had obtained from Denmark after great trouble. The pullet shown was a beauty. If this color could be brought to perfection, it would be a great acquisition, as it is very beautiful, and with the exception of the buff Cochins we have none of it. It is right here to acknowledge the great services rendered to the revival of the Leghorn by the gentleman just named, for his pamphlet on the Leghorn fowl has had much to do with the development of the breed.

It may be well to say that there is no doubt that the English Leghorn differs considerably from the American. This is not the result of crossing with other breeds, for the Whites have not been so crossed, but I take it to be the effect of climatic influences. The climate and conditions which produce a spare habit of body, which I think is acknowledged to be a characteristic of denizens in the States, must have the same influence upon animals. On the contrary the conditions which of themselves produce a greater amount of flesh, which is undoubtedly the case in England, are seen in the Leghorn of to-day. Hence the difference in appearance between the portraits of British and American Leghorns. I do not believe that there is any appreciable difference in their economic qualities, it being entirely one of appearance.

In his estimate of the Leghorns Mr. Lemoine gives the following figures.

	Browns.	Whites.
Eggs per annum....	180	140
Weight of Egg.....	2 oz. 256 gr.	2 oz. 99 gr.
Food per day.....	4 oz. 256 gr.	4 oz. 256 gr.
Meat, 6 mos. old....	3 lb. 15 oz. 320 gr.	3 lb. 12 oz. 320 gr.
Bone, 6 mos. old....	2 lb. 12 oz. 140 gr.	2 lb. 10 oz. 140 gr.
Wt. when hatched,	1 oz. 103 gr.	1 oz. 72 gr.
Gain per day, at first,	107 gr.	87 gr.

Each variety has indifferent flesh, and rarely sits. The Browns develop faster than the Whites. In many places the Whites produce considerably more than 140 eggs per annum, and in this point the above scarcely does that variety justice, as also in the weight of the egg. STEPHEN BEALE. *H——, England.*

See sketch of a typical pair of Brown Leghorns on this page, and one of the White variety on page 171.

Rye as Feed, p. 169.—I beg to communicate an opinion of some poultry raisers in Germany on rye feeding, as being too heating. I have never fed it myself, and have never known anybody among my acquaintances, both in Germany and England, to feed it, for the one objection just mentioned. If I should raise poultry extensively, I should adopt a plan I followed for several years in Germany and England—*i. e.*, for egg supply feed best quality of wheat, and for meat feed barley, and in both cases plenty of meat scraps, with crushed bones when fresh. O. K. *Charleston, S. C.*

The Corbett System.—Please let me know where I can learn something of Corbett's method of hatching chickens. *J. O.* [A book entitled "The Poultry-Yard and Market," by A. Corbett, was published in 1877 by the Orange Judd Co., 751 Broadway, New-York, but we fear it is now out of print.]

Bronze Turkeys.—Please give correct markings of pure bronze turkeys. *P. T. B. Memphis, Tenn.* [Send a dollar to this office for the Poultry Standard of Excellence, and you will have the whole thing; too long for us to reprint.]

New Advertisements.

Arnold & Son, L. ..... *Short-Horn Bull Calves.*
A. B. C. ..... *Skeletons Wanted, &c.*
Alcock, Joseph ..... *Situation Wanted.*
Ames Plow Co. ..... *Vertical Swivel Plow.*
Bennett, H. L. ..... *Stump-Puller.*
Barnes & Co., W. Atlee .. *Choice Seeds.*
Nor 97. ..... *Situation Wanted.*
Bishop's Sons, E. B. ..... *Kentucky Mules.*
Box 44. ..... *Dairyman Wanted.*
Brown, Geo. A. ..... *Cream Separator.*
Coe, E. E. ..... *Hunters and Carriages.*
Crosman Bros. ..... *Cutlasses and Guns.*
Dudley, Miss H. C. ..... *Bronze Turkey Eggs.*
Dreer, Henry A. ..... *Reliable Seeds.*
Emerson, F. ..... *Fruit Trees.*
Emmert, J. H. ..... *Creamery for Sale or Rent.*
Evergreen Nurseries ..... *Evergreens, &c.*
Gale, J. T. ..... *Guernsey Cows.*
Hunt, Myron A. ..... *Plants and Seeds.*
Hale, Edw. P. ..... *Food for Cattle.*
Harder, Milcard ..... *Farm Machinery.*
Hoff, Chas. H. ..... *Trotting Stock, &c.*
Jenkin, Miss O. ..... *Poultry and Eggs.*
J. S. ..... *Situation Wanted.*
King, Wallace. ..... *Jersey Calves.*
Lalor, F. E. ..... *Canada Ashes.*
Morris, Stone & Wellington. *Shire Horses.*
McClave, Chas. R. ..... *Bronze Turkeys.*
Mowry, W. E. ..... *Jersey Cattle and Farm.*
Ordway, Mr. ..... *Hens Wanted.*
Platt, T. B. ..... *Seed Potatoes.*
Parry, Wm. ..... *Nursery Stock.*
Philips, C. C. ..... *Choice Stock.*
Pear, F. S. ..... *Cleveland Bay Stallion.*
Quigley, L. O. ..... *Bronze Turkeys.*
Robert ..... *Poultry Wanted.*
Stephenson, J. H. ..... *Dorset Horned Sheep.*
Shawver, G. L. ..... *Horses.*
Smith, R. H. ..... *Eggs for Hatching.*
Sears, Henry & Co. ..... *Nursery Stock.*
Steward ..... *Situation Wanted.*
Smith, Wm. H. ..... *Garden Seeds.*
The Am'n Agriculturist. *Prizes in Poultry.*
The Page Mfg. Co. ..... *Kit of Tools.*
The Eureka Mfg. Co. ..... *Salesmen Wanted.*
Van Winkle, W. W. ..... *Farm for Sale.*
Wood, J. H. ..... *Short-Horns.*
Wheeler, H. L. ..... *Farm for Sale.*

Subscribers' Wants.

H. O. Beebe, *Hoosick, N. Y.* Choice clover for feeding lambs.

Pamphlets, &c., Received.

Bennett & Son, E., Topeka, Kas. Catalogues of Clydesdale, Percheron and Cooch Horses; pp. 148, with numerous portraits.

Bennett, H. L., *Waterville, Franklin Co., O.* Illustrated Circulars of Stump and Rock Extractors—see advertisement, p. 170.

Billings, Dr. Frank S., *State University, Lincoln, Neb.* "D. E. Salmon, Swine Plague and Hog cholera;" pp. 44.

Bond, C. S., *Worthington, Minn.* Seed and Nursery List.

Brinton, Jos. H., *Thornbury, Chester Co., Pa.* Circular of Pennsylvania Greenstone or Serpentine.

Buhr & Son & Meissner, *Bushberg, Jefferson Co., Mo.* Price List of American Grapevines.

Buyeman, M., *Middelburg, Holland.* Circular of Botanical Specimens Wanted and For Sale.

Carskadon, T. R., *Keyser, W. V.* Circular for Book on Ensilage.

Ferry & Co., D. M., *Detroit, Mich.* Seed Annual; pp. 128, with woodcuts and colored plates—see advertisement, p. 178.

Hale, Edw. P., 210 *Franklin St., New-York.* Circular of Cod-Liver Oil for Cattle, with high Testimonials—see advertisement.

Jackson, Geo., *Beech Grove, Morton Co., Ind.* Circular of 11 Jersey heifers for sale.

Livingston's Sons, A. W., *P. O. Box 958, Columbus, O.* Catalogue of Buckeye Garden Seeds; pp. 68, with woodcuts and colored plates; see advertisement, p. 365.

Murdoch, J. R. & A., *Pittsburg, Pa.* Nursery and Seed Catalogue; pp. 68, illustrated.

Pierce, Geo., *Evergreen, Door Co., Wis.* Nursery List; pp. 16—see advertisement, p. 178.

Quinnipiac Co., *New-London, Conn.* Fertilizer Calendar; pp. 32.

Reid, E. W., *Bridgeport, O.* Catalogue of Strawberries, Raspberries, Blackberries, Grapes, &c.; pp. 36, with woodcuts and colored plates—see advertisement, p. 178.

Southworth & Roy, *Middletown Springs, Vt.* Twenty-Fifth Annual Report of Middletown Cheese Co.; pp. 10.

Suffern, J. C., *Voorhies, Ill.* Seed List.

Thornton, John, 7 *Princes St., Hanover Sq., London, Eng.* Catalogue of Sir Robert Loder's Shorthorns, to be sold at Whittlebury, May 15; pp. 18.

Wardner, W. W., *Geneva, N. Y.* "The Utility of Experiment Stations," address at Geneva Farmers' Institute, Feb. 8-9; pp. 14.

Inquiries and Answers.

Black Knot—Pines.—Can you give remedy for the black knot on plum and cherry trees, or what is the cause of it? Is it the soil or the treatment while growing? I have tried various things without success. (1) When is the proper time to plant the common white pine? I once set out a hundred as screens, (but have forgotten what month,) nearly all lived and grew well. Since, I have tried two seasons, without any success, nearly all failed. Should they be planted shallow or deep? I noted in the timber where they spring up spontaneously, they grow nearly on the surface. (2) Would they grow from the seed? Do the seedmen have it for sale? (3) W. *Providence, R. I.* [1. Plum trees are easily saved from the black knot by cutting it off and burning it, on its first appearance, cutting deep enough to remove it thoroughly, and keeping a close watch for any new breaking out. If neglected till the trees are much infested with it, the only remedy is grubbing up the tree. Commonly there is no difficulty, and but little labor is required, if a close watch is made for its removal on the first appearance. Failure is the result of neglect. 2. Young pines may be transplanted with safety if sufficient earth is taken up on the roots. If removed from shade to open ground, they require a little more depth of soil. The best time is in spring, as the buds are beginning to swell. 3. They grow readily from good or fresh seed, planted in a fine mellow soil, not over half an inch deep, and kept shaded. The large city seed-stores usually keep the seed for sale.]

Hen-House.—Please give plan for good and convenient chicken-house, for a farmer, large enough for 100 to 150 chickens, with all necessary conveniences—plan, size and arrangements for roosting, feeding and exercise-room in winter, and laying and hatching apartment. W. C. S. *Williamsport, Ind.* [You will find plans of poultry-houses, together with the various fixtures, on pages 71 to 75, and 81, of vol. III of Rural Affairs; on pages 34 and 220 of vol. II; on pages 209 and 303 of vol. VIII; but more particularly on page 57 to 71 of vol. VI. From these you may make such selections as will best suit your particular requirements.]

Lucern.—Can alfalfa be grown with profit in the valleys along the Susquehanna in Pennsylvania? If so, what is the best mode of planting and cultivating it? Does it have to be worked after being planted, and how much seed to the acre is required? Can it be cut the first year? H. [Lucern or alfalfa may be treated somewhat like clover. It may be sown with barley, at the rate of a peck to the acre, on deep rich soil which has a natural drainage. It will not succeed in a wet subsoil. Sown with barley, it will make a rather small growth the first year, but a strong one the second season. Sown alone, it will come forward more rapidly. It is sown in drills only on very weedy land, and cultivated. It may be cut three times a year as far north as Pennsylvania.]

Cabbage for Milk.—Are cabbages good for milk production and safe as food for cows, if fed with a mixture of wheat bran, corn meal and oil meal? S. E. B. *Canandaigua, N. Y.* [Feeding value of cabbages was given on page 806, Nov. 29. All the good qualities and the drawbacks of cabbages are there given. Cabbages are healthy food for cows, but give a peculiar taste to the milk which can only be got rid of by heating the milk to 130° immediately after being drawn from the cow. This will take out the cabbage flavor and it will make good butter. If cabbage was to be fed to any extent it would be better to feed it the same as ensilage. The cabbage should be run through a cutter—20 lbs. of cabbage mixed with 5 lbs. of cut hay; with this mix 4 lbs. corn meal, 5 lbs. wheat bran, 1 lb. linseed meal. This would produce a good yield of milk. Fed in this way, it would affect the flavor of milk less than to feed the cabbage alone. E. W. S.]

Bone Manure.—Will it be profitable to use pure ground bone fresh from mill at $1.75 per 100 lbs, or must it be dissolved with acids to become a good fertilizer? J. E. H. *North Orwell, Pa.* [It is impossible to know whether bone manure will pay on your particular soil until a trial is made, as the results vary with locality; and if raw bone is used, some years may be required for the decision. Made in superphosphate, it acts much more rapidly, accomplishing about the same in the end, in either case. The price you name is rather above the wholesale market price, and probably includes the vender's profit. The price, however, varies with the degree of fineness, and a finely ground bone acts more speedily than a coarse or granular article. A good way is to place it in thin alternating layers, with fermenting manures, which softens, reduces, and makes it more speedy in action, and is better than reducing with acid for the inexperienced.]

Millet.—Will you favor us with directions in regard to growing millet? When is the best time to sow it, the crop to be used in connection with other hay as winter feed? How much seed per acre? Should it be covered as deep as barley, or only lightly harrowed in? When is the proper time to cut it, to be used as hay—when the seed is fully formed, or when in bloom? The same to be run through feed cutter. Does it make good horse hay? Is it a good crop to seed after with clover and timothy? Would this be better fed green to milch cows than green corn fodder? L. P. P. *Watkins, N. Y.* [Millet is usually sown in the latter half of May, but will do well in June. For hay, it should be sown thicker than for seed, or half a bushel or three pecks per acre; for seed about half that quantity. The seed being small, it should not be covered deep, or it will not find its way to the surface. For hay, it should be cut just before blossoming, when it makes good horse hay, but not later. The growth is too dense to seed after with clover with success.]

The Best Cows.—Please give me the best record for one week of butter-making for both Jersey (1) and Holstein (2) cows, with name of cow; also best record for one year on butter (3), and best milk record for one day (4). O. M. G. [1. Princess 9d, 46 lb. 12 oz. 2. Gerben's 4th, 22 lb. 3. Jersey, Landseer's Fancy, 936 lb. 14½ oz.; no Holstein ever tested, so far as we know. 4. Jersey records are generally kept in butter, but we believe the best milk yield for a day is that of Ida of St. Lambert, 67 lb. Best Holstein, Nisrop, 110 lb.]

Hide Scrapings.—Will the residue of deshings from salted hides, after they are cooked to get the grease from them, mixed with ashes from leached tanbark, make a good fertilizer? How should they be mixed, in what quantities, and should any other ingredients be added? How should they be used? On what kind of crops? J. C. S. *Alexandria, Va.* [An answer to this inquiry involves too many conditions for a definite reply, and we have no analyses at hand of similar mixtures. The salt, at the rate of six or eight bushels to the acre, would be useful on such soils as are found to be benefited by salt. The flesh scrapings contain valuable fertilizing materials, which may operate rapidly or slowly, as they are less or more affected by the tan. They may be mixed with five or six times as much loam or peat, in thin alternating layers, and left a few months before applying; or, perhaps still better, mixed in thin layers with fermenting manure. The mixture may then be applied to land like common barn manure, for potatoes, wheat, turnips and other crops.]

Bull Rings.—Where can I purchase ring and instrument to ring my Holstein bull? S. N. S. [We should think a good hardware dealer could furnish them.]

Jersey Registration.—What is the difference in value of cattle registered in the Massachusetts Herd-Book and those in A. J. C. C.? Every one here seems to prefer those registered in the A. J. C. C. I wish to know why so. M. O. W. *Charlotte, N. C.* [The rules of the latter are very much stricter.]

Fish, p. 110.—Your subscriber from Jarvis, Ont., could get the desired information from Dr. Montague, ex-M. P. for Haldimand, as he has already over-stocked the Grand River, in that county. A. S.

Excitement upon Quality of Beef.—I stall-fed a six-year-old cow; in good flesh when sold to butcher; got away, and was not killed till third day; had nothing to eat meantime, and was driven twenty miles, "much worried." The beef was tough, dry, red, and shrank much in cooking; fat, of which there was an excess, separated and rendered out. Please give me the cause of the poor quality of beef. When put up was very thin, but was healthy, and gained rapidly. Feed—dry ensilage, meal, bran, oats and choice timothy hay. C. A. B. *Tocky, Ind.* [This case is interesting, and the facts given are mostly capable of explanation. As the cow when put up to be fed was very thin and gained rapidly, this gain would naturally be tender and juicy. The condition of the meat when killed was owing, no doubt, to the excitement and worry, and not to the fact that she had nothing to eat for the three days. The cow should have been kept and fed for two or three weeks, to have reinstated her flesh in its previous condition. Strong excitement of a cow in milk has a similar effect on the cream or fat in the milk, as that related in this case on the flesh and fat of the body. The writer had a cow that gave rich milk, much worried by a dog and a bad boy, and knowing that excitement affected the cream, tested the degree of that effect by setting her milk, first drawn shortly after this excitement, by itself for 36 hours, and scarcely any cream, certainly not over 5 per cent., rose on it. What did rise was mostly in the form of margarine, or the tallowy portion of the fat in milk. The volatile oils appeared to have been all eaten up by the excitement. He says that "the fat, of which there was an excess, separated and rendered out"—that is, the volatile oils had become separated from the solid fat. This appears to be the probable cause of the condition of the meat. It is well known that cattle crowded upon the cars in long journeys are much improved by feeding a few days after arriving at their destination. If killed in this excited state, the butchers say they make poor meat. This case raises questions of much interest as applied to dairying as well as feeding for beef, and we hope that any reader of this who has facts bearing upon it will report them to the Country Gentleman. E. W. S.]

Acknowledgments.

Communications for publication have been received during the week ending Feb. 25, from Prof. E. W. Stewart [2]—L. B. Pierce—J. P.—J. P. Baker—Wm. A. Reburn—Edward Hawkins, Jr.—J. M. Quay—George Parr—E. W. Jones—Walter F. Taber—Prof. J. A. Lintner—M. W. Philips—A. S. Wells—W. H.—J. H. Walker—Laura B. Smith—Joseph Wallace—J. W. M.—Geo. E. Crawford—S. F.—J. E. Brown—E. T. C.—W. J. Hamilton—E. B. Smith—M. W. N.—John Gould—Wm. Rolph—Wm. Horne—Aunt Chloe—A Subscriber—A. Jeffers—James Cheesman—B. F. J.—Rosa Autumn—Byron D. Halsted—Henry Stewart—A. C. Glidden—A. B. C.—George Jackson [3]—Waldo F. Brown—Henry Stewart—F. Dye—D. E. Hewett—John Gould—T. F. McGrew, Jr.—Prof. Chas. H. Peck—Wm. G. Coutan—A. M. Amos—A Farmers' Daughter—L. F. Wheeler—D. S. R.

. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Feb. 28, 1880.

New-Jersey.—Prof. George H. Cook, Director of the Agricultural Experiment Station, at New-Brunswick, New-Jersey, has given in Bulletin XLIX, the analyses and valuations of over one hundred additional fertilizers sold in that State, with the market prices of the ingredients of which they are composed. Purchasers may therefore judge for themselves from the quantities determined by the analyses at the Station compared with the table of prices, whether they are paying really more than the just market value for what they are buying. Examples are given in two instances where the selling prices of the manufacturers are double the real market value. The quantity of those ingredients are fully up to the guaranteed amount; but there is a great falling off as to the amount required to meet the manufacturers' prices. One of these fertilizers is sold for $32 a ton; but the amounts of the higher priced ingredients are so much smaller than they should be, that the commercial value of the fertilizer is only $16.62 per ton. In another case, the brand was not accompanied with any analysis, although sold at $45 a ton; but the Station's analysis of this fertilizer showed that it was really worth but $15 11 per ton—a distinct and glaring swindle. Yet if buyers pay these prices, they have only themselves to blame; because with the analysis and commercial value given, they may readily know whether they are paying more than they are worth, after allowing a reasonable percentage to the dealers for mixing and other necessary expenses above the actual cost of the ingredients.

The protection which stations for analysis thus afford the farmers, who purchase in the aggregate to the amount of hundreds of thousands of dollars, can hardly be enough appreciated; and in a region like New-Jersey where such large quantities are sold, the Station at New-Brunswick, conducted as it is with eminent ability, has been of great value to the agricultural community.

New-Hampshire.—The Seventeenth Annual Report of the New-Hampshire Board of Agriculture lately issued, is a well arranged volume of 460 pages, replete with valuable information on the various departments of farming, and particularly interesting to readers in the eastern and New-England States. We learn from the secretary's report that the increase in the amount and numbers of domestic animals during the year has amounted in value to half a million dollars, and there are various other indications of progress. Reports from all portions of the State are universally favorable to the silo, and an increase in ensilage is promised for the future. Stimulated by the success of the creameries, private dairying has received more attention, and is now the leading industry on many of the best farms. Farmers' institutes have been held in each county of the State. There are in the State 32,161 farms, valued at upwards of $75,000,000; farming tools at $3,000,000, and live stock at $9,812,004.

A large portion of the volume is occupied with an account of the several farmers' institutes, and with the valuable papers and addresses. J. B. Walker in an address on the progress of New-England agriculture for thirty years, ascribes this progress largely to the teachings of agricultural colleges, boards of agriculture,

fairs, and to the improvement in farm machinery. Among the latter are mentioned mowers and reapers, steel and chilled plows, improved harrows, horse rakes, hay tedders, and manure spreaders. The drainage has been of great value. Much is promised from ensilage. Experiment stations are bringing to light distinct knowledge. The use of commercial fertilizers has largely increased, and while the entire trade some years ago in the United States amounted to $36,000,000, it was $165,366 in New-Hampshire.

A valuable address on "The Leaks of the Farm" is given by Joseph Farnum; an interesting paper is furnished by J. E. Carr, on the "Care and Use of Farm Implements;" J. D. Lyman treats in a good article on "Forestry," and L. Thompson devotes several pages and a map to settling the question as to the precise locality where the Baldwin apple originated. For the subjects on which it treats, this is one of the best annual agricultural reports we have lately examined. N. J. Bachelder, of Concord, is secretary of the board.

Silo Convention.—A Silo Convention, "a meeting for conference and mutual instruction," is called to be held at Cleveland, Ohio, March 6th and 7th. Reduced railroad and hotel rates are expected to be obtained for those who attend. Secretary Bonham of the State Board, Prof. Weber, State chemist, and Director Thorne of the Ohio Experiment Station, will probably take part in the proceedings.

Pig Feeding, p. 173.—In second column, 13th line, 80 lb. corn meal should be 150 lb. The error is corrected in a large part of the present edition, but some thousands of papers were printed before it was discovered.

Taxes on Societies.—The New-York Senate passed last week the Vedder bill exempting agricultural and horticultural associations from the incorporation tax, which now goes to the Assembly for concurrence.

Tiling at the South.—Tile-draining is being extensively carried on by Louisiana sugar planters with great profit to themselves, since experiments five or six years ago have resulted so well. The Sugar Bowl says these purchases are made by the ton, Captain J. H. Fiser having received 100 tons, and Governor Warmouth 725 tons; the latter put down last year 770 tons, with the aid of two steam ditchers. The tiles come from Ohio.

What Others Say.—The COUNTRY GENTLEMAN is without doubt the best agricultural paper. *Newark Valley (N. Y.) Herald.*

—— Stands at the head of agricultural journals. *Dover (N. H.) Enquirer.*

—— Oldest and best of the agricultural weeklies.—*Wilmington (Ill.) Times.*

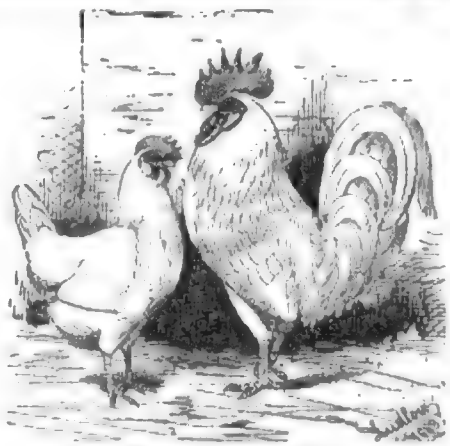
—— Old established and excellent.—*Georgia (O.) Republican.*

—— He who reads it and follows the instruction therein found will profit greatly.—*Mitchell (Ind.) Commercial.*

—— Most heartily do we endorse it as one of the leaders in everything progressive in agriculture.—*Oscoda (Mich.) Times.*

—— We know of no better friend of the farmer and the members of his family.—*Davenport (Iowa) Democrat.*

Forests and the Army.—The editor of Garden and Forest, referring to the reckless waste of the forests on government land, and the fruitless attempts to prevent this waste under the present management, proposes to place them under the charge of the standing army. A thorough examination of the wooded regions should at once be made, and until this is done no forest lands now belonging to the United States should be sold. The army should then be placed in charge of them. In time of peace, no work so valuable could be performed. The forests of the national domain can not be adequately guarded by any other means. The measures which have been tried have proved entirely ineffective. The forests have been pillaged by border settlers, by railway and mining companies, and by others, without scruple or limit. The complete and final destruction of the forests on the public lands, under the present system, is only a question of time, and of a very short time. If the officers of the army were authorized by law to undertake this service, they would have the power necessary for its performance, while everybody else is powerless.



ENGLISH WHITE LEGHORN FOWLS—See page 189.

As there will probably be hereafter little care required for the Indians, this work can be very properly performed by the army, and a most important consideration is that it will cost little or nothing additional, unless it may be in the appointment of a commission to make a thorough examination and establish a comprehensive plan of operations. This business, if promptly and efficiently attended to, would prevent the waste of uncomputed millions of public property, and the editor of the Garden and Forest, from his intimate knowledge of this subject, could furnish many valuable suggestions in detail.

Colorado.—The First Annual Report of the Colorado Agricultural College Experiment Station (C. L. INGERSOLL, Fort Collins, director,) is the largest of its class thus far published, containing 250 pages, and indicating, we should think, very creditable work. Of the U. S. appropriation of $15,000, a balance of $37 remained on hand at the end of the year.

Horsepowers and Threshers.—Persons desiring either of these machines will do well to write to Mr. MINARD HARDER, Cobleskill, Schoharie Co., N. Y., for his catalogues. Mr. Harder calls his apparatus the "Fearless," and well he may, for it has unique points of excellence, both in design and in execution, that give it special claims on the attention of every body who has threshing to do, or any work requiring the use of a horsepower.

Seeds and Implements.—That widely and favorably known house, the Higganum Mfg. Corporation, 189 Water St., New-York, issues an elaborate Spring Catalogue, filling 112 pages, and fully illustrated. It is worth sending for.

An Old Subscriber.—Inclosed please find forty-fifth annual subscription in my name and my father's, from the first number issued at Albany until he gave up to me in 1844, this being the fifty-fourth annual renewal of some form of your paper for certain, and I am not certain but the fifty-ninth is in our family.

Tolland County, Conn. SIMON HUNT.

New-Jersey.—Officers of the Moorestown Agricultural and Industrial Society have been elected—president, EDMUND COOK; vice-president, Samuel C. De Cou; recording secretary, Arthur Collins; corresponding secretary, Henry W. Moore; treasurer, William Matlack. The Tenth Annual Spring Fair will be held, June 6, 7 and 8.

Farm-Yard Notes and Items.

The Ayrshire Association met at New-York last week, and elected officers—

President—J. F. CONVERSE, Woodville, N. Y.

Vice-Presidents—Obadiah Brown, Providence, R. I.; H. H. C. Watson, West Farms; T. H. MASON, Leon, Ohio, and George Bement, San Pablo, Cal.

Secretary—C. M. WINSLOW, Brandon, Vt.

Treasurer—Henry B. Smith, Smithfield, R. I.

The Fourth Annual Meeting of the Holstein-Friesian Association of America is to be held at the Fifth Avenue Hotel, New-York, Wednesday, March 20, at 9 A. M. Sundry proposed amendments to the by-laws will be considered, one of which would reduce registration and transfer fees to non-members and abolish all fees to members. The question of restricting the registration of bulls will also come up. Papers will be read by Prof. Sam'l Johnson ("Relation of Breed to Beef and Milk Production"), Dr. Peter Collier ("The Dairy Industry"), Prof. G. E. Morrow ("The Basis of Value in Cattle"), Mr. B. C. Sears ("The Milk Supply of Large Cities"), and Prof. C. E. Thorne ("Comparative Testing of the Dairy Breeds"). Altogether, it should be a meeting of rather unusual interest.

Sixty-one trotting horses were sold for $143,-630 at Lexington, Ky., 21st. Bell Boy (by Electioneer) went to J. H. Clark, Elmira, N. Y., and G. H. Hopper, Unionville, O., for **$51,000, the highest price ever paid for a horse in America.**

Two Michigan breeders, S. A. Browne of Kalamazoo and M. R. Bissell of Grand Rapids, have bought the nine year-old bay stallion Anteeo, record 2.16¼, from the Sonoma County Stockbreeders' Association, Santa Rosa, Cal., for $30,000 cash. Anteeo is sired by Electioneer, dam Columbine, by A. W. Richmond.

The Fourth Annual Meeting of the Dutch Belted Cattle Association was held at New-York, Feb. 14. Resolutions were passed increasing the executive committee from three to five. A committee of three, with D. E. Howatt, Hyde Park, N. Y., as chairman, was appointed to inspect animals for foundation stock, and report at the next annual meeting. The association has adopted the term *standard bred* for all animals registered under the rules. Mrs. Remington Vernam, of Averne-by-the-Sea, L. I., was elected a member of the association. The following officers were elected:

President—Hon. MAT. W. HOWELL, Washingtonville, N. Y.

Vice-Presidents—J. R. Wells, Chester, N. Y.; O. D. Munn, New-York; Robt. H. Coleman, Cornwall, Pa.

Treasurer—Stephen B. Heaton, Monroe, N. Y.

Executive Committee—Archibald Rogers, Hyde Park, N. Y.; J. C. MacInnes, Worcester, Mass.; J. A. Holbert, Goshen, N. Y.; H. S. Richards, Easton, Pa.; E. V. R. Gardner, Westtown, N. Y.

Finance Committee—E. Kellman, Walden, N. Y.; C. Albert Knapp, Goshen, N. Y.

Secretary—H. S. Richards, Easton, Pa.

Messrs. PETER C. KELLOGG & Co. write us from New-York, Feb. 20:

"Mr. L. J. Rose confirms by telegraph the sale of Stamboul to W. S. Hobart of New-York, whose ranch is in California, at fifty thousand dollars. His shipment of stock to us to be sold at the American Institute Building, March 7th, will arrive March 4th, and among twenty Stamboul colts includes two from Minne-ha-ha, granddam of Bell Boy that was struck down at auction in Kentucky for fifty-one thousand dollars the same day that Stamboul was sold. Mr. Rose bred the dam of Bell Boy and sold her to Palo Alto Stock Farm; also bred Sable, the dam of Sable Wilkes, and sold her to Mr. Corbitt, whose stud will also be largely represented in the sale of March 7th and 8th."

In sending the advertisements which appeared on p. 141, Mr. F. C. FARLEY wrote:

"Rioter Lisgar is a grand bull, head of my first prize herd at New-Jersey State Fair, 1886. He was sold by V. E. Fuller for $1,200 when a calf to J. H. Walker, Worcester, Mass., from whom I obtained him. He is gentle, as active as a youngster, and his calves of 1888 were heifers with one exception. With the aid of your valuable paper I last season sent choice sons of this bull to buyers in New-York State 5, Pennsylvania 2 and New-Jersey 3, and they have given uniform satisfaction—at good prices."

Messrs. GEO. E. BROWN & Co., Aurora, Ill., (who have an interesting letter on p. 173,) write us also:

"The demand for Cleveland Bay and Shire horses has been very encouraging. With one exception, our shipments the past two weeks have exceeded everything in our experience of fourteen years. We have sent Cleveland Bays to Virginia, Kentucky and Missouri; Shires to Indiana and Illinois, but the largest shipments have been to Dakota and Wyoming and comprised both breeds. Sixteen were sent out the past week. They went mostly to ranchmen, who, after trying all breeds, have settled down to these two. They find they not only get nicer finished and stronger horses from this cross, but they are more hardy and better rustlers. The colors being dark and free from white as a rule, they are more salable and go off quickly at good prices as soon as old enough for market. While our sales have been large this winter, we still have about two hundred first-class young and sound horses. Breeders find that home-bred stallions and those imported young and grown up in this country and thus fully acclimated prove more satisfactory breeders than those imported at maturity."

We have the following letter from Mrs. E. M. JONES, Brockville, Ont.:

"Please discontinue the smaller of my two advertisements, as the 5½ months bull was sold immediately the advertisement appeared. Also, after last line in first advertisement to read only *one* pure St. L. bull, one year old. The two-year old bull was sold by telegraph to Archibald Rogers, Cruimwold Farms, Duchess Co., N. Y. It is seldom that a better bred bull changes hands. Queen's Stoke Pogis is sired by Rioter's Pride, and his dam is Rioter's Queen, pure St. L., a granddaughter of Diana of St. Lambert, and one of the best cows I ever saw. She yields 45 lbs. milk daily, and 17 lbs. butter a week, on ordinary feed. Had the old cow been tested as Ida, Allie and Mary Anne were, I am confident she would have shown as good a test. When I bought her she was just at calving, and was a living skeleton—rough, dirty and covered with vermin. Seven months after this calving, and being then four or five months again in calf, she made 14 lbs. butter a week, and milked 44 lbs. day after day, in the heat of August."

Mr. WM. A. REBURN, Ste. Anne de Bellevue, P. Q., writes Feb. 15:

"In your issue of 14th, p. 133, in an article on Rioter's Pride 11694, Mrs. JONES says: 'At Kingston, 1883, * * * he took first over all Mr. Reburn's and a fine lot.' At that exhibition in the aged class four bulls were shown; Rioter's Pride was awarded first, and my two bulls second and third. In the class for best bull of any age, four bulls competed—Rioter's Pride, Jubilee Pogis, and another young bull, all owned by Mrs. Jones, and Romeo's Hugo of St. Anne's owned by me. Romeo's Hugo was awarded the Sweepstakes silver medal as best bull of any age. Although only eighteen months old, he was entered in the two year-old class, and received first prize over Queen's Stoke Pogis, owned by Mrs. Jones. He also headed my first prize and diploma herd competing against Mrs. Jones' fine herd headed by Rioter's Pride."

Mr. WM. ROLPH of Markham, Canada, writes us, Feb. 19:

"Through my small advertisement in the COUNTRY GENTLEMAN I sold all the Dorset-Horned sheep to E. F. Bowditch, Framingham, Mass., who sent his herdsman here and was well pleased with them; Mr Bowditch now has one of the best flocks of Dorsets in America. I also sold through the same advertisement the grand St. Lambert bull Canada's St. Lambert to Earll & Kellogg of Skaneateles, N. Y. He is by Canada's John Bull 34, by Canada's John Bull out of Crocus of St. Lambert, a tested daughter of Stoke Pogis 3d, and full sister to Mary Anne of St. Lambert. His dam, Comely of St. Lambert 2d, is one of the best young cows I have; she made 14 lbs. 11 oz. in seven days with her first calf. She is by Briar Pogis out of Comely of St. Lambert, one of the untested daughters of Stoke Pogis 3d. She gave over 48 lbs. of milk per day, but has always been in a farmer's hands who sold all his cream; so was never tested. I offered three years ago $3,000 for her, but it would not fetch her—in fact I could not get a price on her then, but succeeded in getting her last fall. Mr. Earll writes me he is more than pleased with his purchase."

Mr. CHARLES A. REESER, Springfield, O., writes to the COUNTRY GENTLEMAN, Feb. 21:

"I sold my Jerseys to Mr. S. H. EVANS of Tidioute, Pa. This sale includes three very promising daughters of King of St. Lambert 15175, and the entire lot which I purchased from Hon. J. H Walker, Worcester, Mass. This lot contains Isale of Riverside 23985, who made 20 lbs. 5¾ oz. of butter in seven days from 280 lbs. 12 oz. of milk, age four years and one month, on the very small ration of 4 qts. corn meal, 2 qts. shorts and 1 peck carrots divided into three feeds daily with hay and short pasture. This wonderful little cow stands fifth on the list, only Princess 2d, Oxford Kate, Mary Anne of St. Lambert and Ethleen 2d exceeding her record, and I fail to find any who has excelled her on so small a ration."

Mr. JOSEPH H. WALKER, Worcester, Mass., writes to the COUNTRY GENTLEMAN as follows:

"Among Jerseys recently sold from my herd are two heifers to Baxter McFarland, Aberdeen, Miss., Victor's Dove Dee [illegible], and Victor's Beauty Dee 46355, out of two daughters of Eupidee 4097, having [illegible] 23 lbs. 3 oz. The sire of these heifers is a son of Lord Darlington [illegible] (who made 14 lbs. [illegible] was by St. Helier [illegible] low Farm bird."

The Stables and Roads.

Monday, Feb. 17th, to Friday, Feb. 21st.

Monday.—Cleaning stables, feeding and watering horses, and attending to them generally. Cutting straw and hay for the day's feed. Hauling manure from the stables to the compost heap. Hauling manure from the stables to the fields. Hauling manure from the stables to the fields. Hauling manure from the stables to the fields

Mr. Justice Peterson: Then I will make an order that the plaintiff do pay the costs of the motion.

Mr. Bowlby: Thank you.

The Law Journal.

The Law Journal, published by the Incorporated Law Society of Ontario, is issued monthly, and contains reports of cases decided by the Courts of Ontario, and other matters of interest to the profession. Subscription price $3.00 per annum. Address all communications to the Law Journal, Osgoode Hall, Toronto.

Recent English Decisions.

(Reported for the Law Journal.)

Bankruptcy—Petition—Debt Barred by Statute of Limitations—Acknowledgment—Bankruptcy Act, 1914, s. 1 (1) (e).

Ex parte Bailey, In re Bailey, 91 L.J.K.B. 1, is a decision of the Court of Appeal (Bankes, Scrutton and Atkin, L.JJ.) on the Bankruptcy Act, 1914, s. 1 (1) (e), which provides that a debtor commits an act of bankruptcy if he has given notice to any of his creditors that he has suspended payment or that he is about to do so. The debtor had given such notice to his creditors, but the debt of the petitioning creditor was barred by the Statute of Limitations, and the debtor had not acknowledged the debt in writing. The Court of Appeal held that the debt was not a debt provable in bankruptcy, and that the petition could not be maintained.

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Subscribers to the Chronicle are requested to observe that the paper is regularly discontinued at the expiration of the time for which it is paid. Those who wish to continue receiving it will please to renew their subscriptions before the end of the month.

Subscribers who change their residence will please to give notice of the same, and state both their former and present places of abode.

Persons who receive the Chronicle regularly, and do not give notice to the contrary, are considered as wishing to continue subscribers.

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FRUIT

The Fireside.

There is Less Litigation.

Edr. Country Gentleman—A friend, who is engaged in the practice of law and a man of more than average ability, said: "Do you know that we are undergoing a revolution in the matter of legal fees and a falling off in litigation?"

I replied that I did not.

"We are," said he. "In ten years the change has been remarkable. People know more than they used to. There are fewer long lawsuits over trifles. Wealthy farmers are seldom found in court lawing over a pig or a calf or some other small matter. The methods of doing business have changed. Purchases that were made a few years ago by our merchants from eastern firms or wholesale men in our larger cities were usually made on 30 or 60 or 90 days, and even longer time, and the collections sent to lawyers who got their per cent. Where merchandise was to be paid for on receipt, the bills were forwarded to lawyers. Now all these collections are made through banks for a mere pittance. The business men of the country, if they make contracts by correspondence take copy-press impressions of the letters, so there is little ground for misunderstandings. And those who employ an attorney are particular to know in advance what the charge will be, and are not disposed to allow big fees. The profession is no longer as generally remunerative as formerly; in fact, big fees are realized only by corporation and trust companies' attorneys, and a few who have made specialties of the business such as insurance or patent attorneys."

These remarks set me to thinking. It is true that the general business of the country has undergone a great change in our recollection, and a change for the better. The Grange organization is entitled to some of the credit. While it is true that the granger did many foolish things, and had many exaggerated expectations that were never realized, yet the organization was an educational force which accomplished good. It focused public attention upon railroad abuses, and the profits that were realized on goods, farm implements especially. It encouraged farmers generally to do a cash business, and to keep out of debt, and it helped to cut down the legal rates of interest. Its demands for reform in many particulars have been heeded by our legislative assemblies. The Grange has been a faithful advocate of the settlement of differences by arbitration.

Still, there is much more that needs to be done along this line. From personal observation, I know that in this city the lawyer that falls below the average in ability has to become a legal "gutter-snipe" if he lives by the law. His fees are largely made up of old watches, pistols, rings, or the like, assets of some poor fellow who has committed a criminal offense, and such articles accepted as fees find lodgment in the pawnbroker's shop.

There is little encouragement for the active young man to embark in the law, and there is little promise for success in the medical profession. Thousands more are in it than are doing well. There is more promise of success to-day in some of the leading industries. The bright intelligent industrious young man that will, can make a success in farming—not in trying to compass everything but in making a specialty of one of the leading branches. First of all he must be "to the manor born" for the pursuit; second, he must have a will to succeed; third, he must study the business in its every detail—such men are succeeding. The "jack at all trades" farmers who try to grow all kinds of stock, and all kinds of cereals, adding horticulture, bee culture, and two or three side issues, are not succeeding. Many farmers say there is no money in farming, and there is not to them, for the reason that they try to compass too much, possibly, or have not the energy to do anything well—have not the will; do not think.

But all-in-all, there is a general toning up among the leading farmers in their methods of doing business, in their lessened disposition to goin debt, and their promptness to pay.

Besides, the time has come when men cannot succeed who practice deception by misrepresenting what they have to sell, be it live stock, breeding animals, or any kind of seeds, plants or goods. The race of all such is a short one, and it is right that it should be. The retributive justice that comes to such men for their wrong-doing is due to the promptness and willingness of the agricultural press of the country to ferret out dishonesty, and warn the public. The Country Gentleman has been especially careful not to allow such tricksters place in its columns, and deserves commendation for it. We hail with pleasure the day when there is to be little litigation and few bills to pay at court—when the general business of the country shall be transacted with all needful caution and honesty—when the rights of all are respected because it is right and best. We owe it to ourselves and to those who come after us to aid in lengthening the strides in this march. J. J. W. B. *Indianapolis, Ind.*

Punishing Naughty Children.

A writer in the Country Gentleman last fall said that those who object to the switch as an instrument of punishment are the victims of an over-sensitive nature, or a distorted imagination—unless such is the case, he thinks, nobody will see anything in its use to remind him of barbarism. This assertion is based upon the supposition that the mother who wields the switch is not only possessed of "sound judgment, a keen sense of justice, an insight into human nature, a clear conscience, and a strong sense of duty," but also that she is gifted with the purest type of mother-love, and a wise thoughtfulness "which can so direct this passion that its full power shall be for good."

If such mothers were the general rule, no sane person could differ with him—but how few do we know! Among all our acquaintances, how many can we count? Mother-love makes a woman pure, noble, better, but it does not make her infallible. If the young mother was, a few years ago, an impatient, inconsiderate, quick-tempered girl, the mere fact of her having become a mother does not cause all these qualities to disappear. The greatness of her love may enable her to be gentle with her child for a time; but when her limited patience is exhausted, she will doubtless inflict severe and instantaneous punishment. Then, would it not be better for the child if her hands did not know the use of the rod?

It is a deplorable fact that there is an inherent quality in the human race, greater in men than in women, which causes them to take pleasure in the infliction of pain upon each other, and, strange to say, the more beloved and the more helpless the victim the harder it is to forbear. Some of the very best people I know exhibit this trait to an astounding degree when under the influence of anger. It is the same spirit that prompts a loving husband to say the most cruel things to his wife. He is ashamed of himself a moment afterward, but that does not prevent him from doing the same thing the next time he is provoked. The wife ought not to provoke him—that goes without telling—but she cannot always be prudent, and to-day a man resents a thing he scarcely noticed yesterday.

Mothers are very busy, and they sometimes postpone punishment until the sum of offences mounts up so high that the day of reckoning can no longer be put off, and when once the switch is called into active service, the memory of past misdemeanors urges its continuance until the little offender is likely to suffer above measure. The child who has forgotten all except the last bit of mischief is sure to think his parent unnecessarily cruel and his little heart is well-nigh broken.

There appears to be a sort of fascination about a switch; the one who wields it is loth to put it down. I have a neighbor who always goes the rounds of her six children when once she begins.

There is another objection to the switch as a household institution—it is so convenient that it takes the place of all other modes of punishment. It is apt to be held over the children for all offences, both great and small, until the hard-headed urchins grow callous and indifferent, while the timid are kept in an unhealthy state of fear and trembling.

I know one household which contains quite a number of bright, active, and consequently very nervous and restless little children, whose parents depend upon the switch as their sole ally. These little ones are taken out by twos and threes; in fact their parents think frequent chastisement as necessary to their well-being as the air they breathe or the food they eat; yet this little flock is known far and wide as the worst set of children in the whole country.

These are good people, too, every one of them, but their faith has so long been centered upon the efficiency of the rod, that it is impossible to make them believe that a child never suffers except for the lack of it. Still there is "no trace of barbarism in corporal punishment!" It seems to me that any thing which leads so many people into cruel practices must contain a barbarous element.

In the household above mentioned, how much better would it be, if, when one of those high-strung little fellows had committed some childish misdemeanor, he was compelled to bring his little chair and sit down on it for fifteen minutes, until his mischievous mood has passed, than to excite his nerves still more by the application of violent punishment.

Children's hearts are very tender, and although the next instant they are ready to throw their soft arms around their mother's neck in token of forgiveness, yet it is not so easy to forget as it is to forgive, and I have seen a little child sob in her sleep for hours after she had been placed in her crib. The contrite mother took up her darling and having awakened her gently, soothed her to sleep again with many caresses, but for some time after, though her eyes were tightly closed, one great sob after another convulsed the little bosom. This was nervousness, but for that very reason some milder mode of punishment should have been resorted to. Why, I have actually seen a little child slapped in order to make it lie still and go to sleep! And what can be more pitiful than to hear a baby crying itself to sleep?

If all this resulted in making bad children good, there would be some reason for it; but the worst children are those who have been brought up on the switch, and when they grow to be men and women they are apt to be sly, mean and hypocritical. "I am no better than a brute," the boy reasons, "if brute force is necessary to control me." And anything which tends to lower a boy in his self-respect and to cause him to feel humiliated and mortified in the eyes of other people will surely detract from his manliness.

I am aware that I have presented an extreme view of the case, but the idea I wish to impress is, that those parents who make use of the switch to enforce obedience are not as a rule the wisest and most judicious of parents; and that, so far as my observation extends, the worst children in the country are those whose fathers and mothers believe most strongly in its efficacy. M. Walton.

A Dangerous Rock.

Ever since the world began, beauty has had its votaries. Yet, when we consider that civilization has advanced, and we have learned to pay deference to mind as higher than matter, it is strange that the homage still paid to physical beauty is entirely disproportioned to its true relations to life.

The passion for dress and display, which has become a mania with the American people, has its origin in this worship of the beautiful. Innocent and pure in the abstract, this ideal has become distorted and raised beyond its legitimate boundaries by weak minds, till the secondary and lasting results are most reprehensible. To what this rapidly growing evil is leading us as a nation, we have only to look around us to see. It is an evil so far-reaching that it appalls the thoughtful mind, who sees in it a problem as difficult of solution as the race question of the South.

The struggle to keep up appearances is the bane of American home life to-day. Seal skin sacques are as common as blackberries in August. Plush dresses and diamonds are the rule among the class of limited means; the children of the laborer can hardly be distinguished by their dress from those of the millionaire; the washerwoman brings home the clothes with hands encased in kid gloves; the poor working girl pinches and stints herself to buy a satin street suit—perhaps putting the earnings of six months into one fashionable garment. Shop-girls and clerks of both sexes sport fine jewelry, and get themselves up in the height of style.

Now, all this is but a blind groping after the beautiful. They know that whatever is beautiful attracts, and grasping at this truth vaguely, and getting only half the truth, they determine to be beautiful, i. e., attractive at any cost. No sense of incongruity between the splendor of their toilettes and the bald poverty of their homes enters their brains.

What know they of the law of beauty which consists in the preservation of the unities?. An elegantly-dressed man or woman living in a shanty or shabby tenement-house does not strike them as an absurdity. They have but half learned what beauty is when they ignore harmony. A very large class of people will argue that the poor laboring man has as much right to dress his children elegantly, if he pays for it, as has the millionaire; that the slop-shop girl or kitchen maid may get herself up as gorgeously as a Fifth Avenue belle, if she chooses to spend her money in that way. Certainly. This is a free country, and any one has a perfect right to act the dunce if he so wishes. There is no law to prevent any of these people spending their money when and how they may. But, do they reflect that along with this gratification of their æsthetic tastes comes no proud independence, no feeling of security and self-respect? If even they give the matter a thought they know that if an accident or lingering sickness befalls them they will be hustled off to a hospital as charity patients; or, if in a small town, be looked after by the trustees of the poor. Beyond that looms up the potter's field.

They are also liable to be thrown out of employment and find themselves dependent on the charity of others for their daily wants. What satisfaction, then, in these hours of misfortune, can this man derive from the recollection that his family has always dressed as well as the rich So-and-So's!

Garry Owen Gaines.

A Crocheted Shawl.

Take heavy wool if you want a warm shawl; if a lighter one, split zephyr. Form a circle of 6 chain stitches.

First Row—Three chain, under the ring work * 2 trebles, 1 chain, 2 trebles; 1 chain, 1 treble; 1 chain; repeat from * three times; 1 chain, join with a double crochet in second of 3 chain.

Second Row—Three chain (a) 4 trebles, separated into two groups of two trebles each by 2 chain under the 1 chain between the two trebles of the previous round. These form the first corner shell, which is repeated regularly at the four corners in the same manner throughout the pattern; the directions for this shell will not be repeated. Next, 2 trebles separated by 2 chain on the 1 treble; repeat from (a) three times; put the last 2 trebles in the double crochet that unites the previous round; 1 double crochet in second of 3 chain.

Third Row—One chain (b) shell on shell; 1 chain, 1 double crochet on the last treble of shells; 1 chain 6 trebles separated in the centre by 2 chain under the 2 chain between the 2 trebles; 1 chain, 1 double crochet on first treble of the second corner shell, 1 chain; repeat from (b) all around; join with a double crochet under the 1 chain.

Fourth Row—(c) shell on shell; 2 chain, 2 trebles separated by 2 chain in the double crochet; 2 chain 1 double crochet under the 2 chain that separates the 6 trebles; 2 chain, 2 trebles, separated by 2 chain in next double crochet; 2 chain, repeat from (c) all around; 1 double crochet under 1 chain; 1 chain.

Fifth Row—1 chain (d) shell on shell; 2 chain, 1 double crochet on last treble of shell, 2 chain, 6 trebles, separated by 2 chain, under the 2 chain between 2 trebles; 2 chain, 1 double crochet in the double crochet; 2 chain, 6 trebles, separated by 2 chain, under the 2 chain between the next 2 trebles, 2 chain 1 double crochet on first treble of second corner shell; 2 chain repeat from (d) all around.

Sixth Row—(f) shell on shell; 2 chain (e) 2 trebles separated by 2 chain in the double crochet; 2 chain, 1 double crochet under 2 chain that separates the 6 trebles; 2 chain, repeat from (e) once; 2 chain, 2 trebles separated by 2 chain in the double crochet on second corner shell; 2 chain, repeat from (f) all around.

In this round the two trebles are worked three times between each of the corner shells; in the eighth round four times, in the tenth five times, and so on. For the length required repeat the fifth and sixth rows alternately, not forgetting to work a double crochet on the first and last trebles of each corner shell of every other round, as heretofore. To complete the body of the shawl, the fifth round should be worked last as a foundation for the border. Do not break the wool.

For the Border—*First Round*—Shell on shell, 2 trebles, separated by 2 chain in the double crochet on the last treble of shells; * 6 trebles, separated by 2 chain, under the chain that separates the 6 trebles of the previous

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On account of poor health, I offer for sale my entire HERD OF JERSEY CATTLE, consisting of 4 A. J. C. C. Bulls from 1 to 3 years old; 10 A. J. C. C. Cows and Heifers and 7 Grade Cows and Heifers. The cows are nearly all due to be fresh within the next two months. The bulls and eight of the young cows and heifers were sired by St. Mel. No. 11862 (4 times St. Helier and once signal); other strains are Victor Hugo, Coomassie, Farmer's Glory, &c. A handsome lot of cattle and in good condition. We have sold from one dairy of cows for the last five years an average of from 240 to 260 lbs. butter per cow per year, including heifers, and in addition to the butter, cream and milk used in our family, and on very moderate feed. No dairyman can come and see them and make your own selections. To a person wanting the whole lot, a bargain will be offered.

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Containing some of the best blood known in America and on the Island. Headed by Matilda's Stoke Pogis [3933], son of that greatest of Jersey cows, Matilda 6th, 16,168 lbs. milk and 997 lbs. 6¾ oz. butter in 12 months: official test 21 lbs. 8¾ oz. in 7 days without forcing; by Stoke Pogis 8th, full brother to Stoke Pogis 3d. Bull Calves from the best Cows only (no Heifers) for Sale. EDW. AUWERS, feb28-3t (Glencoe, Md.

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COUNTRY GENTLEMAN

Office of Publication, Fifty-Ninth Year.

ALBANY, N. Y., MARCH 7, 1895.

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8 KA SHELLS FOR POULTRY.—Best grade. $1.25 per bbl. Obtain my descriptive circular before ordering elsewhere. F. P. KNOWLES, Guilford, Ct. [fe

STABLE REQUISITES, &c.

NOTHING CAN COMPARE WITH

Norwegian Cod Liver Oil as Food for Cattle.

Unequaled for Fattening, Nourishing and Breeding purposes, making Milk, aiding Digestion, keeping in Health. Price—5 Gallon Tin, $6; 10 Gallon Barrel, $10. Write for Circular to EDW. P. HALE,

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COTTONSEED MEAL.

COTTONSEED MEAL has been largely used in New-England by the most prominent feeders for over twenty years. Its use is constantly increasing. It makes RICHER MILK, BUTTER and CHEESE, and gives a larger flow of milk, than any other food. It makes rich manure.

It is sold by Millers and Dealers in Flour, Feed, Fertilizers and Agricultural Implements. Call for it. Send for Circulars, showing the economy and advantages to be gained by its use, and how to feed it.

J. E. SOPER & CO., Manufacturers' Agents,

ja31-13t 3 and 5 India St., Boston, Mass.

McDOUGALL'S Non-Poisonous SHEEP DIP

Also Cattle Dressing, Scab and Foot Rot Specific and Insect Exterminator,

For use as a Wash on Cattle, Horses, Dogs, Poultry, &c. Instantly destroys ticks, lice, warble lumps and all insects. Cures mange and sores. Should be used by every farmer and stock-raiser.

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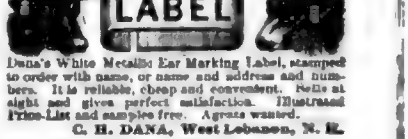

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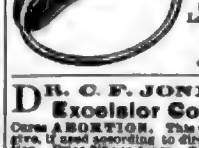

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Cures ABORTION. This well-known Remedy will give, if used according to directions, perfect satisfaction. Price $12 per dozen. Sold in America only by WESSELL & GATES, Litchfield, Conn.

LISTEN!

We offer a remedy to cure COLIC in Horses, and it will do it every time.

Read the following testimonial from Mr. M. W. DUNHAM, the well-known Importer and Breeder of Percheron Horses:

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Gentlemen: Since the introduction into my establishment about a year ago, of the remedy known as the "French Colic Cure," I have not lost a horse from Colic. It is used exclusively in my stables, and it is with pleasure I recommend this remedy as the best one I know of for the cure of Colic, a disease from which so many horses are lost throughout the country.

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SEED POTATOES—New and standard varieties. Pedigree stock. Catalogues postpaid. T. E. PLATT, Wedding Rides, Conn.

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With many other varieties of Pears, Plums, Cherries, Quinces, Currants, &c., &c. Best quality. Send for lowest prices, stating amount of stock wanted, to SEARS, HENRY & CO., fe21-6t *Seneca Nurseries*, Geneva, N. Y.

CELEBRATED ROCHESTER SEEDS. Our Latest Offer.—We give one packet each Beautiful Morning Flower, German Pansies, Sunset Peas, Surprise Cabbage, Sweet Beauty Lettuce, Green and Gold Water Melon, Ivory Gem Radish, Stokes' Squash, Mikado Tomato, and our Illustrated Catalogue, all for 25 cents. Why can we give so much for 25 cents? Because we want you to see our Catalogue. You will want more seed; we have them. Mention County in town. Address MOORE, HOUSE & ANNIS, Rochester, N. Y.

MY **Seed Potato CATALOGUE**

Describes the choicest SEED POTATOES and the earliest Seeds grown in the Cold North Land. Birds of the wonderfully early **MINISTER** and names special *Low Freight* East and West. It tells how to raise potatoes. *Send free.*

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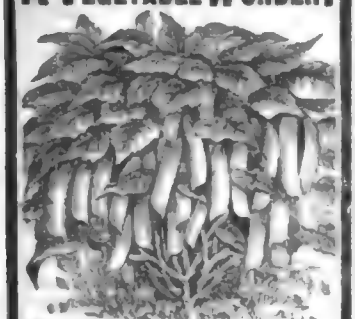

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Can and Should be Grown in every Garden on the Continent.

Of all the Novelties in Garden Products ever sent out, there is nothing so entirely distinct and valuable as this *New Vegetable*. The old Lima Bean can only be grown on poles, while the *NEW BUSH LIMA* grows a dwarf, cultivated exactly like the common bush or snap bean (growing only 18 inches high), and from the time of its bearing in July produces in abundance delicious Lima Beans through until the entire season until frost. It has, besides, an additional value, in that it is *two weeks earlier* than any other Lima Bean, being fit for the table in from forty to fifty days from time of planting.

Price (by mail) 25 cents per packet, 5 packets for $1.00, 12 packets for $2.00 (12 packets sufficient for an ordinary-sized family for the season. Directions for growing on each packet. Remittances can be sent either by Post Office Order, Postal Note or Stamps.

$100.00 in Cash Prizes for single plants bearing greatest number of pods. For conditions see Manual offered below.

Every purchaser of *Henderson's Bush Lima Beans* will be sent, gratis of charge, our MANUAL OF EVERYTHING FOR THE GARDEN, a book of 140 pages, size, 9 x 11, containing hundred plates (the price of which is 75 cents), *in addition undertermining*, however, that those ordering will say in what paper they saw this advertisement.

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Send to ALLYN BROTHERS, *Palmyra*, N. Y., for Berry Plants, Trees, Vines, Shrubs, Field, Garden and Flower Seeds, Implements, &c. The two best Potatoes—Clark Downing and Pearl of Savoy—$1 per bush.; $3.50 per bbl., of 180 lbs. CATALOGUE FREE. Price low. [jn16-6t

TREES PEACH, PEAR and APPLE. **100,000**

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SEEDS GIVEN AWAY. Mixed Flower Seeds, 5,000 Kinds, Grass, and 10c Certificate for Seeds, your choice, all for 2 stamps. 6 cents. Every flower I sell delights. Tell all your friends. O. W. PARK, PANNETTSBURG, PA.

[3"Send at once. This notice will not appear again.

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TO SEND TO

PRICE & REED, Albany, N. Y.,

FOR THEIR

New Seed Catalogue.

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TREES NEW and RARE OLD and RELIABLE

Both Tree and Ornamental. ROSES, Vines, Shrubs, Evergreens, Hardy Plants, Illustrated Catalogue, etc. Two fine Catalogues for 2 cts. Price to customers. Special Wholesale List. FREE.

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Mention paper and get copy *Orchard & Garden* free.

Raised as made famous by producing the finest tomato ever raised, the earliest and heaviest cropper, beautiful round shape, glossy-smooth, scarce, solid and of delicious ley-flavor. 50,000 pkts. sold in Europe since Dec. 1st. **For 25 cents** we will send a pkt. of the **Lorillard Tomato** seed, a beautiful **colored plate** and handsome **Seed Catalogue**, by mail, post paid.

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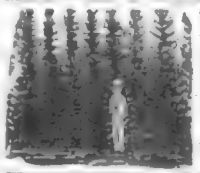

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300 VARIETIES. Headquarters of the MOYER, the Earliest and Best, Reliable Red Grape now first offered under sort. Also Small Fruits, Trees, Etc. 6 Sample Vines mailed for 15 cents. Illustrated descriptive Price List free. **LEWIS ROESCH, FREDONIA, N. Y.**

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40 Years' Experience in growing our unsurpassed ROSES and FLOWER SEEDS of extra choice quality. Handsomely illustrated Catalogue for 1889 with colored plate sent FREE to any address. $8,000 worth of new Plants, Bulbs, etc. given FREE this year, see Catalogue. **ROBERT SCOTT & SON, Philadelphia, Pa.**

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JAMES J. H. GREGORY, Marblehead, Mass.

☞ If you wish A SUCCESSFUL GARDEN try

DREER'S RELIABLE SEEDS

Plants, Bulbs and Garden Requisites, which have been a standard for over 30 years, with the most critical gardeners. Our trial grounds enable us to test all, and offer only varieties of merit. Good crops our specialty.

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is the finest Seed Catalogue issued. A complete guide to the hardy Fern and Flower Garden, contains two colored plates, and 124 pages. Is mailed for 15c. in stamps, and includes your choice of one packet of the following novelties: **Dreer's Golden Cluster Bean,** the finest pod bean; **Golden Self-Blanching Celery; Seminole Watermelon,** the best luscious grown; **Princess Beatrice Sweet Pea,** the new blush color; the lovely **Dahlia Geraldine,** blooms from seed the first season; **Saxifragia Empress of India,** the richest colored dark **New Pompone Zinnia,** in all colors mixed. Will mail one packet of each of these novelties, including the Calendar, for 60c. Mention paper and if a market gardener.

HENRY A. DREER, 714 Chestnut St., Philadelphia.

TREES Roots Grafts — *Everything!* No larger stock in U. S. No better, no cheaper. PIKE CO. NURSERIES, Louisiana, Mo. [12

HOOSICK VALLEY FRUIT & STOCK FARM. —Direct to consumers. Choice Apples, Refined Cider. Pure Heroe-Radish. Grade Guernsey Butter, and Calves. Address H. G. BREESE, Hoosick, N. Y.

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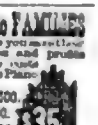
Earliest Cauliflower in existence.

AGRICULTURE AND CHEMISTRY—By Prof. STORER—an invaluable work for every thinking farmer, requiring no technical knowledge to understand. Two octavo volumes. Price $6 by mail postpaid. For sale at this office.

We Sell DIRECT to FAMILIES By advertising Agents you must bear enormous expenses and profits which double the costs to every first class Piano. Buy well. GRANDS, $750 to $1500. SQUARES, $200 to $600. Sent for trial in your own home before you buy. GUARANTEED SIX YEARS. Illustrated Price-List free. Mention this paper. [3 E. 21st St., N.Y.



Worthless Cows Made Valuable!

New Evidence of It in Every Issue.

MOORESTOWN, N. J., Jan. 14, 1889.

MOORE BROS.—*Gentlemen:* Replying to yours of the 8th inst. in reference to "Injectio Vaginæ," I can only say that I have used it twice previous to the present time, both times with success, after having tried some other remedies, all of which failed.

Very respectfully Yours, CHARLES COLLINS.

Price, $2 per quart bottle; Vaginal Syringe, $1. One bottle ordinarily required for the treatment of each animal, but the same syringe can be used on any number. MOORE BROS., *Veterinary Surgeons*, 137 to 139 Madison Ave. & 30 Norton St., Albany, N. Y.

INFANTILE Skin & Scalp DISEASES cured by CUTICURA Remedies.

FOR CLEANSING, PURIFYING AND BEAUTIFYING the skin of children and infants and curing torturing, disfiguring, itching, scaly and pimply diseases of the skin, scalp and blood, with loss of hair, from infancy to old age, the CUTICURA REMEDIES are infallible.

CUTICURA, the great Skin Cure, and CUTICURA SOAP, an exquisite Skin Beautifier, externally, and CUTICURA RESOLVENT, the new Blood Purifier, internally, cure every form of skin and blood diseases, from pimples to scrofula.

Sold everywhere. Price, CUTICURA, 50c.; SOAP, 35c.; RESOLVENT, $1. Prepared by the POTTER DRUG AND CHEMICAL CO., BOSTON, MASS.

Send for "How to Cure Skin Diseases."

Baby's Skin and Scalp preserved and beautified by CUTICURA SOAP.

KIDNEY PAINS, Backache and Weakness cured by CUTICURA ANTI-PAIN PLASTER, an instantaneous pain-subduing plaster. 25c. [6

I CURE FITS!

When I say cure I do not mean merely to stop them for a time and then have them return again. I mean a radical cure. I have made the disease of FITS, EPILEPSY or FALLING SICKNESS a life-long study. I warrant my remedy to cure the worst cases. Because others have failed is no reason for not now receiving a cure. Send at once for a treatise and a Free Bottle of my infallible remedy. Give Express & Post-Office. **H. G. ROOT, M.C., 183 Pearl St., New-York.**

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All payments on subscriptions are shown by the printed label bearing the subscriber's name—where several copies go to the same post-office, directly following it—where but one paper goes to an office, in a line of fine type above the name. Thus "Jan'80" or "Jn'80" signifies that the paper is paid for until January 1st, 1880, and so of other months and years, which are abbreviated so as to be readily understood—"Je" standing for June, "Jy" for July, &c., when the word cannot be spelled at length. The credit given on this label is a sufficient notification of subscriptions due and receipt for payments made.

THE CULTIVATOR
AND
Country Gentleman

Albany, March 7, 1880.

Knowing Amount of Crops.

An exchange says correctly that it is important in feeding animals through winter, to have a full supply; and then adds, "it is very difficult to gauge the amount of feed that will be necessary for the stock for any considerable length of time, and in order to avoid any risk it is best to keep a good supply." This we regard as a mistake into which many farmers fall, namely, that of collecting or reserving an indefinite quantity of grain and fodder, not knowing at all where or when it will land them when it is all consumed at some indefinite future. As we have recommended for many years, there is no difficulty in ascertaining the amount on hand, and in determining the rate at which animals consume it, the farmer may arrive at a tolerably accurate knowledge on these points, the chief uncertainty being in the weather, whether mild or severe, or of short or long continuance; but even here the careful farmer who understands arithmetic, and who by sufficient shelter keeps his animals as comfortable in severe as in mild weather, will find little difficulty.

Take a few examples. By counting his loads of hay when drawing in from the meadow, he may have a fair estimate of how much he has secured. But if he cannot do this, he may measure the amount in his barn, compute the cubic feet, and divide by 500 for compact or pressed timothy, or by 700 if the hay is clover, for the number of tons he has on hand. Then weigh the hay he feeds to his animals each day for a few days, and he will easily know how fast they are consuming his supply. Or, if he does not want to take this trouble, and cares less for strict accuracy, he may ascertain or estimate the aggregate of his animals, and allow about three pounds of hay daily for each hundred pounds of animals. This, by a little practice, will enable him to make supply and demand meet, more accurately than many actually accomplish. If grain is largely fed, it will somewhat modify the result. The supply of other kinds of food may be determined in a similiar manner. Turnips, carrots, or other roots may be estimated without difficulty. This will be better and easier that the attempt to secure feed for starving horses and cattle by being thrown out of food in a scarce, stormy, or difficult time in winter.

The grain supply is easily and readily measured in graduated bins, where the eye soon at a glance by the large and distinct numbers on the compartments of the granary just how much they contain at any time. If care is taken for uniform and regular feeding, the owner may know at once from the two measurements how long his grain or meal will last. Corn-cribs may be measured, and the number of cubic feet they contain ascertained; and then by multiplying the cubic feet by 5 and dividing the product by 5, we learn the number of heaped bushels. Marking the bushels at different heights will enable any one to see at a glance how much there happens to be on hand.

But computations of this character should not stop here. There should be a correspondence between the amount of feed raised on the farm, and the amount needed for the animals to carry them through. Rigid accuracy is more difficult here in making estimates in advance, because the amount is so much controlled by weather. Farms, however, in a high state of cultivation, are less affected in their crops by wet seasons or drouths. It may be well, therefore, after the crops are secured in autumn, to make a second examination, in the manner we have described, and to act accordingly, either by selling food, purchasing animals, or the reverse, in order not to have too great a surplus of one or the other for the best profits. This will be better than to do as some farmers, by selling grain or feed early, and then being compelled to buy again before the spring has passed. As a nearly universal rule, it is better to have a surplus of food than too many animals, because a needless amount of hay or grain will do no harm, or may be easily disposed of in future; but a surplus of animals, requiring the owner to place them on short allowance, is a most unfortunate policy.

Improved Farming.

ED. COUNTRY GENTLEMAN—Notwithstanding there is an idea that a person living in the city knows nothing about farming, I am disposed to try my hand at it, a little for profit, considerable for experience and satisfaction. I have a farm of 400 acres, none of which has ever been plowed. It lies about seven miles west of this city, and about twenty rods from a small station on the Wabash railroad, in what was known as the Little River prairie, a tract of land that has just recently been ditched by several large ditches running through the same. Except at times of high water or floods these ditches will lower the water level on the prairie from seven to eight feet, and will hold within their banks all the water of the streams to which they are the outlet, even at times of ordinary flood. A part of my land, perhaps a hundred acres, will be what is usually termed muck land, although I do not think that is a right name for it, as it has decomposed sufficiently to become very black, and has lost all of that fibrous or rooty character that muck or peat usually has. This has been clear of timber, some of it for fifty years, and some of it twenty years, and has been covered with wild grasses from red top and blue joint to bullrushes. (1)

Through my land, and comprising about 80 acres of it, there is what is called an island, the surface of which is from 18 inches to 10 feet above the rest of the farm. Most of this soil is sandy and covered with all kinds of Indiana hard-wood timber. The remainder of my farm, about 280 acres, is level; at the southeast corner the stream from the highlands on the south empties its waters, but as the land was level they spread out over the whole prairie, depositing silt and soil from the highlands to a depth of 2 to 3 feet in some places, but mainly from 6 to over 8 feet. On most parts of this grow burr oak, some beech, some white oak and white ash, but as the land gradually grew lower the nature of the timber grew softer, and the timber changed to elm, black ash, soft maple, &c. I can get lime from the lime kilns about twenty miles away, delivered at the siding for about $1 to $1.25 a ton. It is the fine slaked lime, however, that will not pay to ship to the cities for building purposes. (2)

I should like your ideas how deep and far apart I should lay the tile to thoroughly underdrain this land, if that be deemed necessary. (3)

I should have said that under this muck and the silt that has come down the creek, there is a deposit of marl, or rather a bluish kind of earth, full of shells that make it look like marl, and under this clay blue hard pan. (4)

I should also like your ideas as to what use I should make, if any, of this lime to further decompose the mucky parts of it, if at all (5), and what other general plan I should follow to raise the fertility and productiveness of the land when it is cleared. (6) I am now cutting all the timber, and expect to remove the stumps, from all of the land except a small grove that I shall leave for farming timber and general beauty of the place about the house and barns. T. B. B. *Fort Wayne, Ind.*

1. As there are two varieties of peat, the fibrous and the compact, this is obviously the latter.

2. It is probable that the lime will benefit your land to some extent, if firmly and evenly spread at the rate of 25, 50 or 100 bushels per acre, but the amount of benefit can be determined only by making the trial, as soils very much in their susceptibility of improvement from its application. The moderate cost would warrant an experiment, to some extent.

3. In your porous and light soil, a greater depth is required than in a heavy compact soil, and three or four feet in depth would be better than draining too shallow. The distance apart will depend somewhat on the amount of means you can devote to the work, and the probable future benefit to be derived by the crops, depending on their value. A distance of thirty or forty feet would make very thorough work. By way of experiment, you might place the drains at twice this distance asunder, and in future place the intermediate drain for more complete drainage. In this case you would find it indispensable to have all your drains mapped. You will, of course, understand that on nearly level land an accurate survey must be made for the intended drains, to give them sufficient descent, and that much larger tile is required to carry off the slow currents.

4. This is undoubtedly shell marl in greater or less purity—a fact which you may determine by burning some of it to lime, or treating it with acid. If it mostly dissolves in dilute muriatic acid, it is comparatively pure; if much sediment remains, this will be sand and clay, and show more or less impurity.

5. In either case, it would probably be a good fertilizer if evenly spread at the rate of a hundred bushels or more per acre—operating somewhat like lime.

6. A judicious use of underdrainage, applying barn manure, turning under clover, using such special fertilizer, (ashes, plaster, phosphates, &c., as experience shows to be useful and profitable, are among the means you may employ, not omitting proper attention to a good and suitable rotation of crops, and securing a good supply of manure from well-fed domestic animals.

Spreading Manure in Winter.

ED. COUNTRY GENTLEMAN—I always read with pleasure and profit the articles of your esteemed contributor, Mr. Henry Stewart, and should hesitate to dissent from so high an authority, if my own experience did not convince me that his practice of spreading manure on snow or frozen ground (p. 104) was not advisable in our latitude. I began that practice when I began farming for myself, some fourteen years ago. The great saving of labor recommended it to others, and many of my neighbors followed the same plan. I have discontinued the practice, and I do not know of any farmer in this section who still continues it. We find that when our heavy snows melt away in the spring, our manure goes into the ditches and is lost. I have seen ditches on my farm running brown with the wash from the spread manure. I have seen this, too, when the ground was not frozen under the snow, but the snow melted so fast that the water could not all percolate through the soil, but flowed over it, carrying the best part of the manure with it.

Such evidence was enough to convince me that the practice was not advisable, and that I must either pile the manure in a large pile and handle it over again in the spring, or put it in small piles just where it was needed. There are objections to both methods. I chose the latter, as it required less labor, and thinking that perhaps the loss was not greater from the washing from the small piles than by the fermentation in the large pile. I tried putting it in small piles, one on each side of the sleigh, which facilitates the spreading, making the piles small at the base and very compact, so as to catch as little snow and rain as possible, then spreading as soon as the frost is out of the piles. In this way I do not notice the "rank growth where the manure had been heaped" that Mr. Stewart speaks of. I am inclined to think that the reason for such a growth was that the manure was not all spread; the bottom of the pile was left where it lay. It requires a scoop to take up the bottom of the pile. There is no need of uneven manuring by this method, if the spreading is done as soon as the manure is thawed out, and proper care is taken in doing the work.

While this method gives better results here than winter spreading, I find that, without exception, I get the best results from manure spread on meadow land just after haying, and on ground that is being fitted for wheat; the next best from spreading in the spring; and, that the application of manure in winter, by any method, is accompanied by more or less loss. W. S. H. *Oswego County, N. Y.*

It is always well to do as our correspondent has done, to state the difficulties and objections to any farm practice, and it gives us an opportunity to give additional explanations. There is no doubt that heavy rains and rapid thaws would carry off some manure in the bottoms of swales and on the borders of such ditches as are flooded with water. But how does our correspondent know what proportion of the manure spread on a field is thus carried away? He has seen the manure thus lost, but he has not seen or measured the amount absorbed by the whole surface of the field. An inch of rain, or an amount of snow water equal to an inch of rain, would be more than three hundred hogsheads on an acre, or more than three thousand hogsheads on his ten-acre field. Doubtless if he should see but ten hogsheads of water in his ditches running off with enough manure to discolor it, he would be alarmed at the large waste, although it would be only one hundredth part of the inch of water from the rain or snow. The remaining two thousand nine hundred and ninety hogsheads of water would have the advantage of the ten in the ditches by being in direct contact with the soil beneath, and the manure which it happens to hold would be quietly absorbed unobserved.

We have adopted the practice of winter spreading for more than thirty years, and when thaws or winter rains occur, there has been little or none of the manure carried off, except it may have been in the bottom of hollows or by temporary brooks. We know of the practice of other farmers, who find the advantage thus derived from the minute diffusion of the soluble particles of the manure into the soil in this way, to be greatly superior to the imperfect mixture in spring by mechanical means, some placing the difference at least double. This distinct, measured, and accurate test, can be more surely relied on than the uncertain estimate of seeing discolored water in ditches. It is not necessary to spread manure in such places in fields as are washed by floods. It has always been found rare to find any considerable floods, or even small streams of running water, over the broad surface of fields generally. We have purposely placed manure on a hillside where rain and melting snows would carry the soluble parts down the slope, and never could discover any increase in the growth of the grass a distance of five feet below. It was all absorbed within that distance.—EDS.

Weighting Ensilage.

ED. COUNTRY GENTLEMAN—Will Mr. JOHN GOULD give his opinion on the following point as regards silos? He states in your columns that "weighting silos is a relic of the past." In Wisconsin, I suppose cold weather follows immediately the filling of the silo; here in Virginia we have from one to two months of mild weather, frequently very warm—often no severe cold until Christmas. Is it likely that this would cause a different result, and make it unsafe not to weight? F. W. M.

Stony Point, Va.

[Answer by Mr. GOULD.]

Even the semblance of weights used on silos in 1888 now seems as unnecessary as it would be to "weight a wood-pile," as Hiram Smith lately expressed it. The present winter north has been quite as open and warm as the average Virginia winter, and no bad, but on the contrary, unusually good, results have followed our no-weighting and lighter covering—in some instances no covering at all. It is not a condition of weather, but a principle of preservation, that is involved in the proper keeping of ensilage, and when we have complied with this principle, it makes no difference whether the silo is north or south, the contents will be equally well preserved.

Only two matters need to be well considered and closely followed: A silo with air-proof sides and bottom, and a material with which to fill it that has come to possess maturity, i. e., full development of quality. Let this silo be air-proof, so that no air can get at the ensilage, and the corn so well grown that it is perfect in development of its proper elements, and we have the perfect conditions, so far as we know, for success. In filling the silo, the settling of the ensilage and the slight ferment that takes place, expels the air imprisoned at first among the interstices of the ensilage, and a very dilute gas (carbonic) takes its place, and there is then no necessity for weights to expel what does not longer exist; all we need do is to put on a cover of some sort which will check mould at the surface. The low heat of the silo during the winter—about 75°—causes a slight upward current of the air, which would otherwise settle down upon the ensilage, and so during the winter, mild or cold, there is no call for a cover of any sort, as the silo affords its own temporary cover or protection from the air.

This last year, with us, there has been very little disposition to hasten the covering of the silo. From four days to a week was allowed for the ensilage to settle and throw out air, and when the surface became "hottish," a foot of straw or old hay was tread on, and the work was complete.

In two instances that have come to my knowledge, no cover of any sort was used. At the end of four days the carrier was started, and the litter about the cutting box was run up and evenly scattered over the ensilage, and the result was, not a half load in all of the ensilage was spoiled. The mould formed about three inches thick, and made a most impervious cover, that was cheaper than any other crop-material and labor could possibly be.

With this mature ensilage, made from Virginia corn, but early planted, and cut Sept. 25th, the heat in my silos did not go above 100°, and within a few days settled down to about 78°, where it has since remained. The

addition of weights could not have changed this, and as quick as one begins to feed, the cover will of course be all removed, so that the surface of the ensilage can be kept level and uniform. The facts are that it has not been found by experience that weights have anything to do with the temperature of the pits or the preservation of the ensilage, and wherefore should we continue this lifting on and off of weights for the purpose of preserving the ensilage for a few days, when we expect, and do find that it does preserve and protect itself when uncovered? The great matter to discover is what is the best and cheapest way to do work of whatever nature on the farm, and avoid doing labor that "no one pays for." The principle of preserving ensilage is not one of locality or local temperature, but includes a mature crop; a silo with air-proof bottom and sides; and the allowing of air to escape when silo-filling is complete, before the covers, light or heavy, are applied; and these points understood, the expense of ensilage may be reduced very materially from 1888 ideas.

Barnyard Grass.

EDS. COUNTRY GENTLEMAN—Please state what grasses the inclosed samples are. They grow from three to four feet high, and when cured in hay, cattle are very fond of both. I am not well acquainted with the varieties of grass, though I am starting grass culture. Last spring I sowed 20 acres of clover, timothy, herds grass and orchard grass, mixed. The spring previous I sowed ten acres of clover and orchard grass. I will continue sowing this spring. The fine growth of the two varieties sent you, and the fondness of my cattle (grade Jerseys) for the hay, will induce me to try them unless your knowledge of them condemns them. I. A. W. *Forter Springs, Ga.*

Both specimens belong to one species, commonly known as "barnyard grass," botanically as *Panicum crusgalli*. No. 1 has the awns or bristles of the flowers much longer than in No. 2, and this gives it a very different appearance. The species is found in many parts of the world, and is exceedingly variable, according to soil and location. The plants are sometimes large and coarse, sometimes small and slender. The sheaths may be either smooth or hairy, and the flower spikes may be either green or purplish-brown, and have either long or short awns, or almost none. It is fond of rich manured soil, and is frequently found in a rank growth about manure heaps and barnyards, as indicated by the common name. It also likes moist or wet places, and grows luxuriantly along ditches and in half-dried waterholes. In the Northern States it is generally considered a weed or worthless grass, but in some of the Southern States it has been cut for hay, and recommended as a good food for horses and cattle, both of which appear to be fond of it. As it is an annual grass, and readily reseeds itself, it is said to require little care or labor, except that of harvesting, but unless the fertility of the soil is kept up or renewed in some way, it is evident that the crop will sooner or later deteriorate. On account of the long awns, it would perhaps be better to cut it early, before these have become fully developed or hardened. In such a case, the seed must be renewed artificially, for it would not be mature at the time of cutting, and would not renew the crop. C. H. P.

Treatment of Burnt-over Lands.

EDS. COUNTRY GENTLEMAN—I have been very much interested in reading Mr. A. C. Glidden's article on page 126, describing the sand plains of Northeast Michigan.

From his description of the soil, &c., it brings very forcibly to my mind what I used to hear in boyhood about the land on the East Cayuga Indian Reservation from the sons of the first settlers on the reservation. They would tell me that no crop could be grown when plowed the first time, but after the land had been plowed several times and the soil well mixed, it would be very productive, and red clover was a very productive crop; in years when somewhat dry, land plaster would be very beneficial to it. It used to be common for the early settlers on this land, when they broke a new piece of land, not to expect a crop until it had been plowed over several times. This land I mention was land annually burnt over by the Indians previous to the advent of white settlers, and would produce a growth of what we call June grass, a nutritious food for live stock.

Of later years, when land has been cleared of the forest trees, which are quite large, and the land plowed over and potatoes planted, a fair crop may be expected, but it requires a plowing of four or five times before getting a fair crop of wheat or corn. The productiveness of the soil may be hastened by a liberal supply of land plaster, annually, of about two hundred pounds per acre.

As Mr. Glidden speaks of the benefit of plaster on that land and its benefit to red clover, it appears to me to be very similar to this reservation land, and I would recommend that those who are experimenting on that land to plow it several times and thoroughly mix the soil to a depth of about eight inches, and see what the result may be.

Cayuga County, N. Y. J. H. BAKER.

An Indispensable Windmill.

EDS. COUNTRY GENTLEMAN—No doubt many are deterred from putting up windmills, thinking perhaps they do not amount to much, and are a constant source of vexation and expense, at least I should judge such to be the experience of several correspondents of the COUNTRY GENTLEMAN during the past year. On the other hand, I for one must decide in favor of the windmill, as far as its use for raising water is concerned, for with me, should I be obliged to do without the windmill, I also should be obliged to do without water.

Let me say to G. H. K. (p. 86) that a good windmill and pump, after once being put in good working order, does not require much if any care, except the occasional oiling. There are no doubt many imperfect mills in use which are a constant source of trouble and care, and their use or rather the attempt to use them, has caused the windmill to be condemned for the purpose for which it is intended; while on the other hand, if a good mill is properly erected and a good pump attached, the same will perform a great amount of work, and the possessor of such a mill need never be without water, and at the same time the expense to keep it in repair will be but a trifle.

In my own case, I have a windmill which has been in use for several years, and while it has been the only means of my water supply, and has been in use constantly, except when we had a surplus, when the mill would be thrown out of gear, it has been of no expense except the occasional oiling, always ready for work, perfectly storm-proof under all conditions, or has proved so thus far, and I would not want to, in fact could not, do without it under any circumstances.

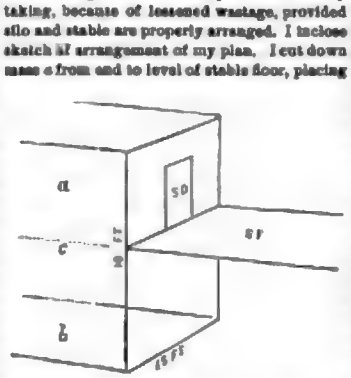
My mill does more work than would be required of most mills, as it forces the water more than 50 rods at an elevation of 125 feet, furnishing water for household and stock use beside supplying a boiler which uses from 10 to 15 barrels per day several months in the year.

I would further say that, although some condemn the use of the windmill, it is a comparatively cheap and efficient means of delivering a supply of water at house or barn, or at any point needed on farm.

Schoharie County, N. Y. CHAS. LAMOREAU.

How to Cut from Silo.

EDS. COUNTRY GENTLEMAN—In your issue, Jan. 31., "B. E. T." asks questions about silos and plans for arranging his stables. Eight years' experience with ensilage convinces me that cutting from end is preferable to top taking, because of lessened wastage, provided silo and stable are properly arranged. I inclose sketch of arrangement of my plan. I cut down mass *a* from end to level of stable floor, placing



S F, *stable floor*; S D, *silo door*; a, b, *ensilage*.

the planking again on ensilage at this height, or *c*, which furnishes floor for feed car to be run on. When the top half of the ensilage has been removed, I then begin at the far end of silo and work back to the door on mass *b*, reducing labor to the minimum.

If B. E. T. will allow one ton per month for each cow, he will easily compute needed capacity of silo, provided his silo is not less than 16 feet deep. If less, he loses in storage capacity. Were I to build again I should try to have silos 30 feet deep, as one foot at bottom holds as much as two at top.

I do no "packing" when filling except enough to level the forage and prevent soft spots. When silo is filled, I place rough 1½-inch boards on top, and weight with three rows of barrels filled with stone (silos are 15 feet wide). This mass, 15 feet wide by 16 feet deep usually settles about 3 feet, and the ensilage keeps perfectly, when cut from the end. My loss under the boards will not average over 3 inches after an interval of months.

B. E. T. speaks of railroad track in feed alley. If he will properly cement his stable floors and use a box-truck with wheels such as are used on a warehouse truck, he will like it much better. The wheels will cost about $4, and any one handy with tools can make the box in a day. W. R. HUNN.

Hartford County, Conn.

Earth Closets Once More.

EDS. COUNTRY GENTLEMAN—It is evident from the earth-closet articles in your paper lately, that all do not think alike; but never mind the particular details of the system, if we can manage to stir all readers of the COUNTRY GENTLEMAN up—as a visitor here yesterday expressed it—to be civilized in this matter.

It is quite amusing that Mr. Farlee, page 85, prefers a larger receptacle to my iron pails, so that the women-folk would not have to be "dinging" at the men so often to empty it, while I got these pails just to get rid of this very same "dinging!" How we differ! It looks, from his article, as though men were about all alike. I had thought that perhaps I was an exception. When we had a large receptacle, and it needed a stone-boat to draw it away, many "dinglings" have I got before it was attended to. Sometimes a threat, from a certain woman, that she would do it herself, was necessary before I got at the job. Now, why was this? I think I am not lazy, and I pride myself on being prompt and on time about my farm work. Well, to tell the truth, it was an unpleasant job, and I disliked to get at it. Some large rope handles were put on the outside of box or cask to help handle it by, and every precaution taken to make the job pleasant; but still we tried to put it off. One trouble was that Mr. Farlee's "capabilities for neglect" were too great; absorbents enough were not always put in, and when the horse started suddenly with the stone-boat, we realized this—or rather our nice clean handles did.

But our troubles in this line are now all over. These large pails can be taken to the field close by and emptied, in winter, or to the covered barnyard in summer, so easily and with so very little unpleasantness that I do not think my wife will ever have to "ding" at me again. Mr. F. speaks of the handles of my pails, if the emptying is not attended to in time, getting into such a condition that a hired man would leave sooner than touch them. Now it is evident that he did not read carefully. I am sure I wrote that the handles were long enough to fall over on the outside of pails, when not in use. Then if he will look carefully at the picture, he will see that the pails come up almost to the seat. A moment's thought will convince him that from the very nature of the case the pails could not be neglected until they got full enough to run over and soil the handles. Past experiences made us on the lookout for any such chances.

Again, Mr. F. is well satisfied with his plan; but he will readily admit that a wooden box will absorb filth and give off bad odors more readily than galvanized iron. We soaked the wood with oil before using; but then did not find it as odorless as these iron pails. Also the surface exposed that must be covered with absorbents in warm weather is small in our pails, but large in the long wooden box. I do not want to say enough to make Mr. Farlee discontented with his wooden drawer, but just enough to put the matter clearly before new beginners in the earth closet line. From actual use we are all delighted with the neatness and convenience of our plan, particularly with the large earth-box which will hold a year's supply and from which we can so easily and handily take up a little with a hand shovel. Mr. F. will find it away ahead of his box in one corner holding two bushels. It takes only one "dinging" spell in a year to get it filled! He says that as a matter of fact absorbents were not added to his drawer more than twice a week, although instructions were that they should be put in daily. Now, if our friend is any like the writer, it was often his fault that absorbents were not put in daily. The little box got empty. I shall draw a long, satisfied breath when I get our big box filled with dry muck next summer, enough for a year. Like Mr. F. we must use sifted coal ashes, partly, this winter, as we have not enough dry muck on hand; but the muck is the nicest to handle.

The point made by Mr. F. that "handling these pails might be thought of the nature of carrying chamber slops, which is woman's work, and not for men to do," brings to mind the plan pursued by one of the most refined gentlemen in this State. Instead of my iron pails he uses common tin (painted) slop buckets, and whoever empties the slops in the house empties these also, daily, on to a pile of soda kept for the purpose. This man is one of our most noted agriculturists. I would give his name only it looks a little as though he was shirking some of his work on to the women-folk. Certainly he has got it fixed so there will be one less chance for "dinging." But seriously, his arrangement is perfect for him. The closet is too close to the house for one to give it any "capabilities for neglect." Where ours is, larger pails, emptied once in two weeks or so, seem perfect for us.

Many farmers, if they desire, could floor over their present out-houses tightly, hang the seat on hinges, put in pails and build an earth box, as described, in one end for $3 to $4. They could thus avoid all risk to health, be neat and "civilized," and get fertilizer enough to bring them their money back every year. I hope every reader of your paper will see to this matter without any farther delay, whether he follows my simple plan or some other. If any man does not attend to it, may his wife everlastingly "ding" him until he does!

Disposing of House Slops.

Some years ago your correspondent wrote you how he avoided all risk from foul slop drains, by not having any, but rather using a water cart, a simple barrel on wheels, to draw all waste water from the house away, emptying it in a new place each day. Some one inquired through your paper how we would manage in cold weather. I did not answer then, as we had not had experience enough to really know. It was one expectation that we would have to go back to pails during the coldest weather, having them set in the kitchen. After considerable experience, we find little use for the pails. The barrel stands by the side of the east kitchen porch in cold weather. Slops are thrown in during the day. Our last chore at night is watering and putting fresh straw under the horses. When I or my son comes in, whichever one does the chores, he empties that barrel. All house-work is done before that time. For convenience, we keep a pail standing in the kitchen and empty it into the barrel from time to time as it is filled. Now, it is a pretty cold day when one pailful will freeze hard enough to hurt any thing before another is emptied in. This winter we have used the barrel every day so far. Some winters there are a few days when it is not practicable, except on washing day. There is water enough that day so it can be used in the coldest weather we have here.

The snow is sometimes deep. When it is too deep to run out into the fields around the door yard we go out the path to the road and empty along the road track. We like this plan of disposing of the slops. Practically, it is but little work, and there is not a foul spot on our premises, or any possible danger from the terrible sewer gas. The earth takes care of everything as long as the cart is only emptied once in a place. Danger comes from the accumulation of filth, particularly in an underground drain where the sun can not get at it.

Summit County, O. T. B. TERRY.

From Eastern Illinois.

EDS. COUNTRY GENTLEMAN—The fine weather still continues, although my thermometer marked zero yesterday morning for first time this winter, and it looks as if the ground-hog sign might prove correct, as Feb. 2d was quite mild and bright enough to see a shadow without difficulty, while the weather since has been generally pleasant; we have had the lowest temperature of the season since that date. The greater part of last week offered a fine opportunity for trimming trees, vines, and similar work which was taken advantage of by many. Wednesday (13th) was warm and atmosphere hazy and smoky, a perfect Indian summer day. Thursday mild and pleasant; Friday cloudy all day, misty and a little rain, with thermometer 43° to 56°; morning following still warm, 40° and upwards, quite foggy, followed by a hard shower about middle of forenoon, which was beneficial to growing wheat, strawberry plants, &c., as continued dry weather in connection with repeated thawing and freezing had rendered the soil loose and dry, easily blown away by strong winds which were not uncommon.

So far the winter wheat in this immediate vicinity all looks well, I think never better, at this time of the season; but I am told that some twenty miles east of here late sowings are badly damaged. The rain of Saturday compacted the ground, and Sunday night, before any intense cold, enough snow fell to protect it

from the following rapid change of temperature to 7° Monday, zero Tuesday, and 3° this morning. Since Sunday night the wind has remained steady northwest to west, clear, bright and cold, which if continued a week longer would have given opportunity to secure some good ice, but at noon to day the wind is south and gradually growing warmer. There has been considerable poor and thin ice stored here this winter, gathered from everywhere and anywhere it could be found, creeks, sloughs, dirty ponds and the river, contiguous to outlet of sewers and the city "dump," the use of which is likely to cause sickness and disease in many cases. There has been some ice brought here by rail from northern points and more will follow later if needed, the only drawback being increased expense.

The farmers have had the benefit of good roads to market their produce, and many have taken advantage of it at fair prices. The wheat crop of 1888 was fair in yield but variable in quality from very good to very poor, and has sold from $1.05 down to 65c. per bush., but is again higher at 90c. and over. Hay has been in good supply with fair demand at from $12 to $13 down to $10 for choice timothy with finer grades in proportion. Corn has been in short supply at times, although a large crop (100 bushels per acre having been not uncommon) present price being 35c. The stock of old corn in the country has been so reduced that it will probably require another full crop, at least, to reduce prices much if any below present values. Large quantities of straw find a market at the extensive paper mill in Quincy at $3 50 to $4 per ton, but the supply is so ample that the mill will not receive more than one load per day for each team from regular teamsters (those who make a business of hauling straw for the mill), and but two or three loads per week from farmers who haul their own straw. They also use immense quantities of slough grass cut on the Mississippi river bottom lands and transported on barges. Judging from price and supply of raw material there is a good opening for another mill at this point. L. P. W. *Quincy, Ill., Feb. 23.*

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *Feb. 25.*

We are getting our winter late in the season and February has been so far quite as cold as the average of previous years. The snows too, have been many, but not any one over six inches, and the last, night of the 25th, not over four. There has been an unusually long period of high barometer and the needle of the aneroid stood over 30.40 last night, all through the snowfall which came down under the direction of a light southeast wind. Three days ago, the figures at sunrise were 4° below zero for the thermometer, and for the barometer, a trifle above 31 inches, a pressure reached only at long intervals between, and in winter seldom, if ever, except when intense cold following a blizzard prevails in the far northwest. Few persons, except those who have taken the trouble to make the figures, have anything like a correct idea of the difference in the pressure of the atmosphere on the earth's surface when there is a rise or fall of the barometer. Thus, when the atmosphere is in a state of equilibrium, the aneroid needle stands over the figure 30, and the pressure or weight of the atmosphere is about 14 pounds to the square inch, or something over two thousand pounds to the square foot. When the barometer rises to 31 inches, the increase is 67 pounds to the square foot and when it falls to 29 inches, as much pressure is taken off. What wonder then that those who keep these facts in mind associate a high barometer with certain intense cold in the winter months, and with possible earthquakes at all seasons; and a low barometer with earthquakes also and violent storms or tornadoes? As to why a high barometer may be the cause of an earthquake, and a low one responsible for the same phenomenon, it is easy to see how, under certain conditions, an enormously increased pressure may cause a depression of the surface, and the sudden taking off of as much pressure may cause a lifting of the earth's crust. These are, to be sure, rather crude statements of the effects of great cosmic agencies, and are therefore subject to correction by those who possess a scientific education and acute minds.

Live stock of all kinds came through the winter up to February, in condition far above the average, and bear the late severe weather with less shrinking than usual. Still, a snowy and cold February and a windy and stormy March may cause greater drafts to be made on stored hay and grain than anticipated. Those who have sold short may have to buy long, and pay 50 and perhaps 75c. for that which they sold for half or three-fourths the money. All of which goes to enforce the truth of the proverbs, "winter seldom rots in the sky," and therefore, "half your meat and half your hay should be remaining on Candlemas Day" (Feb. 2).

If the health of stock has been exceptionally good, there is still a perilous time to be passed over, especially for those generous owners who cannot resist the inclination to liberally feed all stock under their care, even cows and mares heavy with young. This high feeding is the prime cause of that fatal scourge of the dairy, parturient apoplexy, of which full ten per cent. of the deep-milking cows of this county and neighborhood die every year. I am satisfied from observation, that it is rare a cow recovers after she is once down, and I am equally sure there is a harmless and certain preventive, in reducing the grain rations to a minimum, and feeding a peck of Irish potatoes daily three weeks before parturition. Granted that potatoes worth from 50c. to $1 a bushel are rather expensive feeding, still those who have suffered the loss of one or more valuable deep-milking cows, will not regard $3.50, or even $5 a high premium for insurance in such cases. For mares which are subject to fever in a less degree, potatoes are not a safe recourse, and carrots or sweet or mild-flavored apples may be substituted. But carrots, competent veterinarians assure me, if fed in considerable quantity for two or three weeks or more, promote at first a glossy coat, and afterwards a premature shedding of the hair, a thing not at all desirable before settled warm weather. If there are errors in these statements, I shall be glad to have them corrected by those who can speak from experience.

Illinois Farmers' Institutes.

Some months since, when the origin of these new departures in agricultural teaching was under discussion, the credit of the movement was accorded to Hon. John M. Gregory, for some 14 years regent of the Illinois University.

Associated with him at that time was the late Willard C. Flagg of Madison county in being the "secretary for agriculture" provided for in the act establishing the institution. He it was who originated the idea of farmers' institutes, laid out the plans for carrying them into operation, suggested and obtained the speakers, managed and contributed to the discussion at each meeting, and, in short, was not only the originator of the business, but the wheel-horse of the team which did the work. Of course, in the movement he had the hearty cooperation and assistance of Dr. Gregory, as well as others of the faculty of the school. When first started, these farmers' institutes were looked upon with disfavor by the politicians, and they became alarmed when the Granger movement swelled into a matter of political importance, with Flagg as a leading spirit "in the swim." The trustees of the institution, sympathizing with the politicians, looked with coldness at first on the movement; then shut off what little appropriation was needed to carry them on; and when the time arrived when it was thought that Flagg would become the candidate of the Grangers for governor, on the pretense of economy they abolished the office of agricultural secretary and fired him out. Subsequently, as a sort of apology and compensation for the action of the trustees, he was appointed to a place on the board by Governor Cullom, and remained there till he died, in 1878.

27th.—Cloudy, with a haze in the air; thermometer, 35°; barometer, 30.66. D. F. J.

Covering Ensilage.—The covering of ensilage after silo-filling is occasionally brought up, and I notice that Mr. John Gould recommends covering with dry straw, with no weight except a few pieces of boards to hold the straw closely upon the ensilage. Why not put on damp or wet straw? If I were to cover to-morrow I would, for the reason (as it appears to me, through a little observation) that the dry straw has a tendency to absorb the moisture in the upper portion of the ensilage. My manner of covering the past season was tarred paper and two and a half feet of whole dry straw, as I could not get cut straw on without carrying it up a ladder in a basket. The straw was frequently tramped down, and absorbed the moisture quite materially. The heavy or tough air proof coating of mould was two inches thick, and lay below six inches of the ensilage nearly as dry as powder, and looked as though it had been in an oven and scorched, which caused me to believe that half the bulk of straw, *if well dampened*, would be just the thing, and save the labor of loads of stone, sand or earth to weight and expel the air. When this mould coating is removed, the ensilage below has its perfect condition; yet the edges and corners are inclined to mould deeper. *Madison, Wis.* H. M. C.

Inquiries and Answers.

Stanchion Patents.—Is there a patent now in force in the so-called swing cow stanchion—I mean in the principle of a swing stanchion, or is the patent simply in the device and not in the principle? Would any one be liable for infringement should he make swing stanchions for his own use, but arranged to open and shut in a different manner from those now in market? T. E. C. [Write to makers of stanchions referred to for the dates and numbers of their patents, and then send to the patent office at Washington for copy of the specifications, and you can see exactly what is covered.]

Sieves and Punnets.—In the market reports in the London Garden, I notice apples quoted at 2s. 6d. per "half sieve," and raspberries at 2d. per "punnet." Please define these words. L. S. *Columbia, Pa.* [A "half sieve" is a hamper, in shape like the ordinary hand sieve, and apples in half sieves (about one bushel) usually go to London from France and Germany, although the sieves after having been used once are sometimes used again by near-by English farmers to send their apples to London. They are made of a sort of flag or palm, and have covers of the same material. A "punnet" is a berry basket, square, similar to those used in America, holding about a quart.]

Explanation of Rations.—I have lately been reading the book "Feeding Animals" (fourth edition), which I find very instructive, and it should be in the hands of every farmer. Pages 544 and 545 relate to the feeding of three different cows at butter tests. Why is there a larger number of pounds given in the analysis than the number of pounds in the feed? In the first test of Princess 2d the total of feed given is 143 lbs., and total after analysis 164.61 lbs. Mary Anne of St. Lambert's first test was on 35 lbs. of feed, and total analysis is 58.40 lbs. The Leslie cow was fed 46 lbs. of feed, and the total analysis is 49.06 lbs. J. H. B. *Cayuga County, N. Y.* [J. H. B. made an oversight in examining the rations on page 544. If he will look again, he will see that what he took for part of the analysis is simply the weight of each food deprived of its water. This is given under the heading "Dry Organic Matter" and is no part of the analysis, but only to show how much dry food there was. The first item in Princess 2d's first test is 35 lbs. clover hay, containing 29.40 lbs. dry organic matter, the digestible nutrients of which are—albuminoids, 2.27 lbs.; carbohydrates, 13.87 lbs.; fat, 0.59 lb. The digestible nutrients are found by analysis, and these amount to only 16.23 lbs., whereas the food in its natural state was 35 lbs. All the other items in all these rations are carried out in the same way. E. W. S.]

Ashes.—What is manurial value of pure unleached hardwood ashes on a basis of $28 per ton for superphosphates, the latter to be the standard of the various brands? Is the former as desirable for potatoes, grain and grass as the latter, considering cost? C. A. B. *Goshen, N. Y.* [The composition of the so called unleached ashes of the trade is so variable that it is not easy to understand just what is meant by "pure unleached hardwood ashes." If we take hardwood ashes from our own hearths, that have never been exposed to the weather, we may expect to find in 100 lbs. of them at least 2¼ lbs. of phosphoric acid, worth at trade rates for the constituents of commercial fertilizers, 7c. per lb. We shall find also at least 8 lbs. of potash, worth 5½c. per. lb. This would give a total of $12.30 as the trade value of the phosphoric acid and potash in a ton of such ashes. This is none too much of an allowance, since the real value of the potash of wood ashes would usually be greater than that of the potash in the German sulphate of potash, which is rated, as above, as costing 5½c. In average Canada unleached ashes there might not be as much. The other part of the question is not easily answered, except by actual trial, for the needs of different soils as to potash are so different, and moreover, all superphosphates sold as such contain some nitrogen compounds, while ashes contain none whatever. For grain, superphosphate would be a more profitable application than ashes. For grass, the reverse would probably be true, and perhaps for potatoes also. But after all there is but one way to get perfectly reliable answers to such a question as this, which is to try the different fertilizers, side by side, or in other words to ask the question of your own soil and the crops rather than of the agricultural paper—not but that the paper is willing enough to answer this question to the best of its ability, but the conscientious editor does not pretend to know what he does not know.]

Dairying—Fish.—Can you tell me of any good books treating directly on the subject of starting and working of creameries on the separator system? (1) Page 155, Dairy Markets, "State creamery, choice, 26 to 29c."—does this mean the wholesale price of butter? (2) Are New-York dairy markets for creamery butter higher (as a rule) than the Philadelphia markets? (3) Can you tell me of any good books on carp and ponds? (4) Please give me all the addresses you can of fishery stations, State and United States, so that I may get the reports. (5) A. S. P. [1. This subject is discussed at some length in Stewart's Dairyman's Manual, $2. 2. Yes. 3. Probably not much difference. 4. No. 5. Address U. S. Fish Commissioner, Washington, D. C.]

Short-Horn and Jersey Cows.—Please compound ration for medium size grade "Durham" and grade Jersey fresh milch cows of the following: Good timothy hay, cut straw, bran, corn meal, cottonseed meal, linseed meal; will have to buy the grain. I wish a butter ration. J. M. Q. *Crawford County, Pa.* [J. M. Q. is presumed to cut his hay and straw and prepare it for mixing with the ground feed. He may compound the following ration: 12 lbs. cut timothy hay, 6 lbs. cut oat straw, mixed together, 5 lbs. corn meal, 7 lbs. wheat bran, 2 lbs. linseed meal. The corn meal, bran and linseed meal, should be well mixed together and then mixed with the cut fodder, given in three feeds smallest at noon. This ration should produce a good result in milk and butter, and is none too large for well developed grade Durham cows. As it is not stated whether the cottonseed meal is decorticated, I do not advise it, since there is so much of undecorticated on the market, as has been lately shown, sometimes represented as decorticated, and selling at $35 per ton, when it is actually worth not more than 25 to 30 per cent. as much as decorticated, which should be bought at that price. Besides, linseed meal is more laxative and soothing to the digestive organs, and is preferable when costing no more. E. W. S.]

Poultry Manure.—I would like advice in regard to making and mixing a fertiliser from hen manure. Have about seventy-five bushels of droppings. I used it last year in this manner: I first dried, then thoroughly pulverized the hen manure on the barn floor with an old-fashioned flail. I then used one part hen manure, one part plaster, one part salt, and one part rich black earth, and used it at the rate of a good handful to the hill of corn. Can it be mixed in any better manner than the one I have mentioned, in proportion to cost of mixture? If so, how? Would you advise its use on hops? If so, how mixed, and how, when, and in what quantity applied? In what manner should it be applied to corn and potatoes? Would any benefit be derived from sowing a mixture of this kind on meadows? Our soil is divided between clay in some sections and black in others, with clay subsoil. (1) What is the commercial value of one barrel of two bushels and three pecks of the droppings, unmixed with litter of any kind, of fowls, which are fed with corn, oats and wheat? (2) D. J. T. *Glen, N. Y.* [1. It is important to dry and pulverize the droppings, as you have properly done, but we have never found any better way for applying it than by mixing it with dry pulverized loam, in thin alternating layers, in boxes or barrels, the loam being three or four times the quantity of the droppings, and after some days mixing it well. It is then used as any other rich compost, mostly broadcast, for crops. For meadows, the clear pulverized droppings might be sown broadcast, at the rate of a few tons or less to the acre. The salt in your mixture would be a rather heavy dose for corn, applied as mentioned, and would probably be of little benefit. 2. According to the analysis of hen manure made at the Connecticut Agricultural Experiment Station last year, the phosphoric acid, potash and nitrogen contained in a ton of the hen manure examined, could be bought in the form of chemical fertilizers for about six dollars. But in every case, there are variable quantities of feathers, straw, and scraped earth, considerably reducing its value. Probably a ton of the

clear droppings could not be rated higher than twelve dollars, if as high, and a barrel would be worth a corresponding sum, according to its weight. The reason the fowl droppings are worth more than the manure of cattle, fed on similar food, is that the fowl droppings contain all the fertilizing materials in solid form, while much is lost in liquids from cattle. A sample of the hen manure sold at West Hartford for $15 a ton, was found to be rather more than half water; this was the manure found by analysis to have a commercial worth of $6 a ton.]

Bottling Milk.—Can some reader inform me of a neat and quick way of bottling milk and where I can get the apparatus? Am selling about 200 quarts daily, and bottle from a keg with two faucets, which is rather slow.

M. D. S.

Ripening Cream—Explanation.—F. W S., p. 133, says: "But if the cream be raised by cold, deep setting, then it should be set direct from the cow, and the cream may be heated to 120° when skimmed, and after ripening will churn much better for it, and make more butter." How about the quality? Some of the best butter makers consider 75° the limit to which cream (from Cooley cans) should be warmed to produce the best results. Is the advice of F. W. S. founded on actual practice? M. I. W. [The advice given was founded on several years' practice. M. I. W. evidently does not understand the reason for heating the cream to 120°. It is not for the purpose, simply, of ripening the cream. To make the object plain, I will state that usually the milk was heated to 125° because it came from cows long after calving, and W. is probably aware that the cream from such milk is difficult to churn: sometimes baffles all attempts to turn it into butter. But I have found that such milk, when heated properly in a water bath to 135°, is so thinned or so affected as to bring it back to its original quality when near the time of calving, and that the cream from it is churned in the same length of time as from new-milk cows. This was peculiarly the condition of the principal part of B. F. J.'s milk, which yielded a very small result in butter. But when the milk was set in the Cooley creamer, fresh from the cow, then I found that heating the cream to 130° immediately after skimming, had practically the same effect as heating the milk. But this heating the cream to 130° is not a part of the process of ripening the cream (so called). When the cream is warmed to a proper temperature of ripening I never advise a temperature above 75° to 80°. W. will now understand the reason for my advice, and its extent. F. W. S.]

Chemical Fertilizer.—Is there plant food in nitrate of soda aside from ammonia? It is represented to contain from 15 to 19 per cent. of ammonia. If anything aside from ammonia, what is its value per ton, and what is it? In applying nitrate of soda to the soil, say 150 to 200 lbs. per acre, will it be an advantage to mix in sulphate of potash (kainit), say 200 to 400 lbs. kainit per acre? Which is the best form of potash as regards economy for farmers to use, kainit or muriate potash? I want to use nitrate of soda on mowing ground, applied on sod from 15th to last of April, and think the soil is deficient in potash. S. *Harford County, Md.* [Plants are composed of a number of substances, and these substances are always present in all parts of all plants—they are absolutely necessary for the life of these plants. One of the most important of these substances is nitrogen, for no substance is more intimately connected with the growth of the plant than this. The chemical compound, ammonia, contains nitrogen; another chemical compound, nitrate of soda, contains nitrogen; dried blood, dried fish, scrap, and in fact all sorts of animal refuse contain nitrogen in still other forms, not ammonia, and not nitrate. Nitrogen can be supplied to crops in any of these forms, and no form is better than that of nitrate. Nitrate of soda contains nothing whatever beside nitrogen that is needed by plants, hence if a soil is deficient in any of the other substances required by the crops, and substances must of course be used with the nitrate, potash in some form must be bought and applied, beside the nitrate, if there is reason to believe that it is wanting. Whether your soil needs it can be found out only by experimenting with it, leaving strips of your mowing without it by the side of strips that are supplied with it, and repeating this comparison for two or three or four years. Then strike the average of all the results, and you will be prepared to say whether it will pay in your case to buy potash, otherwise you can only guess at it. Muriate of potash is, in general, the cheapest form of potash salts to use; it costs more than kainit, but is richer in potash.]

Silos and the Cold.—On p. 150 I see inquiry as to boarding a silo on the outside, and Prof. Cook answers that it is necessary to shut out the frost. Such is not my experience. I have a silo built in my barn. The silo is open to the air on top, and has walls of three thicknesses of common hemlock boards. The barn is well built with walls of two thicknesses of boards and battened, but the air in the mows and under the roof (to which the silo is quite exposed) goes down as low as zero in severe winter weather, when it is sometimes as low as 20° below zero outside. I have never known the ensilage freeze; when taken out to feed, it is quite warm, and if left over night in a loose heap on the floor of the silo, will heat up to 100° in the centre of the heap. As to boarding a silo outside, I should say that if the silo is built outdoors it ought to be built weatherproof, just as any barn ought to be built, say single boarded and battened or clapboarded, to keep out the weather, but not for the purpose of keeping out the cold. S. A. F.

Knowlton, P. Q.

Canada Thistles.—p. 150.—Plow any time in June before they bloom; be sure to turn the tops all under, and in a couple of weeks harrow the ground thoroughly both ways, and as soon as the tops begin to appear, cultivate or gang-plow with something that will cut the tops all off, and four times in the month of August (say once a week) say 3 inches deep. All the thistles that will grow there for some years after, you can carry in your hat. A spring-tooth harrow with square points will be good to cut them with after the ground is smoothed down with a square drag. Round points on the spring-tooth are no good, as they will slip by and leave them. The main thing is to keep the tops from the sun. Your mode of plowing will do the work, but is more expensive. The way I suggest is sure every time, no matter wet or dry, and the ground is then in the very best condition for sowing wheat, rye or grass. I use a gang-plow mouldboard and points made of steel, but do not know where they can be had. C. W. P.

Monroe County, N. Y.

Calves—Milk Separators.—I wish to feed skim-milk to calves, and have it as good as possible with the butter out. Would you advise me to use a creamery or a centrifuge? My herd is small and I think I could get along with a hand separator. Will your readers give me the benefit of their experience with the De Laval or any other hand separator? W. S. W. *Oswego County, N. Y.* [There is very little difference between the quality of skimmed milk left by the best creameries and that from a centrifuge. Tests have been made in which the skimmed milk from the Cooley submerged pails had no more fat left in it than that from the centrifuge, which was considerably less than 1 per cent. of the fat in the milk. It will not pay to feed calves on better, nor is it at all necessary. As good a cow as can be wished for may be reared from a calf fed on warmed skimmed milk until it is six months old. This feeding with, of course, other food and linseed meal, bran and corn meal or oats, gradually increased after the calf is four or five weeks old, when it is begun in small quantities, will make a cow with large frame, solid healthful bone, strong digestive powers and large milk and butter capability. So far, the hand separators have not been received with favor. The enormous velocity required, 2,000 or 4,000 revolutions per minute, calls for too much power for one man, and at the recent English dairy exhibitions two men were required to run one of them, one resting the other by turns. The cost, too, is too large for a small dairy that can be furnished with the best creamers at less than half the cost. There seems to be no necessity in this case for any extraordinary appliances beyond a good deep setting system with the use of ice, so as to ensure a supply of sweet skimmed milk for the calves. If the cream is skimmed sweet it will be ripened sufficiently for churning in 24 or 36 hours by the right manipulation. E. S.]

Dakota—*Aberdeen, March* 2.—The territorial statistician says there are now but about 8,000,000 bushels of wheat in this territory in farmers' hands and in elevators, and it will require at least 18,000,000 bushels to seed and bread this territory.—*Press Dispatch.*

Weather, Crops and Prices.

Meteorology for Feb. 24–March 2.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.68	inches.
Lowest	do.	do.	.....	30.14	do.
Mean	do.	do.	.....	30.37	do.
Highest temperature	do.	.....	48°	
Lowest	do.	do.	.....	9°	
Mean	do.	do.	.....	22°	

One clear day; three fair; three cloudy. Three days in which rain or snow fell; total precipitation, 0.96 inch. Prevailing wind, N. E.; maximum velocity 17 miles per hour, S., on the 27th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	24th	25th	26th	27th	28th	1st	2d
Day							
This year	4°	14°	17°	29°	34°	30°	34°
Normal	29°	27°	28°	27°	28°	28°	30°

Total deficiency for the week, 38°.

The Month of February at Albany.

According to the reports of Sergeant Rice of the Signal Service, the highest temperature last month was 48°, on 17th; lowest, −4°, on 9th. Warmest day, 17th—mean, 38°; coldest, 23d—mean, 9°. Prevailing wind, N. W.; highest velocity, 26 miles per hour, W., on 19th. Clear days, 9; fair, 18; cloudy, 7. Snow or rain on 13 days. Mean temperature and total precipitation for last ten Februaries as below:

1880—Mean Temperature,	20°	Precipitation,	1.31 inch.
1888	do.	22°	do.	2.67 "
1887	do.	26°	do.	2.88 "
1886	do.	22°	do.	1.40 "
1885	do.	15°	do.	1.36 "
1884	do.	28°	do.	3.77 "
1883	do.	20°	do.	3.09 "
1882	do.	21°	do.	3.81 "
1881	do.	27°	do.	2.89 "
1880	do.	23°	do.	3.67 "

General Review of the Month.

February has been colder than usual in all districts, except in the extreme northern portions of Minnesota and Dakota, at northern Rocky Mountain stations, and on the Pacific coast. In the central valleys, and in the Southern States east of the lower Mississippi, the average daily temperature for the month ranged from 5° to 10° below the normal. In New England, New-York, and Texas the average daily temperature was only from 2° to 5° below. In Montana, Washington Territory, and in Oregon the average daily temperature was from 3° to 7° above the average of previous years.

The rainfall for the month was greater than usual in the South Atlantic States, Texas, the northern portion of Michigan and Wisconsin, and over the greater portions of Missouri, Dakota, and Colorado. There was a large deficiency of rainfall generally throughout the central valleys, covering the entire winter-wheat region excepting Missouri, and also the central portions of the cotton region. The deficiency in rainfall in Southern New England ranged from two to four inches, while in the Middle Atlantic States it was about one inch, this rainfall being about two-thirds of the usual amount. The most remarkable deficiency in rainfall for the month occurred on the Pacific coast, where generally less than 20 per cent. of the usual rainfall was reported, the only exception being at San Diego, where the rainfall was about two inches, or 75 per cent. of the usual amount for that station.

Generally throughout the winter-wheat region the ground continues bare, and the light snows which occurred during the month have disappeared, except in Eastern Iowa, Southern Michigan, Northern Illinois, and Southern Wisconsin, where from one to two inches of snow were reported on the ground at the end of the month. In Northern New-England, Northern New-York, and the northern portion of the Lake region from six inches to two feet of snow were reported on the ground at the end of the month, the greatest amount being reported in Northern New-England, Northern Wisconsin, and Northern New-York. Generally the weather for the month and season, up to the first of March, has been favorable, and notwithstanding the deficiency of moisture in the winter-wheat section, the resulting crop conditions are more favorable than those of last year, although the outcome of the crops depends largely on the weather of the current month.

New-York—*Forestville, Chautauqua Co., Feb.* 26.—Winter has at last settled down upon us in earnest; plenty of snow, and mercury ranging from 10° above to 25° below zero. A good number of men and teams are engaged in hauling and storing ice, the quality of which is excellent, being of good thickness, firm and very clear. Live stock is wintering well, and prices are somewhat firmer. It is evident that good milch cows will not go begging for purchasers this spring. Farmers who were anticipating high prices for their surplus hay, will probably be disappointed, there being more of the article for sale than was looked for. Many farmers have sold their cows, and all have economized, which accounts for the extra quantity of hay for sale. The North Chautauqua grape boom still continues unabated; yet there are large tracts of land unappropriated to the business for which it is best adapted, that of grape culture. C. H. F.

Richford, Tioga Co., Feb. 27.—February has maintained her character thus far, with great changes—warm and extreme cold. Night of 23d the thermometer indicated 23° below zero; on the following day it did not reach 10° above, and up to this date it has been below, every night. We have an abundance of snow and good sleighing; lumbermen busy, but farmers complain that prices of produce are below a profit to them, potatoes being the main crop here, and they bring but 22c. per bu.; apples, 25c.; oats, 26c.; hay, $10@12 per ton; butter, 20c. per lb.; cows, $30@40 each; poultry, dressed, 9c. per lb.; eggs, 18c. per doz.; corn meal is cheaper than for many years, only $16 per ton. G. E. B.

Elm Valley, Allegany Co., Feb. 28.—February has been intensely cold; 24th mercury was 32° below zero in the morning. Those who burn natural gas were badly prepared for such cold. Gas failed, as it always does in a cold snap. Hay sells at $10 per ton; large quantities have been pressed and shipped to eastern markets. Live-stock winters fairly; very few sick cattle reported. W. G. V.

Sharon Centre, Schoharie Co., Feb. 28.—For the last month we have had pretty snug weather, which was quite a contrast with the weather of January. We have a good body of snow, and the fields are well covered; but we cannot brag of our sleighing, for it has been so cold that the snow has not packed sufficient to make a good track. Some hops have been sold in this section lately for 22c., and they are nearly all bought up. The growers are feeling more encouraged for the coming season. Clover seed is selling for $6 per bush.; potatoes, 30c.; dressed beef from $5@7 per cwt.; butter, 30c. per lb; eggs, 18c. per doz. J. E.

New-Jersey—*Vineland, Cumberland Co., Feb.* 27.—February has been the most wintry month yet. Thermometer in the morning has generally ranged from 20° to 30° above zero. On the 24th it went down to 3° above; on the 18th up to 36°, the highest of the month. We have had three snowfalls during the month, averaging one inch each time, and disappearing in 24 hours. To-day and the 18th have been rainy. C. B. C.

Virginia—*Birdsnest, Northampton Co., Feb.* 28.—The mercury reached the lowest point, so far this winter, on the 24th, and we had heavy rains between the 16th and 22d inclusive. On the 11th was 0.75 inches of snow, but it soon melted. Maximum of thermometer, 53°; minimum, 8°; mean, 34°; rainfall, 5.80 inches. The changeable weather has made bad colds almost epidemic. Thunder storm on the 18th. The coldest February in 20 years. C. E. H.

Ohio—*Irondale, Jefferson Co., Feb.* 27.—This has been a regular winter month right along, with a light snow on the ground most of the time. The thermometer has been below zero a number of times, 6° being the lowest. Having been confined to the house for four weeks I do not know what the effect has been on the wheat, but am of opinion it has not suffered seriously. Apples and potatoes remain at as low price as in the fall. Wheat has stood at about $1 per bu.; clover seed is retailing at $6; timothy, $2 50; beef cattle for the local market, $3.50@4.25 per cwt.; pork, $6.50. H. H. B.

Wisconsin—*Janesville, Rock Co., Feb.* 26.—Still continues the extreme frigid weather. During the week the mercury has marked 6° to 32° below zero—once 36°! Yesterday the change came. The mercury gradually ran up to 39½° at 3 P. M. to-day, Lenten have made a good harvest, and thus settled the fears of an ice famine. To-day looks somewhat like rain. February has left a full record for cold. Tobacco men are still looking for the weed, and prices are a little on the rise. Pork is a little better. Other farm products are a little off just now. Pneumonia is carrying off many of our people—of all ages. I have never known anything approaching its prevalence this winter. Wheat, 75@76c. per bu.; rye, 45c.; barley, 44@52c.; corn, 34@36c.; oats, 24@26c.; potatoes, 45c.; apples, $1.75@2.25 per bbl.; butter, 17@22c. per lb.; eggs, 13c. per doz.; cattle, $2.25@3.25 per cwt.; hogs, $4.15@4.25; dressed, $5.00@5.60. Health and business only middling. W. H.

Melrose, Fond du Lac Co., March 2.—February was our coldest month this winter. The thermometer has been below zero six times and once 5° below. Up to Feb. 6th, it was not below zero, and on that morning it marked 10° below. As March comes in lamb-like there is little frost in the ground, and we may reasonably expect an early spring. Wheat has gone up and barley down. Live-stock looking fine; hogs, $4 per cwt.; dressed, $5; oats, 30c. per bu.; corn, 60c.; eggs, 16c. per doz. C. E.

Iowa—*Malvern, Mills Co., Feb.* 25.—This has been one of the finest winters I have ever seen; mercury has not been below 12°; not much snow. Live stock is wintering finely, but prices are demoralizing to the feeder who paid 3½@3¾c per lb. for animals last fall. There was several thousand dollars' worth of steers put in here at those prices. Buyers are offering $3, 3.25@3.35 per cwt. for steers; butchers' cows and heifers, $2; hogs, $3.60@3.90 for fight ones; corn, 30c. per bu.; feeders are paying 25@28c.—I sold mine last week at crib for 32c. in feeder. Timothy seed is in over supply this year—I sold some for $1.50 per bu. Horses are selling for $100@150, according to age, size and condition. Apples, 40c. per bu.; potatoes, 40c.; eggs, 9c. per doz.; butter, 13c. per lb. Land rents for corn, one-half in field or two-fifths in crib. I think $8 per head would buy the average of last year's calves; last year's colts from $35 @50. E.

Horticultural Department.

Potatoes in Orchards.

Salt—Nitrate of Soda—Pruning.

Eds. Country Gentleman—I have an orchard containing 8 acres, planted with standard trees, four years ago. The first two years I planted it in sugar corn, and for the past two years I have planted it in potatoes. I am at a loss to know what to plant in it this year, but think of planting potatoes again in hills 3½ feet each way, so I can work potatoes and orchard both ways. The orchard has been heavily manured (with stable manure) having received in the past ten years, about 360 large wagon loads, as much as four horses could pull. It has been limed, and twice had a top-dressing of kainit; and last year the potatoes had, in the drill, a compost of dissolved bone, muriate of potash, plaster, and hen manure. The trees have made exceptionally fine growth, some of the vigorous growing pears and peaches making last season about four feet. Under the circumstances, is there any crop you would recommend as more advantageous than potatoes? If planted with potatoes would you suggest drill or hill planting? As the trees are now of a size that makes it impracticable to work very near them, if planted in drills it will require considerably more hand work than if planted in hills, should the "ought-to-be" increased crop pay for more than the difference in cost of labor between drills and hills? (1)

What is the best time to apply salt to an asparagus bed—when vegetation is dormant, but just about to start growth, or after it has fully started? Would kainit be an advantageous substitute for salt, and if so, in what quantity? (2)

Would an application, at the rate of 100 lbs. to the acre, of nitrate of soda be sufficient to top-dress strawberries, raspberries, currants, &c? The plants have received a heavy dressing this fall of wood ashes. Is there any danger of the nitrate of soda killing the tops of strawberries if applied in the quantity I name? (3)

Can raspberries and blackberries be prudently pruned at this season of the year in this latitude? (4) J. R. M. *Baltimore County, Md.*

1. Potatoes, corn, beans, carrots, beets and other hoed crops are well suited to young orchards—the two first named rather the best. You can select between corn and potatoes according to convenience. If the ground is free from the seeds of weeds, you will find no difficulty in cultivating potatoes in drills, and you will obtain a much larger crop of tubers. If very weedy, it will be better to plant in hills.

2. Salt, if applied to asparagus, should be scattered over the ground in spring, at the rate of two or three pounds to the square yard, and left on the surface where the rains will soon dissolve and wash it in. If the soil is deficient in potash, kainit will be useful; this you can determine only by trying the experiment.

3. This small application of nitrate of soda, well pulverized, would do no harm, but you should throw it between the rows and not directly on the plants.

4. If the weather and the absence of snow will permit, those varieties which are quite hardy may be pruned before spring as far south as Baltimore; but if any of them are partly tender, it would be best to omit the work till the coldest weather has passed, as plants and trees are always made more or less tender by much pruning.

Variation in Squashes.

The State Botanist Explains it.

Eds. Country Gentleman—The instances of variation in squashes and melons, narrated on pages 88 and 148, and the questions propounded in connection therewith, have given rise to thoughts concerning variation in plants and its causes. Within the limits of species there is often great susceptibility to variation. While there is uniformity in the character of the species, there is often great variability in the individuals that belong to it. All species are not equally variable, nor do all vary in the same manner or in the same parts. In the cabbage the fruit has little variability, the foliage much; in the beet the foliage varies less, the root more; in squashes the root and foliage are comparatively constant, but the fruit is exceedingly variable. As a rule, variability is greater in large pulpy or succulent fruits than in small dry ones. In most cultivated plants, especially in those whose cultivation has been of long duration, the greatest variation is found in those parts for the sake of which they are cultivated. In Indian corn it is in the ear; in lettuce, in the leaf; in potatoes, in the tuber; in beets, in the root, and in squashes, in the fruit. From this it is not necessary to infer that cultivated species are really the most variable species of plants. They have been for a long time under conditions especially favorable to the development of variation, and by cultivation, care and selection greater permanency has been given to these varieties. If the variation is such as suits his purposes, the cultivator takes measures to secure and preserve it, while a similar variation in a wild and presumably useless plant would be neglected and perhaps soon obliterated by the unhindered operation of natural causes.

The simplest kind of variation is that which serves to distinguish individuals only. It is that by virtue of which two plants may differ even when grown from seeds of the same fruit, produced by a single parent, and when planted side by side at the same time in the same soil and subjected in all respects to the same treatment. The two plants are not exactly alike in all respects; yet we can assign no definite cause for the difference, and so we content ourselves by saying that there is an inherent tendency in plants to vary. Sometimes a more decided or striking variation appears, but yet without any evident cause, and we call it a sport. Differences in soil, climate and other external circumstances are frequent and prolific causes of variation. At the base of Mount Marcy, in the Adirondack mountains, the black spruce is a noble forest tree. It has a tall, straight, naked trunk, from one to two feet in diameter at the base, its few lofty branches are clothed with rich dark green foliage, and often set with numerous pendant cones. On the open summit of the mountain this spruce grows in dense patches like an undershrub. It is scarcely more than a foot or two high. It forms no definite erect trunk, but appears rather like a confused patch of straggling, irregular, half-prostrate branches clothed with pale, yellowish-green sickly-looking leaves of about half the normal size, and it is entirely destitute of cones. It is so unlike the noble spruce at the base of the mountain, scarcely more than a mile away, that none but a botanist or an expert woodman would be likely to recognize the two as belonging to the same species. Great as is the difference between them, it is manifestly due to nothing but the differences of soil and elevation in the two places and the consequent exposure, in one case, to starvation, high winds and low temperature.

Differences in soil alone are sometimes the cause of very decided variation, not only in the size and appearance of the plants themselves, but also in the flavor of their fruits. Also change of climate alone may be a sufficient cause for variation. The egg-plant in warm climates is said to have a thin-fleshed fruit filled with seeds, but in the colder climate of more northern latitudes, its fruit becomes more fleshy and less seedy. Cultivation is another cause of variation. It aids the full development of the plant by giving it plenty of elbow room and an abundance of suitable food in an available form. Under its encouraging influence the plant becomes larger, more vigorous, and more productive, and its fruit often increases in size and improves in flavor. Variations of this kind are also sometimes intensified by careful selection of the most desirable examples. The principle called atavism may also be regarded as a cause of variation. By reason of it a plant may sometimes exhibit some quality or character which belonged to some ancestral plant more remote than its own immediate progenitor or progenitors. By reason of it, also, cultivated plants whose useful character has been to a great extent developed and preserved by cultivation have a tendency to revert to their original state when care and culture are withdrawn.

These causes of variation are the basis of the answer to the question concerning the origin of the Crooknock and Perfect Gem squashes. With the exception of cultivation and selection, these causes are all operative and possible in a state of nature, and to one or more of them we must look for the reason of the first or simplest variations in nature. After variation has commenced, another cause is operative by which it may be intensified or modified. I refer to cross-fertilization. In the case of the squash, for example, two varieties may by chance occur near each other. By a transference of pollen from a staminate flower of one variety to a pistillate flower of the other, a new variety may be originated which shall be unlike either of the parents but combine to some extent the character of both. In modern cultivation this is a favorite and rapid method of originating new variation. This probably is one of the most prolific causes of variation, yet in some cases its operation may be such as to obliterate variations. In squashes and pumpkins its effects are especially noticeable, since the different varieties readily cross with each other and the plants being annuals and very variable in their fruits, the change in character is quickly apparent. To the operation of such causes as have been mentioned, atavism perhaps being excepted, must be attributed the origin of the varieties of squashes, including the Crooknock and Perfect Gem.

In answer to the question—"Why did the Gems, raised both years from seed out of the same packet, hybridize the second year and not the first?"—I would say that the Gem seeds were not strictly pure. A few of them had been influenced by pollen from some other variety, but none of these happened to be planted the first year. The next year they were planted, and showed their character by their fruit. It is stated that "irregularity was much greater in the Crooknecks than in the Gems." This indicates a different source or cause of the variation in the two cases. That "the Gems took on a greenish hue," while the Crooknecks did not, also indicates the same thing. Had the variation in the Gems been due to the immediate action of Crooknock pollen on the Gem fruit, it is not probable that greenish hues would have appeared, inasmuch as they do not belong to the fruit of either parent. It is probable that the impure seed had been affected by pollen from a Vegetable Marrow or some similar variety. A similar case once occurred in my own experience. A packet of Prolific Sugar squash seeds was purchased of a firm of good reputation. A part of them were planted, and most of the squashes therefrom were genuine, but in two or three of the hills, plants grew which bore oblong, greenish squashes, resembling the Vegetable Marrow, as in the case under consideration. I suppose that with the greatest of care in planting different varieties at considerable distances apart, some wandering adventurous bee will occasionally traverse these distances and transport pollen over them.

The change that showed itself in the Crooknecks the second year was undoubtedly due to cross-fertilization by pollen from the Gems the previous season. The straightening out of the fruit, its smoothness and paler color all indicate this. The combination of the characters of the two fruits would be very likely to produce such a result.

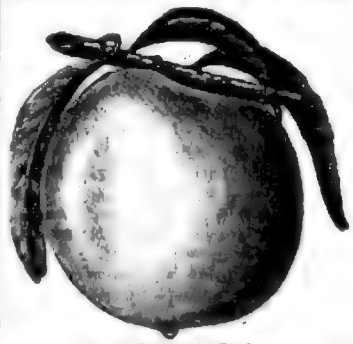
The variation in watermelons described by Mr. Bonner on page 148, is less easily explained. On the theory that the seeds were impure it would be necessary to suppose that twelve varieties were growing within distances readily traversed by bees in search of honey and that the bees actually transported pollen from all these varieties to the blossom on the thirteenth variety from which the seed melon was developed, and that too, within the short time that the stigmas of that blossom remained receptive. While this may not be impossible it does not seem to me probable, especially since it is stated that no other variety was growing less than a quarter-mile away. Neither does the other theory, which would require immediate influence of the pollen on the resulting fruit, appear any more probable. In this case it would not be necessary for the bees to bring pollen from the dozen varieties to a single flower, but whatever advantage there might be in this, it seems to me it would be lost in the greater distances, for in this case no other variety was nearer than half a mile. I suspect that the seed may have been impure, but scarcely to the extent required by the data given. Possibly some minor variations due to other causes may have been estimated as due to cross-fertilization. C. H. P.

Albany, N. Y., Feb. 23.

The Wonderful Peach.

Mr. J. T. Lovett, introducer of this high-named variety, writes us concerning it as follows:

"One of the things in the way of fruit that has been wanted for a long time, is a large, handsome, reliable yellow peach, ripening late in the season—after Crawford's Late and other varieties of similar character have disappeared. In the Chairs' Choice, which made its appearance a few years ago, it was thought the long-looked-for boon had been found, but experience proves that, while it is a handsome peach, excellent in quality and generally productive, it ripens very shortly after Crawford's Late, and not with or after the old Smock as claimed. In Beer's Smock, the old Smock Free and Salway, we have varieties that are prolific and reliable in tree, but lack in a great degree the desired size and beauty. It therefore has remained for New-Jersey, the home of the peach, where such varieties originated as Crawford's Early, Crawford's Late, Oldmixon Free, Stump



The "Wonderful" Peach.

the World, Mountain Rose, Beer's Smock, &c., to produce also the 'Wonderful,' which it would seem possesses the points desired.

"In season it is among the latest (ripening quite as late as the Smock), of largest size, excellent quality, a regular and most prolific bearer, and is beauty excelled by no other peach, the Crawfords themselves not excepted, being rich golden yellow with carmine cheek. The fruit is of good form, as shown in the engraving, of regular shape and, unlike other late yellow peaches, is not excessively fuzzy. The flesh is exceptionally firm, deep yellow and bright red at the stone, rendering it especially valuable for canning and evaporating.

"A peculiarity of the variety is its inherent vigor, the foliage being very abundant, large, of exceedingly deep, almost black, green, and remains on the tree until the ground has frozen, and long after the leaves have fallen from all other varieties."

Western New-York Society.

Meeting at Rochester in January—V.

Joseph Harris read a paper on "Manures for the Orchard and Garden:"

Manure, he said, is a by-product. Its price is determined, not by the cost of production, but by competition among consumers. If stable manure sold in Rochester for 10 cents a load, there would be just as much produced as if it sold for $2 a load. This view of the subject seems to be overlooked. Average fertilizers do not contain as much nitrogen as clover hay. Is it any wonder, then, that gardeners and others find little benefit from their application? At the present price of wheat we can seldom afford to buy nitrogen as a manure for this crop, and still less for corn. The profit of using nitrogen depends on the price of the product. Artificial manures will make trees grow, but it would not pay to use them on a timber lot to grow wood for fuel at $3 per cord. Attempts to introduce beet sugar manufacture in this country have hitherto failed because the yield per acre of beets was too small. By the use of manures rich in available nitrogen it is easy to double the crop. It is probably approximately true that it takes as much plant food, or nitrogen, to produce a ton of woody fibre as a ton of starch or sugar or any other carbo hydrates. Food producers should study to grow crops which people are willing to pay a good price for, and should see to it that the plants have all the food, and especially all the nitrogen, that they want to produce a maximum growth. It will not pay to use nitrogen to grow carbo-hydrates in hay, corn, oats or wheat, but it will to grow them in fruits. If annual crops and weeds are grown among fruit trees, we must furnish excessive supplies of nitrates. There is no lack of "special" commercial fertilizers, which if they do no good, at least do no harm. Peaches, as well as most other fruits and garden vegetables, require, in addition to phosphoric acid and potash, a liberal supply of nitrogen. It is nitrogen that makes rich land. Of the three most costly ingredients of plant food, nitrogen, phosphoric acid and potash, nitrogen is the only one that can be evaporated or washed out of the soil, and then only in the form of nitrates. It is probable that only in the form of nitrates nitrogen is taken up by ordinary plants, and it must first be converted into nitrates before they can take it up, or before it can be washed out of the soil. The soil itself will hold the phosphoric acid and potash, and the plants will hold the nitrogen. Our orchards need more nitrates, or, as need to be said, more available nitrogen, and the cheapest source of nitrogen is the organic matter in the soil which is derived from a previous vegetable growth; the more recent the growth, the more readily is it changed into nitrates.

The object of agriculture is not to make the land rich but to make crops grow. The fruit grower, gardener and farmer should convert the inert organic nitrogen of their soil and manures into nitrates, and then when they have got the nitrates, convert them into crops that will bring the largest profits.

Nitrate of soda is not only a cheaper source of nitrogen than sulphate of ammonia or the organic nitrogen in the different complete fertilizers, but the nitrogen is in just the condition necessary for absorption by the plants. Will not nitrates produce a spongy growth with immature buds easily killed in winter? Nitrate of soda, sown early in spring, has the opposite effect, because the nitrogen in ordinary manure or the nitrogen in the organic matter in the soil is not converted into nitrates

till warm weather comes; the nitrate of soda, thus sown, would be taken up in May and June, and later on little or none would be left and consequently would produce no spongy growth of wood.

The more manure accumulates in the soil the more water will it hold and the greater will be the supply of nitrates early in the spring.

Some careful experiments with nitrate of soda on well drained soil in good condition, with no lack of mineral plant food and no crops or weeds allowed to carry off the nitrates, should be made to ascertain if a liberal supply of nitrates early in the spring would not make peach trees as healthy and productive as formerly. Market gardeners, instead of using such excessive quantities of manure, for the purpose of getting nitrates for their early crops might well try if a direct application of 400 or 500 pounds of nitrate of soda with a half dressing of manure would not be, at least, equally effective and far cheaper.

Chas. Little, chairman of committee on flowers and bedding plants, gave interesting information with regard to the habits and culture of aquatic plants, naming several varieties of the lotus and water lilies as most desirable, such as *Nymphæa odorata rosea*, *Nymphæa pygmæa* and *Lotus speciosa*. He defined a hardy aquatic plant as one that will subsist under the water line.

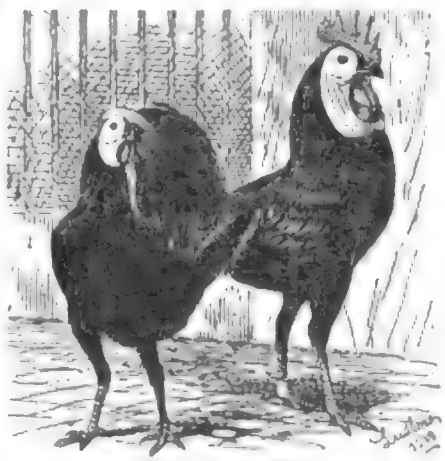
Next followed report of Yates County, presented by G. C. Snow, who said that the season of 1888 was not as good as usual. The apple crop was unprofitable, and the grape crop was very unsatisfactory. Of strawberries there was a scarcity, but prices were good. Raspberries yielded 300,000 quarts, most of which were evaporated. Blackberries paid well. The grape yield was very large, but was much damaged by frosts and rains. Red Wyoming is well spoken of. Salem brought best prices. The estimate of the grape crop was 10,000 tons. Plums and peaches were a light crop; of the latter the Salway did the best. Quinces yielded well, and many new orchards of them are being planted.

A paper on "Roses for Winter Forcing," by Geo. Savage, gardener in charge of W. S. Kimball's orchid house, was read, in his absence, by Vice-President Barry. Young rose shoots should be planted five or six inches deep in good, clean loam, about the first of August, from which time until fall plenty of air should be allowed. Until October 1st all flower buds should be kept pinched off, and at this time the plants should be mulched with manure. The best remedy for mildew is flowers of sulphur and tobacco fumigation will keep down the green fly. At the close, W. C. Barry said the old fashioned plan was to plant in a foot of loam.

Questions were taken up—"Will it pay to add anything besides the Paris green or London purple to the water used for spraying apple trees for the codling moth to prevent injury from the apple scab, and if so, what?" Prof. E. S. Goff favored the addition of soda hyposulphite. The apple scab often renders much of the fruit unmarketable by disfiguring it; it also attacks the leaf, thereby weakening the tree and making the fruit small and imperfect.

"What would be the proper treatment of an apple orchard on heavy clay soil that has been in sod six years without manure, and from which a crop of hay has been removed every year?" C. M. Hooker advised plowing it up shallow, preferably in fall, keeping it cultivated, and, if poor, manuring it. Prof. Cook mentioned an old, run-down orchard which by manuring and plowing shallow in June improved wonderfully. W. C. Barry thought that the impression which generally prevailed that even shallow plowing injured surface roots was erroneous. Great care, however, should be taken where the trees were young. About three inches is the depth for orchard plowing. Virgil Bogue had studied the matter for four or five years, and was satisfied that orchards should be plowed early in spring, cultivating often enough to keep the weeds down. Visited nearly 100 orchards last fall, when apple-picking was going on, and could tell which were cultivated early and which late. C. M. Hooker—Orchards, especially Baldwin, do not pay until 30 years old. Keep weeds down and use judgment as to plowing and cultivating. Mr. Whitney said he set out 1000 apple trees in 1873 and 1874. Have cultivated and tried to manure every year and is obtaining good crops. C. A. Green advocated cultivating but not plowing.

"What new fruits have been tested the past year and found to possess special merit?" Mr. Arnold did not think favorably of the Russian apricot; it was small and almost



BLACK SPANISH FOWLS.

tasteless. Mr. Hubbard had seen the Russian mulberry fruiting in Fairbury, Neb., where it seems to be profitable; it is sweet and pleasant to the taste. Anthony Lamb saw it fruiting in Ohio; thinks it does not compare with Downing's or New American. In discussing the Marianna, Mr. Willard said he did not believe in that class of plum. Thinks a great deal of the Stanton; its color is a dark indigo-blue, with fine bloom, but not quite so large as the Lincoln. It is late, ripening with Copper; is one of the best for canning or eating; came from Albany; is a good grower and bears and keeps well. Smith's Prune is good, though capricious in its habits.

With regard to Moore's Ruby currant, C. M. Hooker stated it was produced by crossing the Cherry with the White Grape—is not so large as Cherry, about same size as Victoria. With him it surpassed Fay's Prolific. Is good for amateur growers. Messrs. Willard and Hubbard were favorably impressed with Moore's Ruby. Mr. Willard praised Fay's Prolific as a good market currant, being larger and more productive than Cherry. C. M. Hooker spoke of Fay's Prolific as a strong grower, more productive than Cherry or Versailles. Stems are longer and have more berries. The Prince Albert currant Mr. Willard denounced as sour, full of seeds and without juice; had raised tons of it, but cannot imagine why people buy it.

Coming to new grapes, Mr. Hubbard classed the Moyer with the Delaware as to quality, but has not so good a cluster, being too small and imperfect; ripens with Concord; saw it growing in Canada; requires testing. The Eaton ripens with, and is of the same quality, as Concord; is now undergoing test, having only ripened near Boston. Moore's Diamond requires more testing. Mr. Sanderson found that Moore's Diamond ripened two weeks earlier than Niagara—about last of August. Thinks it will prove valuable. As to Chautauqua, Mr. Hubbard did not know it; it is said to be as large as Concord. W. C. Barry spoke of the Mills as large and handsome; ripens with Concord. If it has a defect it is in time of ripening. Is meaty, hardy, a strong grower, and vine is free from disease. Mr. Hubbard suggested that we do not need many early grapes. W. C. Barry grows the Rochester. Visitors to vineyard inquire about it as it is so attractive. Is difficult to propagate from eyes or cuttings; ripens early, close upon Delaware. In speaking of the Empire State, Mr. Hubbard said that people need educating to buy superior grapes. At present they prefer showy grapes like the Concord. Empire State does not bear more than two-thirds as heavily as Niagara. Mr. Willard claimed to have planted the first vine of the Vergennes in the State which is now in bearing. Is a good grape. Mr. Hubbard knew that Vergennes is thought a great deal of in certain sections. A member stated it ripens about with Concord and keeps until May. With Mr. Willard the Ulster Prolific had not proved very satisfactory.

"Are any of the new Russian apples and apricots of any value for Western New York?" Mr. Atwood, Geneva, thought not. W. C. Barry said that many apples claimed to be Russian were probably German such as Oldenburg. Wealthy will be valuable as a market variety. Mr. Atwood said it was soft in texture and drops badly. Mr. Willard considered Yellow Transparent the best early apple; ripens about time of Early Harvest. Mr. Rupert classed the Longfield as one of the best.

While the Industry gooseberry was under discussion Mr. Willard said he had not known it to mildew. Thinks mildew depends more on climatic condition than on the soil. C. M. Dunning—Plenty of moisture is necessary for growing gooseberries successfully. R. Glen said the Industry yields immensely.

"Are the new strawberries Bubach and Jessie as good as the Wilson?" The general opinion seemed to be that in quality and productiveness they were equal if not superior to the Wilson, but perhaps not so good for canning and shipping. C. L. Hoag sold Triomphe de Gand at 55 cents a quart in 1887. C. A. Green stated Mammoth did succeed with him. Mr. Willard said New Dominion does not succeed in some localities. Is a good bearer, more conical than Cumberland, a favorite in Canada. W. C. Barry named Cumberland, Triumph, Sharpless and Belmont as good strawberries. Thought the Jewell a poor variety.

After considerable discussion, the resolution adopted at the last meeting changing the name of the society to that of "New-York State" was rescinded and, therefore, it retains its old name of "The Western New-York Horticultural Society."

A resolution was referred to the executive committee, with power to act, looking to the appointment of a committee to see to the extending of the powers of town supervisors so as to include plum black knot and pear blight, which they already have in the case of peach yellows.

The question of fruit packages having come up, Dr. Van Duzen said 16 quart crates were better for strawberries and raspberries than those holding 32 quarts. Mr. Gilbert of Philadelphia stated he sold 800 tons of grapes last fall, and the previous season 500 tons; was even now handling them. In reply to Mr. Hubbard, he thought Niagara was not going to be popular; Concord is best. Niagara sells because it is odd to look at; people never buy it the second time. The sale of domestic grapes is very limited. Western New-York fruit is preferred to that of California, as it is fresh-looking. California fruit comes in stale condition. W. C. Barry: There are many people in Rochester who do not know they can buy a barrel of apples for $1.50. There is no better lunch to-day than a piece of bread and a Northern Spy apple. A twelve-ounce Anjou pear is a sufficient lunch for any one. Regular eaters of fruit will save doctors' bills.

After some further informal discussion, Vice-President Barry congratulated the society upon having held what had proved, in his opinion, the most successful meeting so far in the annals of the society, and then declared the convention adjourned. J. H. C.

The Poultry-Yard.

The Black Spanish.

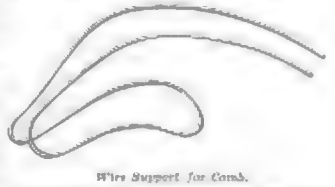
"How are the mighty fallen!" may be said with regard to this fowl. At one time it stood very high. Mr. Lythall, the secretary of the Birmingham Agricultural Society has told how somewhere about thirty years ago there were upwards of 300 specimens of this variety shown at one exhibition of that society. Now they seldom reach a dozen in ordinary shows, and 25 is regarded as a very good number even for the big gatherings. The reasons for this great falling off are not difficult to find. With the exception of the Bantams, which are hardly to be regarded as domestic poultry, but come under the designation of pets, there is scarcely a single variety of fowls that has maintained any degree of popularity which has not had some strong economic quality to recommend it to the ordinary breeder. So soon as it begins to lose in reality, or by repute, this quality, so soon it begins to lose ground with the public, who care more for a good laying or good table fowl than for one whose merits are all on the outside, however great those merits may be. It is not the fancier who keeps a breed to the fore, but those who buy from the fancier, such as the farmer, and the town or suburban amateur, to whom a fowl will give all the more pleasure if he is handsome, but who thinks most emphatically that "handsome is that handsome does."

In some instances, such as the Cochin, there was no real warrant for the merits claimed, and as soon as the true facts of the case became known, the furore for them ceased, but in the Spanish this was not so. That they were exceptionally good as layers is well known, and this is a quality they retain. Weight for weight, I should not think that any other breed can touch the Black Spanish, as they are both prolific and produce a very large egg. But their extreme delicacy and the ragged appearance they have when more than a few months old put them out of court entirely for practical purposes. I have seen both adult fowls and chickens running about almost denuded of feathers, and they are both slow in feathering at first, and in getting the new plumage during the moult.

The blame for this state of things must be laid at the door of the excessive development of white on the face, which must be spoken of as the most prominent feature of the Black Spanish. This kid-like substance hangs down on the best specimens for several inches, and is often very beautiful in its texture, smooth as a lady's glove. To secure it in perfection, everything else has been sacrificed, and show specimens are kept in an artificial hot-house state which has naturally resulted in enfeeblement of the system. That the present-day Spanish, as seen in this country, are remarkable examples of the breeder's art is unquestioned, but they are of no real value for practical purposes. This is to be regretted, as their marvelous laying powers might have proved of the highest service. However, there is the fact. The degeneracy has not been gain, for though there are still a few earnest devotees of the breed, it occupies a very minor position. If it had not been so, the spirited efforts of the Spanish Club would have long ago won for it the measure of popularity which has been denied.

There is another matter in connection with the exhibition of Spanish which must be mentioned, namely, the trimming of the face. The specimens which are seen at shows have beautifully clean faces, free from hairs or small feathers. This is unnatural, for if left alone the white kid on the face will have more or less of hair-like feathers. These are all plucked out, and it is the strong objection which many have to exhibit birds so trimmed, especially in face of the universal rule against trimming in the rules of all shows, that has prevented their taking up the variety. Of course, as the system is well-known and more or less recognized, there can be no charge of fraud in the matter, but it is an evil system which accords prizes to the skill of the trimmer rather than to that of the breeder. It is only fair to say that the white face of the Spanish is by no means a new feature, for it has been a characteristic ever since there is any record.

The troubles of a Spanish exhibitor are by no means light. He must be prepared to spend an infinite amount of time and pains in order to send the birds to shows in a good state, if he is to succeed in his enterprise. An experienced breeder some time ago wrote: "To prepare these birds for exhibition, it is necessary to keep them from the cold winds and out of the heat of the sun, for if exposed to either of these the white will be flushed or pinky. The face must be thoroughly washed at least three times a week for a couple of weeks before the birds have to be sent away, and if half an hour is devoted to extracting the small feathers from the face with a fine pair of tweezers, the trimming will not be so tedious. Frequently washing the face and lobes keeps them clean and free from sores, makes them soft and supple, and often adds much to the length of the lobe." They must be kept in confinement, moderately warm in the winter, and cool in the summer, but the result of this is seen in the abnormally developed combs, which often fall over to one side. In order to prevent this, many Spanish breeders use a wire, of which the following is



Wire Support for Comb.

a description: This is bent to the shape of the base of the comb, and at the front is turned over to run along by the base of the spikes. The ends of the wire are at the back of the head near to the last spike. The two elbows near the beak which come quite to the front of the comb are tied together, the thread passing under the front of the comb. The loop at the back is bent to come under the comb at the back of the head, also under the comb. If the wire is of the right kind and sufficiently pliable, it can be made to support the comb on both sides without hurting the bird.

H——, England. STEW

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New Advertisements.

Angell, S. ..... *Saddle Horse & Farmhouse.*
Appleton & Co., D. ..... *Stock on Stock-Breeding.*
B. ..... *Situation Wanted.*
Barbee, J. F ..... *Eggs for Hatching.*
Box S ..... *Dairyman Wanted.*
Ball, E. Phelps ..... *Cyclopedias*
Box of ..... *Situation Wanted.*
Bromley, S. ..... *Shelties for Sale*
Barney, Geo. E. ..... *Mammoth Bronze Turkeys.*
Cochran, T. A. ..... *Jerseys*
Cornish & Co. ..... *Pianos on Installment.*
Childs & Co ..... *Spring Tooth Harrow.*
Clift, H. & H. L. ..... *Jersey Bull Calf.*
Clark, Thos. S ..... *Farm for Sale or Exchange.*
do. do. ..... *Great Farm for Sale.*
Cranes & Co., Jno. F. ..... *Ranch for Sale.*
Coopland & Holder ..... *Sales & Thoroughbred Stallions.*
Cedar Hill Farm ..... *Man Wanted.*
do. do. ..... *Herdsman Wanted.*
Euclid Hill Farm ..... *Jersey Cows and Calves.*
Ellis Bros ..... *Rare Flowers.*
Fisher, George M ..... *Holstein-Friesian Bulls, &c.*
F. G. Anson Bag Pres. Co. ..... *Agents Wanted.*
Grigg & Son, S ..... *White Swedish Oats.*
Gardener ..... *Situation Wanted.*
Hodson, C. L. ..... *Jersey Bull.*
Henderson & Co., Peter ..... *Bush Lima Beans.*
Hoge, J. L. ..... *Scotch Collies.*
Jarboe, J. F. ..... *Virginia Lands.*
Jackson, S. D ..... *Jersey Bull*
Jermain, J. B ..... *Farm for Sale.*
Jenkins, J. W ..... *Hay Press, Pumps, &c.*
Johnston, Francis ..... *Situation Wanted.*
Kitselman Bros ..... *Steel Wire Fence.*
Kellogg & Co., Peter C. ..... *Sale of Trotting Stock.*
Kelsey, Fred. W ..... *Trees, Evergreens, &c.*
Lincoln, Winslow & ..... *Vegetable and Flower Seeds.*
Morehouse & Arnis ..... *Salesman Wanted.*
do. do. ..... *Rye Straw.*
Millar & Son, Chas. ..... *Seed Oats.*
Morse, L. H ..... *Farm for Sale or Rent.*
Monkhouse, L. H. ..... *Pigeons and Virginia*
Marshal & Smith ..... *Situation Wanted.*
M. J. K. ..... *Cellar.*
Ostrom, S. ..... *Poultry and Engines.*
Payne & Sons, S. W. ..... *Shropshires Wanted, &c.*
Pratt, H. C. ..... *Kansas small Farms.*
Ramsey Bros. ..... *Silver-Gray Dorkings.*
Rice, John L. ..... *Seeds.*
Read, S. S. ..... *Farming Lands.*
Rich, W. W. ..... *Situation Wanted.*
Rathbone, G. ..... *Commission Dealer.*
Reynolds, G. H ..... *Sweet Potato Seed.*
Rathbone, W. W. ..... *English Mastiff Bitch.*
Rogers, W. G. ..... *Farms to Lease.*
" " ..... *Steel Wire Fence.*
Sedgwick Bros ..... *Guernsey Bull.*
Seymour, Jay M ..... *Strawberry Plants.*
Starmaker & Son ..... *Best Acre of Potatoes.*
The Quinnipiac Company ..... *Sale of Sheep in England.*
Thornton, John ..... *Sale of Short-Horns.*
do. do. ..... *Situation Wanted.*
" W. ..... *Holstein Bull, &c.*
Warren, C. H ..... *Ayrshire Cattle, &c.*
Whitney, C. P ..... *Jerseys for Sale or Exch'ge.*
Whitehouse, D. C ..... *Jersey Bull.*
Whittemore, A ..... *Jersey Bull.*

Subscribers' Wants.

O. P. LEUCHWORTH, *Buffalo, N. Y.* Moulds for creamery butter and shipping crates.

Pamphlets, &c., Received.

AGRICULTURAL EXPT. STATION, *Wooster, Del.* First Annual Report; pp. 16, with plates.

COLLINS, J. S., *Moorestown, N. J.* Nursery List.

COOK, Prof. A. J., *Agricultural College, Mich.* "The Silo and Ensilage;" pp. 13—20c.

DWYER, T. J., Cornwall, *N. Y.* Strawberry Notes—10c.

EARL, ADAMS, *Lafayette, Ind.* Seventh Annual Catalogue of his Shadeland Herefords; pp. 114.

FERRY & CO., D. M., *Detroit, Mich.* Twenty-three samples of Vegetable and Flower Seeds—see advertisement, p. 186.

HALSE, H. W., *Ridgewood, N. J.* Illustrated Circular of new sweet-scented Chrysanthemum Nymphea.

HILL, E. L., *West Upton, Worcester Co., Mass.* "Aeration of Milk;" pp. 23, illustrated—see adv., p. 190.

HOWE, G. D., *North Hadley, Hampshire Co., Mass.* Potato Manual.

HUBBARD Co., T. S., *Fredonia, N. Y.* Illustrated Descriptive Catalogues of Grapevines and Small Fruit Plants.

JONES, H. A., *Hancock, N. Y.* Nursery List.

JOSSELYN, GEO. S., *Fredonia, N. Y.* Illustrated Catalogue of Grapevines, Small-Fruit Plants, &c. See advertisement, p. 178.

KING, WALLACE, *Baltimore, Md.* Elaborated pedigree, with notes, of Jersey bull St. Lambert of Eldrelle—see advertisement, p. 188.

KOONA, Dr. S. F., Principal Storrs Agricultural School, *Storrs, Conn.* Report of Trustees; pp. 34, with plates.

OSBORNE & CO., D. M., *Auburn, N. Y.* Catalogue of Harvesting Machinery; pp. 32, illustrated.

RATHBONE, W. W., *Marietta, O.* Sweet Potato Circular—see advertisement.

REID, R. W., *Bridgeport, O.* Circular of Sunny Hill Fruit Farm—see advertisement, p. 188.

SANDWICH ENTERPRISE CO., *Sandwich, Ill.* Catalogue of Windmills, Pumps, &c.; pp. 61, illustrated.

SMITH, WM. H., 1018 *Market St., Philadelphia, Pa.* Seed Catalogue; pp. 96, illustrated.

VICK, JAMES, *Rochester, N. Y.* "Practical Garden Points;" pp. 128, illustrated—25c.

WILLIAMS, A. F., *Bristol, Conn.* "Raising Chicks in Incubators and Brooders;" pp. 24, illustrated—10c. See advertisement, p. 188.

WILSON & CO., H. McK., 121 *No. 2d St., St. Louis, Mo.* Catalogue of Dairy Machinery and Supplies; pp. 56, illustrated.

Inquiries and Answers.

Clover Roots.—L. B. Pierce (p. 104) cites a case in which the turning under of a crop of clover did not pay. There is one thing in regard to this clover turning that I should like to know more of; is it the *root* or the *branch* of the clover that produces the greater result, when turned under? Would not the result have been about as good if the crop had been cut and the sod then turned under? R. M. O. *Pinev Valley, Ky.* [Both roots and tops are valuable as fertilizers of the soil. We have not at hand any distinct statements of analyses and experiments showing accurately the relative value of each, but we suppose the roots in most cases to be quite equal to the stalks and leaves. Experiments have been made to test the comparative quantity of each, and among others, some years ago, by Prof. Roberts of Cornell University, in which the dried tops amounted to 3,395 pounds an acre, and the dried roots to 4,803 pounds. In making such experiments, the result would probably be more unfavorable to the tops if the roots had been continuously growing, while the growth of the tops were checked once or more by cutting and removing the crop. We have not seen an analysis showing the comparative richness of the two portions, but we do not suppose the difference would be great.]

Wild Plum Stock.—Can the European or better class of plums be successfully grafted or budded on the native varieties? J. G. L. *Gardenville, N. Y.* [Our cultivated plums may be grafted and budded on the wild species, but as the latter vary in vigor of growth, these should be selected which are strong growers. Otherwise, scrape the earth away from the base of the stems, and graft below the surface. It will sometimes happen, however, that where the growth of both are very unlike, that the graft will break off after some years.]

Pruning Raspberries.—Is there at this time any objection to or danger in cutting out dead wood in blackberries or raspberries? Also, may not grape vines out of doors be trimmed this month? P. *Morristown, N. J.* [The only object in leaving the dead canes to stand is for them to aid in supporting the young canes against the severe winds of winter, and in retaining the drifting snows as a protection But when the plants are not greatly exposed, and are hardy enough to resist these winds, the dead canes may be cut out without detriment.]

Crab Stocks—Hay Tedder.—Can the limbs of the Siberian crab be profitably grafted with scions of the Northern Spy and other apples? Some tell me the graft will outgrow the stock, and in a few years break off. (1) Will the hay tedder prepare grass cut in the morning to be safely housed in the afternoon of the same day? (2) A. H. A. *Farmington, Me.* [1. Some experiments in grafting common varieties of the apple on crab stocks have been successful, at least for some years; while others have been failures. We would not recommend the practice to be adopted to any extent, but it may be interesting to try the experiment on a small or moderate scale. 2. The hay tedder greatly facilitates the drying of newly cut hay, and it often enables the farmer to secure his crop, which could not be done until another day. With heavy, green, and early cut grass, the hay may not be rendered dry enough in the same day to house safely. For meadows of much extent it will pay well to use the tedder, putting the hay into a better condition, giving the owner a more complete control of his work, and in escaping approaching storms.]

Non-Conducting Walls.—I want to build a storage house of lumber to keep apples. There will be three dead-air spaces of two inches each. I would like to know the best material to form the spaces—plaster, heavy paper, or lumber. Which is the best non-conductor of heat and colds—dead-air space, or space filled with dry wood ashes? (1) What is the best book on apple orchards, insect enemies, and best mode for destroying them? (2) J. C. W. *Mendville, Pa.* [1. If the boards or plank forming the walls, are matched or air tight, you will not probably need much additional protection, but it would be better and safer to line the spaces with tarred building paper, except the one nearest the apples, which might injure their flavor. Ashes or sawdust would be nearly alike as non-conductors of heat, but as they would be likely to become displaced by settling, it would be better to omit them. 2. The American Fruit Culturist will give you the desired information on planting and managing orchards, and on orchard insects and the best modes for destroying them. Price, $2.]

Ashes.—Is there a simple test by which a farmer may determine the value of sample of wood ashes? I have just received a carload of wood ashes from Canada, which I purchased for unleached ashes. They are damp, but sharp and biting to the tongue (the only test I know). A person who assumes to know about such things tells me they have been leached, and potash put in them. Is this probable? There are white masses the size of one's fist here and there in them, which certainly look like potash. But potash is the most valuable ingredient in ashes, is it not? J. B. *West Park, N. Y.* [There is no safe test short of a chemical analysis for ascertaining the quality or value of a sample of wood ashes. It borders on the absurd to suppose that ashes would be leached and then have potash put in them; for this potash itself would have to be prepared from other wood ashes. The "white masses" referred to certainly do not belong to good unleached ashes, but it is most unlikely that they consist of potash. This substance is, as supposed by the writer, the most valuable ingredient in the ashes, and the one, also, most readily lost in part by exposure to leaching: a part of the value, perhaps a third as much as of the potash, is due to the phosphate that they also contain.]

Insects on Rose Bushes.—Please tell me of some application or way to kill insects or spiders that destroy all kinds of rose bushes; I mean house plants. There is a something gets under the leaf and kills it, and so on till the last leaf is gone. A. M. Q. *Sherbrooke, N. S.* [If the "insects" are rose bugs, pick them off by hand. If red spiders, syringe freely with water, or if abundant, fumigate with sulphur. The red spider is very small, about a fiftieth of an inch long, but often doing much harm to house plants. Insects seldom attack plants which are well cared for.]

Aphides on House Plants.—What will kill and keep off from sweet-scented geraniums a small green insect resembling aphis? I have tried pyrethrum, but of no use. P. S. *Fairbault, Minn.* [As the aphis merely sucks the juice of the plant and does not swallow solids, the pyrethrum is inoperative. For plants strong enough to bear it, soap suds of the right degree of strength may be applied with a syringe; but where it can be applied, a more efficient remedy is tobacco smoke. Plants in pots may be placed when dry under an inverted barrel, or a large newspaper may be bent in the shape of a bell glass and placed over them. The smoke may be introduced by using a tobacco pipe filled with quick burning tobacco, the smoke to be blown through the stem into the enclosure. Or a weak solution of tobacco may be used on the plant, and this is often more convenient. The strength of the solution may be determined by dipping a leaf into it. If the right degree of strength is determined, the whole plant may be immersed, the water to be afterwards syringed off. Syringing frequently will keep off insects. There are some tender plants which will not bear fumigation, which may be better treated with the tobacco water.]

Artificial Incubation.—Can any reader tell us whether the raising of poultry by artificial means has been made successful? Is the incubator process of hatching what it is claimed for it by the manufacturers? What is the proper size and mode of constructing a building suitable for the accommodation of 500 chickens? Will the profits from a concern of this capacity pay for the entire attention of one person? B. *Warren, O.*

Ration for Cream.—I have a number of Jersey cows of medium size, and wish to make a ration for them that will give good yield of cream of good quality. Some are with calf, the rest due in five or six weeks. I have good corn fodder and wish to put other feed with it that will make good ration for cream. E. H. *Jamesport, N. Y.* [E. H. says some are with calf and the rest are due to calve in five or six weeks. Then they must all be with calf. He should cut his corn fodder short, and, to feed his cows until they come in and get over the effect of calving, they may be fed on corn fodder and wheat bran, say 12 lbs. short-cut corn fodder, 6 lbs. wheat bran. This is a cooling ration and will keep their udders free from fever. After calving, the ration may be 15 lbs. short-cut corn fodder, 4 lbs. corn meal, 3 lbs. wheat bran, 3 lbs. linseed meal. This will be a fairly balanced ration, the digestible nutrients of which are seen in the following analytical formula, in pounds:

	Albuminoids.	Carbohydrates.	Fat
15 lbs. cut corn fodder	0.56	5.17	0.08
4 lbs. corn meal	0.34	2.68	0.19
3 lbs. wheat bran	0.36	1.68	0.12
3 lbs. linseed meal	0.81	1.01	0.09
Total	2.07	10.54	0.48

Nutritive ratio 1 to 5.5. This is a full ration in quantity for these cows, and should produce a good quantity and quality of milk with reasonably rich cream. But as we do not know how these cows have been fed heretofore, we do not know whether they would stand a richer developing ration. With good clover hay the ration might be improved for very rich milk. Let him report on the success of this, and then it will be easy to suggest one for further development. E. W. S.]

Acknowledgments.

Communications for publication have been received during the week ending March 4, from Henry Stewart—Stephen Beale—Phil. Thrifton—C. Mills—C. W. Weld—Prof. Chas. H. Peck—P. B. Thomas—Mrs. K. M. Bunch—Elmer E. Sommer—C. W. Palmer—T. J. H.—Gerald Howatt—Dennis C. Crane—C. H. Fletcher—Byron D. Halsted—De Long, Mayer & Co.—B. Hendricks—S. A. Fisher—Prof. G. C. Caldwell—Gen. E. Barney—Prof. E. W. Stewart—Nellie Burns—T. E. Cross—R. Q. Babcock—R. F. J.—M. N. R.—C. B. C.—G. W. Furlee—C. J. Robinson—Edith Judson Stahl—A Boy—Mrs. W. G. Tucker—R. R. T.—Elias Mott—A. C. Glidden—Mrs. D. H. R. Goodale (2)—Cary N. Fisk—J. Hannam Clark—Jacob Engle, Jr.—Prof. E. W. Stewart—A. H. B.—Garry Owen Gaines—T. S. Baldwin.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, March 7, 1889.

Farm Accounts.—We have now left on hand just six copies of the $2.50 three-year size of Perkins' Farmer's Accountant, and nineteen of the $1 one-year size, and when these are gone, it will probably be a long time before any more can be had. Farmers who do not procure one or the other before the spring season opens, will neglect their own interests. Except the self-binding file for the COUNTRY GENTLEMAN, no stationery can be purchased with better expectation of an ample return for the investment.

Our State Society.—Following is revised list of farmers' institutes to be held this season by the New-York State Agricultural Society:

Place.	County.	Date.
Elmira	Chemung	March 6- 7
Lyons	Wayne	" 8- 9
Monticello	Sullivan	" 11-12
Jamaica	Queens	" 13-14
Johnstown	Fulton	" 15-16
Potsdam	St. Lawrence	" 18-19
Malone	Franklin	" 20-21
Gouverneur	St. Lawrence	" 22-23
Unadilla	Otsego	" 27-28

Agricultural Legislation.—The New-York Assembly last week passed a bill for distributing among county agricultural societies the Ives pool money now locked up in the State treasury. The judiciary committee reported favorably the Mase dog bill—see p. 111. Gen. Husted introduced a bill establishing the Hatch experiment station permanently at Cornell; it is understood that the Geneva board of control will not oppose it, but ask the State to make more liberal appropriation for its own station instead. In the Senate, Mr. Coggeshall introduced a bill providing that highways shall not be "improved" by placing earth on them later than Aug. 15, unless covered with three inches of gravel or broken stone.

Obituary.—The papers mention without particulars the death at Hillman, Geo., Feb. 26th, of CHARLES L. FLINT of Boston, who was for so many years the able and efficient secretary of the Massachusetts State Board of Agriculture. His management in that capacity was exceedingly creditable to the State and to himself, and his published reports were invariably of interest and value. He was also widely known as the author of a work on Milch Cows and Dairy Farming, and of a companion volume under the title of Grasses and Forage Plants, both of which have passed through numerous editions, and were revised and reprinted not many months ago. In 1853 he went as commissioner to the International Exhibition at Hamburg. He took a conspicuous part in the foundation of the Institute of Technology in Boston, and of the Agricultural College at Amherst. He was for many years a member of the Boston School Committee.

Illinois.—At a session of the Illinois State Board of Agriculture at Springfield, last week, the State Fair was located for four years to come at the city of Peoria, and Mr. GARRARD, late chief clerk, was elected secretary of the Board. Whether this result will be considered generally satisfactory or not, is perhaps somewhat uncertain, judging from the efforts made on the part of several other cities to secure the State Fair for themselves. An Illinois correspondent, however, writes us as follows as regards the new location:

"Much of the heretofore large expense will be saved and a good share of this saving will be added to the premium fund. This has al-

ready been determined by the Board, and the total aggregate of premiums for 1889 will amount to $21,000. In 1888 the amount was less than $18,000. Large premiums will bring out fine exhibits, and these in turn will bring the people to the fair."

Stump Extraction.—Messrs. JAMES MILNE & SON, Scotch Grove, Jones Co., Iowa, who advertise the Hawkeye Grub and Stump Machine, issue an illustrated pamphlet of 40 pages, which we particularly commend to the attention of readers who need an implement of that description. The device is quite original with the Messrs. Milne, and seems to have peculiar features of merit.

American Pomological.—This society held its 23d biennial session at Ocala, Fla., beginning Feb. 20. About half the States and Territories were represented. The society was the guest of the Florida State Horticultural Society nominally, but was virtually received by the State in general. The first session opened at the semi-tropical exposition building, where a most extensive and varied display of southern products was in progress. President BEECKMANS called the meeting to order, and Dudley W. Adams, president of the Florida society, made a very happy address of welcome. The apple, he said, had long been known as the king of fruits; he now desired to present the orange as queen, and welcomed this national body of pomologists to her domain. Mr. Wilson, president of the Semi-Tropical Exposition, read a telegram of welcome from Gov. Flemming of Florida, and also extended the freedom of the exposition to the members. Mayor Carey of Ocala gracefully offered the freedom of the city. To these addresses W. C. Strong of Massachusetts responded for the visiting society. He said it was the first time it had met south of Richmond, and he thought the meeting here would tend to cement and harmonize the interests and friendships of the members.

The society then adjourned till afternoon, and the recess gave an opportunity to examine the beautiful display of citrus fruits and other attractive exhibits which were tastefully spread throughout the large and handsome building, the material of which all stood in the native forest of the State only 90 days ago. A further notice of the exhibition itself will be given in a subsequent article of this series.

In the afternoon President Beeckmans read his biennial address. He referred to the fact that European pomologists had long since recognized this society as the most influential of its kind in existence, its proceedings being quoted by foreign horticultural publications as models. Said he: "Most enviable is the lot of the American farmer; owner of the land he tills, he works with the assurance that whatever outlay of labor or money he devoted to its improvement, the benefits resulting will be his own. He is thus led to improve and increase the products, and thus to contribute to national progress. With this condition he contrasted the position of the European farmer, who, being nearly always a temporary tenant, finds no incentive to improve permanently, knowing that any increased production is likely to cost him an increased rental." He congratulated the fruit-growers of Florida on the enjoyment of the honor of adding more materially to the development of the State than any other class. The pomological division of the agricultural department was commended—it should be liberally aided by all fruit-growers. The work of the experiment stations was praised, and fruit growers were urged to lend their assistance. The utilization of surplus fruit was still a problem in some localities, and had a discouraging influence in increasing production. But an abundant supply of cheap fruit brings it within the reach of those whose circumstances debarred them from its constant use, and this in turn would enlarge the demand. A free use of sound fruit conduces to hygiene as well as temperance.

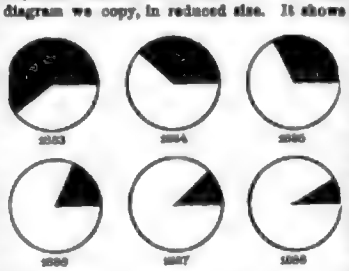
The necrology included William Parry, vice-president of the society for New-Jersey; Richard Peters of Atlanta, and A. J. Caywood of Marlboro. Mr. Parry's name had become a household word through his introduction of the Kieffer pear. To Mr. Peters we were indebted for the dissemination of many native varieties of apples and peaches, and Mr. Caywood would always be remembered as the originator of most valuable new grapes and raspberries. The incorporation of the society as required by the terms of ex-President Wilder's legacy, had been effected, and the amount of that bequest had been profitably invested. He said the society was free from indebtedness, and there was a satisfactory balance in the treasury.

The committee on nominations reported for president P. J. BEECKMANS; first vice-president, T. T. Lyon; secretary, A. A. Crozier; treasurer, Benjamin G. Smith, and vice-presidents from every State and Territory. No change was made from the present board, and all were reelected. S. H.

[Continuation next week.]

Personal.—We observe that Mr. S. N. D. NORTH, formerly of Utica and more recently editor of the Albany Daily Express, has been appointed to succeed the late J. L. Hayes as secretary of the National Association of Wool Manufacturers at Boston.

Milk and Vinegar.—The 20th annual report of the Boston Inspector of Milk and Vinegar (Mr. JAMES F. BABCOCK) is a pamphlet of 128 pages, illustrated with diagrams and photogravures, and constituting an interesting addition to the fast-growing literature of the important topics with which it deals. One diagram we copy, in reduced size. It shows



the comparative amounts of pure and adulterated milk sold in Boston for the last six years, the percentage of bad milk being indicated by the dark sectors; and indicates at a glance the improvement that has been effected. As to vinegar, the percentage of poor samples was 36 in 1885, 33 in '86, 26 in '87, and 21 in '88. We should judge that the whole management of the work was admirable, and deserving of imitation elsewhere.

Dakota.—The Third Annual Fair of the Dakota Board of Agriculture will be held at Grand Forks, Sept. 17 to 21, 1889. GERALD PIERCE, Bismarck, Secretary.

Iowa.—The State Agricultural Experiment Station organized under the Hatch grant has issued its first annual report, a pamphlet of 16 pages. The $15,000 has been expended to a cent—$3,000 for building, $4,966 for books and apparatus, $1,418 for equipments, $2,064 for salaries, $2,631 for supplies and expenses, $813 for labor, and $96 for printing. E. P. SHERR, Ames, is director; G. E. Patrick, chemist; A. A. H. Crozier, botanist; C. P. Gillette, entomologist.

Frosted Grain.—An associated-press despatch from St. Paul, Minn., says:

"Prof. Green, of the State agricultural college, has completed his experiments to ascertain the value of frosted grain for seed. His report shows that from 40 to 90 per cent. of the total amount planted will sprout and grow. Oliver Dalrymple, the largest wheat grower in the northwest, is inclined to believe the experiment can safely be relied upon, and will test the matter on his 40,000-acre farm."

The Farmer's Account Book.—Every farmer should have a book in which to keep account of the butter, milk, eggs, and other farm products which he consumes, the same as if he lived in town and had everything to buy. This would include fruit, firewood, use of horses and carriages, &c. At the end of a year he would be surprised to see how much he has really had that he never thought of before, even if all farm products are low. He will be making more money than he had any idea of, and will better appreciate his independent life. If he would live in a city one year, and have everything to buy, and horse and carriage to hire, he would realize that a farmer's life was the best of all. E. W. *Champaign County, O.*

Reaching the Public.—My advertisements for position and for improved Chester White pigs have proved a good investment, bringing replies from Vermont, Massachusetts, Connecticut, Delaware, Pennsylvania and all over New-York State, both for position for young man and for the pigs. Beside showing the willingness of the better class of young men in this country to occupy responsible positions, and to try to fill them to the satisfaction of their employer, it also shows that your journal has the best readers in the country. The demand for our young pigs is constantly increasing. Some think our prices a little up, but we ship only our best choice out of each litter; all seconds go to the shambles. HERBERT A. JONES. *Riverside, N. Y.*

——I believe the COUNTRY GENTLEMAN the best paper to reach the better and wealthier class of farmers, that is printed. WALTER SCOTT, Maker of Stanchions, *Hoosick Falls, N. Y.*

Chautauqua Horticultural.—The next meeting of the Chautauqua Horticultural Society will be held at Ripley, N. Y., on Saturday March 9 at 10 A. M. J. J. KEITH, President; S. S. Crissey, Secretary.

Farm-Yard Notes and Items.

The catalogue of the dispersion sale of the COLLINS Holstein-Friesians, March 19—see advertisement, p. 182—is a pamphlet of 26 pages, containing 59 pedigrees, with very full notes and information. These cattle are of high breeding, and deserve the particular attention of admirers of the black-and-white. We have no doubt that excellent bargains may be obtained at the sale.

Mr. JOHN THORNTON advertises this week an important sale—the Short-Horns of the late Sir Robert Loder, Whittlebury near Towcester, England. This herd consists of some of the highest bred specimens of Bates blood, among them being a large number of animals of the Duchess, Red Rose, and Winsome tribes, which have been associated with the most celebrated herds during the last half century. There are also some excellent representatives of the Darlingtons and Gwynnes crossed for generations with Bates blood, as well as of the Knightleys, a strain long known and deservedly popular in the Midland counties. We have a few catalogues for distribution—persons requesting them will please send stamp.

Mr. O. B. HADWEN, Worcester, Mass., editor of the American Jersey Herd-Book, sends us the tenth volume of that work, containing 940 pages and giving bull pedigrees 3426–4080, cows 7001–8500. The price is not stated.

The Tenth Volume of the English Shire-Horse Stud-Book, though appearing after only the usual interval of a year, is very much larger than any of its predecessors, containing 1100 pages and 4300 pedigrees, against 670 pages and 2000 pedigrees in Vol 9, and 430 pages and 1700 pedigrees in Vol. 8. This steady and rapid growth is due, in no small degree, to the demand that has arisen in this country for these extremely useful horses; "a considerable proportion of the animals entered," as the preface says, "have been sold to go abroad, the United States taking the majority;" and we notice the well known American names of Galbraith Bros., Janesville, Wis., and Powell Bros., Springboro, Pa., appearing repeatedly in the list of purchasers. The society has also a considerable number of American members, among whom we observe our friend Mr. George E. Brown of Aurora, Ill. Lord WANTAGE is now president; J. Sloughgrove, 11 Chandos St., Cavendish Sq., London, secretary.

Mr. C. D. SICKLER, Malta, N. Y., writes that a single insertion of his advertisement of the imported Percheron stallion Monmour 115 (3123) in the COUNTRY GENTLEMAN sold the animal to Mr. W. S. Mott, Toddsburg Farm, Gloucester C. H., Va. Cost of advertisement, $7.80; value of the stallion, ——?

A correspondent desires to know whether any other Jersey breeder than Mr. FARLEE has animals of the Signal blood for sale. He has plenty of St. Lamberts and Stoke-Pogis offered him, but wants to know more about herds distinguished for Signals, Coomassies or St. Hellers.

Mr. HOWARD TRYON, Fleming, N. Y., writes: "If any reader is a breeder of poultry, I would say to him, advertise in the COUNTRY GENTLEMAN. I received over 80 letters from my advertisement of bronze turkeys," [four lines, cost $1.60.]

The sale of Elsenham Shire horses was not so successful as anticipated, and compared badly with that held four years ago. That was exceptionally good, and the stock on the present occasion was not up to the same form, and the weather was greatly against it. Among those present were the Duke and Duchess of Marlborough, Lord Edgerton, Lord Hothfield, Lord Wantage, and other patrons of this breed. The Duke of Westminster was among the purchasers, securing the champion, Staunton Hero, at $2,500. He would not have been dear at twice the money, and soon after his purchase $1,500 was offered for his services during the coming season. The total realized was $32,625, or an average of $473½ for the fifty animals sold. S. B. *H——, England.*

I report recent sales of Jerseys, viz.: Bull Copper's Signal 15974 to F. B. Croasdale, Trenton Junction, N. J.; bull calf Prince Rinaldo to Henry Hoskins, Pittsfield, Ill.; bull calf Delaware Signal to A. Naudain, Jr., Stanton, Del.; bull calf Fairy Queen's Signal to F. A. George, Hale, Wis. The last three are grandsons of Gazella 3d, and are strongly in-bred to Signal, tracing to him seven to ten times. All the buyers of calves express themselves pleased with their purchases bought without inspection. Mr. Naudain, whose calf traces ten times to Signal, writes me: "The calf is much stronger and better made than we expected him to be; his in-breeding has certainly not hurt him." I find the demand for well-bred bulls excellent and at good prices. G. W. FARLEE. *Trenton, N. J., Feb. 25.*

Mr. D. E. HOWATT, Manager Crumwold Farms, Hyde Park, N. Y., writes us Feb. 23:

"The small advertisement for a young Jersey bull for the Crumwold Farms which appeared in your paper but once brought us upwards of a hundred letters, many offering high class animals. We decided to purchase of Mrs. E. M. Jones, Brockville, Can., the St. Lambert bull Queen's Stoke Pogis 18314, dropped May 10, 1886. This fellow is over 90 per cent. blood elements of Mary Anne, nearly 44 per cent. actual blood of Stoke Pogis 3d, and through Ripter's Pride close up to Pride of Windsor. The breeding of Queen's Stoke Pogis is exactly what we wanted, and Mrs. Jones' description of the animal all that we could wish. The bull was ordered by mail, and shipped by the seller to us quickly, safely and cheaply. This animal instantly convinced us that Mrs. Jones had not overrated him, and that we now possessed a grand head for our herd. The COUNTRY GENTLEMAN is a great paper to advertise in, sure to please the most exacting."

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The Grazier and Breeder.

Cows, Brood Mares and Colts.

Corn, Peas, Rice and Flour.

Eds. Country Gentleman—Please give the most economical ration for the following: Corn, 57c. per bush.; oats, 40c.; peas, 80c.; these to be ground on the farm; stone mill stuff, $23 50 per ton; A 1 wheat bran, $22; rice flour, $15; cottonseed meal, $31; cottonseed hulls, $1; native hay, mixed crab grass and peavines at $20 per ton; ensilage from matured Kaffir corn—head and all, cut ½-inch. Also ration without the ensilage and oats, with oats cut when in milk and cut up fine and substituted in their stead. Ration for Jersey cows and high grades—averaging 10 months in milk and 3 months from calving, and for brood mares used for ordinary farm work, and averaging three months from foaling, next foal. Will it do to give cows due to calve, in say six weeks, any cottonseed meal or hulls? My object is cream and butter. My herd yields me 8 lbs. of butter from 11½ qts. cream, milk set 24 hours in Cooley creamer and cream allowed to ripen 24 hours after last batch of cream has been added. I sell my butter at 40c. per lb., cream at 50c., milk at 9c., and skimmilk and buttermilk at 5c. per qt., readily; milking 7 cows. How much of this should be fed to young calves and colts?

In compounding, my easiest way is to grind together so many bushels of grain and feed of that mixture so much; and so much cottonseed meal, and so much shorts and bran. I cannot afford to have any cottonseed meal taste in, or affect flavor of butter. Hay to be cut in ¾-inch lengths. A. B. C. *Columbia, S. C.*

1. A. B. C. may grind the following proportions of grain together: 800 lbs. corn, 800 lbs. peas. To this 800 lbs. of ground corn and peas add 800 lbs. rice flour. The percentage of digestible nutrients of this whole mixture is as follows: Albuminoids, 11 55; carbohydrates, 50.68; fat, 6 35, and has a nutritive ratio of 1 to 5.7. It will be observed that this is the cheapest combination which can be made with as good a nutritive ratio. No cottonseed meal is used, because it would not be safe for his cows so near calving. In making up the ration practically the same number of pounds of rice flour may be added as is used of ground corn and peas.

For his cows in milk before calving he may feed the following ration: 20 lbs. ensilage, 4 lbs. crab grass and peavines, cut, 5 lbs. ground corn and peas, 5 lbs. rice flour. This will be a sufficient ration till his cows have got over calving. After calving, his ration may be the following: 15 lbs. ensilage, 4 lbs. crab grass and peavines, 6 lbs. cottonseed hulls, 5 lbs. ground corn and peas, 5 lbs. rice flour, 3 lbs. cottonseed meal. This should produce a good quantity of rich milk for butter. I think he need not fear the effect of the cottonseed meal upon the flavor of his butter or cream.

2. The ration for his brood mares before foaling may be the following: 6 lbs. of native hay, cut, 5 lbs. ground corn and peas, 5 lbs. rice flour. The ground feed being well mixed with the cut hay, given in two feeds.

3. His foods are not very appropriate for very young calves, if that is what he means. He should have for the very young calves, some flaxseed to mix with the other foods, to keep the digestive organs in a healthy state. He may try the following: Boil equal quantities of wheat bran and rice flour in eight times its bulk of water, and feed it warm to calves. Cottonseed meal is an unsafe food for young calves. If he had flaxseed and would boil it in six times its bulk of water, for 20 or 30 minutes, it will form a thin jelly, and by putting two tablespoonfuls of this jelly into the feed for these calves, it would help the ration very much.

A little of this same food may be given to colts, while sucking the dam, if they do not get food enough, and this food may be used at times of weaning; and after a few weeks the colt should be taught to eat a few oats. That is, three months after weaning, the colt may be fed ½ lb. bran, ½ lb. rice flour, ½ lb. oats, at each feed with hay. R. W. S.

Feeding Potatoes.—The statements regarding the feeding of potatoes, I have been greatly interested in, as my neighbors generally believe them to increase the milk flow in cows, and one said that a yoke of old oxen, eating a bushel each per day with other feed, fatted wondrously quick; while last fall I fed cows ten quarts of whole small potatoes in two feeds daily with wheat bran for a time, and the milk flow fell off. When the potatoes were dropped, and fodder corn substituted, the loss was regained; but wanting to get rid of the potatoes, they were again fed, though not so heavily, for a couple of weeks, when the former amount was fed, and a shrinkage in milk followed. There was no unusual looseness of the cows' condition, and perhaps the loss in milk was due to some other cause; therefore I never said that the potatoes caused it, but it opened a new subject before me. E. M. C. *Medina, Wis.*

Feeding Brood Mares and Sows.

Grinding Grain—Cutting Hay.

Eds. Country Gentleman—Permit me to thank you for very valuable replies to my inquiries, particularly to the very complete answers on p. 92, which alone I consider worth many times the subscription price of your truly invaluable paper. I only expected an answer to my question, the relative value of corn and bran as feed for certain animals, and was given most valuable rations for each.

I should have added that in addition to the corn, bran and clover hay, I have plenty of fodder from the corn, which cured very badly, also timothy, blue-grass and orchard-grass hay.

Would it be advisable to modify any of the rations with the addition of any of these? Could the rations be made satisfactorily with these uncut?

My horses are four mares, two due to foal in the early part of the summer and the other two the latter part, which perform all the farm work—plowing, hauling manure, &c.; one yearling and one two-year-old colt, and my riding horse.

I have 6 brood sows and 15 little pigs, which have the range of an orchard of nine acres, in which they daily fill themselves with grass, &c. The sows are fed, in addition to a little corn, the slops of the house. About two gallons of skimmed milk are put in a trough, to which the little pigs alone have access. The usual manner of feeding grain to all stock in this neighborhood is exclusively corn on the ear. Since writing the above, I find that bran is $1.10 per cwt., or $20 per ton, and difficult to procure; corn meal, $1.05 per cwt.

Warrenton, Va. J. M. W. A.

J. M. W. A., although very competent to adopt the best system of feeding, is not yet prepared to cut his fodder, but from the number of animals he keeps, it certainly would be very much to his interest to discard the old way of feeding grain, corn on the ear and hay uncut. Horses, especially, require the concentrated food to be mixed with coarse fodder. But if corn meal must be fed without mixing with coarse fodder, it is likely to do less damage when fed in the ear, because it cannot pack in the stomach, and although it will not be economically digested, yet it will not so seriously affect the health.

It is not necessary, although best, that all the hay should be cut. If enough of the hay be cut to mix the ground feed with, the remainder of the hay may be fed long.

When meal must be fed with hay uncut, then the best plan is that advised to A. O. H. W., on page 106—placing the meal on a layer of long hay in the manger, dry, and in eating the meal some hay will be eaten, and give bulk in the stomach. But in raising colts, A. will find it very advantageous to the healthful development of the colts that the brood mares should not depend upon corn as a food, while in foal or suckling their colts. All our street railroads and omnibus lines in cities, when they can, avoid purchasing horses raised almost wholly upon corn, as it always produces a feverish state of the system and tender feet, which cannot stand city pavements.

A.'s method of giving skimmed milk to little pigs is very judicious. This food contains abundant bone material, and will greatly assist in giving a rangy frame, and a proportion will improve it.

His brood cows are also benefited by abundance of grass, which is very much better food than corn to develop muscle and bone. One bushel of corn, well ground and mixed with the proper proportion of cut hay, will enable horses to perform as much work as 1½ bushels or perhaps 1¾ bushels fed in the ear.

A. cannot afford to follow the old system any longer than is absolutely required to make the change.

He will find it profitable to feed a small portion of oil meal (linseed meal), or if cottonseed meal is much cheaper, then a little of that, to his brood sows when suckling pigs, or brood mares when suckling foals, and to his other work horses and to milch cows. It ought to be bought, in his location, for a slight advance on the price of bran, as he gives it. If he feeds corn fodder in the ration, 2 lbs. will balance this poor fodder. If he feeds orchard grass or timothy hay, with considerable corn meal, he will need 2 or 3 lbs. of cottonseed meal to balance the ration. But he should avoid feeding cottonseed meal to young colts, as it is much more difficult of digestion than linseed meal. The weanling colts would be much benefited by ¼ to ½ lb. of linseed meal per day. R. W. S.

Veal Farming.

Eds. Country Gentleman—In answer to inquiry, page 930, 1888: Several large dairy herds here have been devoted exclusively to the raising of veal calves for several years, and the plan is followed partially by many others, and with invariable satisfaction.

Let J. E. arrange his stable with a series of pens, seven or eight feet wide, separated from each other by panels or partitions raised from the ground high enough to let a calf run freely under. Each pair of these pens will accommodate six to eight calves, which are kept in them all the time. Now, when milking time comes, turn a cow into each pen and see how much quicker the calves will milk them than a man can. Observe that the cows are separated, but the calves can pass freely from one to another, which is an important point in this labor-saving arrangement. As soon as a cow is sucked dry, which can be told by the actions of the calf, remove her and turn in another, and so on, till the calves have had all they want. If properly managed, there will be but one cow to strip when the calves get through. A calf is less likely to scour when fed on several different cows at each meal, than if confined to one.

If a cow hooks the calves, tie her up till she gets acquainted with them. If she kicks, have recourse to the "corset," which is a piece of light chain (I use a piece from an old chain pump) passed around the cow in front of the udder and behind the hip bones, and hooked up snugly. Some cows' teats are so tender that it is impossible to prevent their cracking. Such cows must be milked or sold. The idea that cows are less likely to come in heat when used in this way is all a fancy. If just as well fed they will breed as soon and as readily as though they were milked.

Veal farmers here buy the young calves when two or three days old for 75 cents to a $1 each. During the cool weather in spring the fat veals are hog-dressed and shipped to the city. Later, when the weather gets warm they are sold to local buyers who send them alive to New-York. In the fall it becomes impossible to get calves, and of course the cows have to be milked. J. P. Mills.

Allegany County, N. Y.

Stanchions, p. 58.—No one can dislike stanchions more than I did *before I used them*, they seemed so hard and uncomfortable. A few years ago I was obliged to change the style of my stables, and after much hesitation adopted a style of my own which has given perfect satisfaction, and I would not go back to a rope about the horns, or chain about the neck. I had some twenty cows of all ages; none had ever been confined in a stanchion. With some misgiving I had a lot made, and put oxen, cows, heifers and bulls in them. I had no trouble, saw no ill effect; in fact, I never had my cattle go through the winter in as good condition as in the stanchion. Previously I had used a large quantity of bedding vainly trying to keep my cattle clean. (I still use some, for it tends to make the animals more comfortable). Now, without extra labor my cattle are as clean in the spring as when put in the stable in the fall, which is important to farmers who sell milk the whole year. J. G. may have had a poor style or misjudged the effect. J. G. C. *West Kingston, R. I.*

Before and After Calving.—Please give ration for medium-sized Jerseys, 5 years old this summer, due to calve in April and May, having been fed 6 quarts each of the following: Provender in two feeds of three quarts each, night and morning, mixed with cut timothy hay; 100 lbs. bran, 50 lbs. ground oats, 50 lbs. meal, to which was added about 1 quart linseed meal to every 6 quarts of provender. The cows are in fine condition, but would take more food, we think, with better results in the product of milk and butter. They give now 13 lbs. each of milk per day. We want a butter ration. Corn is 50c. per bushel, oats 45c., bran 1c. per lb., and oil meal $1.80 per 100 lbs. Brightside Farm. *Plainfield, Conn.* [We have examined Brightside Farm's compound, and it is very fairly constituted, if it were fed with clover hay. But as he supposes, the 6 quarts of the compound is a rather small feed for cows in milk. He does not say what 6 quarts of the provender weighs, but probably a little over 6 lbs. He also neglects to state how much timothy hay is fed, but if we suppose that he feeds 14 lbs of cut timothy hay, with 6 or 7 lbs. of the mixed food, it would be too small a ration. Considering the prices of corn, oats and bran, it would be economy to make the following combination: Grind 50 bushels of oats with 50 bushels of corn; with 100 lbs. of this mixture of oats and corn meal, mix 125 lbs. of bran and 10 lbs. of oil meal. Only a small proportion of oil meal is allowed, because the cows are in calf. After the cows come in, there should be 25 lbs. of oil meal instead of 10 lbs. Up to the time that these cows are dry, or nearly so, make up a ration as follows: To 12 lbs. of cut timothy hay, add 10 lbs. of this mixture of ground feed. It is understood that this ground feed—corn, oats, bran and oil meal—are thoroughly mixed together, so that the whole mass shall be uniform. The 12 lbs. of moistened timothy hay, with the 10 lbs. of mixed provender, will be a considerably better ration than the one they have been fed. It may be given in two feeds, morning and evening, or in three feeds, smallest at noon. But the combination should be made by weight and not by measure, although the feeder may, with a little practice in weighing, very soon get the right weight in measure. After these cows have dropped their calves and got over the effects of calving, then the ration should be 14 lbs. of cut timothy hay, and 14 lbs. of this mixture of feed. The mixture of feed will then be 100 lbs. corn and oats, 125 of bran, 25 of oil meal. This will be a full ration for Jerseys in full milk, and should produce a full yield of rich milk. The cows after drying off and before they calve, may best be fed on hay and bran. This is not a stimulating diet, and the bran will keep up the vital energy of the cow and develop the growing calf. This same ration should be continued until she gets over calving. Six pounds of bran, with a fair allowance of hay, is sufficient. R. W. S.]

The Lakeside Stock Farm.

Eds. Country Gentleman—One of the delights of my sojourn in Syracuse last week, was a visit to this famous breeding ground. Few farmers are aware of the magnitude and excellence of this establishment. The farm contains 1,100 acres of first quality of land, three miles from the city of Syracuse. It is as level as a western prairie and a model of skillful cultivation and improvement. Stock breeding is a specialty of the proprietors, and the beauty of their four hundred Holstein cattle, and 150 Clydesdale, Percheron and French Coach horses, amply attests the success which has crowned their skillful and scientific methods.

The marvellous improvements which have been made in locomotion, transportation and transmission of intelligence in the last fifty years, amazing as they have been, are scarcely more wonderful than the improvements that have been made in our domestic animals and agricultural methods in the same time. The speed of the trotting horse has been increased from three minutes to 2 09¼. The milk of the cow from seven thousand to thirty thousand pounds in a year, the butter from seven to thirty pounds in a week, and the production of forage plants from five to thirty tons per acre. These results are not accidental but produced by scientific methods, which secure certainty when skillfully and persistently followed. Most (but not all) have been achieved by these gentlemen on this farm. Eight hundred tons of hay, and from 1,500 to 2,000 tons of ensilage are the annual products of the farm, and on this their horses and cattle are kept, with the addition of not a large quantity of grain feed purchased. The benefit of silos, in which all the nutrition of forage plants is preserved, is here demonstrated. Fifteen to twenty-five tons of corn are grown to the acre and put into the silo. A large portion of their cattle get two feedings of ensilage and one of hay daily without any grain, and they are in as good condition as breeding animals should be, though not fat. The mistake of the early opinion that silos must be built of stone or brick or concrete, at large cost, is here shown by silos of 250 tons capacity built entirely of wood at a cost of $250, and preserving the ensilage equally as well as the more expensive ones. In barns of 16 to 20 feet elevation, silos of like capacity may be constructed for half that amount.

In their creamery substantially all the cream is extracted from the milk as soon as it is drawn from a cow at the rate of 300 lbs. of milk per hour by the centrifugal system. They are now making from 35 to 100 lbs. of butter a

day, and it is sold the year round to one man at a price much above the market.

Their barns and stables are constructed for convenience and the comfort and health of animals rather than for show. Warmth and ventilation are admirably combined, and contiguous to the stables are ample yards in which their young stock is daily exercised. Their whole establishment is a model of excellence that might be followed by the farmers of the State with profit and pleasure.

In every respect these gentlemen are practical theorists. They determine what they want to do or accomplish, and apply theoretical methods to produce desired results, and they seldom, if ever, fail in their purpose. They are courteous and kind to all comers, and alike distinguished for their hospitality and their integrity in all their dealings. J. C. S.

Attica, N. Y.

Breeding for Sex, p. 180.—This matter was discussed at a meeting of the Mercer County (N. J.) Board of Agriculture some time ago. A number of our members were having the same discouraging experience as O. S. T., and were anxious to reach more desirable results. A member of the board, a thoroughly reliable practical farmer, said that if the cow is served the first heat after calving, female progeny was sure to follow. I have not experimented in this direction to prove or disprove the statement. Let those interested try it honestly and fairly. F. DYE.

Blindfolding a Bull.—The discussion as to management of unruly bulls, prompts me to give my late experience with one. A few days ago my three-year-old bull, at large in barnyard, attacked my man as he was getting the cows into the barn, knocking down and tossing him over his back as a cat might throw a mouse, and would probably have killed him if I had not been at hand and given assistance. The next day we drove him into a secure box stall, taking good care to keep out of his reach, caught him by ring, with a stout wire, hooked at one end; then, standing outside with his head held through window, a burlap bag, doubled, was fastened over his eyes and over that an old saddle flap, after which he was easily led, by a snap at the end of a staff, to a small yard, fenced with boards with barb wires strung inside, and turned loose. If he cannot be controlled in this way, I too shall be tempted to try the virtue of dishorning. L. P. W.

Quincy, Ill.

The Dairy Department.

Raw Cottonseed and Cottonseed Meal.

ED. COUNTRY GENTLEMAN—If cottonseed is worth 13c. a bushel of 32 lbs., and cottonseed meal $20 per ton, which is the cheaper feed for dairy cows, and how much cheaper, considering the two feeds not only as regards chemical analyses proper, but also in reference to digestibility? I want an answer based exclusively on American analyses and American experiments, as I understand the German analyses and experiments with Egyptian seed, would not fairly represent our home product. I mean the whole cottonseed, and decorticated cottonseed meal. MISSISSIPPI.

Mississippi's question would seem to indicate that he thinks cottonseed or cottonseed meal could be fed indiscriminately to dairy cattle, and the simple question to be decided, is which is cheaper. But both of these foods are complementary, and can be fed only in combination with other foods. When the nutritive value of each is considered, the cottonseed, at 13c. for 32 lbs., or say 0.4c. per lb., is certainly cheaper than decorticated cottonseed meal at 1c. per lb.

But the difficulty with the cottonseed is its large excess of oil, which renders it improper food, except in very moderate quantity, for milch cows. But to the extent to which it may properly be fed, it is cheaper food than cottonseed meal. Cottonseed also can only be fed in very small quantity, because of its large excess of albuminoids.

Unfortunately, cottonseed has not been analyzed as often as it should have been in this country. There is but one analysis which can be identified as American, and the digestible nutrients in this are the following: Albuminoids, 17.1; carbo-hydrates, 14.7; oil, 27.3. If this is calculated as the digestible nutrients are usually, that is, the albuminoids and fat estimated at 4½c. per lb., and the carbohydrates at 9c. per lb., 100 lbs. of the seed appears to be worth $8.05.

But we have no less than 24 American analyses of decorticated cottonseed meal, and the average digestible nutrients of these analyses are as follow: Albuminoids, 35.7; carbohydrates, 22.3; oil, 11.6. This figures up, on the same basis, at 2½c. per lb. But the present amount of oil found in cottonseed meal, under the later methods of extracting the oil, is not probably more than 8 per cent., and perhaps as low as even 6 per cent. But still it figures up at a food value of 3 1-6c. per lb.

M. will see that the excess in cottonseed is in the oil, and in cottonseed meal in the albuminoids. It thus appears that these two foods should be fed together, as they assist in balancing each other. If we take 6 lbs. of raw cottonseed and 1 lb. of cottonseed meal, mixed together, the compound is represented by albuminoids, 1.37; carbo-hydrates, 1.30; fat, 1.68. This has a nutritive ratio of 1 to 4, and if fed with clover hay, would be a fairly balanced ration. Let us construct a ration of the clover and mixed hay, given on page 915, Dec. 6 last, in answer to Southern Dairyman, and of raw cottonseed and cottonseed meal in the proportion here given, as in the following analytical formula, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
12 lbs. mixed hay.....	1.20	6.40	0.30
9 lbs. raw cottonseed.....	1.53	1.02	1.53
1½ lbs. dec. cottons'd meal,	0.54	0.34	0.09
Total.....	3.26	8.26	1.92

This has a nutritive ratio of 1 to 4.5—an excellent ratio for rich milk. It is also a full ration for cows in full milk, as the extraordinary amount of oil makes up for the small proportion of carbo-hydrates, and this ration will cost only 3 cents per day besides the hay. But the unsettled question about it is, what effect this large quantity of oil will have upon the flavor of the milk and butter; and it is not certain that this excess of oil would not injure the health of the cow if fed for a long time. It is probable that the ration would be improved to use 6 lbs. raw cottonseed and 3 lbs. cottonseed meal with the 16 lbs. of hay.

2. M. wishes to have the testimony of American experiments as well as analysis to show the feeding value of these foods. There has not been, so far as I am aware, any feeding experiments, in this country or Germany, to show the actual nutritive value of raw cottonseed. I have had reports from the South, of its use in small quantity in the milk ration, but nothing definite as to its comparative value with other foods. But it has often been proved that cottonseed meal, when used to balance other foods, is worth twice as much as corn meal.

Mr. R. H. Dulany reported in the COUNTRY GENTLEMAN, page 393, 1886, the feeding of 3 lots of steers for 50 days. One lot had 50 lbs. ensilage mixed with 6 lbs. corn meal and 3 lbs. cottonseed meal, and gained 134 lbs.; another lot received 3 lbs. of corncob meal extra, and gained 146 lbs.; another lot received the same as the first, and 1½ lbs. of cottonseed meal extra, and gained 157½ lbs.—showing a greater gain from 1½ lbs. of cottonseed meal than from 3 lbs. of cob meal. This simply shows that cottonseed meal when used properly to balance a ration is worth twice as much as corn meal, but if each were fed alone as a single food, corn meal would prove the best, because nearer balanced. The highest value of a food is shown when fed in right proportion. E. W. S.

Milk Falling Off.—A Jersey cow calved Sept. 25th; gave 14 qts.; was on good pasture without grain; brought to town Oct. 17; fed good rowen, all she wanted, and 3 quarts middlings with 1 pint corn and 1 pint cottonseed meal twice a day; has a roomy, sunny box-stall, warm and comfortable. During first week cream was fine and rich, and made 1½ lbs. butter to 1 qt. cream by actual test. Cream was almost butter before churning. By Jan. 1 had fallen to 12 qts., and cream yielded much less butter, and had lost that buttery look. Added a feed of same grains at noon, but do not see any increase in richness or quantity. Feb. 1, she gave 11 qts. only; cow was not served till Jan. 25; cow is 5 years old, mild tempered and seems in fine condition. Object is rich cream and milk without regard to expense of feed. Can we improve ration? Cream set in open pans in ice chest, and makes only ¾ lbs. butter to 1 qt. cream now, Feb. 8. INQUIRER. [This cow is not peculiar in her falling off in milk. It appears that she was reduced 2 qts. in her milk by Jan 1, which was three months from calving. This was a loss of one-seventh or about 16 per cent. It is not unusual for many cows to lose as much or more in three months. Cows that give a large quantity at the flush often fall off in their milk when the feed is not changed. The persistent and uniform milkers, even on the same feed, are not plenty but somewhat rare. The falling off in the quality of the milk is a better evidence of the unfavorable change in the food. He does not say how the food was given, whether the hay was cut and the middlings, corn meal and cottonseed meal were mixed with the hay or fed separately. If fed separately, this would be unfavorable for the complete digestion of the food, for middlings, corn meal and cottonseed meal make too concentrated food to be given without mixing coarse fodder. But 4 qts. of middlings and 1 qt. of corn meal would weigh about 5½ lbs., and 1 qt. of cottonseed meal would make the grain food altogether about 7 lbs. per day, and this is not more than two-thirds of a ration for a Jersey cow in full milk; so here is cause of shrinkage in milk. If it were a good quality of rowen hay this was favorable food for milk. To produce the best result in milk, Inquirer may feed the following: 14 lbs. cut rowen hay, 4 lbs. corn meal, 4 lbs. wheat bran, 4 lbs. wheat middlings, 3 lbs. cottonseed meal. The corn meal, bran, middlings and cottonseed meal should be well mixed together, and then well mixed with the moistened cut rowen hay and given in two or three feeds. If in three feeds, largest morning and evening, smallest at noon. 2. It seems also probable that the milk is set too cold in open pans, or that they do not get all the cream. The temperature for setting milk in open shallow cans should not be below 60°. We think this cow is likely to prove valuable under a uniform system of good feeding. E. W. S.]

First Experience in Butter-Making.

ED. COUNTRY GENTLEMAN—The experience I am about to relate will, no doubt, seem scarcely credible to those of my sisters who have been brought up on a farm and enjoyed all the benefits of mothers' and grandmothers' advice in baking, brewing, churning, and other chores connected with the life of a farmer's wife. But perhaps there are some who have not had these privileges in their "bringing up," yet whose husbands belong to the farming fraternity. I am one of that number, and it may be imagined that my first experience in making butter was rather unique, to say the least.

It is certainly the most natural thing in the world for a housekeeper to oversee everything connected with the housework; so when I cast off the life of "single blessedness" in the city, for that of "double" on a farm, I concluded I would oversee the dairy as well as the house. Now the importance which must be attached to the proper handling of milk and cream for the making of good butter, had never been impressed upon my mind, consequently I labored under great ignorance, mixed with some egotism. For my future benefit, as I afterwards learned, I was allowed to do as I thought best on the start, for "a woman convinced against her will is of the same opinion still."

The milk was set in ordinary milk pans, on racks, in a room just opposite the kitchen. This room was built for the purpose, and by putting ice in racks at the top, was a decidedly cool place in summer. I entered upon my duties the latter part of April, and the milk was thought to be about the right temperature without fire. It averaged 55°. The pans I let set over night or all day, and then skimmed them. When I had collected a cream-pot full of cream, I let the servant scald out the new barrel churn, which had been bought at my suggestion—and have since made to work to my entire satisfaction—and after cooling it, the cream was put in, and one of the men was set to work to churn. Uncertainty was depicted on every feature of his countenance, which as time wore on and the grinding did not cease, took the form of resigned submission to fate. But I have no doubt that in his inmost soul, he wished the churn, cream, and new mistress, too, just where they came from! It was nine o'clock when he began, and every fifteen minutes I looked into the churn, expecting to see small particles of butter. I added cold water several times, as I had read somewhere that cream must be kept cool. Noon came, and the cream was still cream. To my unsophisticated mind, this seemed the most unaccountable thing in the world. At dinner, no questions were asked, and I very gladly volunteered no information on the subject of butter. The man was given his dinner, and then set to churning again. When two o'clock came, my patience with that cream was pretty nearly exhausted. So I took a ladleful out and examined it. It looked to me as if the butter "was there," but it was in little specks no bigger than the point of a pin. All these little specks had settled on the top, and could be skimmed off. I resolved to work these little specks into butter with a ladle.

So I skimmed them all into the butter bowl and began to work. But it seemed that the more I worked the less impression I made. I finally left the whole thing in disgust, being chagrined beyond measure that so simple a thing—as I had thought—as making butter, had gotten the better of me. After thinking a good bit, I resolved to try one more experiment and took a handful of that embryotic butter and worked it in my hands as one would a piece of putty, when, lo! the first thing I knew, it had grown into a little roll of butter. My satisfaction at this result was supreme. It was plain to be seen than that the heat of my hand did the business. Without any further moralising I dumped the contents of the butter bowl into a stone pot and set it on the stove. In less than fifteen minutes I had six pounds of butter done up in a roll, and triumphantly placed it in the butter worker. That was the hardest day's work I ever did, and at night I went to bed a very tired but much wiser woman.

Now there is nothing infallible under the sun; but this one thing I have demonstrated to my entire satisfaction, that good butter can be made by private individuals if they will pay attention to two things, cleanliness and temperature. Have a small room with cases for ice about four feet from the floor all around. Under them the racks for the milk pans. By having the room closed and dark, one can always keep the right temperature with a sufficient amount of ice. In cold weather I have a small self-feeder coal stove put up in the creamery, and doors to my milk racks to keep the ashes from settling on the milk while the fire is being attended to. This is a rather simple method of tending to one's dairy, but I have found it entirely practicable. L. E. S.

Broome County, N. Y.

The Cost of a Pound of Butter.

ED. COUNTRY GENTLEMAN—In reading the proceedings of your State Agricultural Society at its annual meeting, as published in your issue of Jan. 24, my attention was particularly attracted by the remarkable statements contained in the paper read by Mr. Hiram P. Hopkins of Buffalo, N. Y. He tells us that it costs him 11½c. per lb. to make butter that sells for 25c. on an average the year round. I recollect reading several years ago in your valuable paper the reply of a Chester county, Pa. farmer to some one (whose article I did not see), who said that it cost him 16c. per lb. to make a pound of butter. The Chester county farmer said it could not be done, and went into an elaborate calculation to show what it cost him to make a pound, and with this result—44 cents a pound the year round.

With results so widely different as these, I began my own investigations. First, I gave the problem to the members of our farmers' club, several of whom ciphered upon it with an average result of 27½c. per lb. I had not proceeded far on my investigation before I found that the cost of production depended very largely upon the quantity produced, and that it would cost twice as much to make butter from some cows that it would from other cows. The statement made by Mr. Hopkins of the amount of production of his cows is certainly most remarkable. I do not call it in question—individual cows have produced more—but for a herd of 15 cows I have never seen it equaled. He tells us that from 15 cows he realized from butter, cream and milk sold the sum of $1,742. This is equal to 4,977 lbs. of butter at 35c. per lb., and an average of 332 lbs. of butter per cow for the whole herd of 15 cows in a year.

As I said before, I do not question this part of the statement (I have no right to), but when he goes on to tell us that all this was produced at a cost of $577, I must say there is some mistake here. The details are not given, only the aggregate. Why, this is only $38.50 per cow, as the cost of keeping her for a whole year! In all estimates of the cost of keeping cows, an allowance must be made for labor; that is, the milking, feeding, watering and care of the cows. The lowest estimate I have ever seen for this labor was $10 per cow, or $150 for fifteen cows. Who would be willing to

milk and have the entire care of fifteen cows for less than $150 a year? If then we deduct $10 a year for the necessary labor, it reduces the value of the food consumed to $93.50 per cow, for a year. If the cow eats nothing but grass all summer, and nothing but ensilage all winter, the value of the grass and ensilage will certainly equal this amount of $93.50 per cow. The lowest estimate I ever saw of the cost of keeping a cow, was $50; the highest, $93; the average, $75. But all these estimates included from a moderate to a liberal allowance of grain, or mill feed. In this estimate before us there is no room for any allowance of grain for these cows. And then to think of the wonderful result produced—332 lbs. of butter per cow, or a value of $116 per cow for her product, and this at a cost of $28.50 per cow, and 11½c. per lb. for the butter! It comes nearer producing something out of nothing than anything I have yet seen.

Bucks County, Pa., Jan. 31. E. REUDER.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

LICE ON COLT.—A year-old colt rubs his neck and bites himself until in some places the hair is off. I suppose it is lice. E. P. R. *Culpeper, Va.* [You will find advice regarding lice in recent issues.]

FAILURE TO BREED.—A heifer 16 months old will not breed; has been served for the past five months without success, three bulls being tried. Find passage to womb very small. W. I. H. *Fond du Lac, Wis.* [Dilate and foment the os uteri as directed in similar case in recent issue, and use injectio vaginæ. All service must be stopped for six weeks.]

DIARRHŒA IN PIGS.—I am much troubled with diarrhœa in pigs; they grow finely until from ten days to three weeks old, when they become thin and stunted. Feed is skim-milk, and have used all kinds of grain with the same result. J. W. F. *Mills, Mass.* [Use half skim-milk and half farseed tea with grain. Put in each feed a tablespoonful of the following powder to each head: Powdered aniseed, 1 lb.; powdered cayenne, 2 oz.; bicarbonate of soda, 1 lb.; powdered wood charcoal, 1 lb.; mix.]

LACK OF MILK.—A heifer, two years old, came in February 22, with first calf. Calf is smart, cow eats well, no fever, but she has very little milk, and from right front quarter we have been unable to get any, even one drop; in left quarter behind, scarcely any. Bag and teats seem to be perfectly formed and in a normal condition, except the milk. Do not think she ever was injured in any way. Her mother is a good milker. Can she be helped? J. H. S. *Fulton Co., N. Y.* [See agalactia in back numbers. I do not think she will give much from the worst quarter.]

CANNON BONE INJURED.—A trotting stallion, seven years old, quite fast, received an injury on cannon bone on outside of right hind leg about four inches below the hock, where he still shows a little swelling, and when jogging occasionally favors it. I wish to give him such a record as he is able to make next fall, or later on, and would like treatment to restore soundness. C. J. O. *Peoria, Ill.* [Apply golden blister and give a week's rest. Repeat, if necessary, in a month. This will remove the pain and lameness, and reduce the enlargement. It may not all disappear, but most of it will.]

SICKNESS IN CALVES.—The calf may be just a little dull at night, a little careless about taking its milk, and may be dead in the morning, or if noticed out of its usual condition for the first time in the morning, it will in a few hours be at full stretch with saliva flowing from the mouth; extremities are usually cold. The rennet, or first stomach, is sometimes packed with undigested curd, or there may be only the size of a hen's egg; the other organs are generally healthy. Is it the food that is at fault or the stomach? H. F. S. [Can you not say something about the history of this trouble? How many calves have you, and how many have died? How many have recovered? Were there no symptoms of pain? Age of calves? Do you know what black leg is? How were they fed? If you have another, give 8 oz. of castor oil. Give 10 grains of pepsin three times a day.]

SWELLING BELOW HOCK.—A four-year-old colt has had a swelling for some weeks just below hock on back of cannon bone; is not sensitive except to rather hard pressure. For a short ride, no ill effects are observable, but after a long one colt is lame for a week or so. Was first noticed after a severe fox hunt some weeks ago. Am giving entire rest, and applying liniment daily. Do you advise blistering? Colt has never been broken to harness. P. H. B. *Tredilan's, Va.* [Certainly, it should be blistered and quite thoroughly. Allow a week's rest, then use very moderately—or better, have colt exercised, but not ridden, for 5 weeks. The blister should be repeated in from 3 to 4 weeks after first application. See answer to C. J. O., Peoria, Ill., in this paper.]

WARTS—DOUBLE SERVICE.—A promising heifer is afflicted with warts. Has one nearly as large as my hand just in front of udder, one on the side of one teat, also on her ears. Udder is developing nicely; her dam is quite a heavy milker. (1) Heifer was served May 20, again Aug. 16; from which service am I to expect a calf? (2) J. C. P. *Tarboro, N. C.* [1. Every day apply a little hydrochloric acid daily to each wart, being very careful not to have any in a vessel that she can kick and splash it on you. After five or six days stop for a few days and repeat. Just enough to wet the wart without its running off is sufficient. 2. The probability is that she conceived at the last service but possibly from the first. However, no one can now say which.]

SCRATCHES—CRIBBING—OILING HOOFS.—What is the best cure for scratches? (1) A young mare is inclined to crib when tied to a post; is there a cure for this? (2) Do horses' hoofs, that are driven on country roads, need to be oiled? (3) S. W. J. *Orange County, N. Y.* [1. There is no possibility of having "a best cure for scratches," because the cases differ so materially that a remedy which rapidly cures one case will fail to have any efficacy in others. Put a poultice of raw grated carrots on heels nights, wipe off mornings, and apply some of the following ointment: Mercurial ointment, 1 oz.; oxide of zinc, 1 oz.; vaseline, 5 oz.; mix. Poultice three or four nights. 2. No cure is yet known. You can obtain anti-cribbing oil that will prevent the habit in stable. 3. A horse's hoof never needs oiling.]

FAILURE TO BREED.—Our cows do not come in heat regularly; usually are in heat once or twice after calving and then frequently miss, sometimes for several months. We have a herd of twenty-five used entirely for producing milk. In winter are kept in warm barn, in cold days only out long enough to drink warmed water, have the best care and attention, salt once a day, liberal feed of corn, ensilage, wheat bran, oil meal and a mixture of corn cob and rye ground and hay. (1) A yearling ram in rather high condition coupled with ewes in the fall and failed to get any lambs. Is there any remedy? (2) S. K. *Stanfordville, N. Y.* [1. Omit the cob meal and rye, and substitute whole farseed and bran. Also feed good oats and corn, with ensilage and hay. Two weeks after calving use a few injections of Moore Bros.' injectio vaginæ. 2. If he never has proved fertile there is little prospect.]

Transfers of Thoroughbred Cattle.

American Guernsey Cattle Club.

NAME.	SELLER.	BUYER.
Glenwood 8th, C Peck, S E Peabody		
Gilded, R H Hodgson, W M Miller		
Happy Boy's Princess and Owego Cottie, G E Barber, R S Drummond		
Jennie of Castle Brook, S H Hammond, Loose & Voorhees		
Lafayette's Cottie 2d, S P T Willets, Mrs E A Morgan		
Marion, W S Harvey, J Coley		
Mammoth, J W S H M Cowles, W A Reed, Agt		
Marie's Daughter and Marita, S F Shaw, W Cutting		
Nickie Ben 2d, R E Coe, J Stebbins		
Oban 2d, H C Sedgwick, E P Goodell		
Othello, J P Livermore, J C Hackett		
Orion of Paulsdale, W M Paul, D Hoke		
Spring Fourth and Nova, W B Harvey, S E Westray		
Diamond Dust, S P T Willets, W A Elder		
Duchess of Willow Bank, Fernwood Lilac, Rubra, Jane of Edgewood, Edgewood and Canilla, J Stebbins, J L Morrell		
Flora du Castel, S C Kent, W A Miller		
First Champion of San Claire County, J P Livermore, D F Remington		
Fair Lady of Fernwood, Fernwood Fairy, Fernwood Lady Fair, Fernwood Leaf, Fernwood Pet, Fernwood Pettie, Fernwood Roanoke, Fernwood Robina, Fernwood Robinetta, Lord Fernwood's Son, Normandie, Rosinna, Robina and Rose Leaf of Fernwood, Fernwood Normandie L W Ledyard, W M Paul		
Alda, W M Paul, P H Goodwin		
Aunt Sue, J LeFrost, H D Yates		
Bugler, G E Gordon, F W Tratt		
Bessemer, E Michener, C F Beaumont		
Chloe's Therese and Elsie, W S Harvey, C McCully		
Cloister Lad, D Mangle, C E Wood		
Chas D Mills, J N Willets, G E Harvey		
Cottie's Jeweller and Nannette B, G E Barber, R Drummond		
Jethro, J M Taylor, J Anthony		
Lakeside, J Stebbins, B Woodall		
Leon, H L Kimball, C W Hickson		
Maxilius, J Stebbins, H E Coe		
Nipmuck, Pet J T Brown, W E Fitz		
Orchard Prince, T H Ledington, G Grant		
Orawa, F P Cutler, C W & J S Bowker		
Quire, E F Benedict, G H Kimel		
Queen May, H C Graf, C F Kelly		
St Mary, R A Borden, W P Seymour		
Squire Loyal, S C Kent, L Law		
Sir Romeo, W M Paul, B C DeCou		
Sir Foster, Fernwood Pet and Fernwood Pettie, W Paul, D Stone		
Toronto, J Handy, F P Cutler		

Farmington, Conn. EDWARD NORTON, Secy.

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Admiral, W L Brown & A Wood, H M Aylesworth		
Arkal, H Hoopers, Sioux County		
Black Henry, A D Mather & Co, W R Huntington		
Chautauqua Nisora, W K Searing, J D Forsythe		
Clarence 8, Crow & Sellew, J G Hainy		
Dandy Grumbler, A G Barnes, J H Blakeman		
Dole's Don Pedro, S I Webb, F Slaughter		
Duke of Brown Loaf, F F Woods, H Robins		
Duke of Hiroth, O A Bowen, Jackson A Pickett		
Ina's 3d Cyclops, Milla Bros, P D Vance		
Lord Burleigh, B N L Davis, N P Logue		
Middle Hope 2d, Webb, H P Clawson		
M Sullivan, B N L Davis, D L McCormick		
Navajo, J Buchanan, J D Smith		
Nicholas Pet, Tyron & Spencer, A Scott		
Pahtaur, N S Carlisle, S M Wright		
Pride Netherland 4th, J N Buchanan, G Barber		
Puget Sound Prince, B N L Davis, D L McCormick		
Otto, J Mewhinney, W Dodson		
Violet Bonhja's Brave Hendrik, E Hulskhoper, T B Wardell		
Walter Groot, L T Hasen, J D Howe		
Willie Davis, H M Brayton, J K Davis		
Afra Brastjes, C W Wolcott, F F Woods		
Arronetta, H C Jewett & Co, F F Cornwell		
Bon Belle, B N L Davis, D L McCormick		
Ball Winkie, C Robinson, D W Bond		
Citico, H Stoughton, P P Johnston		
Colorado Maid, C D Bunyon, G T Mason		
Dangerfield, R Stoughton, P P Johnston		
Duchess Wayne, D C Stewart & Sons, S T Burr		
Effie Scott, L T Hasen, J D Howe		
Ethelinda 3d, W A Pratt, J West		
Hilma, R Stoughton, P P Johnston		
Mrs H. M H Hall, W Mallory		
Priata, Hillside Stock Farm Co, O I Leach		
Grides, S W Hasser, F Cary		
Hilka Kuperus, C Robinson & Son, D W Bond		
Italy, R Stoughton, P P Johnston		
Jantje Grist, E H Phillips, A Scott		
Jantje Petroe, T B Wales, D Anthony & Son		
Jarella 8, W B Clark & Co, J L Whitworth		
Lahoma, R Stoughton, P P Johnston		
Lady Brown, A D Mather & Co, W R Huntington		
Lavender 3d, E Hulskhoper, T A Wardell		
Lilla, W R McElroy, J F Camp		
Lyncaster Frances, I L Smith, A L Hawkins		
Maggie Pet, E E Phillips, A Kastorff		
Marena, B Wiggins, Sons & Co		
Mervilla, S F Davison, Bush & Morse		
Minnie Frost, A D Mather & Co, W R Huntington		
Mt. French Bros, E Beckham		
Natalie, Est of G E Smith, C Hart		
Nojs, R Stoughton, P P Johnston		
Norena 4th, W Brown, C O Rigden		
Norvaline and Olga Chien, J W Zinn, Bush & Morse		
Philippa, R Stoughton, P P Johnston		
Queen of the Hill 2d, C Robinson, D W Bond		
Reaphan, R Stoughton, P P Johnston		
Samish Belle, B N L Davis, D L McCormick		
Selenia 2d, L S Frederick, W A Schwartz		
Seneth, R Stoughton, P P Johnston		
Stephana, G H Forbush, F F Woods		
Swarthmore, C W Bowler, J B Cotton		
Swinomish Belle, B N L Davis, D L McCormick		
Tiac, R Stoughton, P P Johnston		
Victoria Brantjes, G H Forbush, F F Woods		
Violista 2d, E Hulskhoper, T A Wardell		
Zindia, R Stoughton, P P Johnston		
Zuleika, W H McElroy, J F Camp		

Iowa City, Iowa. T. B. WALES, Secy.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
A-T-I, A T Dempsey, G W Kennedy		
Callie's Pogis, T W Stringer, A G Gooch		
Charlestown Matilda, W Worth, G J Boyd		
Dora's Rioter, H L Bailey, M W Palmer		
Duke of Saxock, J Rittenhouse, J Snyder		
Elmwood Garibaldi, M M King, E S Johnson		
Ethio Tormentor, J F Godman, White River Jersey Cattle Co		
Happy Duke, H Hampden, L C Johnson & M E Maland		
Holly's Pride, T A Havemeyer, G F Holly		
Jim Hamilton, C W Paris, J D Pugh		
King Allie 2d, C A Hotchkiss, G Gray & Son		
King Nappo, C E Hill, Jackson Horse and Cattle Co		
Kittman Rex, P Rank, M Black		
Koffee of Maywood, D M McCullough, Mrs L Peaches		
Leadstar, H Z Fish, M W Gotham		
Lord Darlington, J H Walker, L T Hasen		
Magnetic Pogis, T L Hector & Co, R R Macdonald		
Magnificer, W I Vason, Moore & Getzinf		
Marquis Portinatti, K D Nicholson, T N C Campbell		
Matilda's Rioter, W S Wickham, F Schuchardt		
Melrose of Cadde, J C Hosmer, J C Hamilton		
Minnie a Duke of Darlington, J H Walker, L T Hasen		
Newton Alphus, W G Upchurch, D F Cooper		
Orion of Valley Home, P Y Brown, W Gaston		
Pedro of Coal Hill, J N Bigham, H P Bartlow		
Pulu Rex Alphus, H M Rudy, G Wade & Sons		
Prince Mogul, R Rives, E Rives		
Raymond, L Q C Lamar, H P Davis		
Royal Charlie, A G Barnes, H W Fidrett		
Salisbury's Pride, E Van Sickle, A Salisbury		
Scottie's Eddington, C W Anderson, C Haley		
Silloam's Signal, J A Richard		
Stoke Pogis Chief, H Thorne, O Thorne		
Stoke Pogis of York, Mrs M S Strauch-McCall, J S Hyatt		
Tuxed John Bull, Stuart & Steen, Carnes & Bradley		
Tormentor's Gift, J F Godman, White River Jersey Cattle Co		
Trespass, Richardson Bros, S V Dooley		
Trix Stoke Pogis, J C Kiplinger, A C Tarer		
Victor's King 2d, C A Hosmer, S H Evans		
Wilmer's Lily, J H Walker, L T Hasen		
Abbie Victor and Abarte's Isadore H, J H Walker, L T Hasen		
Alberta Dempsey, A T Dempsey, H G Campbell		
Alba Pogis, W H Gordon, J Edwards		
Alphea Iowa, C E Hill, P Wilson		
Andrews' Maud, J H Walker, L T Hasen		
Annie of Lestershire, C Strong Jr, J J Bush		
Artimpasa, W Gettys, J B Flemister		
Banks' Pride, J F Godman, White River Jersey Cattle Co		
Beauties, E Thorne, O Thorne		
Beauty of the Vale, J H Walker, L T Hasen		
Belle Clyde, A G Barnes, H P Rushing		
Belle of Albany 2d, J H Walker, L T Hasen		
Belle of Nutwood, C A Hosmer, M H Evans		
Belle of Riverside, J H Walker, L T Hasen		
Belle of Wyoming, H L Bailey, M W Palmer		
Belle Sheen 2d, J H Henderson, S H Buchanan		
Belle Watkins, W M Pratt, M Watkins		
Berri, G Blanchard, H K Sargent		
Bessie Beeswax, J H Walker, L T Hasen		
Bessie Bradford 2d, E Thorne, O Thorne		
Bessie Lingar, J H Walker, L T Hasen		
Blanche L 2d, J F Godman, White River Jersey Cattle Co		
Bonnie M, J H Walker, L T Hasen		
Bop's Desdemona 2d, J F Maxfield, A Conklin		
Buffer's Lily, J H Walker, L T Hasen		
Carrie Alexis, A T Dempsey, B C Reber		
Carrie of Oakland 2d, J F Godman, White River Jersey Cattle Co		
Cassie Iva, J H Walker, L T Hasen		
Cenie Clyde, A G Barnes, H P Rushing		
Ceres P H, H S Atwood, E T Stanley		
Chief's Matilda 2d, J F Godman, White River Jersey Cattle Co		
Countess D'Espagne 3d, J O Couch, T A Havemeyer		
Countess De Winn and Countess St Helier, J H Walker, L T Hasen		
Cream Hunter 2d, Est of D D Boss, M McGurk		
Crumpled Horn of F, H J Gilbert, R B Forbes		
Cymelia 2d, Est of D D Boss, M McGurk		
Daisy Hugo and Daisy Morrison, J H Walker, L T Hasen		
Dan's Alice, A C Ayer, R A Potter		
Dancenetta, E Thorne, O Thorne		
Dellheta, C E Hill, W R Brown		
Dilarna, E H Austin, R C Mallory		
Divance, A Sully, W A Conover		
Duke Hugo, Est of W Ward, G Blanchard		
Dolly's Queen, J O Couch, T A Havemeyer		
Duke's Mayday, E Thorne, O Thorne		
Duke's Pet of H R, J H Walker, L T Hasen		
Duke's Winifred, J O Couch, T A Havemeyer		
Earl's Tamy, J H Walker, L T Hasen		
Effiemah, C E Hill, W F Thomas		
Eliza Mellon, Est of W G Upchurch, H Perry		
Energy 3d, J H Walker, L T Hasen		
Enforsa, Enigma 3d and Enigma Bradford, E Thorne, O Thorne		
Estelle King, C H Kiffian, W W Boyd		
Ethel Gutenroy, J H Walker, L T Hasen		
Etta of St Lambert, C A Reeser, S H Evans		
Europa's Grand Duchess, R B Forbes, H J Gilbert		
Fannie M and Fannie N, J H Walker, L T Hasen		
Fawn Dove, H Graham, Jr, E Walter		
Fedora of Oak Lawn, J Henderson, S H Buchanan		
Fern of Valley Home, P Y Brown, W Gaston		
Florence Bartole, P R Day, A T Rogers		
Franklin Beauty, J Rittenhouse, J Snyder		
Gilt Lady 2d, J H Walker, L T Hasen		
Glencoe, Est of W Ward, G Blanchard		
Golden Fleece 3d and Golden Lining, J O Couch, T A Havemeyer		
Goldie Buttercup, Mrs M H McCall, Mrs M B Bailey		
Goshen Belle and Grace Sherwood, J F Godman, White River Jersey Cattle Co		
Gracie Hudson and Gray Myrtle, J H Walker, L T Hasen		
Gurnee, H Graham, Jr, E Walter		
Helen of Topton, A G Barnes, H P Rushing		
Hugo's Bonnie and Hugo's Lady, J H Walker, L T Hasen		
Hulda, Hulda M and Hulda M, E Thorne, O Thorne		
Ida East, J O Jackson, W S Duke		
Ida Pearl 3d, H Graham, Jr, E Walter		
Ina Pugh, J H Walker, L T Hasen		
Inside of Riverside, J H Walker, S H Evans		
Ina Berg, Isadore Berg and Jan, J H Walker, L T Hasen		
Jennie St Helier, E Thorne, O Thorne		
Jersey Acme, J H Walker, L T Hasen		
Josie 6th, W A Lampon, H C Bristol		
Kate G of Topton, A G Barnes, H P Rushing		
King Rioter's Lassie, E Thorne, O Thorne		
Kitty Foster 4th, C T Grannis, A Gridley		
Lady Barrthy, E Morris, R A Potter		
Lady Gaten, Est of D D Boss, M McGurk		
Lady Gray Bang, J H Walker, L T Hasen		
Lady Hester McCann, T H Mascon, T L Ross		
Lady Lightfoot 3d, J H Walker, L T Hasen		
Lady Pansy Pugh, R L Chartzon, Mrs L C Smith		
Lady Ramsey, J H Walker, L T Hasen		
Lady Walpurga, C H Hill, J H Hopkins		
L D's Hellta, L D's Isadore, L D's Kleber, L D's Lucrece, L D's Madge, L D's Marita, L D's Perfection and L D's Pomeroy, J H Walker, L T Hasen		

(Continued on Page 198)

Record of the Times.

Review of Passing Events.

The Cabinet.—As we close these forms Monday morning, it is thought that the cabinet will stand thus:

State—James G. Blaine of Maine.

Treasurer—William Windom of Minnesota.

War—Redfield Proctor of Vermont.

Navy—Benjamin F. Tracy of New-York.

Interior—John W. Noble of Missouri.

Postmaster-General—John Wanamaker of Pennsylvania.

Attorney General—W. H. H. Miller of Indiana.

Agriculture—Jere Rusk of Wisconsin.

General Harrison's Journey.—The President-elect left Indianapolis, afternoon of Feb. 25, for Washington, via Pennsylvania road. The day before, his pastor, Dr. Hatfield, bade him farewell from the pulpit. Grand Army veterans, the mayor, and members of the Legislature formed an escort to the station. General Harrison made a brief farewell speech. At Soldiers' Orphans' Home (Knightstown), Richmond, Ind., Columbus, Ohio, and next morning at Pittsburg, Pa., brief speeches were made. Across the river from Pittsburg a brief stop enabled a young son of Governor Beaver to take photographs of the Presidential party. Reaching Washington in the afternoon, quarters were taken in the Arlington Annex. On the 27th General and Mrs. Harrison dined informally with President and Mrs. Cleveland. Vice-President-elect Morton and Mrs. Morton reached Washington the same day. The week was spent in consultation with leading men from all parts of the country.

Political.—Congress—Senate: Bills passed: Army appropriation; deficiency appropriation; post-office; to protect salmon in Alaska river. The direct tax bill, vetoed by the President was passed over veto—45 to 9—March 2. Bill to admit Wyoming and Utah as States introduced; also to protect congressional elections. March 3, Senator Riddleberger was arrested and removed from the chamber for repeated violation of order. House: Indian appropriation bill passed; also joint resolution in favor of commercial union with Canada. Bill introduced to admit Arizona, Idaho, Wyoming and New-Mexico as States. Mr. Randall was unable to get a vote on the tobacco tax bill.—Generals Rosecrans and W. F. Smith have been placed on the retired list.—In the New-York Assembly the appropriation committee reported that the contractors had made a profit on Assembly ceiling and staircase of $105,000; censured comptroller for auditing exaggerated bills, and the ceiling committee for carelessness. A special committee was appointed to continue the investigation.—Delegates representing 7,000 Republican clubs met in Philadelphia last week. John M. Thurston of Nebraska was chosen president.—A bill has been introduced in the Delaware legislature requiring the in-

spection of meat on the hoof.—The local option repealer was placed on the New Jersey Senate calender, Feb. 25.—The bill making train robbery in Arizona a capital crime has become a law.—A bill for the extradition of boodlers will be introduced in the Canada Parliament.

Parnell's Victory.—After a private confession that the Times letters were forgeries, Feb. 22, the witness Pigott disappeared. On the 27th a written statement from him at Paris was produced in court. The attorney-general asked leave to withdraw the question of the letters. Mr. Parnell was examined and gave a general denial to all the letters. Messrs. George Lewis, Labouchere and Sala (before whom Pigott confessed), Michael Davitt and Justin McCarthy were also examined briefly. The Times accepts Mr. Parnell's explanation and apologizes. The secret of the forgeries was discovered by Patrick Egan in Lincoln, Nebraska, the evidence collected, and sent to Mr. Parnell by Father Dorney, a young priest of Chicago, in June last. Up to that time the Parnellites were entirely at sea, and could give only a general denial to the Times' charges.—An Englishman, supposed to be Pigott, was arrested in Madrid, March 1, and committed suicide. His identity was proved.

Other Foreign News.—In the House of Commons, March 1, both Gladstone and Parnell spoke, pointing out the progress in public sentiment toward home rule.—The Morley amendment to the Queen's speech, expressing dissatisfaction with the government's Irish policy was defeated by a vote of 329 to 260.—Dr. Tanner was present in the House, and was afterwards arrested at his hotel on charges connected with the crimes act.—The report is officially confirmed that Sir Julian Pauncefote will be British minister at Washington.—The Empress Frederick started for Germany, Feb. 26.—Signor Crispi, the Italian Premier, has resigned.—Prince Alexander of Battenberg, was married to Marie Loisinger, an opera singer, at Mentone, Feb. 6.—Letters from missionaries dated Zanzibar, Jan. 24, give details of a third revolt in Uganda, King Kiwewa being overthrown and Kalema, son of Mtesa being put in his place. Wholesale enslavement is going on near Tippoo Tib's district. In the Nyangwe district it is said Stanley is raising a force to fight the tribes to the northward. The German missionaries held by the Arabs have been liberated.

Minor Items.

A new gold field has been discovered at Ensenada, Lower California.

In the police charges against the Chicago Times the grand jury finds "no bill."

The Howell collection of paintings was sold in New-York, Feb. 27, for nearly $70,000.

A 10,000-spindle cotton mill to cost $300,000 is to be put up at Waco, Texas, next summer.

A squib factory blew up at Plymouth, Pa., Feb. 25, killing 11 girls and fatally injuring Foreman Riese.

Funds for Parnell have recently been raised in large amounts by Irish Americans in New-York and elsewhere.

Seventy million rabbit skins have thus far been exported from New-Zealand, but rabbits are as plenty as ever.

At Lockport, N. Y., the mercury ranged from 15° to 20° below zero, Feb. 24-5, the coldest weather since 1839.

A stay of proceedings in the extradition case of Mrs. Freund and others was granted by Governor Luce of Michigan.

Inventor Edison narrowly escaped losing his eyesight recently from an explosion of a chemical compound under analysis.

Henry A. Gould & Co., dye stuffs, New-York, owing to heavy losses in Brazil, have made an assignment with liabilities of $1,000,000.

New-York capitalists have subscribed $17,000,000 to build two railroads through the coal and hardwood lands of Eastern Kentucky.

The Cosmopolitan Magazine of New-York has started a palace car with a force of canvassers across the country to San Francisco.

The Standard Oil Company has absorbed the Chicago gas trust and will manufacture gas from oil brought in pipe from Lima.

The Buffalo and Geneva Railway was incorporated, March 1, with capital of $1,400,000, to build from Geneva, N. Y. to Suspension Bridge.

Mayor Grant of New-York proposes to cut down telegraph and other poles, if the companies do not bury the wires in a specified time.

The Federate Council of the Protestant Episcopal church of New-York formed, Feb. 27, a province from the five dioceses of New-York State.

Ives and Stayner were arraigned in the General Sessions court, New-York, and pleaded not guilty. Several indictments have been found.

A syndicate, headed by J. H. Flagler, with capital of $25,000,000, has been organized in Chicago to compete with the Armour dressed beef combination.

The heirs of George Beaty of Trenton, N. J., who died in 1779, have discovered a title to land in Trenton and on Schooley's Mountain worth $50,000,000.

A new corporation has just been organized at Fall River, Mass., the Cornell Mills, with capital of $400,000, and a factory of 35,000 spindles will be erected at once.

The $60,000 house of absconding counsel W. R. Foster at Bayport, L. I., will be sold for the benefit of the New-York Produce Exchange gratuity fund which he robbed.

Five tons of powder exploded in a Missouri granite quarry, Feb. 25, and a hill of granite thrown 50 feet into the air. The shaft was 100 feet deep and chambers 30 feet long.

The sale of Frank Leslie's Illustrated Newspaper to W. J. Arkell has been confirmed at $300,000 for the English edition and $100,000 for the German, name and good will only.

Dr. Alvan Talcott of Guilford, Conn., has given $35,000 to endow a Greek professorship at Yale. He is a graduate of 1838, is 80 years old, still practices medicine, and reads his Homer daily.

Robert Sigel, son of General Franz Sigel, pension agent at New-York, was arrested March 1, charged with forging pension checks. He was confidential clerk to his father, and has made confession.

Twelve acres of land at Fredericksburg, Va., on which is the tomb of Mary, mother of Washington, has been advertised for sale. In President Jackson's time a corner stone was laid for a yet uncompleted monument.

The Pennsylvania railroad is making improvements between Jersey city and Philadelphia, which will enable the 88 miles to be run in as many minutes. A million dollars will be spent in elevating the tracks at Jersey City.

The Pullman Car company is to increase its capital $5,000,000. In the past year it has built 107 cars for the vestibule system, has 32 under way, has bought 212 cars of other car companies, and acquired interest in over 300 more, these investments aggregating $5,228,070.65.

City and county are in conflict at Lockport, N. Y., over a pair of gates erected on a drive about the new court-house, which the county claims to have bought with the site. The city claims the drive to be a public highway. The gates have been torn down and set up again.

The east-bound St. Louis express, on the Great Western Railway, went through a bridge 60 feet high, near St. George, Ontario, Feb. 27, a broken tire causing the wheels to spread. A Pullman car turned completely over and landed right side up; a dining car fell on end against a pier. Eight persons were killed and 26 injured. Two have since died.

Mrs. Harrison's dress for the inauguration ball is purely American, the material being silk, woven at the Logan, Mills, Auburn, N. Y., and the pattern a leaf and burr of the Indiana burr oak. Mrs. McKee took the Indiana golden rod for her pattern. The designs were drawn by Miss Williamson of La Fayette, Ind. Mrs. Morton chose the Scotch thistle, the goods being the work of the same mills. The dresses were made up in New-York.

Holstein-Friesians.

An event of the greatest interest and importance, to the breeders of the black-and-whites, and to dairymen in general, is the page advertisement on another page of this issue of the entire Collins herd of Holstein-Friesians, to take place on Tuesday, March 19, the property of Taylor Bros. of Collins, Erie Co., N. Y. This is no draft sale to dispose of surplus and inferior stock, but an absolute dispersion sale of every animal in the herd.

Not only the "golden eggs" but the "goose" that lays them, will all go under the hammer. Among the bulls of the sale will be Aaggie Korndyke Prince and Aaggie Rachel's Imperial, two of the richest bred milk and butter bulls of the breed. The former is a son of Netherland Prince, the greatest butter bull of the breed, and his dam is the only cow of the breed, that has given 30,126 lbs. of milk in a year, 2 lbs. 8½ oz. of butter in a week, and is the dam of two heifers, whose average butter record, for a week, is 21 lbs. 9 oz. The sale will include several cows, whose average milk record, for one day, is over 80 lbs. and over 2100 lbs. in one month. The sale catalogue is full of most interesting information concerning show-yard winnings, milk and butter tests, &c., and every breeder of dairy cattle should send for one, study it carefully, and make arrangements to attend the sale. It will be a golden opportunity you cannot afford to miss.

The advertisement of MOREHOUSE & ANNIS' celebrated Rochester Seeds should be carefully noted by all readers. Mr. Morehouse has in his time introduced many novelties, among the rest the new sibley Squash, Triumph Watermelon, Seneca Chief Oats, &c., &c. Be sure to send for their catalogue.

"The Canopiletta."—What is it?—Why the *New York Cornish Organ*. Just completed and now to be obtained from the manufacturers who advertise it specially in another column of this paper. Write to Messrs. Cornish & Co., Washington, N. J., for full particulars. It is a beautiful Organ of special purity of tone and has several novel features.

As a toilet luxury, Ayer's Hair Vigor cannot be equaled. It is highly perfumed, and keeps the scalp clean and cool.

Acrid Appearance.—A worthy gentleman, having an unusually red nose, was long suspected of being a tippler on the sly, by those not well acquainted with his strictly temperate habits. His unfortunate disfigurement was readily cured by the use of Ayer's Sarsaparilla.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [mch8-26t.

MUSTANG LINIMENT
MEXICAN MUSTANG LINIMENT cures all ailments of Horses, Mules and Cattle. Sub in!

MUSTANG LINIMENT
MEXICAN MUSTANG LINIMENT, for Man and Beast. Greatest Curative discovery ever made.

Farm Produce Markets.

Albany Markets—March 4.

FLOUR.—The Argus says: Receipts and trade have been fair, and prices steady.

	March. 2. Bbls.	Feb. 26. Bbls.	March 3. Bbls.
Com. State	24,000	26,000	23,000
State Extra	5,000	4,000	4,000
Am. State & W.	5,000	6,000	4,000
O., Ind. & St. L. & W.	5,000	6,000	4,000
Winter W. Pat.	6,000	6,000	6,000
Minn. "Bakers"	5,000	5,000	4,000
Spring W. Pat.	7,000	7,000	4,000

Rye Flour in fair demand at $3.00@3.25 per bbl.; Graham, $3.00@3.20. Corn Meal in moderate demand at $2.25@2.30 per bbl. Corn Meal dull; Rye nearly at $3.00@3.75 per bbl. Buckwheat flour, $2.10@2.40 per 100 lbs.

GRAIN.—Corn in slow demand: No. 2, 39½@40c.; No. 3 mixed 37½@38c. Oats lower, demand moderate. No. 2 white, 34½@35c.; No. 3 white, 32@32c. Rye in fair demand. Market lots, 59@60c. per 56 lbs. Barley in better condition. State, 70@71c. Canada, 74@75c.

HAY AND STRAW.—Receipts fair, demand active. Timothy, best, $12@17.50; medium, $10@11; clover, $10@11; mixed, $10@11; rye straw, best, $12@13; oat straw, $6@7.

HOPS.—Market firm but quiet.

N. Y. State, 1888, choice	18	@20c.
N. Y. State, 1888, common to good	15	@17
N. Y. State, 1887, all grades	8	@13
Pacific Coast	15	@17
German	35	@40

Albany Street Market—March 4.

BUTTER.—Good to choice, 26@30c. per lb.

EGGS.—Near-by and new laid, 18@19c. per doz. Western, 14@15c.

FRESH MEATS.—Steer beef, hindquarter, 8@9c. per lb.; forequarter, 5@6c.; mutton, hindquarter, 9@10c.; forequarter, 7@8c.; lamb, hindquarter, 12@13c.; forequarter, 8@10c.; veal, hindquarter, 10@11c.; forequarter, 7@8c.

POULTRY.—Fowls, 10@11c.; turkeys, 15@16c.; geese, 12@13c.; ducks, 12@13c.

MAPLE SUGAR.—10@11c. per lb.; syrup, 60c.@$1. per gallon.

FRUIT.—Apples, $1.00@2.00 per bbl.; Cranberries, $3.00 per crate; Grapes, Catawba, 4@5c. per lb.; Walnuts, $1.25@1.3 per bus.

VEGETABLES.—Beets, $1.25 per bbl.; Carrots 75c.; Cabbage, 50c.@$1 per 100; Cauliflower, $1.50 per bbl.; Celery, 25 per doz. bunches; Lettuce, 15@15.25 per bush; Onions, $1.75@2 per bbl.; Oyster-plant, $1 per doz.; Parsnips, $1.12@1.50. Potatoes, $1.25@1.40 per bbl.; sweet, $3.00@4; Radishes, 60@75c. per doz.; Spinach, $3 per bbl.; Squash, $3; Turnips, $1.

New-York Markets—March 2.

	Uplands.	N. O. & Gulf.
BRANS—Marrow, 1888	— @ 2.30	
Medium, 1888, choice	1.85 @ 1.90	
Pea, 1888	1.75 @ 1.80	
COTTON—		
Ordinary, per lb.	7½ @ —	7¼
Middlings	10¾ @ —	10¾
Fair	12 @ —	11¾
EGGS—State and near-by, per doz.	— @	16
Western and Canada	14 @	15½
FLOUR—Spring Wheat pat., per bbl.	4.00 @ 6.50	
Winter	4.00 @ 6.50	
No. 2 extra State and Western	3.25 @ 3.50	
No. 1 extra	3.75 @ 4.00	
Minnesota clear	4.30 @ 5.00	
Straight	5.00 @ 5.50	
Rye Flour, superfine	3.00 @ 3.25	
Corn Meal	2.75 @ 3.00	
Buckwheat Flour	1.70 @ 1.85	
FRUIT—Apples, Baldwin, per bbl.	1.25 @ 1.37	
Greenings	1.37 @ 2.00	
Bellflowers	1.50 @ 2.00	
Cranberries, Jersey, per box	2.50 @ 3.00	
Grapes, Catawba, per lb.	3 @ 4½	
Oranges, Florida, choice	2.25 @ 2.50	
Fair to prime	1.75 @ 2.75	
Sicily, per box	2.50 @ 3	
Walnuts, per bush	75 @ 80	
Black Walnuts	50 @ 60	
Peanuts, per lb.	5 @ 6	
DRIED—Apples, sun-dried, per lb.	4 @ 5	
Evaporated	6½ @ 6½	
Peaches, sun-dried	8 @ 10	
Evaporated	17 @ 20	
Plums, Southern	6 @ 7	
Cherries	12½ @ 15	
Blackberries	4½ @ 4½	
Raspberries	17 @ —	
Huckleberries	10 @ —	
GRAIN—Wheat, State white, per bus.	1.00 @ 1.00	
Ungraded spring	1.00 @ 1.10	
No. 1 red, winter	1.08 @ 1.08	
No. 2 red, winter	— @ —	
No. 1 hard, spring	— @ —	
Corn, No. 1, white	— @ 44½	
No. 1, mixed	— @ 44½	
Oats, No. 1, white	32½ @ 33	
No. 2, mixed	30½ @ 31	
Barley	70 @ 80	
Buckwheat	50 @ 55	
Rye, State and western	57 @ 58	
HAY—Timothy, per 100 lbs.	— @ —	
Shipping	— @ —	
Clover	— @ —	
Straw, long rye, No. 1	— @ —	
No. 2	— @ —	
Oat	— @ —	
HOPS—N. Y. State, 1888, choice, per lb.	— @ 22	
Good to prime	19 @ 21	
Best, 1887	— @ 22	
Pacific Coast, 1888, best	— @ 18	
Pacific Coast, 1887	— @ 11	
German	30 @ 35	
POULTRY—Live fowls, per lb.	11 @ 11½	
Turkeys	13 @ 14	
Ducks, per pair	75 @ 1.00	
Geese	1.00 @ 1.12	
Dressed fowls, per lb.	11½ @ 13	
Chickens	12 @ 15	
Phila. broilers	17 @ 20	
Capons	17 @ 20	
Turkeys	13 @ 14½	
Ducks, per lb.	13 @ 15	
Geese	11 @ 12	
PROVISIONS—Beef roms, per bbl.	12.75 @ 13.00	
India mess	17.00 @ 18.00	
Hogs, dressed, per 100 lbs	6.25 @ 6.50	
Lard, per tierce	6.75 @ 7.12	
Pork, new mess, per bbl.	13.50 @ 13.75	
Short clear	14.00 @ 15.00	
Family	16.00 @ 16.50	
VEGETABLES—Beets, Bermuda, per box	— @ 1.75	
Cabbage, L. I. and Danish, per 100	4.00 @ 5.00	
Celery, L. I. & Jersey, doz. bunches	1.25 @ 1.50	
Mich. and State, per doz. roots	75 @ 1.00	
Kale, Norfolk, per bbl.	75 @ 1.00	
Onions, State, yellow, per bbl.	2.00 @ 2.50	
Orange Co., red	1.50 @ 1.75	
Conn. white	2.50 @ 4.00	
Bermuda, per box	2.00 @ —	
Potatoes, Maine, per bbl.	75 @ 2.00	
State, Burbank and White Star	1.00 @ 1.25	
Hebron and Rose	1.25 @ 1.50	
Long Island	— @ 2.00	
Jersey, sweet	2.75 @ 4.00	
Bermuda	3.00 @ 4.00	
Irish Magnum, per sack	1.50 @ 2.00	
Spinach, Norfolk, per bbl.	1.75 @ 2.00	
Squash, Hubbard, per bbl.	2.75 @ 3.00	
Marrow	1.75 @ 2.00	
Tomatoes, Key West, per box	75 @ —	
Nassau	75 @ —	
Taunton, Jersey, Russia, per bbl.	1.50 @ —	
Canada	— @ 75	

Cattle Markets.

NEW-YORK, March 2.

BEEVES.—Receipts, 11,116 head. The week opened with a liberal supply and a steady tone in values, which was fully maintained on Wednesday when values were strong. Friday, on a moderate supply, values remained unchanged and were steady. The horse sold ranged from coarse to fair native cattle. The herds taken fat export were all of fair quality and were generally grass steers. The dry cows and oxen offered were of a despicable order. Some well fatted bulls of the Hereford family were taken for export.

[Per cental, est.]	This week.	Last week.
Good beeves	$10 00 @ —	$10 00 @ —
Fair	9.00 @ 9.75	9 00 @ —
Coarse	8.00 @ 8.50	8.00 @ 8.75
Poor	7.00 @ 7.50	7.00 @ 7.75
[Per cental, gross.]	This week.	Last week.
Good beeves	$6 50 @ —	$6 50 @ —
Fair	6.00 @ 6.25	6.25 @ 6.50
Coarse	5.00 @ 5.50	5.00 @ 5.50
Poor	4.00 @ 4.50	4.00 @ 4.50
Oxen	3.00 @ 3.75	3.00 @ 3.50
Dry cows	2.00 @ 3.00	2.00 @ 3.00
Bulls	2.00 @ 3.50	2.00 @ 3.25

MILCH COWS.—Receipts, 109 head. Trade for the week under review has been dull. The quality of the cows offered was from very poor to fair; 37 cows sold at $24@35 per head, 15 cows at $14@21 per head, 9 calves at $12@20 per head; one cow, with calf, sold for $38.

VEALS AND CALVES.—Receipts, 1,231 head. There has as yet been no change in the tone of the markets, which continue to be steady on a light supply. The calves and yearlings offered are coarse and lean. The veals on sale are from lean to fair. Names of prices: Calves, grass-fed, lc. per lb.; Yearlings, $12@13.50 per cwt.; western calves, 8@9c. per lb.; veals, 5@6c.

SHEEP AND LAMBS.—Receipts, 30,168 head. The week opened with an advance in prices of ¼c. per lb. on sheep and ½c. per lb. on lambs. Wednesday sheep remained steady, while lambs declined ¼c. per lb. Thursday sheep declined ¼c. per lb. Lambs remained steady. Friday sheep, though slow of sale, were unchanged in value. Lambs were off ½c. per lb. Quality of the flocks offered very poor to choice. Range of prices: Sheep, 3@5½c.; mill sheep, &c.; lambs, 5@7½c.; cull lambs, 4½c.; spring lambs, $1 @6 per head.

SWINE.—Receipts, 26,724 head. The tone of the markets has been steady. Twenty-two State hogs sold at 5½@5¾c. per lb.; 67 State hogs at $5.80 per cwt.; 27 State pigs, 95 lbs. per head, 5½c. per lb.

BUFFALO, March 2.

BEEVES.—[Per cental, gross.] This week. Last week.

Extra steers	$4.75@4.85	$4.75@4.85
Best butchers'	3.75@4.10	3.75@4.00
Second quality	3.25@3.60	3.25@3.50
Poor to common	2.75@3.00	2.75@3.00
Stockers, light	2.25@2.50	2.25@2.50
Stockers, good to choice	2.75@3.00	2.75@3.00
Bulls, for export	2.50@3.00	2.50@2.75

Receipts, 3,980 head, against 2,900 last week. Eastern buyers continue to hold off, and this left heavy supply on sale. Light fat steers, good mixed butchers' and cows and heifers were active, strong and a shade higher, closing steady. Stockers dull and weak. Bulls firm; fair demand and supply.

VEALS—Quiet; good to choice, $6@6.10.

MILCH COWS.—Good to choice milchers sold readily; common very dull; extra, $45@50; good to choice, $30@40; common to fair, $20@30.

SHEEP AND LAMBS.—Receipts, 8,400. Prices generally lower; demand light and stock accumulating at closing. No extra here; prime to choice, $4.50@4.65; fair, $4.30; common, $3.25@3. Lambs, common, dull; choice to extra, $6@6.40; fair to good, $5@5; common, $3.25@3.75.

SWINE.—Receipts, 21,200. Market opened 5@10c. higher, but declined with heavy receipts; closing active at $4.75@4.80 for mediums; Yorkers, $4.75@4.80; pigs, $4.50; stags and roughs, $3.25@4.00.

Dairy Markets—March 4.

ALBANY.—Choice Butter firm and in demand. Lower grades selling well. State creamery, choice, 29@30c.; Western creamery, 24@28c.; State dairy, 26@27c.; fair to good, 22@25c.; Western dairy, choice, 23@24c.

Cheese in limited receipt with fair demand. State factory, full cream, 13c.; dairy, good to fancy, 12½c.

NEW-YORK.—Best grades of Butter steady; undergrades firmer. Receipts, 23,520 packages. Eastern creamery, fresh, 29@30c.; Western creamery, fresh, 24@26c.; State dairy, choice, 26@27c.; fair to good, 22@25c.; Western factory, choice, 23@24c.

Cheese dull. Receipts, 6,350 boxes. Factory, best 12½@13c.; good to choice, 11@12½c.; night-milk skims, 8@10c.; State Skims, 7@8½c.

BOSTON.—Western creamery, extra, 29@30c.; extra ginns, 24@25c.; factory, 22@23c.; Vermont, extra, 28@30c.; dairy, choice, 22@24c.; fair to good, 20@21c.; Eastern creamery, good to choice, 24@26c.

Cheese, Northern, choice, 11½@12c.; Western, 11½@12c.; sage, 12@13c.

Wool Markets—March 4.

ALBANY.—Inquiry limited; sales 40,000 lbs.

No. 1, Pulled	32@33c.	Medium, Unwashed
Extra Pulled	34@35c.	Fine, Unwashed

NEW-YORK.—Ohio X & XX, Michigan X, 29@30c.; combing, delaine and fine clothing, Michigan, western, 28c. pulled, Wisconsin, Minnesota, 25c. Oregon, [illegible] unwashed, and California, 24@27c. scoured, Texas, 30@32c. scoured, Montana, 32@35c. scoured, Eastern Washington, 30@32c.

BOSTON.—Sales 1,870,000 lbs. Ohio and Pennsylvania, X, 30@31c.; delaine, 31c.; fine unwashed, Texas, 24@25c.; combing and clothing, 28@30c.; unwashed, 24@26c. scoured, 40@42c. Territory, 32@35c. California, 24@25c. Australian, 42@45c.

Apples Wanted. [illegible]

MUSTANG LINIMENT
MEXICAN MUSTANG LINIMENT Penetrates Muscle to the Very Bone! Wonderful! Try it

MUSTANG LINIMENT

The Fireside.

Old Maids and Their Place.

The world has grown kinder to all women; still there is a large class to which it is slow to accord a place of dignity and appreciation. The name "old maid" brings yet to many faces a pitying smile, a sneer of contempt, or at best a look of superior tolerance, as if to say that we who are so much better off can afford them from our fullness a charitable forbearance. Wits refer to them facetiously as the "chips that were left when the house was built," "shavings," "odd brick-bats" that would fit into no niche in the structure of society. Even Oliver Wendell Holmes thanks his stars that there are no virgin boughs left to wither on the trunk of his family tree. Such jibes never fail to elicit a round of applause in the lecture-room, a clapping of hands from a crowd of rough men who are ever ready to join in the laugh against women.

But why should there be more quips against the unmarried than the married woman? To answer this question we must go back a little. Not many years ago, before there were so many avenues of self-support and self-entertainment accessible to women, marriage was the only opening. Every girl was on the market; the majority never supposed there was any alternative. Girls were brought up with the idea that they were to make their fortune by marrying, and those who failed were looked upon as unsuccessful candidates—as being too unattractive to win a husband. Consequently when a young girl saw her schoolmates being chosen one by one, while she alone was in danger of being left to bear the odious name of "old maid," she hastened to avail herself of the first opportunity, whether it was a "good chance" or not. Anything was preferable to being an old maid. But finally one woman after another had the courage to look at the matter in a different light—to say "we will go voluntarily into old-maidhood if no one whom we thoroughly love and honor asks us to marry." Women began to reason for themselves, and to feel that each has a certain liberty and power over her life, and upon looking around at the many unhappy marriages among her friends and acquaintances, to conclude that in many instances it was better to remain single than to marry.

The more thorough and comprehensive education for women increases the ranks of old maids, not only because it opens to them numberless avenues of self-maintenance, but also because "the more thoughtful and refined a woman becomes, the more she asks in one who would be her life-long companion, the more deliberately she takes a step upon which so much depends. The natural headlong impulse to love is cooled by the deliberate, cautious look ahead." One needs to possess an unusual amount of resolution and strength of character to decide to go through life alone—to fight the battle of life single-handed. Sometimes a girl of more than ordinary ability, instead of becoming interested in one of the opposite sex, grew so enamoured with a particular art or science that she decided she would rather spend her life in the enjoyment of her favorite pursuit than to marry and be obliged to lay it aside. Others, attracted by the novelty of the idea, joined the ranks of the old maids, refusing many "good offers"—so their friends told them—in order to retain their liberty and follow the bent of their own inclinations. And when many of the most attractive and intelligent young women joined this class the odium speedily began to disappear, and the despised class came to be considered highly respectable and honorable.

The traditional prejudice has not quite disappeared, however, for even now each old maid has to go through the ordeal for herself. Society still looks askance upon the woman who takes her destiny into her own hands, and is disposed to demand a much larger amount of prudence, discretion and forethought from the unmarried than from the married woman, so that long before she begins to feel old, the old maid must begin to dress and act with the utmost sobriety and discretion in order to prove to the world that she has withdrawn from the matrimonial mart, and to insure for herself a position of dignity and respect.

If she has not already done so, she had better decide about this time what her life's work is to be, for it is the order of nature that a woman, as well as a man, shall have some distinct and definite work in the world; something that will make the present bright and interesting, and something to look forward to in the future. There is a great and good work set apart for each of these intelligent, untrammelled women, whose time and means are all their own. Oftentimes a woman's work is cut out and ready for her, and she has no decision to make; this is sometimes far different from what she would voluntarily choose, but she feels that it is her work and can be done by no one else.

There are many pitfalls into which one who leads a solitary life is liable to fall, and the one which old maids have specially to guard against is selfishness—the instinctive tendency to make one's self comfortable without giving due consideration to the comfort of others. Yet I think this is more the traditional character of the old maid than her present one, for how many old maids can each of us count among our acquaintances, who live for others! The mother who spends her time and energies for her children, seeks much more her own advancement, for in her children she sees her own life perpetuated, while the unmarried woman who brings up a family of motherless children has no such pleasure to look forward to; most probably she is ridiculed by her ungrateful nieces and nephews on account of the queer little ways which she has unconsciously fallen into. It is wonderful how much readier we are to make excuses for the little foibles of our mother than to overlook the harmless eccentricities of a maiden aunt! For this reason it is better, whenever it is possible, for the old maid to be independent; if she has no special vocation, let her consider what it is she is best fitted for by nature and inclination, and study to perfect herself in that. There is great satisfaction in knowing how to do even the simplest thing really well—if it is only to work button-holes.

When it is at all feasible she should have a home of her own of which she is sole mistress; that gives one a certain poise and mental balance which nothing else can; besides, no one knows until he has experienced it how delightful it is to be the dispenser of good things, to feel that you can give away something without having to account for it. Here the old maid can gather around her the friends of her youth, and what is still better, the children of her friends, for the association with young people will keep her heart young and fresh.

If she has not some one to plan and to care for, the sooner she finds somebody the better. There are numbers of people in the world who seem created solely to call forth the sympathies of others. And for a woman to feel that she is necessary to the happiness and well being of some other human creature will give her a zest for life, and enable her to stand up against its storms and trials. To know that unless we keep our own heads above water, some one else will drown, will go far toward making us strong, brave and self-reliant.

M. WALTON.

A Dangerous Rock—II.

The Health Phase.

The sacrifice of health and physical comfort offered daily by the ignorant devotees in their mistaken homage at beauty's shrine, is one of the most lamentable features, since its effects do not end with the present, but dominate the well-being of future ages.

Any girl knows that by leaving off half her ordinary heavy clothing and going to evening parties with arms and shoulders bare, she is liable to get sick, but her desire to look pretty makes her willing to take the risks. Sleeves are ripped out of warm undervests; woolen hose and high shoes are exchanged for silk stockings and slippers; a profusion of muslin skirts are expected to take the place of the warm flannel ones she discards; a party dress, consisting principally of a train, and which is only a cob-web in comparison with the thick cloth suit she has worn all day, is donned, and our wickedly foolish young woman steps into the blustering, stinging outer air as veritably half-clad and poorly protected as the beggar who shivers in rags, content to suffer with sore throat and "snuffle" with a cold for a week to come, if only she makes a good appearance at the party!

Yet she is not so much to be blamed as pitied. All her life she has noticed that physical beauty is a most potent charm—the power that moves the world, i. e., the social world—her world.

Fortunes are made in one season on the stage by women who have no knowledge of their art, but whose physical charms are their only passport to popular favor. She sees that in social life men are ever attracted by beautiful women—that it is the magic spell that has enthralled the masculine heart from time immemorial, and sages and patriarchs have succumbed to its mighty influence. Small wonder then that the girl of to-day dares so much to be considered attractive. It becomes the supreme object because she has been educated to it, and it comes to occupy a place disproportioned to its true relations to life. Silly mothers, whose age should be a guarantee of good sense, aid in these erroneous ideas, we are sorry to say. One of the most bitterly cold nights last winter a delicate young girl in getting ready for a large evening party took off her underflannels that she might wear a low-cut, sleeveless dress. On being asked by a friend if she was not afraid Katie would take cold from the exposure, the fond mother replied: "Oh! I think not. She wore beads around her neck, you know."

A bad example is always more catching than a good one, thanks to the depravity of our natures, and thus we see hundreds of thoughtless persons following in the lead of one silly person. People who scarcely know where the next month's rent is to come from, think they must have lace and silver bracelets if they do without flannels and overshoes. Slender purses will not buy both comfortable underwear and ostrich tips; so they give the preference to the ostrich tips, enduring the shivers that chase up and down their spines with equanimity, in the proud consciousness that their head-gear is pretty, and makes them pleasing to the eye.

The belle of the ball-room may glory for a season in the adulation she receives from her gentleman admirers, and in the fact that her becoming costumes are copied by the ladies, but these recollections, pleasant though they may be, will hardly pay her for the legacy of pains, rheumatism and neuralgias that fall to her in after life. Very poor pay, too, are the night sweats and fever contracted by the foolish working woman who wore leaky shoes and cheap cotton hose through the winter, that she might buy a monkey-hair muff and "look stylish, you know."

This false standard of beauty has done much mischief to American life, but is nowhere more to be deplored than in its influence on children—the men and women of the future. There is the greatest temptation on the part of mothers to over-dress their little ones, thinking thus to add to their beauty and sweetness—as if a fresh-faced, happy-looking child could be improved upon by toggery of any sort! In planning and fitting their clothing, the subject is talked of more or less in their presence, which fosters in the innocents a love of display and a high valuation of dress, and before the mother is aware, she has transformed her darling, whom everybody loved, into an arrogant, vain little peacock, whom everybody detests. We all know such children. Primpy, disagreeable creatures—and through no fault of their own—who always select the best-dressed child in school to sit or walk with—who expatiate on the cost of their frocks and sashes, or boast that their mamma's piano is the most costly one in town! And the mother innocently wonders why Bessie is so rude to Mrs. Jones' little girl—secretly ashamed of her child's bad manners, yet never dreaming that she herself has taught Bessie that dress is all-in-all.

Let that foolish mother beware. There are rocks of danger ahead, both moral and physical, for her daughter. GARRY OWEN GAINES.

Legislative Pleasantry.

Mr. Cottrell's bill for the protection of the discoverers of bee trees has come back to the New-York Assembly from the committee on general laws, in the following shape:

AN ACT to establish and define the rights of persons, male or female, discovering bee trees or other natural receptacles containing bees or honey.

The People of the State of New-York, represented in Senate and Assembly, do enact as follows:

§ 1. It shall be lawful for any citizen, Indian or Chinaman, first discovering or finding a bee tree, or tree or other natural receptacle containing bees or honey, to mark the bee upon his business end with a rubber stamp, or indicate the locality and discovery thereof with the initials of his or her name distinctly and openly marked, and so placed upon such bee as above indicated, so that it may be readily seen. Such marking shall be due notice of the discoverer's rights, and shall be respected as such, and shall establish the ownership in said discoverer of the bees, honey, comb and contents.

§ 2. If such tree be cut, or such bees be caught or honey be taken or unnecessarily damaged, or the sting of such bee be removed or disturbed to the detriment of the discoverer, unless such sting be lodged in discoverer, the the depredator shall, on conviction, be held guilty of a "beecide," and shall be punished by any court having jurisdiction of horsestealing, by a fine of five hundred dollars, and the discoverer may authorize his bees to sting the depredator.

§ 3. This act shall not be construed as giving permission to commit a trespass, or as relieving a trespasser from obligation for damages or prosecution therefor, but the discoverer of such tree, bees or bee stings or honey, may, after having given to the owner or occupant of the premises upon which they were found, reasonable written notice of such discovery and its locality, with a sample bee duly marked and stamped, and honey, accompanied by an offer to pay the damages done to the premises consequent thereon (and in case of consent he shall pay the same at the time of the removal) may, in a civil action, recover of such owner or occupant seven dollars for damages therefor.

§ 4. The owner or occupant of the premises may, if he finds it necessary for his own advantage or the advantage of the property which he has in charge or occupies, after giving reasonable notice in writing to the said discoverer, with a description of the tree and locality, appointing a suitable definite time for such cutting, destruction or removal, proceed to destroy, cut or remove said tree or other receptacle, having due regard for the rights and property of said discoverer and the right of the bee and his sting.

§ 5. This act shall take effect Jan. 1, 2162.

OUR RAILWAY POST.—The Railway Mail Service, at the close of the fiscal year ending June 30, 1885, gave employment to 5,094 clerks. Matter was distributed on 126,310 miles of railway, and on 17,402 miles additional closed pouches were carried. There were also operated 41 inland steamboat lines on which postal clerks were employed. The postal clerks traveled (in crews) 128,031,104 miles by railway, and 1,767,649 miles by steamboats. They distributed 6,523,772,060 pieces of ordinary mail matter, and handled 16,001,059 registered packages and cases, and 1,106,063 through registered pouches and inner registered sacks. —*Scribner's.*

PHONOGRAPHING MUSIC.—In music, the value of the phonograph even in its present condition is indisputable. Musicians are divided, and probably always will be, as to the manner in which certain famous symphonies ought to be conducted. The metronome marks used by Beethoven are but uncertain guides at best, while no written directions as to dynamic values, expression, &c., are worth much. The phonograph will at least make it possible for the musician of the future to know exactly how our composers wished their music given, for it will repeat that music as played to day, with every shade of expression, with all its infinite changes of time. Moreover, the phonograph will offer to the composer that long-sought instrument, an automatic recorder of improvisation upon the piano or other instrument. In the far-off future, when our descendants wish to compare our simple little Wagner operas with the complex productions of their own days, requiring, perhaps, a dozen orchestras, playing in half a dozen different keys at once, they will have an accurate phonographic record of our harmonic simplicity.—*Atlantic Monthly.*

TIME WASTED WITH SPELLING.—Dr. Gladstone has made elaborate investigations in the schools of England and other countries to ascertain the time devoted to teaching spelling. He finds that 720 hours at least are lost to each scholar, that an Italian child of nine years will read and spell as correctly as English children at thirteen, though the Italian began his lessons two years later. It is about the same with the Germans and Swedes. This extra time is given to civics and useful sciences. The illiteracy of English-speaking nations is startling. There were 5,658,144 persons of ten years and over who reported themselves illiterate at our census of 1870, and 6,239,958 at the census of 1880. The nearly illiterate are probably as many more. England is worse off than we are. But the other Protestant countries of Europe have almost none. One of the causes of this excessive illiteracy among English-speaking peoples is the badness of English spelling. The reform of spelling is a patriotic and philanthropic reform.—*Forum.*

FOUR HUNDRED MILLION COLLISIONS.—Observations of falling-stars have been used to determine roughly the average number of meteorites which attempt to pierce the earth's atmosphere during each twenty-four hours. Dr. Schmidt, from observations made during seventeen years, found that the mean hourly number of luminous meteors visible on a clear moonless night by one observer was fourteen, taking the time of observation from midnight to 1 A. M. It has been further experimentally shown that a large group of observers who might include the whole horizon in their observations would see about six times as many as are visible to one eye. Prof. H. A. Newton and others have calculated that, making all proper corrections, the number which might be visible over the whole earth would be a little greater than 10,000 times as many as could be seen at one place. From this we gather that not less than 20,000,000 luminous meteors fall upon our planet daily, each of which in a dark clear night would present us with the well-known phenomenon of a shooting-star. This

number, however, by no means represents the total number of minute meteorites that enter our atmosphere, because many entirely invisible to the naked eye are often seen in telescopes. It has been calculated that the number of meteorites, if these were included, would be increased at least twenty-fold; this would give us 400,000,000 of meteorites falling in the earth's atmosphere daily.—*Harper's Magazine.*

FREE VOTING.—The "free and independent" voter is a better citizen than the voter who is dazzled or intimidated by banners, badges and words without meaning. There is no sincerity in the partisan abuse showered upon such a voter. The abuse is meant to produce the effect of trepidation upon the man who sees clearly and votes straight to the mark every time. But year by year the trepidation is less apparent, and the partisan scolding more of a sham. The greatest scolds are notoriously partisans who have themselves scratched and bolted whenever it was their interest or pleasure to do so. The time appears to be approaching when he will be regarded as a poor creature indeed who is governed in his voting for municipal, State or national candidates by the good or the ill opinion of some other person, rather than by his own conscientious convictions. If the "whipper-in" should permanently succeed, and voting at all elections should be a matter of precedent, habit, or domination of mere party names, it would be time to despair of the republican experiment in the New World. The caucus and the boss would have supplanted free, representative government.—*The Century.*

Domestic Economy.

Dishes for Lent.

CREAM OF COD.—Rub one cupful of cold-boiled cod, freed from skin and bones, through a fine wire sieve with a potato masher, moistening it with a cupful of hot milk to make it pass through. Put two even tablespoonfuls of butter in a saucepan, and when it melts rub in smoothly the same quantity of flour; add gradually three cupfuls each of boiling milk and water, and then stir in the fish. Season with an even teaspoonful of salt, a quarter as much pepper, and a little grated nutmeg. Let it boil slowly for two or three minutes, and serve. Any other kind of cold fish may be used. The mixture should be very smooth, and about the consistency of thin cream. Minced parsley may be added a few minutes before it is taken from the fire if liked. Thin wafer crackers are better than croûtons.

FRICASSEE OF HALIBUT.—Wash and cut in two-inch squares two pounds of halibut, or any thick, firm fleshed fish. Remove the skin, and far as possible the bones. Put it over the fire with sufficient cold water to cover it well, salted slightly. Let it come to the boiling point very slowly, and when this is reached take out the fish with a perforated skimmer, put it in a hot covered dish where it will keep warm and not dry out, while you make the sauce. Melt in a saucepan a tablespoonful each of butter and flour, and add gradually a pint of the strained water in which the fish was cooked; season with salt and pepper, put the fish in and heat until the flakes fall apart. Add the beaten yolk of one egg, a teaspoonful of lemon juice, a tablespoonful of chopped parsley, and pour over squares of fried or toasted bread.

OYSTER PATTIES.—Roll out to half an inch in thickness some good puff paste; cut it in rounds with a cake cutter; press a small cutter one inch in diameter on each round and to the depth of half the thickness of the crust. Bake, and when done remove this centre and some of the inside, and fill with the prepared oysters. For six patties scald in their liquor eighteen oysters of medium size; lift out with a skimmer and put in a covered bowl, while you melt together in a saucepan a tablespoonful each of butter and flour. When free from lumps stir in slowly a large cupful each of the oyster liquor and hot milk or cream; season, return the oysters, add a squeeze of lemon-juice, fill the shells and serve.

If you are not an expert in making puff-paste, and have not plenty of time at your command, you had better not attempt the patties, but you can make a very good oyster pie by lining the bottom and sides of a quart pudding dish smoothly with any good family paste; lay in a clean folded towel, put a top crust on loosely, and bake. Lift off the top, take out the towel, and fill with the mixture prepared as above. For a dish of this size you will need at least three dozen oysters.

CAULIFLOWER AU GRATIN.—Trim a cauliflower and lay it top down for an hour in salted cold water. This will make it more crisp, and will free it from insects. Cover with salted boiling water, and cook until tender, (about twenty minutes). Take it up without breaking and lay on a dish that can be sent to the table, pour over it half a teacupful of white sauce, dust with sifted bread crumbs and grated cheese, (preferably parmesan, but any dry cheese will do), dot with bits of butter and brown in a quick oven.

FRENCH PANCAKES.—Make a very nice dessert or lunch dish. Beat six eggs till very smooth, adding gradually a half pound of sifted flour. Add to this four ounces of butter melted, one ounce of sugar and half a pint of milk. Have a hot frying pan, slightly greased; put a large tablespoonful of the batter in and let it run evenly over the pan, fry quickly, and turn. Put on a hot plate, spread with jelly, dust with sugar and roll up. This will make a great number. They may be dotted with butter, and sprinkled with sugar and cinnamon instead of jelly if preferred.

ALICE CHITTENDEN.

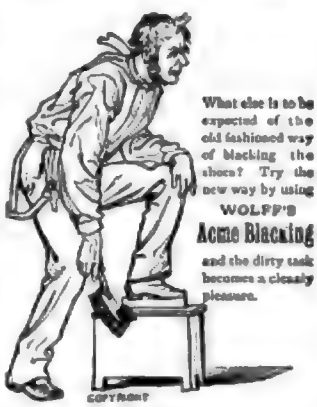
Fragments of Pigs.

PORK FINGERS.—Take some carefully cleaned pig's feet, and put them in a stewpan with cold water to cover them. Season with salt and bring the liquid to the boil; skim thoroughly, and simmer for three or four hours, until very tender. Take them up, and when slightly cool split the feet, take out all the bones, and season inside the feet with finely chopped sage and onion—the latter having been boiled previously—a little pepper, salt, and mustard, then put them together again in position, and press them between two plates, with a heavy weight on the top. When quite cold, take up the meat, cut it into neat strips about an inch wide and four inches long; dip these into beaten egg, cover with fine bread crumbs, and fry in boiling fat until beautifully browned. Drain carefully, and serve crisp and dry, neatly arranged on a napkin, or dish paper, and garnished with sprigs of parsley.

PIG'S FRY, STEWED.—Prepare the fry, and cut it in slices same as directed above; then put a layer of the meat, fat and lean nicely mixed, at the bottom of a greased pie dish; sprinkle over this a little finely minced onion, powdered sage, salt and pepper; then cover with a layer of sliced potatoes. Repeat in this manner until the dish is sufficiently full, letting potatoes form the topmost layer. Pour over the whole a breakfastcupful of water, or thin stock, which has been thickened with a dessertspoonful of flour, and bake in a moderate oven for quite two hours and a half. If the top is getting too highly colored, cover with a sheet of buttered paper. Serve very hot, accompanied by nice mealy potatoes and some carefully made brown onion sauce. Very often brown gravy, which has a little sage and onion stuffing mixed with it, is preferred to the onion sauce. AUNT CHLOE. *London, Eng.*

Wool Comforters, p. 117.—Wash the wool and send to a carding machine to have it made in large batts, or have it carded by hand on cotton or wool cards. I have used no other comforters for forty years. I do not tack, but have them quilted in squares four or five inches apart. Three pounds of wool makes a light pleasant covering for a bed. M. W. S. *Monroe County, Texas.*

Sweat-Groan-Growl.



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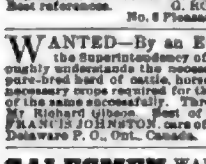

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THE CULTIVATOR AND Country Gentleman

Albany, March 14, 1889.

Experimentation in Ohio.

The Report of the Ohio Agricultural Experiment Station is distinguished for its careful and measured tests of the different varieties of wheat, corn and oats; the effects of thick and thin seeding; planting at different depths; the application of fertilizers; and the tests at sub-stations. The tabular exhibition of these multifarious tests will be examined with interest by practical farmers.

Among the ninety varieties of wheat, the largest yield was from a smooth, awnless, red wheat, with rather long and stiff straw, and grain of good quality, known as the Witter. It yielded over forty bushels to the acre. The white variety giving the largest product was the Royal Australian, smooth, with large kernels of good quality. It gave over thirty-eight bushels per acre. The poorest yield of any one out of forty-nine varieties was sixteen bushels, and the name, like that of many other landed sorts, was "prolific," Miller's Prolific. "Raub's Prolific" gave the smallest yield among the red wheats. The lightest variety, 56 pounds to the bushel, had a correspondingly large name, "German Emperor." The tests of most of the varieties extended through seven years, or from 1880 to 1887 inclusive. Separate descriptions are given of 86 varieties.

The experiments with thick and thin seeding show that six or seven pecks to the acre usually gave the most grain; and the smallest crop was after two pecks of seed per acre, being about two-thirds of the largest in some years, and nearly equal to them in other years. The thin sowing yielded the largest and heaviest grain. On an average, four to six pecks gave as much as a greater amount of seed. The straw was larger and lodged less on the thinly seeded plots. With a rich soil and favorable conditions, a light seeding succeeds best.

Plots were sown late in August once a week till the first of November. There was but little difference in the crop sown till the first of October, being about 30 bushels per acre, after which the product rapidly declined till November, to seven bushels. There was but little difference when the seed was sown at different depths from one inch to three inches.

From the numerous experiments made in wheat with fertilizers, none of them on this soil produced an increase sufficient to cover the cost. Barn manure produced the most beneficial results.

The tests with corn embraced ninety varieties. No very large yields were obtained. The Virginia Horse Tooth gave 61 bushels to the acre. The large Yellow Dent varieties yielded about 44 bushels. The large eared White Dent gave variable results, or from 19 to 36 bushels. The medium Dents, white and yellow, were less. The Flints yielded less than the larger varieties which were mostly Dents, but we do not discover that any allowance was made in this comparison of varieties between the proper distances required in planting each. The small northern or Flint varieties may be planted twice as thick on the land as the large southern ones; and when the proper distance is thus given they will yield nearly or quite as heavy crops. It should be borne in mind that the station at Columbus is at 40° latitude, and the best varieties of corn for that region, under the management given, are those which are intermediate between the large southern and the small northern sorts.

Where all the controlling influences are not taken into account, variations in different seasons, in rainfall, by rich spots in the same field, in distances to suit large and small varieties, and other causes, will often produce very diverse and apparently contradictory results; and hence the importance, as at this station, of continuing the experiments through successive years, and thus avoiding variable influences.

Among other contents of this volume, are reports of experiments with pig feeding, for determining the difference between cooked and uncooked corn, and between feeding ground meal and whole grain. The first experiments were made with raw whole corn and whole corn cooked. As might be expected, the soft-cooked whole corn was swallowed and discharged more rapidly than the hard raw grains, and as a result gave a much smaller increase in weight. But the report honestly states that "the cooked corn sometimes froze, making it difficult to eat," and doubtless the exposure to the cold air at the same time still further increased the apparent difference in the two kinds of feeding. In the next experiment with cooked whole corn versus cooked corn meal, we are informed that "both would occasionally freeze, and the pigs would not eat them well." The cooked meal, however, produced about double the increase in weight. In other experiments, raw corn meal was found to be slightly better than cooked meal.

In the report of the horticulturist (W. J. Green) descriptions are given of 120 varieties of the potato, most of which had been tested on the grounds of the station. The following are named as among the most widely popular: Beauty of Hebron, Burbank, Clark's No. 1, Early Pearl, Early Ohio, White Star, White Elephant, Rosy Morn, and Early Dawn. Among promising new varieties are named Summit, Sunlit Star, Hamden Beauty, Lee's Favorite, Morning Star, Victory, and Thorburn.

Taken as a whole, this report of the Ohio Station is one of special practical value. C. E. THORNE, to whom we are indebted for a copy, is director, W. R. Lazenby, assistant director, and W. S. Devol, superintendent of field experiments.

A Connecticut Silo.

EDS. COUNTRY GENTLEMAN—Five years ago I built a silo of brick and cement 15 feet square and 20 feet deep, filled it with Blunt's Prolific corn, sown in drills and cut when about eared. I weighted with a foot of sand. The filling was done in September and the silo opened in December. With the exception of a little poor stuff about the sides and corners the ensilage was good, as shown by the apparent relish with which the cattle ate it. I fed from the whole top surface, taking off about 3 inches a day. A repetition of the above has been about my experience for four years. The ensilage was not what I called sweet, but compared with other ensilage which was termed "sweet," mine was sweeter—at least it had not so much acid by analysis.

Last year, having added in height 15 feet to my silo, made of boards, I filled it with southern white corn, planted in drills 3 feet apart, cut up with a Ross cutter ⅝ inch long. For some unknown reason a part of the corn was planted, or at least came up, about half as thick as the rest, and the thinner part matured much better than the thickly sown. The early frost did not touch the thinly sown piece, while that more thickly sown was cut some two feet down. The frosted or thickly-sown corn was cut first, and I am at present feeding this corn. The corn sowed this being put in last, of course was fed first, and I had this winter, for the first time, what I call sweet ensilage. The air in the barn and for quite a distance around on the outside smelled much like an empty molasses barrel. The ensilage I am now using is much more sour, having more of a vinegar odor to it.

My silo being partly of wood and partly of cement, I am enabled to notice any difference in the ensilage caused by the structure of silo. I notice very decidedly that there is less waste—scarcely any—in that part constructed of wood, and considerable in the cement part. All is treated alike, and I am unable to give a reason for the difference. I have been thinking that the thick brick and cement walls, being colder when the corn was put in, prevented the corn from reaching the desired temperature. Whether there is anything in this or not I cannot say.

Until the past season I put my covering—paper, boards, paper and sand—immediately above the corn, and always lost about six inches of ensilage. Last fall I put about six inches of straw (wheat) on first, and to my pleasure there was not a particle wasted, save at the side, where the weighting was insufficient and allowed the last board to rise. Now, this was with but six inches of straw, and not two to three feet, as Prof. Clark used.

I am troubled with late and early frosts, just as your western correspondents are, and I must find some corn that will give a heavy yield and mature early. By experience I have learned a few things; by the experiment station bulletins I have learned much more, and this summer I hope to experiment myself and find what corn will suit this locality best. In regard to the time of cutting corn for the silo, so as to get the largest yield, both of ear and stalk, and at the same time have the chemical elements of the fodder in such a combination as to produce the best ensilage, I may say that the Michigan Experiment Station is making a thorough investigation of these points, and I am looking with much hopes of profit to the appearance of the bulletin giving results of such investigations.

So far as my experience and observation go, I am settled on the following points: Plant in drills 3 to 3½ feet apart and a foot to 18 inches in the drill; use some large-growing variety that will reach the glazed stage before frost; cultivate thoroughly three or four times, depending upon the weather; cut when stalks are free from dew or rain; cut fine with a cutter and fill the silo as rapidly as possible, being sure to tramp and pack thoroughly the sides and corners; when silo is full, let it settle two days, then fill again; put on 6 or 8 inches of whole straw, a layer of paper, boards, paper, then weight with stones or sand, the latter preferred, 150 pounds to the square foot; in using, remove all covering and take from the top.

I will add that the coming summer I propose to plant three or four varieties of ensilage corn, using plenty of barnyard manure, with some fertilizer in the drill, to cause a quick start. I, as well as Prof. Cook, would like to know if any one has used sweet corn for ensilage, and with what results. T. A. STANLEY.

Hartford County, Conn.

From Western New-York.

EDS. COUNTRY GENTLEMAN—As if to protest against the mild temperature of January, February hastened to bring up the arrears of winter weather, opening with a snow blizzard on the 1st, heavy snow squalls on the 2d, deep snow on the 3d, and a temperature of 7° below zero at 5 A. M. on the 4th. The 6th was a bitterly cold day made more so by a high wind; the 23d was the same. On the 24th, I registered 13° below zero, the lowest in a record of four years. The temperature at every place mentioned in the Washington weather report of 8 A. M. on the 23d, was below zero, except at the home of the COUNTRY GENTLEMAN. Altogether it may be said the past month was enjoyed by few, those few including the plumber, iceman and coal dealer.

Since my last report wheat has advanced gradually, being now quoted at $1.05 to $1.06 per bush. Corn and oats much the same as last month. Hay and straw, owing to the cold weather, have risen slightly in price. To have to quote potatoes and onions again at 25c. a bushel seems absurd, but such is yet their price. Those who have wintered their cabbages will probably be partially recompensed for holding over, as they are in fair demand at $3 per 100 heads, with prospect of better prices. Butter, new dairy, also owes a slight rise in value to the February weather, being now 23c. to 28c. per lb. Eggs have declined to 17c. per doz.

In November last I referred to a trial rising out of the Bohemian oat swindle by which many farmers in the vicinity of Rochester were victimized a year or so ago. It was for the recovery of a note, and was held before Justice Childs at Albion, who directed a verdict for plaintiff. On appeal, the general term ordered a new trial, which has just taken place before the same judge, and a verdict has been obtained in favor of defendant with costs. Briefly, the case was this: Justin Blossom bought some seed oats last spring from J. M. Orcutt of the Bohemian Oats Company of Ypsilanti, Mich., giving his note for $510. He received a bond from Orcutt by which the company agreed to purchase the oats raised from the seed bought at the same price per bushel. The note in the meantime changed hands, eventually coming into those of T. D. Matson of Holley, the plaintiff. On its maturity the company failed to fulfill their part of the bargain; so Justin Blossom and others determined to resist payment of their notes and make this a test case. Their defense was that the note given by the purchaser of the seed and the bond given by the company formed parts of the same transaction, and that the failure of the company to redeem its obligation released them from liability as to payment of their notes. Farmers in Monroe and adjoining counties alone have given notes similar to Mr. Blossom's to the amount of more than $10,000, so that the sums involved in other parts of the State, to say nothing of other States, must be very great, making the decision just rendered a very important one. It seems hard, however, that men who, like T. D. Matson, accepted the notes in good faith should suffer instead of the rascals composing the Bohemian Oats Company. Judging from the little effect such repeated warnings appear to have, it would not be hard to imagine some farmers gullible enough to sign their own de- warrants. J. H. C.

Monroe County, March 1.

Seed Testing.

EDS. COUNTRY GENTLEMAN—Your editorial on p. 144 is full of interest, and sets moving a train of thought for which I am obliged to the writer. It is not difficult to see that much good work could be done by the experiment stations in the testing of seeds, and no doubt this work is due to the farmers and gardeners of each State. There is altogether too little known of the conditions most favorable for the best initial growth of our agricultural and other cultivated plants. It goes without saying, that anything that will advance the knowledge of the great subject of seed germination must be of emphatic practical value.

But seed-testing is one thing, and the testing of seed dealers is another. Questions in vegetable physiology can be answered, and investigations into the laws of plant growth prosecuted, when it would be far from easy or pleasant, not to say profitable, to submit the intentions of a seed-grower, or dealer in the same, to the test which has honesty or the lack of it as the end in view. It is, in other words, an easy matter to determine that a certain sample has only forty per cent. of good vital seed, but it is quite another thing to maintain a charge that some one knowingly and maliciously offered that seed as having a higher percentage of vitality. The kinds of seeds are so numerous, and even in the same sort there is such a wide variation from year to year, and between one lot grown on one kind of soil or under one set of conditions, and another grown elsewhere, that the task of following up even a single species, as that of beet or onion, turnip or cabbage, in such a way as to furnish reliable and practical results would require a vast amount of labor. It is not said that this cannot be done, but it seems to me that there are other problems in seed germination which are of more practical value. The matter of impure seeds is quite different from that of percentage of poor seeds, and it seems as if there should be some check upon the sale of one kind of seed for another. But even with this feature of the work the station may not be able always to come to the rescue, for one variety of seed may differ slightly, if at all, from another. If a seedsman fills an order for one variety of cabbage or celery with another, it would require a keen-eyed expert to detect the error before the plants had been grown from the seed.

There may, however, be deceptions attempted in the way of substitution that would be within the reach of the station tester, and then it would remain to prove the intention. Seedsmen, as a rule, claim in their catalogues not to be responsible for very many things charged to them by their unfortunate patrons. It is natural that the dealers should endeavor to have the purchaser understand this. When we bear in mind that a seed is not like many things of human construction, and therefore capable of being made to order, but a product of life and not under man's control, it follows that a lifeless seed in the possession of any seedsman is no safe means of judging of his moral character. A clearer case of cheating could be established against a butcher who was raising a litter of fat puppies. Of course a seedsman should keep the percentage of lifeless or weak seeds as low as possible consistent with the price of the commodity, and if the station can help him do this by pointing out to him how he may judge of his seeds before purchasing, or indicate to the grower some method of attaining to a higher rate of vitality, it is then working along a line that should be both profitable and agreeable to all. Fraud and misrepresentation in horse-trading

by professional jockeys are not to be directly cured by the college trained veterinarians. They can do much to bring about a better understanding of the good and bad points of an animal, but you rarely see the tricky dealer overtaken in any particular deal and brought to new terms of settlement by a veterinary surgeon.

The experiment station may determine through a long series of trials the average life of a particular kind of seed, possibly indicate with a fair degree of assurance the percentages of good seeds for each year in the age of old seed, and in this way aid all who are concerned in the seed trade, both buyer and seller. There are scores of such problems to be worked out, which in short have as their end the increase of valuable practical information.

Some have said, and with no small grounds for the assertion, that more seeds die after they are planted or sown than before. This fact only emphasizes the view above advanced, that for the present the stations have to cover a great field of work on seeds and their germination before they are ready to "protect the farmer," as it is termed, by showing up the shortcomings of seed dealers. It is for the stations to show how and why so many good seeds fail in the soil. All the conditions for the most successful early growth of each kind of seed need to be fully considered, so that the farmer and gardener may get the best results with the seed he employs. When these ends have been attained, it will be found that many of the complaints of lifeless seeds are ill-founded.

It is not claimed that seedsmen are without spot or blemish, but it is not clear that they can be made pure or their seeds faultless by a hasty testing of the products in which they deal. A fertiliser analysis is a simple matter in contrast with a seed test that is to be relied upon. The phosphoric acid, nitrogen and potash have a definite market value, and when the amount present is found, the result is easily determined. But with any seed the case is different and vastly more complex, because involving the most subtle of all factors, namely, that of life, and must be judged by bringing that vitality to light by its manifestations under a set of conditions not altogether constant. The only way to test the seed dealer is an indirect one. BYRON D. HALSTED.

Rutgers College, N. J., Feb. 22.

The Culture of Alfalfa.

TO GERALD HOWATT—*Dear Sir:* I have observed occasional notices in agricultural papers relating to alfalfa. None of these articles seem to answer the question as to how alfalfa can be grown. Some seem to think that it can not be grown in our northern climates, even going so far as to say that it can not be grown north of 40°, but must have a climate somewhat tropical. Others think it can not be grown on upland soil, but must invariably have bottom lands to insure its growth. Has it ever been or can it be grown in cold climates? Can it be grown on clayey soils? What must be the condition of the ground to receive the seed? Can it be sown on the snow in the spring as other clovers? My farm is in Broome County, N. Y., generally a clayey soil. J. R. B.

[*Answer by* MR. HOWATT.]

J. R. B.'s ideas of alfalfa are rather crude. I can guarantee him a crop if he follows my system. It can be grown in our northern climate; our summers are hot enough and moist enough. In winter it is dormant, caused by the length of its roots (30 inches). It is about our first green crop in spring. Upland soil, if properly prepared, is as good as bottom land. Many suppose that flat, level land is the *ne plus ultra* of all soils. This is a mistake, as I know of such as level as a table, and about rich enough to grow mullein. Upland is, as a general thing, preferable for this crop; it cannot be grown profitably on clay soils. Proper soil is a friable, deep sandy loam, with a subsoil good and deep, bearing in mind that your roots travel 30 inches deep. The subsoil for this depth must be sweet, and above all other things, no stagnant water. This is one reason why upland is preferable. The land must be plowed deep; if a hard-pan of yellow clay loam, it must be subsoiled. A gravelly or sandy subsoil is preferable, and saves this underdraining and subsoiling. On this selection and proper preparation depend your future success and yield of from 4 to 12 tons per acre. This is no ordinary crop, and the sowing of clover on the snow must not be thought of if you purpose a paying crop of the other.

My general system has been, select any proper land, grow potatoes on it the first year; properly grown they bring ground into fine tilth and clean it of all weeds, as my potato fields are as devoid of weeds all summer as a well kept flower or kitchen garden, without the use of a hoe or hand weeding. When they are off, cross-plow your ground in opposite direction of the way your drills ran; backfurrowing it, that is, throwing the one furrow against the other, thus leaving the drills about 30 inches apart. The freezing and thawing of the winter leave this soil in the spring a seed bed of fine loose soil. As early in spring as possible, plow these drills crosswise, getting all perfectly smooth by plowing and harrowing, as if you were laying it down for ten or fifteen years. If your potatoes have not been well manured, spread on it well rotted manure (what we term cheese manure), and harrow this in thoroughly. If you are not fortunate enough to have a limestone subsoil, apply from 6 to 10 tons of lime per acre, and 5 to 8 tons of plaster; this to be harrowed in. The plastering I speak of, presuming that you have not used any for preproceeding crops of potatoes. If you have used plaster with Paris green, you of course deduct the quantity from the above named.

Sow your seed immediately after this application, that it may get the start of any weeds that may be in the manure. Should you be prevented by rain, let it stand until the weeds are just showing themselves; harrow and then sow. When sown, cover with a bush harrow and roll. Use 20 to 30 pounds of seed per acre. I prefer the latter; in case it should come up weedy, I can run the harrow over it. It is absolutely necessary that you get new seed, grown the preceding summer; 2 year-old seed can be immediately detected by an expert by a slight wrinkle and rather deadish color. Old seed can be made almost as good as new by *oiling*. This is practiced not only with this seed, but with a great many others, and the uninitiated will pronounce them fine, fresh-looking seed. Purchase only from reliable seedsmen or all your trouble may be for naught.

Don't flatter yourself by calculating on your first year being a great result; it will be from the second to the tenth or fifteenth years. After the second year you can cut it every six weeks. Top-dress lightly every fall from the fourth year on. Harrow every spring with four horses putting on such a harrow, not over 6 feet wide, as they can pull. Rest assured that there is no other clover which will give you such a superior yield of milk, and no other soiling or hay crop such a delicious-flavored butter, all live stock preferring it to any other feed. I append analysis (Sprenger) of 100 pounds green, yield 2 35 pounds, and 100 pounds dried, 9.55 pounds, consisting of — Potash, 13.40; soda, 6.15; lime, 48.31; magnesia, 3.48; phosphoric acid, 13.07; sulphuric acid, 4.04; chlorine, 3.15; silica, 2.80; iron, alumina, &c., 0.00. Total, 93.52.

Perennial Rye Grass.

ED. COUNTRY GENTLEMAN—In your issue of Feb. 21 is an article on perennial rye grass by Mr. Daniel Batchelor, wherein he states that eighteen years ago he began to doubt the hardiness of this variety, and by permission made a separate trial of it on the lands of the late Senator Campbell at New-York Mills, Oneida County. "Three successive seasons the seed was sown, and each year it came as thick as hair on a dog's back, and each succeeding winter it was killed, root and blade, so that not a sprout appeared again. Several times since then I have tried it, but always with the same winter-killing result."

This seems to be the sum total of his own experience with this grass, but in addition he brings corroborative testimony, based on the results of the New-York and Ohio Experiment Stations, to show that it cannot survive the frosts of our winters. His assertion that most of our writers on grasses, taking their cue from English authorities, recommend perennial rye grass for mixtures in meadow and pasture, with the solitary exception of Dr. W. J. Beal, is probably true to a certain extent, but it is equally true that almost all our writers on grasses are natives of England and sister isles, and are persons who have had years of practical experience in their respective countries, and in this, their adopted one, and are therefore thoroughly qualified, the soundness of their teachings having a practical basis to rest upon.

Although I could scarcely expect to disturb the seemingly firm-grounded belief of Mr. Batchelor, viz., that those promising braids of grasses were winter-killed, I would venture the assertion that other causes operated to prevent satisfactory results. It may not be generally known that as early as 1893 there were 60 varieties of it known and cultivated in England, and since then many more, perhaps 80 in all, and if each variety of this grass is not restricted to the soil best adapted to it, failures will occur. None of the varieties of *Lolium perenne* being either annual or perennial in their duration, this term can be applied only in a relative or restricted sense—the former to those of the shortest, and the latter to those of the longest duration. I infer, however, that Mr. Batchelor's doubts were more in reference to its hardiness than to its permanent qualities. A grass that is a native of all European countries from Lapland to Italy, as well as of Northern Africa and Northwestern Asia, leaves little room for doubt as to its ability to withstand the cold of our North American winters. It is unfortunate that Mr. Batchelor, while on his grass-hunting expeditions, did not visit this section in his travels. Last year, being curious to know if I could be outdone in the superiority of my rye grass specimens, I went over Mr. Crozier's way to a spot where I expected to find good specimens, and was not disappointed, for I procured some with culms averaging three feet in length, with well developed heads and otherwise perfect. For years in succession rye grass plants have flourished there.

As the hardiness of this excellent English grass, which has stood the test of centuries in that country, and has come to stay in this (if it is not too cold for it) is called in question, all facts in support of its possessing the above desirable property are in order. One that I can vouch for is herewith submitted. In the month of July, 1880, I seeded down half of a four-acre lot alongside the track of the Long Island railroad (which runs through my farm) with nine species of grasses procured from Mr. Henry Nungesseran. Neither timothy, red-top nor clover entered this mixture. The catch was a good one, and the grass plants were firmly established in the soil before the approach of winter. In the month of April, 1881 (following spring), I laid down the remaining two acres with eleven varieties. It, also, was a good catch, and the plants progressed finely. The two acres first laid down I mowed in June, 1881, and procured a heavy crop of excellent hay from it. The other two acres remained untouched until June, 1882.

I felt disappointed at the poor showing of the rye grasses, as the orchard grass and fescues predominated after mowing; however, I applied the tests and soon had the satisfaction of starting the growth of the rye grass plants, which they maintained all through the season. In the month of June, 1882, the rye grasses predominating over all others and showing almost an exclusive crop, I mowed and cured as fair and beautiful a crop of rye-grass hay as I ever saw in any country. I advertised it for sale in bales of 100 lbs. each, in the New-York Herald, but applicants wanted it at same rate as timothy, which I declined, and fed it to my own live stock, which ate it with a relish.

In the month of November, same year (1882), began a series of burnings in this field, caused by sparks and live cinders thrown out from locomotives on their approach to and departure from the adjacent station; this particular field being located at a suitable distance for a convenience, incendiary in character, but shielded by a law which is a disgrace to our statute book. These burnings have continued at intervals ever since, until the whole field and fences, with the exception of half an acre which has so far escaped, is destroyed, or rendered useless to me. The fires taking place during periods of the coldest, freezing weather we have had in past winters, have done incalculable injury. Notwithstanding a lawsuit and well-proved case, the railroad company scored a victory, and although burnings have taken place since, I have failed to receive a dollar of compensation. The half-acre strip in this field, the sowing of 1880, I still continue to mow every June, and most of the grasses retain their vitality, and are in good condition. I have not broken up any part of this 4-acre field as yet, and intend to make a thorough investigation as to the appearance and state of preservation of the eleven species of grasses originally sown, and afterward finely grown on it, and make public my investigations. Of one thing, however, I am certain—that previous to the occurrence of the fires the frost had little or no effect in retarding the growth of the grasses.

I would, however, like to know how Mr. Batchelor reconciles the following statements contained in the latter part of his article. He first says that for seeding down here at the North, rye grass seed might just as well be dumped from the ship into New-York Bay; then he recommends Italian rye grass as a vigorous variety to grow in mixture for a two years' lay, and Pacey's as a very succulent and good grass either for pasture or lawn.

Suffolk Co., L. I., March 3. JOHN HENDERSON.

Experience with Ensilage.

Following is the substance of a paper presented at the Chatham Farmers' Institute by Mr. W. A. DRAKE, foreman at Col. F. D. Curtis' farm, Kirby Homestead—and considered so valuable by the audience that they unanimously voted that it ought to be published in the COUNTRY GENTLEMAN:

What is the use of a farmer keeping say eight or ten cows and having them go dry five months in the year, and in some sections having to buy hay, making very little butter, if the cows do give milk, and having to use butter color in order that the dealer may define what article of food it represents? We all know how nice it is to have canned fruit to eat during the winter. The ensilage is just the same to the cow as our fruit is to us. What the possibilities of the silo will be in the future it would be hard for me to tell. Just think of a man being able to winter his stock cheaper than he can pasture them in the summer. I know of no food that can be more cheaply raised than ensilage.

It is an old saying that "necessity is the mother of our silo. Insufficient feed meant no milk, no butter, and you all know when a man has thoroughbred cattle that would be poor economy—they had to be well fed whether crops grew or not. Some may be interested to know the kind of corn planted and methods of cultivation followed at Kirby Homestead. The ground was plowed and thoroughly harrowed with a spring-tooth harrow, then marked out in rows three feet apart. The corn was then planted with hand planter, dropping the kernels about 12 inches apart. Variety of corn, southern sheep tooth. Planted about the middle of May. It was then cultivated with a horse cultivator twice, and finally with a shovel plow. Six and a half acres, which had the promise of a splendid crop, was badly struck with the frost, the other six escaping. In all, we had 12½ acres for the silo. The corn had large, fine ears on, but not fully matured, as the growth was checked by frost.

The construction of a silo is very important, as it is necessary, in order to make good sweet ensilage, to have the building air tight as near as possible. Our silo is 16 feet by 20 feet and 18 feet high. We built a cement wall two feet high, and two feet wide, with good foundation, and below frost, with trenches on the sides to carry off the surface water. The whole bottom of the silo was grouted.

The sills were then placed on top of the wall of cement. An ordinary balloon frame was then erected, studding placed two feet apart. Next tarred paper was put on all sides. Then a sheeting of hemlock boards inside and out, tarred paper again and novelty siding on outsides, on the inside tarred paper and spruce sheeting. The roof is patent gravel roofing. Our silo was now complete. A door was left in the top of the roof into which place we filled. We commenced cutting on Sept. 26th, with a two horse tread power.

In filling the silo I first cut one load of green corn, then one of the frosted until it was all cleaned up. The rain and bad weather badly interfered with the work some days, but we got the whole crop cut and in the silo in five working days. On account of one half being frosted I did not allow the green half to wilt as is usual, but cut it and loaded right on the wagon and drew to the silo. The corn was cut in pieces about one inch long and conveyed from the cutting machine by means of a carrier to the silo. One man was in the silo most of the time treading it down and keeping it level. This is one of the most important points about filling a silo, as when it settles it will fall away from the sides and corners, unless kept tread down, which would let air in and cause the ensilage to rot or mould.

Having now got our crop harvested, we next placed two feet of oat straw on the top of the corn, then the layer of tarred paper letting the sheets lap. On the top of this was laid sections of matched boards. There were no weights used, only a few hemlock plank placed where the sections joined each other, so as to carry them all down even. The temperature of the ensilage was taken several times, and varied from 97° to 110°, which was the highest. In the usual way the temperature runs about 120°, but there being frosted corn in ours accounts for the difference. Sweet corn when silood attains greater heat. Mr. David Smith of Glenville filled his silo with nothing but sweet corn, and the temperature ran up to 140°. Upon opening our silo I found the ensilage had settled about one foot, and on the side where we commenced feeding from, had moulded about four inches part of the way. This was not lost as we fed it to the hogs. According to experiments made, it has been found that it takes 45 cubic feet to weigh a ton. We had in our silo 68 tons. We commenced feeding Nov. 8th. The first week I fed half a bushel to each cow, morning and night, with an allowance of hay and grain. Afterwards I gave them the ration which they now receive, namely, one bushel in the morning, with two quarts of buckwheat bran, hay and straw each alternate day for dinner, and one bushel of ensilage and two quarts of wheat

bran for supper. The cows immediately began to thrive and look better under their new food, and are at the present looking finely. I feed the ensilage after milking. I find no difference in their milk as regards taste, except that it is richer. We are feeding ensilage to our sheep, and they eat it up clean and are doing well on it.

In England ensilage is given to sheep by many farmers. They claim particularly good results from feeding it to ewes, both before and after lambing; the ewes do well, give plenty of milk, and produce strong lambs, which grow remarkably well. To show what effect ensilage has on butter, last week we got the returns from butter made since we have been feeding ensilage; at the bottom was a note to the effect that it was too highly colored—yet not a single particle of butter coloring had been used. It was nothing more or less than one of those oft-talked of things, namely, a *trust* which has been formed by the cows and ensilage to help the farmer produce a genuine article at a comparatively low cost. In conclusion, to show the advantage of growing fodder corn and preserving it in a silo as compared with the feeding of hay, I will add a few figures which may be made actual results: One bushel of ensilage weighs about 30 pounds; according to this one ton of ensilage will feed a cow, at the rate I am feeding, 40 pounds per day, for 50 days. On rich land it is easy to grow 12 to 14 tons of fodder corn on an acre. A part of ours produced fully this amount per acre. Twelve tons per acre would feed one cow 600 days. One ton of hay per acre is a large average of the yield of hay in this section. A cow would require for a day's feeding 20 pounds of hay; according to this the yield of hay from one acre would keep a cow but 100 days. This is a maintenance ration, but as we feed for more than maintenance to get butter, we give extra food to make this production. Which pays the best, to raise an acre of ensilage or an acre of hay—ensilage keeping the cow 600 days, while hay keeps a cow only 100 days?

Ensilage Convention at Cleveland.

EDS. COUNTRY GENTLEMAN—The first day's session of the Western Ensilage Association closed with an attendance of over 200, and much interest shown. H. J. WING of Portage county was elected president, and W. H. LAWRENCE of Cleveland, secretary.

Mr. BRECK, an extensive milk producer near Cleveland, said that the main point in a successful silo was to build air-tight with perpendicular, unyielding sides, and the deeper the better. When built on top of ground, as in barn, the floor should be on a level with stable.

Mr. BALLARD, who has charge of the three Brooks farms near Salem, O., said they were engaged in producing milk and cream for the Pittsburg market. They feed ensilage nearly the entire year, soiling the remainder. They raised 190 acres of corn, putting the larger part in silos. Were unable to produce perfectly sweet ensilage, but found that in wooden silos the best. Fed about 35 lbs. to each cow, morning and night, with a very small feed of clover hay at noon. Fed with the ensilage 3 quarts of grain, consisting of two parts bran and one part each of cob meal and old process oil meal. Cows were Holsteins and grades, averaging 33 lbs. milk per day; five measured gallons of milk produced one gallon of cream, which would make 1¾ lbs. of butter. Were the cows all fresh, the yield would be considerably higher.

Newton RICE of Portage county, the first man in Ohio to build a silo, had lost considerable money in not building right. His first silo of wood lasted only three years; the rats ate holes into it and made him much trouble. Considered concrete the proper material for a silo. Prefers field corn native to Ohio, to southern ensilage corn. Cost of cutting and placing in silo, under favorable conditions of weather and help, was about 37c. per ton. A ton of ensilage would keep a cow a month when fed exclusively upon it.

Mr. COIT said that two neighbors could own the machinery for filling, and use it alternately, and in this way give the ensilage time to warm up. Henry Talcott filled a 100 ton silo in 2½ days, and the contents kept perfectly.

Leroy R. FOSTER of Summit stood in his barn one Sunday and saw 12 acres of the heaviest corn he ever saw, even in Illinois, blown down in a storm, and it at once became a problem what to do with it. He was somewhat skeptical about silos, but he could see no way to secure the crop of immense unwieldy crooked stalks, except to cut into a silo; so on August 5 he began to build a silo 26 feet long, 8 feet wide and 25 feet deep, divided by two partitions. The fodder being down, it was somewhat immature, and had two frosts on it before all was secured, but it went further than any feed he had ever used. He began feeding Oct. 9, and had fed 44 head of cattle (nearly all cows in full flow of milk) up to the present time, and thought the contents of the second pit would last until April 1. This would leave one third of the ensilage still on hand, and he was at a loss to decide what to do with it. Had fed about ten tons of hay, but had not been able to get his cattle to eat any straw. Fed dry stalks at noon, and had fed less grain than last year when feeding dry hay. Last year had fed out everything grown on the farm including straw. This year would have a surplus of 70 tons of hay and all his straw except that used for bedding. His milk was just as good as last year. His ensilage was not sweet but seemed just like that in other silos he had visited.

Mr. CARUTHERS of Lorain said that what was called "sweet" ensilage had a slight acidity, combined with the odor of old molasses.

Mr. BRECK read a paper on economy and preservation as necessary to successful accumulation. The silo saved a large percentage of waste in corn fodder, caused by weather-beating, vermin, &c. He covered his silo with about a foot of earth, using the earth in the stables when the silo was opened. From 2 to 2½ cubic feet of ensilage was a full day's ration for a cow; 450 cubic feet would feed a cow 180 days. In estimating a freshly filled silo, 50 feet per cow should be added. However, he would not recommend feeding ensilage exclusively, as cattle did better with a change. The rule in feeding was to feed just what an animal would eat up clean. He would plant Ohio corn next year, in preference to the southern ensilage corn, and let it get nearly ripe before putting in silo. Would build a silo of concrete for durability; the size should be proportioned to number of cattle to be fed, so that about a foot could be taken from the top each day.

J. B. COMSTOCK of Indianapolis said we might wait until corn got too ripe and the cellular tissue was changed into woody fibre unfit for food.

N. C. DANFORTH read an interesting paper giving his own experience and that of others. Wooden silos preserved the contents better than stone. The silo enabled us to save our fodder at a period when it had its greatest food value, and this accounted for the fact that fodder thus preserved went further in feeding. Last season he put up a quantity of clover green. He made a stack 12x16 feet and 12 feet high, raking and stacking right after the mowers. Two days after stacking, he plowed furrows around the stack and covered with one foot of earth. The stack settled to four feet in height. The result was not such that he would recommend this way of saving clover in seasons when hay could be made of it. He put up another green stack of second-growth clover in September, covering it with weeds, clover and stubble got by mowing the wheat stubble. It rained almost constantly from the time this was put up until winter, and this stack kept nicely, the cattle eating the stubble hay with the other.

Henry TALCOTT of Ashtabula read a carefully prepared paper. The subject attracted his attention from the very first, but he had been deterred by the great cost that attended the building of silos as first talked about, but when wooden silos were found practicable he became the owner of some and had successfully used them for four years. His silos were constructed of a single thickness of matched lumber nailed to studding. The lumber was dressed and only four inches wide. It did not swell so as to warp, but swelled sufficiently to make the joints air-tight. When the silo was emptied, it dried out in two weeks. It was like a barrel and might last twenty years, while one with two thicknesses of wood, with paper between, would hold dampness, and rot out in a few years. Sawdust packing was still worse. Preferred to have the joints of boards perpendicular, as the ensilage settled with less friction. Corn should be nearly ready to glaze before cutting into the silo, and there should be an ear to each stalk. Suckers and immature watery fodder had no value as food. Would plant southern ensilage corn in rows 3½ feet apart, and a stalk every eight inches; four or five quarts of seed per acre would do this. The care gave the ensilage increased value. There was more grain in a bushel basket of mature ensilage than many realized. He had a horse that refused to eat the corn in the ensilage, and he found this amounted to three or four quarts in every basketful. He would use a silo three times, first filling with clover to be fed in August to milch cows; then with corn; and when emptied in February, fill with ice. If used for ice, a drainage tube should run from the center of the concrete bottom. L. B. P.

Cleveland, O., March 6.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *March 6.*

After the cold snap of Feb. 19-25, which froze the ground deeper than at any time of the winter, we had nearly a week of lowery, cloudy and foggy weather, but without rain, except three-fourths of an inch on the night of March 1. Yesterday was beautiful and spring-like and to-day promises to be like it. Since the rain, the roads have been in a dreadful state, but they will soon dry out, and what little frost is in the ground will disappear, and seeding to oats may be begun within a week.

So far as heard from, the winter wheat is looking fairly well and is little disturbed by the fly reported as doing serious damage in the south part of the State and in Indiana. Whether there has been sufficient rain, moisture and mildness to reduce the numbers of the chinch bugs below the serious damage limit, remains to be seen. Still I believe it is the general experience that the two scourges of the corn and wheat crops—the hessian fly and the chinch bug—rarely attack and seriously injure them the same season. If the big crop of chinch bugs we had intimation of for this region in the numerous flights—flights so heavy they produced a decided haze, in October and even late into November—have survived, we shall soon see manifestations of them whenever comes a calm, warm day, and the mercury gets above 80° after 8 P. M. For the last ten years, that part of Illinois south of Kankakee and east of the Illinois river, and as far south as 39°, has suffered very little from them; but it is more than we can reasonably hope for to escape their depredations altogether.

And by the way, it is coming to be understood that the weather must be left to fight them; that little more can be done in hot and dry seasons than to promote vigorous growth by the liberal use of potash and phosphate fertilizers. This plan was adopted on a small scale as a matter of experiment, by Prof. Forbes, State Entomologist, and Prof. McMurtrie of the Illinois University, some two or three years ago. The place chosen was some fields in one of the worst-infested counties of the South. Liberal applications of the potash and phosphate fertilizers were made on several small patches, with the result that these outgrew the attacks of the insects, and made fair crops of grain alongside of other fields yielding little more than straw, and not much of that. The present signs are not for an early, nor yet against a reasonably early, spring.

The robins are here for the first time this morning and the blue birds have kept them company. The crows, sparrows and bluejays have been here off and on all winter, and were out taking the air more numerously than usual yesterday. Flowering bulbs are showing their first leaves, and lilac buds are swelling, but all else is still sleeping the winter sleep. B. P. J.

Inquiries and Answers.

Keeping Corn Fodder.—Can corn fodder be kept to advantage, from one winter to another? H. C. G. *Lawrence, Kan.* [If the fodder has been well dried and is sheltered, it will keep as desired. If exposed to air, it may gradually become too dry for cattle to eat freely, in which case sprinkling would be an improvement, especially if fed with meal. If in a silo and differently matured, it will keep over the summer, provided it has been well put in, and is protected from air and frost, under a sufficient weight.]

Injured Fruit.—I have some apple trees, fine in appearance. Their fruit is the usual size, with small spongy substance through the entire apple, unfitting them for table or cooking purposes; varieties, Moose and Northern Spy. Is there a remedy? J. R. *Hillsdale, N. Y.* [Probably they are attacked by the apple maggot, although this insect confines its work mostly to early varieties. No satisfactory remedy has been devised, but beating off the affected fruit with a pole, to be eaten by pigs or sheep, has been recommended. What has been the experience of any of our readers?]

Failure to Seed.—I have a hill-side pasture facing the east; was once well timbered with beech, ash, maple, and other hard woods. A part of it was plowed and seeded a long time ago; the other part remains as it was left after clearing. The soil is good, but I can not get a good catch of grass, and if I did, it would winter-kill. I have never tried anything but common timothy—what shall I do with it? Would Kentucky blue grass be good for pastures like this? C. H. P. *Forestville, N. Y.* [The soil is probably too wet, and thus rendered liable to cause winter-killing. If so, thorough tile draining would doubtless be the remedy, and in any case would greatly improve the land. In addition to draining, top-dress with manure, and pulverize the manure and surface well together by surface harrowing, and you will not probably have any difficulty. Blue grass is slow in becoming strong in growth after seeding, but on a rich soil makes a good permanent pasture. If your soil cannot be made rich, orchard grass would doubtless be most successful.]

Hungarian Millet, p. 165.—Does not Mr. Howatt mean one to three *pecks* instead of *bushels* per acre? I think as it stands it is very misleading. I have raised it for many years, and have always made a mistake when I have sowed more than half a bushel per acre. M. *Tioga County, N. Y.* [I wrote the quantity of millet seed to be sown for cleansing land and for hay. If sown for seed on well prepared land, already clean, 15 to 20 pounds of seed is ample to produce a fine, plump No. 1 seed; but land *must be* clean or weeds will come through it. Success in all crops lies in seeding for your purpose. For fall pasturing and spring soiling of rye, I sow 3 bushels to the acre; for grain, 1 to 1½ bushels; carrots we thin to 4 inches apart; when we plant them out in spring to grow for seed, we put them 2 feet apart. Enclosed is sample of Hungarian millet sown two bushels to the acre broadcast, head, straw and leaf; this you will observe has quite a different appearance from a well developed seed head; such would be at least double this size, and in a seed head you would not have those seed *leaves*, and the straw at least double as thick—something of the size of pencil at butt. This straw does not make hay, but will give very fine grain. This seed is generally sown too thick for producing first-class seed; this again depends on quality of land; the practical man will soon decide the point; to give specific directions on the quantity of seed to be sown on any land is not possible in any crops, except when land is seen, and the object of the grower known. C. H.]

Comet or Lawson Pears.—Will any of your readers who have actual knowledge on the subject please state what their own experience has been as to the tardy and abundant bearing of this pear? It is important to me and to many others to know the time required between planting and fruiting. C.

Prince George's County, Md.

Peanuts.—Please inform me how to cure peanuts. I had a good crop once, but failed in curing them after they were ripe. J. M. M. *Jaup, Iowa.* [The peanut, when properly matured, is loosened with a fork in the soil and pulled up by hand. The soil is shaken from the plants and they are left to dry, when in favorable weather they will be dry in two or three days. They are then placed in small stacks or bunches around stakes driven into the ground, with supports to keep them from the soil, and with straw caps to shed the rain. The process of curing will be finished in two or three weeks. The pods are then picked off. A fanning mill is used for cleaning; great care is requisite afterwards to prevent moulding.]

Dog's Wool.—Where can I get the fleece, combed from a particular pet of mine, made up into a rug or woven into a fabric of any kind? Of course I know it would be expensive, but am prepared to spend any reasonable amount to gratify my fancy for having it spun and woven. I enclose a lock of the hair and ask your opinion if it could not be used in the way proposed. It is from the white part of the coat of my St. Bernard, "Ben-Hur," A. K. R. 6727. T. G. *Vineland, N. J.* [The hair cannot be spun, as it has none of the little claws which cover the fibre of wool and hold it together. It might be mixed with wool and then spun or felted. T. G. may serve his purpose by corresponding with James Brooks, Bellvale, Orange Co., N. Y.]

Eradicating Briars.—Which is the best manner of eradicating a running briar somewhat like the dewberry? It has a firm hold on the land, and is very troublesome. Plowing only increases them, and to cut them off does not kill them. The land where they are most abundant has been in corn, and is now in wheat, both of which have been grood crops in the same field heretofore. J. A. T. *Baltimore, Md.* [There is one general principle to be resorted to in destroying all perennial weeds and woody bushes—to stop all living growth through their leaves. Generally, it is best to allow them to grow freely through a part of their season, and then to make a complete and total smothering. Plowing will do no good, unless it keeps them constantly and entirely under. A few straggling leaves left for a few days will keep them alive. Plowing, as commonly done, digs them up and sets them out again, ready for a new start. Cutting them off even with or a little below the surface, and keeping them continually under for the whole season, will kill them.]

Pearl Millet.—In the American Farmer, edited by Chas. L. Flint, 1852, under "Grasses and Forage," is a very flattering notice of the plant called pearl millet. It is said to have been cultivated with success for many years in the Southern States, where it is known as African cane, Egyptian millet, Japan millet, cat-tail, East Indian millet, and in some localities as horse millet. It would seem that a plant possessing anything like the merit attributed to this, should be widely known; but I have no knowledge of it from any other source, and should be glad to learn through your columns of its value. C. A. K. *Carthage, Me.* [About ten years ago, we gave pearl millet a limited trial, but did not find it sufficiently valuable to continue its cultivation. It was extensively tested about that time, and the results with many cultivators were reported in the COUNTRY GENTLEMAN, most of whom regarded it as of little or no value. But in a few

instances, favorable reports were given. The fact that, after a wide trial, no one that we now know ever raises it, expresses the popular opinion of its value. The seed does not ripen at the North; cattle often refuse to touch it, and the obstinate character of the roots in the ground for successful plowing, are all against it.]

"Slipping."—What is meant by "slipping" potatoes? Is the process of sprouting potatoes, and breaking off and transplanting the sprouts called slipping? J. H. W. *Wadsport, N. Y.* [Yes.]

Seed Sowers.—I need a corn sower or planter which will serve to sow fodder-corn and superphosphate in drills. Can you recommend such an implement? I sow from five to ten acres of corn for feed and ensilage, and find sowing the corn and phosphate by hand too slow a process. I think a machine to run with one horse would do me. I believe the corn ought to be sowed at the rate of about three kernels to the running foot of the drill, and superphosphate at the rate of about 25 lbs. to the acre. S. A. F. *Knowlton, P. Q.* [The sowing machines and drills advertised in past numbers of the COUNTRY GENTLEMAN will probably answer the purpose, or those which may be found at the large agricultural warehouses. A grain drill may be used by employing only a part of the tubes. Most of these implements have fertilizer attachments, but as the roots of corn soon spread over the whole ground between the rows, sowing the fertilizer broadcast usually succeeds best through the season, although sowing in drills with the seed operates for a short time.]

Silo.—I should like information in regard to building a silo; the place is 12 by 12 feet square and 20 feet deep. Will this be sufficient for eight cows, say six months of the year? (1) If it is double-boarded, with building paper between, there will be a vacuum between the inner layers of boards and the outside of the barn, which is single-boarded and battened. Will this be warm enough? (2) W. F. M. *Candor, N. Y.* [1. These dimensions will be sufficient for about fifty tons of small age, or slightly more. The quantity consumed will vary with the size of the cattle and the quantity of dry fodder and meal fed to them; but allowing sixty pounds of ensilage to each daily, the fifty tons would last the eight cows two hundred days, say from the middle of November to the middle of May. This estimate would, of course, vary considerably with conditions and circumstances, but is a fair average. 2. The double board wall, the vacant space and the building paper will probably be a sufficient protection against frost, a slight freezing at the outside not doing much harm. But an additional board wall, with two vacant spaces and linings of building paper would be quite secure.]

Feeding for Milk, p. 166.—The ration used is about 5 lbs. of wheat bran and hominy (the germs cut out in the process of making table hominy), two parts by weight of the former and one of the latter, and 6 lbs. of hay per cow, fed three times a day, the hay cut and mixed with the feed in a box made of common worked siding nailed to small corner posts and to cross-pieces on the bottom. Cold water out of the cooling vat is used, about 17 pails for 100 lbs. of hay. After mixing, the feed is packed down so as to absorb the liquid, but, before using, what remains in the bottom of the box—generally 4 to 6 pails—is drawn out of a ¾-inch hole at the side of the bottom placed over a depression in the floor, and spread over the top of the mess. This moistens the whole without leaving a surplus of water in the box. Of course the size of the mixing box depends on the size of the dairy. The ration makes about a bushel for each cow, or 3 bushels a day. My box being too small I mix one-half first, pack it down and mix the other half above. One must use a little mother wit in all these arrangements. Having just broken my cutter, for the third time, because it has not a fly balance wheel, I was obliged to put my cows on dry hay, and some of them refused to eat it. Of course that was only "airs," and would not last long, but I think the labor of preparing the wet feed is little more than of dry feeding, and, like the prudent housewife's kail, you have a clean result. The advantage is still greater where the hay is imperfect, for the last thing to do in making milk is to starve your cows to eat poor hay. If sweetened with ground feed, they get whatever virtue there is, and will take the requisite quantity to sustain life and give you a profit—provided they are good cows. But there is the vital point after all. One cow will give 70c. worth and another 30c. worth of milk on the same feed. In one case you get a reward for your labor, in the other you spend your time and strength for nothing. The moral is to improve your stock in every possible way. E. RYDER. *Putnam County, N. Y.*

Improved Milk Ration.—Please form ration for cows of buckwheat middlings, wheat bran, corn meal and glucose, with mixed hay, clover and timothy. I have been feeding 4 lbs. buckwheat middlings, 4 lbs. wheat bran and 4 lbs. corn meal, with 15 lbs. cut hay, clover and timothy for two winters, and, although I get more milk than my neighbors who feed corn stalks and straw, yet I do not get as large a flow as I think they ought to give, and should like to add glucose if they would give more milk. I want a large flow of good milk for retailing, good health and condition of cows to be considered. S. B. J. *Wapanock, N. Y.* [S. B. J. states what he has fed his cows but does not give the amount of milk produced, so that I could judge whether the yield was reasonable for the food given. He also neglects to mention the weight of his cows. Let us examine the ration he has been feeding, this will best be shown in the following analytical formula, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
15 lbs. mixed clover & timothy hay	0.92	5.25	0.21
4 lbs. buckwheat middlings	0.64	1.20	0.24
4 lbs. wheat bran	0.47	1.60	0.16
4 lbs. corn meal	0.30	2.00	0.10
Total	2.33	10.05	0.71

Nutritive ratio 1 to 4 9. It will be seen that this is not a full ration for 1,000-lb. cows. He wishes to add glucose meal, but he does not state whether this meal is wet or dried. This by-product is now often kiln-dried and sold in that form. Glucose meal in its wet condition has 70 per cent. water. So he will see that it cannot be added to the ration without knowing its condition. But dried glucose is not as good as buckwheat middlings or corn meal. Should advise J. to add 1 lb. to buckwheat middlings and 2 lbs. to the corn meal. This is based on the probable fact that the ration is too small for cows of his size. But if J. had given the cost of each food and the weight and actual yield of his cows, I could have been more sure of the economy and necessity of the addition. His ration, as given, was well balanced. S. W. S.]

Weather, Crops and Prices.

Meteorology for March 3-9.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week		30.12	Inches.
Lowest	do.	29.14	do.
Mean	do.	29.58	do.
Highest temperature	do.	48°	
Lowest	do.	24°	
Mean	do.	35°	

Seven cloudy days. Six days in which rain or snow fell; total precipitation, 0.26 inch. Prevailing wind, N. W.; maximum velocity 15 miles per hour, N. W., on the 7th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	3d	4th	5th	6th	7th	8th	9th
Day	36°	40°	36°	40°	44°	40°	36°
This year	39°	39°	41°	39°	34°	29°	29°
Normal	30°	31°	30°	34°	33°	30°	31°

Total deficiency for the week, 3°.

New-York—*Setauket, Suffolk Co., March 4.*—February had 11 days on which rain or snow fell, 13 cloudy, 11 fair and 6 clear. Total precipitation, 2.19 inches; snow, 5 inches. Highest barometer, 26th, 30.67; lowest, 5th, 29.46; mean, 30.125. Highest temperature, 5th, 54°; lowest, 24th, 8°; mean, 27°. S. A. S.

Geneva, Ontario Co., March 5.—We had a good run of sleighing through February, so that farmers and those having logs and wood to haul had a good time in getting to town and mills. Spring seems to have come with March, as it has been thawing over since, and no frost at night. Many apples not sold yet; price low. Many farmers in settling up their accounts for the year seem to be rather better off than last year, but there are some who want to rent or sell. The farmers' institute here was well attended, and some very good discussions took place. I think if we had more of these meetings it would be a great benefit; there were many points shown that some of us do not know anything about. J. W.

Alfred Centre, Allegany Co., March 8.—We are having regular March weather with snow enough for fair sleighing. Hay plenty at $10 per ton; oats, 30c. per bu.; potatoes, 30c. with but little call; apples plenty and no market; butter, 28c. per lb.; meadows have been badly broken up but farmers generally are hopeful. P.

Maryland—*Hunnewills, Kent Co., March 7.*—This has been a remarkably open winter on the peninsula. The coldest weather was in February; 23d, thermometer 3°, but do not think it damaged the peaches to any extent. Ice made to the depth of five inches, and all the ice-houses were filled. No demand for farm produce; prices very low. Unless prices are better, farmers will have to stop raising grain for market, and turn their attention to small fruits, trucking and dairying. A creamery has been put in operation at Kennedyville, and separators at Worton and Fairlee, and nearly all the farmers have taken an interest. S. S.

New-Jersey—*Paterson, Passaic Co., March 4.*—Very disagreeable weather, foggy and drizzly, though mild; fresh northeast wind to-night. Very little snow left. Roads soft, frost coming out in places. J. W. B.

Ohio—*Mechanicsburg, Champaign Co., March 4.*—Weather fair and delightful; mercury 60°; wind northwest; splendid sugar weather; fruit is not killed yet; wheat all right. It now looks as if spring had come in earnest. Hogs are scarce; fat hogs, 4½c. per lb.; eggs, 12c. per doz.; butter, 18c. per lb.; corn, 28c. per bu.—4 P. M., weather cloudy, indications of colder weather. S. W.

Michigan—*Paw Paw, Van Buren Co., March 5.*—Snow going off with the sun. Wheat coming out looking splendid up to the present. The critical period is from now out. A. C. C.

Wisconsin—*Janesville, Rock Co., March 5.*—The lambkins condition of March continues. We had six inches of snow Wednesday night, which tempted many to the city upon runners. They all went home on bare ground, with the mercury at 50° above zero. I remember only one similar melting of snow. Rock river is placid, and no appearance of a rise; and this indicates cold to the north of us, or but little snow, or both. Farmers are beginning to seem busy. I think the tobacco acreage will be in excess of last year. Tobacco seems to have become a staple growth in Southern Wisconsin. The crops are prolific, and the quality good. This is a settled fact. Wheat, 70@80c. per bu.; barley, 44@52c.; rye, 49c.; corn, 35@37c.; oats, 23@24c.; potatoes, 45c.; butter, 18@21c. per lb.; eggs, 13c. per doz.; apples, $1.70@2.25 per bbl.; hay, $4@7.50 per ton; cattle, $2.40@3.40 per cwt.; hogs, $4.10@4.20; dressed, $5.2½@5.50; tobacco, 8½c., 8¾c., 9½@10½c. per lb. for fillers, binders and wrappers, according to quality. Health and business poor. W. H.

Nebraska—*Falls City, Richardson Co., March 2.*—March came in mild and bright; February went out with a heavy rain storm. The whole month was changeable and some very cold days and sudden changes made it most unpleasant. Farmers are getting ready for their spring's work; as soon as the mud is dried up they will hasten to get in their wheat. Nebraska sod is now very deep, but dries up quickly, and there has been so little rain or snow that the soil will absorb the moisture quickly. Fears of a drouth, the coming season, are entertained, as the soil must necessarily be very dry. Summer birds are here. Market prices are a little lower than last month. Butter, 15c. per lb.; lard, 12½c.; eggs, 8c. per doz.; flour has fallen 10c. per 100 lbs.; corn, 25c. per bu.; hay, wild, $3 per ton; tame, $6. Hard times is the cry through the State; but it is hoped that enterprise and courage will revive with the spring, and business be more flourishing. If there is no change for the better, eastern capitalists will have an immense acreage of mortgaged farms upon their hands, for it will be impossible for the farmers to pay either principal or interest. S. M. M.

South Dakota—*Codington County, March 8.*—Our weather after one week of bluster is now warm and pleasant; snow mostly disappeared, and farmers let their cattle out to feed on the native grasses during the day. Some people East cannot understand this, but the buffalo used to winter on this grass, which shows that cattle, horses and sheep can thrive. Cattle, 2½@3½c. per lb.; hogs, 5c.; corn, 25c. per bu.; oats, 25c.; wheat, 65c.; hay, $4 per ton; lands, $8@30 per acre. E. S.

New-Mexico—*Alma, Socorro Co., Feb. 28.*—We are busy plowing land and cleaning out acequias (irrigation ditches) and getting everything in readiness for spring planting. Prices of produce here are as follows: Corn, 2c. per lb.; potatoes, 2½@3c.; beans, 3c.; eggs, 25c. per doz.; hay, alfalfa, $25 per ton. M. C. L.

The Veterinarian.

Answers to Correspondents.

[By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

Some on Horse, p. 147.—His glands are size of butternut, and his nostrils full of ulcers; have been so since I bought him. Am treating him as you prescribed. C. P. *Fort Plain, N. Y.* [I am satisfied the horse has glanders, and if that is true, the law in this State directs that that the animal shall be killed. Be very thorough in disinfecting stables. The manger should be torn out and burned, also feed-box, pail, brush, comb, &c. The disease is very contagious and infectious, as you probably know. Be careful not to get any of the pus from his sores or nostrils into your eyes or into wounds on your hands, &c. If you are not satisfied to kill the horse on my opinion, have a couple of good veterinarians examine him. Do not sell him or give him away; see to it that he is killed.]

LAME IN SHOULDER.—A young mare is lame in one shoulder, in which is a very slight depression, tender to the touch. Have rubbed her with liniment, and used hot iron on cloth until it blistered slightly. W. H. P. *Fullston, Md.* [Apply golden blister, and give two weeks' rest.]

PUFFS ON COLT.—A colt coming two years old has puffs on inside of gambrel joints usually about size of a butternut, but almost disappearing with exercise. Has never been lame; puffs seem to be filled with a liquid. Veterinarian here says they can be removed with a hypodermic syringe and iodine injected after liquid is removed. F. W. *Richfield Springs, N. Y.* [Apply golden blister. I do not advise the injection of irritant into enlargements near the joints, especially when there is no lameness. In cases where other treatments failed, and the case was a very bad one, such treatment might be resorted to.]

COWS DYING.—I have lost two cows, both with calf and four and five years old respectively; were in good flesh and healthy; have had good corn fodder and cane hay since October 1, and were not sick at any time. In opening I found the dark coat on inside of stomach, instead of being fast to the stomach as usual, was loose and rubbed off easily. W. G. B. *Ellsworth, Kan.* [You have failed to notice any thing that would aid me in diagnosing the disease. The condition spoken of as found in the stomach linings is common, and has no connection with the disease. Read up on splenic apoplexy and see if that is anything like what you saw.]

HIND LEG STRAINED.—A valuable horse strained one of his hind legs in the soft ground. When he raises his foot from the floor it is drawn up and out with a short quick jerk which almost throws him over on his side. Scratches or grease heel has come out since. C. *Canandaigua, N. Y.* [Poultice the heel with raw grated carrots, nights, and rub in some of the following lotion twice a day, always rubbing heel clean with a soft piece of cloth before applying anything; clip hair off and give horse a dose of physic and a week's rest: Tincture of aloes and myrrh, 4 oz.; raw linseed oil, 3 oz.; fluid extract of opium, 1 oz.; mix. Horse should be walked a little after second day.]

DISEASED JAW.—I have lost a cow from a large lump on her jaw of about four months' duration, and I can in no way account for its origin. It was undoubtedly an osteosarcoma, at least as far as appearance went. The symptoms were a swelling on the inferior maxilla about the size of a large orange, and very dense and hard; no treatment undertaken, as the coldness of the season and the gradual increase of the tumor did not warrant interference. After the lapse of four months, with no sign of improvement or decrease in size of the tumor, I had the animal killed. On post mortem I found the tumor to be a collection of decomposing food, with several teeth from the superior maxilla, and some sequestra of bone. The edges of the cavity were fringed with what appeared to be cancerous tissue. The interior of the skull was one large abscess cavity, containing about two quarts of a creamy pus, which escaped through the opening made by the removal of the contents of the lower tumor. What this disease could be I am unable to determine. My curiosity has been aroused in regard to it by an article in Ashurst's International Encyclopedia of Surgery, vol. 6, page 875, in which mention is made of a disease of the jaws of cattle, of a parasitic origin, described by a German veterinary surgeon (Bollinger) in 1877. He discovered in these tumors a fungus named by Harts *Actinomyces bovis*. Some time before Bollinger, two Italians, Perroncito and Rivolta, had discovered parasites in the osteosarcoma of cattle, from 1868 to 1873. I suppose I cannot decide if this was actinomyces, as I did not make a microscopic examination, which I very much regret. Would like to hear through your valuable paper if any similar cases have been observed, and also that should one occur a microscopical examination may be made. W. G. C., M. D. *Brockway, Pa.* [If you will take trouble to look over back numbers of the COUNTRY GENTLEMAN, you will find many cases of diseased jaws of cattle reported and prescribed for. Actinomycosis has been written up. The case you describe was not due to actinomyces. There was evidently a large abscess, which, as the pus undermined the surrounding structures, allowed the teeth, &c., to fall into it. It may have been caused by an external injury, or be due to decayed teeth, or a foreign body injuring the parts from the mouth, or from some constitutional disease, such as tubercle.]

Horticultural Department.

Editorial Notes and Comments.

CLEAN AND HANDSOME HIGHWAYS.—Those who wish to increase the value of their farms at little cost, with no increase of taxation, should make the public road which passes their farms smooth and handsome. Throw no stones or rubbish into them; leave no broken and decayed implements to occupy them; clear out the unsightly weeds which otherwise would spread to the adjacent fields; make them a continuous landscape garden—the cheapest ornamental planting you can have, for the ground thus brushed, planted and improved cost you nothing. The taste for neatness will be thus cultivated; it may spread to other parts of the place; cattle will enjoy a shaded yard in summer, and the shelter of evergreens in winter; and there will be more real economy and less waste throughout the farming operations.

WINTER TREATMENT OF LAWNS.—"Gardening Illustrated" says that the grass may be best restored by rich surface dressings, advising to mix with any kind of dry scrapings an equal quantity of old manure, and then to spread the mixture over the surface just thick enough to hide nearly all the grass. When open winters prevail and rains occur, the enriching portions will be well washed into the ground, and in contact with the roots of the grass, and the warmer spring weather will give the plants a lively start. This course is infinitely better than the too common way of scattering large lumps of coarse manure over the surface of the smooth lawn.

LIME AS A PRESERVATIVE.—The London Garden states, what we have been aware of for many years, that lime is a good preserver of timber. Ships and barges used for the conveyance of lime last longer than others. In one instance a small coasting schooner, loaded with lime, was cast ashore and sunk. Being raised and set afloat afterwards, she remained sound for thirty years. A wooden platform, used for many years to mix lime on, was neglected and grown over with grass. Sixty years afterward, on clearing the ground, the wood was found sound and well preserved. We have used lime wash for many years for board fences, which remained clean and sound after other fences had become covered with moss and partly decayed. A house was shingled with cut shingles, not regarded as a durable kind; thirteen years afterwards when examined, all were found hard and sound. The lime should be fresh and sharp, and made into a wash quite liquid, so as partly to enter the pores of the wood. Thus treated for shingles, it is about as good as petroleum.

PEACHES IN COLD WINTERS.—W. G. Waring of Blair county, Pa., writes to the Tribune of a peach tree which was split down with the weight of a sleet storm; half remained erect and half lay flat. The half was covered with a snow drift till spring and bore a fine crop, while the erect portion had not a single blossom. This fact suggests planting trees in the lee of fences where drifts commonly form. Or, trees may be planted in an inclined position and covered with evergreens or cornstalks, but the branches must rest next to the ground in order to receive its warmth. The experiment which has been frequently tried of wrapping straw, dry moss, or other non-conducting substances around the fruit-bearing branches while they stood erect in the wind, has always failed, as they received no heat from the ground. A good way is to plant the trees at the foot of a sloping bank, so that by slight bending they could be brought into contact with the sloping ground and covered, and thus protected.

CANNING AND EVAPORATING.—S. G. Curtice, who for some years has been largely in the business, stated at the Rochester Horticultural meeting that he paid last year in his own establishment $326,000 for fruit, $70,000 for tin to make cans, and $68,000 for labor. He said he never could obtain as much fruit as he wanted of choice kinds. More profit was often realized from a few trees of choice kinds growing under the best management than from large orchards. M. J. Doyle said there were nearly 3,000 fruit evaporators within 40 miles of Rochester, besides small dry-houses on farms; and 25,000,000 pounds of apples were evaporated, and the total dried product of all kinds of fruit amounted to 37,000,000 pounds, for which the producers received $1,485,000. Rochester fruit is in demand even as far as Australia.

American Pomological Society.

Notes of the Florida Meeting.*

The first paper was on "Cross Fertilization," by Dr. J. C. NEAL of the Florida Experiment Station. He said there were three methods of variation from the recognized type of fruit and plants: First, by budding, grafting, layering, or cuttings and seeds, which was of small practical value; second, by noting the tendency to vary in certain plants, and selecting seeds from those showing greatest changes; this requires time, patience and judgment. The third method is by artificial crossing. There was a fascination about this process which he could not readily describe. "To be able to change the orthodox plans of Dame Nature to suit my fancy," said Dr. Neal, "is very interesting and often profitable." Speaking of the formation of the fruit germ, he said: "How life begins, whether the germ arises wholly from the ovary, the pollen only exciting the aggregation of the cells; or if the pollen furnishes the germ or specific nucleus; or if both combine to form a new plant, is not definitely known. It is certain that the pollen and the ovary are needed; all else may be absent. The relative maturity of the pollen and the stigma is important. There are three variations; one in which the stamens ripen and shed pollen some time before the stigmas are ready to receive it. In this case crossing is likely to result from the pollen deposit of another flower. The second variation is when the stigma ripens first, and is impregnated from other plants or blooms. The third variation may be called isogomy, where there is coördinate action and simultaneous preparation of stigma and pollen. A knowledge of these peculiar relations is invaluable to the would-be originators of new varieties." Temperature was an important element in the process of impregnation. At 70° the pear, peach and apple shed pollen in half an hour after the ripening of the bud. At a higher temperature the pollen drops even prior to the unfolding of the petals. The stamens should be removed at the first appearance of the petals; cover the stigma with the selected pollen, and use small paper bag to protect bloom from wind and insects. Remove all other blooms from the branch, record date, species or variety, and in three days remove covering and note the result. "We have the fixed habits of plants to contend with. It is easy to fail. In all cases the manipulations are very delicate. As an amateur for ten years, I have had more failures than successes." He had experimented with the stigmas of the Peento, Honey, and Chinese Blood peaches in the endeavor to get late blooming, early ripening and vigor of growth. A peach that will combine the good qualities of the Peento, Onderdonk and Amelia, would be a boon to Florida.

Among other needed improvements are a hardy orange, combining the traits of the Marvel and Satsuma, or the Tandriff and the Satsuma; a plum combining the qualities of the Kelsey and Washington; a Scuppernong-Black Hamburg grape: a Bartlett-Le Conte pear. All these he hoped to make certainties at the experiment station. With few exceptions, he found no effect of crossing shown the first year; sorghum corn, the cucurbitaceæ, and colocynth are among the exceptions. He had saved his melons from the ducky marauders by planting a species of the gourd or cucumber in it. The melons were large and bitter the first season. The respective shape is retained; the colocynth becomes slighter, flatter; melon bitter and purgative. He had seen no change in grapes, peaches or apples the first year.

The paper elicited spirited discussion. T. W. Moore reported a navel orange, which was effected the first year. Others spoke of like instances. Pomologist Vandeman was open to conviction with proper proof, but was not convinced as yet. Holding up a navel orange, he said: "Why, in crossing this, don't we lose the navel mark?" Several members answered him that they had done so. Ex-Gov. Reed cut a branch from one of his navel trees last season, which had some oranges without the mark, and contained seeds, and others with the navel mark and with seeds. Mr. Moore had grown oranges ten years before the advent of the navel orange. Since it came into his grove he finds the navel scattered all through it. Mr. Vandeman said the navel was very deficient in pollen; in a hundred good flowers he never found over three or four stamens. Rev. Dr. Phelps had obtained a navel orange with many seeds, and otherwise like the wild orange. President Berckmans had a Vicar of Wakefield pear among a lot of trees, some years ago, that had been planted among Seckel, Flemish Beauty and others. A branch from one of the Vicar trees afterward bore pears greatly differing; one was russet, like Seckel, another resembled Flemish Beauty, and a third was like the Vicar—all on same branch. He had seen the same thing with peaches and nectarines. Mr. Vandeman had raised peaches from nectarine seeds, and vice versa. All the difference between these fruits, he said, was that one had fuz and the other had not.

* Continued from page 191.

Grapevine Diseases.

Prof. Galloway of the Agricultural Department, Washington, presented a paper on this topic. He said: "For over a quarter of a century grapevines in this country have suffered from parasitic fungi. Two of these have taken such prominence that they are now regarded everywhere as the most dangerous foes with which we have to contend—downy mildew and black rot. These diseases prevail more or less seriously all east of the Rocky Mountains, and despite the fact that for many years they have annually destroyed from one-half to three-quarters of the crop, no organized effort has been made to combat them until within three years." He spoke of the department circular issued in 1887, advising the use of sulphate of copper solution, one pound to 25 gallons of water; second, "*Eau celeste*," one pound copper, one pint commercial ammonia, 23 gallons water; third, "Bordeaux Mixture," 16 pounds copper, 20 pounds lime, 22 gallons water; fourth, "David's Powder," 4 pounds powdered sulphate of copper, 16 pounds lime; fifth, "Sulphatine," 2½ pounds anhydrous copper sulphate, 15 pounds sulphur, 10 pounds air-slaked lime. These remedies have been tested by hundreds of grape-growers throughout the Union, and trials have proved, beyond question, that the downy mildew can be controlled by the use of either of these remedies. The first and second and the sulphatine would, however, ruin the foliage unless great care was used in its application. As to the black rot, nothing was settled definitely. Early last spring the department made a series of fourteen experiments with different solutions and modifications of the above. To the "Eau Celeste" two pounds carbonate of soda was added, which prevented injury to the foliage. Being asked about anthracnose (which the Florida people say is their greatest enemy in grape-growing), he said a fifty per cent. solution of copperas, applied in winter, was the best remedy, being careful to apply it before buds were much advanced.

Mr. Newman inquired as to the difference in cost in applying these remedies and covering the fruit with papers and bags, which was a complete protection against rot, insects and birds, beside prolonging the period of ripening. Mr. Parry said bagging costs about one cent per pound. Mr. Galloway thought the insecticides could be applied for $12 per acre. Mr. Newman preferred bagging; such grapes brought ten cents per pound, while unbagged sold for four. The Ives was greatly improved in quality by this process; sold his for ten cents net this year, while every unbagged berry rotted.

Various Southern Fruits—Oranges.

B. F. Livingston, Waldo, Fla., read a paper on the "Japan Persimmon," sometimes called Chinese date plum. He said no fruit tree in the State grew so vigorously without fertiliser as this, especially when grown upon native stock. Manure is unnecessary. His last February grafts set fruit last summer. He has 600 trees eight feet high, one year old. The varieties are numerous. No trouble to grow them, but the problem of marketing, packing and shipping was unsolved as yet. Fruit should be clipped from the trees, wrapped in tissue paper, and packed in trays of one layer. Must not pick until mature, but at once afterward. The Japanese have cultivated this fruit 300 years, and have now about 40 distinct varieties.

The report of the sub-tropical committee was read, with detailed reports from each Southern State. New plums of the oriental strain were reported promising in Florida; grapes are grown successfully in the northern counties; the strawberry is the only small fruit grown to any extent in Florida for market; the culture of lemons is largely increasing, more varieties being grown. The lime is less grown than it deserves, the shaddock only as a curiosity, having no special value as a table fruit. European grapes usually fail in Florida. Figs are considered profitable by some. The guava is a favorite fruit here, and quite largely grown, but is very tender and cannot stand frost. Olives are grown about Fernandina, but do not bear early. Dates are found in scattered gardens. The cocoanut is extensively grown in the extreme southern part of Florida. Most important of all tropical fruits now raised here is the pineapple; several varieties are successfully grown.

Rev. Dr. Moore presented an essay on the "Minor Citrus Fruits." He spoke of the citron as the first of the family introduced in Europe, a thousand years before the orange. The fragrance of its flowers is superior to the rose. Strange that it is not grown more largely; instead of importing it, we ought to export; it is easily grown and handled; no excuse for this neglect in Florida. The history of the shaddock was detailed; a native of China and Japan. Grape-fruit was referred to; it grows in clusters like the grape; should be gathered when fully ripe, when it is prized more highly than the orange by some. The lime he thought to have originated in the West Indies; it had never been properly appreciated in this country. He exhibited specimens; rind yellow and green intermingled. It is more easily injured by frost than the orange or lemon. The "quanquat," a small, oblong, yellow fruit, delicious and refreshing in flavor, was shown; makes an excellent sweetmeat preserved in sugar.

Mr. Van Deman protested against the use of the term "grape-fruit" as incorrect and unreasonable; the name was "pomelo," and he hoped the society would adopt it.

Senator C. F. A. Bellby gave a description of the orange industry in Florida. In less than twenty years, production has increased from nothing to 3,000,000 boxes for export. The farther east you plant in the State, the farther north you may venture. The possibilities of this industry are limitless. Oranges can be grown on nearly all soils in the State; difficult to decide which is best; fertilizer not really necessary until trees begin to bear. Cleaning the land is expensive, but it is not really necessary to take so much trouble in doing it. He had learned to oppose the general belief that oranges could not be grown on the flat lands. The trees must be set high, with the crown roots at the surface of the ground; there is no exception to this rule. The supply of moisture must determine the method of culture. Speaking of the custom of planting cow-peas in the grove, he was opposed to it. The plant had a good, healthy appetite for fertilizer. He thought too much ammonia was now used in the cultivation of the orange, as a rule; it makes the fruit coarse and impairs the vitality of the tree. On dry pine lands it would do, but not on moist soil. He urged the use of pure raw bone, and said none could make a mistake with it. It is slow but sure and perfectly safe. Cottonseed meal, and potash in the form of a sulphate, should be used. Among diseases, "foot-rot" was often most injurious, and "die-back" very troublesome; three-fifths of the latter resulted from improper fertilizing. The "scale" and the "rust" were the only insect pests noted, and these were not serious as yet.

Dr. Neal thought the foot-rot was a fungoid disease. He warned orange-growers of the approach of a dangerous insect by way of Texas from Mexico—a sort of borer which bores into the orange much as the codling moth does into the apple. The woodpecker and jay-bird were other troublesome "insects" that were rapidly cultivating an appetite for oranges. He advised the removal of the wild-cat bounty, and the transfer of it to woodpecker hides.

Mr. Livingston had seen the foot-rot (*maidegoma*) on high pine land. Another enemy, he said, was the "sap-sucker," which girdled the tree with small holes.

Mr. Phelps said Dr. Neal's borer was already here.

E. H. Hart then read a paper on "Varieties of the Orange." Many, he said, who formerly knew of but one sweet orange, now looked with amazement on the many kinds grown. The late P. W. Rossomer of Manatee had compiled a list of 150 kinds. The grower is puzzled to know which to plant. There is fashion in oranges as well as in ladies' bonnets. The term "kid-glove" orange (*Citrus nobilis*) had its origin from a joke. The characteristics of many varieties were graphically depicted. Maltese Blood was favored for flavor; also the Navel strain. The California growers have an idea that they have us in Florida in April and May, when our oranges are gone; but what are they going to do about it when we fill the market with oranges all summer? This we may do with proper care and selection of varieties.

E. H.

Fruit Markets in England.

According to recent publications, the fruit-growing question in England is by no means settled. In the December number of the Nineteenth Century appears a paper by Mr. Frank Morgan, editor of the Horticultural Times, on "The Fruit-growing Revival." He draws a very tempting picture of the possibilities of this industry, assuring the farmers that five acres of land properly cultivated as a fruit orchard will net them $1,250 a year; but beyond some mention of profits in certain cases, no history of which is given, and statements of how much so many trees per acre will produce — such as that 200 pyramid trees planted on an acre of land will yield $350 worth of fruit a year after the third year — little information is given how these paying results can be attained. He says that by growing a finer fruit which will command a higher price, the American article can be displaced, and asks, "who would purchase a pound of Newtown Pippins when he can obtain the luscious Cox's Orange Pippin; or who would eat a Baldwin when a Blenheim Orange is available?" Mr. Morgan believes the best of the fruit will realize at wholesale 50 to 75 cents a dozen, the remainder $1 50 a bushel. No allowance is made for poor seasons and little is said as to expenses. While waiting for returns from the pyramid trees we are told $100 to $150 an acre can be made by growing "choice early productions"—meaning, I suppose, vegetables. Ex-premier Gladstone is credited with having "rendered incalculable service" to horticulturists, which, in view of the "grand old man's" reputation as a wielder of the ax, appears paradoxical. I have heard of Mr. Gladstone's advocating the growth of small fruits for preserves, but Mr. Morgan declares that they are one of the least profitable means of cropping the soil. He deplores the fact that landlords in England are not willing to let five-acre pieces for fruit-farms on equitable terms.

Mr. Alfred J. Mott, F. G. S., of Gloucester (Eng.), replies to Mr. Morgan in the National Review, taking, I think, a much more reasonable view of the matter. He says there is no demand in England for any more fruit at present prices, except by the rich, and by them only as long as it is finer and earlier than can be got by other people. If larger quantities are produced, the price will necessarily fall. Also that the English climate is less favorable to fruit-growing than that of many other countries, which are now accessible at all seasons of the year; and, with the yearly increasing facilities of transit from abroad, an unlimited competition will arise, which will make large profits in fruit-growing as impossible, even any profits at all doubtful, as in any other product of English soil. He admits that, in exceptional cases, a fortune may be made out of a few acres of land, but to suppose that the general cultivator can do it is a wilfully foolish idea. In answer to Mr. Morgan's question as to who prefer a Newtown to a Cox's Orange, or a Baldwin to a Blenheim, he replies: "Why, the whole British nation will do it to a certainty if the American fruit is cheaper, excepting only the small wealthy class, who are indifferent to the price of what they buy;" adding that a housekeeper, buying apples for pies or puddings, will not give four cents a pound for English fruit if American is offered at three cents. The special demand for exceptionally rare and fine fruit by the wealthy classes ceases the moment it can be abundantly supplied. Twenty-five cents an ounce may be paid for strawberries in March, but who will give it in June? The rich do not want any more in quantity than at present, and the rest of the world do not want any more in value, their expenditure being limited by the money in their pockets. He touches upon more debatable ground when he says that fruit as substantial food is of very little value, and is always extravagantly dear considered as an ingredient in human diet. To imagine that there is, or can be, a great unsatisfied demand for food of this costly kind he characterizes as pure nonsense, indicating a want of knowledge of its relative value. Allusion is made to the extreme uncertainty of the fruit crop in the English climate, where a single night's frost often destroys the whole, and when the value of the crop is always for several months at the mercy of the weather. He wants to know what are "equitable terms" to a man who is going to make a net profit of $250 a year from every acre he can get hold of, and supposes a seven years' lease granted on condition that the land be given up at the end of it. According to Mr. Morgan, the net profits in the last four years will be nearly $5,000, and if it cost $500 to plant the trees he will have made more than $4,000 at last. Is there, Mr. Mott asks, any ordinary farmer who can get $4,000 out of five acres in seven years? He wishes those who mislead the struggling English farmer by such vain promises could be made responsible for all the latter loses in time and money by listening to their advice.

It is difficult to imagine the S. E. F. converted into a wealthy fruit-grower, but it will be a much harder task for him to decide which he shall heed—the allurements of Morgan or the warnings of Mott. J. H. C.

Monroe County, N. Y., March 1.

The Entomologist.

The White Grub on Strawberries.

ED. COUNTRY GENTLEMAN—Complying with request on p. 149, I give my experience with that destructive "varmint" familiarly known as the "potato worm." This creature has a history, briefly, as follows: The egg which is to produce the larva is deposited in the ground by the mother bug in the latter part of May or early June, after a few weeks is developed, but during that season is little noticed; the next season is its chief destructiveness. At the decline of this second season, it takes on the aurelia state and so remains through the winter months, and until May or June of the next year, when it is developed into the perfect insect, and goes forth on wing as did its predecessor, and becomes the progenitor of another generation. The synopsis of this is: One year for the deposit of the egg, another for the development of the grub, and a third for the coming forth, and maternal duties of the flying insect.

Now the question rises, how can we take advantage of its inherent characteristics so as in a measure to avoid its devastations upon our growing crops, particularly, in this exposition, the strawberry? The parent deposits its eggs in some field of growing vegetation—preferably grass—so that the young larvæ will have roots to live on. A barren field will have no charms for a creature like this; hence a newly plowed field, with undeveloped vegetation at the time when the insect deposits its eggs in the ground, will not be chosen; it places its eggs in some grass field instead of a potato, corn, or other hoed crop field. Thus it may be seen why a field one year planted is a safer place to set strawberry plants in than a grass field. In the grass field of last year, the eggs were deposited and the grub partially developed; this year those grubs will become fully developed, and their destructive power fully developed also; so that should one plow such a field, and set strawberry plants this year, the plants will be liable to damage, because the worm, being already in the field, must live on the strawberry plant, from the fact that there is nothing else there to live on.

One noteworthy phenomenon, corroborative of the above principles, was observed two years ago in a strawberry patch where beets had been raised the year before. In cultivating the beets, three rows in the middle of the piece were neglected and the weeds allowed to grow; the strawberry plants set where these weeds grew, were more than half-killed by the white grubs, but not one was touched by them in any other part of the field.

In view of all this, are farmers to set strawberry plants only upon "old ground?" The conclusion is imperative that greensward is an unsuitable place to attempt their cultivation. It is true that strawberries have been raised to perfection on new-plowed grass land, but no person is safe in attempting it. The earlier cultivators of the fruit lost acres by so doing. But yet the grub is not always prolific; some seasons there is such a dearth of them that their depredations would be of minimum importance; hence, were a greensward well adapted to strawberry growth, there need be no fear of failure, but unusual pains must be taken with it to insure a fair yield of berries, hence it would be advisable to plant invariably upon ground that was planted in some cultivated crop the previous year.

Bristol County, Mass. P. B. THOMAS.

The Poultry-Yard.

Turkeys and Ducks.

ED. COUNTRY GENTLEMAN—Sympathizing with "Quinsigamond" in the hard lines that have befallen him in his attempted turkey-raising, I am moved to give him a few practical suggestions, based on my experience. While I do not profess to be an expert, the rearing to maturity of 95 per cent. of the turkeys hatched, will perhaps demonstrate that my method is entitled to a hearing.

To begin, the first clutches of eggs laid by the turkey hens are always placed under chicken hens for hatching. I use the big, lazy Plymouth Rocks for this purpose, because—first, they will cover a greater number of eggs than any other; second, they are so good-natured and lymphatic, that nothing short of an earthquake will disturb their sitting serenity; and lastly, they are everlasting "sitters" when once fairly "broody." I never give over nine eggs to each hen, and sometimes only seven, owing to size. I prefer giving fewer eggs, and employing a greater number of hens, for it is said that "the time of a sitting hen is of no value," and it is most certainly true if you give her a greater number of eggs than she will properly cover. I make a note of the day each hen is set, the number of eggs set, and any other little item connected therewith, in a book kept for that purpose.

After sitting ten days, I sprinkle each nest of eggs with milk-warm water while the hen is off eating, and just before she is back on the nest, to prevent the eggs from getting chilled. One week previous to the time she will begin to hatch, I sprinkle powdered sulphur over the eggs, usually in the evening. This is sure death to any vermin that may have developed during the time of incubation. Sometimes the hatching is a little irregular, owing to a difference in the length of time the several eggs have been laid, although I have gone to the nests at times and found every egg hatched; but this is not commonly the case.

When the weather is cold, as is sometimes the case, I take the young turkeys to the house, caring for them in much the same manner as "Farmer's Daughter," but I feed differently. I keep them covered up in a basket in a warm place until 24 hours old—of course not so tightly as to exclude the air—meanwhile giving the hen, after feeding her liberally, two common eggs to keep her on the nest and in good heart until the turkeys are old enough to give her. When 24 hours old I give the young things their first feed. I pour scalding sweet milk over crusts and scraps of light yeast bread, press the bread as dry as I can in my hands, and crumb this warm on a board before them; they will, if hungry, soon eat, and I feed them this food every two hours during the day. The third day they are usually chipper enough to put with the hen. I have my coops in a warm, sheltered, sunny place; they are made of lathe, without any bottom, and I move them to a different spot every day.

When taking the hen from the nest, I thoroughly grease her breast and under the wings with lard. Before giving her the young turkeys feed her well, and as soon as she is satisfied give her the young; after she has hovered them an hour or two, they will come out with their little heads as slick as if peeled; this prevents any insects that might have survived the sulphur treatment fastening upon the young. I never feed eggs in any shape, believing that sweet milk and bread afford all the nourishment needed for healthy growth for the first ten days. I keep a little dish of sweet skim-milk in the coop all the time; the hen relishes it as well as the turkey chicks. Then I begin to feed cheese curd, made by scalding clabber milk and draining it quite dry. Crumb it finely with a sprinkle of black pepper. I now discontinue the soaked bread, but give crumbed corn bread instead, made after this fashion: I pour scalding sweet milk on a mixture of two-thirds corn meal and one-third shorts, add a pinch of salt or a large tablespoonful of meat drippings to a gallon of the mixture, stir it as stiff as I can with a spoon, and turn into a pan and bake until dry; then break it up fine and feed just what they will clean up, three times a day. You would be astonished at the growth they will make. I let the hens out in the yard for two hours in the middle of the day to get gravel and sand, but by no means ever let them out in the early morning, for a heavy dew is as fatal to young turkeys as a snow storm. As soon as they get draggled and wet they chill and turn their toes up to the daisies. For this reason I prefer Plymouth Rocks for mothers, as they are too lazy to go any distance from the back door.

Now in regard to treatment of the hen turkey. As soon as she stops laying, I confine her in a pen with the gobbler for two days, and in ten days or two weeks she will begin to lay again; the second "clutch" of eggs you can let her hatch if you wish, observing the same precautions in regard to the young as with chicken hens. I have one hen from imported stock (Bronze) that lays three "clutches" every summer, and I let her sit on the last, which usually numbers thirteen. One season I raised 40 turkeys from the eggs of this one hen, and I did it just as I have described. The work of taking care of them is not nearly so formidable as it looks on paper.

Now I have a few questions: How shall I feed young ducks? How care for them? What should be their surroundings? Shall be pleased to have the advice of a practical duck raiser. MRS. E. M. BOSICK. *Beech Hurst, Ind.*

Management of the Cocks.

The numbers of hens to be allotted to each cock depends on several considerations, and no certain rule can be laid down which will apply to all varieties and all seasons. In the first place, the season of the year has to determine the proportion, for while one cock will be enough to fertilize the eggs of eight or ten hens in mild open weather, it is probable that four hens will be quite enough early in the season, when it is cold and stormy. Therefore, a commencement should always be made with a smaller number, for others can be added as soon as this is thought desirable. Yet the number must not be too small, for infertile eggs as often result from the running of too few as too many hens with the cock. The hens must not be distressed by his attentions, but fortunately this can easily be known by their backs becoming bare of feathers. So soon as this is seen, more hens should be added. There is also great difference in the varieties. It is not at all uncommon for young cocks of the more active breeds to fertilize the eggs of ten or a dozen hens, but in the heavier varieties six is generally enough as a maximum. Each poultry keeper must, however, determine this matter for himself, and be guided by the appearance of his hens, and whether the eggs laid are fertile or not. If infertile, it would be advisable to take one or two of the hens away, and the result will prove whether too large a number has been the cause.

In the different varieties there is great difference in the power and duration of the procreative faculty, and there is also considerable difference in the time when they can first be used for breeding. In some of the heavier breeds it is almost essential to use young cocks, as the older birds are of no use, and Cochins, for instance, cannot be relied upon after the second year. But even with such stock it is a great mistake to begin too soon, for the chickens produced by immature birds are never so strong. We think it unwise to use any bird as a breeder until it has reached a year old, for by that time the frame has set and the faculties developed. If it is so used before, there is not only grave danger that the progeny will be enfeebled, but a permanent injury is likely to be done to the cock itself. Even when year-old cocks are used for breeding it is desirable to have older hens, and there can be no question that very great injury has been done by the system of breeding from immature stock on both sides. In some of the varieties, especially the more highly bred, they can be bred from before either cocks or hens are five months old, but it is not wise to force in this way, and it may be taken as a safe rule that a year old is plenty soon enough for a cock to be used as a breeder. The best results in the more active varieties is found with two and three-year-old cocks.

When cocks have been run with hens, or even if they have been sent to shows in pair classes, it is necessary to give them separate runs, as they will fight if placed together. Some breeders, after the breeding season is over, run the risk of this, and in a few varieties no very serious damage is done. They simply have a fight, and are afterwards good friends. But in the greater number of varieties this fighting would continue until one or more was completely spoiled if not killed. It is, therefore, essential, where the cocks have to be kept either for the next season's breeding or for showing, to have special accomodation for the birds. When space is plentiful, this is best in the shape of small portable houses and runs, and the various poultry-house builders include several capital models in their catalogues. For an ordinary sized cock, the house should be thirty inches square, or thirty-three inches by twenty-seven is perhaps a better size, and about three feet high to the apex of the roof. Inside there will be no fittings needed except a perch (and not this in the case of feather-footed fowls), which must not be placed in the line of draft. The run may be uncovered or covered, but for hardy breeds we think it is better to let it be open, that is, have only a netting top. It should be at least five feet long by the width of the house. These houses can be moved regularly, and the fresh ground given goes far to keep the birds in perfect health. For light-colored exhibition cocks it is necessary to have covered runs, as the sun would tan the feathers. In some instances only permanent cock pens can be used, and when that is so, the best plan is to raise them above the ground a little, and make the floor of the house and the run of sand, which can be frequently turned over, and renewed as often as necessary. STEPHEN BEALE. *H—, England.*

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Pamphlets, &c., Received.

ANDERSON, H. S., *Union Springs, N. Y.* Nursery List.

BARNES, WALLACE, Box 686, *Bristol, Conn.* Circular of "Haborit," a cure for abortion and sterility—see advertisement.

BRINTON, Jos. H., *Thornbury, Chester Co., Pa.* Circular and handsome sample of Pennsylvania Greenstone, a serpentine—seems to be a very excellent building material.

KEMP & BURPEE MFG. Co., *Syracuse, N. Y.* Circular of Kemp Manure Spreader.

PARRY, WM., *Parry, N. J.* Nursery List; pp. 32, illustrated—see advertisement, p. 218.

PIERCE, E. A., Secretary Indiana Poultry Association, *Indianapolis, Ind.* List of Awards at Show, Feb. 5-9.

REID, R. W., *Bridgeport, Ohio.* Planet, Jr., Implement Catalogue; pp. 32, illustrated—see advertisement, p. 218.

ROESCH, LEWIS, *Fredonia, N. Y.* Grapevine and Small-Fruit Catalogue; pp. 16—see advertisement, p. 218.

SEARS, B. C., *Blooming Grove, Orange Co., N. Y.* Circular of Bottled Milk, Eggs, &c.

THORNTON, JOHN, *Prince's St., Hanover Sq., London, Eng.* Circular of sale of Henry Webb's Stock, Downs, at Streetly Hall, Linton, Cambridgeshire, July 3—see advertisement, p. 210.

WILLIAMS, GEO. L., *30 Exchange St., Buffalo, N. Y.* Photograph of Inbred Descendants of Inbred Jersey Bull St. Helier 45.

Subscribers' Wants.

A. H. PRINCE, *Cathcartus, N. Y.* Pair of Narragansett turkeys.

New Advertisements.

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Kelling & Co., Peter C.	Sale of Jersey Cattle.
do. do.	Sale of Trotting Stock.
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Lucas & Vosburgh	Short-Horns and Cheshires.
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Miller, Garrett S.	Holstein Cattle.
Miller, E. C.	R. R. Rat Game Bantams.
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Page, John R.	Thoroughbred Middlings.
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Sellers, Geo.	Guernsey Cattle.
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Tuttle & Co.	Cure for Piles.
Thompson, Wm. H.	Jerseys.
Talbot, Geo. M.	Jersey Bull.
Timken	Spring Vehicles.
Thompson, Geo. W.	Eggs for Hatching.
Wright, Jos. H.	St. Bernards and Mastiffs.
Winchester, J. T.	Farm Wanted.
Wood, Chas. S.	Guernsey Bulls.
Willis & Co., N. J.	Dress Patterns.

Acknowledgments.

Communications for publication have been received during the week ending March 11, from Prof. E. W. Stewart—T. C. Groome—Edwin Wing—H. Hendricks—Hiram F. Hopkins—J. W. Spencer—Kemp Bros—T. G. Yeomans & Sons—John Henderson—N. S. Fish—Mrs. Alice Chittenden—Mrs. S. H. Rowell—K. X.—A Subscriber—J. W.—S. B. Strong—C. M. Winslow—Thomas Borton—Kemp Bros.—Wm. Horne—F. Green—E. G. Fuller—R. C. F.—W. Gettys—G. B. Porter—E. A. Pierce—W. M. Barnum—L. B. Pierce—D. B. De Wolf—E. S. R.—Gerald Howatt—Laura A. Beatty—Jacob Engle—Geo. F. Weeks—Lillian Mayne—Elmer W. Summey—U. H. Hillman—L. F. Scott—Henry Stewart—Mrs. D. H. R. Goodale—James Wood—Stephen Beale—A. M. Goff—D. A. Stephens—H. S. Weeks—A Farmer's Daughter—G. Archie Stockwell—J. W. Clarke.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman.

Albany, March 14, 1889.

Geneva Experiments.—The annual report of Dr. PETER COLLIER, director of the New-York Agricultural Experiment Station at Geneva, summarizes the work of the past year and sketches plans for the future, chief among which is the intended competitive test of a number of selected specimens of the dairy breeds of cattle. The financial statement may be summarized as follows:

RECEIVED.	
Balance last year	$1,759
From the State	38,000
	$39,759
PAYMENTS.	
Farm, Improvement, Repairs	$3,000
Implements, Apparatus, Furniture	1,494
Officers and Board of Control	2,124
Labor	5,788
Library, Printing, Postage	1,946
Supplies	1,853
Live Stock	836
Travel, Freight, Cartage	559
Fuel, Insurance, &c.	906
Balance on hand	6,091
	$39,759

Agriculture in Pennsylvania.—The reports for 1888, given in a volume of some 400 pages, contain much matter of general interest to practical cultivators. One of the first papers is a report of an off-hand speech of Gov. Beaver, who gave an account of his recent visit to the Geneva Experiment Station, and of his conference with Dr. Collier on the subject of sugar-making. The doctor said to the governor: "You and I will live to see the day when sugar will be manufactured at a profit and sold in this country at a cent a pound." The governor said he "looked at the man in blank amazement," when the doctor proceeded to explain. He looked over the fields and saw some hundred and eighty different varieties of sorghum growing there, some of them well adapted to the purpose; he saw the ripe grain in the office, the seed of which was suitable food for a large portion of the human race; he saw the flour made from this ripened grain, as good as corn meal; he saw crystallized sugar made from the sorghum, at the rate of a hundred pounds to a ton of cane, and in another department eleven gallons of molasses made from the ton of cane; he saw the fine paper-pulp, only second to the finest linen rags for paper; and then Dr. Collier said: "The grain will pay the entire expense of the cultivation of the crop; it is just as good as corn, and makes just as good a yield, and will pay just as well as corn." In answer to the objection of failure to produce this result, he said: "All you must do is to allow the cane to ripen." He showed some twenty or thirty varieties, some of which would mature on the banks of Seneca Lake. The governor gave the statements, with some hesitation as to the full success of the manufacture.

Other portions of the reports give an account of the farmers' meetings held in different parts of the State; the success and diseases of farm animals; a statement of the wages paid to farm laborers; an account of the fence laws; the effect of fertilizers; farm machinery; dishorning cattle; drainage; fruit culture; healthful homes; centrifugal cream separators, largely illustrated, and several extended papers on the various departments of dairying. Among the many other subjects well treated of, are several on ensilage, in one of the papers on which the writer says: "Formerly I thought the silo the rich man's luxury, but now I see it is the poor man's necessity—ten acres of ensilage will keep twenty cows in all they will eat."

THOMAS J. EDGE of Harrisburg is secretary of the board, to whom we are indebted for a copy of these reports.

State Dairymen.—The Twelfth Annual Report of the New-York State Dairymen's Association has appeared—a pamphlet of something over 200 pages. Prof. I. P. ROBERTS of Cornell is president; Josiah Shull, Ilion, secretary.

State Aid to Agriculture.—The appropriation bill agreed on by the committee of the New-York Assembly contains the following items of rural interest:

State entomologist	2,500
State cabinet of natural history	15,000
Promotion of agriculture	20,000
Agricultural experiment station	20,000
Forest commission	20,000
Dairy commissioner	75,000

A Satisfactory Meeting.—The State Institute just closed at Friendship was declared by Messrs. Woodward, Curtis, Fenner and others to be the most interesting and profitable they had attended this year. There was a full house from the start, and great interest prevailed to the singing of the doxology. Every item on the programme was carried out with one exception, and we come away feeling that good had been done, and the money expended by the State had been well spent. L.

Alfred Centre, N. Y.

Clover and Timothy Seed.—Please insert my advertisement till forbidden. I had an advertisement in your paper some time ago, and received more answers than from any other source. S. S. READ, *Toledo, O.*

In England this Summer.—We have the following letter from Mr. JOHN THORNTON of London:

"I dare say you will have observed that this year the Royal Agricultural Society of England completes its fiftieth year. Her majesty the queen is president, and a large show will take place the last week in June at Windsor Great Park. Many important country events have been accordingly fixed to run at convenient times with the Royal Show. I have drawn up a little calendar showing what events will take place in the racing and breeding world during June and July. Perhaps you will be kind enough to send a few of these calendars to any gentleman whom you may think likely to come over (applicants will send stamp—Ens.) If they could manage to arrive in England the first week in May, they could see the great Newmarket Guineas race; then, on the 15th of May, Sir Robert Loder's celebrated herd of Bates Short Horns will be sold, and after that the sales and shows commence. If they contemplate staying into August, they could also see the Yorkshire Show the first week in August, and the great sheep sales. The first week in September the Duke of Devonshire will sell a portion of his celebrated herd at Holker. You can therefore see how very interesting the year will be to breeders of horses, cattle and sheep, and if we only have such weather as we had during the jubilee of her majesty's reign, the country will have much to show our foreign visitors. Live stock generally this year have wintered well. January was an open month and roots abundant. Stores have sold well, but we are still very short of numbers, as you will see by my circular, which will come to you next week."

White Grubs on Strawberries, p. 149.—After several years' experience I have found a potato crop more injurious to ground for strawberries than damage done by white grubs. The potato crop takes from the ground just what the berries need, leaves the ground exhausted and heavy and will require double the fertilizer to produce a good crop compared with what would be needed after corn. I prefer to dig out the grubs, which can be easily found by watching the plants. Set the plants somewhat closer and fill vacant places with runners. C. MILLS.

Onondaga County, N. Y.

Earth Closet, p. 165.—"H. F." gives valuable information, but his chemistry being astray, he makes one mistake as to using wood ashes. They will, the same as lime, destroy the manure. Dust of coal ashes or pulverised muck is usually obtainable and best, but if addition is required, take a very small quantity of sulphate of lime, nice and dry (*i. e.*, ordinary ground land plaster,) its nature being "to fix the ammonia." E. E.

Fertilizing Land.—We have not seen any more articles from your admirable correspondent "A. P. S." of late. He touched the right cord for the advancement of southern agriculture when he called attention to the value of pine shatters and all other available vegetable matter. In a country where the soil is constantly depleted of its vegetable matter, by a system of clean culture, such as is required in the culture of cotton and tobacco, such articles are of value. Farmers living in a more northern latitude, where the climate favors the production of small grain and the grasses, cannot appreciate the terrible effects of heavy rains in a country kept constantly under a system of clean culture. Agriculturists in the cotton and tobacco sections should be advised to use all possible means to add vegetable matter of any kind to their soil, in preference to any other kind of fertilizer.—We should also like to hear from our friend R. E. Tomlinson; have always read his articles with much pleasure.

Charlotte, N. C. McD. W.

Wool.—The following remarks are from a circular just issued by JAMES LYNCH, wool-broker, 194 Church St., New-York,—who estimates our national production of wool as 327,500,000 lb. in 1884, 329,600,000 in '85, 323,305,000 in '86, 358,500,000 in '87, and 322,800,000 in 1888:

A review of the wool business of 1888 shows it to have been, on the whole, satisfactory, in marked contrast with the preceding year. Opening with a weak and declining market and lower values than for a period of years, its closing was signalised by a complete recovery from the stagnation and weakness ruling during the earlier months.

My estimate of the product of the United States shows a total decrease of about 11,000,000 lbs. from 1887, partially caused by the unremunerative price, and also by an unusual demand for mutton in the early part of the year. The effect will probably be more apparent in the coming clip.

Fifty millions of dollars was America's contribution, for the single year of 1888, to the foreign woolen manufacturer; and the foreign dealer in the raw material benefited to the extent of $14,000,000. The total cost abroad of wool and its manufactures, imported into this country, for the year, reached $64,000,000. Of the above, 14.63 per cent. represents the amount paid for carpet wools, and 1.57 per cent. for manufactures thereof. Of the remainder but 7.58 per cent. went for clothing and combing wools, and 76.32 per cent. or $48,620,640 for the product thereof. The latter classes, only, enter into competition with our home-grown wools, less than 3 per cent. of the domestic clip being of the kind known as Class 3, or Carpet Wool.

The price of Fine American Fleece Wool, for the average of a year, has never been so low as in 1888. The net imports of Classes 1 (clothing) and 2 (combing) for the year, amount to 23,190,400 lbs., or, in the scoured state, say 7,730,133 lbs.; and our domestic clip of the same class in the ordinary condition is estimated at about 300,000,000 lbs. It is evident that we are growing nearly all the clothing wool we need, if the present rate of increase in the importation of manufacturers of wool is to be maintained.

At the present writing, the markets for wool and woolen goods are quiet and rather unsatisfactory. While the advance in wool, which reached its highest point in December, has been fairly sustained, transactions to a limited extent have taken place at some concessions.

Farm-Yard Notes and Items.

Messrs. PETER C. KELLOGG & Co.'s Combination Sale of California Trotting Horses at New-York, March 7-8, was probably the most successful ever held, with a very large attendance of prominent breeders and owners from all parts of the country, and the prices obtained were unprecedented. Mascot, the two-year-old son of Stamboul, 2.14¾, and the famous mare Minnehaha—the g. dam of Bell Boy, recently sold for $61,000—brought $30,000, said to be the highest price ever obtained for a two-year-old trotting horse. Twenty-four Stambouls averaged $5,776, and twenty-four Alcazars averaged $1,217.50. Mr. KELLOGG stated that "the average of the Stambouls was greater than ever known on a given line of horses in equal numbers." The following brought $1,000 or over:

PROPERTY OF L. J. ROSE, LOS ANGELES, CAL.

Mascot, b. c., 1887, by Stamboul—Minne-ha-ha, by Hovenir' Bald Chief; D. Scott Quinton, Trenton, N. J. $30,000
Bay colt, 1888, by Stamboul—Minne-ha-ha; J. H. Shults, Parkville, L. I. 9,500
Brown filly, 1887, by Stamboul—Astriones, by Alcyone; J. E. Madden, Lexington, Ky. 6,600
Nehumita, b. f., 1885, by Stamboul—Nehuska, by Sultan; J. H. Shults 5,500
Bay filly, 1886, by Stamboul—Nellie May, by Electioneer; J. S. Ferguson, New-York 4,100
Brown filly, 1887, by Alcazar—Nehuska; Chas. Beckman, Stony Ford, N. Y. 4,000
Brown colt, 1887, by Stamboul—Minnie Corbitt, by Guy Wilkes; J. W. Johnson, Plainfield, N. J. 3,510
Bay filly, 1887, by Stamboul—Lady Graves, by Nutwood; D. Scott Quinton 3,500
Bay colt, 1887, by Stamboul—Chelsea, by Dictator; A. J. Welch, Hartford, Conn. 3,201
Bay filly, 1887, by Stamboul—Phallicea, by Phallas; G. H. Hicks, Boston, Mass. 3,000
Bay filly, 1887, by Stamboul—Kittie Ward, by Echo; G. H. Hicks. 2,950
Bay colt, 1887, by Stamboul—Young Signal, by Arthurton; J. Coe, Middlefield, Conn. 2,600
Bay colt, 1887, by Alcazar—Laura Corbitt, by Guy Wilkes; W. C. Hamilton, Philadelphia, Pa. 2,400
Bay colt, 1888 by Alcazar—Naya, by Dictator; Samuel McMillan, New-York 2,300
Bay colt, 1888, by Stamboul—Georgiana, by Overland; N. W. Hubinger., New-Haven, Conn. 2,250
Brown colt, 1888, by Alcazar—Nehuska; J. S. Ferguson 2,200
Bay filly, 1887, by Stamboul—Mary Arnold, by Arnold; David Nevins, South Framingham, Mass. 2,200
Bay filly, 1888, by Alcazar—Astriones; C. J. Hamlin, Buffalo, N. Y. 2,100
Bay filly, 1888, by Stamboul—Topsy, by A. W. Richmond; D. H. Herrington, Poughkeepsie, N. Y. 2,050
Brown colt, 1887, by Stamboul—Elijah, by Indianapolis; C. M. Mix, Bolivar, N. Y. 1,950
Bay colt, 1888, by Stamboul—Lady Graves, by Nutwood; William Marks, Philadelphia, Pa. 1,900
Brown filly, 1888, by Stamboul—Del Fay, by Del Sur; James Geddes, Boston, Mass. 1,850
Marilda, b. f., 1887, by Stamboul—Posey, by Flaxtail; G. Dennison, Brooklyn, N. Y. 1,700
Bay filly, 1888, by Stamboul—Fanny Belmont, by Arthurton; D. Scott Quinton 1,650
Bay colt, 1888, by Stamboul—Mary Arnold; Charles Nolan, Philadelphia, Pa. 1,600
Bay filly, 1887, by Alcazar—Fanny Wise, by Nutwood; W. H. Lines, Rochester, N. Y. 1,250
Bay colt, 1888, by Stamboul—Young Josie, by Swepstakes; W. H. Lines 1,225
Bay filly, 1887, by Alcazar—Clara Wall, by Strathmore; G. H. Hicks 1,210
Bay filly, 1888, by Stamboul—Zinfandel, by Westway; D. Scott Quinton 1,100
Bay filly, 1888 by Stamboul—Chelsea; J. J. Bowen, Boston, Mass 1,100
Bay filly, 1888, by Alcazar—Gula, by Electioneer; J. B. Madden 1,050
Bay colt, 1888, by Alcazar—Young Signal, by Arthurton; A. C. Holly, Vallejo, Cal. 1,000
Bay filly, 1887, by Alcazar—Gibson's pacing mare, by son of Ethan Allen; J. A. Sawyer, Boston, Mass. 1,000
Bay filly, 1888, by Alcazar—Flower Girl, by Arthurton; A. C. Holly. 1,000

PROPERTY OF C. A. DURFEE, LOS ANGELES, CAL.

Del Sur, b. s., by the Moor—Gretchen, by Ralf's Membrino Pilot; Frank Stevens, Swansea, Mass 4,000
Dori, g. m., 1881, by A. W. Richmond—Crichton's First, by Crichton; J. W. Daly, Mount Kisco, N. Y. 1,400

PROPERTY OF H. M. JOHNSTON, EAST LOS ANGELES, CAL.

Trehisond, br. c. 1887, by Stamboul—Elwood, by A. W. Richmond; J. C. Ware, Wareham, Mass. $2,150
Sid, b. c. 1888, by Judge Salisbury—Elwood, by A. W. Richmond; D. S. Fields, Easton, Pa. 1,200

PROPERTY OF G. VALENSIN, PLEASANTON, CAL.

Catharine, b. f., 1887, by Sidney—Miss Casserly, by Eugene Casserly; Robert Bonner, New-York $2,000
Mariana, b. f., 1887, by Sidney—Mary, by Buccaneer; John H. Shults 2,000
The, ch. c., 1887, by Sidney—Towhead by Echo; C. R. Hedden, New-York 1,700
Highland Lass, br. f., 1887, by Sidney—Young Highland Mary; C. by Arthurton; T. Bowen, Flushing, N. Y. 1,225
Sister C., ch. f., 1888, by Sidney—Miss Casserly; W. H. Lines 1,125
Sidalia, ch. f., 1888, by Sidney—Ida Walker, by Curtis' Hambletonian; J. W. Daly 1,100
Fanny L., ch. f., 1887, by Sidney—Young Highland Mary; John H. Shults 1,000
Daly, b. c., 1887, by Sidney—Grey Dale, by Holbrook's American Boy, Jr.; F. L. Hardick, New-York 1,025

PROPERTY OF WILLIAM CORBITT, SAN MATEO, CAL.

Black colt, 1888, by Guy Wilkes—Sable Hayward, by Pocoro Hayward; C. J. Hamlin, Buffalo, N. Y. $5,100
Princess Wilkes, blk. f., 1887, by Guy Wilkes—Woodford Queen, by Almont; John H. Shults 3,100
Bay colt, 1888, by Guy Wilkes—Adella, by Electioneer; C. H. Tenney, New-York 2,900
Drew Wilkes, b. c. 1888, by Guy Wilkes—Molly Drew, by Winthrop; C. Masini, Newark, N. J. 2,175
Rinaldo, b. c., by Guy Wilkes—Mamie Kohl, by Steinway; J. J. Bowen 2,150
Bay colt, 1888, by Guy Wilkes—Minnie Wilkes, by Sultan; Vincent Cromwell, Lexington, Ky. 2,100
Chestnut colt, 1887, by Guy Wilkes—Rosalind, by Del Sur; Hugh Brosn, New-York 1,525
Brown colt, 1888, by Guy Wilkes—Melrose, by Sultan; J. W. Daly 1,450
Silver Spray, ch. c., 1887, by Guy Wilkes—Blanche, by Arthurton; G. D. Otis, Reading, Mass. 1,300
Nata Wilkes, ch. f., 1888, by Guy Wilkes—Hunteress, by Arthurton; Dr. F. C. Fowler, Moodus, Conn. 1,260
Woodford Wilkes, b. c., 1888, by Guy Wilkes—Woodford Queen, by Almont; A. J. Welch, Hartford, Conn. 1,000
Bay filly, 1887, by Guy Wilkes—Rosalea, by Sultan; C. J. Hamlin. 1,050
Alicia Wilkes, b. f., 1888, by Guy Wilkes—Alice Clay, by Almont; Miller & Sibley, Frankfort, Pa. 1,000
Black filly, 1887, by Guy Wilkes—Hunteress; A. J. Welch 1,550
Delmas Wilkes, ch. f., 1887, by Guy Wilkes—Lady Delmas, by Del Sur; Geo. B. Hicks, Boston, Mass. 1,400
Bay colt, 1888, by Guy Wilkes—Rosalea; M. Patterson, Almont, Ont. 1,325
Maroon, blk. f., 1887, by Guy Wilkes—Lady Del-

SMITHFIELD-PRIZE SHORT-HORN HEIFER PRINCESS ROYAL 6TH.

mas; Dr. T. J. Varnow, Philadelphia, Pa. 1,275
Bay colt, 1888, by Guy Wilkes—Huntress; J. H. Osterhout, Troy, N. Y. 1,200
Chestnut filly, 1888, by Guy Wilkes—Rosebud, by Del Sur; W. H. Wilson, Cynthiana, Ky. 1,200
Brown filly, 1887, by Guy Wilkes—Alice Clay; L. J. Rose, Los Angeles, Cal. 1,100
Bay filly, 1888, by Guy Wilkes—Antevo Viva, by Antevo; A. J. Wiggins, Boston, Mass 1,100
Verona Wilkes, b. f., 1888, by Guy Wilkes—Glen Ellen, by Arthurton; A. S. Kniffen, Trenton, N. J. 1,100
Derby, b. c., 1884, by Guy Wilkes—Norma, by Arthurton; N. J. McMillan 1,000
Vera Wilkes, b. f., 1884, by Guy Wilkes—Hungress; Dr. F. C. Fowler 1,000
Bay filly, 1887, by Guy Wilkes—Mamie Kohl; D. H. Herrington 1,000

RECAPITULATION.

Mr. Rose,	6 head, ave.,	$2,577.08—Total	....	$113,300
Mr. Durfee,	5	do.	1,330 00	do.	6,650
Mr. Johnston,	10	do.	700 00	do.	7,000
Mr. Valensin,	14	do.	1,276 57	do.	17,930
Mr. Corbitt,	25	do.	1,418.72	do.	46,250
Mr. Scott,	1	do.		do.	250
	113 head, ave. $1,767.38—Total		....		$200,175

The McGREGOR BROTHERS, Springfield, O. who advertise "a great bargain" this week, are prominent among Jersey breeders at the West, and seem to have been enterprising and judicious purchasers.

The Short-Horn heifer Princess Royal 6th, whose portrait (reengraved from the London Live Stock Journal) appears herewith, gained a large number of prizes at the shows of breeding stock in 1886, 1887, and 1888, and won first prize at the Smithfield Club Show last December. She was got by Fernandez 2nd 49,582, dam Princess Royal 4th, by Bromsgrove 44,480, and seems to be a remarkable heifer, as our contemporary remarks that "although she has been in strict training from the day of her birth, and will not be four years old for some months, she produced to Denmark the promising yearling bull Josephus (already a winner), and within the last few days a strong, healthy sister to him—a clear proof, if any were needed, that judicious preparation for exhibition is not incompatible with early and regular fecundity." She was bred and is owned by Mr. Thos. Eades Walker, Studley Castle, Warwickshire.

The Illinois State Board of Agriculture, having determined to discontinue the horse show heretofore held in connection with the fat stock show, turns its attention to the encouragement of the beef and dairy cattle interests. Herd prizes of $150, $75 and $50 will be given for Short-Horns, Herefords, Devons, Angus, Galloways, Sussex, Red Polled, Holsteins, Jerseys and Ayrshires. The board will offer also at the Dairy Show, in connection with the Fat Stock Show November next, milk-test prizes of $50, $25 and $15, for which all recorded breeds of cattle may compete. They will be judged by the milk product of three successive milkings, the value of the milk to be estimated from the weight and tested butter qualities. The American Short-Horn Breeders' Association places at the disposal of the board $250 for the encouragement of dairy qualities in Short-Horn cattle.

Mr. C. D. SICKLER, of Malta, N. Y., determined on keeping only the very best representatives of the different breeds of live-stock which he handles, after spending two or three weeks inspecting the studs of the largest importers in this country, has selected from the stables of Mr. M. W. Dunham, Wayne, Ill., the French Coach stallion Leader 176. This colt was foaled May 11, 1883, and imported the same year. He was sired by Cicero II. one of the most promising stallions, both individually and as a trotter, in the Government studs of France to-day; his grandsire, Tigris, also has an enviable reputation for speed. The dam of Leader, Paquerette, is a handsomely conformed mare of more than ordinary size. She has been a winner at the government shows of France since two years old, and was, at the time of purchase by her present owner, Mr. Dunham, subsidized by the government, drawing an annual pension for being retained as a breeder in that country. Leader's pedigree which has been extended entire, shows that he traces 396 times to the Arab, 464 times to the Barb, and 484 times to the Turkish blood the Oriental horse being the fountain head of the French Coach breed. And it can be safely said that no other animal possesses a pedigree tracing through its different lines so many times to this highly prized blood. To all familiar with French Coach pedigrees it will be readily apparant that this colt has a very promising future, and will do much towards elevating the standard of excellence of horse breeding in Mr. Sickler's locality.

The Brown Swiss Cattle Breeders' Association met at Hartford, Conn., Feb. 28, and elected officers:

President—WM. B. FISH, Mystic Bridge, Conn.
Vice-Presidents—J. A. Hancroft and C. W. Harris.
Secretary, Treasurer and Editor—N. S. Fish, Groton, Conn.
Executive Committee—Hon. Wm. Larrabee, Alex. Bourquine, E. F. Case, J. S. Eldridge, A. N. Barnes.
Executive Committee of Imported Cattle—G. W. Harris, Wethersfield, Conn.

Messrs. KEMP BROTHERS, Watertown, Dak., write to the COUNTRY GENTLEMAN as below:

"Our Mr. John Kemp returned from the east, Feb. 25, bringing from Messrs. Powell Bros., Shadeland, Pa., 43 standard bred Percheron and French Coach horses, Holstein cattle, &c.—one of the largest purchases and the finest assortment ever brought into Dakota. This closes the deal with Messrs. Powell Bros.' for the land we sold them some weeks ago reported in your paper. Mr. James L. Powell spent a few days here, and was pleased with our Dakota soil. Our Mr. John Kemp will return east to close up some other deals. We advise any one needing live stock to visit Messrs. Powell Bros., and we thank the COUNTRY GENTLEMAN for having made us acquainted with such gentlemen and others. We have sold the stallion Peorian 5304 to Mr. L. S. Deming of this city; this is one of the first Wilkes colts ever brought into Dakota, and is a very fine animal; also Short-Horn bull Challenger to the Sioux Farm, C. G. Church of the Sioux Banking Co., proprietor."

We receive from Mr. D. VAN KONLINENBURG, Leuwarden, Holland, secretary of the Frisian Herd-Book Association, the Pedigree Register of calves born in 1888—a pamphlet of about 400 pages. "A yearly issue of the pedigree register is to be preferred," says the preface; "the cattle trade, very brisk and important in the beginning of spring with regard to transactions in the interior markets as well as to export, wishes to know to whom it has to apply for first-rate young specimens, particularly yearling bulls. Moreover, our buyers justly want to be ascertained that the excellent qualities are really innate to the lots they intend to buy, a guarantee to be had only by the purchase of young cattle, the parents, and, if possible, even the farther removed lineage of which have been registered. As has been done hitherto, the names, dates of birth, pedigree, color of hair of the calves and names of their breeders have been recorded, together with the individual marks of the young cattle, the latter, however, at rather a concise rate."

Associated press despatch from Middletown, Orange Co., N. Y., March 7:

There is another virulent outbreak of pleuro-pneumonia among cattle of the town of Monroe, this county. This time the malady was introduced here by a carload of milch cows bought by a drover at the Buffalo stock yards and brought to Highland Mills and sold out among seven or eight farmers in that vicinity. Every one of these cows has now developed symptoms of the malady in a malignant form, and all have been or will be killed. Inspectors Bond and Hickman of the United States Bureau of Animal Industry are on hand taking the necessary precautions for extirpating the malady. The outbreak of last November in same vicinity compelled the slaughter of twelve herds of cattle, besides causing other losses and damage to dairymen, before the plague was fairly checked.

I have sold four trotting-bred horses and colts and three Jerseys to Illinois and Iowa; also refused a long price for a four months old filly by Duke, by Kentucky parties (this filly a trotter now and a large one)—all resulting from advertising in your valuable paper.
Jamesville, N. Y. W. L. HUBBS.

The advertisement [p. 121, five lines, cost $2] sold the Jersey cows and calves, and another heifer, that was not advertised.
Sing Sing, N. Y. G. D. SPRAGUE.

Our last advertisement proved satisfactory—brought us letters from all parts, and *sold stock*. Our animals have wintered finely, and young stock this spring are the best we ever bred. Sales have been entirely satisfactory.
Waterloo, N. Y. LUCAS & VORBURGH.

My advertisement of fine Jersey calves which appeared but once in your paper, brought many letters of inquiry, as advertisements in your paper are sure to do. The animals were purchased by Mr. J. W. Burt of West Randolph, Vt., who also bought two heifers of Rioter Alphea and St. Heller and Albert Pansy strains, coming 2 years old. They were sold by letters, and he writes me that they reached him in good condition, and he was well pleased with them. I have also shipped this week two heifers (daughters of Eurotas Duke 8111) to Dr. Chas. Miller, North Falmouth, Mass.; my herd of Jerseys now numbers 25; they are wintering well and never looked better.
Lee, Mass. D. B. DEWOLF.

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The Grazier and Breeder.

Explanation of Food Values.

Eds. Country Gentleman—I have been reading "Feeding Animals," and should be pleased to have an explanation of something I do not understand in it. At pages 156 to 158 the values are given: Corn, $22.20 per ton; bran, $20 20; linseed cake, $37.80; linseed meal, $32 20; and at page 81 their value as fertiliser after being fed is given: Corn, $7.73; bran, $16.15; linseed cake, $21.86; linseed meal, extracted, $28 68. According to these tables the difference between the manurial value and the total value of these feeds is: Corn, $14 48; bran, $4 05; linseed cake, $15 93; linseed meal, $3 52. It does not look to me as if there were only $4.05 food value in a ton of bran, or $3.52 value in a ton of linseed meal. Or does not the difference between the total value and the manurial value after being fed represent the food value? It looks to me as if corn and linseed cake were the best for food, and bran and linseed meal the best for manure. F. K.

Akron, Ohio.

The points which K. makes are very natural to arise in the minds of those who have not fully considered these questions relating to foods. First, they do not understand how the values given in the tables are found. Second, the feeding value is rightly supposed to be all the digestible matter, but this is wrongly supposed to be not only utilized but wholly retained by the animal. Third, they suppose the manurial value to be simply the refuse or indigestible portions of the food, and they do not readily understand the basis on which the feeding value and manurial value are found. These points are all explained in different parts of the book on feeding animals, but it will, no doubt, assist many who read the answers to these questions on feeding to have these points clearly explained, and to explain them we will take them up under these heads.

1. As we have many times mentioned, the basis of finding the comparative feeding value is to add the digestible fat to the digestible albuminoids, and multiply the sum by 4½c. This represents the feeding value of these two elements. Then the carbohydrates are multiplied by 9, and the product is added to the value of the albuminoids and fat, and the sum makes the comparative feeding value of this food.

2. In order to explain the utilization of the food by the animal it must first be stated what is known to almost all intelligent farmers, that a portion of the substance of the body is constantly undergoing decomposition or oxidation, and is discharged into the blood, which is relieved of this excrementitious matter by filtering through the tissues of the kidneys, and thence passing to the bladder. Now this matter which is broken down and passed off is constantly reformed by the appropriate elements in the food. This is one of the principal uses of the food of mature animals, and here is the point to be understood. The nitrogenous matter in the food replaces this waste matter of the muscle, but the waste matter of the muscle has precisely the same manurial value as this nitrogenous matter of the food, which replaces it. Now when the animal gains in weight, this gain in weight, is taken from the food, and this is so much lost to the manurial value of the food. If the food is fed to cows yielding milk, then the elements in the food required to produce the milk, are also lost to the manurial value of the food. But when the animal is neither gaining in weight nor producing milk, and is not performing work, then the entire manurial value of the food is recovered in the liquid and solid droppings.

K. seems to think that the difference between the whole value of a food and its manurial value is its feeding value. We must again recur to the food value. The animal utilizes the carbonaceous as well as the nitrogenous and ash constituents of the food. Now the carbonaceous elements of a food such as starch, gum, sugar and oil have no manurial value whatever, consequently some of the most valuable foods consist of a large portion which has no manurial value, e. g., oil cake meal, which has a large proportion of oil. And this is the difficult thing for K. to understand, as he finds that linseed meal, new process, having very little oil, has only a value of $3.52 per ton over the manurial value, while linseed cake, having a large proportion of oil, has $15.93 per ton. The difference in the oil and difference in the proportions of the nitrogen and phosphoric acid, where the oil is left out, makes this difference. The foods that have the great est manurial value have the largest proportion of nitrogen, potash, and phosphoric acid.

Some foods are composed almost wholly of carbonaceous matter, which has no manurial value—e. g., oat straw, and most other straws, are composed principally of carbohydrates. These have a feeding value more than four times as great as their manurial value. Corn and some other grains have a very large proportion of carbohydrates. These have a feeding value several times as great as their manurial value. This must show K. where his mistake is. It was customary some years ago in English leases of farms, as well as American, to prohibit the sale of straw, but not the sale of hay and grain. It was supposed that the straw had decided fertilizing value, but chemical analysis has shown the error. K. should read from page 74 to 85, as to the chemical elements that render manure valuable, and from page 415 to 425 as to the compensation for food in manure. R. W. S.

Breeds for Beef.

Decidedly *the* feature of the last Chicago Fat Stock Show, so far as its educational and practical rather than its sensational side is concerned, was the exhibit made by Prof. Samuel Johnson of the Michigan Agricultural College. This consisted of ten thoroughbred cattle, all fed alike (except of course in quantity), for the purpose of making possible some sort of a comparison between the beef capacities of the different breeds—a most important question, and one on which the fat-stock show in general throws absolutely no light. The excellence of these cattle, particularly one of the Jerseys, was noted in the Country Gentleman at the time, and is recalled to mind by the receipt of a number of photographs of the beasts alive and cuts of their tempting meat. What is more interesting, however, is a bulletin on the subject just issued by the professor, giving the final results of the experiment. Several valuable tables are included, of which the most important is the following:

All under Three Years except Hendricks* and Roscoe†.

Breed.	Name.	Lb. Grain.	Lb. Hay.	Lb. Roots.	Lb. Bedding.	Feed Cost.	Weight Nov. 1.	Gain 18 mos.	Gain per day 18 mos.	Cost per lb. 18 mos.	Cost for 2 years.	Cost per lb. for 2 years.	Gain for 2 yrs.	Gain per day for 2 years.
Devon	Latitude	1,360	1,112	666	....	$11	1,360	361	1.19	.03	$66	.055	1,370	1.33
Hereford	Hendricks	2,102	1,886	....	1,360	30	1,434	319	.87	.117	77	.055	1,434	1.30
Galloway	King Jambo	2,106	1,815	1,047	....	31	1,430	406	1.09	.076	69	.049	1,430	1.44
Galloway	Judge	2,670	270	1,480	41	1,780	447	1.49	.69	93	.052	1,770	1.73
Jersey	Roscoe	2,110	2,402	717	1,360	61	1,360	276	1.03	.11	67	.022	1,366	1.30
Jersey	Potter	2,660	1,431	728	210	26	1,410	226	1.47	.076	78	.055	1,410	1.44
Holstein	Nicholas	2,622	1,666	725	796	33	1,360	244	1.40	.086	69	.026	1,400	1.30
Holstein	Belle	4,220	2,434	267	1,760	69	1,650	436	1.35	.115	107	.027	1,670	1.71
Shorthorn	Homer	3,267	2,111	1,625	875	47	1,370	333	1.47	.105	109	.033	1,370	1.71
Shorthorn	Holt	3,266	2,049	1,630	264	63	1,630	496	1.38	.096	94	.030	1,670	1.89

*Hendricks to October 31. †Roscoe to August 31.

Hendricks and Roscoe, Three Years Old to Nov. 1, 1888.

Breed.	Name.	Lb. Grain.	Lb. Hay.	Feed Cost.	Weight at 3 yrs.	Weight Nov. 1.	Gain.	Gain per day.	Cost per lb.	Gain for whole time.	Gain per day whole time.	Cost for whole time.	Cost per lb. whole time.
Hereford	Hendricks	127	88	$1.15	1,434	1,430	30	2.00	.044	1,400	1.33	70	.050
Jersey	Roscoe	700	337	6.43	1,366	1,400	170	1.85	.037	1,400	1.33	90	.063

The professor's general conclusions, based on careful study of all the facts, are these:

1st. The experiment seems to indicate that there is but little difference in the cost per pound of raising steers of the different breeds under the same conditions. The superiority of the beef breeds rather lies in their early maturing qualities, which enables the feeder to turn them off, well ripened, at two instead of three years.

2d. That calves brought up on the pail, when properly fed, will make as much growth and be equally as valuable for feeding as if they were allowed to suckle their dams.

3d. That there is likely to be a wide margin of difference between the judgments of the feeder, the butcher and the consumer, when they pass upon the bullock in the live classes, in the carcass competition as well as in the testing of the edible qualities of the meat.

4th. That prejudice resulting from a lack of information may be, too often is, the basis of our estimates of the comparative value of breeds.

5th. That early maturing breeds may be kept until over ripe, thus lessening the value of the carcass for the consumer.

6th. The lesson is very emphatically taught that average native steers, weighing from 1,100 to 1,300 pounds at 3 years, or often much less, cannot be raised and fed with profit. Well bred steers weighing from 500 to 800 pounds more at the same age may be. The value of good blood for beef production cannot, then, be overestimated. It, only, can, with good care and skillful feeding, in these times and with the present markets, bridge the margin between loss and profit for the grower and feeder.

7th. That the quality of beef produced by a combined grain ration, in which wheat bran, oats and some oil meal form the principal part, is preferable to that produced by a corn ration exclusively. I believe these animals would have had a much less percentage of meat valuable to butcher and consumer if corn had entered largely into their grain ration.

8th. The lesson is plainly taught that early maturing breeds may be sold with most profit, perhaps, at one year, if pushed from the start.

The cost per pound of production is greatly increased with each succeeding year. Certainly, under most favorable conditions they should reach the limit of profit at from 24 to 30 months at latest. This may be modified in ordinary feeding by the fact that the yearling steer will need more expensive food than older ones. The latter will consume more rough fodder profitably than the former.

9th. That the largest per cent. of dressed to live weight does not always indicate the best quality of meat, nor the most profitable carcass for the dealer or consumer. So that the commonly received opinion, that the steer that shrinks least in killing is the best for the butcher, must be more or less modified by other conditions.

Ground Peanuts for Cows and Pigs.

Eds. Country Gentleman—I mail you sample of ground peanuts which I think of grinding and feeding to my milch cows. I run a dairy and sell milk at retail in this city, and want to know its milk qualities and what is best to mix with it, and how to feed. You will see that it is of a very oily nature, much more so than cottonseed meal that has the oil extracted. I have been feeding quite a good deal of this to cows and hogs without being ground; they seem to do well on it, particularly the hogs—they get and keep very fat and grow rapidly; though when they weigh from 300 to 400 lbs., they get helpless and cannot get up very often when they lie down, without great effort. W. *Norfolk, Va.*

W. has introduced a new food, both for milk and for fattening. It is easy to explain the reason for the hogs becoming weak on the legs and not able to bear their weight. The peanut contains, in good condition, from 40 to 50 per cent. of oil. Unfortunately the refuse of the peanut, after the extraction of the oil, has not been analyzed.

The amount of albuminoids is unknown, but even, although it might contain as great a proportion of nitrogenous matter as cottonseed, yet, when fed largely to hogs, the great excess of oil would produce a rapid fattening, out of all proportion to the growth of the muscles, bones and frame.

It evidently does not contain a sufficient proportion of phosphoric acid or phosphate of lime, to grow the bones.

In order to avail himself of the oil to fatten his hogs, he should combine it with some food which is known to possess a large proportion of material to grow the muscles and bones. It is too valuable a food to be fed in excess, which is simply waste.

It may be difficult for him to feed it to pigs under 50 lbs. weight. They should be developed to a certain extent before so oily a food is given them in any considerable quantity. Let him try the following experiment in feeding pigs weighing about 50 lbs.: To 5 lbs. of wheat bran he may add 3 lbs. of ground peanuts. The bran will furnish the material to grow the bones, and thus give strength in the legs. After the shotes reach 100 lbs. weight, he may feed 4 lbs. of ground peanuts with 5 lbs. of wheat bran, and after reaching 150 lbs. weight he may feed an equal weight of wheat bran and ground peanuts, and it would be well to add to the latter 1 lb. of decorticated cottonseed meal—i. e., to 5 lbs. of bran and 5 lbs. ground peanuts add 1 lb. of decorticated cottonseed meal. And as a part of this is very concentrated food, the pigs should have some grass or cut and cooked clover hay mixed with it—say 2 quarts to a pig.

W. will find his hogs to fatten fast enough. The only danger is that the pork may be too fat, and perhaps oily, but it will be worth while for him to try this experiment in feeding a lot of pigs, and I trust he will report results to the Country Gentleman.

Ground peanuts may be fed to milch cows, but we must consider the fact that it is a new food, to be used for that purpose, and in such case, the limit to which it may properly be fed must be determined by practical test.

The first point is, how much can be fed economically—that is, how much can the cow utilize in milk production? We can approximate to this by considering its proportion of oil, which is known. If we suppose the cow to yield 40 lbs. of milk per day, and that it is rich enough to contain 4 per cent. of fat, then it would require 1.6 lbs. of fat in the food to supply this, and if peanuts contain 40 per cent. of digestible fat, then 4 lbs. of ground peanuts would supply 1.6 lbs. of fat. The cow would receive from her other food sufficient fat for her other wants. We may assume, therefore, that 4 lbs. of ground peanuts is the probable limit per day of economical feeding for the cow.

The next point is its effect upon the flavor of milk. W. must have determined this by actual test in feeding, as its effect upon flavor would be shown after a few days. We should suppose the peanut would give a pleasant flavor to the milk, unless, possibly, when fed to great excess.

To his herd of cows supplying milk to the city, the following would be a good ration: Fourteen pounds of cut clover or mixed hay, 3 lbs. cow-pea meal, 6 lbs. wheat bran, 4 lbs. ground peanuts. The cow-pea meal, bran, and peanut meal should be well mixed together, and then mixed with the cut hay and given in two feeds. This ration will produce a full yield of rich milk.

If the cow-pea meal is as cheap as the bran, then the ration might be cheapened by feeding 6 lbs. cow-pea meal and the 4 lbs. ground peanut meal. This latter ration would be successful, because the cow-pea meal would furnish abundant albuminoids. And in practice it may be shown that the ground peanut meal may be increased 1 lb., and the cow-pea meal decreased 1 lb.

As this is a new food, W. will confer a benefit upon others by reporting the result in yield and quality of milk. R. W. S.

The Wayne Family of Holsteins.

An Additional Record.

Eds. Country Gentleman—Princess of Wayne (H. H. B. 954) has recently completed the following records under conditions unfavorable for showing her full capacity.

As a 5-year-old she gave 20,469 lbs. 9 oz. of milk in a year, which record had been excelled only by one cow, Echo, 30 lbs. of her milk making 1 lb. of butter, while 21.2 lbs. of Princess of Wayne made 1 lb.—29 lbs. 9 oz. of butter in one week being her record, against 17 lbs. 3 oz. for Echo. We were so well satisfied with these records that since that time we have not made any effort to crowd her, by feed or otherwise, to make a large record, preferring to keep her in such condition as would ensure the best calves.

Dropping a calf Dec. 14, 1886, she gave in 11 months and 13 days 20,861¼ lbs. of milk, and her next calf was born Jan. 28, 1888, or 13¼ months after the last; sickness for a few days prevented the commencement of her next record until Feb. 5, 1888, from which date she gave in 11 months 21,104 lbs. 7 oz. of milk, and dropped her next calf Feb. 23, 1889, or 1 year and 18 days after the birth of her previous calf.

From the birth of the first to that of the third is 2 years, 2 months and 9 days, or 800 days, including all the time she was dry and sick, during 682 days of which time she gave 41,665 lbs. 15 oz. of milk, an average of 61 lbs. 1¼ oz. per day for the actual time of the record, or over 52 lbs. per day for the entire 800 days. During this time she was fed, milked and cared for, the same as the whole herd, being milked three times per day, not at equal intervals of eight hours, and no effort was made to crowd or force her to make a large record.

No one can be more surprised than we are at this record, as we had not even footed up her record after the first four months of the first

year until its close, and not even one month of the second year until its close.

Princess of Wayne and her three daughters, two at 5 years and one at 3 years, averaged 20 lbs. 5 oz. of butter in a week, while two granddaughters (2 years) averaged 13 lbs. in a week. Her record now stands 96 lbs. 14 oz. of milk in a day, 2,669¼ lbs in 30 days, 21,104 lbs. 7 oz. in 11 months, 41,605 lbs. 15 oz. in 23 months and 11 days, and 23 lbs. 6¼ oz. of butter in a week, all of which we think very good for a cow weighing less than 1,400 lbs.

Walworth, N. Y., Mar 4. T. G. YEOMANS & SONS.

A National Breed of Horses—II.

Advantages of the Arabs.

ED. COUNTRY GENTLEMAN—I stated in my first letter (p. 950, 1888,) that to establish and maintain a national horse of the highest and most useful quality, the foundation must be laid in the purest blood. For my own part, I firmly believe it should be kept pure, for sooner or later a mongrel cross is bound to show itself in some inferior quality. But absolute purity of blood cannot, in the nature of things, be largely available, and can only be at the command of men possessed of considerable wealth—except by accident.

It becomes almost a necessity to cross the pure with existing inferior blood. That being so, the mode of process must be to gradually breed out the inferior or mongrel blood by frequent recourse to the pure. Mares of the finest attainable quality should, in the first instance, be bred to pure stallions; the female produce again bred to the pure, and so on, never allowing the female to be bred to anything but the purest blood. In this way the mongrel blood will in a few generations be bred out, and a national reproducing type established, within which any variety of type may ultimately be produced and maintained, as use or fancy may dictate, without having recourse to any further cross of inferior or mongrel blood. By careful selection of individuals within the circle of pure blood, any required characteristic may be perpetuated, encouraged and developed to a degree not understood by the unscientific *dilettante* breeder; at the same time that the high qualities of the pure blood are maintained.

In my former letter on the subject, I spoke of the original horse of the Arabian desert as the only horse from which the desired results can be expected. In many quarters the English thoroughbred is advocated. This is a mistake. The English thoroughbred is not now the vigorous all-round horse he was 100 or 50, or even thirty years ago. He has deteriorated. I could demonstrate this plainly to all impartial searchers after truth, but it would take an article in itself. Suffice it to say, that, having been bred for so long to one particular type, and that type to fulfil no other purpose than gambling, he has become largely useless for any other purpose. Not *entirely* so, for no one will admit sooner than I that there are many noble specimens which will make themselves useful in any capacity. But that is the exception and not the rule. Early training and racing, early breeding and other causes, have combined to produce a nervous, highly-strung, unsound animal. Breeders of other than race-horses in England, Australia, the Cape, South America and other countries, have begun to find this out, and are looking everywhere for pure Arabs.

There is a danger here—a rock to be avoided, on which many ardent hopes will be wrecked. Ignorance of the Arab is so almost universal that many an inferiority-bred horse will be accepted as the true thing, only to end in disappointment. Now, let me say a few words about this most beautiful, most useful and most perfect of the animal creation. His characteristics are:

1. *Robustness of Constitution*, enabling him to do more hard work, and endure greater privation without succumbing, than any other known type of horse. He is the only horse that can adapt himself to all extremes of climate; he is equally at home in the tropics and in the severe climates of the northern parts of Europe.

2. *Soundness.*—He is absolutely free from all hereditary forms of disease, is less liable to contract accidental disease than any other horse, and more quickly recovers if attacked. His bones and sinews are extraordinarily adapted to withstand extreme wear and tear and battering without injury, the bone having an ivory-like density and weighing at least a third more than that of any other horse. His legs are flat and well shaped, the steel-like sinews and ligaments standing out clear. His joints are lean and flat, and as large as those of a horse of any other breed a hand higher than himself.

3. *Formation.*—That of the pure Arab horse is such as to combine beauty of outline with the greatest possible strength in a small compass. Although low in stature in comparison with the lanky giant mongrels of other so-called breeds, he is not a little horse; when submitted to the measuring tape the result is a surprise to the inexperienced. He is found to measure in all essential points as much and often more than the best of other horses standing a hand or more higher. As imported direct from his native desert he seldom exceeds 15 hands, oftener less, and yet I could name specimens measuring 5 feet 10 inches to 6 feet round the girth, and 8 inches to 8½ inches under the knee. When bred in England he increases in height—climate, and more especially good early keep, tending to this development.

The educated judge of what a horse's formation should be, standing in front notes the apparent narrowness of chest or wedge-like shape of the whole body; carrying his eye downward he is struck with the great depth instead of width of chest; looking backward he is caught by the glorious swell and arch of the ribs behind the elbows and shoulders. These two points are of great excellence and unique in the Arab, viz., depth of chest and swell of ribs, giving immense heart and lung power. Then the observer turns his attention to the head and neck. The former is beautiful—fine and lean, the forehead broad and wide between the ears, the eyes set low down—large brain capacity. The nostril comes to a point, and while the horse is at rest lies crumpled up like a piece of Indian rubber, but when moving and excited distends to an almost incredible degree and displays the most delicate pink membranal lining. The whole head is fairly long, the ears fine, but not too small, the jaws wide apart and massive; the head set on at the most beautiful angle; the neck at the junction with the head broad and muscular; the whole neck beautifully arched and denoting strength; the shoulders beautifully oblique and furnished with powerful muscles; the pointe fine; the withers broad and neither too high nor too low, denoting great weight-carrying power.

The delighted connoisseur now turns his attention further back, and notes the exquisite turn of the back and loins, giving the impression that you could not overweight him; the tail set on high and carried like a banner; the flat, muscular quarters, with their unique angle; the powerful stifle; the extraordinary development of muscle on the thighs; the huge flat hocks, bent so as to get his hind legs clean under him. Then coming to the ground he notes the well-shaped foot and hoof. Now he steps back and takes a general survey from the side, and sees emphatically a lordly horse, whose beauty of contour is such as he has never dreamed of. Then he goes behind and notes the breadth of hips, and turns with a gasp of admiration to ask to see him in motion.

4. *Action.*—If the observer was lost in wonder before at the marvelous formation, what is he now, when the hitherto still and quiet beauty seems, on the instant, to glow with fire—neck arched, nostrils distended, eye darting out rays of brilliant light, as he steps out with a lordly, stately, imperial gait, lifting his feet and putting them down in exactly the right place, the tread elastic and springy—the whole mechanism perfect, and giving the impression of being hung on india rubber and wire? An exclamation of rapture passes the intelligent spectator's lips; he confesses he has been a child about horses, and has never before beheld a real one.

5. *Pace.*—The pure Arab is the fastest *naturally* of all horses at all paces. We can beat him now on the modern short race-course with our thoroughbreds in the gallop, because we have bred for that pace exclusively for 200 years and longer, and the Arab has not been so bred; but where else did we get the foundation of speed? And moreover it would not take many generations to produce a pure Arab that could gallop as fast as the English thoroughbreds, if we cared to breed to that end—but we do not. You can beat him now at the trot for the same reason. Nevertheless he is essentially a fast trotter, and I verily believe there are individuals in England now—notably, El Emir, Yedranis, and my own old mare Zuleika, and some of Mr. Blunt's—who, if they had the same advantages of early training by one of your excellent and experienced trainers, would not be very far behind the best of your trotters. Their natural pace is greater than any trotters we have in England; but whether this be so or not, I am perfectly certain that in America they would breed up to a faster race of trotters than we have yet achieved.

Last summer Mr. Huntington of Rochester, N. Y., imported from my stables a Managhi Hedruj mare—the purest of the pure. She had never been made to trot her best here; we did not consider her exceptionally fast—certainly not nearly so fast as those I have named above. Still if any one cares to look at her, with Mr. Huntington's permission, they will see that her action is that of a trotter.

6 *Temper.*—The Arab's docility is seldom equaled. However fresh and excited he may be, he can usually be controlled by a child. It is very rarely that a bad-tempered Arab is met with. In those cases, owing to his great courage, he is more dangerous than any other horse; but, as I have said, this is of most rare occurrence. His intelligence is of a high order, and consequently he shows a confidence in man, when kindly treated, superior to any other horse. I could instance beautiful traits illustrating this in horses I possessed. Under this head of docility comes the exceptionally fine, sensitive mouth, rendering him so susceptible to the hand of the rider, and such a pleasant mount.

7. *Power of Reproduction.*—The potency of the blood of the pure Arabian horse, from his long ancestry of patrician blood, is so great, so overbearing, that he never fails to impress his characteristics upon inferior blood. No matter how low-bred or bad the mare may be, the result is always satisfactory. I do not advocate breeding bad mares to him, but I mention this characteristic as a fact among others proving his excellence as a sire.

Now, sir, I fear I have wearied you and your readers. I have described the highest class of Arab—a perfect specimen. But it must be remembered that there are "Arabs and Arabs." The one essential thing in breeding from Arabs is to be certain of *the purity of blood*. Get individual excellence if you can, but at all events be sure of the blood; *that* is of far the greater importance. F. F. VIDAL. *Suffolk, England.*

The Dairy Department.

The Cost of a Pound of Butter.

Mr. Hopkins Makes the Matter Clear.

ED. COUNTRY GENTLEMAN—Mr. REEDER'S article, p. 198, seems to call on me for detailed corroboration, in figures, of statement made at the annual meeting of our State Agricultural Society. But before going into figures, it is important to keep in mind the fact that in making the above statement, I gave my own experience solely; and in this connection it is well to state that my herd consists of pure Jerseys, stabled the year round.

The first question introduced by Mr. Reeder is the quantity of butter produced by each animal annually, viz., 333 lbs., which he evidently considers excessive. Here are the figures to demonstrate otherwise: The average number of pounds of milk required for each pound of butter made from my herd has been and is 16; multiply this by 333, and you have the number of pounds produced by each animal yearly, which is 5,312 pounds, or 2,656 quarts; allow 90 days for dry season, leaving 335 days' production, by which figure divide the 2,656 quarts, and you have a daily average of less than 8 quarts, which is certainly not excessive.

The second point in question is the cost of production, and to demonstrate this in detail requires a good many figures and some space, but here they are:

Each animal is fed annually as follows—one ton of grain, mixed in the following proportions and prices: 2-9 of barley sprouts, $12; 2-9 of bran, $15; 2-9 of corn meal, $16; 2-9 of oats, $19; 1-9 of oil meal, $34 per ton each.

The average per ton for this mixture is $16.49. Add to this 1 ton of hay and straw, $11; 5½ tons of ensilage at $2 per ton, $11—making a total of $38 49.

The third and last question is that of labor, and in introducing this feature it becomes necessary to expose the fact that Mr. Reeder has evidently overlooked a very important item to be credited to all carefully kept cattle, and that is, the value of the manure. For figures, please refer him to page 174 of Stewart's "Feeding Animals," where he will find that the estimate of manurial value is $15 per head, or $5 per head in excess of Mr. Reeder's figures for labor, which more than covers expense of bedding.

Finally, my increase of stock and living from farm have more than paid interest and tax account for carrying farm and stock.

It may be well for me to add that by referring to your issue of Jan. 24th, you will note that in my remarks, the quantity of butter given was not 333 pounds, but 310 pounds, with some additions for milk and cream sold, which latter Mr. R. has doubtless reduced to butter, and I have accepted his figures.

Buffalo, March 4. HIRAM F. HOPKINS.

Co-operation in New-England.

ED. COUNTRY GENTLEMAN—About the middle of February I made a trip down the Connecticut river valley through Massachusetts and a part of Connecticut to obtain information about winter dairying as practiced by the Cooley cooperative cream-gathering system.

In Northern Vermont, where I live, there is practically no winter dairying, the cows coming in milk early in spring. Here we have separate creameries, operated for about one-half the year. It would be an advantage to these creameries if a sufficient number of their patrons could be increased to change to winter dairying—that is, having their cows fresh in milk in autumn instead of spring. Some change may gradually be made in this direction, as farmers learn more of the advantages of the system, and are satisfied that they can do better than in the old way, but I think the proportion of these will not be large.

When a system gets to be pretty well established in a community, there seems to be a partiality for it, and an aversion to making any change. While the separator creameries are largely patronized here, and farmers have to deliver their milk, they would consider it a great tax to lay in a sufficient quantity of ice to run any system of deep-setting, and have the cream taken at the door. In the southern part of the State, and in Massachusetts and Connecticut, on the contrary, the farmers would be very averse to carrying their milk to a creamery, but will put in a big lot of ice, and have a particular liking for the cooperative, cream-gathering factories. This system of butter-making is obtaining a strong hold in Southern New-England, and appears to be increasing in interest from year to year, if we may judge correctly from the information gained.

I visited half-a-dozen of these Cooley cooperative, cream-gathering creameries in Massachusetts and Connecticut, and was much pleased with what I saw. I was given every facility for obtaining information, and there appeared to be a good deal of interest and of faith in this system of butter-making. I found no desire for change, but that the list of patrons was being gradually increased.

The herds in these sections are, as a rule, small, twelve to fifteen cows being considered a fair number. It is essential that the patrons be largely stock-holders, as they would in such cases be more interested, and do the best possible for the financial success of the association to which they belong. I found that pretty stringent rules were in use in relation to the management of the cows, their feed, care, *&c.* Of course this is necessary as a protective measure, and no fair-minded man could object to wholesome regulations. I was glad to learn that very seldom was it found necessary to discipline or expel a patron. I thought this was doing remarkably well, and was good evidence of the honesty of the patrons, who seek the greatest possible benefit to all, rather than take undue advantage from selfish motives.

About three fourths of the butter made is put in pound prints and shipped by express to the various places where marketed. I was well pleased with the flavor of the butter, for the season of the year, and was not surprised to learn that it commanded ready sale and good prices. It is for the interest of the patrons to take good care of their cows, and feed well, as their success depends largely on this. Jerseys and their grades seemed to predominate.

I will give some facts concerning the Ellington, Conn., creamery, as obtained from the superintendent, Mr. Bancroft (who is also a patron), which will give a fair idea of a typical creamery of the kind I have been describing, and which will apply in a general way to the very large number in Connecticut alone.

The creamery was built at a cost of $4,000, and began operations in July, 1884. At first it had only 20 patrons and 180 cows; now there are 100 patrons and 1000 cows. Made last year 203,894 lbs. butter, which netted the patrons, clear of all expense, 23.86 cents per pound. It cost 4.33 cents per pound to make this butter, including interest on the investment and all items of expense. Paid last year the most of any creamery in the State. The following

figures will show the increase of patronage from year to year:

Half of first year	15,000 lbs.
1885	30,000
1886	110,000
1887	141,000
1888	175,000

Patrons last year received equal to three cents a quart for their milk in the cream, and had the skim-milk at home in addition. These creameries run the year round.

As regards the receipts per cow, one farmer with a dairy of 28 received $1,800 for the cream, equal to nearly $65 per cow. Some get as high as $75 per cow. Mr Bancroft stated that it averaged not over 20 lbs. of milk for one of butter, as gathered from the creameries in the State. At this creamery they have more applications for admission as patrons than can be accommodated. Stockholders are all patrons. The patrons are allowed to feed one quart of cottonseed a day per cow, but at some of the creameries its use is prohibited. The ration of grain per cow is 6 quarts, composed of corn, oats and bran. Some consider a ton of ice sufficient for each cow in a dairy, others say more.

Some of the best known creameries are located in the tobacco-raising section of the State, but I was pleased to hear a gentleman remark that the farmers now raise less tobacco and keep more cows. He considered the creamery system of butter-making a real stimulus to better farming. From what I saw I think he was right. R. R. T.

Franklin County, Vt.

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Aaggie Sophia's Prince, 8 F Bradbury, W A Washburn		
Astrea Clifden's Netherland Calo, Cross Bros, G J Mercer		
Bessie's Sir Archibald, C M Stock Farm, C Muth		
Black Tyrman, Est of S S Mann, W P Patterson		
Bob Lockhart, S W Dungan, J W Millwell		
Bomb, W A Pratt, O P Standish		
Bridesroom and Bristolina, F M Gilbert, P K Watters		
Captain White, J A Perry, J H Marchant		
Carl of Ridgeland, H H Withington & Son, H O Summers		
Castine's Sir Henry, F C Stevens, J J Pettibone		
Cickonea 2d, Mrs L K Coe, K M Johnson		
Corrie, Est S S Mann, K M Van Zandt		
De Most of De Paw, C L Harrison, Bissell & Follett		
Duke of Antrem, D Hollinger, S Phillipps		
Duke of East Winfield, J B Tuckerman, S Bartlet		
Duke of West Town, T Walling, M A Lain		
Elegant and Eclipse, F M Gilbert, P K Watters		
Gipsy Boy, J J Conklin, S T McClelland		
Glynis 2, F M Gilbert, P K Watters		
Griffith, G Hood T J Judy		
Grenadier, A D Bertron, J M Stewart		
Haronna's Prince, W L Gardiner, W J Landis		
Illinois Boy, Est of S S Mann, W P Patterson		
Jane of Dalsville, S A Merchant, J A Perry		
Jacquement Pronsdor, D S Whipple, A H Kellogg		
Jewel 3d's Sir Henry, F C Stevens, A E Seckner		
Jolly John of Crystal Spring, C S Lewis, G A & E A Stanton		
Jumbo Lad, Jumbo Lad 2d and Jumbo Lad 3d, C L Harrison, Bissell & Follett		
Lady Lisconb's Onyx, P B de Schweinitz, C Carmean		
Margot's Billy Boelyn, E Huidekoper, Allegheny City Home		
Mayor Willis, Est of S S Mann, W P Patterson		
Mercedes Prince of Ridgeland, H H Withington & Son, M H Rebder		
Minor, J W Stillwell & Son, A T Caldwell		
Morning Star, J Williams, A Reddeman		
Netherland Baronet, J Allis, A T Cunningham		
Netherland Carina 1, L Kountze, J Erwin, Manager		
Netherland Majesty, Steuben County Stock Breeders Assoc, W B Clark & Co		
Nieuwp's Netherland 3d, J N Bashaman, E Hughes		
Patrick Henry, J H Rhodes, J H Knee & H S Oliver		
Pandragon and Pentyrch, F M Gilbert, P K Watters		
Prince of Eden, J Patton, J Richardson		
Stanley Denis, W Nicholls, J C Kellogg		
Sir Benjamin of Ridgeland, H H Withington & Son, J F Lundt		
Sir Roderick of Ghent, T Walling, I L Young		
Sir Valcosta, L J Ward, W Beebe		
Susie Willem, French Bros, H & C J Caldwell		
Agility's Gem, F M Gilbert, Oregon State Insane Asylum		
Alburak 2d and Albroc, F M Gilbert, P K Watters		
Alma Bjork, J S Mann, W P Patterson		
Almartina 2d, L Kountze, J Erwin		
Alsie, H H Withington & Son, M H Rebder		
Athol Lincoln, T N Vickers & Co, W B Clark & Co		
Au Son Marchee, W B Clark & Co, W Stokes		
Aultoth 4th, H S Day, P C Orvon		
Aurora Floyd 3 N Buchanan, E Hughes		
Bandolla, S S Howard, H Thome		
Belle Alexander, L Kountze, J Erwin		
Belle of Ridgway, Belle of Ridgway 2d, Blanche of Ridgway and Blanche of Ridgway 3d, W Dickinson, Powell Bros		
Blondine 2d, J E Zug, W Stanley		
Blue Fly Flirt and Blue Fly Lady, J B Hall, Jr & Co, A Rice		
Blue Fly Princess, M S Hall, A Rice		
Bohemia 2d, F M Gilbert, P K Watters		
Bonnie Doon 3d, F M Gilbert, Oregon State Insane Asylum		
Bressie and Bressie 2d, C L Harrison, Bissell & Follett		
Calliope 2d, F M Gilbert, D M Fearns		
Calvert's First Daughter, T S Stephens, J W Sebold		
Capricious, F M Gilbert, P K Watters		
Cissme 2d, J S Mann, W P Patterson		
College Man, C H Bagley, J Kean		
Carmelia Lil, S S Howard, H S Stewart		
Damsel 2d, F M Gilbert, P K Watters		
Displeasure, W White, F C Peirce		
Dobbin, J S Mann, W P Patterson		
Dora Morrina, E M Bailey, A French		
Doreas, F M Gilbert, P K Watters		
Duchess of Ridgeland, H H Withington & Son, J F Landt		
Easlescraes, C W Burnley, J B Cotton		
Elmah, G W Harroe, D D Casement		
Fleta and Fleta M, F M Gilbert, P K Watters		
Fletonia, F M Gilbert, Oregon State Insane Asylum		
Florence Mary, J H Rhodes, H S Oliver		
Flostine 2d, F M Gilbert, P K Watters		
Fredelade, J H Rhodes, H S Oliver		
Frida Koning 4th, C W Burnley, J B Cotton		
Frisky Dual, G W Harroe, D D Casement		
Garfield Pet, W B Clark & Co, W Stokes		
Geddes Girl 2d, F M Gilbert, P K Watters		
Genevieve, L S Frederick, A L Caldwell		
Grace Bertrand, F M Gilbert, P K Watters		
Grace Bertrand 2d, F M Gilbert, H D Coltto		
Grietje Boasty 2d, J S Buchanan, E Hughes		
Guinevere, E Huidekoper, C G Ziegfeld & Son		
Indian Girl, C L Harrison, Bissell & Follett		
Iole 2d, G K Morehouse, N H Glover		
Jennie G 2d, F M Gilbert, P K Watters		
Jennie Wren 2d, J S Mann, K M Van Zandt		
Jessie Davis, E M Brayton, J K Davis		
Julia Netherland, D S Whipple, A H Kellogg		
Kaatje Bonny, W B Clark & Co, W Stokes		
Katharine, E Huidekoper, C G Ziegfeld & Son		
Kobe Kooy, W B Clark & Co, W Stokes		
Koningen, E Huidekoper, C G Ziegfeld & Son		
Lady Breakheron, Est of S S Mann, W P Patterson		
Lady Dionyse 4th, J S Mann, W P Patterson		
Lady Flatrock, J M Bailey, A French		
La Mascotte 2d, C W Burnley, J B Cotton		
Lady Hanner and Lady Xerxes, Est of S S Mann, W P Patterson		
Lavender, E Huidekoper, J P Keyser & Son		
Ledax, T B McCurtis, Stephenson Bros		
Lois E, W Brown, I Hemphill		
Lindavilla 2d, Est of F M Voorhis, E J Voorhis' Loachapoka, W B Dudley, Miss H Dudley		
Lou Doole, H H Withington & Son, J Rebder		
Lucrece, F M Gilbert, P K Watters		
McNally Girl, Est of S S Mann, W P Patterson		
Maid of Midnight and Maria Beets, H D Leonard, W W Bush		
Marinette Maid, W S Baker, M Nelson		
Marytje Winkel, C M Stock Farm, C Muth		
Maud, Est of G Landers, W H Biggs & Bro		
Maud Powell 2d, Est of F M Voorhis, E J Voorhis		
May of Ridgway, W Dickinson, Powell Bros		
Mignonette 3d, Est of J D Guthrie, A L Caldwell		
Miss Lincoln, R Marston, J C Poor		
Mottled Beauty 4th, L Kountze, J Erwin, Manager		
Neetje Groot, C M Stock Farm, C Muth		
Netherland Kind, L S Frederick, G K Schwartz		
Nettie, E Huidekoper, A F Grime		
Nondas, W Brown, I Hemphill		
Odallta, L Kountze, J Erwin		
Parmina, E Huidekoper, C G Ziegfeld & Son		
Payne's Lady De Vries of Rochester, L B Payne, S S Russell		
Permilia Netherland, D B Whipple, A E Kellogg		
Phebe S, W B Clark & Co, W Stokes		
Queen of Ridgway, W Dickinson, Powell Bros		
Rachel 3d, J W Zinn, M S Shipley		
Ripley Queen M, W S Young, J Wallace		
Rivenia, H H Withington & Son, M H Rebder		
Samantha Allen and Samantha Allen 2d, C L Harrison, Bissell & Follett		
Santiema, T S Stephens, J W Sebold		
Shadeland Elma, Shadeland Muse and Shadeland Tuna, W Dickinson, Powell Bros		
Sieba Niko 2d, F C Stevens, A E Seckner		
The Girl of Ridgway, W Dickinson, Powell Bros		
Trijntje Hell 2d, C L Harrison, Bissell & Follett		
Trifilia, S S Wright, G A Rowe		
Vandalia, W E Gould, C H White		
Victress 2d, F M Gilbert, P K Watters		
Warra Beauty, W B Clark & Co, W Stokes		
Wesselina of Shadeland, W Dickinson, Powell Bros		
Whitehorn, F M Gilbert, P K Watters		
Yenlet, C M Stock Farm, C Muth		
Yoo Bet, C L Harrison, Bissell & Follett		

Iowa City, Iowa. T. R. WALSH, *Sec'y.*

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Alpheus of Belmont, Belmont Jersey Cattle Co, H McKinnie		
Ann's Blossom, W W Cowles, G Cady		
Armdale, C H Tupper, J Kitchin		
Bertha's St Lambert, Mrs E M Jones, G W Brown		
Blue McGee Motsa, J Mayer, C N Dennis		
Bob Miller, R P Mortlain, P P Carver		
Calhoon, W R Reynolds, A D Plank		
Cicero Formentor, C Brown, B Tracy		
Dot's Fancon, W B Gordon, M M Thurmond		
Duke of Ingleside 2d, J C McClintock, C M Brown		
Duke of Smock, J Snyder, J E Baily		
Exile of St Lambert 8th, F J Cogswell, J White		
His Britannic Majesty, C Goubeaux, J Wasser		
Hugo of Prince, W I Hazel, C T Gorham		
Jersey Boy Thaima, S McKeon, W P Hams		
Le Broeg's Golddust, Jr, L A Hall, E C Whitford		
Mero's Sir Hugo, Est of S Wadhams, W Coney		
Patrocles 2d, J Manwaring, R M Brown		
Pride of the Island, C N Grimes, R W Atwood		
Queen's Stoke Pogis, Mrs E M Jones, A Rogers		
Richard O, R O Conant, R Prince		
Rich Perfection, Atwater & Congdon, L L Tozier & L D Eby		
Rinter St Lambert Pogis, Miller & Sibley, S E Baker		
Royalist Pogis, D A Orvena, A G Jenney		
Signal Noble, Hemphill Farms, G Hart		
Signal's Echo, A W Flint, Teagan & Co		
Sir Richard of Highhurst, F J Cogswell, E Sparta and Sir Hugo's Hinter, Est of S Wadhams, W Coney		
Alphea's Fairy and Alphea's Kate, S A Potter, S L Stead		
Amy Gold, L A Lipscomb, V L Kirkman		
Annie of Clitheroe 3d, R A Potter, S L Stead		
Ashantee's Spray 2d, C E Hill, Z & W W Taylor		
Aspa, R Goelet, D S Dewolf		
August Flower, S & F Uhlmann, G A Munson		
Baker's Jewel, Baker's Lucy, Baker's Pet and Baker's Ruby, Bothwell & Cooper, W J Baker		
Barretto's Alameda, Est of F J Barretto, E N C Wilson		
Barretto's Victorina 3d, Est of F J Barretto, E N C Wilson		
Betty Goodwin, R A Potter, S L Stead		
Birchina, E S Hill, C P Headley		
Brushlide Regina, R Goelet, D S Dewolf		
Buttercup Hinter, J O Couch, T A Havemeyer		
Dacilla May, C E Hill, W D Todd		
Dan's Alice, R A Potter, S L Stead		
Delta Pansie, B W Hunt, Mrs E M Brown		
Duchess Ridgely, N G Alsech, Douglas Jersey Cattle Co		
Duchess, L P Bailey, A S Rush		
Duke's Cloverblossom and Duke's Jenny, R A Potter, S L Stead		
Elma Bronx 3d, E M McMillar, J H Hielen		
Emma Theresa, Est of F J Barretto, E N C Wilson		
Estelle Haughton, J Manwaring, C J Lellingwell		
Fairy Standard, A Shaw, G G Baker		
Fornax, R Goelet, D S Dewolf		
Gipta's Khal, F J Cogswell, E P Clapp		
Gloried, J H Potter, R A Potter		
Hermina Stoke Pogis, F J Cogswell, E P Clapp		
Hyacinth of Ribserwyn, H Brown, P A Houdlette		
Janet of Glenwood, D K Donnelly, D L Heimshaimer		
Jessie Stoke Pogis, F J Cogswell, E P Clapp		
Kate of Sparta, Est of S Wadhams, W Coney		
Katie Campbell, Stuart & Rhoen, T H Rosen		
Lassie of Prospect 3d, S F Dean, C B Jackson		
Kitty Haughton, J Manwaring, C J Lellingwell		
Kitty Potter 4th, S A Gridley, R A Potter		
Lady Barrilar, R A Potter, S L Stead		
Lily Hamilton 2d, L P Bailey, A S Rush		
Linda Barretto, Est of F J Barretto, E N C Wilson		
Locust Esmale, R A Potter, S L Stead		
Lydia R, R Goelet, D S Dewolf		
Maid of the Field, A G Whitmore, G H Hanawalt		
Mandy, Est of W Ward, J Blanchard		
Mardi Gras, J W Sipher, Douglas Jersey Cattle Co		
Margery Adams, C B Jackson, A McNutt		
Martila of St Lambert, F J Cogswell, E P Clapp		
Mary M, Est of F J Barretto, E N C Wilson		
Mary of Meadowa, E Bragg, E Bowell		
May Lady 2d, C G L, J G Wedell, J H Hoyt		
Merlette, J D Conner, W C Smock		
Minnie Kala, J Manwaring, C J Lellingwell		
Miss Carola, R A Potter, S L Stead		
Mollie Wilks, G T Rankin, T A Hayes		
Nanant, C E Hill, Z & W W Taylor		
Nell Pomroy, P J Cogswell, E P Clapp		
Nisca Cash, J W Sipher, Douglas Jersey Cattle Co		
Pedro's Cream, R A Potter, S L Stead		
Pedro's Maid, J O Couch, T A Havemeyer		
Penelope, C Wellington, H A Hartley		
Pierrot Orlaena, R A Potter, S L Stead		
Polonianna 3d, J N Griffith, B B Browne		
Pride Montague, Bordwell & Cochran, Est of W Baker		
Queen Nicho, C E Hill, Z & W W Taylor		
Queen of Ashtabula, J A Perdue, J A Waltner		
Queen of Sparta, Est of S Wadhams, W Coney		
Redcrin's Gem, J O Couch, T A Havemeyer		
Rich-mond Girl, A W Flint, Teagan & Co		
Rose Hebe, H Brown, P A Houdlette		
Rita Rex, A T Dempsey, W Craig		
Sabine Girl, M H Miller, F H Vaughan		
Sayda Ann, R A Potter, S L Stead		
Scaleby, G B Bentor, H P Robinson		
Spotted Trinket, W Coney, E Sparta		
Susan Goodwin, R A Potter, S L Stead		
Torella, R Goelet, D S Dewolf		
Teenie Le Pas, R A Potter, S L Stead		
Tricks, R Goelet, D S Dewolf		
Ulrica 2d, W M Joseph, G M Canfield		
Vain Caprice, R A Potter, S L Stead		
Victor's Beauty Dee and Victor's Dove Dee, J H Walker, S McFarland		
Viola of Glenwood, D H A & S S Tripp, M Benton		
Willy V, F Clayeoma, J H Maton		
Yolkhorn 3d, J Manwaring, C J Lellingwell		
Zilla Pierrot, R A Potter, S L Stead		

1 & 3 Broadway, *New-York.* F. W. WICKS, *Sec'y.*

Record of the Times.

Review of Passing Events.

Harrison's Inauguration.—A steady rain fell all day Sunday. General Harrison remained at home, receiving no political callers. Congress continued in session, keeping President Cleveland busy signing bills. On Monday the rain continued. After the swearing in of Mr. Morton and the new senators (a special session being called) in the Senate Chamber, Chief Justice Miller administered the oath of office to General Harrison on the capitol portico and the inaugural address followed. Reminding the people that this oath was a mutual covenant, the President noted the entrance of the nation on its second century, and its growth and betterment under a protective policy, in which the South now shared; announced that he had no special policy for any section; believed that citizenship should rest on good character; foreign nations will be expected to regard American rights; changes in the civil service will be made very deliberately; election reforms, proceeding through the States, were approved, and only where the latter fail should the government interfere.—A review of 50,000 men in line followed at the White House. The inaugural ball at the new pension building was a brilliant affair. No wines were served, and the net proceeds will be given to charity. A contest of flambeau clubs took place the same evening.

Political.—General Goff qualified as governor of West Virginia at Charleston, March 4th, and made formal demand on Governor Wilson for the office, which was refused on the ground that no declaration of the result of the election by the Legislature had been made. In his inaugural address General Goff said he held certificates from all the county clerks of the State showing a majority of votes cast for him on Nov. 6, and he proposed to secure the will of the people by constitutional means. Arguments on a mandamus are being heard.—The new ceiling investigating committee of the New-York Assembly has been hindered by the disappearance of Contractor Snaith and his books and architect Rowe. They are said to be in Philadelphia. Commissioner Perry testified that the ceiling could have been rebuilt in carved oak (with other repairs) for $240,000, or $88,000 less than the appropriation. Controller Wemple, Ainsworth and Andrews were also examined.—The Wertz bill, repealing county option, was passed by the New-Jersey Senate, March 8.—The Maine House has passed a bill to punish vote sellers, by fine of $100 or less, imprisonment one year and disfranchisement ten.—The Illinois Senate has passed a bill to regulate telephone charges in that State.

From Abroad.—The Parnell inquiry was resumed March 5, but nothing of importance occurred.—The Times is suffering from decreased subscriptions and expected libel damages.—At a banquet given by the Eighty club, London, in honor of Lord Spencer, the latter congratulated Mr. Parnell, who in reply said that Lord Spencer, like himself, saw that the true way to govern Ireland was to let her govern herself in all matters not affecting the empire. The only alternative would be a pure despotism.—Dr. Tanner, M. P., has been sentenced to three months' imprisonment.—For increase of the British navy £31,500,000 is asked, to build 19 large vessels and 51 smaller ones, total tonnage 318,000.—Queen Victoria left England for Biarritz, March 6.—Viscount Mandeville has been declared bankrupt, with debts of $900,000. His wife is an American.—The French cabinet has rescinded the decree of exile against the Duc d'Aumale, 4th son of Louis Philippe. His banishment was procured by Boulanger when minister of war, although d'Aumale had secured B.'s promotion to rank of general.—The Bank of France has advanced 100,000,000 francs to the Comptoir d'Escompte, to cover loans made the copper syndicate.—The American base ball team played in the Parc Aerostatique, Paris, March 3.—A new Italian cabinet has been formed by Signor Crispi.—King Milan of Servia abdicated the throne, March 6, in favor of his son Alexander. The king will remain commander-in-chief of the army during his son's minority. A new cabinet has been formed with M. Grives as premier.—While some Russian students at Zurich were making bombs, one exploded, killing one student and injuring seven others.—Chinese rioters recently burned the English and American consulates in Ching Kiang Foo.—The Germans have recaptured Bagomoyo; the Arabs were defeated with great loss, and their leader Bushiri wounded.—Several earthquake shocks have recently been felt in Equador and Peru.—Canadian Jesuits have sued the Toronto Mail for $50,000 for stating that they take oath to renounce allegiance to any heretical king, prince or State.

Deaths.—John Ericsson, the inventor, at New-York, March 8, aged 86. Born in Sweden, his locomotive beat that of Stephenson's in England in 1826; his invention of the propeller brought him to America, where in 1862 his ironclad Monitor revolutionized naval armament. His caloric engine has long been in use, and at his death he was at work on a solar motor.—Miss Mary L. Booth, editor of Harper's Bazar since 1867, in New-York, March 5, 58. She was the author of a History of New-York, and made numerous translations from the French, both literary and political.—Isaiah V. Williamson, the millionaire philanthropist, at Philadelphia, March 7, aged 87. Besides large gifts to various hospitals, and $100,000 to the Philadelphia Board of Trade Fund for relief of distressed merchants, he left $5,000,000 for a School of Trade.—Rev. Dr. David Trumbull at Valparaiso, Chili, Feb. 4, aged 70. A descendant of Governor Trumbull of Connecticut, he was a pioneer missionary to South America, and for 40 years pastor of an independent church in Valparaiso, sustained by English and American residents.

Minor Items.

The American Magazine has suspended publication.

An earthquake shock was felt in Lancaster county, Pa., March 8.

A $200,000 fire in Philadelphia, March 5, burned out many tradesmen and societies.

The first boat up the Hudson was the D. S. Miller, March 7, New-York to Poughkeepsie.

The total contributions to the hospital fund, New-York reach $51,250—$900 more than last year.

Western millers have had a meeting in St. Louis to arrange for the control of the output of flour.

Inquest over Louis R. Robinson of Philadelphia, age 15, showed death to be result of excessive cigarette smoking.

An old man of 70, an inmate of the Crawfordsville, Ind., poorhouse, was found to have over $6,000 in his possession.

The electric sugar sharps, five in number, arrived in New-York, March 7; were arraigned in court and pleaded not guilty.

The debts of the Pacific Guano Company, Boston, amount to $3,500,000; quick assets, $900,000, not including the four plants.

The Edison incandescent electric light patent has been declared void in Canada because of failure to comply with patent regulations.

Miss Susannah Warfield, who composed the William Henry Harrison inaugural march, is over 90 years old, and lives at Sykesville, Md.

The Bafford's Sons Lithographic Company of Boston suspended payment March 8, with liabilities of $100,000. The works employed 195 men.

Citizens of Fredericksburg, Va., have, in mass meeting, protested against the sale of Mary Washington's grave and resolved to erect a monument over it.

General Simon Cameron of Harrisburg, Pa., was 90 years old, March 8. The legislature paid their respects to him in a body; also the governor and heads of departments.

At the works of the Richardson Manufacturing Company, Worcester, Mass., a section of the floor fell into the sewer March 6, carrying with it nearly 400 Buckeye mowing machines.

Mr. and Mrs. Cleveland left Washington March 6, and are living at the Victoria Hotel, New-York. Mr. Cleveland began work next day with his new law firm—Bangs, Stetson, Tracy & MacVeagh.

Elizabeth Sands of Baltimore was 100 years old, March 7. In 1840 she shook hands with President Harrison, and being hale and hearty, hopes soon to go to Washington and shake hands with the grandson.

Herbert Mullany, cashier and bookkeeper for Julius Bien & Co., lithographers, New-York, shot himself, March 5, just after being arrested for a $7,000 shortage in his accounts, caused by high living and speculation.

The Reading (Pa.) Iron Works suspended payment March 5, owing to debt, strikes and dull trade. The indebtedness is about $1,000,000. This will throw out of employment about 2,000 men. It is thought the railway company will run the business.

The New-York Court of Appeals has decided against Miss Mary I. Hoyt in her contest over the will of her father Jesse Hoyt, which involved nearly $8,000,000. Miss Hoyt was reputed insane, and the estate was left chiefly to her uncle and his family.

Farmers in Iowa and adjoining States are organizing to resist the demands of the binding twine trust. In four years the price of twine has increased from 13c. to 18c. a pound, and this year it is to be 20c. If maintained, it is proposed to stack the grain without binding.

The Mahoning Mutual Life Insurance Association of Columbus, Ohio—a consolidation of three others—had a receiver appointed, March 6. The risks aggregated $10,000,000, but the death rate of last year was so large that over half the policy holders refused to pay the extra assessments.

The rush to the new gold fields in Lower California continues; 500 men left Los Angeles, March 8, for the Santa Clara district. The camp is guarded by Mexican soldiers and is orderly. One wash-up weighed $1,850, and all the miners are making wages. Over $30,000 in ore was seen in one day.

The American exhibit of Indian corn at the Paris Exposition will include a corn palace, the cooking of corn in various ways and a free distribution of samples. The decorations of the Sioux City "corn palace" train, which came to Washington for the inauguration, will be sent to Paris. They cost nearly $8,000.

Bad blood causes dyspepsia, and dyspepsia resists by causing bad blood. So both go on, growing worse, until the whole system is poisoned. The surest means of relief for the victim is a thorough and persistent course of Ayer's Sarsaparilla.

Thousands of persons certify to the speedy cure of all throat and lung affections, by the prompt use of Ayer's Cherry Pectoral.

Farm Produce Markets.

Albany Markets—March 11.

Flour—Sales, 1,000 barrels. Market dull and prices unchanged.

Ashes, pots, 1st sort	100 lbs $5 00 @ 5 06
Ashes, pots, 2d sort	5 00 @ 5 06
Ashes, pearls, 1st sort	5 62 @ 5 68
Ashes, pearls, 2d sort	5 62 @ 5 68
Beans, white	bush 1 75 @ 1 87
Beans, black eye	1 75 @ 1 87
Beeswax, yellow	lb 25 @ 26
Beeswax, white	30 @ 31
Buckwheat	100 lbs 2 00 @ 2 06
Corn meal	2 75 @ 2 81
Cotton, Upland	lb 9 @ 9½
Cotton, New Orleans	9½ @ 10
Feathers, live geese	40 @ 42
Feathers, dressed	50 @ 52
Flour, Genesee	bbl 5 62 @ 5 68
Flour, Ohio	5 62 @ 5 68
Flour, Michigan	5 62 @ 5 68
Flour, Canada	5 62 @ 5 68
Flour, fancy brands	6 00 @ 6 25
Grass seed, Timothy	bush 1 75 @ 2 00
Grass seed, Clover	3 50 @ 3 75
Hops	lb 6 @ 8
Hops, 1848	4 @ 5
Hops, 1847	3 @ 4
Hops, 1846	2 @ 3
Hops, 1845	1 @ 2
Lard	7 @ 8
Oats	bush 37 @ 38
Peas, field	1 00 @ 1 06
Pork, mess	bbl 13 00 @ 13 50
Pork, prime	11 00 @ 11 50
Pork, clear	14 00 @ 14 50
Rye	bush 62 @ 63
Rye flour	100 lbs 3 25 @ 3 31
Tallow, rough	lb 6 @ 6½
Tallow, rendered	8 @ 8½
Wheat	bush 1 00 @ 1 06
Wheat, Genesee	1 06 @ 1 12
Wheat, Ohio	1 06 @ 1 12
Wheat, Michigan	1 06 @ 1 12
Wheat, Canada	1 06 @ 1 12
Whiskey, Ohio	gal 25 @ 26
Whiskey, Genesee	25 @ 26
Whiskey, Michigan	25 @ 26
Whiskey, Canada	25 @ 26

Albany Green Market—March 11.

Apples	bush 50 @ 75
Beans, white	1 75 @ 1 87
Beans, black eye	1 75 @ 1 87
Beef, by the carcass	100 lbs 4 00 @ 5 00
Beef, corned	lb 5 @ 6
Beef, fresh	5 @ 6
Beef, hind quarters	6 @ 7
Beef, fore quarters	4 @ 5
Butter, firkin	15 @ 16
Butter, roll	18 @ 20
Butter, prime	20 @ 22
Cabbages	each 6 @ 12½
Calves	4 @ 5
Carrots	bush 25 @ 31
Cheese	lb 6 @ 7
Chickens	pair 25 @ 31
Corn	bush 62 @ 63
Corn meal	100 lbs 2 75 @ 2 81
Eggs	doz 12 @ 13
Fowls	pair 31 @ 37
Geese	each 37 @ 50
Hams	lb 7 @ 8
Lamb	5 @ 6
Lard	7 @ 8
Mutton	5 @ 6
Oats	bush 37 @ 38
Onions	50 @ 62
Parsnips	25 @ 31
Pork, fresh	6 @ 7
Potatoes	25 @ 31
Rye	62 @ 63
Rye flour	100 lbs 3 25 @ 3 31
Shoulders	lb 6 @ 7
Turkeys	each 50 @ 75
Turnips	bush 25 @ 31
Veal	lb 5 @ 6
Wheat	bush 1 00 @ 1 06
Wheat flour, Genesee	100 lbs 5 62 @ 5 68
Wheat flour, fancy brands	6 00 @ 6 25

New York Markets—March 9.

Ashes, pots, 1st sort	100 lbs $5 00 @ 5 06
Ashes, pots, 2d sort	5 00 @ 5 06
Ashes, pearls, 1st sort	5 62 @ 5 68
Ashes, pearls, 2d sort	5 62 @ 5 68
Beans, white	bush 1 75 @ 1 87
Beans, black eye	1 75 @ 1 87
Beeswax, yellow	lb 25 @ 26
Beeswax, white	30 @ 31
Buckwheat	100 lbs 2 00 @ 2 06
Corn meal	2 75 @ 2 81
Cotton, Upland	lb 9 @ 9½
Cotton, New Orleans	9½ @ 10
Feathers, live geese	40 @ 42
Feathers, dressed	50 @ 52
Flour, Genesee	bbl 5 62 @ 5 68
Flour, Ohio	5 62 @ 5 68
Flour, Michigan	5 62 @ 5 68
Flour, Canada	5 62 @ 5 68
Flour, fancy brands	6 00 @ 6 25
Grass seed, Timothy	bush 1 75 @ 2 00
Grass seed, Clover	3 50 @ 3 75
Hops	lb 6 @ 8
Hops, 1848	4 @ 5
Hops, 1847	3 @ 4
Hops, 1846	2 @ 3
Hops, 1845	1 @ 2
Lard	7 @ 8
Oats	bush 37 @ 38
Peas, field	1 00 @ 1 06
Pork, mess	bbl 13 00 @ 13 50
Pork, prime	11 00 @ 11 50
Pork, clear	14 00 @ 14 50
Rye	bush 62 @ 63
Rye flour	100 lbs 3 25 @ 3 31
Tallow, rough	lb 6 @ 6½
Tallow, rendered	8 @ 8½
Wheat	bush 1 00 @ 1 06
Wheat, Genesee	1 06 @ 1 12
Wheat, Ohio	1 06 @ 1 12
Wheat, Michigan	1 06 @ 1 12
Wheat, Canada	1 06 @ 1 12
Whiskey, Ohio	gal 25 @ 26
Whiskey, Genesee	25 @ 26
Whiskey, Michigan	25 @ 26
Whiskey, Canada	25 @ 26

Boston Markets—March 11.

Apples	bush 50 @ 75
Beans, white	1 75 @ 1 87
Beans, black eye	1 75 @ 1 87
Beef, by the carcass	100 lbs 4 00 @ 5 00
Beef, corned	lb 5 @ 6
Beef, fresh	5 @ 6
Beef, hind quarters	6 @ 7
Beef, fore quarters	4 @ 5
Butter, firkin	15 @ 16
Butter, roll	18 @ 20
Butter, prime	20 @ 22
Cabbages	each 6 @ 12½
Calves	4 @ 5
Carrots	bush 25 @ 31
Cheese	lb 6 @ 7
Chickens	pair 25 @ 31
Corn	bush 62 @ 63
Corn meal	100 lbs 2 75 @ 2 81
Eggs	doz 12 @ 13
Fowls	pair 31 @ 37
Geese	each 37 @ 50
Hams	lb 7 @ 8
Lamb	5 @ 6
Lard	7 @ 8
Mutton	5 @ 6
Oats	bush 37 @ 38
Onions	50 @ 62
Parsnips	25 @ 31
Pork, fresh	6 @ 7
Potatoes	25 @ 31
Rye	62 @ 63
Rye flour	100 lbs 3 25 @ 3 31
Shoulders	lb 6 @ 7
Turkeys	each 50 @ 75
Turnips	bush 25 @ 31
Veal	lb 5 @ 6
Wheat	bush 1 00 @ 1 06
Wheat flour, Genesee	100 lbs 5 62 @ 5 68
Wheat flour, fancy brands	6 00 @ 6 25

Boston Markets—March 11.

Ashes—Pots—Sales, 75 barrels. Market dull and prices unchanged.

Ashes, pots, 1st sort	100 lbs $5 00 @ 5 06
Ashes, pots, 2d sort	5 00 @ 5 06
Ashes, pearls, 1st sort	5 62 @ 5 68
Ashes, pearls, 2d sort	5 62 @ 5 68
Beans, white	bush 1 75 @ 1 87
Beans, black eye	1 75 @ 1 87
Beeswax, yellow	lb 25 @ 26
Beeswax, white	30 @ 31
Buckwheat	100 lbs 2 00 @ 2 06
Corn meal	2 75 @ 2 81
Cotton, Upland	lb 9 @ 9½
Cotton, New Orleans	9½ @ 10
Feathers, live geese	40 @ 42
Feathers, dressed	50 @ 52
Flour, Genesee	bbl 5 62 @ 5 68
Flour, Ohio	5 62 @ 5 68
Flour, Michigan	5 62 @ 5 68
Flour, Canada	5 62 @ 5 68
Flour, fancy brands	6 00 @ 6 25
Grass seed, Timothy	bush 1 75 @ 2 00
Grass seed, Clover	3 50 @ 3 75
Hops	lb 6 @ 8
Hops, 1848	4 @ 5
Hops, 1847	3 @ 4
Hops, 1846	2 @ 3
Hops, 1845	1 @ 2
Lard	7 @ 8
Oats	bush 37 @ 38
Peas, field	1 00 @ 1 06
Pork, mess	bbl 13 00 @ 13 50
Pork, prime	11 00 @ 11 50
Pork, clear	14 00 @ 14 50
Rye	bush 62 @ 63
Rye flour	100 lbs 3 25 @ 3 31
Tallow, rough	lb 6 @ 6½
Tallow, rendered	8 @ 8½
Wheat	bush 1 00 @ 1 06
Wheat, Genesee	1 06 @ 1 12
Wheat, Ohio	1 06 @ 1 12
Wheat, Michigan	1 06 @ 1 12
Wheat, Canada	1 06 @ 1 12
Whiskey, Ohio	gal 25 @ 26
Whiskey, Genesee	25 @ 26
Whiskey, Michigan	25 @ 26
Whiskey, Canada	25 @ 26

Wool Markets—March 11.

Apples	bush 50 @ 75
Beans, white	1 75 @ 1 87
Beans, black eye	1 75 @ 1 87
Beef, by the carcass	100 lbs 4 00 @ 5 00
Beef, corned	lb 5 @ 6
Beef, fresh	5 @ 6
Beef, hind quarters	6 @ 7
Beef, fore quarters	4 @ 5
Butter, firkin	15 @ 16
Butter, roll	18 @ 20
Butter, prime	20 @ 22
Cabbages	each 6 @ 12½
Calves	4 @ 5
Carrots	bush 25 @ 31
Cheese	lb 6 @ 7
Chickens	pair 25 @ 31
Corn	bush 62 @ 63
Corn meal	100 lbs 2 75 @ 2 81
Eggs	doz 12 @ 13
Fowls	pair 31 @ 37
Geese	each 37 @ 50
Hams	lb 7 @ 8
Lamb	5 @ 6
Lard	7 @ 8
Mutton	5 @ 6
Oats	bush 37 @ 38
Onions	50 @ 62
Parsnips	25 @ 31
Pork, fresh	6 @ 7
Potatoes	25 @ 31
Rye	62 @ 63
Rye flour	100 lbs 3 25 @ 3 31
Shoulders	lb 6 @ 7
Turkeys	each 50 @ 75
Turnips	bush 25 @ 31
Veal	lb 5 @ 6
Wheat	bush 1 00 @ 1 06
Wheat flour, Genesee	100 lbs 5 62 @ 5 68
Wheat flour, fancy brands	6 00 @ 6 25

Apples, Alfrounds—Peaches, C. C. Quinces—Pears, Bartlett—Plums, Green Gage—Cherries, Morello—Grapes, Isabella—Strawberries, Alpine—Raspberries, Fastolf—Gooseberries, Crown Bob—Currants, Cherry—Nuts, Filbert—Chestnuts, Spanish—Walnuts, Madeira—Almonds, Jordan—Pecans, C. C. Imperial—Cocoanuts, Cocoa—Figs, Smyrna—Dates, Persian—Oranges, Seville—Lemons, Sicily—Limes, Tropical—Pomegranates, Spanish—Olives, Lucca—Capers, Genuine—Pickles, Mixed—Sauces, Worcestershire—Catsups, Mushroom—Vinegars, Cider—Mustards, Durham—Pepper Sauce, Cayenne—Soups, Mock Turtle—Essences, Lemon—Extracts, Vanilla—Spices, Ground—Sugars, Loaf—Teas, Hyson—Coffees, Mocha—Chocolates, Vanilla—Cocoas, Shells—Candies, Rock—Jellies, Currant—Jams, Raspberry—Marmalades, Quince—Preserves, Peach—Fruits, Brandied—Honeys, Virgin—Syrups, Maple—Molasses, Sugar House—Pickles, Chow Chow—Sauces, Tomato—Catsups, Walnut—Vinegars, Wine—Mustards, Chinese—Pepper Sauce, Tabasco—Soups, Vegetable—Essences, Peppermint—Extracts, Lemon—Spices, Whole—Sugars, Crushed—Teas, Young Hyson—Coffees, Java—Chocolates, Cinnamon—Cocoas, Nibs—Candies, Cream—Jellies, Quince—Jams, Strawberry—Marmalades, Orange—Preserves, Pear—Fruits, Spiced—Honeys, Strained—Syrups, Cane—Molasses, New Orleans—Pickles, Onion—Sauces, Mushroom—Catsups, Cucumber—Vinegars, Cider—Mustards, Prepared—Pepper Sauce, Mexican—Soups, Oyster—Essences, Bergamot—Extracts, Almond—Spices, Mixed—Sugars, Powdered—Teas, Gunpowder—Coffees, Rio—Chocolates, Plain—Cocoas, Mixed—Candies, Peppermint—Jellies, Apple—Jams, Peach—Marmalades, Lemon—Preserves, Plum—Fruits, Preserved—Honeys, Comb—Syrups, Golden—Molasses, Porto Rico—Pickles, Cucumber—Sauces, Anchovy—Catsups, Tomato—Vinegars, Pickle—Mustards, Dijon—Pepper Sauce, Jamaica—Soups, Pea—Essences, Jamaica Ginger—Extracts, Peppermint—Spices, Cloves—Sugars, Lump—Teas, Black—Coffees, Maracaibo—Chocolates, Shells—Cocoas, Vanilla—Candies, Lemon—Jellies, Grape—Jams, Plum—Marmalades, Peach—Preserves, Quince—Fruits, Dried—Honeys, Extracted—Syrups, Sugar House—Molasses, Cuba—Pickles, Gherkin—Sauces, Oyster—Catsups, Mushroom—Vinegars, Malt

The Fireside.

At Bedtime.

Little hands—dear busy hands,
That your child-tasks marked all o'er,
Come and lie in mine to-night:
Put "poor mamma's sock" once more.

Little feet—swift, willing feet,
That upon love's errands ran,
Patter o'er the floor to-night;
"Dance for mamma" once again.

Little heart—fond, trusting heart,
That for all so warmly beat,
Fearless, glad, again to-night,
Rest in all thy child-love sweet.

Little head—dear little head,
In beauty's mould with golden crown,
Lovingly again to-night
"Fluide mamma's" mantle down.

Little eyes—bright, beaming eyes—
Starry light through heaven's own blue,
Into mamma's shine to-night,
Twinkling, tender, thoughtful, too.

Little tongue—O lisping tongue,
That we listen to in joy,
Oh! come back and say to-night,
"Mamma's baby, papa's boy!"

Little lips—sweet, winning lips,
Ne'er refusing kiss or smile,
Come and kiss us all "good night,"
Smiling, too, for us the while.

O, our little blue-eyed boy!
Anguish you will never know
Such as this that sweeps to-night
O'er our hearts all bruised so;

And we give you up—our boy!
All our hope, our life, our light!
But when bedtime comes, our lips
Whisper, "Little dear, good night!"

—*Good Housekeeping.*

Work for Grandmamma.

Work for grandmamma—not because she has not earned the right to be idle, but because idleness does not satisfy her. To persons of active temperament and industrious habits, enforced idleness is one of the greatest trials of old age. So in trying to make everybody comfortable, we must think about pleasant occupation for grandmamma, and find something for her to do which will yield her the solid satisfaction of knowing that she is still of use in the household. This consciousness of usefulness ranks next to affection as an unfailing support for a cheerful and beautiful old age.

To be sure, her own comfort must be put first, so that she can work entirely at her ease, since she has no longer strength to bear the burden and heat of the day. And all the arrangements for her personal comfort should be made quietly, and as a matter of course. It is a great mistake to call attention, by word or manner, to what is done for her. The sensibilities of the aged are often exceedingly tender, and their feelings are sometimes cruelly pained through mere thoughtlessness. It is not easy to submit to take a passive part in the family, after many years of authority, and meekly to receive where one has long had the privilege of giving. The wants and comforts of infirm members of the family should always be put first, but quietly, as a mere item of the daily routine, and not as a special service or obligation.

There is really no lack of variety in the work that grandmamma may do, and what she will do should depend chiefly upon her own preferences. I cannot forget that I have seen an aged lady "sweeping dooryard," with much pride and pleasure, at ninety-four, and a cheery old man of ninety-three, almost totally blind, groping about with his cane, under a pear tree, and filling the basket on his arm, with many pleasant nods and chuckles over the fine specimens handled, the produce of trees that he planted when he was already an old man! Another venerable friend, hardly more than seventy, but, from rheumatism, a prisoner in a wheel-chair, makes delicious pastry on a board held in her lap; and still another, almost equally helpless from the same cause, kept all her grandchildren supplied with an inexhaustible store of dainty seed cakes, all patiently rolled and cut out by those dear, trembling hands. I am sure those grandchildren would not admit that any other cakes can ever rival hers!

Though it is not certain, it is very probable that grandmamma's industry will find its natural channel in sewing or cutting. The problem will then be quite a simple one—only to keep her supplied with materials for such work as she likes and can accomplish, and also with plans and objects that interest her. It is the greatest kindness to tell her about pretty things that you have seen and would like, that she can make. Almost all elderly ladies enjoy preparing gifts, either for members of the family or others. If eyesight and skill with the needle permit, "fancy work" of one kind or another is a great resource. In the endless variety of scarfs, cushions, and ornamental trifles now used in furnishing a house, there will be no lack of choice of things to suggest.

But perhaps she cares more for the plainer matters of everyday need. The charge of the family mending basket may be at once a comfort to her and a relief to the over-busy housekeeper. A little special care in seeing that every convenience is supplied—perhaps a cushion full of threaded needles may be desirable—with an ample margin of time before garments are needed, and the work will be a pleasant occupation, both in itself and in the thought of usefulness and care-taking. One good grandmother whom I have known, took so much pleasure in her stocking bag that it became a real missionary bag. Her friends would contribute partly-worn stockings, those already past their own dainty use, and these she would mend neatly and strongly, re-inforcing the thin places with pieces cut-stitched on the wrong side, and many a needy woman and child were soft, warm stockings, whose feet would have gone cold but for the dear grandmother. Even the poorest pair of merino stockings would supply a pair of mittens for a poor boy. These she made by cutting the right length from the best part of the legs, drawing up the end by gathering and fastening firmly, and inserting a thumb, cut from the best piece remaining. They were not handsome, but they were comfortable and more shapely than one would suppose.

This dear grandmamma was fond of bags. She made stocking bags and shoe bags, work bags and scrap bags. Even the little boys of her near connection were supplied with canning bags of "shoe findings," the words embroidered on a pretty little bag supplied with shoe buttons, thread and needles, wax and thimble. She supplemented the gift by a loving practical lesson in sewing on one's own shoe buttons! Saving odds and ends of material of all kinds for grandmamma's use will be one way of contributing to her amusement; pieces of chints, brocade, cashmere, silk and ribbon will be welcome, if she has a taste for busying herself with these things.

Patchwork of various kinds may be a favorite occupation with her; if so, one may suggest pretty modern variations. Crazy quilts made in small squares and put together with black velvet ribbon are very rich and handsome, and the small squares much easier to manage than larger pieces. Soft wool materials, for which one can use all kinds of remnants of dresses, make very pretty and comfortable bed covers for winter.

Foot-rugs, knit in stripes in plain garter stitch, make easy and pleasant work for an elderly lady, with the final result of a large article of permanent value. There is a pleasure in the consideration of making something that will be preserved and valued as the work of her hands. Alternate stripes of Roman bars and a plain color are very handsome, but involve the trouble of counting. Two well chosen colors in alternate stripes will be almost equally pretty. Brown and old gold or olive and shell pink make desirable combinations, or colors to suit the furniture of the room where it is to be used may be chosen. The stripes should be two yards long and the width nearly the same when put together.

These are but a few of the little arts of pleasant employments which may help to fill up that leisure which sometimes hangs heavily upon the hands of the aged. In every household, if a little thought is given to the matter, something will perhaps be found more acceptable. The great thing is to remember that it is worth thinking about. D. H. R. Goodale.

Woods and Malaria, p. 90.—J. W. L. discusses a subject that is vitally interesting to thousands of southerners who find it necessary to stay on their places during the summer, which before the war were left during the sickly season for healthier resorts. There are advocates of the hedge, and sunflower believers, who cite instances to support them. I do not think J. W. L.'s position well taken when he cites the experience of Northern Pennsylvania to prove that *clearing away timber* will remove the source of malaria; the reverse is so generally accepted in the pineland resorts here that a man who would insist on cutting away the trees would be suppressed. I have heard an old country doctor say that he could at any time manufacture a case of malaria fever, the conditions being decaying vegetable matter, moisture and sunlight. If Northern Pennsylvania had not been drained when it was cleared, the people would probably have been killed out or run off. This I think is confirmed by J. W. L's. admission that malarial fever still hangs on in the neighborhood of some ponds of stagnant water full of decaying logs and leaves, i. e., undrained land. Excess of water must be gotten rid of, but not by evaporation; the means must be more prompt, thorough and effectual. T. J. H.

A Dangerous Rock—III.

The Moral Phase.

The disasters that follow the disregard of health and comfort, in the shape of broken down constitutions and entailment of disease on future generations, are melancholy enough; but there is another view of the subject, more melancholy still.

In the annals of the police courts and in prison statistics we find that nearly two-thirds of the male prisoners confess to drunkenness as a cause of their misdeeds. They did not step from innocence to horrible crime at one stride. Their downfall was accomplished gradually. And so with the female castaways of the world; in the great majority of cases could their histories be traced it would be found that a desire to make a fine appearance was the rock on which they wrecked their morals and were lost to virtue. Most probably the tendency was given when they were children. They saw other little ones prettily dressed, and they were unhappy that they could not be the same, and as they grew older it embittered their school days.

One of two things generally happens to a girl of this sort. Either she becomes moody and soured and keeps herself aloof from all companionship, or she loses her independence and becomes a flunky, and the satellite of those of her schoolmates, whose silly mothers, knowing nothing of congruity, send their daughters to school dressed in satin and plush.

Very often the poor girl drops out of school altogether. She won't go if she can't dress like the other pupils, she says savagely, and so she is cut off from educating influences, and is all the more an easy prey to temptation when it comes. Thus she grows to womanhood with her false views steadily increasing. Fine dress makes people look pretty, she argues; fine clothes she must and will have. She accepts gifts of jewelry and trinkets, and scarcely cares from what source they come. To marry a young man in her own walk in life promises no gratification of this insane vanity, and thus she easily falls a victim to the wiles of some richer villain, whose elegant presents are the price of her honor.

Too often good women suppose their erring sisters are naturally depraved and are led into shame through low instincts. The records do not bear out the assertion. The sad stories, written and unwritten, of these unfortunates, prove the contrary.

And what can be said of the loveless marriages entered into by young women of refinement, who at the altar plight sacred vows to man whose big bank accounts and the surety of always being able to live and dress well are the first consideration? I am sufficiently optimistic to believe that the number of such unions is somewhat exaggerated; yet that they occur at all is disheartening, and makes the need of a more sensible atmosphere in the home on the subject of dress all the more imperative.

I am led just here to relate an incident which took place recently in an Ohio college, and illustrates what mental misery may be inflicted on others by those who are in bondage to fashion. It was the daughter of a poor minister, living in an obscure, out of-the-way place, and the family had probably strained many a point to send her to boarding school. Her wardrobe was home-made, and not in the best of taste, which afforded the college girls no end of sport. The cheapest fabrics were made into would-be fashionable style (quite antediluvian at the school, however), which added to the tawdry effect. The poor mother, under the impression that her daughter's outfit would not be complete without one silk dress at least, had sacrificed her own wedding gown to the necessities of the occasion, and in her eyes the big barred, green, orange and white plaid, pieced out with painstaking care, gave Lucretia an air most *distingué*.

Not so did the merry college girls view it. It might have done for Mrs. Noah in the ark, but for any one to wear such a thing now-a-days! Oh, dear! The scant overskirt, not wide enough to hide the muslin sham, the ill-fitting basque, the sleeves lengthened out by a ribbon puff, only excited their laughter and derision. The wretched Lucretia felt that she was the object of ridicule, and would willingly have given the cherished silk and all the rest of her clothes for one plain flannel suit, such as the majority of her schoolmates wore. She had not the independence to make the best of a bad situation, but brooded over it in silence, growing more unhappy every day.

Those giddy girls little knew the anguish they were inflicting; they did not suspect how often poor Lucretia cried herself to sleep, or wept when she should have been studying; they never knew the tales of their cruelty and heartlessness which she poured out in the letters she wrote home.

There is something pathetic in the picture that comes to the mind of how those dismal letters were received in that little home; of the disappointment of that kind mother who had worked so hard to make her daughter presentable—of the sacrifice of that wedding-dress so highly prized—a sacrifice made in vain. It would be strange if Lucretia's bitterness had not been shared by the whole family.

Although booked as a "regular" the young girl did not return to school the next term, but after the spring vacation Lucretia made her appearance with an entire change of wardrobe—less striking in color and plain in detail and making. If the clothes were possessed of language, how they could have told of weary hours spent by mother and daughter in making up the new things, and the perplexity of the father to get the money to buy the new material, and the sacrifices and self-denials of the entire household. And for what? That Lucretia could go back to school and not be laughed at! Garry Owen Gaines.

Egyptian Temples. — Neither the boldest imagination nor the most exact study can enable us to form an adequate conception of the splendor of an Egyptian temple in its perfect state. The vast space it occupied; its lofty gateway; the long avenues of sphinxes; the glittering obelisks and the life-like expression of the monstrous statues, form a combination of the most imposing architectural grandeur. The æsthetic qualities of these structures cannot be briefly summed up. As we ponder them we shall be willing to acknowledge, for we shall discover, the exceptional constructive power of the ancient architects; we shall see how closely they followed nature, and at times drew as well upon foreign art, though always preserving their own principles of form. We shall also observe how fancy and "feeling" are displayed in their temple-decorations. Besides, there is always one grand imaginative vein running through all their work—which expresses the principal idea of their faith—imperishability.

—*Scribner's Magazine.*

Ventilation and Health.—Thanks to science, both teachers and superintendents of workshops are beginning to believe that free air-currents rightly guided, and passing through their establishments, are conducive to the successfulness of the work done. School children will learn far more, and be more intelligent and active and pleasant, in a properly ventilated room than in one where they breathe and re-breathe their own carbonic acid and exhalations. The glad shout that youth sets up when just beyond the school yard gate is born quite as much of the magic influence of oxygen as of joy at being free. For the same reason young men and young women would be more cheerful and attentive to business if there were a scientific system of ventilation in the rooms where they work. Yes, and they would do 10 per cent. more work, and do it better. Banish carbonic acid, foul air, and dust from your workshops, and introduce oxygen from the outside, and you at the same time banish lethargy, and introduce calm, peaceful, happy activity. Apart from all regard for the health and comfort of their people, it would pay mill owners, manufacturers and others to devote a little more attention to the purity of the atmosphere in which the work is carried on.

—*Council's Magazine.*

The American System.—In comparing systems of government, few of the older republics, empires or kingdoms, are found to enjoy more real stability than the system founded under Washington. The American ship of state is built in so many compartments, that even if several became water-logged the ship would float. This cannot be said of many older nations. Mere centralization, either in the hands of a monarch, or in the hands of a democratic "Chamber," has reached to such a point that any great popular impulse, any wave of passion promoted by disaster, and driven by envy and poverty, may overturn the

vessel and cause it to become for a time a helpless wreck. This is not conceivable in the case of the United States. There is so much check and counter check, so slow an operation of the forces of movement, that men have time to consider. To those who look upon the United States from a European standpoint, it appears that there is far more of real sovereignty in the hands of the President than there is in the hands of any of the kings who in Europe govern by means of imitations of the English constitution. That constitution makes the sovereign reign, but does not allow him or her to govern. In modified forms this is the same in Italy, in Sweden and Norway, in Belgium, and in Spain. It is the same in the Republic of France. Only in Russia, and to a less extent in Germany, does the monarch immediately sway the destinies of his people.—*Marquis of Lorne, in Forum.*

THE POWER OF THE PRESIDENT.—That the actual power of the president exceeds that of some crowned dignitaries, is universally conceded. The constitution did not intend that he should be a mere figurehead. It not only confided to him the execution of the laws, but it armed him with a power over the making of laws which he might deem improper. By this we mean the provision that every measure passed by congress shall be presented to him for approval, and that, if disapproved, he may return it with his objections, in which case it shall not become law unless again passed by the vote of two-thirds of each house. Whether this power was given to him solely as a weapon to defend his own office or the integrity of the constitution from attack by congress, or whether the constitution designed that he should in this way have a voice in the making of all laws, is unsettled. The weight of opinion and the practice at the beginning of the government seem to sustain the former view; the strict language of the constitution the latter. The frequent exercise of the power in recent years, in marked contrast with its rare use by earlier presidents, has aroused harsh feeling on the part of congress, and some very sober thinking on the part of philosophers; it is plain, however, that the late executive had no doubt upon the subject.—*St. Nicholas.*

Domestic Economy.

A Plea for the Babies.

When my first born was brought to my bedside for me to kiss, and then laid tenderly beside me, I settled down for a quiet slumber, feeling that a burden was taken from my mind and that the anxiety was all over. This was well enough for the time, but a vain delusion, for none can know except by experience the cares and responsibilities of motherhood. I have felt since that not until I had given my own experiences for the benefit of baby and the young mother would my duty be fulfilled. My darling little girl was a wee mite of a baby with only the slightest hold on existence, and I was alone—no mother, sister or friends in the household, and I, who had read much on other subjects, had never thought that I needed any knowledge to care for baby. With other discouraging circumstances, my physician was eight miles distant; my heart and hands were full; hence I can but sympathize with those in like position.

Weak as little babies seem, very few children need die if properly taken care of, and the fact that so large a number are lost during the first five years of life, is terrible proof of the ignorance or carelessness of those into whose hands they are given. Do not then, I beg, young wives, who will soon be mothers, spend all the precious time ere the baby is in your arms in preparing an elaborate wardrobe, but rather seek with all diligence to inform yourselves intelligently on the care of infants. Do not for a moment think that you can throw off the care of your child on a nurse or doctor; you are the one, and the only one, responsible for the life and health of your darling; and though it may seem hard at first—hard to give up your accustomed pleasures, hard to stay with baby all day and then to watch his slumbers at night—you will be repaid, if you are a true woman and a faithful mother; you will find a daily reward in the fact that you are doing your duty, and as the young life develops and you watch the expanding of the faculties, and the little immortal soul looks up to you in confidence and love, your heart will overflow with thankfulness to your Heavenly Father for the treasure in your arms, and you will say, "What am I that He should deem me worthy of this sacred trust?"

The wardrobe of baby is very important. I would advise its being made mostly at home, with a few articles purchased for guides as to size and style; almost any woman can fashion the little garments according to her own taste, and they will be neater, better-made, and more lasting than ready-made. Of course it saves trouble to buy them ready made, if what we do for baby is trouble; but the little garments are so dainty, so attractive in their mute suggestions, that the trouble of making turns to joy, and a world of hope, tenderness and love, goes into the fashioning of each tiny garment.

As a guide to those in moderate circumstances, I suggest the following as sufficient to await the coming of baby: Six night dresses, six day dresses or slips, three flannel skirts, three flannel bands, two flannel day skirts, two flannel night skirts, two barrow coats, three to six pairs of socks, two flannel blankets, three pieces of diaper, or about thirty yards. These are the articles absolutely necessary. The slips or day dresses should be made plainly, of soft material. Lonsdale cambric is good enough—unless one wants the best of everything—then nainsook would be used. These dresses should be trimmed with soft lace in preference to Hamburgs, and let dainty tucking fill the place of insertions; they are designed for the first three months of baby's life, and can be laid aside for the regular-made long dress if baby is well and is likely to be placed on exhibition; or, in other words placed in a position to require much dress. The night dress should be used day and night for the first month. It should be made of soft muslin—"Pride of the West" I prefer; these are pretty made with yoke, open behind and trimmed simply. Never allow a laundress to starch them or the first dresses. It is an outrage to baby to be put into starched clothes while the little flesh is so tender that the softest material is often annoying. The flannels should be of good material, and the day skirts should show a little skill in embroidery. Night skirts, bands, and barrow coats are good enough, and look very neat, simply feather-stitched with silk floss; these should not be as long as the day skirts.

Socks are important, for one cannot expect a good baby unless pains are taken to keep the feet warm. If baby kicks off socks, knit small stockings which will reach over the knee, and pin them on with safety pins; these are preferable to socks unless the socks are very long. These socks or stockings should be worn night as well as day, for bare feet are always sure of some exposure, and by no means neglect the feet; cold feet bring stomach ache, bowel trouble, wakeful nights and a general disarrangement in baby's health. Besides the socks a bottle of warm water or a warm soap-stone should be placed in the crib at night, and often during the day, if the weather or room should be cool—the limbs being kept at blood heat by artificial means till nature furnishes a free and strong circulation. V. B. C.

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GOSHO 5875—Dropped Feb. 15, 1885. Color, black. Sire Adolf 4887. Dam Pastelymie, No. 8888; weight, 1,200 lbs.

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Also, a thoroughbred KERRY BULL, about 3 years old, out of a thoroughbred cow by a thoroughbred bull, both of which are from a herd of imported cattle.

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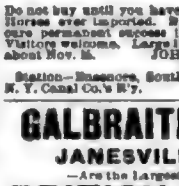

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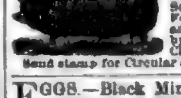

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THE CULTIVATOR
AND
Country Gentleman

Albany, March 21, 1880.

Rules for Ensilage.

As many farmers are now preparing to build silos, we offer the following suggestions:

1. Silos should be made deep or high when practicable, so that the ensilage itself may exert a greater pressure on all below.

2. The bottom should be on a level with the stable floor, so as to admit of easier feeding.

3. It may be filled in at the top, either by means of a carrier driven by the machine in cutting; or on an elevated bridge or causeway.

4. If the silo stands on a steep hillside, an earth road may be made to carry up the loads of stalks to the cutter and silo.

5. The silo may be constructed of timber and plank, and while it lasts will be as good as when built of costly masonary.

6. Good walls may be made of boards or plank, nailed on the two sides of a stiff timber frame forming an air-space lined with tarred building paper, to make it air-tight and prevent freezing much.

7. If the planks are well soaked with petroleum, they will last many years. The portion next to earth may be treated with gas tar; or it may be of masonary.

8. A plank door, capable of being strongly barred, should open next to the passage towards the stable.

9. If the walls are fairly even, it will make no difference in the settling of the ensilage whether the planks are set upright or horizontal.

10. The bottom or floor should have perfect drainage.

11. Silos of moderate size, or larger ones with divisions, are more convenient for filling and emptying, provided the cutter can be easily placed to feed all.

12. After filling the silo, during successive days, the contents will settle in the course of a week or two, to about two thirds of their former bulk.

13. Ensilage, after settling, will weigh about 45 pounds to the cubic foot, if cut short and weighted heavily; but will be considerably less in weight at top if cut longer and not weighted.

Raising and Managing the Fodder.

14. A ton of good ensilage contains no more nutriment than an equal amount of well dried and cut cornstalks, but it is liked better by cattle and is better assimilated, digested, and goes further than the dry fodder.

15. It has nearly the same advantages as green food given in summer.

16. Two modes are adopted in raising the stalks—planting in thick drills, and thus obtaining the heaviest crop, with no grain; or thinner, and obtaining fewer stalks, with some corn.

17. The grain obviates feeding dry meal with the ensilage, and is believed by many to be more profitable than the heavier thick crop requiring some meal.

18. The best ensilage is obtained by allowing the stalks to ripen enough to let the grain glaze, and the leaves to dry on their edges. Failure results when cutting too green.

19. From four to six inches apart in the row is a suitable distance for the stalks; small corn and sweet corn nearer than large southern corn.

20. The amount of fodder which may be grown on an acre depends chiefly on the richness of the soil. Common or good growing northern corn, planted thicker than large southern, will yield from fifteen to twenty tons of green stalks to the acre on rich land. Large corn will yield rather more in stalks but less in grain.

21. Cutting the fodder half an inch in length admits closer packing in the silo, and prevents the making of long fibrous manure. If three or four inches, it is better than the whole length.

22. Thoroughly tramp around the edges of the silo in filling; the central portion will become solid without much tramping.

23. Weighting the silo packs the top layer more nearly air tight; leaving it exposed causes several inches to rot on the top. A layer of several inches of dry straw holds a portion of the steam from the hot ensilage and tends to lessen the rotting.

24. A weight of a hundred pounds to the square foot is ample. It may be stones laid on plank cover; or it may be sand, sawdust, earth, bags of grain, or tubs of water on the plank, according to convenience. Weights are better than screws, because continuous.

25. In feeding out, expose as little of the ensilage to the air as convenient, either by cutting down perpendicularly in successive sections; or in small silos with large herds, by taking off successive layers over the whole surface.

Grass and Soiling Crops.

EDS. COUNTRY GENTLEMAN—I am farming under the disadvantage of scarcity of pasturage. Last winter I had about twenty-five acres of land cleared of a heavy growth of alder bushes and second growth of spruce and juniper. Owing to the extreme wetness of the past summer I was unable to get the growth burnt off. I wish to use this lot for pasture.

If I succeed in getting a good burn on the brush this coming spring, what crop can I sow on the burnt land, which will be available for cows turned on it during the summer? (1)

Would it be practicable to seed it with winter rye next fall? How much rye should be sown to the acre? I know nothing about rye, as it is never grown in this locality, but all other grains do well. The land is a clay loam. (2)

What green crops can I grow to be fed to milch cows as a supplement to short pasturage? I have grown the common cow corn for the past three years, but I want some green crop which will come in before the corn is large enough to cut. (3)

Will it pay to buy bran at $25 per ton to feed during the summer to fairly good Jersey grades, butter selling at 25 cents? (4)

I have a piece of intervale which as far as I can ascertain, has never been manured; yet it bore a very fair crop of oats for quite a number of successive years. Last season it was sown to barley. I wish to seed it to grass without again raising a crop of grain. If the land is gone over with a spring-tooth harrow after top dressing it with stable manure, and then seeded with clover, will I obtain a catch? How many quarts of red and alsike clover seed (sown together) to the acre? (5)

What is the most suitable crop to be grown next summer in apple orchard about eighteen years old; the ground of course being considerably shaded? It is in sod at present, but considerably run out. (6) P. C. B.

Falmouth, N. S.

1. A mixture of peas and oats may be sown as early as the ground is ready for them, and will give early feed. Next, as soon as the weather will permit, sow thickly the smallest and earliest corn, to be followed by common or larger corn.

2. Rye may be sown early in autumn, on any land which can be prepared for it, and it will make earlier soiling than any other crop next spring, with the exception of clover and orchard grass.

3. The crops just mentioned will answer your purpose.

4. If you have an abundance of good pasturage, it would not pay to feed bran; but if the other feed is rather scant, it would be well to give a small or moderate supply, as it is a matter of economy to keep animals in vigorous condition even at some extra expense for the time.

5. Your success will depend on the good preparation of the soil, which should be clean, with a smooth and mellow surface, the seed to be lightly brushed in or rolled. A peck of red clover seed and two or three quarts of alsike would give a good growth if well put in; but for continued pasturage the addition of orchard grass, timothy, red-top and fescue, would be important, and a rather similar quantity of red clover would be sufficient.

6. An apple orchard eighteen years old, if it has had a fair growth with the trees standing at usual distances, will not permit much else to be grown under the trees. If the apple crop is important, the best thing to do would be to top-dress it well with barn manure annually, or as often as biennially at least, which will give the trees and their bearing new life. If you wish to plow it (which should be done while the trees are dormant and not in summer,) you may sow corn fodder or other soiling crop, but the product will be small.

Spreading Manure in Winter.

EDS. COUNTRY GENTLEMAN—Mr. H. STEWART expresses the belief of many regarding the spreading of manure in winter, which is practiced by a very few in this latitude; but the question of loss rises with us, and we are inclined to think that this, as well as many other things, is a sectional matter. For us to spread manure on 1½ to 3 feet of snow seems beyond doubt a wasteful practice; yet I tried it a year ago on part of a field fall plowed for corn ground, and there was no perceptible difference in the quantity of fodder corn produced upon that manured in the fall and plowed under, from that top-dressed after the snow went away, or on top of the snow; there perhaps was a difference, which the eye could not well distinguish. All was put into the silo.

Manure taken directly from the stable, or warm from the pile, has not such moisture as to color the snow, and what becomes of that which produced the change of color, while this great bed of snow is melting and water running off even on moderately rolling ground?

In this locality we are crowded to our very utmost with work from the 20th of April, the usual time of beginning work on the land in spring, until the crop is all in, which is generally and necessarily all done by the last of May; and the earlier everything is in, the greater the yield (on a whole), though the ground is seldom fit for corn before May 10, and more seldom is any one ready to plant at that time, as potatoes usually follow the small grains, yielding so much better if planted early, and further, the earlier varieties almost outgrow the bugs; here again it will be seen that our plowing is necessarily done in the fall; but if time permits, land is sometimes replowed at planting time for potatoes and corn.

Considering our short seeding season, by drawing out manure in winter we realize a large gain in yield by the time saved, providing there is no loss in fertilizing elements, and I have sometimes drawn out manure in winter and put two loads in a pile, and later two men with team and stone boat could cover a large piece in a day, and sometimes the weather favors drawing it out and putting in small piles during a late snow fall. Time in spring is highly valuable with us, and if we can safely spread upon two feet of snow, we should be glad to know it. H. M. C. *Medina, Wis.*

Our correspondent has very properly pointed out the advantages of the winter spreading of manure, but the comparative benefits of the two modes described depend greatly on circumstances. On a compact and heavy soil, the spreading and plowing under in autumn, if for corn, should be quite shallow, but deeper for potatoes and some other crops. On a light soil, the plowing might be deeper, or even omitted till spring. The manure if spread on snow which is not drifted, would gradually settle with the melting snow and rest on the thawed soil. For an explanation showing that but a small portion can be carried off by running water, see the remarks in answer to "W. S. N." on page 164.—EDS.

The Silo in Canada.

EDS. COUNTRY GENTLEMAN—The silo has made little headway in Canada. This backwardness may be accounted for in various ways. Old country ideas as to the value of root crops prevail here to a great extent. Then there is the constitutional aversion to adopt new methods that is noticeable among farmers everywhere. Again, we in Canada copy largely the useful inventions that have been tested in the United States, and now, as the silo has been so greatly simplified and improved by practical men on the other side, we may expect the more progressive farmer here to take the benefit of so valuable a discovery—at least so far north as corn will flourish.

There were a number of silos built in Ontario, so far back as 1880, all of course upon the old expensive, massive plan, and filled with thickly grown, immature corn, making a very sour inferior food. Some of these have been filled yearly to the present time (the owners adopting the newer ideas as they cropped up) with very satisfactory results; others, after one or two years' use, became yawning chasms, monuments for the cautious farmer to shun. Within a year or two, however, a change for the better is noticeable. Our silo, built and filled on the modern plan, and costing less than $150, with capacity for 150 tons (the only one of the kind in the county) is creating a good deal of interest among the farmers hereabout. We are feeding the ensilage to horses, cattle and pigs with satisfactory results. The corn being well matured makes a wonderfully cheap ration with the addition of a little bran for all store animals. This maturity is necessary to make the so-called "sweet ensilage" with sound keeping qualities; temperature and weighting then become secondary matters and will take care of themselves. We fill fast or slow as is most convenient, but we tramp well, so that the silo may be nearly full when settled.

For convenience in feeding, we use a flaring box holding about 15 bushels, balanced on a pair of wheels a few inches from the floor, and a large-sized scoop shovel. We have fed both from side and top surface of the silo—either will do—but severe frost affects the exposed top more than where cut down in sections. I quite agree with Prof. Cook that for this latitude an earlier corn than the dent varieties (taking the average of seasons) is the more suitable. We cannot get so much weight to the acre, but quality is what we are after more than bulk. ELIAS MOTT.

Ontario, March 1.

Windmills Again.

One that Would Not Grind.

EDS. COUNTRY GENTLEMAN—After reading John A. Stoughton's article on "A satisfactory windmill" (p. 164), I am tempted to "speak in meeting" on the same subject. I, also, have a satisfactory windmill, with a solid wheel. It is self-regulating, takes care of itself in any wind that will not unroof buildings; has stood and worked six years without expense—except oil. Cost of mill and forty foot tower was $100. The agent who sold the mill—and also sold me—recommended it as a reliable power for grinding, churning, &c. The inducement to me was the grinding. "It would grind from five to eight bushels an hour in an ordinary wind," which would answer my purpose. I could grind my own feed, grind that of my neighbors, taking toll as the millers do, and soon be wealthy enough to secure a nomination to the legislature.

So on the agent's guarantee of the above performance I signed the company's contract, and in due time the windmill, grinder and churn power were in position. Three days thereafter a wind came along and with it came my neighbors to see the operation of grinding.

I started it up and in an hour's time we had ground fully a tablespoonful. I wrote the manufacturers stating how it worked, or rather how it did not work, how it was put up, &c. They answered that it was not set right and sent a man in a few days to fix it. The day after he had gone, another wind came this way and I proceeded to grind—it worked better; in two hours it ground a teacupful. I again wrote to the company and another man was sent with another grinder; it was placed in position and set to work by the agent. In two hours, with a good wind, it ground another teacupful; then I said something; then the agent said we had better go in the house and settle (the 30 days' trial having expired.) I reminded him of my contract with the agent who sold me the mill, and he reminded me of the contract I had signed, and consoled me with the assurance that "they knew it would not grind—they only wanted to sell me the windmill." The "grinder" was put in at $30, (the whole bill was $140.) He offered to take out the grinder and throw off $11. I offered to close up, "$100 or fight." The money was accepted, and I have a good windmill worth $75, and $100 worth of experience.

Now as to conclusions: For pumping water, get a windmill of any reliable manufacturer; whatever the agent may say, do not believe or expect anything more than is warranted in their printed contract; do not pay over $75 or $100 for mill and tower. If you want power to run any other machinery, get an engine which will give you a steady reliable power—the wind is unsteady and unreliable. We hear and read of high-priced, geared windmills that are reliable for power. Go and see one work before you buy—and then do not buy. An engine will be far cheaper, will go when you want it to, will do all kinds of work such as pumping, grinding, churning, sawing and cutting feed; can also be made to rock the cradle and spank the babies if desired. Lastly, if you get a windmill for pumping, do not have a high tower. Agents want to sell all the lumber they can, and they will tell you it must go above all the buildings and trees; but you may have no-

tioned that when the wind meets an obstruction, it will go round and get there all the same. Besides, with a high tower the hired man does not like to go up and oil the mill, because it makes him dizzy, and when you have to drag your own tired limbs to the giddy height, you are continually harassed by the fear that a misstep or momentary loss of nerve will give your wife a reasonable excuse to accept a handsomer man who may spend your hard earned savings in riotous living. A. H. B.

Wayne County, N. Y.

From Eastern Illinois.

Eds. Country Gentleman—Ten days of warm spring-like weather and a mild copious rain have taken the frost nearly out of the ground, rendered the roads almost impassable and stopped most kinds of business in the country. One of the notable features of the past winter was its mildness; three or four degrees below zero was the coldest temperature, and only once or twice has that point been reached. Another was the comparative dryness; little snow and few heavy rains; no sleighing, but much of the time wheeling was good.

Perhaps the most notable feature of the season has been the extremely low prices that have prevailed for all kinds of farm produce and live stock. The exceptions—hogs, poultry and hay—would seem to show that overproduction is the principal cause of the depression, these articles being in short supply. We produce more than we can consume, and this being the case, foreign markets control home markets, and the margin left to the producer is small. If the same were true of manufactured products then we could buy cheaply also, and the farmer would fare as well as other classes. As it is, it would seem as if the burdens of overproduction were heaped upon the farmer. Now that the western farmers have so magnanamously voted protection (profit) into the pockets of eastern manufacturers, will they reciprocate the favor and multiply their factories in the towns and cities of the West? Or will they continue, as in the past, by combination and pooling to regulate and gauge their production so as to maintain prices at a 10, 20 or 50 per cent. profit, and leave the farmer to content himself with 3 to 5 per cent.? This digression is not in a spirit of complaint, but to show how a large and growing minority of western farmers think and feel on the subject.

Cattle have suffered most in the present depression; 2½c. per lb. is the best price for good butchers' stock, including steers and heifers. Cows go at $18 to $30 per head, the average being not much above $20, and this at 10 to 12 months' time. Horses, which have heretofore held up well in prices, have weakened also, and from present indications it would seem as if the business of horse rearing had seen its best days. During the winter there has been no sale for heavy horses except at prices at least 25 per cent. below former years.

There is a good deal of changing and moving about among farmers, and public sales have been more numerous than ever before. Still, there seems no lack of tenants and buyers to take the place of all the movers. Our population is on the increase, and farm property is in good demand. Hard work for poor pay drives many well-to-do farmers into town, while the tenant class is getting so numerous that only the best can procure farms, and the rest having no West to emigrate to, move to town also. This is but the natural course of events, and will doubtless become more marked as the country becomes older. We are approaching the condition of Europe, and sooner or later the manufacturer must work for lower wages and lower interest on capital invested whether high tariff or low tariff prevails.

Though the winter has been open, with considerable freezing and thawing, grass lands are in much better condition than at this time last year, and it is probable that the worst trials of the cattle men are over. With good pastures once more, and exemption from drouth for a year or two, it is possible that, with the lessened supply, after the wholesale slaughter of cattle that has occurred for the last two years, the business may be more remunerative. It is to be hoped so, as cattle, here as elsewhere, are the main reliance in maintaining the permanent fertility of our farms.

It is too early yet to tell what the spring frosts may do, but at present the outlook for another good fruit crop is hopeful. Nothing during the winter has occurred to hinder a full blossoming of all kinds, including peaches. The fine crops of last year revived our hopes considerably, and in the case of apples, which were indeed fine as well as abundant, we have learned that, with the proper selection of varities, a thrifty and productive orchard in Central Illinois is not beyond an impossibility, and I will hopefully add, not beyond an uncertainty. We have some excellent varieties that have withstood the trials of the last half dozen years, and these years, I believe, were exceptional, and not as some think the beginning of an epoch of severe winter temperatures. O.

Champaign County, March 2.

Better than Earth Closets.

Eds. Country Gentleman—The chief objection to earth closets is that they are seldom manged properly. The fecal accumulations are seldom disinfected sufficiently to prevent offensive odors from filling the house. Privy vaults in the ground, and large boxes beneath privies, are very objectionable, for the simple reason that they are not kept reasonably clean. Every person who has attempted to remove and utilize the accumulations of the privy knows that the job is forgotten, put off and neglected, until the offensive odor becomes a nuisance. Every one recoils from the disagreeable task of handling with shovels, or any other appliances, the accumulations of a sink or vault.

For more than twenty years past I have adopted a far better mode of managing the soil and liquid of the outhouse. The house is supported on posts, about two feet high. Beneath each hole, tubs well hooped are placed, each provided with a strong bale, so that a man can handle it, and lift it on a wheelbarrow with ease. Butter tubs are not too small. A strong barrel could be sawed into two equal parts for tubs. In hot weather the tubs are emptied every ten to fifteen days; and slaked lime is sprinkled liberally in them. Before the tubs are full, they are pulled out from beneath the building, and one at a time is placed on a wheelbarrow and wheeled to the garden, dumped in a hole, and covered with mellow soil. A few handfuls of ashes are thrown over the surface, when the tubs are hauled out, to absorb all odor.

The tubs are placed on pieces of board, so that they will slide easily. It usually takes a man about twenty minutes to empty two tubs. By employing tubs that one man can lift easily on a wheelbarrow, the offensive task of shovelling is avoided. Ordinarily, I see that a trench some ten or twelve feet long is dug, and the contents of a tub are spread out thin and quickly covered. Our garden has been made rich by such manure. By employing tubs, that offensive stench is avoided which usually exists where there is a vault beneath the building. In hot weather the contents of a vault become exceedingly foul in a few days. Tubs can be emptied before decomposition commences. By only a little labor, occasionally, the premises can be kept clean and free from offensive odors. Eds. E. Tex. *Orange, N. J.*

The Bath Institute.

At this meeting Secretary Woodward, who has apparently fully recovered, presided, and was greeted heartily. The hall was well filled before the close of the first session, and the same interest prevailed throughout the convention, notwithstanding the somewhat unfavorable weather.

The meeting opened with a paper by Mr. Hall of the State dairy commission, in which he gave some of the essentials for securing a good quality of milk for cheese-making. Some of the points made were as follows:

"Stagnant water if drunk by the cows will invariably produce floating curd. Keep the milking stable as clean as possible, and have salt freely accessible to the cows. After milking, set the milk where it can not be contaminated by impure air, and under no circumstances should the cans be covered, and thus the gases prevented from leaving the milk. But the most important part of the care of milk is deodorizing it in some way. Pouring from one pail to another will do, but some kind of an aerating machine should be used. Milk cooled by the addition of cold water retains the animal odors, and therefore makes an inferior quality of cheese. The best results are when the milk becomes acid in from 1½ to 2 hours. Morning and evening the milk should receive the same treatment, and be kept in separate cans, and if these are rusty and worn out good cheese cannot be made. If a single patron fails to take proper care, the whole product of the factory may be injured. The washing of cans and utensils is of the utmost importance. Curing-rooms should be so constructed that the temperature may be readily controlled. Heating by steam is the best and most convenient method. And last, but not least, a good cheese-maker must be obtained and paid a fair price so that he can afford to make a good article. A man who is more interested in bar-room loafing and base ball games than in his business, is not the kind for making cheese."

Experience with Ensilage.

Mr. Geo. T. Powell gave a talk on "The Silo as a factor of success":

He ascribed the present agricultural depression to the exhausted condition of our soil, which results from bad methods of cropping. Too much of the fertility is removed and never put back upon the land. At the present prices of commercial fertilizers, the nitrogen, potash and phosphoric acid in a ton of the crop is worth—corn, $6.94; potatoes, $1.74, milk, $2 43; cheese, $20.02; butter, 60 cents; clover hay, $9 04.

Next to grass he believed corn the cheapest cattle food, and the best and cheapest way to preserve it in its most digestible form is to ensilage it.

A model silo, with the boards running vertically and nailed to girts about three feet apart, was shown, and said to be stronger and less liable to spread than those built in the usual way with the studding running up and down. Studding should be at least 2 by 10 or 3 by 12, and even larger if the silo is more than 20 feet deep. Double boarding, with paper between on each side of the girts, will prevent freezing even at 24° below zero. Sow the corn in drills just as thin as it can be put in the ground; that is, thin enough so that every stalk will have a fully grown ear. Hand work is too expensive. Take a Thomas smoothing harrow and go over the field any way you please, as soon as a crust forms on the ground. Thousands of weed seeds just ready to germinate will be killed by this process, which should be continued until the corn is five or six inches high. Then put in the cultivator, running it deep and close to the rows at first and gradually narrowing and running more shallow until the corn is too large to cultivate. Cut when it is fully developed, and at about the same time as if it was to be shocked and husked. After seven years' experience, he thinks it pays to cut the corn before putting into the silo. If cut into 4 or 5-inch lengths it will be more thoroughly masticated, and it heats up better than if cut shorter.

He objected to the common practice of cutting down the silo. The air will affect it more or less, and it will not make a fine quality of butter if left very long exposed.

Unless the silo is very large, he prefers to take a layer from the top of the silo each day, thus having it always fresh. By keeping the cows in a warm stable nearly all the time in winter and feeding ensilage, the profits can be increased more than one-half. He feeds about 6 quarts of bran and 2 quarts of cottonseed meal a day, mixed with about 40 lbs. of ensilage. Weighting a silo is unnecessary. Put on about 2 feet of straw, cut preferred, and some boards on top to compact the straw.

At the close of his address many questions were asked. In regard to the necessity of sunshine for cattle, he said that although good, it would not pay to expose them to too low a temperature to obtain it.

The largest yield of corn can be had by planting in drills. The experiments at Cornell University last summer indicate this. The largest corn can be cut with a strong reaper by having a man to help the rakes. He cut 18 foot corn with a No. 6 D. M. Osborne reaper. Plant the largest-yielding corn that matures in your section. Blunt's Prolific is his favorite variety. After harrowing on stony ground he uses potato-hooks for removing the stone. The cost of raising and harvesting ensilage is from $1 to $2 per ton in his experience.

Secretary Woodward found a gain in butter of 5 per cent. by mixing his grain with the ensilage 12 hours before feeding and allowing it to heat. Several were feeding it to horses with very favorable results, but do not advise its entire substitution for hay, for the same reason that working horses are not at their best if having nothing but pasture. The practice of blasting stumps was condemned as being more expensive than removing them with a stump-machine.

Dr. Stoddard of Prattsburg, in an amusing and instructive talk, controverted some of the "heresies common among farmers." An ingenious device, which he had used successfully for removing potatoes and apples from cows' throats, was shown to the audience. It was simply a potato with one end hollowed out and attached to the end of a small rod. The potato in the throat fitted into the one on the stick and was drawn out.

At the close of Dr. Grant's paper on "The Trotting Horse," Mr. Powell expressed the opinion that the average farmer had not money enough to compete with the many wealthy firms engaged in the business. He said: "Every farmer I know, who has raised trotters as a business, has bred a good-sized mortgage on his farm every time."

The next speaker was J. M. Drew of the Cornell Experiment Station, subject "Feeding Farm Animals":

There are two classes of food elements, the nitrogenous or bone and muscle-forming, and carbonaceous or heat and fat-producing. Animals left out doors in winter or in cold stables must necessarily consume a large part of the food given in merely keeping up the heat of the body. If kept in warm quarters this extra food would make a gain in flesh or milk. He advised the more general use of bran and cottonseed meal for feeding in connection with timothy hay, straw and corn fodder, which contain too large a proportion of carbohydrates or heat-producing elements. As compared with other fertilizers a ton of bran is worth for manure $18 12, a ton of cottonseed meal $27, or four times as much as a ton of corn.

Mr. Powell gave as a good ration for feeding with pasture, 1 qt. cottonseed, 2 qts. bran and 1 qt. corn.

Secretary Woodward thought every farmer with 80 acres of land should raise a pair of colts every year. Breed them in the fall and feed some ensilage or roots in warm box stalls. He recommended grade draft horses as most profitable, and thought bran and oil meal much cheaper than oats at 30c. a bushel, especially for growing colts.

Ladies on Butter and Poultry.

Mrs. Herman J. Lewis of Mitchellville then gave her experience in making butter. She practices deep setting in ice water, and considers it the best method both for quality and quantity of butter. Before churning, let the cream become slightly acid and warm by setting it into a tub of warm water instead of setting it on a stove and carelessly letting it get too warm. The buttermilk is drawn off and the butter washed while in granular form. We should strive to increase the consumption of butter by producing a superior article.

Mrs. Townsend of Pavilion Centre (owner of a valuable stock farm, and breeder of Holstein cattle, Percheron horses and Merino sheep) considers her poultry more profitable than any other stock. She said:

I venture to say that there are more women poultry-raisers than men. The poultry industry of the United States last year amounted to $700,000,000. Many times, however, the birds are raised at a loss. To be successful one requires a large stock of good common sense. Worn-out, nervous women especially, will find it a boon. One, two or three hours out-door work each day will do wonders for them, as a relief from the monotonous daily routine of housework. The raising of early pullets for winter layers helps fill a demand which is greater than can be supplied. I began in the old-fashioned way, with a room in an old building. Have regular hours for caring for them. Order, system and judicious work in the morning hours, bring our days to a satisfactory close. I am of opinion that the mother hen will remain in fashion as an incubator for some years yet. Do not have too wet, sloppy food. Eternal vigilance should be the watchword of the farm. The morning ration is troughs of soft feed, and whole grain in the evening. The cockerels are killed as fast as large enough. Wash the perches often with carbolic acid and kerosene. Oats, wheat and shelled corn are fed, also sea shells, gravel and charcoal. Very small capital, time and expense is required, and nearly all the failures come from those too proud or shiftless to attend to details.

Keeping up our Soils.

A paper entitled "How to Maintain the Fertility of our Land" was presented by L. B. Miller. He divided the agriculture of the country into two periods, that of rich land and that of poor. Already commercial fertilizers are being introduced as far west as Kansas. Barns have been moved because it was easier than to draw out the manure. Nowadays it is thought cheaper to draw out the manure. One of the saddest facts that confront us is that so many farmers would farm better if they had the money to start with, but all they can get must be used to keep the sheriff from the door. There is more money in an acre of good grain than in skimming over the ground for ⅓ to ¾ of a crop. Plow fewer acres and cultivate better. Use more care in saving the manure from waste, and keep all the stock you can. Staple crops are a bad thing for a country. Cotton, tobacco, rice and indigo were the staples of the South. Last year Georgia paid $5,000,000 for commercial fertilizers, while in New-York only $1,500,000 was expended, and $2,000,000 in Pennsylvania. In conclusion he said: "If you want your farm depleted, the best thing to do is to move off from it. You degrade your calling by doing this."

Mr. Woodward aptly termed the average barnyard manure "the corpse from which the spirit is gone." He said he believed in commercial fertilizers, but thought we could make it cheaper by stock feeding. In a trip to England last summer he saw the finest pastures in the world, but said that every cow, sheep and horse was also fed grain every day in the year. Formerly England grew no larger crops

than we, but now they are better on account of the shiploads of oil meal, cottonseed meal and bran, which they draw from this country. There is no reason why the same thing cannot be done here.

Wintering Cattle--Feeding.

Messrs. Woodward, Powell and Curtis contended that the most profitable way to winter cows was to keep them constantly in the stable except on mild days. It was said to be impossible on account of the excitement to the cows to turn out one of them, or to let a dog pass through the stable without lessening the milk. A herd which had been confined every day from November to May for four years was cited as proof of the practicability of the plan and the healthy, vigorous condition of the cows. The fastening was chain about the neck, and they were given plenty of bedding and a warm stable.

"Feeding for a Purpose" was ably treated by Col. Curtis. The proper nutritive ratio according to the German standard is about 1 to 4.5, *i. e.*, one nitrogenous element to 4.5 carbonaceous elements. This applies with little variation to all animals, the human family not excepted. Children are the most profitable crop that can be raised upon the farm—don't allow them to feed too largely on starchy, fattening food; it lacks bone and muscle. There is nerve force in oat meal.

Grapes and Potatoes.

Mr. Fairchild, the Hammondsport grape-grower, read a paper on his favorite fruit, claiming that no industry could be more profitable, if properly conducted. He advocated the pinching in system, *i. e.*, pinching off the ends of canes when long enough, say 4 feet. If there are too many fruit buds, rub off part of them. Had this been done, there would have been a thousand tons more grapes in Steuben county last year, he claimed. Wire trellises are the cheapest and best. Pork and beans are fast being replaced by this delicious and healthful fruit; 10,000,000 tons were grown about Keuka lake last year. Go slow if contemplating a large vineyard, especially in doubtful sections. Do not neglect your vineyard or be discouraged by a bad season. With good culture three and a half tons of the Catawba variety can be grown upon an acre.

Seth Fenner of Erie county spoke of the cultivation of the potato in his section where it is one of the main crops:

Last year's crop was the largest the United States has ever grown, being $195,000,000 bushels, while in 1887 only 180,000,000 bushels were produced; 9,000,000 bushels were imported in 1887, making the surplus this year about 56,000,000. He said there could be little advance from the present prices, 20 to 30 cents per bushel, and advised selling at that price rather than to feed to cows. Have the right kind of soil; gravelly loam and clover sod is best. Fair potatoes can be raised on clayey or mucky soil, but inferior in flavor and color. Don't expect a large crop without a rich fertile soil, especially one that is rich in potash. Clover sod should not be plowed less than seven inches deep and be turned over in a workmanlike manner. Then put on the roller and disc or spring tooth harrow, and pulverize the soil till you think you have it in first-class shape, then roll and harrow again, and finally roll and plant. We use the Aspinwall planter, and should hardly know what to do without it. The best raisers select the seed when dug. Follow the digger with a basket and select the kind of potatoes you wish to grow. Certain types can be perpetuated in this way just the same as in live stock. Keep the seed at a temperature of 40° or 45° until planted, to prevent sprouting. Get your cellar at that temperature in the fall, and if kept closed it will not vary much until May. If the seed sprouts, it will never recover from the shock to its vitality. We plant from May 15 to July 1. Early potatoes can be shipped into Buffalo cheaper than we can raise them. In cutting we get as much of the tuber with the eye as possible, to give it nourishment while starting. The planter covers them from 3 to 5 inches deep, about 18 inches apart in the row. Not one hill in a thousand will be missed, and the rows are all straight, provided the first one is straight. The next day after planting we run a Planet cultivator between the rows 5 or 6 inches deep, and within an inch of the rows. Next take the Thomas smoothing harrow and drag over the whole field. Keep harrowing the cultivator until large enough for hilling. Leave a little basin which will hold the rain; no hand work is done; successful farming depends largely on lessening hand work. Without counting the interest on land and cost of seed they cost us just 10 cents a bushel. Have tried many diggers with but indifferent success. Five men dig 300 to 400 bushels a day. The planter uses about 10 bushels of seed to the acre, and the crop varies from 100 to 300 bushels; prefers London purple for the Colorado beetle, as it dissolves and is less apt to scorch the vines. It is applied to three rows at a time by a machine of our own construction.

Mr. Woodward laid great stress upon the importance of selection of seed. Select the best hills, mark them, and when digging select the model tubers from those hills. By planting these each year, the characteristics and vigor of the variety may be retained. He favored the Clark cutaway harrow for fitting good ground for corn and potatoes.

Dairying and Politics.

Mr. Powell addressed the audience on co-operative dairying. He said:

"We need to farm on a line to bring up the fertility of our soil. So much of our land is poor that we get unsatisfactory results, and agriculture is depressed. Our present practice of taking off and selling the greater part of our crops year after year, is a fatal one. In every ton of corn, you sell, in nitrogen, potash and phosphoric acid at market rates, $6.94 worth of manurial elements; in wheat straw, $3.71; oats, $5.03; timothy hay, $5; clover hay, $9; milk, $3.43; cheese, $20; butter, 60c. We can be successful only when this is replaced in some way. This is one reason why the boys leave the farm. The time is coming when the farmer will no more make his own butter than his own boots. But few have the proper conveniences and machinery to get the best results. Even if they do, the conditions of sale have changed. The market demands something different. The creamery product is sought for at the first hotels and restaurants. They do not want the farmer's butter. They cannot get the same thing twice alike, because there are almost as many different qualities as farmers. Some is too hard, some too soft, too white or too yellow. The packages also are different. Cooperative dairying will correct all this. Adopt the cream-gathering system, thus leaving the skimmed milk, which has so much fertility, upon the farm. Sell 100 shares at $35 each, but sell only to men who are willing to produce a good quality of milk. Do not take every man who applies, but only liberal feeders and careful, pains taking men. Relieve your wives of one of the most onerous duties of the household. By using the submerged system of setting you can get the very highest price for your product. You cannot make one dollar unless you are careful in the selection of your cows, but with good cows, and by caring for them as you have been told at this meeting, and by making silos, there is no question of doub, but that you can make it a success. At our creamery we are getting 30c. to 35c. per lb., and have been getting 40c. In conclusion the whole salvation of successful farming is in feeding the products of our soil."

A paper on "The Farmer in Politics," by Assemblyman A. C. Brundage, showed our need to take more interest in political affairs:

"Whether the majority shall control depends on whether they exercise the requisite care to control. The caucus should be just as largely attended as the convention a few days later. You must yourselves be the means of relieving yourselves of your burdens. There should be at least fifty intelligent farmers at every session of the legislature. Let every voter be enough of a politician to be informed as to the candidates and parties. Real estate now pays $90 from every $100 of the taxes in this State. The amount of real estate taxed is $3,122,000,000, while only $346,000,000 of personal property is taxed, although in reality the value of the personal property is the greater. Attend all caucuses of your party. Satisfy yourself whom you want to represent you, and quietly work for him. You can do more than you dream of to attain this end. Only by eternal vigilance shall liberty be secured. When you respect yourselves the politicians will respect you."

C. B. B.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *March 18.*

We are having fine, seasonable March weather—without the winds—associated with some of the features of Indian summer—that is, a yellow haze abroad in the atmosphere the middle of the day. It freezes a few inches deep in the night, but by ten o'clock the frost has left and the roads are drying so fast that nothing but the sloughs will be soft and dust will be flying in less than a week, if it does not rain. So far, the spring has been as dry as the winter, and the present indications are for a continuance. Whether we are to have another drouthy season remains to be seen. I find thoughtful and observing men are not without their apprehensions, and this in part because, while all around us in Central Illinois, the rainfall in the summer of 1886 was abundant, our crops suffered so much from drouth, hay was short, and potatoes and kindred vegetables nearly a failure. Of the thousand or two square miles of pond and slough surface, twenty years ago in these counties, scarcely a square mile remains; open and tile drains have taken the surface water nearly all off, and therefore those evaporations from water and moist surfaces which contributed to the formation of local summer showers and thunder storms, have disappeared and our rain storms come from abroad. Indeed, during the warm season, the form of clouds known as cumulus, once a common feature of warm days, has nearly disappeared and our skies in this respect are like those of the west and southwest during the dry season. Still, it is the unexpected that happens, quite as much in the weather as anything, and within a week or a month we may have rains to make us think the windows of heaven have opened and the fountains of the great deep broken up.

Winter Wheat.

Local reports and the accounts I get from commercial travelers, are to the effect that wheat is looking unusually well north to south from Chicago to Cairo, and east to west from Danville to Quincy. To be sure, there are very few winter wheat fields for 100 miles south of Chicago; but the scarcity over that stretch of territory is more than made good in the sand prairie region along the Illinois river. The destruction of the chinch bugs by the rains last fall in the southern counties, renewed the interest in the wheat crop, and the acreage is considerably more than for the last two years. The fly is doing some damage but it is thought there has been a good deal of exaggeration, as there is almost sure to be in like cases. So far as the spring wheat crop is concerned, that long time since has been given over in all but a few counties in the more northern limits of the state. From some unknown cause, wheat has suffered less the past winter from bare ground and freezing weather than formerly. It may be because of the favorable autumn, that admitted of the development of the second system of roots; that is, the low temperature and moderate rainfall that stimulated root growth with no excess of herbage above ground. On the whole, the present indications are for an average wheat crop as to yield in aggregate bushels, but grain of first-rate quality as in 1883, after the very severe drouth of 1881. Of course, the crop may meet with untoward accidents between this time and harvest, but the general experience is that if there is a good, healthy stand the first of April, insurance for a full crop may be had at a small premium.

Over-Production.

I have more than once stated that when there was a full crop of some products wide over prairie Illinois, the yield often reached so large proportions as to glut the home, if not foreign markets. This may not be true of the three great cereals, corn, oats and wheat, and hay, but it is still true of many minor ones in the line of commercial products, fruits and vegetables. Thus to-day, good home-grown apples, kept over, are selling by the wagon load for 25 cents a bushel and less, and retailing at 10 to 15 cents more, while onions are so abundant there is absolutely no price that will pay for the hauling, and they are being utilized for stock, or spread on the land and plowed in as manure. I have heard of an offer of carload lots for 10 cents a bushel free on board, and was lately invited by a grower to take as few or as many as I would wish, for 15 cents a bushel. Champaign and the near and adjoining counties have produced more than half the broom-corn grown in the country for the last ten years, and with the result of an over-stocked market and prices below the cost of production. In proof of this statement, I have a letter from a large grower and extensive dealer in Coles county, in which he says: "As an agricultural newspaper correspondent, it would be well for you to discourage the planting of broom corn the coming season, as it is much overdone. The markets are all glutted and there are considerable stocks in the hands of growers. The price is below the cost of production for the shorter grades, and all large manufacturers are heavily stocked."

At the present date, prices for wheat, hay, horses and hogs are good and likely to remain so until the next harvest, if not longer. Corn and oats command nearly the same figures—that is 26 to 28c. for 56 lbs. of shelled corn, and 3 or 4c. less for 32 lbs. of oats. These figures are not regarded as enough above the cost of production for the farmer to make more than a decent living, but inasmuch as the products are in a certain measure imperishable, and there is always a cash market at some figures for them, the losses are never as large as with those who cultivate industrial crops, fruits and vegetables.

There is a great deal said in favor of the diversification of crops, but I think the average experience in Illinois is that those farmers who stick to a few of the common imperishable crops—wheat, corn, oats and hay—are sure to arrive at the serene heights of a moderate competence some time before those who indulge in the pleasant excitement of diversification, even on a moderate scale.

Illinois farmers and stockmen fancied they saw, on the horizon of the future, a ruinous decline in the price of cattle years before the catastrophe came; but come it did at last, and few were prepared for it, with the result of financial wreck to thousands. At present, a similar feeling of apprehension is abroad among horsemen who own and breed on a large scale, and farmers who indulge in the same luxury on a small one. Still, the business is increasing so fast that Illinois may soon justly claim to outnumber all other States in the production of horses, as she has heretofore in the manufacture of whiskey, the raising of corn, oats and wheat, and the breeding and feeding of swine. But over-production or no over-production, the fact still is to be recognized, that even with little or much diversification, there is always some common old-time crop that bears a good price, and in times of threatened financial disaster, comes to the rescue. Thus the great wheat crops from 1876 to 1880, saved thousands from pecuniary ruin following the panic of 1873, and within the last decade, horses, hogs and hay have, in a large measure, compensated for the losses in the cereals and neat stock.

A Personal Note.

A rumor is abroad that Col. Mills, late secretary of the Illinois State Board of Agriculture, is to be first assistant to Gen. Rusk, secretary of the agricultural department. One has but to consult volumes of the COUNTRY GENTLEMAN to learn how high he has stood in the estimation of the editors, while any other may satisfy himself of Col. Mills' efficiency as an executive officer if he recalls the marked success of the Illinois state fairs, and above all, that fair of fairs, the Chicago fat-stock show. The proposed first assistant has shown wonderful energy in his management of the affairs of the Illinois State Board of Agriculture, and in reports has exhibited a surprising capacity for clear detail and correct tabulation. If given his head by Gen. Rusk, he will soon bring order out of that chaos which adverse critics have complained of in the management of the department of agriculture. Nothing would gratify Illinois and western men more than to know that a thoroughbred like Col. Mills had taken upon himself the hard, fast and continuous work of the detail of the reorganized department at Washington.

B. P. J.

Inquiries and Answers.

Corn for Ensilage.—I expect to plant 35 acres of corn in drill this spring for ensilage. What corn would you advise me to plant, say in rows 3 feet apart, seed 6 inches apart, to be put in the last of May and to harvest about Sept. 1st? I cut 223 two-horse loads last year from seven acres of the B. & W. corn; it had not matured as fast as reaped; was drawn to cutter and stored and covered with hay and two-inch plank and heavily weighted. The ensilage came out in fine shape though sour. Would it have been sweet if I had allowed it to wilt in field and filled more slowly? There were no ears on it to speak of. Would you advise me to try another corn? Can I get a corn to mature in three months and yield a heavy crop on good land well fertilized? C. C. M. *Jefferson County, N. Y.* [For your latitude an earlier corn than the B. & W. would probably succeed quite as well or better, especially if you wish to raise some ears to be mixed with the ensilage in the process of cutting and storing. But it should be planted somewhat thicker than the larger corn, in order to obtain nearly the same weight of crop. It would not make any material difference whether you allowed the fodder to wilt or drew it in fresh, as it requires several weeks for the juice of the stalks to become dry. The smallest and earliest varities of corn, on warm rich soil, might be sufficiently mature in three months, although a few days more would be required in some of the seasons.]

Special Fertilizers.—I notice that nitrates are high in the market; 3 to 5 per cent. in a ton will increase the price of the fertilizer considerably. Will it be better for the farmers to pay their money for potash and phosphoric acid and leave nitrogen out? (1) I find ground bone very slow to act, and I would rather use dissolved bone unless it should be objectionable. Is there any objection to the use of dissolved South Carolina rock to get our phosphoric acid? I have seen some samples of Caribguano that is said to be 30 per cent. phosphoric acid, mostly insoluble, is like ground bone and will become available in the soil; can you tell me anything about it? (2) I have an apple orchard 15 years old, on stony ground where we cannot plow, and I would like to put on a dressing of phosphate. Will it do to spread it on broadcast on a stiff sod, and if so, how much potash and phosphoric acid to a tree or for an acre? (3) S. R. *Warren County, N. J.* [1. It will do to leave out either of the three ingredients, provided it is not required. But we have known and cultivated soils which required neither potash nor phosphate, but where nitrogen was all important. Superphosphate and wood ashes produced no sensible effect, unless nitrogenous fertilizers were added. You will have to test the question by actual experiment, to determine which will be the most useful, and ascertain whether the highest price is not really the most economical. A great mistake is repeatedly made by agricultural writers of the present day, in not making any discrimination between unlike soils. South Carolina rock is not so efficient as ground bone, and hence the reason that its market price is lower than that of bone, both being well ground. Dissolved bone or rock of course acts more speedily, and does not last so long. 2. We have no information at hand on this

subject. 3. You cannot determine the value of any special fertilizer on your particular soil without making the trial; but we have scarcely known an instance where a good top-dressing with barn manure, annually or biennially applied, has not produced a decided and favorable effect on orchards.]

Windmills, p. 36.—I suggest to G. H. E. that he write to the Hartford Compressed Air Pump Co., Bound Brook, N. J., whose advertisement appeared in COUNTRY GENTLEMAN, page 199, for catalogue. I speak from experience, having had one of their pumps in constant use for ten years, without expense for repairs; is working to-day, and from appearances it may run ten years more.
South Bullston, N. Y. G. D.

Horse Rakes and Cultivators.—Having had but limited experience with riding cultivators and horse rakes, I should like information in regard to them, and would like to know which is the best riding cultivator, and is there a practical self-dumping horse rake that can be made to dump its load at the will of driver? Mr. Terry mentioned having used a cultivator called the Hudson Bicycle. Will he give a little more information about it, or will the moss-back manufacturer ever advertise it? M. C. L. *Alma, N. M.* [There are many manufacturers of steel-tooth horse rakes in different parts of the country, all of which have dumping levers, either moved by hand or by the tread of the foot, the latter being the most convenient to the rider. There are also many riding cultivators, all of which appear to operate well. The only one advertised in our columns is the one manufactured by Hench & Dromgold of York, Pa., and it appears to be a very useful and efficient implement. Additional information will be furnished by addressing them.]

Permanent Pasture.—Last autumn I plowed a pasture which had not been broken up for over twenty years. The soil is light and the pasture had grown very poor. I am desirous of getting it into permanent pasture again as soon as possible. What crop would you recommend me to sow this spring, and what treatment would you advise after the crop has been harvested? S. C. S. *Quebec.* [If you could take time to place two intervening crops between the old and the new pasturage, with plenty of manure, the ground would be in better condition than otherwise for the new grass—the first crop to be well manured corn, followed with such a grain crop as winter rye, or in spring with barley sowed rather thinly to give a chance for a good "catch" of the grass seed. But if you wish to obtain grass as speedily as possible, you may harrow the present land repeatedly and thoroughly, with a heavy top-dressing of short manure between the harrowings, and sow heavily the grass seed with no other crop, as early in the spring as practicable. Follow afterwards with an occasional top-dressing.]

Unloading Hay.—My barn is 65 by 42 feet. There are two floors (one above the other), running lengthwise through the building, above the basement, which is used for cattle. Both floor-ways can be entered to deliver hay, grain, &c., the bays being alike on both sides—but I find the quickest way to unload is to use the upper floor, which is quite near the rafters. We can put in 50 or 60 tons in this way by simply rolling it off without much work. There is one trouble about hay or grain stored in this way, that I should like to avoid. It is hard work to get it out again when you want to use it. Sometimes two men will roll off half of a load at a time, which of course goes over and over, and is too big a mass to handle again without picking to pieces when wanted for use. There is ample room in the top of the barn to work an appliance that would swing, or deliver a whole load at once over the middle of the hay mow. It seems to me that hay stored in this way could be got out quite easily, and unload very quickly. What sort of an appliance do I need to fix a load of hay ready to remove from wagon? I have a notion that I can arrange the power to remove it without serious trouble, but should be pleased to hear suggestions on that point also. D. C. M. *Gt. Barrington, Mass.* [The additional time required to unload with a horse-fork and hay-carrier would doubtless be more than saved in the regular and stratified manner in which the hay would be laid off in large successive flakes, rendering it comparatively easy to pitch off again. There are many manufacturers of forks and carriers in different parts of the country, all, or nearly all of which, do good work, and among others who have advertised in our columns, we refer you to that on page 279 of our last volume, by the Wind Engine Company of Batavia, Ill., whose catalogue will give you much information; and another, also advertised, is given on page 160 of the previous volume, by the Syracuse Plow Company. There are other good ones, but the manufacturers do not advertise them, some of which may be seen at the large agricultural machine stores.]

Grasses.—I send grasses growing wild on low, moist land. Please name species, and say whether valuable as pasture or hay. No. 3 was not gathered until nearly ripe; it is much more forward and ripens early. No. 1 grows very plentifully; No. 2 on wet land and very thrifty. C. E. S. *Richford, N. Y.* [No. 1, "fowl-meadow grass," *Poa serotina*, is well adapted to low, moist grounds, and makes excellent hay. It has sometimes been cultivated, and its stems or culms are so tender that cattle and horses eat it wholly. Horses, especially, are said to thrive on it, and one gentleman living near Albany, who had fed it to his horses, said he preferred hay made from it to any other. No. 2, "fringed brome-grass," *Bromus ciliatus*, grows in low places, along streams, in thin woods or on rocky upland. It is quite a tall and rather a coarse grass, and is not generally considered of any agricultural value. No. 3, "wild rye" or "Canadian rye-grass," *Elymus canadensis*, is a perennial grass fond of low, moist land, especially along the banks of streams, but it also grows in rocky places. It generally has a coarse, hard stem, but where it grows thickly and abundantly, it has sometimes been cut for hay. It should in such case be cut early, before the flower spike, with its long awns or bristles, has developed. The specimens sent are more slender, and have the flower spikes more erect, than in the typical form of the species. This is probably due to a dense growth of the grass. C. H. P.]

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]*

FAILURE TO BREED.—What can be done to make a bull a more reliable getter of calves? I have a four-year old in April which I suspect is not impregnating my cows; think the fault is with him. A. E. A. *Worcester, Mass.* [Our experience has proved that efforts in this direction are not often rewarded with excellent results. Give a drachm of fluid extract of damiana three times a day. Services should not be frequent. In three weeks write again and we will advise further. Do you know of any cause? What is his condition? Refer to this page, please.]

DISCHARGE FROM NOSTRILS.—A horse seven years old is troubled, I think, with catarrh. For some months his breath was offensive, but for three weeks he discharges from the nostrils and it is very offensive. Has a good appetite, hair lies smooth and he has no cough. F. H. *Red Hook, N. Y.* [Are the glands between the jaws enlarged? Are there any ulcers in the nostrils? Inject the nostrils once or twice a day with some of the following lotion: Powdered sulphate of copper, 3 oz.; fluid extract of opium, 1 oz.; tincture of aloes and myrrh, 2 oz.; kreosote, 2 dr.; water, 2 qts.; mix.]

DROPPING FOOD.—A cow drops her food while chewing her cud. This food seems to be well masticated, and in quantity about 1½ gallons, varying with amount consumed. Bowels seem inactive, the excretions being less than half the normal quantity. A quart of lard given in a bran mash had no perceptible effect, neither had a pound and a half of epsom salts, given in same way. Her right eye, and perhaps the jaw on same side, are slightly swollen; the ear also droops somewhat. Appetite good, but she is rapidly losing in flesh. Apparently there is nothing wrong in mouth, yet the examination was not very thorough, as she was hard to hold. She is about half gone in pregnancy, and has been dry about two months. I give her half an ounce of copperas daily in feed. Her food has been mostly hay of rather poor quality. G. W. S. *Wetmore, Pa.* [Another examination should be made. Such cases usually are caused by indigestion, but the swelling is not accounted for. If nothing is found in the mouth to cause this—and I believe there will not be—give a general cow drink and repeat on second day; also half a can every three days for a week or two. Add to each meal an ounce of bicarbonate of soda and a handful of powdered charcoal. If the bowels do not act better in three days, give 1 dr. calomel and 2 oz. powdered gentian root with a pint of warm molasses.]

DRYING UP A MARE.—How can I dry up a mare from whom the foal has been weaned four months? She foaled in July, and is an extraordinary milker; 9 years old, gets no grain of any account, and is in fair flesh. I wish to grain her for spring farm work. H. C. M. *Saugerties, N. Y.* [Give one of the following ball at night and morning: Powdered gum camphor, 1 oz.; powdered sulphate of iron, 3 oz.; powdered gentian, 3 oz.; sufficient quantity Venice turpentine. Mix and make into 12 balls. Apply camphorated ointment to udder daily. Five drachms of barbadoes aloes, given in ball every five days, will assist you. Milk udder once a day.]

OUT OF CONDITION.—A colt coming two years old is badly out of condition; appetite has been failing for some time; will eat very little, and for a few days his sheath has been badly swollen; is also swollen on belly just back of fore legs. His feed has been oats and oil meal in small feeds, together with what hay he would eat. A. H. J. *East Arlington, Vt.* [Give him 2 oz. spirits of turpentine, 1 dr. fluid extract of colchicum root, and 1 pint raw linseed oil; repeat next day. Then give ½ dr. quinine and ½ oz. powdered sulphate of iron, in ½ pint of warm molasses once or twice a day, depending on his condition and appetite. As his appetite gets better the dose may be diminished one-half. Give him an ounce of powdered chlorate of potass. in food or drink daily.]

TWO HOLED TEAT.—A heifer has a teat with two holes. The milk can with difficulty be drawn from the upper hole which is near the udder. From the hole in the end of teat can be drawn two or three small streams of milk, and no more at a time. In other words there is a continuous flow of milk from the upper hole, and scarcely any from the lower and proper opening. What operation will be required to cause the milk to flow out through the proper opening? The hole near the udder will give no trouble on account of being so small and hard to start. W. B. F. *Trenton, N. J.* [Insert a piece of heated wire into fistula at top of teat, then use a milking tube. Apply a little zinc ointment to fistula daily; the wire should be at white heat, and must not be pushed in more than the thickness of that side of teat.]

BARB WIRE WOUND.—A mare was badly wounded on barbed wire last November on inside of the hock. The laceration was so great that the flesh sloughed off the bone, leaving the wound about six or seven inches square. I first used vaseline, and then lard and sulphate of zinc, which filled the wound with flesh; it now has a boil on lower part of it, and I can not get it to heal. J. W. J. *Bowling Green, Ky.* [Apply golden blister all over the inside of hock. In three days wash it off, then wet the parts with the following lotion, and wash and dress with lotion twice a day after for a week, when you will report, referring to this page: Chloride of zinc, 1 oz.; powdered alum, 2 oz.; powdered nitrate of potass., 1 oz.; tincture of opium, 4 oz.; a sufficient quantity of water to make 3 quarts; mix.]

SWELLINGS IN LEGS.—My horse has what I think is grease heel; it made its appearance on his three white feet, and looked like scratches, for which I treated him, but they grew worse. Have worked on him for more than six months, and tried many remedies. Limbs are swollen twice their natural size; sores raw and slimy. T. J. M. *Smyrna, Del.* [Wash legs, clip hair off and apply grated raw carrots as poultice, nights. Twice or three times a day wipe the sores off with a damp sponge, and then dry them with a soft cloth, after which shampoo the legs with some of the following lotion: Fluid extract opium, 3 oz.; chloride zinc, ½ oz.; powdered alum, 4 oz.; water, 2 qts.; mix. Give the horse a dose of physic. Also mix ½ oz. powdered chlorate potass. in feed twice a day. Report in a week or two.]

HIND LEG LAME.—A 14-year-old mare was taken suddenly lame in off hind leg, five weeks ago; could bear no weight upon it. There was some swelling, mostly below the hock, which lasted nearly a week. She lay down but once during that time; would lift leg from time to time as if in pain. Her urine, which passed frequently, contained much sediment, and a microscopical examination revealed some oil, but no blood casts. Ten days after, she walked on it some, but went very lame, holding it up at times. Blistered the ankle two weeks ago, but it still keeps about the same. Appetite after first few days has been good, and she has lost but little flesh. I gave her a dose of aloes, and followed it up with several doses of nitre, which I think corrected the urinary trouble. W. H. W. *Marengo, N. Y.* [Wash the leg clean, then shampoo with the following lotion two or three times a day: Tincture arnica, 8 oz.; tincture aconite root, 3 oz.; tincture opium, 3 oz.; powdered muriate ammonia, 4 oz.; water, 1 gal.; mix. Give one of the following balls every two or three days: Powdered Barbadoes aloes, 1 oz.; powdered sulphate of iron, 1½ oz.; powdered gentian root, 1 oz., and a sufficient quantity of Venice turpentine; mix. Make four balls. Give walking exercise daily.]

—— My mare is lame in the hind leg; swollen from the knee down—more at pastern joint than any other place. Can press leg anywhere without hurting her; foot is tender. I think she has a little thrush. SUBSCRIBER. *Northumberland, Pa.* [Use treatment advised for W. H. W., Marengo, N. Y., and treat thrush as prescribed in back numbers.]

AFTERBIRTH RETAINED.—I am wintering a dairy of 20 cows; they have just begun dropping their calves; five of them have not got rid of the afterbirth. Are in good condition; am feeding hay morning and night; at noon 4 quarts ground feed, 1 cwt. meal mixed with 2 bags bran; once a week at noon potatoes in place of ground feed; water in plenty within 40 feet of stable door. P. O. *Barnes' Corners, N. Y.* [Give your cows, a week before and immediately after calving, a dose of general cow drink. If cows do not clean in eight hours, give a cleansing drench and an injection per vaginam night and morning of injectio vaginæ. The membranes should never be allowed to remain more than three days. But few cases will resist the above treatment, and those should be attended to as follows: Introduce the hand, follow the membranes and carefully detach them.]

COWS DYING.—Have lost three cows in last three years, and now have one sick of same complaint. They are first taken with diarrhea and do not give over a pint of milk a day; lose flesh very fast, and are sick one or two weeks; then seemingly are well for several months, then relapse and decline in flesh till they die. Have no cough and look bright. Are fed on good clover hay, corn fodder, bran and corn meal. When taken sick they lose appetite, and seem to want something they have not got. J. W. B. *Yorktown, Pa.* [Give one of the following powders twice a day in a pint or more of flaxseed tea: Powdered extract of hæmatoxylon, 6 oz.; powdered ziziber, 6 oz.; ground caraway seeds, 4 oz.; powdered capsicum, 4 dr.; sulphate of quinine, 4 dr.; mix, and make 8 powders. Cow should have plenty of raw eggs and (whole) flaxseed tea; for directions as to method of preparing tea see back numbers.]

CONTINUOUS HEAT.—A mare rising five years is perpetually in season. Last summer noticed occasional discharge of greenish white mucus from vagina. Sometimes amount passed would cover half a man's hand and was quite thick. When swept up it all held together. Will not take the horse, and I presume would not breed if she did. Has also taken to kicking, which I attribute to her condition. She recently kicked the front out of a manure sleigh, ran away and cut herself badly. A veterinarian here thinks she does not need local treatment; has given her purging ball, also a tonic twice a day. Convinced that the organs are diseased. I have begun to treat her as recommended on p. 480 (1887). After the first injection, very little of which she seemed to keep, she strained five or six times, passing at first some water and each time after a little white stuff as is usual with mares in heat. G. S. S. *Quebec.* [Local treatment is absolutely necessary. It must be carried on until the animal is cured or it is determined that she is incurable. Use a hard rubber vaginal syringe and inject a syringeful of the lotion below once a day, and when that is exhausted use injectio vaginæ: Tincture of arnica 4 oz.; fluid extract of opium 3 oz.; powdered muriate of ammonia 6 dr.; water 2 qts; mix.]

SICK PIGS.—Four pigs taken from sow about Christmas, then five weeks old and in good condition, were fed all the milk they wanted for four weeks with occasionally a little ground feed, one-half corn and cob ground with oats and barley. One of them then acted strangely, would come to trough, take a little food, fall down, struggle for breath several minutes, lie quiet a minute or two, then get up in a dazed condition and wander round as if blind, usually returning for a little more food. After a week or two showed weakness in hind legs, then in all, and could not get up. All the pigs have had these symptoms, beginning with the smallest. The one first taken breathes hard, white of eye is bloodshot, has enlargement around throat and sore on tongue. The last two weeks have fed a condition powder of sulphur, nitre and a little spirits of turpentine. (1) Where can we get a book that treats of the diseases of hogs and cattle, and the price? (2) A. G. H. *Bamperfield, N. Y.* [1. Their affection was no doubt brought on by the diet. Had you written us at first we could have saved three-fourths of them. Give half a tablespoonful of the following powder three times a day: Powdered iodide of potass., 1 oz.; powdered rhubarb, 3 oz.; sulphur, 3 oz.; cream of tartar, 3 oz.; powdered chlorate of potass., 4 oz.; mix. Give 5 drops tincture of nux vomica in feed three times a day. Diet, milk, bran, ground oats and flaxseed. 2. Law's Veterinary Adviser, $3.]

Horticultural Department.

New-Jersey Experience.

Among the interesting statements given in the recently issued Proceedings of the New-Jersey State Horticultural Society, we find the following:

New Fruits.—Dr. Ward recommended the Crystal raspberry, a seedling by A. J. Caywood, for its handsome appearance, early ripening, a bright yellow in color; the Winnewaski blackberry as maintaining its reputation; the Quin pear, very good, for small quantities, resembling a large Seckel. The yellow raspberries were pronounced suitable only for family use. Fay's currant, after several years' trial, was generally and highly commended. The Russian apples were not found fitted for New-Jersey—the Yellow Transparent generally recommended.

Peach Yellows received much attention, but no satisfactory remedy, except extirpation of the trees, had been found. Prof. E. W. Smith of Washington, D. C., gave an extended address on the subject, in which he stated that there was no end to the so-called remedies, and that stable manure, house slops, lime, gas lime, wood ashes, potash, saltpetre, chlorate of potash, ground bone, hot lye, bone black, hot water, fish brine, and various commercial fertilizers, have all been recommended, without accomplishing the cure. Trees treated with the strongly recommended remedy of muriate of potash, from which much was expected, have proved liable to relapse. Thorough grubbing out has succeeded. Trees on soils rich or poor are alike attacked, the result of many observations.

Bark Lice.—Mr. Nicholson had found the recommended remedy, successfully tried by others, entirely effectual, namely, scrubbing the trees with a stiff brush dipped in a solution of half a pound of sal soda to a gallon of water.

The *Erie blackberry*, tested side by side with the Rochelle or Lawton, was pronounced by several members to be perfectly identical. The secretary said that he had long since made up his mind that it was not good enough for him to eat without cooking.

Grapes.—In answer to the inquiry for the three best grapes for general culture—red, white and black—the votes were nearly all for the Brighton for a red grape, Niagara and Empire State for white, and Worden and Concord for black.

Elements in the Soil.—Mr. E. B. Voorhees, in order to prove the exhaustion of soils by the removal and sale of crops, without adding an equal amount by way of restoration or retention, said that the exported wheat and corn, in 1868, contained 70,000 tons of nitrogen, 40,000 tons of phosphoric acid, and 21,000 tons of potash. To buy these in market at present prices would require $28,000,000. The statement would be made more interesting by giving an accurate estimate of the quantity of these ingredients remaining in the soil.

Mildew and Grape Rot.—Mr. Vandeveer had used the Bordeaux mixture on a part of his vineyard two months, beginning the 1st of June. He saw no difference between the treated and untreated portions. The Bordeaux mixture is made of 6 lbs. of sulphate of copper and 4 lbs. of lime in 22 gallons of water. His grapes were badly affected. Col. Pearson of Vineland had nearly all his grapes destroyed by rot on untreated vines; but where the Bordeaux mixture was used a portion was saved. The reports from Missouri stated that 30 to 40 per cent. were destroyed on untreated vines, and only 15 per cent. on treated ones. The downy mildew was entirely eradicated by similar treatment.

This report of the New-Jersey Horticultural Society embraces the proceedings of the fourteenth annual meeting held at Trenton, last December, and the officers have shown unusual promptness and energy in getting out the volume of over 160 pages in so brief a period. E. Williams of Montclair is secretary, and David Baird of Manalapan, president.

Whitewashing Fruit Trees.—For several years many hundred young trees have once or twice each year been washed with caustic lime with the most beneficial result. It removes perfectly every sign of moss, and imparts a glow and healthfulness of bark not to be attained with soda or potash washes. Trees annually treated retain a smooth bark indefinitely, and offer no shelter to injurious insects as in the case where the bark becomes scaly. In former years the wash was toned to a subdued color, but experience has demonstrated that even a "ghostly aspect," may subserve a useful purpose. The whitened stem may seem garish and offend the eye, but it reflects the heat and lessens the injury of both winter and summer sun. No scaly-barked trees have been treated, and such might receive but little benefit, but young trees two or more years planted will quickly show great improvement in bark, nor has a borer ever been observed in apple trees thus washed. H. *Lexington, Ky.*

Floricultural Notes.

Do not leave the sowing of such annuals as phlox drummondii, candytuft, dianthus, mignonette, and other hardy annuals until late; they should be attended to as soon as the early peas are sown. Sown thus early, they make a better growth, last much longer in flower, and the flowers are larger and of better substance.

Whoever has not a plant of *Hydrangea paniculata grandiflora*, most beautiful of all shrubs, in his garden, should not let this spring pass without having one. It is easily grown, perfectly hardy, and flowers every season. Give it a good, rich spot, with open exposure, and it will soon make a fine specimen.

Sweet-pea seed, soaked in water for 24 hours and sown as soon as the ground is fit to work, will give early flowers.

Dianthus Laciniatus.—The single form is a most beautiful plant for out-of-door decoration; we had some flowers which measured 3 inches in diameter and of the most perfect shape, in our garden last summer, and liked them much better than the large, ill-shaped double ones.

A few plants of the perennial phlox should be in every garden. Some of those now in cultivation are remarkable for their fine colorings and freedom of growth and flowering.

Lotonis Berlonica—Is one of the finest plants for home culture. It endures with impunity the dry atmosphere of the sitting room, and maintains a glossy green color to the leaves, even in rooms not having much light.

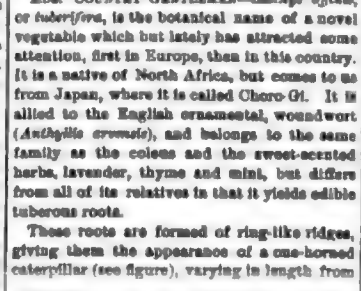
A few seeds of the finer kinds of asters sown in the house and treated the same as tomato plants, then planted out as soon as the season is favorable, will produce flowers long before those sown in the open ground; by planting at intervals an unbroken supply can be had during the summer. M. Milton.

Mahoning County, O.

A Garden Novelty of Merit.

Eds. Country Gentleman—*Stachys affinis*, or *tuberifera*, is the botanical name of a novel vegetable which but lately has attracted some attention, first in Europe, then in this country. It is a native of North Africa, but comes to us from Japan, where it is called Choro-Gi. It is allied to the English ornamental, woundwort (*Anthyllis arvensis*), and belongs to the same family as the coleus and the sweet-scented herbs, lavender, thyme and mint, but differs from all of its relatives in that it yields edible tuberous roots.

These roots are formed of ring-like ridges, giving them the appearance of a one-horned caterpillar (see figure), varying in length from



one to three inches, and in diameter from one-half to three-fourths of an inch. The skin is thin, smooth and semi-transparent.

This peculiar vegetable requires no more special treatment than do potatoes, and even poorer soil will answer, though, like everything else, the more attention that is given, the greater and more satisfactory will be the result. Planted, a single whole tuber, in hills two feet apart each way, a yield of nearly 500 bushels to the acre has been reported, each plant yielding from 200 to 300 tubers, which may be planted as potatoes, though each joint of the stem can be used as a set.

The plant, growing about a foot in height, has a round, bushy habit, having medium-sized, oval-shaped leaves, and has many small pink blossoms, which in themselves are not unattractive.

As for the use of these roots, they probably will never become a staple article for market like other products, but will tend toward securing more variety for the table in winter. When pickled alone and properly seasoned, or mixed with small cucumbers, onions, peppers and cauliflower pickles, they are excellent; then, again, when cooked as vegetable oysters, they are delicious; or boiled, mashed and seasoned, in the way of the egg-plant, they become a novel side-dish, having a pleasant and somewhat spicy flavor, midway between the Jerusalem artichoke and boiled chestnuts. In preparing them, washing only is necessary, as the thin, tender skin renders peeling needless.

A point not to be overlooked in favor of their general use and cultivation, is that they may be kept as well, as easily and as long as potatoes, requiring only a cool, dry cellar—keeping their fresh appearance best if lightly covered with earth. Elmer E. Summey.

Niagara County, N. Y.

The MS. of this article, with sketch, came to us direct from the author. We have since noticed that it was sent also to several other papers.—Eds.

A Horticultural Visit.

Eds. Country Gentleman—You occasionally have an article in your horticultural department from W. W. Farnsworth of our State, and I wish to say to your readers that when Mr. F. says anything, they can safely depend on it. Mr. Farnsworth is now secretary of our State Horticultural Society, and although I have been with him several times at Institutes, I have yet to hear him say anything but the straight truth. Again, I visited his place about a month ago, and found his numerous acres of small fruits all in perfect order. Your correspondent has less than an acre of small fruits in his garden, and thought he gave them wonderfully good care last season, but Mr. F.'s whole place showed evidence of more perfect care. There were acres and acres of strawberries and raspberries entirely clean, and so even and uniform in their growth as to be a beautiful sight to look at. Mr. F. takes as good care of berries as does Mr. Smith of Wisconsin. Outside of these two places I never saw any berries so well cared for, except at Matthew Crawford's place. He is the strawberry king of Ohio.

Now, I am not writing this to praise these good friends, though they well deserve it, but rather to encourage your farmer readers to take better care of their fruit gardens next season. I came home from Mr. F.'s fine place with a stronger determination than ever to take the best possible care of my own acre of small fruits. I believe I have as good land as Mr. F., though not his years of experience; but by reading, and questioning such men when I meet them, I hope in time to do almost as well as they. At any rate, none of them shall get ahead of me in the line of good tillage next summer.

One of the prettiest sights on Mr. F.'s place was his long rows of currant bushes. I never before saw such perfectly-shaped handsome bushes. The rows were about 8 feet apart and the bushes 4 feet in the row. The ground was absolutely free from weeds or grass. Rich land, constant, careful tillage, and skillful pruning, with plenty of room for the roots to grow in, made them a great success. I was not surprised to hear that they picked 6 quarts from a bushel last season. At 8 cents a quart this would be $4 from each square rod, or $640 per acre.

Mr. F. had hard work to get me from this currant garden to show me the next sight, I was so busy contrasting in my mind the splendid result achieved there by skillful labor, with the row of currant bushes generally seen in a farmer's garden. The latter are thick and scraggy from lack of trimming, and usually have to fight with a heavy grass sod for a living.

Does some one say the farmer can not afford to fuss with such little matters? Well, he can if he will arrange his fruit garden rightly, so that it can all be rapidly cultivated with one horse and a light cultivator. If this work and the little hoeing and raking necessary are done on time always, the actual cost on even an acre will be very small.

Well, at any rate, brother Farnsworth has stirred me up to try my very best with my row of currant bushes that were set out last spring. I shall never be satisfied now until they look as well as his, and I hope I may stir some others up as much as he has me. Who can tell the ultimate end of such good examples? Mr. F. probably thought only of himself and family when he set out and cared for his small fruits; but no man can do his duty faithfully and well without its having its influence in the world at large.

Strawberry Varieties—Culture.

Finally I was pulled away from the currants to look at an acre and a half where all the new and high-priced varieties of strawberries were being tried. I was quite surprised to find that for his field culture Mr. F. had only Crescent and Sucker State, four rows of the former and then one of the latter, and so on through the field. I said to him, "Would not some of these newer varieties, such as the Jessie or Bubach, do better?" He answered: "Possibly there may be some kind among the many new ones that will prove to be better than the old ones; I hope so." Determined to get at the whole truth, I then asked him how that acre and a half of new choice (so-called) varieties would yield, compared with his Crescents. His answer almost took my breath away. He said: "If I get as many berries from that acre and a half as I do from one half acre of those Crescents and Sucker States over there (pointing to one of his fields), I shall be well satisfied." "Why," I said, "I thought from the reports of good men that the Jessie was the best berry yet brought out?" "Well," he answered, "these are not all Jessies, and I cannot say what the Jessie may amount to; but I do say that my statement about the acreage of the new varieties will not come far from the truth."

Well, the writer has the *Jessie*, Bubach, Haverland, May King, Monmouth, Gandy and some others of the new varieties growing. He bought a dozen each to test them; but really it looks as though this was hardly worth while. A noted grower who gets his living from his berries sticks to the old standard varieties. J. M. Smith, the noted Wisconsin grower, stands by the old Wilson yet, although most of the new kinds have been tried. There must be a great deal of money paid out for these new varieties that are brought out every year, with, as Prof. Henry says, only a catalogue reputation behind them. Certainly the farmer, for his fruit garden, should let them almost entirely alone. There are old standard kinds that can be bought at lowest prices, that nine times out of ten will be better than the new high priced sorts.

I asked Mr. Farnsworth if some of the larger berries, like the Sharpless, would not pay him better. He said they would bring more money per bushel; but after years of watching and trial he was sure the Crescents yet brought him the most money per acre, as they outyielded the large-growing varieties so greatly. Mr. F. plants about the same as most of our large growers. The rows are four feet apart, and plants set about two feet apart in the row. The runners are cut until about the middle of July. When I was there in December the rows of plants were perhaps 18 inches wide. The cultivator had been kept busy in the rest of the space. In the spring, after taking out what plants he wants, from the outside edges of the row, in such a way as to leave it a foot wide, he hoes up all other plants necessary to reduce the row to one foot in width. In this foot of row care is taken to have the plants stand quite thinly on the ground. Mr. F. considers this the best plan for field culture. If kept in hills he says he would expect larger berries, but he does not consider it possible to get as many dollars per acre, in his market, and in a large way.

I have a sort of hankering after these large berries myself, and hence have a quarter acre, nearly, of plants that are kept in hills. Some of the very best of them measured 18 to 24 inches across, last fall. It was a good deal of work to keep all the runners cut off; but then it is work to thin out and get a good even stand in a matted row. One of your readers, who has had long experience, told me last spring that he thought I would get the most satisfaction all around from hills, with the care I would give them (thanks for the compliment, and I have tried hard to deserve it!) so most of ours were kept in hills.

Mr. F. uses no mulch, as his land is sandy and not subject to heaving; I mean he uses no winter mulch, but he does keep them well

mulched in the summer with the same material used by Mr. Smith—an inch of mellow soil, made with a light steel rake. From the nature of his soil, a mulch of straw is not necessary to keep berries clean.

This is getting too long already, but I want to tell you what Mr. F. advised farmers at the Institutes about setting out strawberry plants. It was to always set them out in the spring; that he would never think of setting them out for himself in Northern Ohio at any other time. He said some men would advise them to set out plants in the latter part of summer, because they had them to sell at that time, and then they would sell them more in the spring to replace them, and tell how spring was really the only proper time to set. It was refreshing to hear a man thus tell the truth without regard to policy; but some of our plant-sellers would doubtless like to put a gag in his mouth. All honor, I say, to a man who will not make money out of another's ignorance. If we had more such we should have more farmers succeeding with small fruits.

Summit County, O., Feb. 1. T. B. TERRY.

A Third Theory of Fire Blight.

ED. COUNTRY GENTLEMAN—Referring to the article on this subject (p. 86), and to the old question of pear blight, it would seem that Prof. Budd comes nearest to the truth, as set forth in the Report of the Commissioner of Agriculture for 1886, p. 194, which says:

"Through the recent investigations of Profs. Burrill and Arthur, the true cause of pear blight has been demonstrated to be due to a bacterium. To Prof. Burrill is due the honor of first having discovered the real nature of this disease, and the experiments made by Prof. Arthur have not only verified those of Prof. Burrill, but have been extended so as to settle the question beyond dispute. These gentlemen are now recognized authorities on this subject, and Prof. Arthur was engaged to prepare a report upon it, as a part of this section, which is here submitted."

The report states that seven years' research shows the pear blight to be a bacteria germ disease; that these germs are everywhere, but that only one specific kind of bacteria (*Micrococcus amylovorus* Bur.) is able to thrive in the tissues of the pear tree; that it attacks the tender parts of the tree, as the blossom, and the last growth of wood, enters cracks in the bark, and wherever the bark is bruised, thin, tender, &c., but that experiments show that blight bacteria will not grow in the leaves of the tree, and that the most dangerous season of the attack falls in June and July. The body and roots are protected by thick bark and the soil.

The remedies for the disease are not so certain. All agree that cutting off the infected limbs, (and the report says a foot below the diseased parts into the healthy wood) is one of the necessary remedies. In fact, sometimes the whole body of a tree, even ten years old, may be safely cut down to within a foot or two of the ground. The pruning knife may be disinfected with carbolic acid. Spraying, fumigation and washing cannot be expected to do thorough work among lower flower leaves, so protected by stamens and pistils, nor on the tender bark of wood and among cracks. But all these methods may help us out, until the absolute remedy is discovered—as it surely will be. This report is well worth study by growers. It suggests that fruit farmers, where the soil is good, should not stimulate and hurry up the growth of fruit trees, but even in some cases seed down the orchard to clover, to prevent a rapid growth of tender wood. C. B. CAMPBELL.

Cumberland County, N. J.

Planting Small Fruits.—Among the good points in a late address by J. H. Hale, he stated that one dollar expended in the fruit garden would save two dollars in butchers' and doctors' bills. For strawberries, soils should be rich in organic matter. Honest packing from top to bottom is most successful, but good appearance must not be sacrificed to quality. Every farmer, awake to his duty to his family, should have a fruit garden of half an acre, more or less. For fertilizers, nitrogen may produce too much growth of leaves. Fine ground bone and some wood ashes are excellent. Where pistillate plants are used, every third row should be a staminate. The rows may be three or four feet apart, and the plants eighteen inches in the row. For field culture, train in narrow matted rows, not in wide ones. Red raspberries may be planted in fall or spring; cap varieties only in spring. Cut off canes close to the ground in planting, and pinch off new growth to twenty inches. Cultivate in spring till blooming. Bend the plants over and cover the tips with earth for winter protection. After the second year, pinch back the new growth of currants when two or three inches long, to give more fruit.

Fruit Ladders.—A cheaply constructed ladder for picking apples from the trees, was described at a late meeting of the Maine Pomological Society. Two round spruce poles were used, and being used whole they did not require to be more than two inches in diameter. They were about twelve or fifteen feet in length, or less for smaller trees. Strips were nailed across, secured with clinching nails, the upper end being considerably narrowed so as to be easily inserted between the limbs. Not being weakened with auger holes, gives a chance for their being lighter or smaller than otherwise.

Grape Rot.—As reported in the Rural New-Yorker, Geo. M. High stated at a meeting of the Ohio Horticultural Society that after careful experiments he had found the following the best remedy for grape rot: Dissolve one pound of sulphate of copper (blue vitriol) in two or three gallons of hot water, adding when cold a pint of spirits of ammonia. Pour off the clear liquid and add to what remains 20 gallons of water. Spray with this liquid about ten days before blossoming time. This is a variation from the mixture used by Mr. High, reported in the COUNTRY GENTLEMAN, for April 26, 1887, page 340, and strongly endorsed by Geo. W. Campbell, sulphate of copper in both instances forming the basis of the remedy.

Pruning Grapevines.—Josiah Hoopes of Chester county, Pa., says the best time to prune grapevines is in autumn soon after the leaves fall. The wounds heal before severe weather, and the work is off the mind when the spring rush comes. Do not leave long, useless canes. Protect the roots with a good mulch of manure. He thinks that owners should treat their vines as well as they do their potatoes. To which we may add that in places liable to severe winters, laying down the vines after pruning enables them to get an earlier start in spring and to ripen their fruit some days sooner. This laying down is not so important for mild winters, but we cannot know beforehand, and therefore it is well by way of insurance always to prostrate the vines. They will do well without covering, being merely held down with a stick of wood; except where very cold winters prevail and where a covering of earth or evergreen branches is required.

More New Apples.—A late writer piquantly remarks that the "raising of new varieties of the apple has been already overdone; and the proper thing is to make a better use of those we already possess." There is some truth and some error here. If planters had adopted the belief that no more should be raised, and acted on this belief just before the origin of the Baldwin at the East, Ben Davis at the West, and Cox's Orange Pippin in England, orchardists would have lost such popular varieties. On the other hand, there is no question that a far greater excellence in quality and a more decided profit in market may be reached by more intelligence and skill in cultivation. Two or three thousand are too many kinds; but we want to give all a good chance, and then let all but the best alone. It is well to raise many new varieties and then to reject all but those which prove the very best on a full, continuous and extensive trial. Experiment stations which can afford to set out and try a thousand varieties or more, may render an important service to the regions in which they are situated, by showing a dozen in the thousand that have come to stay.

From Recent Letters.—I wish to express my satisfaction in reading the COUNTRY GENTLEMAN, especially as my own hobby—correspondence about crops, weather, &c.—is such a leading feature. I always turn to these letters the first thing. Your English correspondence is also very valuable and well written. When one gets used to such mental diet, he must and will have it. A. HAMMOND. *Geneva, N. Y.*

—— Your paper has been worth to me many, many times its cost; should not know how to estimate its value to me. P. L. TERRY. *Roanoke, Va.*

The Poultry-Yard.

Feeding—Lice—Milk and Water.

ED. COUNTRY GENTLEMAN—I wish to give your readers some hints about economy in feeding poultry. In winter I warm all the grain fed, and think the amount saved pays for the trouble. Your correspondent B. F. J. has advised parching the grain. That I tried, but gave it up, as well as boiling, as being too apt to cause indigestion. First, in the morning I give, to forty-four hens, three pints of a mixture of wheat bran and shorts and corn meal, salted, scalded and let stand half an hour to stiffen. The hens eat this at once, when I throw down about a pint of grain for them to scratch for, just to keep them busy. At 11 A. M. I give them two quarts of mixed grain—wheat, oats and barley, and peas when I have them. At 2 P. M. another soft feed, meat scraps and potato parings, in short any table refuse, cooked in any spare broth, and thickened with the same mixture fed in the morning. At 4 P. M. mixed grain as before, with the addition of buckwheat. Peas I consider very valuable for laying hens.

About four years ago I noticed advice by one of your correspondents, H. Stewart, I think, as to clearing a hen-house of lice by the use of air-slaked lime. I tried it and it was a complete success. Before that I had been obliged to oil every brood of chickens at least twice, but since using the lime I have no trouble from lice. It is easily applied. After cleaning the house, and scattering plaster to absorb dampness, throw the lime in the air and on the floor, taking care, however, of your lungs and those of the hens. One pullet unfortunately inhaled a little, and wheezed until the day of her death, more than two years later.

Bones baked brown in a slow oven, and pounded in small pieces, hens eat with great relish. I give them pounded oyster-shells and glass, which they like better than stone china. Of milk they have about 2 quarts per day. Water in small quantities, blood-warm and fresh three times a day. The grain I also make about blood-warm. They eat sliced potatoes RAW, and apples, turnips, beets and parsnips. A. B. *Sheffield Academy, N. B.*

About Enteritis.

Enteritis is a disease of which many fowls suffer, and is of so serious a nature that unless speedily stopped it soon runs its course. The following translation of an article by Mons. P. Mequin, which appeared in *L'Eleveur*, gives a very clear description of the disease and its treatment. M. Mequin says that enteritis is an irritation of the mucous lining of the intestines, ordinarily resulting in diarrhea. It may be caused by grain passing undigested into the intestines, in consequence of the absence of gravel in the gizzard, or from weakness in this organ, allowing gravel and gritty matter to pass at the same time. We have noticed this fact in the case of chicks which had been put on adult diet immediately after hatching out, without first being fitted for this fare by the special feeding which their young organs required. Enteritis may also be caused by mouldy or musty corn, in which case there is real poisoning, caused by the microscopic growth which constitutes the mouldiness. The veritable poisons—phosphorus, arsenic, cocculus indicus, nux vomica, &c., act above all in determining violent enteritis. In post mortem examinations we have repeatedly been able, by the odor alone, to recognize phosphorus as the cause of the inflammation to which the subjects had succumbed. Other poisons, and especially vegetable poisons, can only be recognized by very delicate chemical operations. The most frequent cause of enteritis in poultry is the influence of cold upon the birds when moulting. There is in this case repercussion—that is, the blood is driven back upon the internal organs, affecting, it may be, the lungs, the intestines, the liver, &c. Dampness is also one of the most common causes of this malady, but we shall return to the consideration of this point again.

The symptoms of enteritis are want of appetite, accelerated respiration, the feathers deranged and drooping, and a tendency to isolation; the excretions at first, are scanty, then of a pitchy nature, and, lastly, diarrhetic. Sometimes there is also dysentery, as we have seen in the case of a fowl which passed a watery excrement mixed with blood. Its action in pecking the anus frequently showed that it was suffering from an intense itching pain, which an injection of laudanum and water, with some boiled rice in its food was sufficient to cure. There is a white diarrhea in which the evacuations have the appearance of milk of lime, which is caused by an excess of the functions of the reins under the influence of bad alimentation or a severe chill. This white matter is almost entirely composed of uric acid. Young subjects are principally liable to an attack of this uric diarrhea. It is very often only after a post mortem examination that one is able to recognize the existence of enteritis, by the bright red and sometimes purple appearance of the lining of the intestines, but it may then also be seen that death is not due to enteritis, which is slightly marked, but to an obstruction of dry diarrhetic matter collected in the feathers around the anus, hermetically sealing this opening.

When a sick fowl, especially if young, is seen to present the symptoms described above, care ought to be taken to inspect the anus at once and to remove the obstruction with the feathers in the immediate vicinity of the vent, at the same time anointing the part with olive oil. This simple operation will prevent the formation of a new obstruction, and suffices generally to save the life of the bird. To arrest the diarrhea, and consequently to cure the enteritis, it is necessary to make a dough of bread crumbs and boiled rice, not very moist, in which should be mixed in the proportion of a small pinch per head of poultry, the following carminitive powder: Equal parts each of ground fennel, aniseed, coriander seed, gentian, ginger and aloes.

Feeble and rickety subjects are most prone to an attack of uric diarrhœa. Besides the treatment just indicated, it would be necessary to keep the birds warm, and to give them in place of the simple dough of bread crumbs and boiled rice, a nourishing paste made up of boiled butchers' meat, the pounded yellow of hard boiled eggs, crumbs of stale bread, and some chickory nettle leaves, all to be well mixed together and kneaded. A disordered state of the rectum, with a purple swelling of the margin resembling piles, is a complication we have often found, but chiefly in a lot of young valuable pheasants, among which diarrhœa had continued a certain time. Under such circumstances as these it is desirable to anoint with camphored oil, and even to give slight injections of the same.

It may be well here to give the opinion of another authority on enteritis, that of Prof. Hill, who says that it is an inflammation of the bowels arising from a continued course of stimulating food, over-feeding, the presence of acrid matters, or irritating poisons. There is an alternate watery and constipated condition of the bowels. Hemorrhage occasionally occurs, *per rectum*, and when it does is invariably a precursor of death. There should be administered a little salad oil to overcome the constipation, and also an injection of the same. A grain each of opium and calomel occasionally, giving milk and barley water to drink. A drop of Fleming's tincture of aconite sometimes is beneficial. Enteritis is sometimes caused by allowing fowls to have unslaked lime, and Prof. Hill says that its caustic action upon the mucous membrane of the bowels produces acute inflammation. In one bird opened, lime of this description was deposited through the whole intestinal canal, and had produced the most intense inflammation and corrosion. STEPHEN BEALE. *H——, England.*

Rye as a Feed.—Referring to pages 109, 129, 149, 169, my experience this winter differs wholly from these correspondents'. I have fed rye in the kernel as the evening meal of my hens almost entirely since threshing, giving them in the morning a warm soft feed composed of wheat bran and middlings, B. W.* bran, ground corn and oats, a little oil meal with meat scraps and boiled small potatoes on alternate days, all well mixed together, salted and peppered. At noon they get the scraps from the table, and at odd hours have bundle oats cut up, and occasionally cabbage to pick and scratch among; plenty of fresh water is constantly before them; also gravel, ground oyster shells and coal cinders, and a dust bath. To this treatment they have responded with a liberal supply of eggs during the entire winter, the yolks of which are of the high color usually produced by feeding wheat, and which I attribute to the rye. H. S. W. *Oconomowoc, Wis.*

* Does our correspondent mean buckwheat?—ED.

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[Inserted Here for Lack of Other Outside Space.]

WANTED—A young Registered JERSEY COW; fresh or to come in very soon. Must be a large, rich and persistent milker. Address, stating price and full particulars, THOMAS, mh21-2t 16 Gold St., New-York City.

WANTED—From 20 to 30 good JERSEY or grade Jersey Cows for dairy. Maternity not necessary. Address C. LEWRENCE E. mh21-3t Box 6, Hastings, Minn.

WANTED—About April 1st, a Working Foreman, married or single, to take charge of a large stock and dairy farm in central part of New-Jersey. Must understand farming in general and the raising of root crops, making ensilage, &c. A good, sober and industrious man can find in this a permanent situation. Address, stating references, terms, &c., to W. H. M., Room 23, mh21-3t No. 50 New St., New-York.

WILL EXCHANGE—Conch Shells and other Florida curios for Books, Tools, or anything useful. JOS. FLEMING, Zion, Dade Co., Fla.

New Advertisements.

Austin, H. W.	*Horse and Cattle Sale.*
Avon Plow Co.	*Corn Planter.*
Allen, Charles L.	*Golden Queen Raspberry.*
Adriance, Platt & Co.	*Mowers, &c.*
Baker, Alex. B.	*To Cabbage Growers.*
Box W.	*Situation Wanted.*
Box 14	*Help Wanted*
Bissell, George M.	*Hereford Cattle.*
Box 37	*Situation Wanted.*
Byrne, P.	*Ayrshires for Sale.*
Clark, Judson H.	*Jersey Cattle.*
Cox & McNeil	*Grass Seeds.*
Cowles, J. E. & H. M.	*Guernsey Heifers.*
Cooper, Master Ralph	*Hackney Keys.*
Coolidge, Chas.	*Bread Mare, Seed Corn, &c.*
Cloud Bros.	*Plymouth Rock Hens.*
Crossdale, H. A.	*Bronze Turkeys.*
Dayton, George	*Eggs for Hatching*
Expanded Metal Co.	*Bird Proof Netting Material.*
Empire Spreader Co.	*Manure Spreader.*
Fleming, Joe	*Cows for Exchange.*
Gunnerman Homestead	*Farmer Wanted.*
Gillingham, J. E.	*Jersey Bull.*
Hastings, C. P.	*White Swedish Oats.*
H. J. P.	*Help Wanted*
Hutchinson, C. S.	*St. Lambert Heifers.*
Ind. Paint & Roofing Co.	*Rubber Roofing, &c.*
Ives, John S.	*Fencing.*
Jutland, Joseph	*Jerseys & Berkshires.*
J. M.	*Farm for Sale.*
J. F. S.	*Situation Wanted.*
Kellogg & Co., Peter C.	*Isle of Jersey Cattle.*
La Yencesse, C.	*Jersey Wanted.*
Morse, L. H.	*Jersey Bulls.*
Morrison, James	*Chinese Golden Pheasants.*
Murray	*Grade Jerseys, Devons, &c.*
Myers, H.	*Hardy Perennials.*
Osborne & Bro., C. F.	*Jersey Bull.*
Owen, Charles H.	*Jersey Cows.*
Pleasants, Jr., R. H.	*Hay Mows.*
Reburn, W. A.	*St. Lambert Bulls.*
Racine Boiler Spring Co.	*Wagon Springs.*
Reeser, W. D.	*Jersey Bull.*
Shaw, Francis	*Guernsey Bull Calves.*
Strong, C. B.	*White Wyandottes.*
Stewart Bros.	*Self-Cleaning Stable.*
Stewart, R. W.	*Grade Jerseys.*
Thompson, G. W.	*Holstein, Friesian Cattle.*
The Mapes Co.	*Potato Manures.*
Timpson, Lawrence	*Berkshires.*
Thorne	*Jersey Cow Wanted.*
Waite, Martin	*Holstein-Friesian Bull.*
Willits, F. M.	*Farm to Lease.*
Wright, B.	*Situation Wanted.*
Whiteman, A. V.	*Milk Jars*
W. H. M.	*Greenhouses to Lease.*
&c.	*Foreman Wanted.*
Wahsley, W. H.	*Eggs for Hatching.*
Whitney, F. L.	*Montana Lands.*
W.	*Situation Wanted.*

Subscribers' Wants.

Pen Holes and Bloodhound Pups. M., office COUNTRY GENTLEMAN, Albany, N. Y.

Pamphlets, &c., Received.

ADRIANCE, PLATT & CO., 165 *Greenwich St., New-York.* Handsome Illustrated Poster and Catalogue of Harvesting Machinery—see advertisement, p. 229.

FAXON, M. B., 11 & *Merlat St., Boston, Mass.* Seed Catalogue.

FOWLER & WELLS CO., 775 *Broadway, New-York.* "How to be Successful as a Commercial Traveler," 30 cents.

GRANT, W. E., 809 *E. Clay St., Richmond, Va.* Notice of Tuckahoe Farmers'-Club Meeting, March 20.

HALE, G. H. & J. H., *So. Glastonbury, Conn.* Small-Fruit Catalogue; pp. 32, illustrated. See advertisement, p. 232.

HAWKES, Wm. W., *Amesbury, Mass.* Announcement of Opening of New Factories, after great fire.

HENDERSON & CO., PETER, 35 *Cortland St., New-York.* American Farmer's Manual; pp. 32, 4to, illustrated. See advertisement, p. 218.

HILL, S. L., *West Upton, Worcester Co., Mass.* Circular of Milk Aerator—see advertisement, p. 226.

JEFFERS, A., *Norfolk, Va.* Circular of Eastern Virginia "trucking" industry.

LAWSON, A. M., *Broadway and 42d St., New-York.* Circular of Bickford Knitting Machine.

LEWERING, MORTIMER, *La Fayette, Ind.* Programme of Parke County Farmers' Institute, March 16-18.

MUNSON, JUDSON & STRAUP, *Owego, N. Y.* Circular of Canada Hardwood Unleached Ashes—see advertisement, p. 233.

OSBORNE & CO., D. M., *Auburn, N. Y.* Showbill of Harvesting Machinery.

SCHMIDT, C. H., *Northport, N. Y.* Circular of Beacon Farm—see advertisement, p. 228.

STEVENS, CHAS., *Napanee, Ont.* Circular of Beaver Brand Canada Unleached Hardwood Ashes—see advertisement, p. 233.

VAUGHAN, J. C., 39 *State St., Chicago, Ill.* Celery Manual; pp. 40, illustrated—30 cents.

Early Lambs.—What price can I get for early lambs weighing fifty pounds and upwards now ready for shipment, and where can I sell them? They are handsome and in fine condition. I have understood that they bring $10 to $12, but do not know where to find purchasers, at early lamb prices. DELAWARE. [Early lambs marketed in February and March this year are not commanding as high prices as in former years. In all large cities there are dealers in meats who supply the best trade. There are also retailers who supply clubs and wealthy families. Those having early lambs to sell can usually make satisfactory arrangements for them to be taken by such dealers. It is sometimes better to arrange with the steward of a first class hotel to take a given number per week.]

Inquiries and Answers.

Keeping Corn Fodder, p. 206.—The types make us say that corn fodder will keep "if *differently* matured," which is unintelligible—it should be "*sufficiently* matured."

Ensilage.—Is the weight of evidence now strongly in favor of the silo for fattening cattle, and also for the dairy? (1) Does scientific investigation pronounce it the best and most economical method of feeding? (2) C. F. O. *Marrsfrombore, Penn.* [1. Yes. 2. Ensilage commonly *has a place* in "the best and most economical method of feeding"—which we suppose is what our correspondent meant to ask.]

Seeding Lawn.—I wish to make a lawn of two acres next season, where there has been for the past three years a mowing field. What should I plant it with this year to give the best result—that is, a densely cropped lawn next year? I shall have to do more or less grading of the land in the fall. C. A. H. *Boston, Mass.* [In order to be successful in growing a crop of new grass, you must prepare a new surface of mellow soil by repeated harrowing with a sharp harrow, or by top-dressing the whole surface with mellow soil an inch or two in thickness, with some manure or compost; or else by plowing the whole and thoroughly harrowing it, with the addition of fine manure. Then sow two or three bushels of blue grass and red-top grass seed so early in the spring that the grass will be sure to germinate and grow. If, however, you wish an intervening grain crop, sow barley or spring wheat, with about half the usual quantity of seed, so as to avoid unduly shading the young grass.]

Burning Weeds—Hay Tedder.—I have a field of low ground in timothy from which I cut a crop last year. There is now a second growth on it that has died during the winter, and I would like to know the best and safest way to destroy it so it will not be cut with my new crop this year. Would burning it off now affect the young growth? Where could I procure a hay tedder? Will you please advise me through your columns? S. E. G. *Shillsbury, Md.* [This inquiry is rather obscure, but we infer that a heavy crop of some weeds followed the crop of timothy, which it is wished to get rid of. It will not injure the grass to burn these weeds if they are annuals, and the burning does not extend down to the roots of the grass in dry earth, as would be likely to result from burning during a dry period with perennial weeds. A hay tedder may be procured of any of the large city implement stores.]

Fence Law.—What is the law in relation to the rights of farmers to use barbed wire for line fences between farms and for highway fences? W. B. T. *Canisteo, N. Y.* [As to fences between farms, the adjacent owners must agree. On highways, we think there is nothing to prevent the use of barbed wire in this State (stray animals having no rights whatever), though it would probably be best to consult the fence-viewers of the town. A bill to prohibit barbed wire on highways was introduced last winter in the assembly, but did not pass, and has not been brought up at the present session.]

Ensilage in Virginia.—I have a silo, 160 tons. I shall fill it this fall with corn in the roasting ear stage, cutting ears and stalk together. I want to add chip-stuff, linseed meal, cottonseed meal or other fixings to this ensilage to make a good milk ration. I want to put these ingredients into the silo while it is being filled, so that I shall have a perfect milk ration ready mixed, and to save time, labor and expense of mixing ground feed at feeding. Is this practicable? The silo has come to stay in southeast Virginia. There are six near Norfolk in successful operation. We now feed first-class ensilage that costs $1.10 per ton, including cost of silo, interest on land, &c. What we want now is to ascertain the best beef and milk ration, and put up enough ensilage in the fall to last the entire year. With milk retailing at 10c. per quart, butter at 30 to 50c. per lb., and beef and mutton and early lambs bringing good figures, we expect the silo to bring out this result. There are more than 40,000 acres of land within ten miles of this city devoted to market garden vegetables and fruit for northern markets; not one acre of which is fenced. This, therefore, is a "no-fence" section; therefore "no pastures;" hence "no stock." The silo is better than pasture fence. It requires fully two acres of good pasture for each head of stock, while with the silo we can almost reverse this and keep two head of stock on one acre of land, as we can here grow two full ensilage crops from the same soil each year. Will some one advise us as to the method of putting a full milk or beef ration into the silo at one operation? Has any one tried it? Was it a success? If not, why? A. J. *Norfolk, Va.* [There is no question that grain and meal of the right kind may be added to the ensilage when the silo is filling, and for the amount of each our correspondent is referred to the directions of E. W. S., furnished in past numbers of the COUNTRY GENTLEMAN. The best period for cutting corn fodder for the silo is a few days later than the roasting-ear period, or when the corn begins to glaze.]

Road Laws.—Which of the New-England States have a contract road law? We desire to get such a law in Pennsylvania, and thought by getting one that had been used, it would be superior to one of our own framing. W. A. J. [We understand that in Vermont and New-Hampshire towns and cities have the right to make contracts for keeping the roads in repair for one or more years. In the other New-England States it is the duty of each town or city to keep the roads within its limits in suitable repair, and such town or city may employ one or more surveyors or road commissioners or other agents to work on the roads; but it has no authority to let out the job for a term of years.]

Ewe without Milk.—A ewe gave birth to two fine lambs, but has no milk. What is best to feed to make her milk come and increase? S. C. M. *Saugerties, N. Y.* [Feed the ewe chiefly with thin warm oatmeal gruel, given from a bottle. She may have some good clover hay and roots if she will eat them, or fresh brewers' grains. If there are symptoms of fever, as is probably the case, mix 3 oz. epsom salts, ½ oz. nitre, 2 oz. carbonate of soda and one pint of water, and give a small half-tumbler twice a day. After the bowels become loosened, omit the epsom salts from the mixture.]

Cattle Stalls.—I wish to put in stanchions for Jerseys, and inquire as to the dimension, how much space each cow should have in width, how wide the floor, and how the manger should be constructed for feeding only. Is the swing stanchion materially better than the stationary? Where can the swing stanchion, with a short crank at the bottom, be obtained? G. J. B. *Lincoln, N. Y.* [The width and length of the stalls will vary with the size of the cows, but the average will be about four feet wide, and four feet seven or eight inches in length for the platform on which the cows stand. The manure gutter may be a foot and a half wide and eight inches deep. If too shallow the cattle will stand in it. The accompanying figure (fig. 1) shows the relative sizes and

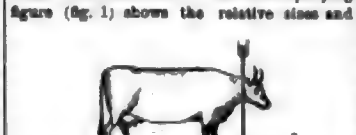

Fig. 1.

positions of each part—*A* being the passage; *B*, the manure gutter; *C*, the platform; *D*, stanchion; *E*, feed box or manger; and *F*, passage. The stanchions should incline slightly *from* the cattle, instead of being erect as in the figure. A section of the stanchions is shown in fig. 2, where each part is more distinctly

Fig. 2.

exhibited, with the braces which hold the beam or bar at the upper end of the stanchion. The swinging stanchions are quite an improvement; they are figured and described in the advertising columns of late numbers of the COUNTRY GENTLEMAN.]

Acknowledgments.

Communications for publication have been received during the week ending March 20, from Prof. R. W. Stewart—John H. Dent—J. T. Bramhall—George Dayton—R.—Mansfield Milling—S. D. Gilbert—E. P. Curtis—T. S. Cooper—H. C. Green—J. M. H.—E. Garfield—Edwin Wing—C. L. Peacock—E. R. Towle—Mrs. Alice Chittenden—Prof. Chas. H. Peck [3]—Josiah D. Smith—H. Hendricks—L. H. Morse—Mrs. E. M. Bunck—M. Walton—Wm. Thompson, Jr.—G. W. Farlee G. G.—J. C. R.—M. L. W.—R. M.—James Wood—Willis P. Hazard—J. W. Ingham—R. W. Bigelow—Henry Stewart—Mrs. W. G. Tucker—M. T. Richardson—Geo. T. Powell—James Wood—A Farmer's Daughter—Thomas Bowick.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, March 21, 1889.

In the Legislature.—The New-York Assembly determined last week to raise the dairy commission appropriation to $100,000. Bills were introduced—Mr. Sheldon, providing for incorporation of live-stock insurance companies; Mr. Nixon, amending act in relation to breeding horses, by giving owners a lien on the mares as well as on the colts; Mr. McAdam, requiring that lard containing cottonseed oil shall be so labeled. In the Senate, a bill was introduced by Mr. Deane which on its face looks like a step backward and seems hardly creditable to the parties concerned, as it exempts the Columbia County Agricultural Society from the law prohibiting liquor-selling at fairs.

Trustworthy Fertilizers.—We need hardly call attention to the advertisement of the Mapes Formula & Peruvian Guano Company. Reading farmers know very well the high standing of the goods offered—thousands of our subscribers are constantly using them, to their financial benefit. Those who have not yet tried them, will do well to look into the matter at once. No fertilizer in market is more skillfully compounded or more honestly sold.

For Market Gardeners.—Messrs. W. ATLEE BURPEE & CO., the well known seed growers of Philadelphia, publish three manuals which seem to be full of sound and practical advice, most useful in the vegetable garden. They deal respectively with "Melons for Market," "Cabbages and Cauliflowers," and "Onions, with Notes on Varieties." They have 80 to 90 duodecimo pages, and the price is only 30 cents apiece.

Experiment Stations.—The importance and value of experiment stations is shown by the protection they afford farmers against impostors. A worthless bank has no counterfeits. But there are plenty of them where the bank has a high reputation. In the same way, when commercial fertilizers were in low repute and in feeble demand, they were not imitated; but now that their benefit has been widely proved, and they are in great demand, counterfeits are springing into existence on every side, the State which does not provide protection for its people against these impostors, neglects an important portion of its duty.

We are furnished with a striking instance by Prof. I. P. Roberts, in his fourth bulletin lately issued, where he points out the character of a highly puffed "Curwin's hog powder," offering for sale a remedy for hog cholera, recommending it for butchers, for all who keep hogs, and asserting that over a hundred thousand packages have been sold at twenty-five cents a package through the State, which would amount to $25,000. Farmers by simply looking at it could not know its composition, but Prof. Caldwell of the Ithaca Station, having analyzed it, found it to be simply very *dirty salt!* More than three-quarters was common salt, and the rest chiefly small portions of copperas, sand, sulphur, gypsum and charcoal, which are evidently there as impurities merely. Prof. Roberts says that each man must be his own judge whether to pay twenty-five cents a pound for it, or $500 a ton, and that similar remedies were used long ago without checking the disease.

An "Economic Seed Manure," sold as such at some well known seed stores, was also analyzed, and found to contain nearly the

same ingredients and in similar proportions as the more common superphosphates. It was tried, and had no sensible effect in starting seeds. It was sold at $3 a pound, which is *four thousand dollars a ton*, and at best, for any purpose would not be worth in market more than $30 a ton, or a cent and a half a pound.

A "Concentrated Egg Producer" mentioned by the last Connecticut bulletin, was analyzed and its composition found of no more value than wheat bran. It is sold at retail at the rate of $600 a ton, and the ingredients it contains are worth in market about one thirtieth of what they cost. A "Concentrated Feed" for domestic animals generally, is pronounced by the venders as a cure for hog cholera, garget, worms, &c., and as "a blessing to all domestic animals." It is found to be chiefly wheat and corn, with a little salt, and with as much nutriment would be found in market at a cost of about $20.50 a ton. It is sold in three-ton lots at $100 a ton, or at retail at the rate of $160 a ton.

Such attempts as these to impose on farmers show the importance of experiment stations, and of their wide circulation of fertilizer bulletins.

In employing the officers for some forty stations in different States, there will doubtless be cases of bad appointments, and hence the importance of careful supervision, which all competent and reliable directors will desire.

Winter Fruit.—Early in February we received from P. Barry, of the Mount Hope Nurseries, Rochester, N. Y., a rare and valuable collection of sixty varieties of winter apples, and twenty-one of winter pears. The apples contained among others of interest very fine specimens of such well known standard varieties as the Jonathan, Red Canada, Tompkin's King, Smokehouse, Vandevere, Ladies' Sweet, Rambo and others, together with those excellent and less known ones, Sutton Beauty, Grimes' Golden, Tuft's Baldwin, Marston's Red Winter, Acuba-leaved Belmotte, Lehigh, Evening Party, Shiawasee Beauty, Buckingham, and many others of interest and of excellent growth; and we name these as the sorts which every intelligent fruit grower who has some taste for pomology, should have growing on his grounds, as a matter of interest, if only one tree of each.

Some of the winter pears, known for their excellence as well as keeping qualities, were remarkable for their fine growth, among which were Josephine de Malines, Easter Beurré, Columbia, Fox's Barry, Clapp's No. 64, Winter Nelis, Directeur Alphande, Epine Dumas, and Fox's Wilder. The Fox's seedlings generally, of which there were several, have mostly proved quite excellent, some of which have not yet softened, and they may keep into April or even into May, which they have done in some former years. We regard the Wilder and Barry as worthy of more extensive dissemination, as late winter pears, although like other late pears, they will require generous culture and careful ripening.

Too Many Answers.—Take out my advertisement! I am overloaded with answers, four to fifteen per day. Theo. A. Stanley. *Cedar Hill Farm, Owen.*

The Weather in Idaho.—A letter from J. H. Evans, northern Idaho, dated March 5th, says: "Our winter has been very mild—the peach and apricot trees are almost in bloom—the insect world is all alive—grasshoppers and crickets full size. I have forty acres to plant out to fruit trees." The difference in the forwardness of the season at the above-mentioned place and with us,—the one above 46 degrees latitude, and the other not 43 degrees, is quite striking, as after the date of the above letter, we had continued snow storms, with vegetation probably dormant for a month to come.

From Late Exchanges.—As a practical paper for farmers, the Country Gentleman is far in advance of any other similar publication; it is worth many times its cost to any man who has to get his living from the land.—*New York Blacksmith & Wheelwright.*

—— The leading agricultural and live-stock paper in the United States; fully up with the times in every department.—*Fort Worth (Texas) Live-Stock Journal.*

—— If any reader wants a first-class farm paper, the Country Gentleman will give the highest satisfaction.—*Guilettsburg (Ky.) Methodist.*

Farm-Yard Notes and Items.

The Second Volume of the Holstein-Friesian Advanced Register (S. Hoxie, Whitesboro, N. Y., Superintendent,) is an instructive and interesting book, containing a great deal of important descriptive matter in addition to the records of tests. Cows numbered 351 to 611 are included and bulls 23 to 61. Among owners having longest lists of entries are Smiths, Powell & Lamb, John A. Frye, J. B. Dutcher & Son, and T. G. Yeomans & Sons. The book has 900 octavo pages, and is sent gratis to members of the association.

The 1889 catalogue of the magnificent Lakeside Herd of Holstein-Friesians (property of Messrs. Smith, Powell & Lamb, Syracuse, N. Y.,) is issued in the same elaborate and elegant style as heretofore, and no Holstein breeder's library is complete without it. Very extraordinary records have been made during the past season and the herd was never before so really wonderful a collection of the choicest strains of the breed as it is at present.

Mr. H. W. Austin, Woodstown, N. J., writes us that his Holsteins and trotting horses that are to be offered for sale by auction, April 3, comprise the best he ever bred—though they are to be sold without reserve, as he has more live stock than he can feed, the coming season.

Gen. B. F. Tracy has concluded that his duties as Secretary of the Navy will prevent him from properly caring for the interests of his breeding farm at Apalachin. Consequently his whole trotting stud, stallions, brood mares, young stock, and horses in training will be disposed of at auction at the American Institute Building in New-York on Wednesday and Thursday, April 17 and 18.

The Oxford-Down Association met at Cincinnati, 18th; resolved to offer prizes next fall at Buffalo (the English cup), St. Louis and Chicago; changed rules so as to admit, after Jan. 1, 1890, only such imported sheep as are registered in the English book; recommended uniform classification at all shows; denounced the Indiana State fair for classing Oxfords with Shropshires; and elected officers—F. C. Goldsborough, Easton, Md., president; Hugh Campbell, J. B. Cunningham, R. C. Estill, A. G. Goodlett, W. F. Loake, T. S. Cooper, vice-presidents; W. A. Shafer, Middletown, O., secretary and treasurer; R. J. Stone, L. W. Brown, T. W. W. Summan, E. M. Jacoby, directors.

Wm. Cunningham said he was astonished at the number of lambs his ewes dropped this year; nearly all had triplets. John E. Shafer said he found it to be a great mistake to use a ram for show and service the same season; that while his $500 ram, The Royal Duke, had swept the prizes, he had gotten but few lambs this year. But, fortunately, Mr. Shafer had imported this ram's sire, Duke of Fyfield, and had used him at home during the show season. Many of his lambs would at this date weigh 50 to 55 pounds each.

Mr. George N. Bissell, the well-known Hereford importer, breeder and prize-winner of Milford, N. Y., (who has a new advertisement this week,) writes us:

"The longer Hampton Wilton 22593 is in service in my herd, the more content I am to accord him a very high place among Hereford sires. His breeding calls for the best results; his contour, as you know, is prepossessing in his favor, and his calves 'prove the proposition.' I have recently added Secretary 6507 to my herd. He gives me Regulus blood in the best possible form. He is a bull of pedigree, individuality and reputation."

A tract on "The Check Rein," with effective illustrations, is sent us by Mr. Henry W. Taylor, Secretary of the Connecticut Humane Society, Hartford.

Mr. John H. Wallace, 220 Broadway, New-York, sends us the Fourth Volume of his Year-Book of Trotting and Pacing. The title hardly does it justice, for of the 480 pages included this year (considerably more than before), only 154 are occupied with the performances of the past year, exclusive of the indexes, leaving the rest of the space to be filled up with the cream of all the performances of all the years since trotting commenced. The alphabetical list of all 2.30 performers, from the beginning, *with their pedigrees* so far as known, is complete and exhaustive. It may be taken for granted that if a horse is not found in this list, he has been rejected for some cause. The table of 2.30 horses under their sires has grown to 194 pages. The table of great brood-mares is expanded and improved. There is a reason for this compilation far beyond that of making a book and selling it at a profit—upon the statistics of this volume the whole fabric of standard rank has to rest. The price is $2.50, and it is well worth the money.

Eds. Country Gentleman—I do not know when I have read a letter which puts the case of the Jersey cow so compactly, and yet so fully, as does Mr. Hopkins' letter on page 218. It is very instructive, and every farmer should read it carefully. I presume I weary the patience of your readers with my frequent reference to the incomparable merits of the Jersey as a profitable butter producer. My strong conviction of her great value is my excuse. If I can influence any farmer to adopt the Jersey for his dairy cow I know I am doing him a service. There have been so many cases reported of Jersey herds averaging 300 lbs. per cow for the year, that I feel justified in asserting that 300 lbs. is the normal yield of a good Jersey on moderate feed. Mr. Hopkins' herd of fifteen head, stabled the year round, averaged 332 lbs. on an average daily ration per head of 30 lbs. ensilage, 3½ lbs. mixed hay and straw and 5½ lbs. grain of very moderate richness. I call the attention of farmers to the important economic question of the actual cost to produce a pound of butter. I beg to suggest to Mr. Hopkins that he could double the quantity of barley sprouts to advantage in his ration. They are a very light food—yet, according to Prof. Stewart, they are excellent to balance the ration in which ensilage enters so largely.

Trenton, N. J. G. W. Farlee.

Eds. Country Gentleman—Dr. Browne, of Port Carbon, Pa., who at once bought the 5½-mos'hs-old son of Rioter's Pride, advertised in your paper, writes me: "I am more than satisfied with my purchase, as he far exceeds my expectations, and I think I have succeeded at last in getting what I have been looking for for some time." In a subsequent letter he says: "I am more pleased with the bull every time I look at him." I need hardly say that such letters are most gratifying, and that it will be my constant aim to merit the kindly opinion of my purchasers. I return to Brockville, April 3. Mrs. E. M. Jones.

111 Union Ave., Montreal.

Eds. Country Gentleman—I have just finished test of the grand old Jersey cow Daphne of Arcadia 21710, daughter of Talmage 3002 and Daphne of Staatsburgh 2d 3087. In seven days she made 26 lbs. 12 oz. of butter. She was fed 2 qts. corn meal, 3 qts. ground oats, 3 qts. bran, and 1 qt. oil meal twice a day, with half a bushel of carrots at noon. Daphne dropped her last calf (a bull, to her own son Daphne's Stoke Pogis 16227) Jan. 27, giving this calf an average butter record of dam and sire's dam of 28 lbs. 12 oz. of butter in seven days, which is nearly the largest in the world.

Newark, N. Y. L. H. Morse.

Mr. W. Getty, Athens, Tenn., writes to the Country Gentleman that he has recently sold three Jerseys in his own State, two to Arkansas, nine to Georgia, five to Alabama, five to Mississippi, two to Louisiana, and nine to Texas—and adds: "As the South grows rich and prosperous, its farmers diversify their products, and the demand for good Jerseys and other fine stock is constantly increasing."

Mr. T. S. Cooper writes us from Linden Grove, Coopersburg, Pa., March 11:

"My advertisement in your most valuable paper of Feb. 21, brought buyers for all the animals at prices named, and I could doubtless have sold as many more.

"A recent notable addition to my herd is the bull King Khedive, whose use I have been fortunate enough to secure for six months from his generous owner, Mr. D. F. Appleton, Ipswich, Mass. This young bull was imported in his dam, Pretty Princess 36844 (Dictymia 2790, H. C.), daughter of Khedive. His sire is Royal Khedive, P. 698, by Augustus 1073 (grandson of Khedive and Jersey Boy, P. 93, H. C.,) out of Rose 3d by King, P. 238 (grandson of Khedive and sire of 10 cows with records over 14 lbs.); granddam Rose 3d, P. 373, C., by Tormentor 3533; g. g. dam Rose, F. 1567, H. C., by Nonpareil, P. 57, H. C. Six years ago I secured Pedro at a cost of $10,000, buying him, as stated in your columns at the time, with the specific object of breeding him to the finest made and most in-bred of my Coomassie cows, my idea being that Coomassie cows of that description needed a strong and positive outcross. The result of carrying out this idea gives me the greatest satisfaction, as I have certainly sold some magnificent animals of this line of breeding, and still have a number in my stables that will bear critical inspection. Desiring to carry out the same idea of breeding, I had to search for a suitable bull with which to breed to the daughters and granddaughters of Pedro 3187. My choice finally went to King Khedive. For all things considered, I think he is, outside of Tormentor, the best Khedive bull living. He has 87½ per cent. of Khedive's blood, through four crosses, two of which are through his son Young Prince, one through his son Tormentor, and one through his daughter Pretty Princess. The last named is not only a remarkable dairy cow, but an extraordinary breeder, having produced Lady of Kassassin, that realized $3,250 at auction, and Ethelfled, $2,200. Khedive's unnamed son out of Rose, F. 1567, H. C. (in above pedigree), got a number of well known tested cows; farther, Rose, F. 1567, H. C., and Pretty Princess were the only two cows on the Island of Jersey which money would not tempt their owners to name price on. It was only after years of persistent work that the owner of Pretty Princess (then Dictymia) was persuaded to name a price, which he did with the express understanding that she must go to America."

Mr. John W. Axin, the well-known horse breeder of Scipio, N. Y., writes us:

The past two weeks have been the busiest ever seen on Elmwood Stock Farm. We have visitors from all over the United States, and have made many sales to the western Territories. The following fine Percheron stallions have been sold to different parties in Montana: Captain Kidd 2095 (2065), Mulvaney 4149 (5053), Bayard 4185 (4998), Tacheau 2091 (2570), Rhadamant 9750 (18612), and two two-year-old pure-bred Percheron mares. The two great prize Percheron stallions D'Aplomb 9761 (18503), and Indipendent 9751 (19647), are sold to Mr. B. S. Fryer of Fargo, Dak.; these horses captured six prizes at the New-York State Fair, Central New-York Fair, and Bay State Fair, in the fall of 1888, and all within a month after their arrival in this country. Indipendent won second prize at the government fair at Alençon, France, in a ring of over 100 three-year-olds, summer of 1888. I can safely say that no two better three-year-old Percheron stallions are owned in Dakota. A four-year-old French coach stallion has been sold to M. H. Parsons of South Norwalk, Conn. M. H. Armstrong, Hoosick, N. Y., takes the prize brown French Coacher Lancellot; C. B. Meirs & Co., Cream Ridge, N. J., the prize four-year-old French Coach stallion Charmont; Leonard H. Gault of Westport, Conn., the two-year-old Percheron stallion Redine 9761 (14041). We have had a number of colts from our imported mares since Jan. 1 that were got by our great stock horse Tongueur 7513 (11566), with which we are more than pleased. We shall breed forty of our mares to him this season.

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The Grazier and Breeder.

Rations for Cows.

Going Dry—Time of Calving.

Eds. Country Gentleman—I have some cows to come in very soon. What should I do for them after they calve, and how should they be fed? I want butter. The cows in calf are fed 2 qts. shorts mixed with 1 peck cut carrots morning and evening, with as much hay as they can eat; nothing but hay and water at noon; water once a day. Should they have more water? The milking cows are fed 4 qts. corn meal with the above, morning and evening. I have corn meal, shorts, carrots, long hay—no way to cut it; could get oil meal. Which are the best for cows, carrots or mangels? How long before calving should cows be dry, and how can it be done? Is there any way that I can tell within a day or two that a cow is to calve? *J. P. Jamaica Plain, Mass.*

J. P.'s carrots and mangels help his way of feeding very much. These roots partially compensate for the want of cutting the hay. There is not much difference in the value of carrots and mangels for milk; both are good and the shorts fed with the sliced roots is very good food for cows while dry. His language reads as if he fed 4 qts. corn meal morning and evening to his milking cows, besides his shorts and carrots. But he can hardly mean this; he probably feeds 2 qts. morning and evening, making 4 qts. per day.

2. His cows after they come in should be fed the same as he feeds them before they come in, for the first ten days or till they recover from the effects of calving. Then, if he has roots to continue feeding, he should get a hand cutter, if no other, so as to be able to cut at least a part of his hay to mix with his ground feed. Let an average day's feed for each cow be made up as follows: 8 lbs. cut hay, 1 peck carrots, sliced, 5 lbs. corn meal, 5 lbs. wheat shorts or bran, 2 lbs. linseed oil meal. Let the corn meal, shorts and oil meal be mixed together dry. Let the hay be moistened and the carrots mixed with it; now let him mix in the ground feed. Give this in two feeds, morning and evening, with long hay at noon. Once a day will do for watering.

3. A cow should properly go dry about sixty days, but he will find some of his cows persisting in going dry longer than that, and perhaps some will persist in milking longer. It is a better fault for a cow to persist in milking a longer period than in going dry a longer period. Before he gets a herd to suit him in this respect he will have to obtain them by selection, and disposing of those that do not suit him. He may dry up any cow by ceasing to milk her, but this is not a good way. The best dairymen, in drying a cow, milk her clean once a day when the time has come to dry her off, and if this does not succeed, milk her clean every second day, and if this does not dry her, he concludes there is more danger in drying her than in letting her give milk.

4. As to fixing the period when a cow should come in, it is usually counted 280 days from service. And, except heifers with their first calf, the average of cows comes very near to this point of time. Dairymen should keep the date of service and the expected time of calving of each cow in the herd. He will find no practical difficulty in fixing the time sufficiently accurate. R. W. S.

Stanchions Used Forty Years.

Eds. Country Gentleman—J. C., p. 82, seems to want the opinions of those who have had experience with stanchions. After using them for forty years and more, I am still a strong advocate for their continuance. I have only one instance of accident to record. One Sunday morning I found a dead cow hung in her stanchions, which I had to skin that day instead of attending church. As I found her, she had evidently reached her nose back through the stanchions to lick her fore feet, and the floor being inclined a little too much, and having become quite slippery from long use, she fell and caught her nose behind the bottom sill, which caused her to strangle and choke to death.

Excepting that instance I have always found my cattle happy and comfortable after the first entrance into the "horrid" stanchions. The value of stanchions is shown at the first introduction of young wild stock or any vicious animals. They are then and there conquered without injury; can be handled, tamed and made docile. With suitable bunks for hay and grain in front, nothing is wasted or trampled under foot. With a proper manure gutter behind, the animals are kept clean—an important feature in dairying. Three feet space in width is ample for each animal of ordinary size, and more stock can be properly stored in stanchions than by any other method in my knowledge.

Now what more can be said? Oh, it "looks so cruel" to those unacquainted with their use! But I take pleasure in inviting everybody to come and see my ten calves, ten cows and eight fat steers now chewing their cuds in stanchions, and looking happier than most people who talk about the "cruelty" of stanchions.

J. G., p. 942, writes excellent articles, but I beg to differ with him when he "relegates stanchions to the woodpile." For sanitary reasons I turn my cattle out every day, from one to four hours or more, according to the weather. After visiting many barns where costly cattle are in chains, and where expense is not questioned, I am still in favor of stanchions. J. Dunham.

Minnehaha County, D. T.

Improving Ration—Grain on Pasture.

Eds. Country Gentleman—Please tell me wherein the following ration is deficient in quantity or quality, or both. To what extent is it profitable to increase it, feeding medium-sized natives for good calves at seven weeks, and for butter the remainder of season? Cows had no feed previous to calving; am feeding now our own grain, ground in following proportions—800 lbs. corn and cob, 700 lbs. rye, 500 lbs. oats. Seven pounds of this mixture is given in two feeds, morning and night, mixed with 9 lbs. of fine quality cut timothy hay, all the long hay they will take in addition, and long hay at noon, probably 15 lbs. long hay in all. Result is hardly satisfactory. It seems as if there were bran enough in this ration; would feed more oats if I had them; can buy any of standard feeds at regular price, being near enough to "old Orange county" to get good rates. How much grain would it be profitable to feed cows on pasture? Calves, 7½c.; butter, 26c. E. D. B. *Marlborough, N. Y.*

E. D. B. should have stated whether his veal calves sucked the dams, but this is probably to be presumed, as that is the usual way among dairymen of raising veal calves that sell for the highest price in the market. But this is to be taken into consideration, since it is well known that cows which suckle calves for seven weeks do not milk as well as where the calves are taken from the cow at once. E. should also have stated whether his ration was fed after the calves were sold, and also have given the real amount yielded by the cows.

2. I will examine his ration. When figured out, his ground mixture appears to have the following composition: Albuminoids, 7.8; carbo-hydrates, 56.3; fat, 2.95. He used 9 lbs. cut timothy hay and 7 lbs. mixture. The following analytical formula will show its digestive nutrients, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
9 lbs. fine cut timothy hay.	0.32	3.71	0.09
7 lbs. of the gro'd mixture.	0.55	3.94	0.20
	0.87	7.65	0.29
This is very deficient.			
Add 15 lbs. long tim'thy hay	0.80	6.30	0.16
Total	1.67	14.24	0.45

This has the wide nutritive ratio of 1 to 10.4. This requires some food strong in albuminoids to balance it. It has quite sufficient carbohydrates, but requires, to make a good butter ration, 1 lb. more at least of albuminoids. The timothy hay is in excess; it is not profitable to feed more than 20 lbs. The following would be much nearer an appropriate ration: 20 lbs. cut timothy hay, 10 lbs. of the ground mixture and 3 lbs. cotton-seed meal.

E. remarks "it seems as if there were bran enough in this (his) ration." But in the proper sense there is no bran. It contains only the bran belonging to the corn, rye and the chuck of the oat. If wheat bran is cheaper than this ground mixture, E. had better use 5 lbs. of the ground mixture, 5 lbs. wheat bran and 3 lbs. cottonseed meal.

In analytical formula the ration I first substituted for E's., shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
20 lbs. cut timothy hay.....	0.77	8.26	0.21
10 lbs. ground mixture.....	0.78	5.60	0.29
3 lbs. cottonseed meal.....	1.06	0.00	0.18
Total	2.62	13.54	0.68

Nutritive ratio, 1 to 6.5. Second proposed ration:

20 lbs. timothy hay.....	0.77	8.26	0.21
5 lbs. ground mixture.....	0.39	2.80	0.15
5 lbs. wheat bran.....	0.59	2.30	0.13
3 lbs. cottonseed meal.....	1.06	0.00	0.18
Total	2.81	13.36	0.67

This has a nutritive ratio of 1 to 5.4, and although it costs no more than the other, it is a better ration.

3. E. asks how much grain would be profitable on pasture. This depends upon how good the pasture is. If E. were sure of an abundant pasture through the whole season, especially if it be an old pasture containing a great many different grasses; but with ordinary pasture, cows will well pay for the following mixture: Four pounds wheat bran, 1 lb. corn meal, mixed with 3 lbs. of cut hay, and fed at evening. If any is fed in the morning, it should be but a very little, because a morning feed gives the cows less appetite for hunting their feed in pasture. R. W. S.

Cheaper Barns—Applying Manure.

Eds. Country Gentleman—On page 969 of last volume, W. C. of Fort Plain, N. Y., asks for information about building cheap barns. A few years ago being in need of a barn, and not having abundance of means, I began planning, counting the cost, and getting facts from others who had recently built, until pretty well equipped for the task.

Making clover hay and feeding cattle, I made a plan to suit my needs, and finding the cost moderate, engaged the owner of a sawmill near the timber to take it from the stumps in the woods, and furnish the frame timber already sawed for 70c. per 100 feet, it taking a little over 12,000 feet. This left the siding to buy—2,800 feet shiplap pine, at $1.65 per 100 (saving stripping cracks); 16,000 shingles, at $4 per 1,000. The carpenter's bill, including board, was $105; painting, $12 for one coat metallic paint and oil. Large boulders found on the farm were used for foundation.

The building is 32 by 52 feet, and 20 feet under eaves. Sills are 8 inches square; posts, 7 inches. The long girders are made of 2 by 8-inch joist, three in thickness, firmly bolted together; plates are all 5 by 6 inches. These timbers are sufficiently heavy. The whole of the lower part can be used for live stock, if necessary; the driveway, 12 by 32 feet, can have portable racks and be used for sheep—in fact has been used this way when needed for this purpose. We have put in about thirty tons of hay, and could put in five more by covering the rest of the driveway temporarily.

Many barns are built which their owners have very little use for. In building, we should know what kind of farming we are going to pursue, then plan accordingly. I know a farmer who, 15 years ago, built a barn 40 by 60 feet, at a cost of $1,000, and it has no place for animals except a few work-horses, while he has always needed a stock barn! It has never suited his system of farming, and he has found use for only a small portion of it most of the time. I have seen other men get more benefit from a barn costing not more than $100.

It is a waste of money to build a large barn when one needs only a small one; or a grain barn when we want one for live-stock. Our county has not near barns enough if they were used, but there are too many which, on passing by, one can see daylight through from top to bottom for 365 days in the year.

A barn should be sufficiently large to hold all the products of the farm; then kept crowded to its full capacity. Save all the manure and apply it directly to the soil, and soon there will be need for more shelter. A given amount of feed will carry more stock, keep them in better condition and make a much better quality of manure.

Let me add a little experience which may help answer a question about manure on same page, also on page 8 of present volume. For four winters past I have made all the manure possible in the barn, drawing it to the fields every week and spreading at once. The results of four years' crops have been decidedly in favor of direct application. For six years previous to adopting this plan, I put most of the barn manure in the feed yards; it remained there till summer and was then applied to the field intended for corn the following year. I was a little in doubt as to the lasting effect of manure treated thus, as the quantity made in a given time would go much farther when taken direct to the field, but the past year's crops have shown that the results are much more lasting than that from the yard manure. In my system of rotation, corn, wheat and clover, I found, the past year, on coming to the land manured during the winter of 1884-'85 with fresh manure, that the corn was as good as that which had been manured last winter, while that which had been manured with barn-yard manure (some of it coming from the stables the previous winter) previous to the crop of 1883, produced this year only about two-thirds as much. I am well satisfied with the results of my experiments in this line, and if any one has a better way would like to know of it. W. A. McDonman.

Clarke County, O.

Motherless Lambs.

Eds. Country Gentleman—I often wonder whether all farmers' daughters have as many different things to attend to as I have; perhaps when there are boys in the family it is otherwise. Every season brings its special duties; just now the young lambs require a good deal of attention. I do not believe any other ewes in the whole country behave toward their young as whimsically as do ours. The flock is composed principally of grades obtained by crossing at different times, Southdown, Cotswold, and Lincoln upon the common stock, until now the sheep are a fine size, affording excellent mutton and yielding a fair quantity of wool. They give satisfaction in every respect except in regard to their lambs; one ewe will disown hers without any cause whatever, another will choose one from a pair of twins and refuse to look at the other, while a third will appear to think all the world of her lamb but will not be able to furnish a drop of milk for its subsistence; and to cap the climax, the other day a pretty, pure white ewe came up with a jet-black lamb!

He was a perfect caricature of a lamb, so ugly that everybody laughed at him. He was tall and gaunt, with an enormous head, a long slim neck, and great clumsy legs that wobbled dreadfully, while a pair of very light glassy eyes shone out from under his dusky bangs in a most unearthly manner. It did seem that he of all others would be disowned by his mother, for really he was a disgrace to the flock, showing as he did the plebeian blood of her ancestry. But it was just the reverse; she hovered over him as anxiously as if he had been snow-white and a perfect beauty, though with all her maternal solicitude she could not furnish a particle of milk for his subsistence, and the poor little scare-crow cried most piteously with hunger. We brought him a bottle of fresh warm milk and he instantly seized the rubber and did not let go as long as there was a taste left. Most lambs have to be taught the use of the bottle, but this sturdy little fellow knew it by instinct. For several days he was allowed to remain with his mother, in hope she would eventually be able to raise him, but the weather grew very cold, and for fear he should freeze in the night, we brought him into the kitchen and put him in a box not far from the fire. At first he cried constantly, in such a long-drawn-out pitiful way, that as soon as he was fed, we put him back in his box and covered him up with a piece of carpet; as he did not think it possible to get up, so would lie still and sleep till next feeding time. Now he jumps out of the box and runs about the kitchen like a cat, and lies down to sleep with them under the stove. Snowdrop, the little white kitten, likes him immensely, and stretches out her little form upon his dusky wool in perfect content, and claws at his white eyes until we are afraid she will put them out. Little Black-Sheep thinks Flora, the colored girl, is his mother, because she feeds him oftener than any one else, or perhaps from a similarity of color; at any rate he trots after her faithfully when he is hungry, and smells around the skirt of her apron which he thinks must surely be adorned with dangling milk bottles, shaking his little string of a tail now and then in the most hopeful manner.

Some days after the advent of the black lamb, a pretty white ewe lamb was incontinently disowned by its mother; so now we have a pair of pets, which somebody in a fit of inspiration has dubbed "Othello" and "Desdemona." They are already quite devoted, though each thinks the milk-bottle should be strictly private property. There are several other young lambs in the flock, which we are feeding several times a day until their mothers can take care of them; we never take them for pets when there is any other alternative. When we first began caring for the disowned lambs we gave them as much milk as they wanted; so they generally died, not having digestions capable of managing it. Now we give them half a pint every two or three hours until they are about a week old, and after that time increase the quantity, shortening the in-

terval gradually, until, when they are about two months old, they can take one and a half pints three times a day. The milk should be perfectly sweet, as fresh as possible, and slightly warmed. When very young, lambs are liable to be troubled with scours, and in that case boiled milk should be given them for one or two meals. If the opposite tendency is observed, a little white sugar or molasses put in the milk will generally prove a corrective; when it does not, a teaspoonful of castor oil should be given in the milk as often as is considered necessary.

Until the pet lambs are three or four months old, we keep them in a grass lot near the house, and give them milk twice a day, which prevents them from eating too much grass before they are able to digest it. I do not think there is any profit in raising lambs by hand; the milk they consume and the time spent in caring for them is worth more than the lambs themselves; still, when there is no other way, we always feed them rather than see them die. One year we raised four, and my father said they were the healthiest lambs on the place. They were kept in an outhouse at night, and one evening, while we were at supper, they escaped, and came to the house to look for us, and we found them lying down on the carpet before the fire in the sitting-room, settled, as they thought, for the night. They were as gentle as kittens, and wanted to follow us everywhere we went; if we walked through the pasture where the sheep were, they went, too, but always returned with us. That is the trouble about pet lambs; they do not know they are sheep, and it is hard to convince them of the fact. Still, after a while they learn to stay with the rest of the flock, though they always remain gentle, and influence the others to become so. A FARMER'S DAUGHTER.

Logan County, Ky., March 6.

Hog-Raising.

EDS. COUNTRY GENTLEMAN—High prices in the hog market last year created considerable activity in this line of farm production. Combined with other influences, this will preclude the possibility of equally high prices in the immediate future, although we look for the continuance of an active demand. At much lower prices, hog-raising will prove one of the most profitable undertakings to which the farmer can devote his attention.

To be successful in the production of hogs, we must possess experience. Good stock and comfortable quarters are of prime importance, but these will not compensate for a lack of knowledge of the requisites to be observed in the breeding, growing and fattening of hogs. Especially is this true in the production of young pigs. After pigs have attained the age of two or three months, their further development until fitted for market is comparatively easy. All that is necessary is to give attention to the feeding for growth until ready to be crowded on a corn diet, with a view of laying on as much flesh as possible in the shortest time.

In the production of young pigs two essentials must be considered. First, the selection and care of the sow, and second, the care of the young pigs. It is not supposed that any reader of the COUNTRY GENTLEMAN will think of making the most money from any kind of stock without breeding from the best; so all I need say here upon the subject of selecting foundation stock is to get a full blood boar and well-bred grade sows. Good grade sows are better for the average farmer than the full bloods.

An actual test will be the only means of judging accurately of the fitness of a brood sow, although we can in a measure determine this point from the general build and disposition of the animal. A good sow is not always a good mother, and when a breeder finds the two qualities combined, our advice is to give her a permanent home in his pens. She will produce larger and stronger litters than a young sow, with no more danger of loss from having the young pigs killed than will be suffered from the young untried mother.

A sow must have proper kinds of food, and in sufficient quantity, both before and after farrowing. While flesh must be avoided, she must possess sufficient vitality for the task imposed upon her. Good pasture, supplemented with strengthening foods, is what she will thrive best upon. One of the fatal mistakes of many farmers, especially in the West, is in feeding a too exclusive corn diet.

The aim in feeding young pigs should be to produce the growth of bone and muscle. Bran, oats and similar foods should constitute their principal diet. The young pigs should be taught, as soon as sufficiently mature, to drink from the trough with the cow. When the time comes for weaning, they will not be retarded in their growth by the change of food, but will continue to grow without being affected by the transition. E. *Morris, Ill.*

Dishorning.—In reply to T. W. F., p. 54: Last summer a 5-year-old Jersey bull attacked and killed a mule. I put a rope on his horns, drew him to a tree, tied his fore and hind feet each, then drew them together and made fast; put a two-inch plank across his neck, two men on each end of plank, and sawed off the horns just where the skin stopped. It is unnecessary to cut deeper, and is more painful. He was not injured and was improved in appearance.

James Island, S. C. T. J. H.

A Good Absorbent at Hand.—Having built a cow stable last fall with tight manure gutter which saved all the urine, I soon saw how much had been wasted in the old stable with its leaky floor; and not having secured any muck, (probably the best absorbent) or other material purposely, I was somewhat at loss to know how to do. I considered my chaff from the thresher too valuable for the purpose, as my cows liked it and would eat it clean, even the buckwheat chaff. The buckwheat straw was all needed for bedding for the horses; the other straw having been cut early, was also too valuable. So I tried wheeling with wheelbarrow my horse manure from the stable each day and spreading it in the gutter behind the cows. It absorbs the liquid well, and when one has not too many cows, or too few horses, it is practicable, valuable, and worth our while. In building or arranging new stables, we should keep the idea in view of having the horse and cow stables in proximity, which would save the trouble of wheeling the absorbent. JACOB ENGLE.

Schoharie County, N. Y.

Linseed Meal—Ground Flaxseed.—Which is best, old or new-process linseed meal, or ground flaxseed, as part of ration for yearling colt and mare suckling? W. H. M. *Childersburg, Ala.* [O. P. and N. P. linseed meal have nearly the same value. Ground flaxseed, if no oil is pressed out, has too much for feeding, except in very small quantities. If flaxseed were used, should prefer the raw seed, to be boiled in six times its bulk of water, and the jelly fed in small proportion, say one pint per day in other feed. M. had probably better take old-process linseed meal, if assured of its purity. He might make up a very appropriate ration for his yearling colt as follows: 9 lbs. of either bran shorts or wheat middlings, 1 lb. O. P. linseed meal (or if rice meal is cheaper, then 6 lbs. bran, 3 lbs. rice meal and 1 lb. oil meal) and 10 lbs. cut clover or crab grass hay. This, all well mixed together, will be a good combination of food for the yearling colt and the brood mare suckling a foal. It is not given, however, as a ration per head, but as a combination of food. It is a matter of much importance that colts should not be fed concentrated food without mixing with coarse fodder. Colts should never be fed corn meal, because it is a heating and fattening food, and has no elements to grow bones and frame. Sound bone is of the greatest importance in a horse. E. W. S.]

Pigs in Georgia.—I have 20 pigs, now one month old, of which I wish to make pork next December, with — wheat bran, $23 per ton; corn meal, $25; cottonseed meal, $23 50. Will have through spring and summer from 15 to 18 gals. buttermilk per day. They will have the run of 50 acres woodland (oak and hickory), and plenty of amber cane from July 1 to Nov. 1. What should I feed, and what gain of flesh per day could I expect? Native stock, but thrifty. J. T. D. J. *Eatonton, Ga.* [J. T. D. J. presents the greatest difficulty at the start. His pigs, being so young, would be greatly benefited by a little boiled flaxseed in their food. This would keep their digestive organs in good order. J. is aware, no doubt, that corn meal is never advised in any quantity for such young pigs. The object is to grow the muscles, bones and frame of the young pig, and give it a rangy build, on which he can lay fat when the time comes. Wheat bran is one of the best foods to grow the frame of the young pig. Cottonseed meal is a little too concentrated for pigs so young. If he had two or three gallons of buttermilk per day, it would help very much to start them. If flaxseed is not within reach, let him boil 40 lbs. wheat bran with 5 lbs. unshucked cottonseed, and feed it to the pigs in a slop, warm. If he can get a few bushels of flaxseed, let him boil the 40 lbs. of wheat bran with one quart of flaxseed each day. When the pigs are two months old, he may put 2 lbs. of cottonseed meal into the mixture per day, but continue the flaxseed. When they are three months old, and he has buttermilk, let him still feed 40 lbs. per day of wheat bran and one quart of flaxseed, with the buttermilk, and 5 lbs. of cottonseed meal, all well mixed together. This will probably be sufficient till end of fourth month. His amber cane will not be as good as green clover until it develops its sugar. When the pigs are five months old he may make up the following ration: 40 lbs. wheat bran, 10 lbs. corn meal and 10 lbs. cottonseed meal, with green cane or green clover. In 15 days, add 1 lbs. more of cottonseed meal; at the end of the fifth month, add 5 lbs. more of the same. This, with buttermilk, will carry them through the sixth month, and perhaps through the seventh month also. At the beginning of the eighth month, add 10 lbs. more of cottonseed meal. This will be a ration for each pig of 2 lbs. bran, 1¼ lbs. cottonseed meal and ¼ lb. corn meal, and this will probably be sufficient for the eighth month, with plenty of grass or cane. For the ninth and tenth months, we will add 20 lbs. corn meal. The ration will now be, for the 20 pigs: 40 lbs. bran, 20 lbs. cottonseed meal and 20 lbs. corn meal. This, with grass, should finish their fattening by the end of November. It will not be profitable to keep them longer. They should then weigh, on an average, 300 to 350 lbs., and bring the highest market price; but they will cost nearly all they will bring, on feed at the high prices given. E. W. S.]

Feeding Steers.—Since early November, I have been feeding a small lot of steers (coming three) in the following manner: In morning I feed shock corn, all they will eat, and in the evening all they choose to eat of a feed composed of one-third oats and two-thirds of shelled corn, ground together and mixed with about one and a half times their bulk of cut timothy hay, fed dry in troughs under an open shed; water pumped from a well in the yard. I am not satisfied with the result. Wherein have I failed? I have a geared windmill with which I shell corn, grind feed and cut hay. The above are my most available foods, be cause I raise them. What proportions do you advise? Or do you recommend some other mode of feeding—rapid increase being the end sought? J. L. *Hudson, Ill.* [1. J. L.'s mode of feeding his steers is the old way of feeding corn in the ear, except his improved modification of it in feeding ground oats and corn at evening, on a little cut hay. This is an improvement; but if they were fed in a moderately warm stable, with ground feed mixed with cut corn fodder and hay, it would be a great economy of feed, and show a much more satisfactory gain. L. cannot afford to waste his corn in this way. 2. If oats are about as cheap as corn, let him grind 100 lbs. of oats with 200 lbs. of shelled corn; then run his corn fodder through a cutter, cutting it one-fourth inch long, and, if he has hay to spare, let him cut one-fourth hay with the corn fodder, running it all together. Now, to 16 lbs of this cut corn fodder and hay, moistened (if he can feed it where it does not freeze), let him mix 14 lbs. of the ground feed, and give this in two feeds, morning and evening; and if he can mix this so that the steer will eat the meal and the fodder together, ten days will show him that this feed is digested and utilized, as nothing will be found to pass into the droppings except the indigestible parts. After they get into a thriving condition, this ration should put on 2 or 2½ lbs. per day. L. can easily figure the great saving in food by this mode of feeding, over corn in the ear. He will see that this is about 9½ lbs. of corn and 4½ lbs. of oats, ground. The shock-corn feeding gives about double this quantity. If L. cannot at present feed where it does not freeze, he had better mix the ground feed, as evenly as possible, with the cut fodder dry, and feed in deep troughs under shelter, and in that case he should increase the ground feed 2 lbs., and the cut fodder 3 or 4 lbs., per day. Of course, if the steers are exposed to the cold, he cannot expect as much gain as in a warm stable. L. had better lose no time, when the season arrives, in preparing such a stable, if he proposes to feed steers. A warm shelter costs less than the extra food required in feeding in a cold temperature. If L. feeds this ration, we hope he will report results. E. W. S.]

The Dairy Department.

Butter Ration in New-Brunswick.

EDS. COUNTRY GENTLEMAN—In March I shall have several new milch cows—Jerseys of average size—for the feeding of which I require formula. The hay is mixed timothy and clover, and will be run through a hay-cutter. I submit values per ton of materials most readily obtained in this neighborhood, viz.: Bran, $23; shorts, $24; corn meal, $24; ground oats, $30; cottonseed meal, $30; linseed meal, $38. My object is to obtain richness of milk for cream to be disposed of to city customers, and as the orders for cream fluctuate, to make butter of any that remains unsold. A. C. F.

St. John, N. B.

A. C. F. must have very well selected cows if he makes them profitable by their production of cream and butter with feed at the prices he gives. We must assume that F. has a comfortable stable for the cows, to feed profitably in his latitude, and that he does not compel them to drink ice water. He may use the following combination of food: 14 lbs. of clover and timothy hay, 5 lbs. corn meal, 4 lbs. wheat bran, 2 lbs. shorts, 2 lbs. cottonseed meal, and 1 lb. linseed meal.

This ration has a large variety, and is the best selection from the foods given. Its digestible nutrients are shown in the following analytical formula, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
14 lbs. clover & timothy hay,	0.98	6.23	0.19
5 lbs. corn meal	0.43	3.10	0.24
4 lbs. wheat bran	0.47	1.61	0.10
2 lbs. shorts	0.31	0.90	0.06
2 lbs. cottonseed meal	0.71	0.45	0.18
1 lb. linseed meal	0.27	0.33	0.08
Total	3.20	11.62	0.85

Nutritive ratio, 1 to 4.6—a good ratio for rich milk. F. must carefully mix the corn meal, bran, shorts, cottonseed and linseed meal together, dry, and then thoroughly mix this with the moistened cut hay.

These foods, except the bran, are concentrated, and to effect a complete digestion of them require a thorough admixture with the coarse fodder. This may be given in three feeds, smallest at noon.

The Jersey is perhaps our most nervous milch cow, and the best success with her requires great gentleness and regularity in feeding and milking.

This combination may be too large for these cows on the start, depending upon how they have been fed heretofore; but if they are good eaters, they will soon consume the ration with avidity. As I have so often said, this is a combination of food rather than a ration per head. The feeder must exercise judgment as to the quantity for each individual animal.

Should be pleased if F., after feeding this ration some two months, would report result. I use both cottonseed and linseed meal, because the linseed is important to counteract the constipating tendency of the cottonseed. E. W. S.

Profits from Butter.—We have one cow, we think a good one—grade Jersey, weight 700 lbs. I sold $95.58 worth of butter from her from the 1st of March, 1888 to the 1st of February, 1889. I made 381 lbs. 5 oz. from her in the same time, and had milk for family use. The butter sold was 307 lbs., the rest left for my husband and myself, who comprise the family. The price I got for butter was 30c. and 32c. per lb. Cow's feed was grass and rain water in the summer; in winter, timothy and oat hay, two quarts of shorts and two of middlings as a slop, morning and night, with the chill taken off the drinking water. I never use ice in making butter; have the barrel churn; set milk shallow in pans, no trouble with white specks; keep milk at 58° or 60°; skim each setting every 36 hours—in very warm weather, every 24 hours; churn three times a week; deliver butter every week. I am a beginner in butter making, and if any woman can do better, I should like to hear from her.

Onondaga County, N. Y. MRS. A. McCALL.

Ration for Cows.—Please make ration for new milch cows (native), weight from 800 to 1000 pounds. Ensilage of fair quality; oat straw cut; corn meal, $12 per ton; bran and shorts, mixed, $12; bran, $12; oil cake, $25. Good flow of milk of fair quality desired. E. M. S. *New Richmond, Wis.* [E. M. S. may make the following ration: 30 lbs. ensilage, 6 lbs. cut straw, 6 lbs. corn meal, 6 lbs. wheat bran and shorts mixed, 3 lbs. oil cake. The corn meal, shorts and oil cake should be now mixed together, and then well mixed with the

millage and cut straw, and given in two or three feeds. This does not represent a ration very rich in albuminoids, but we think will give a good result in quality of milk. In analytical form it shows the following digestible nutrients, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
20 lbs. ensilage	0.36	3.60	0.15
6 lbs. cut straw	0.09	2.35	0.06
6 lbs. corn meal	0.50	3.78	0.30
6 lbs. bran and shorts	0.66	2.88	0.15
3 lbs. O. P. linseed meal	0.81	0.69	0.18
Total	2.42	13.30	0.79

This has a nutritive ration of 1 to 6.5, and it will no doubt prove a productive ration. E. W. S.]

Transfers of Thoroughbred Cattle.

[See also page 228.]

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Ashland Boy, W C Myer, A M Marshall		
Earl of St Lambert, A L Heyer, T O Bullock		
Billy Covington, F M Leigh, A M Lawrence		
Blonde Master, J W Duran, J Connors		
Brookview, S McKeen, W H Shaw		
Brown Dick, W G Beard, J W McCarty		
Champion of Texas, S S Cannon, H V Prather		
Commassie Dick, W H Gregg, C M McGaughan		
Covenascue Chief, S H Lindley, G H Baxter		
Daddy's Kolbee, W Gethye, J B Flemister		
Dan Drummer, N K Jardine, J D Peck		
Daniel Pratt, H L Pierce, H S Russell		
Duke of Rosslawn, A P Ross, J L Welday		
Fancy Linwood, W H Gordon, J M Lowe		
Golden Crystal, A T Dewdney, C G Harger		
Gold Coffee, S M Burnham, H Sanford		
Gregory, C Cornby, Jr, A McKinney		
Hathaway's Duke, Garretson Bros, S Hathaway		
Jerry's Mister, S W Talliferro, L M Lead		
Khedive's Fancy's Son, B B Bullock, G F Voorhies		
King of Jefferson, M Cone, J Coyne		
King of West Grove, S C Kent, J A Pyle		
Mallory's Jumbo, H Harnden, H Sanford		
Mozette's Alamo, J M Bethany, J G Wessendorf		
Mr Adam, M Cone, D Peters		
Pompey's Exile, P J Cogswell, H P Clapp		
Prince Tom, J Woodruff, F J Judd		
Promoter, R S Hickman, P D Lindsay		
Quanapowit, L N Kendall, W H Wood		
Royal George of Texas, J C Turner, A A Carter		
Royal Hugo Jeannaise, W Cannon, W Cleveland		
S Heller of Trout Run, A A Weimar, J B Groh		
Tostmaster, S W Talliferro, L M Lead		
Tramp, Richardson Bros, W H Foster		
Weygatt, H A Sage, L M Chaney		
Young Robin Hood, N Robins, C A Campbell		
Alphea Fancy, J O Anderson, W J Hysham		
Angelina's Blossom, C H Jones, J Fitzgerald		
Angeline's Minnie, J B Prather, M T Dodson		
Anna Lottingwell, J Manwaring, J C Lottingwell		
Arline Hudson, W W Cowles, P Cheney, Jr		
Aspa, D S Dewolf, J W Burt		
Bambina Rex, T W Hunt, J P Lum		
Beauty of Whitelands, N K Jardine, J D Peck		
Beecheut of Gyrsilyn 3d, D S Dewolf, T W Burt		
Belatrice 2d, J F Duran, W S Saunders		
Belle Almont, W F Springer, W Carpenter, Jr		
Belle Bloom, H T Allen, J Moore, Jr		
Belle Lawrence, J T Ewing, H Wetstein		
Belle St Heller and Bertha of Ingleside, W Gethye, J B Flemister		
Bertha Richmond, W F Springer, W Carpenter, Jr		
Betta Alton, H Miner, Jr, Mrs H L Griffin		
Bicara, H A Sage, L M Chaney, W H Wood		
Black Diamond's Dolly, I D Risher, J J Kurtz		
Bonadeina, Phillips & Barr, C H Smith		
Briscoro, G R Atkins, A G Atkins		
Buttercup of Gilvilyn, D S Dewolf, T W Burt		
Campania Richardson, Bros, G H Eastman		
Carrie Wells, W J G Dean, G W Hibbins		
Chief's Malita, W A Banks, J F Godman		
Chippewa's Florence, J B Hartwell, D O Crippen		
Clara of Westtown, N K Jardine, J D Peck		
Composer's Cricket, Mrs M G Stephens, J G Wessendorf		
Daisy Gold Bar, W H Sutliffe, R A Potter		
Daisy Wells, G W Hibbins, C A Ford		
Dell Rex, J O Anderson, W J Hysham		
Dixie of St Lambert, J Manwaring, J C Lottingwell		
Dorette Parks, L B Kendall, W B Wood		
Duke's Clara, Est of H S Alexander, W M Derby		
Elegant Id, S W Edwards, L Wells		
Ella of Parker Vale, J F Duran, J B Winston		
Ella Grayson, W H Smart, H N Stacel		
Ella Rosewood's Daisy, S McKeen, F E Shaw		
Exile's Belle of 17th, Exile's Cora of 17th, Exile's Maggie Golden and Exile's Pride of 17th, P J Cogswell, C W Tannahee		
Fancy Fancy, W F Springer, W Carpenter, Jr		
Fawn Poets, W Garrison, S H Evans		
Floriole 2d, B Clay, J M Tanner		
Furnas, D S Dewolf, J W Burt		
Gazelle Brisk 2d and Gazelle Rome, S McKeen, F E Shaw		
Glory of Hill Top, H A Sage, L M Chaney		
Golden Rose of Ascheatorsly, O A Wylie, W H Wylie		
Happy Charles, A L Heyer, T O Bullock		
Heroine, J T & W S Hyslop, J Taylor		
Hignite' Pet, J W Berkley, Mrs H B Higgins		
Ida's Fancy, J V Le Moyne, J E Gallingham		
Island Fancy, J O Anderson, W J Hysham		
Khedive's Boadicea, Phillips & Barr, W E Hunt		
Khedive's Daisy, Khedive's Mabel and Khedive's Mamie, D J Phillips, W E Hunt		
King's Maid, W Gethye, J B Flemister		
Kitty Potter 4th, R A Potter, J H Thatcher		
Lady L of Sunny Side, A F Ball, A Holland		
Lady of St Cloud, G B Atkins, A G Atkins		
Lady Stephanie, J C McCoy, G L Williams		
L'Allegretto, W Gethye, J B Flemister		
Leolanete, G M Tallcot, H O Silliman		
Lillie of Lee Farm, A P Ball, A Holland		
Lily of Gyrsilyn 3d, D S Dewolf, J W Burt		
Lily Vance, A W Covert, L D Covert		
Lily Waite, W J G Dean, G W Hibbins		
Lorne's Countess 2d, J Carroll, H M Hollwell		
Lulu May, H A Chase, J G Talbert		
Lydia B, D S Dewolf, J W Burt		
Madame Setzgate, J F Duran, W S Saunders		
Marie of Texas, H M Connor, H V Prather		
Marine, Richardson Bros, G H Eastman		
Matilda of Hill Top, H A Sage, L M Chaney		
Medeola 2d, A L Heyer, T O Bullock		
May's Annie Rex, B Clay, J M Tanner		
Melrose Lassie, D Q Fay, Mrs N De L Rader		
Minnie H Poets, Est of D A Stewart, K F Thomas		
Miss of Ocean Springs, W H Stuart, W L Steel		
Modine, F Kenyon, S H Norton		
Nellie Stanton, W H Gregg, C M McGaughlin		
Noonie Poets, Est of D A Stewart, K F Thomas		
Ora Rhedive, Hemphill Farms, A D Flint		
Pansy Bowling, T W Stringer, A G Gooch		
Pattie Emma, S Hitchey, S Hitchey		
Pet Poets, W S Hunt, W Carpenter, Jr		
Pride of Hill Top, H A Sage, L M Chaney		
Qualboa M, E Morris, G Payne		
Queen Damaris, G Brown, C Sackett		
Rosalie 2d, H Harrison, H Sanford		
Ruth's Bertie, J C McCoy, G L Williams		
Sultana W, H H Green, A Horton		
Santa Myra, C Wellington, N W Bradford		
Sarah V, F Kenyon, W H Norton		
Sartilla, H J Lewis, C P Ives		
Schonheit, E E Brockenridge, J H Hoyt		
Spray of Ingleside, W Gethye, J B Flemister		
St Helier's Mel, A L Heyer, T O Bullock		
Thelma, J C McCoy, G L Williams		
Thralia, D S Dewolf, J W Burt		
Utopia Belle, F Kenyon, L K Norton		
Velvet Eddington, G R Atkins, Comtesse H de Mottke Heinfeldt		
Vision, J O Anderson, W J Hysham		
Welcome Bowen, N K Jardine, J D Peck		
Yortonde, C E Brockenridge, J H Hoyt		

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Record of the Times.

The Weather, Crops and Prices.

Meteorology for March 10-16.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30.32 inches.
Lowest	do.	do.	29.85 do.
Mean	do.	do.	30.08 do.
Highest temperature	do.	do.	57°
Lowest	do.	do.	24°
Mean	do.	do.	34°

Three clear days; two fair; two cloudy. One day on which rain or snow fell; total precipitation, 0.08 inch. Prevailing wind, W.; maximum velocity 26 miles per hour, W., on the 11th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	10th	11th	12th	13th	14th	15th	16th
Day	30°	31°	34°	42°	34°	34°	41°
This year	37°	32°	34°	42°	34°	34°	41°
Normal	31°	32°	30°	29°	31°	30°	31°

Total excess for the week, 18°.

General Review of the Week.

The week ending March 16 has been warmer than usual in all sections, except in the South Atlantic and Gulf States, where the average daily temperature has been from 2° to 4° below the normal for the week, and in Florida from 7° to 10° below. It has ranged from 1° to 4° above the average in New-England, the Middle Atlantic States, and the lower lake region, and in the wheat region of the Mississippi and Missouri valleys. The season, from Jan. 1 to March 16, is from two to four days late in the cotton region, and from two to six days in advance in the Northern States east of the Mississippi river. In the Northwestern States it is now from one to three weeks in advance.

There has been a deficiency in the rainfall for the week in all districts, except in North and South Carolina, where there has been a considerable excess. The only places where there has been any considerable rainfall are in the South Atlantic States and on the Pacific coast. The seasonal rainfall is largely in excess on the Atlantic coast from Virginia to Florida, in Eastern Texas, and in Minnesota and Dakota. There is a slight deficiency in the New-England States and the central valleys.

The conditions in Dakota and Minnesota have been about the average for plowing and seeding, but work was interrupted in Dakota by blustering weather from the 12th to the 16th. The weather has been favorable in Illinois, Missouri and Kansas. Seeding conditions are favorable in Nebraska. Wheat is reported as doing well in Kansas, and the favorable effects of fair weather have been felt in Missouri and Indiana. High day temperature and freezing nights, and a deficiency in rainfall, should be injurious to wheat in Michigan, in the southern portion of which State snow has disappeared. The crop prospects continue excellent in Kentucky, Arkansas and Tennessee, where the spring planting is well under way. The winter wheat is reported as looking very well throughout New-York and Pennsylvania, the frost is out of the ground in Southern Massachusetts, and planting is in progress in New-Jersey. Favorable reports have been received from the South Atlantic and Gulf States, where the spring planting has made excellent progress, the cane planting being nearly completed in Louisiana. There have been three light frosts in this State during the week, but they have resulted in no damage. There have been no adverse reports received from any section, and the week has, in general, been favorable for farm work in most districts.

New-York—*Allegany Co., March* 13.—Weather very mild, sleighing gone. Sugaring commenced; sugar orchards badly damaged by wind storms last summer. Potatoes 15c. per bush.; eggs, 18c. per doz.; butter, new 28 to 35c. per lb.; oats, 30c. per bush.; cows, $25 to 30 per head. W. e. v.

New-Hampshire—*Dover, Stafford Co., March* 11.—The first days of March were fine; since then a week of rough weather with high winds and snow squalls. The snow is nearly gone, and wheels are in use. The indications of an early spring are quite promising. There is little frost in the ground, little snow at the north, and various spring birds are already appearing. The farmers' institutes and meetings under the auspices of the grange have been well attended here during the winter, and farmers are taking a renewed interest in their occupation. There is plenty of hay among farmers, the continued pleasant weather not having made such inroads on the mows as do colder seasons. The milk producers, union has done a good work in our State, and the prospect is that farmers will realize more than usual the coming summer for milk sent to the Boston market. J. H. S.

Ohio—*Mechanicsburg, Champaign Co., March* 11.—Weather fair; mercury 18° below freezing this morning; quite hard on wheat. March so far has been changeable; light snows, which soon melted, and cold, chilly winds. I predict an early spring because of the cold February and the past ten days of March. When good weather does come it will be apt to stay. Though there have been many assignments lately I think that everything will look brighter in a few weeks, and times will be better than for several years. Butter, 18c. per lb.; eggs, 11c. per doz.; potatoes, 45@50c. per bu.; corn, 38c.; dry cows, 2½c. per lb.; steers, 3½@4c.; hay scarce and in good demand. S. W.

Wisconsin—*Janesville, Rock Co., March* 12.—The weather is remarkably fine and constant for March. To-day is sunny and warm. The mercury is now—4 P. M.—at 58° above. No present indication of a storm. Tobacco is on the move; many loads are coming in daily to the various warehouses. Prices are stiff, a little on the rise. Wheat is very gradually lowering. Corn and oats are better; so is hay. Cattle are quite dush to the demand and prices are steady, though at last week's quotations. Hogs are off 30@ 20c. Some business failures reported. Health and business poor. Wheat, 70@80c. per bu.; barley, 46@ 55c.; corn, 26@28c.; rye, 44c.; oats, 26c.; potatoes, 45c.; apples, $1.70@2.25 per bbl.; butter, 18@21c. per lb.; eggs, 13c. per doz.; hogs, $4@4.30 per cwt.; dressed, $5.50; hay, $8@7.50 per ton; tobacco, 2½c., 3½c., 4½@14½c. per lb.; quality fair so far. w. s.

Review of Passing Events.

A Singular Accident—Occurred a few days ago at the extensive works of the Richardson Mfg. Co., at Worcester, Mass. A section of the floor of a great storehouse broke through and fell into the underground brook (used as a sewer), carrying with it three or four hundred Buckeye mowing machines, which had to be subsequently fished out one by one. Business has been brisk since October, and 26 machines are being turned out daily. One small storehouse had been filled with 800 machines before the big one was brought into use, and since then the daily output has been stored in this building. Over 2,500 machines had been packed away ready for the market, and as each one weighs 250 pounds, an idea of the immense weight may be obtained. Some of the fallen machines were brought up entirely uninjured, while others are total wrecks, and will have to be melted over and recast. Every one will be thoroughly overhauled and tested before leaving the works. That any of them escaped total ruin, is suggestive of the strength with which they are built, well fitting them to resist the stress of any ordinary usage.

Political.—Among President Harrison's nominations last week are the following: Minister to Spain, Thomas W. Palmer of Michigan; to Japan, John F. Swift of California; to Switzerland, John D. Washburn of Massachusetts; to Italy, Ex-Governor A. G. Porter of Indiana; to Denmark, John A. Evander of Illinois; assistant secretaries of the treasury, Geo. C. Tichenor of Illinois, and George S. Batchelor of New-York; assistant secretary of State, Eugene Schuyler of New-York; first-assistant postmaster-general, James S. Clarkson of Iowa; assistant secretary of the interior, Cyrus Bussey of New-York, examiner of claims, State department, Walker Blaine; governor of Dakota, A. C. Mellette of Watertown, Dakota; governor of Arizona, Lewis Wolfley of Tucson, Arizona; commissioners to the Samoan conference at Berlin, John A. Kasson of Iowa, William Walter Phelps of New-Jersey, George H. Bates of Delaware.—Before the ceiling committee of New-York Assembly (whose time has been extended), Contractor Sullivan testified he did not know that Smith had no right to sub-let the staircase repairs. Barry, an inspector, was paid $5 per day by the State for keeping time of the contractors' men. G. M. Hill, civil engineer, estimated overcharge on ceiling, &c., at nearly $120,000; on labor alone, over $63,000. Private accounts of Speaker Cole and Mr. Sheehan were examined and found satisfactory. Members of original committee admitted negligence on their part.—A motion to make the Saxton ballot reform bill a special order for *March* 21 was defeated by a party vote, and a substitute introduced, said to be prepared by Gov. Hill. It permits use of unofficial ballots, and reception of voluntary contributions by candidates for office, and applies to all elections. Bills introduced: To appoint commission to consider enlarging limits of New-York City, to include Brooklyn, Richmond county, and parts of Queens and Westchester; appropriating $9,500,000 for completion of Capitol, under commission consisting of Gov. Hill, Lieut.-Gov. Jones and Speaker Cole.—The Supreme Court of West Virginia has decided against General Goff's claim to the governorship, because the legislature has failed to declare the results of the election, and against President Carr of the State Senate as having no claim.—Indiana has passed a ballot reform bill based on the Australian method.—At the town elections in New-Hampshire, March 12, the prohibition amendment was defeated.—The municipal woman suffrage bill has again been rejected in the Massachusetts legislature.—Committees from eight western legislatures met at St. Louis, March 12, to confer on measures to break up the alleged dressed-beef trust of Chicago and Kansas City.

From Abroad.—At a banquet given to Mr. Parnell, March 13, Mr. Morley presided, and said the time was near for the Irish question to be settled on the basis of truth and the golden rule. Mr. Parnell said it was time for the 86 Irish members to give attention to affairs of the empire, but they were pledged first to obtain the just rights of Ireland. Her future should not depend on the publication of a forged letter on the morning of a great division, nor should the government leave the investigation of grave charges to amateurs.—The case for The Times was concluded before the Parnell commission, March 13. At request of Sir Charles Russell, counsel for the Parnellites, William O'Brien and Timothy Harrington were ordered released from prison, and court adjourned to April 2.—Henry Campbell, private secretary to Mr. Parnell, has sued the London Times for libel.—Over a quarter million persons have signed a protest against the government's Irish policy.—The Kennington election, March 15, resulted in favor of Mr. Beaufoy, Gladstonian candidate, by 630 majority.—The American base ball teams played on Kennington Oval, March 12, and were received by the Prince of Wales.—Lord Tennyson is slowly recovering from a severe illness.—After bitter debate the French Parliament voted, March 14, to sanction the prosecution of its members who belong to the Patriotic League. Three duels were likely to follow.—The losses of the French copper ring are said to be enormous.—Dr. Peters, commander of the Emin Relief Expedition, left Alexandria, Egypt, March 14, on his way to Zanzibar.—Letters received at Berlin from Zanzibar say that natives report Stanley to be marching rapidly to the east coast of Africa.

Minor Items.

A large number of Arab immigrants have recently reached New-York.

The New York college of Veterinary Surgeons sent out 21 graduates last week.

Fall River, Mass., weavers, to the number of 6,000, are on a strike for higher wages.

Jay Gould reports last year to be the worst in railroad business that he has ever known.

A. J. Drexel will found an industrial college for women at Wayne, Pa., to cost $1,500,000.

Georgia has completed her State house, with $200,000 of the original appropriation to spare.

Alfred Post, who ran a freight-claim bureau in Chicago, has disappeared with liabilities of $300,000.

Mr. Cleveland has been elected to the New-York Bar Association. He takes a trip to Cuba this week.

The government of Newfoundland has denied to American fishermen the right to buy bait there.

A boiler in the Cleveland Rolling Mills exploded, March 11, killing two persons and injuring eleven.

The Pennsylvania railroad has recently acquired large water frontage at Camden and at Communipaw, N. J.

A boiler exploded in the West Point Boiler Works, Pittsburg, March 14, killing five men and injuring thirteen.

The trial of Thomas B. Kerr, New-York, for bribery of aldermen in 1884 ended, March 15, in a verdict of not guilty.

Clifton Hall, Lakewood, N. J., was burned early, March 11, the 60 guests and 20 servants escaping in their night clothes.

In Press the Great Reservation and Milk River Valley.

Send two cents in stamps to F. I. Whitney, General Passenger and Ticket Agent, St. Paul, Minneapolis & Manitoba Railway, St. Paul, Minnesota, and get the new book on the Great Reservation and Milk River Valley of Montana, giving account of the soil, climate, stock raising, grain raising, mining, timber and other resources of Montana. Finely illustrated with views of Montana scenery.

The Milk River Valley.

Settlers going to take free government homesteads in the Great Reservation and Milk River Valley should, if possible, take along the following articles: A small tent for shelter until the dwelling can be erected; plenty of blankets and other useful articles. Settlers are coming in so fast at Chinook that boarding houses are crowded, but another hotel will go up there this week. There is one livery stable, but the horses are worked nearly to death, showing land-seekers government land. Another outfit with seven teams will go in a few days. Claims are being taken rapidly, all around the town.

Government Land in Montana.

Sixteen thousand acres of government homesteads and pre-emptions have been taken by eager settlers at Great Falls, Montana, since Jan. 1. Twenty Ohio families have settled between Box Elder and Belt creeks, while a large Iowa party have taken claims near by, and the head of the party has gone home to bet haste to get fourteen families more. The weather has been very fine. Farmers have been plowing and sowing crops for several weeks. A number of energetic, public-spirited citizens, headed by Mayor Paris Gibson, are doing all they can to find good, free homesteads and pre-emptions, for the incoming settlers.

Montana is Cheerful.

A large acreage of wheat sown, and now settlers arriving daily.—*The Mines.*

SPECIAL TO THE GLOBE—*Great Falls, Mont., March* 8.—Plowing and wheat sowing are progressing rapidly here, and a larger area than ever is being cultivated. Settlers are arriving daily in large numbers, and at least 16,000 acres of the public lands have been located in Cascade County during the past two months. The condition of stock is most excellent, and the tendency of prices both of cattle and sheep is upward. The output of coal from the Sand Coulee mines is increasing, and is giving excellent satisfaction. Much interest is felt in the silver districts of the Belt mountains, and some very important discoveries have recently been made, both in the Barker and Wolf Creek districts.

Flax is becoming a large industry in Dakota, and it is proposed to erect a factory for manufacturing binding twine from it.

The City of New-York made her first trip this year from Liverpool to New York in 6 days, 14 hours and 31 minutes—her fastest.

Postmaster Roswell Beardsley of North Lansing, N. Y., is 90 years old and hale and hearty. He was appointed by John Quincy Adams in 1828.

The trial of Lehigh Valley Railroad employés charged with causing the Mud Run disaster last October, began at Mauch Chunk, Pa., March 12.

Successful experiments in killing by electricity have recently been made in New-York on dogs, calves and a horse. The alternating current was used.

William F. Rich, foreman of Harper & Brothers' composing room, New-York, died March 13, aged 68. His connection with this firm began in 1838.

The Howard Memorial Library of New-Orleans was opened March 8. It was the last work of the architect Richardson, himself a native of Louisiana.

Masked robbers have been binding, gagging and torturing people in Fayette county, Pa., to obtain money, and mounted farmers are now in pursuit of them.

A new building of granite and limestone, 16 stories high, is planned to be built on Nos. 5 to 11 Broadway, New-York, to contain 900 offices and to cost $2,295,000.

Engineers Turner and Risley have been found responsible for the Hartford, Ct., hotel disaster, and are held for trial. The boiler was sound but safety valve out of order.

New-York police made a descent on an East Side sporting club, March 11, and captured 66 young athletes engaged in prize fighting. Bail was refused and they were locked up.

The total amount of press matter sent from Washington, March 4, was 855,563 words. The Pennsylvania road carried 105,000 excursionists to the city, using 210 trains of 10 cars each, without accident or unusual delay.

The story of new gold discoveries in Lower California is now pronounced false, but the "great dailies" do not explain on whose authority they printed the first despatches. The same is true of the murders in Yellowstone Park.

The anniversary of the blizzard of March 12, 1888, was noted by reproduction of articles and pictures in the newspapers, and by the Brooklyn Academy of Photography with a series of 136 photographic views. March 12, this year, was mild and pleasant.

Capt. T. W. Dawson, editor of the Charleston, S. C., News & Courier, and a leading citizen, was shot and killed March 12, by T. B. Melbow, a disreputable physician, while remonstrating with the latter for paying attention to a nurse-maid in D.'s employ.

The younger Bergh has been compelled to resign the presidency of the society for the Prevention of Cruelty to Animals, New York, by the board of managers, because of failure to consult with them, and James M. Brown of Brown Bros. & Co., bankers, was elected in his place.

The Chicago division of the Wabash Railway was sold by receiver, March 11, to the Purchasing Committee at Springfield, Ill., for $3,500,000. The Wabash went into bankruptcy five years ago. After all the divisions are bought in, the system will be turned over to the Wabash Western Co.

Milwaukee is much excited over the enticement of little girls into Chinese laundries and opium dens; 23 children, from 8 to 14 years of age, have appeared in court. On their testimony two Chinamen have been held for trial. Other Chinese have been hunted by mobs and some of the laundries gutted.

A sale of colonial documents and autographs belonging to the late Mrs. Jameson took place in Boston recently. Signatures of Ethan Allen, John Quincy Adams, Benedict Arnold and Gen. Burgoyne brought from $25 to $50; a thanksgiving proclamation by President Washington, dated Oct. 3, 1789, brought $100.

James Wayne, a Hartland (N. Y.) farmer, has been indicted for not destroying peach trees having the yellows and condemned by the peach commissioners. This law declares the yellows a nuisance and authorizes the supervisor of each town to appoint three peach commissioners, whose duty it shall be to inspect orchards and order the removal of infected trees. This case will be made a test one, and will no doubt determine the constitutionality of the law. Although Michigan passed a law similar to this several years ago, no cases have ever come up under it. It is understood that a similar law has just been passed in Delaware.

Great Falls Facts.

Great Falls, Mont., Special Telegram, March 6.—Mr. McShane, manager of one of the largest cattle companies in the Judith Basin, has just arrived in town. He reports stock to be in better condition than it has been for many years. A large increase in calves is expected. Green grass has made its appearance on the high prairie and foothills.

Farming operations are being pushed forward with much vigor around Great Falls. The great flour mill has sold No. 1 hard seed wheat. The acreage sown this year will be at least four times as much as it was last year. It is understood that the Minneapolis millers will soon build elevators along the Manitoba road in Northern Montana.

Immigrants are arriving daily and taking up good land.

Our columns carry the advertisement of a product called "Expanded Metal," which on account of the unique mode of manufacture is attracting a great deal of attention. It is produced from heavy sheet steel in machinery which first cuts it in alternate slits, and then pushes it out into diamond shaped meshes, resembling woven wire in shape, but vastly stronger and more rigid. With its use a fence can be made three feet high in panels eight feet long, combining great strength with a very handsome appearance. Made in different size meshes it is equally adapted for window and skylight guards, tree boxes, trellises, door mats, &c. It enables every carpenter to be his own wire worker, for with a stock of metal in sheets he is equal to any job likely to come up. We advise readers to send for a price list.

We would call attention to the advertisement of Prof. J. A. Lawrence, in this paper, who sends a free recipe to any Catarrh sufferer.

This hair may be thickened, weak hair strengthened, and the color restored to gray hair, by using Ayer's Hair Vigor.

That tired, debilitated feeling, so peculiar to spring, indicates depraved blood. Now is the time to prove the beneficial effects of Ayer's Sarsaparilla. It cleanses the system, restores physical energy, and infuses new life and vigor into every fibre of the body.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a recipe which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 88 Warren St., New-York City, will receive the recipe free of charge. [oct15ow1yr

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [nov28-26t

CONSUMPTION CURED.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive, and a desire to relieve human suffering, I will send, free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYES, 149 Powers Block, Rochester, N. Y. [oct7-26t

Farm Produce Markets.

Albany Markets—March 18.

FLOUR.—The Argus says: Market has remained unchanged with fair receipts.

	March. 16.	March 17.	March 17.
Com. State	$4.70@4.70	$4.70@4.70	$4.70@4.00
State Straight	4.75@4.90	4.75@4.90	4.75@4.90
Kans. Middle & W.	5.00@5.00	4.90@5.00	4.85@4.90
C., Ind. & St. L. R'y.	5.00@5.25	5.00@5.25	4.85@4.90
Winter W. Pat.	5.00@5.00	5.00@5.00	4.75@5.15
Minn. "Bakers"	5.00@5.50	5.00@5.50	4.85@4.95
Spring W. Pat.	5.00@5.25	5.10@5.25	4.85@5.15

Rye Flour in fair demand at $3.00@3.25 per bbl. Graham, $4.00@4.50. Oat Meal in moderate demand at $3.10@3.40 per bbl. Corn Meal dull: Rye family at $3.00@3.75 per bbl. Buckwheat Flour, $3.10@3.40 per 100 lbs.

GRAIN.—Corn in moderate demand; No. 2, 44@45c.; No. 3 mixed, 42@43c. Oats unchanged; No. 2 white, 34@35c.; No. 3 white, 33@34c. Rye quiet and steady at 62c. per 56 lbs. Barley unsettled; Canada, 70@75c.; two-rowed State, 69@71c.

HAY AND STRAW.—Receipts better; demand active. Timothy, best, $18@17.50; medium, $13@14; clover, $10@11, mixed, $11@12; rye straw, best, $16@16; oat straw, 8@9.

HOPS.—Business light and few shipments.

N. Y. State, 1888, choice	18 @20c.
N. Y. State, 1888, common to good	15 @16
N. Y. State, 1887, all grades	8 @11
Pacific Coast	16 @20
German	30 @40

Albany Street Market—March 18.

BUTTER.—Good to choice, 23@26c. per lb.

EGGS.—Near-by and new laid, 18@20c. per doz. Western, 18@19c.

FRESH MEATS.—Steer beef, hindquarter, 9@11c. per lb.; forequarter, 6@8c.; mutton, hindquarter, 9@11c.; forequarter, 7@9c.; lamb, hindquarter, 12@15c.; forequarter, 7@9c.; veal, hindquarter, 12@16c.; forequarter, 7@9c.; pork, 7@9c.; sausage, 11@13c.

POULTRY.—Fowls, 16@18c.; turkeys, 18@19c.; geese, 14@15c.; ducks, 15@16c.

MAPLE SUGAR.—12@13c. per lb.; syrup, 60@70c. per gallon.

FRUIT.—Apples, $1.50@1.75 per bbl.; Cranberries, $2.50@3 per crate; Grapes, Catawba, 25@30c. per lb.; Walnuts, $1.25@3 per bus.

Montana Shipments in 1888.

Eight Million Five Hundred Thousand Pounds.

Between the 1st of June and 1st of October, the St. Paul, Minneapolis & Manitoba Ry. shipped out of Montana wool as follows:

	Pounds.
From Fort Benton	1,783,400
From Great Falls	902,510
From Grunsdale	137,161
From Big Sandy	174,170
From Belfield	11,300
Total	2,994,961

These figures are taken from that bright publication, the Montana Wool-Grower, Benton. Rapid as has been the growth of the sheep interest in Montana, it can be expected to henceforth develop with gigantic strides, as an immense immigration is now setting in for the best stock-raising part of the Territory, near Great Falls, Benton, and the new town of Chinook (Dawson), in the Wonderful Milk River Valley, the present Mecca of settlers in search of Government land.

VEGETABLES.—Beets, $1.50 per bbl.; Carrots, 40@50c.; Cabbage, $1@3 per 100; Cauliflower, $2.50 per bbl.; Celery, 6@8 per doz. bunches; Lettuce, 40@50 per box; Onions, $1.25@1.50 per bbl.; Oyster-plant, 6@8 per doz.; Parsnips, $1@1.25. Potatoes, $1.25@1.50 per bbl. Sweet, $2@3; Madeiras, 75@80c. per doz.; Spanish, $3 per bbl.; Squash, 2@3; Turnips, 10c.@$1.

New-York Markets—March 16.

BEANS—Marrow, 1888		2.00 @	2.10
Medium, 1888, choice		1.70 @	1.75@2
Pea, 1888		1.70 @	1.75@2
COTTON—	Quotn.	M.O.A.	Quot
Ordinary, per lb	7@8	— @	7¾
Middlings	10¾	— @	10¾
Fair	13	— @	13¾
EGGS—State and near-by, per doz		— @	21
Western and Canada		18@19 @	19¾
FLOUR—Spring Wheat pat., per bbl		4.10 @	4.60
Winter		3.25 @	3.80
No. 1 extra State and Western		3.50 @	3.70
No. 1 extra		4.20 @	4.50
Minnesota patent		4.75 @	5.15
Straight		4.50 @	4.75
Rye Flour, superfine		2.90 @	3.00
Corn Meal		1.60 @	2.00
Buckwheat Flour		1.60 @	1.60
FRUIT—Apples, Baldwin, per bbl		1.25 @	1.75
Greenings		1.25 @	2.00
Baldwins and Spy		1.25 @	2.00
Cranberries, Jersey, per box		— @	1.75
Grapes, Catawba, per lb		3 @	4
Oranges, Florida, choice, per box		— @	3.25
Fair to prime		2.00 @	3.00
Strawberries, Fla., per qt		40 @	60
Walnuts, per bush		80 @	1.00
Black Walnuts		60 @	75
Peanuts, per lb		4 @	5
DRIED—Apples, sun-dried, per lb		3@4 @	4¾
Evaporated		5 @	6¾
Peaches, sun-dried		5 @	9¾
Evaporated		8 @	15
Plums, Southern		3@4 @	7
Cherries		12@13 @	16
Blackberries		10 @	14
Raspberries		20 @	25¾
Huckleberries		10 @	—
GRAIN—Wheat, State white, per bus		1.00 @	1.00
Ungraded spring		91¾@	95¾
No. 1 red, winter		1.03 @	1.07
No. 2 red, winter		90¾@	90¾
No. 1 hard, spring		— @	—
Corn, No. 1, white		— @	50¾
No. 1, mixed		48¾@	49¾
Oats, No. 2 white		32¾@	33¾
No. 3 mixed		29 @	30
Barley		70 @	85
Buckwheat		50 @	53
Rye, State and western		61 @	66
HAY—Timothy, per 100 lbs		85 @	90
Shipping		— @	—
Clover		— @	—
Straw, long rye, No. 1		60 @	65
No. 2		50 @	55
Oat		40 @	45
HOPS—N. Y. State, 1888, choice, per lb		21 @	22
Good to prime		18 @	20
Best, 1887		10 @	11
Pacific Coast, 1888, best		10 @	11
Pacific Coast, 1887		7 @	11
German		35 @	40
POULTRY—Live fowls, per lb		11 @	11¾
Turkeys		12¾ @	13¾
Ducks, per pair		60 @	1.00
Geese, per lb		1.00 @	2.00
Dressed fowls, per lb		11 @	12
Chickens		11 @	21
Phila. broilers		11 @	21
Capons		19 @	20
Turkeys		13 @	15
Ducks, per lb		11 @	14
Geese		11 @	15
VEGETABLES—Asparagus, Charleston, per bunch		60 @	80
Beets, Barmuda, per box		1.00 @	1.00
Florida, per crate		1.00 @	1.00
Cabbages, L. I., per 100		4.00 @	5.00
Danish		1.00 @	1.50
Southern, per bbl		1.00 @	1.50
Celery, L. I. & Jersey, doz. bunches		1.50 @	2.00
Green peas, Fla., per crate		2.00 @	3.00
Kale, Norfolk, per bbl		75 @	1.00
Onions, State, yellow, per bbl		1.00 @	1.50
Orange Co., red		75 @	1.00
Conn. white		1.50 @	2.00
Bermuda, per bbl		2.00 @	2.50
Potatoes, Maine, per bbl		1.75 @	2.15
State, Burbank and White Star		1.60 @	1.80
Hebron and Rose		1.50 @	1.60
Long Island		1.75 @	2.00
Bermuda		3.00 @	3.50
Sweet, fancy		3.00 @	4.15
Spinach, Norfolk, per bbl		1.00 @	1.25
Squash, Hubbard, per bbl		2.75 @	3.00
Marrow		1.75 @	2.00
String beans, Fla., per crate		3.00 @	4.00
Tomatoes, Key West, per box		60 @	75
Nassau		60 @	90
Turnips, Jersey, Russia, per bbl		60 @	65

Cattle Markets.

NEW-YORK, March 18.

BEEVES.—Receipts, 11,800 head. The week opened with a steady feeling and a stronger tone in sales, the supply being liberal. This condition was seen on Wednesday, when the animals were light. Friday the supply was liberal and trade slow. The markets closed weak. The herds sold were in quality from very poor to fair. Those held for export ranged from coarse to good. Our top quotations were not reached for local trade.

[Per cental, gross.]	This week.	Last week.
Good beeves	$3.75 @ —	$3.90 @ —
Fair	3.50 @ —	3.60 @ —
Coarse	3.00 @ 3.25	3.00 @ 3.25
Poor	2.00 @ 2.50	2.00 @ 2.50

Montana's Wealth

AWAITS

The Farmer, The Merchant,
The Stockman, The Laborer,
The Miner, The Banker,

The Manufacturer.

AN EMPIRE OPENED FOR SETTLEMENT.

Comprising rich Agricultural and Grazing Lands, Gold, Silver, Copper, Lead, Iron and Coal Mines. Climate unsurpassed. Made easy of access by the ST. PAUL, MINNEAPOLIS & MANITOBA RY., which places in service, beginning NOV. 18th, a train equipment unexcelled, furnishing Splendid Day Coaches, Palace Sleepers, Free Colonist Sleepers and Superb Dining Cars of latest design, running train through solid from St. Paul and Minneapolis to Great Falls, Helena and Butte, Montana.

For Maps and general information, inquire of your own Ticket Agent, or

F. I. WHITNEY,
GEN'L PASS. AND TICKET AGT.,
St. Paul, Minn.

[Per cental, gross.]	This week.	Last week.
Good beeves	$4.25@4.40	$4.25@4.40
Fair	4.00 @ —	4.00 @ —
Coarse	3.50 @ 3.75	3.50 @ 3.75
Poor	3.00 @ 3.25	3.00 @ 3.25

MILCH COWS.—Receipts, 115 head. The tone has somewhat improved, and sales have been more readily effected; 30 cows sold at $25@40 per head, 27 at $45@55 per head, and 13 at $60@80 per head.

VEALS AND CALVES.—Receipts, 1,170 head. The week opened with a recovery in values of ½c. per lb., followed on Wednesday by a further advance of ½c. per lb. The markets closed steady on Friday. Calves have been very scarce; none were received on Wednesday. Range of prices: Calves, grass-fed, $4.50@5.25 per cwt.; western calves, 3½@5½c. per lb.; veals, 6@7½c.

SHEEP AND LAMBS.—Receipts, 9,975 head. On Monday last values recovered ½c. per lb., which on Wednesday was lost, the supply being liberal and the demand slow. Thursday values again declined 10c. per cwt. The feeling was better on Friday, when the markets closed steady. The spring lambs offered were from poor to fair, and were slow of sale, on a decline of 25c. per head. Range of prices: sheep, 3½@5½c. per lb.; ewes, 5c.; lambs, 6@7½c.; shorn lambs, 4½@5½c.; spring lambs, $4@5.50 per head, and a few at 6½ per head.

SWINE.—Receipts, 25,310 head. Lent is always a bad time for trade in hogs—the consumption falls off and values are not sustained. The week opened dull and closed with a decline of ¼c. per lb., at Jersey pens, 132 lbs., 5½c. per lb.

BUFFALO, March 16.

[Per cental, gross.]	This week.	Last week.
Extra steers	$4.15@4.45	$4.15@4.45
Best butchers'	3.75@4.00	3.75@4.00
Second quality	3.25@3.60	3.25@3.60
Poor to medium	2.75@3.00	2.75@3.00
Stockers, light	2.25@2.60	2.25@2.60
Stockers, good to choice	2.75@3.00	2.75@3.00
Bulls	2.00@2.25	2.00@2.25

Receipts, 3,400 head, against 12,250 last week. No really extra cattle here, and the few good enough for eastern buyers were taken at 5c. from last week's prices. Offerings principally butchers' cattle from Chicago, for which the demand was active, and sold mostly at a slight advance. Stockers quiet; light supply. Bulls in fair demand.

VEALS.—Receipts liberal; lower. Choice, $4.50@5; heavy-fed, $3.50@4.

MILCH COWS.—Heavy receipts of common; market quiet and lower. Extra, $60@65; good to choice, $40@50; common to fair, $20@35.

SHEEP AND LAMBS.—Receipts, 4,600. Active trading early, but at 30 to 35c. the heavy receipts toward evening, and buyers holding off—closed easy. Extra, $5@5.10; good to choice, $4.85@5; common to fair, $3@4.25. Lambs dull; offerings light; good to choice, $6.50@6.75; common to fair, $4@4.50.

SWINE.—Receipts, 20,600. Active; 15 to 20c. higher, with liberal offerings early in week, closing 15 to 20c. lower, and slow. Medium, Yorkers and pigs all sold at $5.05; stags and roughs, $3.50@4.50.

BOSTON, March 16.

BEEVES, NORTHERN.—Good oxen, dressed, 9@10c. per cwt.; fair to good, 8c.; second quality, 5@6 1-2c. WESTERN, Alive—Extra, 5c.; good to prime, $4.10@4.75; light to fair, $4@4.25.

MILCH COWS.—A few good at $45@60.

CALVES.—Good veals at 6½@6½c. per lb.

SHEEP AND LAMBS.—In lots at $5@5.40 per head. Spring lambs, 8@9c. per lb.

SWINE.—Western fat hogs, alive, 6@6½c. per lb; country dressed, 6c.; pigs, $3@3 per head.

Dairy Markets—March 18.

ALBANY.—Choice Butter in fair demand, slightly lower; receipts moderate. Medium grades selling fairly. State creamery, choice, 24c.; Western creamery, 17@23c.; State dairy, 20c.; fair to good, 18@19c.; Western dairy, choice, 18@19c.

Cheese unchanged. State factory, full cream, 12c.; dairy, good to fancy, 12@c.

NEW-YORK.—Butter in full supply, all grades. Receipts, 22,136 packages. Eastern creamery, fresh, 22@24c.; Western creamery, fresh, 21@24c.; State dairy, choice, 21@22c.; Western dairy, 18@21c.; Western factory, choice, 19@20c.

Cheese steady. Receipts, 13,889 boxes. Factory, best, 11½@12c.; good to choice, 10½@11c.; night-milk skims, 9@9½c.; Ohio flats, 11@c.

BOSTON.—Western creamery, extra, 23@24c.; extra firsts, 20@22c.; factory, 19@22c.; Vermont, extra, 23@24c.; dairy, choice, 18@19c.; Eastern creamery, good to choice, 20@21c.

Cheese, Northern, choice, 11@11½c.; Western, 11½@12c.; sage, 12@13c.

Wool Markets—March 18.

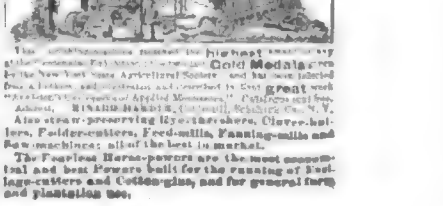
ALBANY.—Sales light; inquiry limited.

No. 1, Pulled ..... 30@32c.; Medium Fleece ..... 29@30
Super Pulled ..... 28@29; Fine Fleece ..... 26@28

NEW-YORK.—Ohio X & XX, 32@33c.; Michigan X, 30@32c.; combing, and delaine, 34@35c.; unwashed, 30@31c.; pulled, 40@45c.; Territory, 31c.; Montana, 32c.; Oregon, 18@23c.; do. secured, 30c.; California, 19@26c.; secured, 30c.; Texas, 20@24c.; secured, 27@28c.; Donskoi, 26@28c.

BOSTON.—Sales 2,000,000 lbs. Domestic and foreign. Ohio and Pennsylvania, X and XX, 32@33c.; Michigan, 30@31c.; Texas, 24@25c.; combing and delaine, 34@36c.; unwashed, 29@31c.; secured, 30@32c.; pulled, 30@35c.; Territory, 28@30c.; California, 30c.; Oregon, 18@23c.; Australian, 35@40c.

Apples and Onions.—J. C. Houghton & Co., cable, March 13, that in Liverpool American apples sold at the following prices: Baldwins, 9s. 6d. to 12s. 3d. per bbl.; Non Russetts, 12s. to 16s., Golden Russetts, 14s. to 17s.; American onions, 4s. 6d. Jas. Lindsay & Son cable that in Glasgow American apples meet with a good demand at following prices: Newtown Pippins, 10s. to 16s. per bbl.; Golden Russetts, 12s. to 16s; Baldwins, 12s. to 14s.; various other kinds, 12s. to 16s. DE LONG, MAYER & CO., *New-York.*



The [illegible] received the highest award for the [illegible] Exhibition, Cincinnati, 1888, and a Gold Medal at the New York State Agricultural Society, and has been selected from a thirteen years' experience and exercised in four great [illegible] Address, RICHARD HARRIS, Hartford, Schuyler Co., N. Y.

Also steam-preserving Kettles, Skimmers, Clover-hullers, Feed-cutters, Feed-mills, Fanning-mills and Saw-machines; all of the best in market.

The Fearless Horse-powers are the most economical and best Powers built for the running of Feed-cutters and Cutting-mills, and for general farm and plantation use.

The Fireside.

Their Mother.

My boy sat looking straight into the coals,
From his stool at my feet one day,
And the firelight burnished the curly head,
And painted the cheeks with a dash of red,
And brightened his very eyes, as he said,
In his most confidential way:

"Mamma, I think, when I'm a grown-up man,
I shall have just two little boys."
I smiled—he was six!—but he did not see,
And I said, "Why, yes, how nice that will be;
But if one were a girl, it seems to me
It would add to your household joys."

"Well—yes," reflectively, "that would be nice,
And I'll tell you just what I'll do;
I'll name one Robbie, for me, you know,"
Then the bright eyes shone with a deeper glow,
"And there's just the two of us now, and so,
I'll name the girl Annie, for you."

"But how would their mother like that?" I asked;
"Do you think that she would agree
For us to have both names while she had none?"
With the mystified, puzzled look of one
Wholly befogged, said my logical son,
"Their mother! Why, who is she?"

—*Good Housekeeping.*

March Vindicated.

"The ides of March are come." In this latitude, March and spring are not synonyms. Snowstorms are not out of date; zero not out of possibility; furs and winter wraps must hang conveniently near; the coal-bin door must work easily—for March air gives the stoves and heaters a good appetite.

March is like some people whom we meet. They have force of character enough to make them respected, but their manners do not tend to popularity. They have plenty of the *fortiter in re*, but are regarded as rather short of the *suaviter in modo*. They are too assertive and dictatorial and dogmatic to be very generally liked; but they are very useful in emergencies and ready when aggressive work is to be done.

This is somewhat the character March sustains in the calendar. Every one likes the work he does, though considerable exception is taken to his way of doing it. Feeble folk dread his rough manners and desire to escape the period of his activities. But there is some rough work to be done in this world, some preliminary and preparative stages before the rest and enjoyment of the period of fruition. And this is the province of March among the months. He is the pioneer of the year, and holds sway at its most critical time. It is his office to awaken Dame Nature from her long rest and call her active powers again into operation. He sounds the call for the resurrection of the vital forces, the commencement of productive energy, the formative period of the year. March starts the sap flowing through the trees, and sends his breezes to make the life blood in forest and orchard circulate freely. He freezes and thaws alternately the clods of the valley, and by a chemistry of his own prepares the soil for the fast approaching seed time.

Among the old Saxons the month was known as "length month," because the vernal equinox occurs in March, and the day triumphs over the night. To meet the pressing calls from the natural world, and make more availing the opportunities of the important service, longer hours are given the lords of creation wherewith to fulfill their high vocation and replenish and subdue the earth.

In recognition of his service, the Romans made the year begin with March, and named the month in honor of the martial god, the deity from whom, from their warlike character, they expected most, and under whose control Rome climbed the throne as mistress of the world. Other nations accorded to this month the honor of leading the calendar, and as late as 1752 the legal year began in March.

"A peck of March dust is worth a king's ransom," was a proverb which attested English appreciation of the characteristic March wind as an agent in drying the soil and making ready for the sower. Whether, then, as lion or lamb, we welcome March. There is a sweet suggestiveness in his tenderer moods, while his sterner phases are illustrative of an essential principle in nature's economy, where conflict precedes triumph and peace comes after war. He is waging the last battle with old winter, and driving him from his dominion, and when his term of service expires, youthful spring is then crown prince of the season, ready to be nursed by April showers for May flowers, for the bloom of June, and the summer fruitage.

ISAAC L. KIP.

Albany County, N. Y.

A Plea for Accurate Language.

EDS. COUNTRY GENTLEMAN—As a common rule, farmers do not raise better crops by spelling and using all their words correctly; but as an equally true rule, men who do everything in the best manner are more likely to cultivate well and to spell well, and to use correct English. I suggest, therefore, to some of them, a few improvements:

The two great American authorities, Webster and Worcester, give the word "dishorning," for the removal of the horns of cattle, and not "dehorning," as some doubtful newspaper writers have it.

Some American writers of books of considerable merit suppose that the word "thrips" is the plural, and they give "thrip" as the singular. There is no such word as *thrip*—we might as well give "book" as the singular of *box*, and "ken" as the singular of *kine*.

Some reporters of our fruit conventions separate the old and well-known name of the peach "Oldmixon" into two parts, and make it "Old Mixon." There is no such word as "mixon," either old nor *new*. Sir John Oldmixon, the historian, would not answer to this break in his name, and John Oldham, the poet, would not have felt flattered if his name was made Old Ham.

The word "vine," originally applied to the grape, is by common consent used for such long trailers as the squash and pumpkin. But applying it to bushy plants as the potato and tomato, the raspberry and currant, for the upright stems and leaves, is hardly correct.

It is very common for writers on gardening to speak of the earth and soil as "dirt," a word only to be applied to soil out of place or as defacing other objects. The word "contemplate" is often used for simple *intention*, as "I contemplate eating dinner," for "I intend," or when no profound contemplation is required.

Several other corrections might be added, but these will do to begin with. READER.

A Dangerous Rock—IV.

The taste for pretty things is native to women. Whether it be delicacy of tint or gorgeous coloring, it all appeals to eye and heart, showing they really love beauty for itself, and the bright and the tender hues with which they adorn themselves are but the reproduction of what Nature shows in cloud and stream and land. It is only when everything else is made subordinate to beauty that it becomes a snare. So long as it is kept within bounds, its influence is elevating; when raised beyond its rightful plane, it is lowering and leads to debasement.

Some one has said that dress is the god of the American people, and this unflattering estimate has a grain of truth. Our churches look like immense poppy beds; the majority of women worshippers resemble actresses ready for the stage. The same spirit pervades our kitchens. "Like mistress, like maid," and neither Dinah nor Bridget can be prevailed to run to the corner grocery for a cabbage, no matter how great the urgency, until she has looked in the glass to arrange the plumed hat and lace veil in the most bewitching way. Many a mistress loses her temper at the little vanities of her servants, forgetting that she herself is the model they are aping.

Does a new family move into the village, their social status is immediately fixed by the way they dress. Good clothes—i. e., fashionable ones—place them on an equality with the "first families, and they are cordially taken by the hand, while others, possibly more deserving but plainer in appearance, are relegated to obscurity.

People of fashion lead their followers a sorry race to keep up with their vagaries. As soon as a thing becomes too common and is imitated in cheap materials, placing it within the reach of every one, the leaders discard it, making the humble thousands miserable because the much coveted article, which they have at last succeeded in buying, must be cast aside for a later whim. Nobody is so utterly unhappy as the daughter of poverty who tries to keep up with the styles.

Now, this chapter is not intended for a tirade against pretty and becoming things. Far from it. The writer believes it is every woman's duty to attract by becoming attire rather than repel by wearing severely ugly and ill-made costumes; but the extreme of plainness is preferable if beauty must be purchased at such sacrifice as has been depicted.

To sum it all up then, it is woman's *vanity* (which word might be defined primarily as an undue love of beauty,) which leads to her discontent at home, to breaking the laws of health, to the destruction of morals and to perjuring herself at the altar. This too I believe to be the solution of the question why working girls prefer the bondage of the slop shops to the duties of the kitchen. Sewing in a shop does not prevent her from keeping herself "fixed up," while kitchen work will not admit of ribbons, necklaces, bracelets, tight dresses and corsets.

This may seem a cruel interpretation, and a few girls will doubtless resent it, for the truth is generally unpalatable; yet candor and plain dealing with facts are often wholesome. Preachers may preach and writers may write words of warning against this dangerous rock, but the example of a dozen sensible women in every community will be more potent in teaching the true relation of adornment to our daily lives than all the combined eloquence of press and pulpit. GARRY OWEN GAINES.

INVERTED MORALITY.—It is probable that nearly all who think of conduct at all think of it too much; it is certain we all think too much of sin. We are not damned for doing wrong, but for not doing right; Christ would never hear of negative morality; *Thou shalt* was ever his word, with which he superseded *Thou shalt not*. To make our idea of morality centre on forbidden acts is to defile the imagination and to introduce into our judgments of our fellowmen a secret element of gusto. If a thing is wrong for us, we should not dwell upon the thought of it: or we shall soon dwell upon it with inverted pleasure. If we cannot drive it from our minds—one thing of two: Either our creed is in the wrong and we must more indulgently remodel it; or else, if our morality be in the right, we are criminal lunatics and should place our persons in restraint.—*Scribner.*

SEWARD'S EQUANIMITY.—A characteristic illustration of his composure was given during the impeachment trial. From the outset he did not believe that Johnson would be convicted. The defense of the President had been committed to Mr. Seward's lifelong friend, William M. Evarts. Mr. Seward did not attend the long trial except two or three times, nor, to my knowledge, did he do anything to influence the decision. All Washington was at a white glow of excitement. The result hung on a single vote, yet no one could learn from Mr. Seward that anything unusual was happening. On the critical day of the trial, I went down to his room to learn the result of the test vote. He was lying on the sofa, with a copy of Rousseau in his hand, smoking and reading. I asked the latest news from the Senate. He told me. Impeachment had failed by one vote. He smiled, and went on reading, as if the country had not just passed through a crisis of tremendous importance.—*Atlantic Monthly.*

AMERICAN SCHOOLS.—I wish I could say a few words of undiluted praise for American schools from a sanitary point of view; but many years' experience on school boards compels me to believe and say that there are few better, more effective and rapid means of injuring a child's system, physical and mental, than steady adherence to our hours of school within doors, and of lessons without. Every successive generation finds less and less practical knowledge among our young people, with a steadily decreasing rate of increase of species, until it is but a question of a few years when there will be no more full blood American women to keep up the race. Brains and central nerves are overtaxed systematically, and the few moments per diem allowed for relaxation are employed in reading novels or otherwise weakening physical powers that are already below par. Few school-rooms are constructed or furnished with regard to the health of little ones who spend so many of their best hours therein, and attempts to better such a condition fail because there is no money to be made out of the contract. What, then, are we to do? Take the chances, I presume, and send our children to do the best they can, where our neighbors send theirs. There seems absolutely no remedy short of educating the public, a slow and tedious task. Meanwhile, see to it that children do not study out of school. Any lesson that needs to be learned at home is worse than useless; it is positively hurtful. Keep them out of doors in all weathers as much as possible, and see that their food is plain and nutritious.—*American Magazine.*

EXAMPLES WORTH REMEMBERING.—One cannot but be impressed anew by the fact that one of the most effective equipments of Lincoln for the performance of difficult duties was a quality which he shared with Washington, and which each possessed to a conspicuous degree—the simple but tremendously powerful quality of disinterestedness. It was tact, i. e., intelligence added to kindliness, which helped make Washington a successful leader; it was tact which helped Lincoln to steer his administration not only through the perils of war but between the rocks of selfishness and faction—but without purity of purpose, without absolute disinterestedness, neither could have done so well, so completely, the work assigned. With the enormous and enormously increasing populations, the seething social movements, and the ever-threatening political dangers of the New World, there are not and never will be times of perfect peace and quiet. Every administration, every congress, *State*, community, every year, every day, has its emergency. In our uncertain and ever-shifting scheme of general and local governments good men, bad men, half-good and half-bad men, are continually pushing or being pushed to the front as leaders. Now and again an unscrupulous schemer attains a notable official or unofficial eminence, and his disgraceful and pestiferous "success" tends towards the imitation of his methods on the part of men of easy consciences. The example of Washington, the centennial of whose inauguration is so near at hand, and of Lincoln, who was with us only yesterday, and whose pure and devoted life is now being told for the first time—there will never be a moment when the example of these men will cease to be among the most saving forces of the nation.—*Century.*

LESSENED HOURS OF LABOR.—The hours of labor as a whole have been diminished. In the factory ten hours have become customary in place of eleven or even twelve; the usual hours of work in textile factories forty or fifty years ago having been thirteen and even fourteen. In the building trades, nine and ten hours have become customary in place of eleven and twelve, or even more. In all the great retail shops and wholesale warehouses in which goods are distributed, the hour of closing is earlier and the hour of opening is later than it used to be. The optimist can thus find on every side facts which sustain his view that the general struggle for life is becoming easier and not harder, while the statistics of the life insurance companies prove that the duration of life is lengthening. Forty or fifty years since, the daughters of the farmers of New England worked thirteen hours a day in the cotton factory in order to earn $175 a year; to-day French Canadians, working ten hours a day, earn $300 a year; yet the cost of labor is less now than ever before. In a broad and general way it might be proved that Uncle Sam and his children have obtained such power over the mechanism of production and distribution during the last twenty-five years, that if the long hours of work required thirty years ago to produce the materials for a narrow and poor subsistence were now applied under the new conditions, the same hours would yield at least one-third more of all the necessaries of life than they did then.—*Forum.*

Domestic Economy.

A Plea for the Babies—II.

Feeding in Infancy.

Nature intended that babies should be as amply provided with food as other animals, but the desire for nursing infants seems to be passing away. There are very few moderately healthy women who cannot nurse their children if they choose, and in most cases it is not only easier to do so than to attempt hand feeding, but it is also much better for the mother's health, while on the baby's side of the question there is but one thing to be said. Do not then, young mother, allow fashion or folly to turn you from this sacred duty to your child, for a mother who can nurse her child has everything in her favor, and in sickness the child will in almost every case recover. A prominent physician, who reckons his cases by the hundred, says he has never lost a nursing baby. This testimony should suffice to make every mother desire, and do her utmost to furnish baby his natural food. It is true, however, that some mothers cannot nurse their children, and to them our sympathy and our best advice is now given, because there are a few successful cases known, of delicate infants being brought up on a bottle, not to weak and sickly childhood, but to a healthy and happy one, worthy of any mother's pride and love.

The food most nearly like the mother's milk is cow's milk—fresh milk, when possible to obtain, being altogether preferable to condensed. The condensed milk made by Borden being pure, might be thought good, but having been boiled it will generally produce a constipated condition of the bowels, which leads to the worst evils. According to the latest medical authority, milk from a dairy of several cows is preferable to one cow's milk. This will be a disputed point, with those who are of the old school of physicians, and with nurses, but the recent results in favor of mixed milk have fully established its precedence.

The milk should be brought fresh from the cows twice a day; after having been cooled down to 60°, according to Borden's rules for condensing, it is ready for use. There must also be prepared a bowl of water, boiled and strained to free it from impurities. When first commencing to feed a young infant, it is safest to give two parts of water to one of milk, provided the milk is rich and pure; into this should be put a very small quantity of white sugar, not enough to give a sweet taste, lest it cause a disturbance of the stomach. If this agrees with baby, add more milk to the same quantity of water, only a little each day, until

at one month old it should be equal quantities of milk and water. If any stomach trouble appears, give the milk weaker for a day or two, or at longer intervals between the food. In case of serious disorder, rice water is an agreeable and safe change till nature restores the stomach to its working ability. By the time baby is six months old the milk should be given without water, and then a marked improvement will generally be seen.

After the first four teeth appear, the stomach is considered strong enough to digest other food. There are many kinds of cereals good and available to all, but being some trouble to prepare daily and in so small quantities as will be taken, it seems a waste of material. For these and other reasons it is suggested that nothing is more wholesome than stale bread of good quality, which should be broken into a basin of milk, warmed and sweetened, and made quite soft. This is nearly like what the English call pap and makes healthy children in England.

Children should not be fed from the table anything they will eat, for their delicate organs should not be taxed to digest food which grown people eat. The poor are too apt to give bits of meat, potatoes, green fruit,' &c., to young children, while the rich allow their little ones all kinds of sweetmeats and confections.

Infants must be fed at regular intervals; once in two hours through the day is a good rule for young infants, and about twice through the night. After six months old, when the milk is given clear, once in three hours is often enough—having the last time of feeding for the night at seven or eight o'clock, after which a healthy baby should be put to bed, and need no more attention of any kind till morning—having at least ten hours of continued sleep.

In feeding a baby from the bottle, the care of the latter is of the greatest importance. This should be one of the mother's duties, if she wishes a well baby. There are many parts of the feeding apparatus to be examined every day, and it is only by the greatest diligence that they are kept clean and sweet. The black rubber tubing and fixtures should be used; the white ones, containing arsenic, are not fit for use. The bottle should be cleaned with a bottle brush and hot soapsuds twice a day, the tubes brushed with a tube brush, and the other parts with a small tooth or hand-brush. If there is any sour smell detected, after cleaning with soap and hot water, clean again with cold water, into which is put a small piece of cooking soda, then rinse thoroughly. The bottle and tubes must be rinsed each time after using, and the tubes placed in a bowl of cold water.

The following receipt for rice water is given by a prominent physician and chemist: Soak one tablespoonful of rice two hours in one quart of water, add one pint of water, then boil two hours, slowly; strain through a cloth, add a little salt, and sweeten enough to make it palatable. Rice is not a complete food, but is valuable for its soothing effect upon the digestive organs, and contains nutriment enough to sustain for some days until the stomach is able to recover from its disturbance and assimilate its usual amount of food.

V. B. C.

A New Indian Pudding.—Every housekeeper knows the crumbling nature of bread made with Indian meal, and how with the best possible management, there will be an accumulation of crumbs in the box every two or three meals. It occurred to me that a pudding might be made of these. So breaking fine a pint bowlful of the crumbs and of the pieces too small to make a nice appearance on the table, I put them to soak in three cupfuls of milk. Several hours later, I added a handful of dried fruit, a teaspoonful of mixed spices, and two beaten eggs, with a half teaspoonful of salt. Bake in a moderate oven thirty to forty minutes, and eat hot with a sweet sauce. About the nicest and cheapest pudding sauce, to my mind, is one large tablespoonful of butter, one and a half cupfuls of powdered sugar, and one egg well creamed together, and flavored with vanilla or grated nutmeg. It must be whipped very light. If you have a Keystone egg beater, it can be done in two minutes. Stale and crumbled corn bread makes nice pancakes. Soak in milk, add one egg to a pint of milk, and flour enough through which you have sifted a teaspoonful of baking powder, to make it of the proper consistency.

ALICE CHITTENDEN.

Economical Hints.—Among cheap and nutritious meats may be mentioned tripe. Twice a week, each time in a different way, this dish would be acceptable to many. Where the meat dish is light, cheese or maccaroni may be served with it, thus keeping up the required amount of nourishment. Lentils also contain so much nitrogenous food that very light or made-over meats should accompany them. Variety will be found to be more economical, at the same time more beneficial to health and appetite, than the usual rounds of the American housewife. When a quart can of tomatoes is opened for soup, one-half only should be used, and with a quart of stock (the latter costs nothing, if all stock materials are saved), a little suet, flour, onion and bay leaf, makes a delightful dinner soup, and quite enough for a family of six. The few pieces of bread left from breakfast may be cut into squares and toasted to serve with it. The remaining half of the tomatoes should be put in a bowl or jar and used next day for sauce, scalloped, or if mixed with okra and rice will make a nice dish for lunch. Do not waste even a slice of tomato or a leaf of cabbage, and at the end of the year you will be well paid.—*Table Talk.*

Western Soups: *Model.*—Boil a knuckle of pork or beef or a soup bone in two quarts of water till quite tender; season with salt and pepper; pare and slice a dozen potatoes and put in. Beat two eggs light, and make a stiff dough with flour; roll thin as possible, cut in small strips and drop in. These give the name to the dish. They will be light and taste delicious.

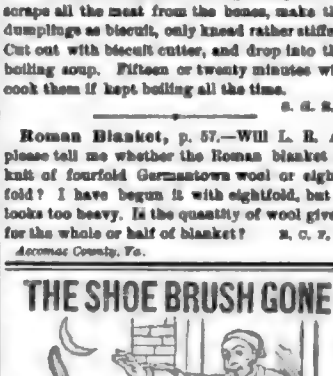
Soup with Dumplings.—Make soup as for nudels, but add onions or cabbage finely sliced; scrape all the meat from the bones, make the dumplings as biscuit, only knead rather stiffer. Cut out with biscuit cutter, and drop into the boiling soup. Fifteen or twenty minutes will cook them if kept boiling all the time.

S. G. S.

Roman Blanket, p. 57.—Will L. R. A. please tell me whether the Roman blanket is knit of fourfold Germantown wool or eightfold? I have begun it with eightfold, but it looks too heavy. Is the quantity of wool given for the whole or half of blanket? S. C. F.

Accomac County, Va.

THE SHOE BRUSH GONE



I won't miss it, for I have long since adopted an easier and cleanlier way. A bottle of

Wolff's ACME Blacking

and a sponge to keep my shoes washed clean, save a deal of labor and shoe leather.

Sold by Shoe Stores, Grocers, Druggists, &c.

The best Harness Dressing in the world.

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We Sell DIRECT to FAMILIES by avoiding Agents you save their enormous expenses and profits which double the cost of an every first-class Piano they sell. PIANOS, $180 to $1500. ORGANS, $35 to $500. Best factories in your own home before you buy. GUARANTEED SIX YEARS. Catalogues Free. Marshal & Smith Piano Co., 235 E. 21st St., N.Y.

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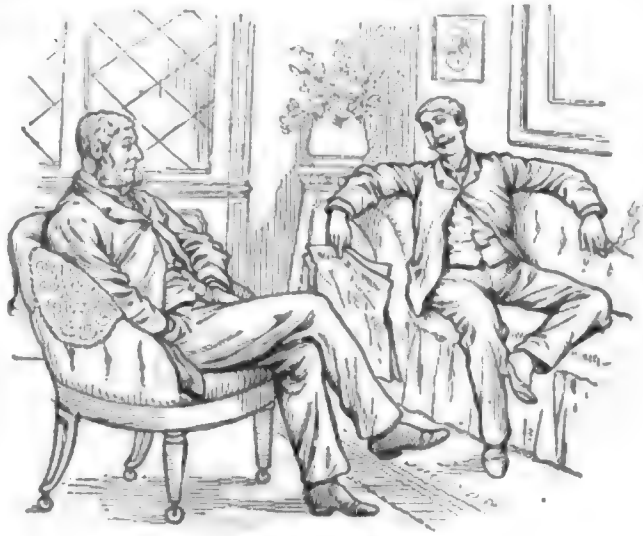
MEXICAN MUSTANG LINIMENT, Positively Absolute to the Very Bone! Wonderful! TRY IT

BONANZA to AGENTS SAMPLES FREE Both sexes. Write now GEO. A. SCOTT, New York City

PEERLESS DYES Are the BEST. SOLD BY DRUGGISTS.



HONEY-MOON.

"Say, Perkins, old boy, why don't we see you at the club any more? Has your mother-in-law shut down on you?" "No, Brown the fact of the matter is, my home is so happy now that there is no inducement for me to leave it. You look incredulous but it is a positive fact. You see my wife used to suffer so much from functional derangements and weaknesses common to her sex, that her spirits and her temper were greatly affected. It was not her fault, of course, but it made home unpleasant all the same. But now, since she has begun to take Dr. Pierce's Favorite Prescription, she has been so well and so happy that we are having our honey-moon all over again."

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THE CULTIVATOR AND Country Gentleman

Albany, March 28, 1880.

Farm Gates.

They Should be Strong and Simple.

Gates may be properly classed with labor-saving implements and machinery. Some of the fields and enclosures are entered many times a day. A gate is opened and shut in a few seconds. The removal of bars or other barriers requires much greater time and labor. Some entrances on every farm are passed several times a day during most of the year; and with little labor, if good self-shutting and self fastening gates are provided. If only ten times a day, and for a hundred days, there would be a thousand passings to be made. If the owner, who has neglected to provide a gate, were required to open and replace a set of bars for a thousand times in succession, he would probably conclude before he had half completed the job that it would be much cheaper to make or buy a gate.

Neatly constructed gates to each field on the farm impart an appearance of finish to the premises, which every one will enjoy who discriminates between order and neatness on one hand, and confusion and neglect on the other.

Now that the busy season of the year is approaching, there are many farmers who may properly devote a few days to the construction of simple and cheap farm gates for entering fields which have been unsupplied, or where old gates, crippled by age, may be replaced with new and freely working ones. We furnish to such of our readers the following descriptions, from which sections may be made according to the facilities or materials which may be procured or which may be on hand.

Fig. 1 represents a gate made wholly of inch boards, 3 in. wide, placed together. The end pieces or bars of the gate are made by placing the upright boards double or on each side of

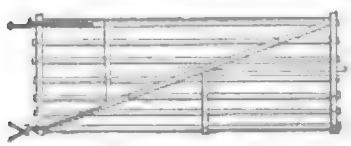


Fig. 1.

the long horizontal slats, and securing them in place with 3-inch screws, or with screw bolts. The diagonal brace is double in the same way, or with a board on each side, and secured either with screws or with large clinch nails. Shorter upright pieces serve to strengthen the gate, and one board is placed flat on the top for the same purpose. The hinges are made of suitable bar iron; and the two arms of each hinge that is screwed to the gate are 3 inches apart, so as to fit the 3-inch thickness of the gate on the outside.

The gate represented by fig. 2 is one formerly employed by George Geddes, and made wholly of pieces of plank without any mortices, but bolted or riveted together. For special strength against horses and colts, it was made unusually strong, constructed of pine lumber 1¼ inches thick, and 5 inches wide, the gate being 10 feet long and 5 feet high. The two end bars were simply upright strips on each side of the ends of the horizontal bars, secured with screw bolts, two of which were inserted at each crossing of the diagonal brace. The hinges embrace the heel piece. The eye or socket being placed at the corner, the gate may swung wide open, the section of which arrangement is shown by fig. 3. The total cost of such a gate would not exceed $3.

Fig. 3.

Mr. Geddes did not regard this as the best form for a common, cheap farm gate, and a better one, which he subsequently used, is represented by fig. 4. He found it quite sufficient-

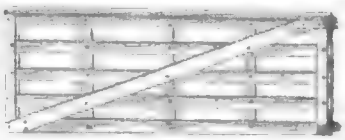


Fig. 2.

ly braced with the heel not extending upwards. The lumber for a 12 foot gate, the screws, the hinges (12 inches long), and all smaller items, cost $1.75. He had seen one made and put together in 30 minutes, on account of its simple construction. The lumber was not planed or painted, which he thought needless outlay for "good looks" merely.

For the benefit of farmers who can construct their own gates without calling in a mechanic, he gave the following list of materials: Two boards 12 feet long, 6 inches wide, for top and bottom; three intermediate ones same length and 5 inches wide; a board for brace 13 feet long; a board 4 inches wide and 13 feet long for cap; two boards 4 feet 4 inches long and 6 inches wide for hinge post; five boards 4 feet 4 inches long and 4 inches wide for latch post and vertical braces; making a gate 4 feet 4 inches high and 12 feet long—a length required for gateways in these days of farm machinery. The weakest point in gates in general is where the diagonal brace joins the top board and cap, and the remedy is to connect the upper hinge with a broad iron plate. The long brace will keep its place and pull many times the weight it would push. Paint is applied to all parts that cross each other. A cheaper and better preservative is a thorough soaking with petroleum.

Mr. Geddes remarked that he had made and worn out many gates, constructed in different ways, and this was the best and most durable. His mechanical and engineering skill entitles his opinion to great confidence.

There are some occasions when barb wire may render gates more secure, and prevent unruly animals from pushing against them. A light frame, like the one represented in fig. 5,

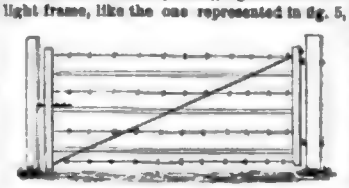


Fig. 5.

with barb wires between the horizontal bars, will prevent them from becoming distorted and broken down. The wire costing but little, such gates may be quite inexpensive; and their lightness will be sure to prevent the sagging of the post.

A very common trouble with farm gates is caused by continued pressure exerted against the post by the weight of the gate, producing sagging. The gate then rests on the ground at its latch end, and is dragged over the surface on opening and shutting. Under this rough treatment they soon wear out. It becomes important therefore to secure the post from this displacement. Various modes have been resorted to. Very large posts, a foot in diameter, are used by some; and setting them 4 or 5 feet deep are adopted by others. Another mode is represented by fig. 6, where a bar of

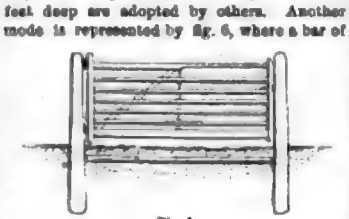


Fig. 6.

timber connects the two posts and lessens the liability to sag. The timber, being buried half a foot or more beneath the hard beaten surface, is excluded from the air, and does not decay for many years. A more thorough remedy is shown by fig. 7, where two pieces of timber

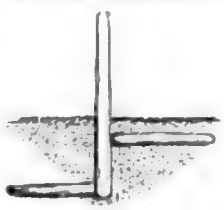


Fig. 7.

are buried in such a position that the post cannot be moved out of place without pushing those timbers lengthwise through the solid earth. If the earth has been beaten around them, no force that can be brought to bear can move them endwise through the soil, and they will operate many times more efficiently in holding the posts from sagging to the right than flat stones placed sidewise, large stones, or sticks of timber with the middle placed against the post.

The strain of barb-wire fences has a constant tendency to draw the posts at the ends, or at openings for gates, out of position and to displace them. Fig. 8 explains an efficient

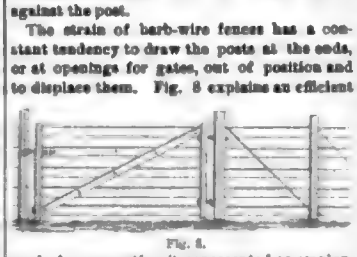


Fig. 8.

mode for preventing it, represented as employed for a common board fence. The iron rod passing through the top of the gate post, is fastened to the base of the nearest post, where it cannot easily displace this post. But to make assurance double sure, this first fence post is fastened in the same way to the next post. The gate post is thus fastened in such a way that it is impossible to move it away from them.

When to Sow Clover Seed.

EDS. COUNTRY GENTLEMAN—When I began farming I sowed my clover seed about March 1, and was successful in getting a good catch, but being informed by Mr. Bascom Taylor, an old and successful farmer of Wyalusing, that the practice was unsafe, I discontinued it, and have since sowed on frozen ground about April 1. Mr. Taylor said he once sowed a large quantity of clover seed about March 1, which came up, and while very young and tender there came a hard freeze and destroyed every plant, so that he lost his seed and the labor of seeding. There is evidence that freezing does not always kill young clover. Once, in taking a bag of seed out of the sleigh in February, the bag came untied and I spilled some on the ground. It came up before April 1, as thickly as it could stand, and although there were several hard freezes afterward it was not injured in the least. I suppose the plants protected each other by the closeness with which they grew. I do not doubt the statement of Mr. Taylor that a hard freeze will usually kill clover when it first comes up, and has but two tender leaves and scarcely any root. Other farmers have said the same thing.

In the latitude of Bradford county, Pa., there is always a suitable time for sowing in April on frozen ground, and that is the time I now keep watch for to do my sowing. The ground will be frozen in the morning, and full of little cracks into which most of the seed rolls, and when the ground thaws, which is generally before noon, it gets well covered, but not so deeply that it does not come up. I have noticed clover coming up out of cracks nearly an inch deep. The sides of the cracks had not caved in, and did not afterwards cave in; only enough fine earth had washed in to cover the seed, and these plants in their protected situation stood the drouth and grew vigorously, while the plants that had merely taken root on the surface made but a feeble growth or died for want of moisture. I think that dry weather before the plants get well rooted in the soil is the great cause of poor clover crops.

I have never failed of getting a good stand of clover sown in the spring on a field that had been top-dressed the fall previous with fine manure. The manure supplies the proper food for the young plants at the surface where they can immediately lay hold upon it, and it also acts as a mulch to retain the moisture near the surface, and prevents the plants from being killed by a drouth. If I wanted to make a sure thing of seeding a field to clover I would top-dress it with well rotted manure, and sow wheat or rye in the fall, and clover seed the next April. With such management the grain would stand the winter better and yield better, and there would be no failure in the clover crop unless the clover maggot or some other enemy attacked it. Of such depredations I have had no experience, and am in no haste for any.

Some agricultural writers tell us that the way to renovate a poor worn out soil is to raise a luxuriant crop of clover on it and plow it under—and to catch a weasel, I suppose they would advise us to sprinkle plenty of salt on his tail. I venture to say that neither a good catch nor a good growth of clover can be obtained on poor land without the application of some good fertilizer to assist it. I once sowed clover on a field that had a leachy knoll in it which would not retain manure long, and consequently was always poorer than the remainder of the field. In order to be sure and get this knoll seeded, I put in double the quantity of seed sown anywhere else, but not one-fourth of it ever came up, and the few plants that did made but a stunted growth. On the other parts of the field the clover was good. No sensible farmer will allow his land to run down and become impoverished, thinking he can bring it up again, as soon as he pleases, with clover. It needs good land to raise good clover. J. W. I. *Sugar Run, Pa.*

Earth Closets and Sewerage.

EDS. COUNTRY GENTLEMAN—When I read the first of Mr. T. B. Terry's articles on earth closets, I said I was glad so able a writer had taken up a subject which, for some unaccountable reason, had been almost wholly ignored. I have read with interest the articles from others and believe them calculated to do much good. I wish to relate a little of our experience, believing there are many farms, where the same system may be adopted, with great benefit to the health of the occupants, as well as proving a means of increased revenue from the farm.

My earliest recollections are of the old-fashioned earth vault, situated at some distance from the house; and living as we do where snow banks abound, it was no easy thing to keep suitable paths shoveled—in fact I think, if a departed mother and older sisters could testify, they would say that many times no roads were shoveled, or if they were, were quickly filled again. Soon after taking the farm—which is the old homestead—I arranged an earth-closet or box with fine road dust for absorbing material. We found this a very great improvement over the old vault, but found also that the box would swell by the frost in winter, and leak more or less. The idea occurred to me of using galvanized iron pails, similar to Mr. Terry's, and which were the first ones I had then heard of. Although the closet is close to the end of the house, we find this a perfect success, so far as any odor is concerned. But convenient as it is, compared with the old-time way, I think every farmer's wife will agree with me that many times even a few steps out into the cold in winter is not altogether agreeable.

In 1885 we built a new house, and as we had always had a great amount of trouble in properly removing the slop-water from the house, we gave the subject of sewerage a very careful study. An uncle, who had had more or less of the same difficulty, advised adopting his method, which is the same as Mr. Terry's—using a barrel and emptying when filled—but this savored of much hard work, and visions of days when we were unable to carry a pail of milk—not to mention a barrel of slops—came trooping up before us; so this plan was given up.

About this time a friend from the city visited us, and said: "You will put in a water closet, of course." "No," I replied, "I fear we have not sufficient waterfall to flood it successfully." But after a more careful leveling I concluded we could put in one with self-flooding tank, situated some 8 or 9 feet overhead. The next thing to be considered was the proper removal of the same, with all other waste, from the house. As we had a good fall from the house, I laid down below frost a 4-inch stone sewer pipe, carefully cementing the joints and running it 180 feet

from the house. This we tried for one winter and it worked perfectly, but we found when warm weather came, it discharged too near the house. We then continued the piping 200 feet farther, making in all 330 feet.

Into this same sewer pipe discharge all the running water from the creamery, the waste water from the same, sink and wash waters—in fact all waste water of every kind. Directly under the floor in the cellar, in each separate pipe from bath room, creamery, sink and stationary washtubs, there is a patent ball trap which effectually prevents any foul gas from coming back into the house.

The first season, that water made a strip the entire length of the meadow, ⅓ or 40 rods, of as heavy grass as one could wish; in fact the effects of the wash are already truly wonderful, and the increased growth of hay will soon pay the entire cost. JOSIAH D. SMITH.

Delaware County, N. Y.

English Notes by T. Bowick.

My Lord Clanricarde, deaf to either suggestions or threats from the Irish office, has started evictions again on a wholesale scale. The law is on his side, and much misery will immediately follow. The "next parish to America," as an island in Galway Bay is called, has been figuring in the Parnell Commission Court during the week. Mr. Chard, a witness, did not seem to think that his fellow islanders had much to complain about, although every visitor knows well its squalid poverty and the misery of its people. The few patches of soil and square miles of barren rock, and the presence of children and old people (the young men and women having emigrated), never fail to impress themselves on the mind of the onlooker.

A cold "spell" has set in, after the summer-like days of the past few weeks. Then we had it warmer in London than at Naples or Constantinople or some parts of Algeria, while vegetable life was pushed forward into unwonted activity. Crocuses forgot their modesty, and began peeping through the soft earth in London suburbs. Green peas were reported from the Isle of Wight, and rooks building in Yorkshire (I have never known them to do this before the last week in February), while English-grown wallflowers and violets have been a Godsend to the street-corner venders. Of course all this has helped forward the later-sown wheats, while the winter-oat districts are showing forward vegetation.

We are all busy at present selecting candidates for the new county councils, and my impression is that there will not be so great a revolution in the management of things after all. An old country like this makes haste slowly, but at the same time it is to be hoped a knock on the head will be given to a good deal of the "justice's justice," which has so often prevailed in the rural districts. Down at Grantham, the other day, Thomas Mitchenson, a laborer, with a previous good record, got one month's hard labor and $8 costs for taking two faggots of firewood—which of course, in plain language, was stealing. But why the costs should have mounted up to this extent is a mystery, seeing that a policeman caught him in the act. The man, after association with felons, will come out branded for life. Several other cases of even grosser inequality, by irresponsible magistrates, have just been rectified by the home secretary.

When over in Paris last week, I took some pains to find out the feeling among people generally about the conditions of society, seeing that trade is not brisk with them, and that bread is comparatively very dear, owing to import duties. Everything, however, appeared to be swallowed up in the Frenchmen's minds by anxiety about the Panama Canal, by enthusiasm (or the reverse) for General Boulanger, and for the expression of an intensified bitterness towards Germany, which appears to grow as the years go by. I think that there is a much deeper trouble awaiting them at home, for the poverty among the "petite" landowners is very great. So it seems to matter very little whether the foot of a single man or the tread of a democracy shall put itself on the neck of the mass of the people. France is no doubt working out her own reformation, but she is not farther advanced than we were in the days of the Chartist riots at Newport, or the Rebecca disturbances in Wales, of the third decade of the century. These remarks must be taken with a grain of salt, as my linguistic acquirements of a very low order, and do not allow me to get down into the depths of the community.

Our foreign trade increases at a most satisfactory rate, the imports for last month showing an improvement of over 7 per cent., and the direct exports about half as much. Russia is sending us an enormous quantity of wheat, which you may think strange, as they practically refuse our goods, and we should not send out ships in ballast. But the steamers are laden with coals for Gibraltar, Malta and Alexandria on the outward passage (thus helping our Suez Canal steamers by giving more room for cargo), then taking in a sufficient quantity of ballast to go up to the Black Sea ports, they load in scores with food for our toiling millions.

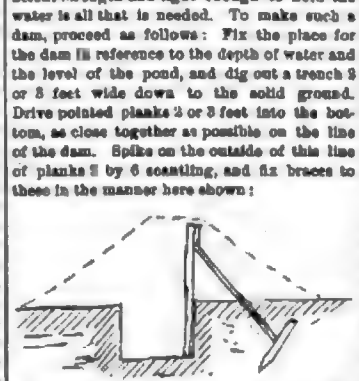
Our wholesale prices are generally low, so that the expansion of trade is real, and not a mere impression. The bank rate of 5 per cent. is stringent enough, but the rise is not due to anything of a speculative character. The directors of the Bank of England have allowed their cash and bullion to slip away several millions below the average of this season, and were it not that more than a million sterling in cash is coming in from Russia, the signs are that money would be still more stringent.

A sail up the Thames on a penny steamboat does not seem particularly exhilarating at this season, but I always use that method of locomotion whenever there is a chance. For one thing, you get a blow of fresh air, and a speed which seems to equal that of the best Hansom cabs, or say from seven to eight miles an hour, including calls at the different piers. On Saturday I sailed at least four miles up to Chelsea, and noticed that the river was in an unusually muddy state. The captain said it was landward water, and I suppose he was right, for the Thames has been in flood to a considerable extent. About three or four days after heavy rains take place in Gloucestershire and Oxfordshire, the chief feeding basin of the noble river, we always find a larger percentage of solid matter. This is chiefly aluminous in character, and seldom shows much of either nitrates or nitrites, the volume being so great, and the dilution so extreme. One almost wonders where the deposition of solid matter occurs, but at the mouth of the estuary there is plenty of evidence in the Maplin sands, and in the wide stretch of dry foreshore on the Kentish side, where at least some of it goes to. Improvement in land drainage, by carrying off water swiftly as it falls, tends to bring down a much larger amount of solids.

Making a Fish Pond.

EDS. COUNTRY GENTLEMAN—Could you favor me with a work on making a fish pond, as I have a place about one-quarter of a mile long, averaging 4 rods wide, with nice banks wooded with timber, and as fine a spring as there is in Iowa coming in at upper end? All the work that I see to be done is to throw a dam across lower end about 4 rods. What fish is best to put in? Does the United States fish commission furnish German carp if a person applies? F. K. *Malvern, Iowa.*

There are some books on fish culture, as Dr. Slack's little manual on trout rearing, which give some information in regard to making ponds, but not of the kind desired in this case. There is no difficulty in making a pond under the circumstances mentioned. A dam of sufficient strength and tight enough to hold the water is all that is needed. To make such a dam, proceed as follows: Fix the place for the dam in reference to the depth of water and the level of the pond, and dig out a trench 3 or 3 feet wide down to the solid ground. Drive pointed planks 2 or 3 feet into the bottom, as close together as possible on the line of the dam. Spike on the outside of this line of planks 2 by 6 scantling, and fix braces to these in the manner here shown:



Holes should be dug for these braces and the short posts by which they are held at the bottom, as shown. The braces should be 6 feet apart for a 6-foot dam, and closer if it is higher. The earth thrown out of the trench should then be put back and puddled and packed, or rammed as tight as possible against the planks, which should be lined inside with boards over the joists. Earth is then heaped over the boards, as shown by the dotted lines, leaving a bank with sufficient slope to prevent washing. The overflow should be provided for by means of a plank waste trough, with a planked apron in front of the dam to prevent washing of the bank. A dam 6 feet high should have at least 12 feet width at the bottom and one or two on the top. No trash, roots or stones should be put into it.

Carp are the best fish for a pond where there is not a large supply of cold running water. These fish require a muddy bottom in which they can bury themselves during the winter when they hibernate in a cold season. They are vegetable feeders, and aquatic plants should be provided for them, such as watercress and the common marsh weeds, as the *caltha* or marsh marigold or "buttercup," as it is sometimes called, sedges and rushes. The common duck-weed also is an acceptable food for them. Carp for stocking the pond may be procured from the fish commissioner at Washington on application, which must be endorsed by a representative in Congress as to respectability of the applicant and his fitness to be entrusted with the fish for proper treatment and preservation. Black bass can be kept in a pond of this kind; it is a most valuable fish but is carnivorous, and a supply of frogs and common fish, as suckers, &c., will be required for its support. E. S.

Drawing Water up Hill.

EDS. COUNTRY GENTLEMAN—I have a spring 1,600 feet from my barn, and 100 feet lower. As it is a good spring, I want to force the water to the barn, and there is no chance to use a ram. As the spring comes out of the side of a hill I must build quite a high tower if I use a windmill, in order to catch the wind. The Hartford Compressed Air-Pump Co. of Bound Brook, N. J., say that they can put a windmill on the barn, and by forcing compressed air down one pipe force water up to a tank in the barn through another; but I have been told that a compressed air pump is very liable to get out of order. (1)

Can I draw the water up by a steam-engine at the barn? What size engine would it require and what kind of pump? Where can it be bought, and what will be the cost? (2)

What is the best kind of pipe to use? I want to use the water in the house as well as at the barn? (3) How large a tank ought I to put in for twenty cows and five horses? (4)

If I get a steam engine I can use it for sawing wood, cutting fodder, grinding feed, &c., and if I put up a windmill I could use it only to pump water because it would be out in a calm. MAX. *Sing Sing, N. Y.*

1. Will some of our readers who have given the compressed air pump a full trial, please report their success?

2. B. W. Payne & Sons, of Elmira, N. Y., advertise a two-horse engine for $135. Their engines enjoy a high reputation. This size would undoubtedly do all your pumping, or with proper machinery would lift about ten hogsheads up that hill in an hour. A two-horse tread power would doubtless do all the work required.

3. The rustless pipe, advertised in our columns, would doubtless be the cheapest and best, judging from the trial we have given it.

4. If the tank is filled but once in three or four days, a correspondingly greater capacity would be needed than for a daily filling. The amount of water required would vary greatly with the weather and kind of food. Allowing a barrel for three animals, would be about ten barrels a day as a full supply. If filled only once in four days, a forty-barrel tank would be needed, or six feet in diameter and six feet high; or smaller in proportion to frequency of supply. The two-horse engine would fill the tank in about two hours.

Twenty Years with Windmills.

EDS. COUNTRY GENTLEMAN — In your issue of Jan. 31 (p. 86) you request any of your readers who have had experience with windmills to give details of the same for the benefit of your readers. The writer's experience in this line began about twenty years since with the earliest and most crude specimen of the genus windmill for the purpose of water-pumping solely. Impossible of control as it was, running over, stopping never, when the prairie winds did blow, the ceaseless motion soon ended its usefulness, albeit it was in its day a great improvement on hand-pumping, by the "armstrong power," as the boys term it.

By this time an inventive Yankee had constructed a new pattern of "wind engine," with folding sails which admitted of control in winds or calms, and as the cattle still continued to call for water, in winter or summer, seed time or harvest, I was induced to try one of the improved wind helpers which were now rearing their sails on many prairie farms. This gave better results, doing good work for about ten years. However, it finally succumbed to time and use, and its place was supplied by a still later invention called the "Goodhue Wind Engine," which promised not only to pump water but to grind feed, shell corn, cut fodder and run various other machinery. This has been in use on the writer's farm for about two and a half years, giving excellent service, both in pumping water for about 100 head of stock, summer and winter, grinding several thousand bushels of grain yearly, and in running other light machinery for shelling corn, cutting fodder, &c. Within a radius of ten miles from my farm there are now about twenty-five of these mills, mainly erected since my own and doing equally excellent service.

As to care and attention required, our first pumping mill required oiling only about once a month, but our geared engine requires attention as often as once a week. The first cost us originally $45; was in use about five years, repairs costing about $20. The second was in use about ten years, repairs costing about the same or a little less than first, the original cost of this being $60. The latest investment originally cost $275, has run two and one half years, has cost nothing for repairs, has outridden some incipient cyclones, and is grinding merrily as I write this. Taken as a whole, I consider windmills beyond question the farmer's cheapest and most available power, and while all of my investments in this line have been satisfactory, the last, though most expensive, pays the best percentage on its cost and care. That they are rapidly coming into favor on prairie farms becomes apparent to any one making the most rapid transit across the States of Illinois and Iowa. E. E. GARFIELD.

Kane County, Ill., March 18.

Northwest Georgia.

EDS. COUNTRY GENTLEMAN—January and February were almost lost months to farmers; there was so much rain and wet ground that it threw us behind in plowing. We are now having seasonable March weather—fair days, and high winds, and the plows are being pushed to their utmost capacity. Wheat is not so promising, but oats look well, and a large area has been sown. Too much commercial fertilizer has been bought, which means that a large crop of cotton will be planted, but notwithstanding the area in corn and oats has been largely increased. The Farmers' Alliance is impressing it on their members—and there are 80,000 farmers in Georgia members of the Alliance—to diversify their crops, plant more grain, raise more live stock, and make their farms self-supporting. The Alliance has been established in Georgia not quite a year, and its good effects are already seen; if properly adhered to, it will produce a thorough reformation in southern farming, place the farmers on an independent basis, and release them from the bondage in which they have been placed by planting all cotton, and depending on the merchants to furnish them their food supplies.

Much attention is being bestowed on fine horses and cows, and making butter for market. There are counties in Georgia now selling 50,000 pounds of butter annually which a few years ago bought the butter they used—and so with poultry and eggs. In our village stores may be seen bushels of eggs taken in trade, which are being offered for sale at 10 cents a dozen, and shortly chickens will be brought in quantities for barter. I see it announced in the papers that in some parts of the State farmers are hauling in fine hams of their own raising, and selling them to the merchants for 10 cents a pound. This is cheering, for it shows that a revolution has begun in our farming system. Cotton is losing its grip on the farmers, and they are diversifying their crops, and emancipating themselves from the bondage of the old system. That the Southern States can raise as fine live stock and poultry as any part of the United States, I think time will prove. I have been for years advocating this diversified system of farming for our farmers, and I have lived to see it adopted.

The opinion north is that the South is not adapted to grain-growing, merely because the southern farmers have not given the attention to grain crops that they have given to cotton,

They fertilize their cotton crop abundantly and cultivate it thoroughly, while corn is planted in the most careless manner, hardly ever manured, and not half cultivated. Were the attention given to corn that is given to cotton, the yield would increase 150 per cent. on an average, and there are numerous instances, where corn crops are made a specialty, the product will reach from 40 to 50 bushels per acre, and in some instances as high as 70 bushels. I have often seen corn crops looking most promising utterly neglected for cotton, hence ruined. There is as much to the man as there is in the country, and what the South needs is a class of farmers who know what they are at when they go in the fields—giving every crop proper attention, and making all count. Jno. H. Dent. *Floyd Co., March* 11.

Our Illinois Correspondence.

Champaign County, *March* 20.

A light rain of a fourth of an inch on the 18th, and not a drop otherwise, since the first day of the month. Two or three signal service warnings of "severe storms," "local rains" and "low temperature," have not been justified by the events, the weather having been dry and fair with the exception noted above. Similar predictions of "local rains" last autumn failed in almost every case, and to the extent that we may conclude the causes which have heretofore produced them, have disappeared.

The drouth of the summers of '87 and '88 and the dry winter and present dry spring, will no doubt contribute to the success of an important and at the same time a very costly measure now before the Illinois legislature. It provides for enlarging the present canal and the Illinois and Mississippi rivers, broad and deep enough for a ship canal from Chicago to the Gulf of Mexico. It will also afford an easy and complete means of disposing of the sewage of that city, and by its enormous volume, so dilute and oxidize the waters of the canal and river, that they will not be as grossly contaminated as now. Besides these advantages, there will be the additional ones of an unlimited supply that may furnish water for irrigating purposes to 30 or 40 counties, at a period, from present indications, not remote. This consideration has no doubt had much to do with the remarkable change of front of the country members, whether referring to previous legislatures or the present one. I think one may venture to predict that if the drouth in Illinois should continue to the end of the session, the measure will be carried; but if rains should set in and a wet April and May follow, the bill will be defeated.

Never was there finer weather, never was the soil in better condition for the seeding of oats and breaking and stirring the land for corn. Before the late rain, the roads and rich fallow fields were nearly as white as the alkali lands of the West and Southwest, as they will be again as soon as the moisture dries off. This unusual exhibition of the phenomena of nitrification, indicates an equally unusual supply of plant foods, just where they will do the growing crops the most good. Wheat has a very strong and healthy appearance, but only those meadows and pastures that have been manured and fertilized show a tinge of green. South, or the latitude of St. Louis, there is complaint of too much rain; north, it is as above reported. R. F. J.

Southwestern Michigan.

Edr. Country Gentleman—Since the beginning of the month the weather has been constantly fine, with the temperature gradually rising, until to-day—the 20th—the ground is settled, and the banks of snow along the lanes all melted away. Clover seed was generally sown a week or ten days ago, but as there has been no severe freezing and thawing, it is all uncovered as yet; the ground settled, and no immediate prospect of rain. Wild geese are lingering about, evidently satisfied with present weather indications. The later summer birds—meadow lark, ground-birds, russet and purple grackle—are all here. So far as intelligent penetration can extend, the prospect is a promising one for an early spring. After this time last year, however, the mercury dropped nearly to zero. After clover seed had sprouted, there came a freeze so violent that many of these untimely plants were injured, and gradually faded away.

The outlook for uncovered seed to-day is very bad. I shall put the harrow on my fields this afternoon, where clover seed has been sown on wheat for a week or more. I have 33 acres in that condition, and dare not risk the chances against a catch, with it lying uncovered after the ground is settled and dry. This is one of those cases where a general rule will not work, and cannot be blindly followed. When the conditions which nature usually arranges so satisfactorily do not appear in their usual order, we must make the conditions, if in our power. Here is where the watchful eye of the farmer is needed, to anticipate disaster, and to guard against it. Precedents and rules are of little value, and cannot be implicitly relied on. An intelligent prediction is better than a good memory.

Farmers are busy hauling manure and spreading on the fields intended for corn. There has been a marked change in their practice within the last few years in this regard. This was formerly the last work done before plowing began; then it was dumped in piles and spread, a strip at a time, only as fast as it could be plowed under. The wisdom of those days, and the reasoning that dictated the practice, is held folly now, and the farmer who would practice it by the roadside would be hooted at by every passer-by. So far have some farmers departed from the old ways and customs, that this spring's hauling of manure is spread on pasture fields that are intended for corn another year. They argue that two crops are thus benefited by one application, and the land improves faster by the new method. From a limited practice as an experiment, I am satisfied that both the reasoning and the results are good, and shall haul the contents of the sheep sheds to such a field, and spread it as soon as possible. The exposed manure of the yards is all spread now. Sheep manure is very liable to heat and waste as soon as warm weather sets in, even though sheltered and packed hard. I have tried to keep it until summer, and use it on summer fallow intended for wheat, to strengthen weak knolls, but it has always resulted in almost total loss of strength from heating, moulding and drying up.

I am a convert to the opinion that manure is never better than when recently made. The "ripening process" is a mere figure of speech, with no practical basis of fact for its support. Manure should be so placed that the liberated matter in the process of decay can be taken up by the soil where it is needed, and where it is intended to be applied. Nature's methods of increasing the fertility of the soil is by applications at the surface where the decay of last year's growth goes to increase the previous years' perfected plant food. These yearly accretions have made the soils of the prairie, built up muck and peat marshes from shallow water basins, and have added the energizing and completing elements of humus to all soils.

The hedge fence fraud, so artfully foisted upon the public a few years ago, has run its course here. Not ten continuous rods in a thousand will ever make a practical fence. There are breaks and skips where new plants cannot be enticed to grow, by any stimulating process yet discovered. It has already become a veritable "thorn in the flesh" to those who were induced to plant it.

It stands as an evidence of a shade of credulity and much wasted labor, and the chief problem is, what to do with it. It is pretty well understood now that it will grow into a nuisance faster than is pleasant to contemplate. I have recently come into possession of more than 100 rods of it, which is two years old. My method of cultivation is already determined upon. I shall run the first furrow close up to it, and the next directly under it. I have assured myself that this will, in the end, be the most satisfactory method of pruning, and leave me undisputed possession of the land.

Wheat never came through the winter with less injury. It is starting off green and uniform in color. The slight growth last fall was partly made up before winter set in in earnest, so that, while the growth now is real large, the root form is vigorous, and will push it ahead in due season. A. C. Gliddon.

Van Buren County, March 20.

Potatoes in Orchards.—I thank you for your reply to my inquiries on p. 198. Planting in hills enables me to work both ways, thus working both orchard and potatoes. If I plant in drills, how can I work the space between the tree rows (which would grow up in grass and weeds unless worked) except by hand? J. R. M. *Baltimore County, Md.* [If, as you say, the weeds and grass are likely to spring up in your potatoes, it will be necessary to plant in hills in order to give the ground thorough tillage both ways and keep the crop clean. But with clean land, there would be no difficulty in planting in rows or drills; the trees standing in the same row as a row of potatoes, all would be cultivated alike with the horse at one operation.]

Weather, Crops and Prices.

Meteorology for March 17-23.

Albany Station, Signal Service, U. S. A.

Highest Barometer for the week						30.20	inches.
Lowest	do.	do.				29.87	do.
Mean	do.	do.				30.04	do.
Highest temperature		do.				58°	
Lowest	do.	do.				30°	
Mean	do.	do.				41°	

Two clear days; two fair; three cloudy. Two days on which rain or snow fell; total precipitation, 0.73 inch. Prevailing wind, W.; maximum velocity 26 miles per hour, W., on the 20th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	17th	18th	19th	20th	21st	22d	23d
Day							
This year	40°	39°	41°	28°	40°	43°	46°
Normal	30°	30°	30°	29°	28°	31°	32°

Total excess for the week, 73°.

General Review of the Week.

The week has been much warmer than usual in all sections except on the south Atlantic coast, where the temperature has differed but slightly from the normal. In the cotton and grain regions of the central valleys the daily average temperature was from 6° to 12° above the normal for the week, and in Minnesota and Dakota it was from 15° to 25° warmer than usual. The season from Jan. 1 to March 23 has been slightly cooler than usual in the Southern States, while the daily average temperature in the Northern States has ranged from 2° to 5° above the normal. The season is from ten to twenty days in advance in Minnesota and the upper Missouri valley, about one week in advance in New-England, New-York and New-Jersey, normal in the wheat region, and from two to four days late in the cotton region.

There has been a large excess of rain fall for the week from Western New-England southward to Eastern North Carolina, and from the Missouri Valley southward over Arkansas and the interior of Texas. In all other sections a deficiency of rainfall is reported, although heavy showers occurred in Southern Illinois, Indiana, Ohio, Kentucky and Tennessee, probably resulting in much improvement in the crop conditions in those States. In the Lake region and thence westward over Minnesota and Iowa there was almost a total absence of rain. The rainfall for the season has been in excess on the Atlantic coast from New-York southward to Florida, and also from Texas northward to Dakota. In the cotton and wheat regions east of the Mississippi the rainfall for the season ranges from 50 to 75 per cent. of the normal, while in Southern Missouri, Kansas, Nebraska, Dakota and Texas there has been from 25 to 75 per cent. more rain than usual. On the Pacific coast the rainfall for the month has been slightly in excess in Southern California, about 75 per cent. of the normal rainfall is reported from Central California, and about 40 per cent. from Oregon and Washington Territory.

The weather has been favorable for growing crops and farm work throughout the central valleys and Southern States. Recent rains in the wheat region as far north as the latitude of Central Illinois, extending from Ohio to Kansas, have doubtless improved the condition of the wheat crop. The weather conditions in the Southwest, including the Gulf States, have enabled the farmers in that section to almost complete the planting of corn and to prepare the ground for the cotton crop. Reports from the South Atlantic States indicate that the favorable weather has improved the small grain and fruit crop in that section. In New-England the ground is generally frozen and covered with snow. Farm work has been retarded in New-Jersey owing to the recent storm which left the ground covered with from four to six inches of snow. In New York and Pennsylvania the weather was generally favorable, resulting in an improved condition of the wheat, rye, and grass crops.

Ohio—*Marietta, Washington Co., March* 20.—We have had a mild winter; roads impassable till last week. Turning cold; looks like snow. Winter wheat looks well. Produce very low; not much sale for home grown potatoes—35c. per bush.; apples very low all winter; worth 75c. to $1.25 per bbl.—Rome Beauties our general crop. People plowing, and planting early potatoes. S. S. T.

Michigan—*Gaugar, Allegan Co., March* 18.—We live in the fruit belt of Lake Michigan, and the country is a fine one. Fruit, however, is damaged badly, and some think a half crop is more than can be expected of peaches and other fruit. Snow all gone, and wheat looks well. Live stock generally looks well, and in good health. People also are extremely healthy, and there are more old folks in our country than in any place I ever saw; ages ranging from 80 years up. W. A. M.

Illinois—*Vandalia, Fayette Co., March* 18.—A heavy rain, with thunder and lightning, and a strong northeast wind, is prevailing. Splendid weather for the last two weeks, and many farmers have improved the time to get in their oats; ground was in splendid order for plowing. Wheat looks all right, and bids fair to be a good crop. Peaches and other fruit are all right, but the peach buds are now near open, and may yet be killed. Live stock has come through in good order. Markets unchanged. R. A.

Quincy, Adams Co., March 21.—Plows are started; prospect good all along the line of production; wish I could say as much about prices. J. M. B.

Chicago, March 22.—From reports from Middle and Western States it appears there has as yet been practically no seeding of spring wheat. The ground in Dakota and Minnesota is in good condition for seeding as soon as it warms up, but there was so little snow during the winter that unless rains follow soon after seeding, there is great danger of the crop being injured. Nebraska reports little rain so far. Farmers are seeding spring wheat, but the acreage is growing less every year, oats and corn taking its place. Dry weather still prevails throughout Iowa, and farmers are not sowing spring wheat to any great extent. Winter wheat is backward.—*Associated Press Dispatch.*

Wisconsin—*Fond du Lac Co., March* 17.—Prospect of early spring; snow all gone except a drift here and there. Spring birds came home the 15th. Rain and thunder on the 16th; frost is nearly out of the ground, and unless it turns colder we shall do some seeding this month. Live stock has come through the winter in fine condition, and a large volume of coarse grain and fodder is left on hand. Prices have declined in the last ten days: Wheat, No. 1, 95c.@$1 per bu.; No. 2, 90@95c.; corn, 32½@34c.; oats, 32@34c.; barley, 45@50c.; potatoes, 80@85c.; beans, $1.90@1.95; butter, 20@22c. per lb.; cheese, 11c.; hogs, alive, $4 per cwt.; dressed, $5.25; beef, alive, 3½@3c. per lb.; apples, $1@2 per bbl.; patent flour, $6.00; straight, $5.50; timothy hay, $6 per ton; marsh hay, $4@5; straw, $7@4; hides, 5c. per lb. The farmers of Wisconsin are fast working into dairying; grain and meats of all kinds are so low in price we cannot get pay for the raising of them, with farm help at $16@20 per month and board. E. H.

Janesville, Rock Co., March 19.—So far this March is the best in my memory; days warm; a little rain during the week; only one windy day. The ice has all gone from Rock river and the ponds. The land is fast drying, and is now ready for plowing upon many farms. Tobacco will be an average acreage I think, from information obtained, still I can't be certain at this writing. Many expect an increase over last year's planting. Broomcorn seems to have gone from us entirely. Clover seed, which used to be a valuable crop here in Rock county, has gone also, giving place to the increasing demand for tobacco. Wheat, 70@80c. per bu.; rye, 45c.; barley, 45@50c.; corn, 44@47c.; oats, 32@35c.; potatoes, 45c.; apples, $1.75@2.25 per bbl.; hay, $4.50@7.50 per ton; cattle, $2@3 per cwt; hogs, $4.10@4.35; butter, 18@22c. per lb.; eggs, 10c. per doz.; tobacco, 30@c., 35@c., 5½@16c. per lb.; coal (in trust), $8.50 per ton. W. H.

Florida—*Orahamville, Marion Co., March* 19.—Weather fine for the last week, about like June weather in New-York State. February was very wet and cool. Crops of all kinds are backward; orange trees are growing finely, blossoming full, and are nearly in full bloom now; many new groves being set this season. Not few oranges left to ship now; prices from $1.50@2 per box, and some $2.25 at station. Vegetables are late, and but few just in this vicinity; many a few miles west and north. L. H.

Holstein-Friesian Breeders.

Annual Meeting of the Association.

Fifth Ave. Hotel, New-York, March 20.

Sixty members were present; 215 represented by proxy.

President Sweet's address congratulated the association on the progress of the breed in this country, which is now independent of Holland, importations having almost ceased; called special attention to the Advanced Registry; and advised a reduction of fees.

Secretary Wales' report suggested improvements in the rules; stated the present membership as 332, with 11 applications pending; noted the death of a single member, Mr. John Mitchell, during the year; mentioned the geographical distribution of the members—119 in New-York, 32 in Massachusetts, 24 in Pennsylvania, 21 in Michigan, 18 in Illinois, 17 in Ohio, 12 in Iowa, 8 in Minnesota, 8 in Tennessee, 8 in California, 7 each in Wisconsin and New-Jersey, 6 in Vermont and Connecticut, 5 in Kentucky, 4 in Indiana and Virginia, 3 in Missouri, Mississippi and Nebraska, 2 in Maryland, Rhode Island, South Carolina, Maine and Dakota, 1 in New-Hampshire, Arkansas, Louisiana, Kansas, Delaware, Indian Ter. and Ontario; claimed that no other breed of cattle has even approximated the Holsteins in increase; detailed awards of premiums; stated that 7,918 animals had been recorded during the year and 5,230 transferred, and that Vol. 4, with 7,835 pedigrees, is well advanced; and closed with this financial exhibit:

RECEIPTS.

Membership Fees	$1,218
Registry Fees	14,127
Transfer Fees	3,519
Duplicate Certificates	10
Importation Inspections	300
Herd-Books	291
	$19,465

PAYMENTS.

Officers, Clerks, &c.	$1,000
Printing Reports, &c.	1,320
Importation Inspections	41
Special Premiums	710
Missouri Ag'l College	750
Sundry Personal Accounts	313
Turned over to Treasurer	13,130
Balances due	701
	$19,965

Treasurer Smith's report—which does not indicate that the association is on the way to the poor-house—may be summarized thus:

RECEIPTS.

Balance last year	$38,413
From Secretary's Office	13,130
Interest	900
	$52,443

PAYMENTS.

Advanced Registry	$625	
B. Hoxie, Sup't A. R.	1,000	
T. B. Wales, Secretary (18 mos.)	3,750	
W. H. Smith, Treasurer	300	
Printing Herd-Book	8,000	
		9,925
Cash on hand		$42,518

Superintendent-of-Advanced-Registry Hoxie reported the cost of the 21 volume as $478, and

the expenditure of $150 for sundry incidental purposes.

A few amendments were made to the by-laws, of which the most important fixes registry fee for American bred animals at 50 cents for each cow and $5 for each bull to members, $1 per cow and $6 for bull to other persons, and provides that the association shall pay $6 for each American-bred bull eligible to registry that shall be slaughtered or castrated while in good health between the ages of 5 and 50 days. Transfers are to be free to members, if made within 90 days—50 cents each to others. The rule forbidding the publication of more than one volume of the herd-book per annum was rescinded; and it was determined to sell the volumes to non-members at cost price. No name including (without the numeral affix) more that 20 letters is henceforth to be admitted.

The board of officers was requested to present next year some plan for limiting the registration of males.

An application for financial assistance for the Holstein-Friesian Register was referred to the board for consideration.

Officers were unanimously elected — President, EDGAR HUIDEKOPER; vice-presidents, Geo. D. Wheeler, Jere. Allis, John A. Frye and D. H. Burrell; secretary, Thos. B. Wales; treasurer, W. Brown Smith; directors, M. L. Sweet, C. W. Horr and C. R. Payne; superintendent of advanced registry, S. Hoxie.

Practical Papers Presented.

Five valuable addresses followed, of which the first was by Prof. JOHNSON of the Michigan Agricultural College, on "The Relation of Breed to Milk and Beef Production." He advised Holstein breeders to stick to dairy points, arguing thus:

"To my mind, the future success of the breed depends on your working on the same line to secure in more perfect degree the realization of the ideal of your Dutch predecessors, viz.: the best dairy breed of cattle. If you have it to-day, be thankful; but remember that eternal vigilance and a continuance in the same line, with the same object kept ever in view that has brought the breed to its present position, can maintain, perpetuate and add to its excellence. Do not be distracted by any clamor that the breed is wanting in beef quality. That is a matter of very little consequence when compared with its value for the dairy. Do not be persuaded to displace your ideal cow for the dairy for a myth, an uncertainty. Do not follow in the lead of some unthinking enthusiasts, who are full of wild theories which invariably sidetrack them a good distance from the home station where practical results are realized. Your ideal cow has not sprung up in a night, nor come forth full panoplied in her most valuable qualities from airy nothingness. Avail yourselves of all the knowledge and science of this ultra-scientific age. It may help you in methods and management in your efforts to improve the ideal, but if any success is attained, it will be because you study and plod along the same lines of practice adopted by your predecessors over the sea—because you have the same object in view for a guiding star, an inspiration. * *

"There is no question of the quick-growing qualities of the Holstein-Friesian breed. I have had some opportunity of comparing their growth with the so-called beef breeds, under exactly the same conditions, and I think that they will make as many pounds in the same time as any other breed. They lack the early maturing qualities, the large development in the places where our highest-priced cuts are secured, the early ripeness and finish which are prime characteristics of the beef breeds—characteristics, remember, that have been secured through generations of breeding for this particular development, and at a corresponding loss, invariably, of dairy qualities."

This is strong argument; but a paper from Prof. MORROW of the Illinois University, which followed, gave diametrically opposite advice, and presented as good a plea for the "general-purpose cow" as the facts of the case permit. The line of his thinking is as below:

"The largest demand for cattle is for those believed to be good both for beef-making and milk-giving; the next largest, for cattle believed especially good as beef-producers; the next, for cattle believed to be especially valuable as dairy cattle, with little or no reference to other qualities. * * *

"There is overwhelming evidence, however, that we may have a symmetrical development of the whole animal, giving fitness for every natural function. We must choose between unusual or extraordinary development of one quality and fair development of two or more. Special development in the domestic animals, as in man, attracts most attention, commands the highest price, and, in many situations, is by far the most valuable. Fair ability to do more than one kind of work in the domestic animals, as in man, is less showy, usually lower priced, but meets a larger demand. * * *

"Milk-giving and meat-making are equally natural functions of every cow in natural conditions. Milk and flesh alike come from the food eaten, digested, and assimilated. The quantity and quality of either product will be affected by individual peculiarities, acquired or inherited, by the quantity and quality of food, and by good or bad care. Full work can not be done in both directions at the same time. The maximum product in both is not to be expected from the same animal, even at different times. There are thousands of cows, however, representing a half dozen breeds, or various crosses, which are conclusive proofs of the possibility of combining in one animal a merit above the average—both for the dairy and for beef making—a combination making animals more valuable for a multitude of our farmers than would be those in which there was a special development in either direction with corresponding weakness in the other. It is well worth an effort to supply the best possible of these double-purpose cows. * * *

"The special friends of the most numerous and widely distributed breed of imported cattle in the United States are now officially and privately announcing their belief that the former policy of giving attention to the development of this breed for one purpose only, was a mistaken one, and are officially encouraging the opposite policy. * *

"The breed of cattle to the interests of which this association is devoted stands in the front rank as regards milk production. Cows belonging to it have extraordinary records as butter producers. Clearly it should be ranked among the dairy breeds. It has characteristics which commend it to many farmers who are not distinctively dairymen. Its large size and the rapid growth of the calves are greatly in its favor. Grades and crosses of this breed have given large gains for food consumed, and very large weights for age, in many trials."

An interesting sketch of the development of the milk-producing industry around New-York was presented by Superintendent SHAW of the New-Jersey State Experiment Station Farm, closing with the following solid wisdom:

"To keep and satisfy this demand, the milk must be clean, free from stable odor, perfectly sweet, and must keep sweet at least twenty-four hours after delivery; should be made from good, sound food; should be well up to the standard of solids, and the fat should be held in solution by the milk, in order that it may reach the consumer after a long journey in the form of *milk, not partially churned butter.* It should come from healthy cows, so that no cry of tuberculosis or pulmonary disease may alarm the nervous consumer. The cows should have pure water and healthy surroundings, in order that any outbreak of typhoid fever may not be attributed to the milk supply, by your showing to all inquirers that your cows have a purer water supply than most cities have. In short, whatever can make our product better and give the consumer greater confidence in the purity of our milk should be our study. Whatever will deceive, or even disappoint, our customer, and all unnecessary excitement which may alarm, should be carefully avoided.

"A year or two since I learned from a representative of the Anglo-Swiss Milk Condensing Company that the price which they paid for milk varied very little either in Orange county, New-York, in England, or in one or two other points on the Continent, but was a little cheaper in Switzerland. Taking this fact in connection with the other, that it must compete with other articles of food in price to invite a large consumption, it appears that we cannot look for any higher price from the consumer, and as long as the present freight rates and very heavy expenses of delivery continue, to not much larger prices to the producer. Any larger profits, therefore, must come from improved production, to accomplish which we must have well equipped farms and good buildings. We must make a careful study of our feeds, must see that our daily ration is properly balanced, that there is no waste; but above all, our dairy must be made up of the best specimens of a good milk-producing breed, and as far as possible, of a good family of that breed."

Director THORNE of the Ohio Experiment Station spoke of "The Comparative Testing of the Dairy Breeds," pointing out that the testing of a few *individuals* does not quite answer the purpose, and recommending the following plan, suggested to him by B. B. Herrick of Wellington, O.:

"Let the station send a competent man to such herds of pure-bred cattle as may be offered for test; this man to weigh accurately all food consumed by the cattle; to take samples of the same, and send to the station for examination and analysis; to weigh the milk produced by each cow, and determine its quality, both by chemical analysis and by the churn; to determine by actual working test the amount of casein or curd in the milk, and to determine the weight of the animals under test by daily weighings. It is proposed that the test continue one or two weeks, and that it be repeated once each quarter, at least, throughout the year. By this method six herds at least may be kept under observation at the same time, and as will be shown further on, the herds may contain any number of individuals up to a hundred or more each."

Director COLLIER of the New-York Experiment Station described the statistics of the dairy industry, and showed how lessons of great value might be drawn from the careful collation of a sufficient number of accurate returns. The paper being accompanied by elaborate tables and charts, it can hardly be summarized further.

The next meeting of the association will be held at New-York, March 19, 1890.

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.

SPLINTS.—A horse 5 years old has splints on the outside and inside of both legs near the knee. What shall I do to remove them, and how long will it take? M. M. S. *Meridale, Ga.* [Apply golden blister. Ossific growths are not quickly removed. Treatment should be renewed once a month, and in three months we should expect to find little or no enlargement. May require but one application.]

BONE SPAVIN.—A young horse rising five years, weight about 1,150 lbs., has bone spavin in left hind leg. Was fired about three months ago and is pretty well healed. The horse goes lame yet. What treatment can you recommend? The animal is a valuable one, and I will give the best attention. He has been on the road the past year, but will be put on the farm and used as a third horse, with little or no driving. S. *Centre Hall, Pa.* [Apply golden blister and give perfect rest for a week, then turn him loose in box stall or barn yard for three weeks. Shoe should have short toe and outside heel calk; the inside of shoe should run back well, and the calk be twice the length of the others. The horse's foot should be kept well cut down and the toe short. When writing again state what treatment was pursued, how hot irons were used, style of irons and parts operated upon.]

SWELLING ON ANKLE.—A young mare, while driving late last fall, hit one of her hind ankles enough to break the skin; leg soon began to swell, and after using arnica and flaxseed poultices it broke in two places. Have since used carbolic and oxide zinc ointment, also a little powdered vitriol, and sore is about healed; but there is a spot about the size of a silver quarter that is pouted out with no hair on; is not much sore; can handle without flinching. Can I get it back in good shape, and work mare while treating same? S. H. H. *Middle Falls, N. Y.* [Apply some of the following liniment once a day on part that protruder, and all over the swelling on leg—at any rate, cover considerable skin around the enlarged part. Work horse right along: Tincture of iodine, 3 oz.; aconite root, ½ oz.; spirits of camphor, 3 oz.; mix. Report in ten days. Refer to this page. After a short time it may be necessary to blister; then you would have to give ten days' rest.]

DISTEMPER.—My mare, six years old, having a case of distemper like that stated in p. 74 of last year's volume, I applied remedies therein prescribed. In a few days swellings under throat broke in three places; discontinued liniment and bathed several times a day with warm water; swellings discharged copiously, but discharge is lessening. Throat is very much inflamed still, and mare is falling off in flesh since taken sick, over two week ago. Feed has been one gallon mill feed morning and night, with the addition at night of small cupful of flaxseed, boiled, and what mixed hay she wants. Appetite fair; bowels rumble a good deal, but evacuations are in good order. A. H. *Shedrell, Va.* [Feed should be hay, oats, bran, carrots, apples, &c. Whole flaxseed steeped may be freely given, also. Give the ball No. 1 at once, then one of No. 2 daily: No. 1. Powdered barbadoes aloes, 3 dr.; powdered nitrate of potass., 3 dr.; powdered gentian root, 2 dr., and sufficient quantity Venice turpentine; mix, and make into one ball. No. 2. Powdered nitrate of potass., 2 oz.; powdered colchicum root, 1 oz.; powdered sulphate of iron, 2 oz.; sulphate of quinine, 3 dr.; powdered gentian, 2 oz., and sufficient quantity of syrup; mix, and make nine balls. Wash throat, then apply some of the following liniment twice a day: Tincture of iodine, 3 oz.; tincture of aconite root, 1 oz.; spirits of camphor, 4 oz.; alcohol, 6 oz.; mix.]

DISCHARGE FROM HOOF.—My horse has been very lame in right front foot for the last two weeks. Have soaked foot in warm salt water every day for an hour or more. About ten days before lameness began a watery matter was discharged from top of hoof in front, but he was not lame, so I kept on using him. There is now a swelling on top of hoof where the watery matter was discharged, and to-day a thick matter has been running from the heel. No inflammation apparent in foot, and does not seem to be sore on top of hoof where the swelling is or at the heel. Foot is a little flat and horse has been lame in it several times before in last four years, but generally yielded to the salt water treatment; if not, he might be lame for four to six weeks, when foot would break at heel, discharge quite freely and after a few days seem all right. J. C. H. *Newport, N. Y.* [Have shoe removed and cut down the bottom of foot; search both corn places by cutting hoof out to the quick, and note if there is a bruise in any part of bottom of foot that may have caused pus to form and work up through foot to top. Clip hair off from top of hoof to fetlock; probe the parts where pus oozes out, and write me a simple description of the findings. Do not say "pus comes from heel," but state just what part of foot or heel it does come from. Soak foot twenty minutes twice or three times a day in the following medicated water: Powdered nitrate potass., 2 oz.; powdered alum, 1 oz.; tincture opium, 2 oz.; chloride zinc, 2 dr., and a sufficient quantity of water to make three-fourths pail full. Keep this and use two or three times a day as above.]

FLESHY GROWTH IN CALF.—A heifer 19 months old, and 8 months in calf, has a fleshy growth the size of a horse chestnut, quite small, next to skin; no hair on it; about 4 inches in front of udder at the left side. First noticed about a month ago; was then about half this size. S. H. *Alexandria Bay, N. Y.* [It is probable that only dissection will remove it. You may rub on a little of the following ointment every two or three days: Powdered iodine, 4 dr.; powdered iodide of potass., 1 dr.; vaseline, 2 oz.; mix.]

HIND FOOT CALKED.—A valuable colt has a sore occasioned by being calked about four weeks ago. Tar was first applied, afterward a preparation of white lead and white and blue vitriol; later a dilution of corrosive sublimate. The sore is on the front of the hind leg just above the hoof and is about four inches long and two wide and does not heal; is somewhat swelled. D. K. F. C. *Waterville, N. Y.* [There is no need of letting a thing go in this way; all this could have been avoided. Wash parts clean, clip hair away from sore and soak foot so that sore is immersed half an hour twice a day in the following: Powdered alum, 2 oz.; powdered chlor. potass., 2 oz.; warm water sufficient to cover sore. Twice a day wash sore, dry it with damp sponge and apply some of the following lotion: Compound tincture aloes, 4 oz.; chloride zinc, 2 dr.; water, 1 quart. Mix. Give horse a dose of physic; if hoof infringes on sore it must be removed.]

REMARKABLE OF HEAT.—One year ago I bought a mare 20 years old, weighing about 1,000 pounds; had been kept in city as family horse since 6 years old, kept and used carefully. Next day, being in heat, I took her to stallion, and again 4 or 5 times at intervals of 3 or 4 weeks. Used her but little, she rapidly became poor, would eat but little; food seems well digested and teeth apparently good. Mare is in heat all the time, discharges white substance, especially after driving. Have given up hope of a colt, but would like to get mare in good condition and use her on farm for light work. X. Y. Z. *East Windsor Hill, Ct.* [The mare was old and probably had never been served before. At any rate she was injured by service. She should have one of the following balls and the other a week later. Powdered barbadoes aloes, 1 oz.; gentian, 6 dr.; sub chlorate of mercury, 2 dr.; and sufficient quantity of syrup; mix and make into two balls. Inject vagina twice a day with some of the following lotion: Sulphate of morphine, 1 dr.; fluid extract belladona, 3 dr.; gallic acid, 4 dr.; water 2 quarts. Mix. Use vaginal hard rubber syringe. Mare should have little work, generous diet and ½ lb. whole flaxseed steeped over night and mixed with her meals daily.]

SWELLING ON THIGH.—A mare six years old had, last fall, a small bunch start on inside of right hind leg close to teat, spread over inside of leg down to hock; became hard, and exuded a yellow matter through the skin, the leg becoming very hot and tender to the touch. She also became very stiff in said leg. Gave her a physic ball of aloes, also blue vitriol and copperas in small doses. After three or four weeks swelling came to a head near teat, broke and ran much white matter; healed up, and in a week or ten days broke again and ran. Then she seemed to get entirely well, and worked right along. Yesterday I noticed she was a little stiff, and found her swelling in same place. Mare is in fine condition, is hearty to eat, and did not lose her appetite last fall. Have been feeding her corn meal and wheat bran mixed equal weight, with feeds of potatoes occasionally and hay. G. L. C. *Apalachin, N. Y.* [Give a dose of physic, then one of the following balls daily: Powdered nitrate of potass., 1½ dr.; salol, 6 dr.; powdered sulphate of iron, 12 dr.; powdered gentian, 12 dr.; sufficient quantity of syrup; mix and divide into six balls. Rub inside of thigh twice a day with some of the following lotion, warmed each time: Powdered muriate of ammonia, 4 oz.; powdered nitrate of potass., 3 oz.; acetum, 1 qt.; water, 3 qts.; mix. Exercise daily.]

SCOURS IN CALVES.—The best remedy I have tried is one third of a teaspoonful of cayenne pepper; put in a porter bottle full of milk, and drench the calf; if it does not get better, repeat the dose in four or six hours until it is relieved. Also for pigs or hogs put a large teaspoonful in a bucket of good slops twice a day until a cure is affected. Should any one try the remedy I wish he would report their success through your columns. A.

Horticultural Department.

Western Fruit-Growing.

We obtain a number of interesting facts and statements relative to successful fruit-growing in Illinois and other western States, valuable for other localities, from the recently issued Transactions of the Illinois State Horticultural Society, and of the several local societies of that State. For a copy we are indebted to A. C. HAMMOND of Warsaw, the secretary.

THE BEN DAVIS APPLE.—Allen Cope advises caution in planting extensively this widely popular market fruit. He says: "The Ben Davis has turned its face to the setting sun and seems to feel the chill of old age coming on. The people, to a certain extent, seem to realize this, but the pertinent question with every one is, "If not the Ben Davis what shall we set?" Plant Ben Davis, but not to the exclusion of other varieties. Mix in Winkler, Wine Sap, Rome Beauty or any other variety that experience and locality may suggest. He finds the Ben Davis to bear much better with other sorts variously mixed in for cross fertilization, and he would not, therefore, plant the others in solid and separate blocks. In partial corroboration of this opinion, F. I. Mann had observed that the best apples were from trees which stood near unlike varieties, with interlocking limbs, each, however, preserving its individual identity.

"THE VEGETABLE GARDEN," remarks G. W. M'Cleur, "never brings in money like the large field crops," but if well managed it saves money in butchers' and doctors' bills, and in many other ways. He properly recommends the long-row system, so that the plants may be cultivated with horse-power, the rows of vegetables to be two feet apart, using the narrow harrow between them, and making fragment plantings of such smaller crops as radishes, lettuce, &c., with rows of grape vines along one side thoroughly cultivated, and then rows of raspberries, gooseberries and currants, and three or four rows of strawberries. The latter are to be mulched and annually renewed, as it is easier and cheaper to plant anew than to clean an old and weedy patch even with horse-power.

SMALL FRUITS FOR MARKET.—Arthur Bryant furnishes an excellent practical paper on this subject. He states that an experienced planter would set ten acres of Crescent strawberries, to be well fertilized with Capt. Jack and May King, the want of fertilizers being one principal cause of failure with pistillate strawberries. He would add four acres of Windsor Chief with Capt. Jack. Among raspberries the Gregg and Souhegan are taking the lead, but the Ohio is gaining favor. Shaffer proves to be colossal in size, growth and bearing. The Snyder is the only blackberry planted.

Leon Hay writes several pages in strong proof of the truth that "thorough work is the key to success," in prompt and timely culture and liberal fertilizing, and that neglect and slipshod attention is sure to end in failure. D. H. Gray relates the result of two experiments. In one of these, plants of the Bubach strawberry were set out in August, making close rows. The second was set a month later. The first commenced cultivating three days after setting; the second after two weeks. The soil in both cases was equally rich and good. The first yielded at the rate of four thousand quarts to the acre; the second did not yield one thousand.

SPRAYING ORCHARDS.—During the discussion Mr. Caldwell gave an account of his success in spraying his 170-acre orchard. He had proved the efficiency of the operation in previous years, and the last season applied it to his whole orchard. He used two tanks such as steam threshers employ, the London purple being well mixed. As the wind was blowing, the tops of the trees could not be reached with the nozzle. It was therefore taken off, and the stream made coarser by placing the operator's thumb on the orifice. The coarse spray thus reached the tops of the highest trees, and dripping down among the leaves, wetted them thoroughly. The work was done in the best manner, and there was not two per cent. waste or second-grade fruit. The apples sold above the market price.

NEW FRUITS.—J. Webster said the Bubach does not meet the expectations of growers, being very soft and a poor shipper, the plants not enduring the midsummer sun. The Jessie is similar, but a more vigorous grower and plant-maker. The Hoffman, from South Carolina, promises well, is a good fertilizer for Crescent, and a fair shipper. The Pearl is large and also promises well. Warfield No. 2 is pronounced the best market strawberry for Southern Illinois, old or new, of good average size all through the season, fine appearance, firm shipper and of good quality.

PRUNING THE PEACH.—E. A. Riehl furnished a good paper on pruning the peach, a fruit which needs different treatment from some others on account of bearing on the previous year's shoots; it needs more pruning than most other trees, and gets less. Prune so as to retain the small twigs in the centre of the tree, which are so often crowded out and die. Prune so as to reduce the excessive growth at the ends of the limbs. Prune to let in the light of the sun into all parts of the tree. Then the tree will bear a heavier crop of fruit without breaking down, and the fruit will be larger and better colored. This pruning must be done yearly; omitting it occasionally will cause failure. The fruit will be greatly improved by being thinned, which requires less labor than is often supposed. Mr. Pearson, alluding to the fact that peaches are best when ripening on the tree, said it was impossible to get good peaches 200 miles from the place of raising.

SPRAYING INSECTS.—G. W. Endicott was well pleased with the results of spraying. When he began, his orchard was full of canker worms, tent caterpillars and codling moths. In twelve hours after spraying, the ground was covered with worms and caterpillars, but none could be found on the trees. A week later he repeated it, and as the result, he gathered the most perfect fruit his orchard had ever produced. He tried it on peach trees for the curculio, and after the operation he could find no curculios; but later they became numerous, coming from his neighbors who did not spray.

THINNING FRUIT.—Was strongly recommended. The labor is less to thin while it is small; picking off the surplus and throwing it to the ground, than to hand-pick, place the mature fruit in baskets, conveying it to a packing-shed, and assorting the rejected portion.

Directions for Laying Sod.

ENS. COUNTRY GENTLEMAN—Where one has but a small plat in the town it is often better to cover the surface with strong sod than to sow the seed and be troubled with weeds and other drawbacks. Sodding is a simple operation that any one can undertake, and where done in early spring when moisture is not lacking, failure is almost impossible. The

Fig. 1.

ground should be well worked and the surface made as fine and level as possible. Select the finest sod that a meadow or roadside will afford. For convenience in cutting, lay down a board, 8 or 10 feet long and a foot in width, and with a sharp spade, cut about two inches deep along its edges over as large an area as desirable, each board's length making two

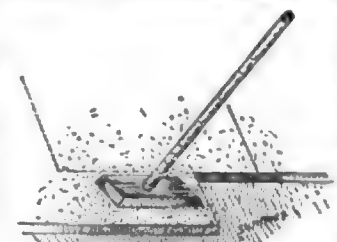


Fig. 2.

strips. When ready to raise the sod, commence at one end of the strip, cutting it about 1¼ inches thick, and while one person cuts, another can roll it up like carpet, as illustrated in fig. 1. When ready to move the rolls, run a stout stick through the center; it can be easily carried, and the work of laying the turf will go on rapidly by unrolling the sod in its place, using a large knife for getting the edges to fit. Any thin places in the turf should have enough fine earth worked under to even up the surface, and when ready, the sod is firmly beaten down, either with the back of the spade or by using the pounder shown in fig. 2. By this firming, any inequalities are smoothed down, and the grass roots are less liable to dry out. After this give it a good watering, and it will soon make a fine lawn.

This work may also be done later in the season, even if somewhat dry, if after the sod is laid, and firmed as above, an eighth or a quarter of an inch of fine soil is spread over the whole surface. Rake this smooth and then roll or otherwise pack it down. This covering prevents the roots from drying out before they can start into growth, and if carefully watered, nearly as good results may be expected, as if the work were done earlier.

Niagara County, N. Y. ELMER B. SUMMEY.

Small Fruit for the Farm Garden.

[Following is outline of an admirable address delivered at the Sandy Hill Farmers' Institute by a well known authority, Mr. GEORGE T. POWELL of Columbia County, who practices what he preaches, raising in large quantities some of the very best fruit that goes to market in this State. The audience—a highly intelligent gathering—were greatly pleased with the address, and asked to have its main points preserved in the COUNTRY GENTLEMAN, so that they and others might follow directions this spring.—EDS.]

The first strawberries that reach our market from Florida in February are quickly taken at $1 per quart, and from that time on, as the crop increases in quantity all the way up the Atlantic coast, our markets are heavily supplied as each locality pours its crop into them. All berries that are put on the market in good condition are quickly bought and consumed as long as the season lasts, and the late crops of Northern New-York bring even higher prices at the end of the season.

One of the reasons for the enormous consumption of strawberries is physiological. Our climate is for six months stimulating, and people require stimulating foods, need heat producing foods, hence consume large quantities of meat, &c. As the result of this winter diet, upon the approach of warm weather the system demands the acid that is furnished in the strawberry, therefore the great demand and increasing consumption of that fruit. How can it best be cultivated in the garden or for marketing? The garden strawberry bed is usually a failure because it is the weediest place on the farm, and not enough fruit is realized to supply the family. Take away garden fences, double the size of the plot, then seed one-half down with clover which turn under in the fall, and in the spring upon this loose, friable, clean clover ground set the strawberry plants, with garden vegetables, in long rows to be cultivated by horse power. The advantage of this system of planting on clover sward is that it furnishes more moisture to plants, and is also clean and free from weeds; take but one crop and seed down, while the other side is used for berries and vegetables. In this manner farmers can save a vast amount of labor, and have more garden products for their tables.

One of the reasons why strawberries are so often a failure in the garden is that runners are taken frequently from old bearing beds. Such plants are unproductive; have not vigor and are unfruitful; therefore set only runners from plants grown for that purpose, not from fruiting beds. Set in rows, one foot distant, three feet apart, leaving sufficient runners to fill up the rows and leaving a narrow matted row of twelve inches. Plant such varieties as do well in your locality and on your soil.

The blackcap raspberry is as easily cultivated as corn, set in rows, three by four feet, and pruned closely. When the new shoots get twenty inches high, pinch off the tops. The following winter or spring prune off all lateral branches to about eight or ten inches, the bushes are then compact, easily cultivated, and the fruit will be large and abundant.

The red raspberry is one of the most delicious of all fruits. When brought upon the table its rich aroma will fill the room, and it is one of the most desirable of fruits, with its milder acid suited to the warmer month of July. It also needs close pruning, and but four canes should be left to the hill to bear fruit; all other plants that come up freely, as they do, should be treated as weeds, and kept down. By pinching out the tops in June, a strong, stocky growth is obtained, and no stakes or wires will be required to hold up the bushes.

In blackcaps, the Souhegan for early, Ohio, Tyler and Gregg are among the best. In red, the Hansel for early, Cuthbert and Marlboro are all good. In almost any part of New-York State the blackberry can be cultivated where corn will grow. Set in rows, seven feet apart, and three feet in the row. Pinch off tops when four feet high, and prune laterals closely to about eight inches. In this manner this fruit can be raised as easily as potatoes. Stone's Hardy, or Snyder, will stand our climate almost anywhere, and the fruit is sweet and good.

All these fruits should be grown more than they are. With all of the great consumption, it could be doubled upon our farms alone, for not half of our farmers' tables have these fruits upon them, as freely as they ought to be. The farmer's wife and daughters ought not to be obliged to roam over fields and along fences to get small berries to put into cans, to be eaten only when company is present. Farmers, devote a few acres to small fruits, and you can add to the income of your farms satisfactorily, and to the comfort and health of your families greatly!

American Pomological Society.

Notes of the Florida Meeting.—III.

BOTANICAL NAMES.—A paper on "Botanical Names," by President Adams of the Florida society, awakened the liveliest discussion of the session. Mr. Adams made a witty attack on what he termed the botanical jargon of the plant nomenclature now in use. He said the dead languages were a failure in description of plants; not five men in a thousand could understand these botanical names. In shortening names of varieties of fruit, this society has already done a commendable work. The old Bartlett in crossing the ocean fortunately lost its foreign title. No fruit or flower with a long scientific name can ever attain much popularity. The "Jacqueminot" rose could not do it until we cut the name down to "Jack." Shall botany be monopolized by a select circle, or shall a society like this apply the remedy? "I want an English botany for an English-speaking people."

The paper met with opposition from many members at once. F. L. Temple spoke for the nurserymen, and entered a forceful and intelligent protest against the radical reform proposed; "You can not handle the plants of the world unless you use what is called 'scientific botany,'" he said. "How else shall we order stock from France and other countries? In local communities only could such a plan work. You may cut down names, but you must leave a distinguishing title that is universal. Instead of five names for each plant, the fact is few have more than two. We must have names that can be used the world over."

Rev. Mr. White said the essay was an invention worth patenting; the same objections might be urged against every science. Must we therefore do away with zoology, chemistry, physiology?

Mr. Steele thought botanical names were indispensable to an intelligent nomenclature.

Dr. Neal said: We cannot do without them until Volapük comes into general use. This reform cannot be established until all nations speak one common language. President Berckmans favored simplification of the present complex nomenclature, but was not ready to support the radical change proposed. On the whole, he thought the subject was largely beyond the scope of the society's work, and thus the debate closed.

Good Points in Citrus Fruits.

H. E. Van Deman, U. S. Pomologist, started another lively discussion, this time among the orange growers mainly, by his paper on "Judging Citrus Fruits." He took issue with the Florida standard adopted at the New-Orleans Exposition in 1885, referring to that system as a "horizontal scale." He offered a new standard, in substance as follows: *For oranges: First*, size, 1 to 10; standard, 2½ to 3 inches in diameter, one point off for every one-eighth of an inch below 2½. *Second*, general appearance, 1 to 20; standard, freedom from all blemish. *Third*, weight, 1 to 15; should sink in water. *Fourth*, flavor, 1 to 25; juicy, sweet, vinous. *Fifth*, absence of pulp and size of core ½ inch in diameter. *Sixth*, absence of seed, 1 to 10; standard seedless. *Seventh*, thickness of peel, not over ½ inch. From 2½ to 3 inches is good average diameter for the Navel varieties. Man-

darins and Tangerines are smaller, of course. A heavy orange is always juicy, and usually quite full of sugar. An orange that sinks may be considered as of good quality. A certain thickness of peel is essential for shipping, but one-eighth is enough; perhaps one-sixteenth might do, depending upon degree of ripeness and treatment after picking. The core should be very small, and the segments very tender. The only edible part of an orange is the juice. The Maltese Blood comes nearest the standard of a perfect orange. It should have no seeds, though some good oranges have a few seeds. The flavor is after all the vital point; it should please the eater; chemical analysis cannot decide this point. With Mandarins and Tangerines separation of the peel from the pulp should be taken into account. As to the lemon, 2¼ to 2½ inches transverse diameter is a good size; ten points may be given to size; the same to general appearance and weight each; should sink in water; peel should be 1-16 inch thick, and without bitterness; core very small; no seeds; quality of juice, 1 to 20; the exact standard of flavor is, however, very difficult to determine; 2½-inches, about 300 to the box, is the most profitable size for grower and dealer; larger or smaller should be deemed faulty; clear bright skin without shrivel. Seedless lemons, though scarce, do exist, hence a perfect lemon should be seedless. The lime may be ¼ inch smaller in diameter than the lemon, and otherwise like it. The pomelo (grape fruit) should be 4 inches in diameter.

Senator Reilly agreed with standard of size proposed for the orange—170 to 200 per box was about right; but Mr. Van Deman had the peel too thick. He had never yet seen a good Florida orange with an eighth of an inch peel. He said an orange to be perfect there, must have not over half that peel, the thinner the better. "A thin peel denotes a good, juicy orange; with an eighth of inch peel an orange is not good, and we don't put our trade-mark on any such fruit. Twenty-five points is too much to allot to flavor. Vinous quality differs from sweetness. The smaller the core the better, but the cavity ought not always to count against an orange. I think ten points enough for appearance; if the proposed twenty are allowed, many fine Florida oranges, the russets, for instance, would be ruled out." Instead of "pulp," he preferred to use "rag," in speaking of the flesh of an orange. Mr. Van Deman reminded the gentleman that some oranges were not grown in Florida, and hence the standard should not be fixed for that State alone. California grows some excellent oranges, and the skin was thicker there. As to the term "rag," he was quite willing to adopt the suggestion.

Palms—Grapes—Exports—Figs.

T. L. Mead of Lake Charm, Fla., followed with an instructive essay on "Palms and their Culture." He described many varieties, especially the native species, which are numerous and quite hardy. The names cited were extremely botanical. He has over eighty species growing in the open air without protection, with the mercury once at 26° this last winter. He named twelve sorts that were of value for general decorative purposes in that latitude, and gave their habits and mode of culture.

"Vitis Vinifera" was the subject of a paper by Baron Von Luttchin. Having two thousand vines planted, he gave at some length his experience with varieties tested.

Mr. Lee read an essay by Henry Foster on "American Fruit in Foreign Markets." He found a good market over the water for Florida oranges. Decay on the way had occasioned some loss; direct shipment from Florida to Europe is greatly needed to make the export entirely successful. Dr. Moore urged the importance of picking the fruit just at the proper time, and never in bad weather. If picked only when dry, and fumigated with sulphur, he thought oranges could be shipped with safety anywhere in the world.

The next paper was on "Fig Culture," by Ex-Gov. Reed of Florida. In 1873, on a farm near Jacksonville, he began raising figs, and had grown them there successfully ever since. He said the fig would grow on any well cultivated land in the South, and produce fruit. The amount and character of fruit will be in proportion to the food given the trees. The roots grow near the surface. It grows readily from cuttings, and will produce fruit in sixteen months from the cutting. He had improved the size and quality of poor kinds by fertilization; had removed trees and planted cuttings with success at all seasons. One of his trees, fed with the slops of the house, gave an annual product of ten bushels of marketable fruit for the last ten years. Frequent rains during the fruiting season, precluding picking at the proper time, is a difficulty in fig raising. He markets from 40 to 50 bushels in Jacksonville every year at from $3 to $4 a bushel. Mr. Steele had gathered ripe figs in September from cuttings planted in the previous March. Mr. Mead had been at the business for fifteen years, using much fertilizer, but he was yet waiting for his first ripe fig. Dr. Carey gave a similar report from near Lake Worth, no fruit yet. He thought the fig was not well adapted to general field culture in Southern Florida. It failed with Mr. Williams on Indian River. Other conflicting reports were made. A Louisiana acre in figs would produce as much fruit as twenty acres in Florida, in the estimation of one speaker.

Peaches in Florida.

Geo. L. Taber read a paper on "Peach-Growing in Florida." One reason for failure in past years, he said, was that northern settlers brought varieties with them. These will not succeed in Florida, the requirements being different there. Orange-growers had regarded the peach as an usurper in their golden territory. These influences drove the peach finally to the brush piles. In South Florida this was especially true. But since the introduction of the Peento type, Mr. Berckmans having obtained the seed from Australia in 1869, almost a revolution had been occasioned there. The same or a similar variety, he said, came from China many years earlier. The parent Peento is flat, medium size, excellent quality, a great bearer, and earliest to ripen in America; season April 1st to June; blossoms in December, and colors long before ripe. He shipped 400 bushels to northern markets in one season, though grown in a section where the early blossoms are often injured by frost. Many Peento seedlings, varying in form and habit from the parent, have since been obtained. Over twenty such are now grown. Some say they are all "sports," but he regarded them as the result of artificial fertilization of the pistils. The bud variation had given perfectly round peaches, with typical Peentoes both above and below on the same branch. A Peento that will bloom three weeks later, and ripen early as now, is a desideratum in Florida. The native peaches, common to the northern and central parts of the State, were alluded to, but their direct origin was in doubt. The Hovey type, originated in 1854 by Chas. Downing from China seed, is also valuable in Florida—very sweet, he said, but lacking in tone. Improved seedlings of this strain, though later to ripen, had been obtained. The Chinese Cling, though better than the Persian type, was not equal to the so-called natives or the Peento strain. The Chinese Blood, Red Ceylon and Japan Dwarf Blood were promising new sorts. A freestone Peento is desired. Such was claimed by Mr. Pierson, and it also bloomed two weeks later. Marketing is the great problem; freight charges to New-York were said to exceed the value of peaches to consumer. H. E.

Grape Rot.—Col. A. W. Pearson of this place has recently given our fruit farmers a valuable lecture on the grape rot. He has been experimenting for two or three years in connection with the department at Washington, and under the observations of agents from France, where the black rot has lately appeared. The results show that the black rot fungus is best controlled by spraying the vines early in the season, before vegetation starts, with a strong solution of sulphate of iron, say two pounds of copperas to a gallon of hot water. After the vineyard is plowed in May, top-dress with slaked lime. When the vine is setting its clusters, and before opening its blossoms, spray with Bordeaux mixture, which is made by dissolving six pounds of sulphate of copper, say, in six gallons of boiling water; in another vessel slake four pounds of new lime in four gallons of water; mix the two solutions and dilute with water sufficient to make 22 gallons of the liquid. Repeat the spraying every three or four weeks, less frequently in dry than in wet weather. Col. Pearson says he saved 90 per cent. of his grapes by this spraying, and has found the best work done by the portable sprayer, made (and invented) by Adam Weaber of Vineland. It is not necessary to drench the vines, and the spraying is less expensive than bagging.

Vineland, N. J. C. E. C.

The Poultry-Yard.

Rouen Ducks.

There are thousands who enjoy rural life, and have all the facilities necessary for duck culture, who never bred a flock of ducks. Necessity is the mother of invention. Our farmers and ruralists have enjoyed uninterrupted prosperity in comparison with their brethren in European countries, and do not know the need of auxiliary pursuits. The important character which the poultry industry is assuming, the fair demand and good prices for poultry products, and the large number of influential persons who have embarked in the enterprise for pleasure and profit, suggest a more extended system of cultivation, and more thorough knowledge and understanding of its branches and details.

Duck culture has been neglected, cottagers living contiguous to rivers, streams or ponds being the chief persons who have raised ducks for the holiday season. The epicure, who knows the flavor, sweetness and succulence of roast duck, bewails the disregard of this branch of poultry culture among those who are favored with extensive range, ample water facilities, and are dependent upon small home industries for means of living. Ducks usually command good prices and ready sale, not to speak of their quick growth, weight of flesh and value of feathers. The prospects of profits are exceedingly promising.

We have four breeds of ducks in this country that are well adapted for market purposes, but I speak now of only one. English-speaking poulterers are indebted to the French for the Rouen, with its massive size, fine flesh, magnificent plumage, imposing form and domestic habits. In color the Rouen duck resembles the wild Mallard, though the breast of the domesticated male bird shows a deeper tinge of purple or claret. Although naturalists almost unanimously agree that the Rouen is a domesticated Mallard, they are not quite sure but a cross of the Algerine or Labrador was used as the basis to achieve size in the shortest possible time, as in the make up of a more recent acquisition to the duck stock of France, and the rival of the Rouen—the valuable Du Clair breed.

For market purposes the Rouens stand in high esteem, though they are closely followed by the Aylesbury, Pekin and Cayuga. In plumage, the Aylesbury and Pekin take the lead, not in richness, beauty or brilliancy, but in the purity of their white and creamy color, preference being shown to white feathers for household use. In the points of weight and quality of flesh, the Rouens have no superiors, while they far transcend other breeds in richness, variegation and brilliancy of plumage.

The male Rouen is a grand and attractive bird, and is broader, straighter and longer than the duck. He has lustrous green, with purplish shade, on his head, extending to the neck and meeting the ring of pure white that encircles it like a ribbon. His breast shows rich and warm color, purplish brown or claret, reaching well to the thighs; the under part of the body, and extending to the tail, shows a beautiful shade of grey, growing lighter towards the posterior, and ending in solid black under the tail. The back is a harmonious blending of ashy grey and green, becoming richer and more lustrous towards the rump. The shoulder coverts have wavy brown lines over the grey; the wings show greyish-brown, purple and green, with a band across them of rich purple, green and blue, edged with white; the flights dusky brown; tail ashy brown, with the outer edge showing white in old birds; the three centre feathers curled—a distinguishing mark of the Mallard species. The feet are orange, with a tinge of brown; the bill long, and in profile nearly on a line from the top of the head to the tip, the color greenish-yellow throughout, excepting the "black bean" at the tip. The whole plumage is varied, rich, lustrous and attractive, the general appearance noble and massive, and the whole make up indicating solidity, beauty and perfection.

The general color of the female is a modest brown, with darker pencilling on the breast; the head brown, with two light brown lines on each side, and extending behind the eyes; neck light brown, pencilled with darker brown; back, brown, richly marked with green. Under part of body and sides, grayish brown, each feather distinctly pencilled with rich dark brown; wings grayish brown, mixed with green, and barred with purple, edged with white. The bill, though of brownish orange, changes to a dull brown during the laying season, the dark blotch and bean still remaining.

The Rouen duck is a good layer, but not equal to the Pekin. They are not so good sitters as common ducks; the development of the abdominal part impedes their locomotion and makes them unwieldy and awkward for hatching. The sitting propensity is not very strong in the Rouen or Pekin; the custom of giving their eggs to hens to incubate has modified the natural trait. The ducklings are usually strong and hardy, grow thrifty from the shell up, and attain surprising weights when four or five months old if well fed and well cared for.

The Rouen for early market use can be recommended, though the Pekin for quick growth may be more suitable, but they seldom attain the weight of the Rouen at maturity. The Rouen has surpassed other breeds in French and English shows. The Aylesbury drake often attains the weight of the Rouen male, but the Aylesbury female seldom equals the Rouen. In good condition, a pair of Rouens will average sixteen pounds, and some have weighed as high as twenty-five pounds. Of course, these are exceptions; the average weight should always be kept in mind by the amateur breeder or novice while calculating the profits on duck culture.

JOSEPH WALLACE.

The Cochin Again.

Eds. Country Gentleman—Mr. Beale's rejoinder (p. 229) escaped my notice until a few days ago.

It is reasonable to admit that the Cochin in M. Lemoine's experiments has consumed a very large amount of food per day in comparison with other breeds; but the figures will hardly be accepted by Cochin breeders as a correct average of the daily food one consumes. There is a great difference in individual birds of the same brood, as there is in animals and men. Of course the English or French Cochin would be expected to consume more food than the average American bird, as they carry more excessive feathering, which is a heavy drain on the system. The test, too, was in comparison with the very best breeds in France—birds which have a world-wide reputation for economical merits, precociousness and adaptability for rapid fattening, and for centuries undergoing local improvement and selection for these qualities alone, fancy points being secondary qualities in every respect.

Another point in this test case is worthy of remark. The Cochin will keep growing until it is seven or eight months old; consequently the development of frame, bone, muscle and excessive feathering requires more food. Now, if the Buff Cochin attained the surprising weight of ten pounds at six months old, it was not fully developed at that time, and in addition to putting on this extra weight, every part of its organism was drawing nutrition for support and development, while such breeds as the Houdans, Du Mans, La Bresse, Crèvecœurs and Gournays, the latter at four months and all others at five months, are as fully developed as is the Cochin at six months.

Philander Williams, ex-president of the American Poultry Association, and one of the oldest Asiatic breeders in the country, who has had a decade of experience with Cochin fowls for every year that M. Lemoine has bred them, has prepared a table showing general weight of male and female birds of twelve breeds, dressed at three months and twelve months old, age at time of laying, number of eggs laid first and second year, number of eggs to the pound, and other data taken from memoranda of his own experience. There is nothing said about the quantity of food consumed by each breed, but the table shows the general weight and egg production of the different breeds under *ordinary management*. Cochins show a fairly good record of utility. Dressed at three months they weigh three pounds; Dark Brahmas, three. Cochins, dressed at twelve months, eight pounds; Dark Brahmas, eight. Cochins and Brahmas begin to lay at six and a half months. Cochins lay 140 eggs first year, 100 the second year, and average nine to the pound. Is not this a good record? T. F. McGraw, Jr.

Artificial Incubation, p. 190.—The raising of poultry artificially has been made a success in every sense of the word. The town of Hammonton, N. J., is a good illustration, the chief occupation of its inhabitants being that of raising poultry artificially. Where situated near to city markets, the profits from early broilers are very satisfactory. A person can best tell by "trying the ground" slowly, and if profits guarantee it, this could be profitably made (as I doubt not) a person's entire business. W. M. B. *Allegany County, N. Y.*

NEW ADVERTISEMENTS.

FORTY CENTS PER LINE.

[*Inserted Here for Lack of Other Outside Space.*]

WANTED—On a Farm near Walden, a Woman for General Housework; middle-aged preferred. Address LOCK BOX 5, Walden, Orange Co., N. Y.

WANTED—A First-Class BUTTER-MAKER who can run De Laval separator, &c. Address D. F. MACAULEY, mh28-2t Cream Hill Stock Farm, Shoreham, Vt.

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GRADUATE OF TWO ROYAL BOTANIC GARDENS—As first-class Gardener; additional experience in third country in landscape gardening, buildings, orchid growing and exotic plants, fruit forcing, rosaries; flower gardening, carpet and plain; general fruits and vegetables, laying out and making new places preferred. Address UNCIDIUM, P. O. Box 17, mh28-4t Saugerties, Ulster Co., N. Y.

New Advertisements.

Allen, Edwin	*Peach Trees.*
Allis, John W	*Parchments, &c.*
Adriance, Platt & Co	*Hay-Tedders, &c.*
Aultman, Miller & Co	*Buckeye Binder.*
Box 81	*Instruction Wanted.*
Brown & Bros., C. C	*Eggs for Hatching.*
Ball, Albert P	*Jersey Heifers*
Box 178	*Situation Wanted.*
Bennett, H. L	*Davis Stump Puller.*
Blakeman, L. V. M	*Guernseys*
Benedict, C	*Hualsea Potatoes.*
Bar-croft, E. H	*Moore's Early Grapevines.*
Brown, H.	*Jersey Bull Wanted.*
Chaffee & Son, O. S	*Dress Silks.*
Clift, H. & E. C	*Jersey Bulls.*
Cloud, Dr	*Chester White Pigs, &c.*
Coon, Benj. J	*Cheshire Pigs.*
Craig, George F	*Jersey Bull Calf.*
Clarkson, E. L	*St. Lambert Bull Calf.*
Cranes & Co., Jno. F	*Ranch for Sale.*
Dawes, Jr., T. A	*Grindings.*
Foreee, A. B	*Scotch Shorthorns.*
Fraser, J. M	*Market Gardens.*
Garth, D. J	*Jersey Cows.*
Hurlburt, S	*Seed Potatoes.*
Hartland, H. G	*Eggs for Hatching.*
Hollister, Henry	*Jersey Cows.*
Jacks, J. Gordon	*Seed and Potatoes.*
Jenison, D. E	*Help Wanted.*
Jones, Mrs. E. M	*Jersey Cow.*
Lynch, Francis	*Apothecary Still.*
Lock Box 5	*Help Wanted.*
Leeds, A	*Eggs for Hatching.*
Mapes Perur. Guano Co	*Mapes Manures.*
Mrs. D	*Help Wanted.*
M'Carty, E	*Jersey Stock.*
McMath Bros	*Early Vegetable Plants.*
Macauley, D. F	*Butter-Maker Wanted.*
Noyes, N. H	*Coach Team.*
Osburn, W. D	*Scotch Collies.*
Onondaga	*Situation as Gardener.*
Palmer, W. M	*English Mastiff.*
Pierson, Attwood	*Jack for Sale.*
Robinson & Son, Chas	*Public Sale Holsteins.*
Rolfs, Wm	*Dorset-Horned sheep.*
Roper & Co., J. R	*Cottonseed Meal.*
Rochett, Clarence	*Jersey Bull.*
Stahl, George H	*Excelsior Incubator.*
Scudder, Hewlett	*Boston Idol Stock.*
Sheip, James, V. S	*Ointments, Horses, &c.*
Shaw, H. D	*Pigs for Sale.*
Sholes, N. F	*Seed Potatoes.*
Thomas, M. C	*Gordon Setter.*
Thompson, George W	*Eggs for Hatching.*
Tanner & Co	*Cure for Wind Colic.*
Talcott & Son, J	*Seed Potatoes.*
Thurston, John	*Stock Sales in England.*
Van Wyck, Jacob S	*St. Lambert Bull.*
Yerkey, S. W	*Eggs for Hatching.*

Pamphlets, &c., Received.

ALLEN & CO., S. L., 121 *Catharine St., Philadelphia, Pa.* Planet, Jr., Implement Catalogue; pp. 32, illustrated.

HENDERSON, PETER, 35 *Cortlandt St., New-York.* Paper on Market Gardening around New-York.

HERRESHOFF MFG. CO., *Geneva, N. Y.* Circulars of Harrows, Potato Coverers, Steam-Heating Apparatus, &c.

HINMAN, W. M., *Dresserville, Cayuga Co., N. Y.* Circular of Fine Milking Short-Horn Cattle.

HOME FARM FINE-STOCK CO., *Hampton, Iowa.* Catalogue of Holstein-Friesians—29 bulls, 65 females; pp. 16, with portraits.

KINCH, Prof. EDW., *Royal Agricultural College, Cirencester, Eng.* Report of Field Experiments; pp. 16.

LANDRETH, BURNET, *Philadelphia, Pa.* Paper on Forest Planting in Virginia.

MACAULEY, D. F., *Shoreham, Vt.* Circular of Choice Butter.

MANNING, ROBT., Secretary Massachusetts Horticultural Society, *Worcester, Mass.* Invitation to Exhibitions for 1890.

MCMATH BROS., *Onley, Va.* Nursery List.

PARSONS & SONS CO., *Flushing, N. Y.* Kissena Nursery Catalogue; pp. 114.

PIKE COUNTY NURSERIES, *Louisiana, Mo.* Catalogue; pp. 36, illustrated. See advertisement, p. 208.

ROBERTS, T. J., 191 *Reade St., New-York.* Circular of Monmouth Asparagus Buncher.

SMITH, CHAS. W., Secretary State Board of Agriculture, *Providence, R. I.* Fourth Annual Report; pp. 32.

STAHL, GEO. H., *Quincy, Ill.* Testimonials to value of Excelsior Incubator and Brooder—see advertisement, p. 208.

STEWART, LESLIE, *Jefferson, N. Y.* Circular of Black Minorca Fowls.

WEBB, WANTON S., Director-General Sub-Tropical Exposition, *Jacksonville, Fla.* Invitation.

Mushroom Culture.—Will you kindly tell me when to plant mushrooms? C. S. *East Stroudsburg, Pa.* [Our correspondent will obtain full information on mushroom culture, from the illustrated article in vol. IX of RURAL AFFAIRS, pages 57 to 60.]

Potato Diggers.—In your issue of Feb. 21, is a piece on potato diggers, by T. B. Terry. I should like the address of the manufacturers of the Hoover and Newberry potato diggers, and any other manufacturers of reputable potato diggers that you may be acquainted with. F. A. S. [We believe a good potato digger is made by the Aspinwall Mfg. Co., Three Rivers, Mich., to whom our correspondent will do well to write.]

Inquiries and Answers.

Silos.—Not having seen or had the proper mode of preparing ensilage explained to me, I wish you would give your ideas, with the latest improvements in the silos, also the proper time for planting and cutting the corn for ensilage. Is it necessary to dig a silo, or can one be made of a large room in barn? S. *Kent County, Md.* [With properly constructed walls, a silo may be built as well above ground as partly sunk, the important requisite being to have the bottom on a level with the cattle stable for convenience in the daily feeding. One may be made in a suitable portion of a barn basement. The corn is to be planted at the usual time in corn planting, and harvested about the time of the glazing of the grains. You will find additional information in the leading article on p. 224.]

Apples—Blackberries—Roses.—Does the Baldwin apple succeed in Maryland and on sandy soils, subsoil also sandy? Have any of your readers any experience with the Erie Blackberry? Is it as good as claimed? How long would a bed of tea roses last, before the soil would "run out?" J. H. B. *Perryman, Md.* [The Baldwin would not succeed so well in Northern Maryland as further north. The popular varieties which do well in Southern Pennsylvania would doubtless succeed better, such as Smokehouse, Smith's Cider, Pryor's Red, &c. Nearly all the early apples do well in Maryland. The Erie blackberry so nearly resembles the Rochelle or Lawton, that many regard them as identical. Roses should not remain in the same ground many years without removal or special manuring, varying much however with the character of the soil.]

Water Reservoir.—I intend to put up a wind mill this summer (to pump water for house, creamery, and barn yard,) over a building in which I want to keep the creamery, ice house, and a tank or reservoir that will hold 75 to 100 bbls. of water. Which would be the best—wooden tank or cemented cistern? I should like to put in the one that would be easiest protected from frost through winter; also to keep the water as warm in winter and cool in summer as possible. O. H. B. *Shanlon, N. Y.* [As the reservoir is to be over the building, wood would be cheaper and safest from any harm, but would decay in a few years. If, however, it should be thoroughly soaked with crude petroleum for several weeks before being used, it would be rendered more durable; this operation to be repeated in a few years. If the cistern could rest on solid ground, where it could not freeze, Portland cement would be best. We cannot advise you in detail without further information as to the character and shape of the ground. In vol. VII, of RURAL AFFAIRS, you will find on page 180 an account of an iron tank holding seventy barrels on the top of a barn building, which may afford some suggestions.]

Seeding on Sand.—How can I get seed to grow on fine sand land? Have tried seeding with oats in spring and rye in fall, but have usually failed; never have tried anything but timothy and clover. (1) I would like to sow to oats this spring, two fields six acres each. (2) One was planted to potatoes with a good coating of barnyard manure plowed under, and yielded a very good crop. The other six acres was planted to corn, with 200 lbs. of phosphate per acre in the hill, and I received 70 bushels care per acre. It was troubled some with wire worms eating the kernel before coming up, also the gray worms after the corn was up. Is there any way of getting rid of these pests? (3) I would like to get these two fields into meadow land. They have been used as pasture for sheep and young cattle for a few years previous. How can I get rid of mulleins? (4) J. H. *Glens Falls, N. Y.* [1. The failure of seed to germinate and grow on such land may be the result of different causes. If the season is quite dry, the seed may require a light covering with a brush harrow, and germination may be aided by fine top-dressing of manure; or by selecting such a time as the soil may be sufficiently moist. 2. A crop of oats is not favorable to successful seeding, but is better if only a bushel of seed is sown to the acre. A thin crop of barley is much better; winter rye best of all. Timothy and clover will be as likely to succeed as other grasses, and orchard grass will endure drouth better than some others. 3. The gray cutworms, which cut off the young corn, are to be destroyed by hand labor, watching when they first appear, and digging down wherever a plant has been cut off. A few days' labor in this way may save your fields from destruction. 4. Mulleins are easily killed by hand, or by cultivation in arable fields.]

The Island Breeds.—Will some of your readers who have had experience state whether with the same care and feed Guernseys cows are as much inclined to hold to their milk to or near the time of calving as Jerseys? M. J. P. [We hardly think any other breed quite equals the Jersey in this peculiarity.]

An Imperfect Specimen.—What can you tell me about inclosed? It appeared last fall in an old timothy field, that, the previous spring, had been top-dressed with barnyard manure. Where it grows it kills out everything else. A. M. P. *Beloit, Md.* [The specimen is not in condition for satisfactory identification, being little more than root stocks. It apparently belongs to the *Leguminosæ* or pulse family, but it will be better to send it again after the stems, leaves and flowers have developed. C. H. P.]

Sheep Pulling Wool.—What causes sheep to pull their wool, and what will prevent it? J. N. S. *Palmyra, N. Y.* [It is probably caused by ticks or lice. Carbolic sheep dip will destroy them. It may be caused by cutaneous eruptions resulting from a disordered condition of the system. A change in feeding and care, aided by laxative medicines, may remedy the difficulty. The sheep may have the small-pox, or they may have the scab. These are very doubtful. A sharp pair of eyes should determine these questions.]

Seeding on Mucky Land.—I have 14 acres of mucky heaving soil which I wish to seed, and will put on oats this spring. Shall I seed with the oats, and with what seed? (1) Prof. Roberts of Cornell has sometimes advised to drag the stubble in the fall after the crop is gathered, and then seed. Would you advise that for this soil? (2) The field has in the past proved very hard to seed with timothy and clover. The last time it was seeded with orchard grass with no better results—sowed with oats. What phosphate should I use, and how much? (3) M. S. C. *Tompkins County, N. Y.* [1. We cannot prescribe definitely without more information as to the character of the soil. It may be that the only trouble in seeding is a want of thorough drainage causing the plants to be thrown out by heaving in winter; or it may be that the texture of the soil is adverse to ready germination. Oats, as we have stated elsewhere, are not favorable to successful seeding, but if used at all, especially on mucky land, should not have more than a bushel of seed to the acre, otherwise they will shade the young grass too densely. 2. A successful trial will be the best test in this case. 3. If phosphate has been tried on your particular soil and given a good measured increase, you may sow two or three hundred pounds to the acre. Some cultivators sow larger quantities, but without a corresponding increase in the crop. On some soils it has not paid the cost in the increase; hence the importance of testing by experiment.]

Soiling Sheep—Hurdles.—I have seen in an old agricultural work that from 1835 to 1837, a Mr. M. Pennock of Kennett Square, Pa., practiced soiling sixty to seventy sheep during the three hot months, and he found that his sheep improved in condition, seemed more comfortable than when on pasture, and required much less grass land to provide than with feed. The sheep were confined in a large airy shed, except for about two hours, morning and afternoon, when they had the run of an adjoining lot. The plan seems so good that I should like to inquire as to practicability of soiling a flock of a hundred during all the green crop-growing season. Our sheep are kept for raising spring lambs for market, and for wool. (1) Are there any hurdle fences for sale in this country? I think they might be cheaply made of light angle iron for the frame, which could be covered with wire netting—or still cheaper, with wooden frame and wire netting, and with suitable iron supports at each end. (2) O. *Boston, Md.* [1. It is entirely practicable to keep a flock of sheep through the summer on the soiling system, if due attention is given to variety of foods and to cleanliness. They should have a variety of grass and of forage plants, with a light ration of wheat bran. There is great danger of foot-rot troubles, unless their quarters are kept dry and well littered. Sheep being prepared for the show pen are kept closely confined without injury. 2. We do not know of true hurdles being offered for sale in this country, although similar fencings are frequently advertised. They can be cheaply made by ordinary laborers on a farm having young ash trees and chestnut sprouts.]

Sweet Corn Ensilage.—Can some one from a practical experience, say that sweet corn (Stowells' evergreen or other variety) brought to a proper and mature state, will make good keeping ensilage, equally as good and satisfactory as any other (not sweet) variety. Will not the sugar in the corn produce more acid or vinegar? I have been looking for an answer to this inquiry from correspondents of this paper, but do not find the question squarely met. A. G. M. *Lewis County, N. Y.* [The difference between the amount of sugar in the stalks of sweet corn and in other varieties, does not appear to be sufficient to produce any distinct difference in the sourness of the ensilage; and although occasionally recommended as best, experience has not proved it enough better in quality to compensate for its smaller quantity, and it is not therefore commonly employed.]

Seed Potatoes for an Acre.—How many barrels of potatoes cut to single eyes are usually required to plant an acre of ground? E. B. *Putnam County, N. Y.* [There are two variable conditions which render a definite answer impossible. The size of the potatoes greatly varies, and may give double the quantity in one case compared with another. Some potatoes have more numerous eyes than others. The distances in planting would make a wide difference. For rows three feet apart, and the plants one foot asunder in the rows, about 20,000 pieces would be required for an acre. If a foot and a half apart in the row, only 13,000. If a single piece would occupy only a cubic inch it would require only ten bushels for the last named distance; but if each cut piece was equal to three cubic inches, then thirty bushels would be wanted. There is a chance for very wide discrepancy, and our correspondent may amuse himself by counting the number of cut pieces to fill a peck measure, and then indulging himself in the various divergent calculations.]

A Big Potato Yield.—A correspondent of the New-York World writes:

On one-eighth of an acre I grew 126½ bushels of potatoes, or at the rate of 1,008 bushels per acre. The potatoes were dug and measured in the presence of many witnesses; many tubers weighing two pounds and over each. About the 18th of May I planted one measured acre with one-quarter and one-half eye cuttings, none larger. All grew strong and rapidly, with large vines. William H. Maule and others who saw them pronounced them the finest in growth ever seen. Soon after planting, a drought set in, and for seventy-two days there was not a drop of rain to moisten the vines. This, with a burning-hot sun, was too much for them, but bad as it was, the yield was 500 bushels to the acre. The Mapes manure was used, and no other. Not wishing to be beat out, middle of July I planted one eighth of a measured acre with half of an eye cuttings, soil middling heavy, sandy loam, plowed twelve inches deep, 100 pounds Mapes potato manure broadcasted on the same, harrowed deep and thorough. Trenches were now opened eight inches deep with a one-horse plow by going through each trench twice. Seed was cut two weeks previous, all to half eyes, and dusted with plaster. All seed now showing sprouts was dropped in the trenches in single pieces, from four to five inches apart, and covered one and a half inches deep. Then 100 pounds of Mapes potato manure was scattered in the trenches for the one-eighth acre, no other manure being used on this plot or the one acre. The balance of the trench (four to five inches) is left open for the rain and dew to fall in and dissolve the manure. If the manure is put below the seed and the trench is filled up full at the time of planting, it will not do much if any good. We now have from four to five inches of mellow soil below the seed for the roots to grow in, and from four to five inches of the trenches are not filled up as yet. This is done as the vines grow and no faster. Some of the buds from the vine stalk will grow out from the vine, with roots and tubers on the same for a still larger yield. As soon as the bud starts out from the vine stalk I push it down and out a trifle, press the soil in between the stalk and bud, and continue this filling up to the surface. Thus the lateral buds will reach the surface from six to eight inches out and off from the main stalk, and will be full of roots with many tubers, and in a mellow soil, with room to grow in; by this process the yield will be one-third more. The potatoes were cultivated and hoed three times each, and then cultivated and hilled up. This comprises my trench system commenced sixty years ago, and the crops here mentioned were all grown from seed; half of an eye in one piece.

Advance Conditions.

Subscriptions for publication have been received for the Cultivator & Country Gentleman at the following rates: Single subscription, one year, $2.00; Two subscriptions, one year, $3.50; Three subscriptions, one year, $5.00; Four subscriptions, one year, $6.00; Five subscriptions, one year, $7.00; Six subscriptions, one year, $8.00; Seven subscriptions, one year, $9.00; Eight subscriptions, one year, $10.00; Nine subscriptions, one year, $11.00; Ten subscriptions, one year, $12.00; Eleven subscriptions, one year, $13.00; Twelve subscriptions, one year, $14.00; Thirteen subscriptions, one year, $15.00; Fourteen subscriptions, one year, $16.00; Fifteen subscriptions, one year, $17.00; Sixteen subscriptions, one year, $18.00; Seventeen subscriptions, one year, $19.00; Eighteen subscriptions, one year, $20.00; Nineteen subscriptions, one year, $21.00; Twenty subscriptions, one year, $22.00; Twenty-one subscriptions, one year, $23.00; Twenty-two subscriptions, one year, $24.00; Twenty-three subscriptions, one year, $25.00; Twenty-four subscriptions, one year, $26.00; Twenty-five subscriptions, one year, $27.00; Twenty-six subscriptions, one year, $28.00; Twenty-seven subscriptions, one year, $29.00; Twenty-eight subscriptions, one year, $30.00; Twenty-nine subscriptions, one year, $31.00; Thirty subscriptions, one year, $32.00; Thirty-one subscriptions, one year, $33.00; Thirty-two subscriptions, one year, $34.00; Thirty-three subscriptions, one year, $35.00; Thirty-four subscriptions, one year, $36.00; Thirty-five subscriptions, one year, $37.00; Thirty-six subscriptions, one year, $38.00; Thirty-seven subscriptions, one year, $39.00; Thirty-eight subscriptions, one year, $40.00; Thirty-nine subscriptions, one year, $41.00; Forty subscriptions, one year, $42.00; Forty-one subscriptions, one year, $43.00; Forty-two subscriptions, one year, $44.00; Forty-three subscriptions, one year, $45.00; Forty-four subscriptions, one year, $46.00; Forty-five subscriptions, one year, $47.00; Forty-six subscriptions, one year, $48.00; Forty-seven subscriptions, one year, $49.00; Forty-eight subscriptions, one year, $50.00; Forty-nine subscriptions, one year, $51.00; Fifty subscriptions, one year, $52.00; Fifty-one subscriptions, one year, $53.00; Fifty-two subscriptions, one year, $54.00; Fifty-three subscriptions, one year, $55.00; Fifty-four subscriptions, one year, $56.00; Fifty-five subscriptions, one year, $57.00; Fifty-six subscriptions, one year, $58.00; Fifty-seven subscriptions, one year, $59.00; Fifty-eight subscriptions, one year, $60.00; Fifty-nine subscriptions, one year, $61.00; Sixty subscriptions, one year, $62.00; Sixty-one subscriptions, one year, $63.00; Sixty-two subscriptions, one year, $64.00; Sixty-three subscriptions, one year, $65.00; Sixty-four subscriptions, one year, $66.00; Sixty-five subscriptions, one year, $67.00; Sixty-six subscriptions, one year, $68.00; Sixty-seven subscriptions, one year, $69.00; Sixty-eight subscriptions, one year, $70.00; Sixty-nine subscriptions, one year, $71.00; 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Ninety-three subscriptions, one year, $95.00; Ninety-four subscriptions, one year, $96.00; Ninety-five subscriptions, one year, $97.00; Ninety-six subscriptions, one year, $98.00; Ninety-seven subscriptions, one year, $99.00; Ninety-eight subscriptions, one year, $100.00; Ninety-nine subscriptions, one year, $101.00; One hundred subscriptions, one year, $102.00; One hundred and one subscriptions, one year, $103.00; One hundred and two subscriptions, one year, $104.00; One hundred and three subscriptions, one year, $105.00; One hundred and four subscriptions, one year, $106.00; One hundred and five subscriptions, one year, $107.00; One hundred and six subscriptions, one year, $108.00; One hundred and seven subscriptions, one year, $109.00; One hundred and eight subscriptions, one year, $110.00; One hundred and nine subscriptions, one year, $111.00; One hundred and ten subscriptions, one year, $112.00; One hundred and eleven subscriptions, one year, $113.00; One hundred and twelve subscriptions, one year, $114.00; 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The Grazier and Breeder.

Milk Ration Improved.

Slowness in Breeding.

Eds. Country Gentleman—I am producing milk for Washington, D. C., from native cows and grade Holsteins, 800 to 1,000 lbs. Please give formula from following feeds—wheat bran, $18 per ton; corn meal, $20; cottonseed meal, $25; linseed meal, $30. Can get corn bran at $15 or a little less. Have been mixing in this proportion—200 lbs. meal, 100 lbs. cottonseed meal and 50 lbs. linseed meal with 350 lbs. wheat bran; have no hay and a rather scant supply of good ensilage. Have been feeding of the above mixture of grain to the cows in full milk 16 to 20 quarts per day, decreasing the feed as the cow decreased in milk until dry, when I give 4 to 8 quarts according to condition of animal. My object is good quality with greatest quantity without injury to cows.

What is the cause of cows being slow to get in heat; frequently going six or eight months after calving before taking the bull? I am trying to improve my stock by crossing with Holstein bull and raising the heifers, but these show the same slowness as the cows in taking bull. Please give remedy, if there is any. Is sweet corn better for feeding or for ensilage than field corn? S. T. *Alexandria, Va.*

S. T.'s mixture of feed is a very good combination, provided it be fed with proper coarse fodder. His combination of foods has the following digestible nutrients: Albuminoids, 14.9; carbohydrates, 47; fat, 3.9. This has a nutritive ratio of 1 to 3.7. If 15 lbs. of this were fed with 15 lbs. of good hay, it would be a good ration for cows of the weight he mentions. The ration which he has fed is very indefinite since he gives it in quarts. But it would appear to be too large a grain ration, 15 to 20 qts., as it might naturally be supposed to weigh a pound to the quart. But he does not tell us how much ensilage he feeds with it, so no definite idea can be formed of what the ration really is.

The following combination from the foods he mentions would do very well: 300 lbs. corn meal, 400 lbs. bran, 100 lbs. decorticated cottonseed meal and 50 lbs. linseed meal. The digestible nutrients of this are albuminoids, 14.14; carbohydrates, 48.6; fat, 4. Let us suppose that 15 lbs. of this is fed with 25 lbs. of ensilage and 5 lbs. of clover hay. In analytical form it shows the following digestible nutrients in pounds:

	Albuminoids.	Carbohydrates.	Fat.
25 lbs. ensilage	0.30	3.00	0.15
5 lbs. clover hay	0.33	2.00	0.07
15 lbs. mixture	2.13	7.39	0.60
Total	2.75	12.39	0.82

Nutritive ratio 1 to 5.1. This is a well balanced milk ration, and should produce a good result in milk, and keep the cows in health.

It must be understood that this mixed ground feed is to be well mixed with the clover hay and ensilage. This is all important. T. does not say whether he mixed the 16 qts. of his combination with the ensilage or not. If he did not, his mixture was too concentrated to be fed alone, and would be likely to interfere with the digestion of his cows, and not have its full effect in the production of milk.

If T. thinks the following composition would be cheaper, he may use it—300 lbs. corn meal, 100 lbs. corn bran, 350 lbs. wheat bran, 100 lbs. decorticated cottonseed meal and 50 lbs. linseed meal. Then let him feed 16 lbs. of this combination with the coarse fodder mentioned above.

2. Our correspondent does not give anything to indicate the cause of his cows being slow to come in heat. Nothing is said about their having any exercise. Some cows will not stand constant confinement to the barn. It does not appear to be chargeable to the grain foods he gives, unless he feeds his concentrated mixture alone. This might so derange the health of the cows as to affect their coming in heat. But no definite advice can be given on this point with the present information. E. W. S.

Stallion in Service.—Please give best ration for a stallion to make a successful season. What do you think of feeding rye and W. ship? A. S. *Columbia, Pa.* [A stallion should be fed through winter to keep up his muscular and vital force, and not to lay on fat. Fat is weakening to muscular vigor. S. may feed at present, and through the season of service, the following ration: 10 lbs. cut timothy hay, 6 lbs. ground oats, 6 lbs. fine wheat bran and 2 lbs. linseed meal, given in two feeds; and during the season of service, if that is large, mix half a dozen fresh eggs in his feed every day. The hay should be run through a cutter and slightly moistened, and the ground oats, bran and linseed meal well mixed with it. The linseed meal will keep his digestive organs in a healthy condition, and his coat sleek and glossy, besides furnishing muscle-forming food in the best form. Rye is not good food for a stallion, because too fattening. The bran furnishes just the food to supply the waste of bone. We have known half a dozen fresh eggs to be broken into and mixed with each feed. The horse soon becomes fond of them. The eggs furnish albuminous food in the most perfect form. E. W. S.]

A Reconstructed Barn.

Eds. Country Gentleman—A patched coat never looks as well as a new coat, though it may keep one quite as warm. And it is often said that the work put in, mending, would make a new one outright. But the patches were put on at odd times and scraps were used that otherwise would have been wasted.

The barn I speak of is a patched-up affair; yet it is not so poor as it looks. When bought, it was too small and badly arranged on ground floor, thus:

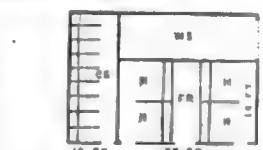

Fig. 1—C S *Cow Shed*; W S, *Wagon Shed*; H H, *Horses*; F R, *Feed Room*.

Overhead there was no division. The cow and wagon sheds were only lean-tos. The feed for all the cattle had to be brought out-of-doors and carried to them. As the farm was to be devoted to milk dairying, the first thing was to provide for convenient feeding. Of course the owner would have much preferred to build anew, but had not the means, so he was forced to patch. Nor was he able to do all his patching at once. After his first change, the arrangements stood thus:

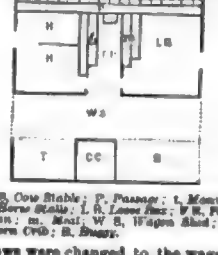

Fig. 2—C S, *Cow Stable*; P, *Passage*; t, *Manure Tank*; H H, *Horse Stalls*; F R, *Loose Box*; W S, *Feed Room*; b, *Bran*; m, *Meal*; W S, *Wagon Shed*; T, *Tools*; C C, *Corn Crib*; S, *Steps*.

The cows were changed to the wagon shed, and a feeding passage cut off from the horse stalls. The doors of the horse stalls were changed to allow free use of the wagon shed, which was widened by extending the roof nearer to the ground and raising it higher next the main building. It was then divided to make room for a buggy, corn crib, and tool-room. Bins for meal and bran were put up in the feed room. The loft was enlarged by putting a floor over the cow shed, 9 feet above the ground. This added to the warmth of the cow shed and to the hay room of the loft. This arrangement was found to be much more satisfactory.

Business increasing, the owner determined to increase the cows to twenty, and to put in a silo and a two-horse tread power to run a Ross ensilage cutter. The changes made to meet these

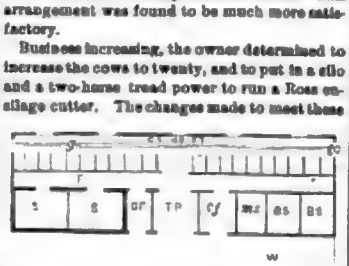

Fig. 3—C S, *Cow Stable*; g, *Gutter*; T, *Tool*; F, *Feed Passage*; S S, *Silo*; T P, *Tread Power*; C F, *Grain Feed*; c f, *Cut Feed*; m s, *Meal Spouts*; B S, *Box Stalls*; W, *Wagon*; T T, *Tools*; S, *Steps*.

wants put the barn into its present shape. The horses have been moved to a separate stable; the feed way has been widened; and 32 feet added to the length of the barn. This addition is higher than the old part, and in every way better built. The arrangement as it stands seems to me to be very convenient, and as compact as one of this shape can be made.

The cutter stands just above the power and delivers cut feed by a shute. Hay is put into the loft through a wide window at each end, and packed from a carrier. Bran, meal and malt stuffs are put into their rooms through windows opening on to the wagon way. All feed is mixed in the cut-feed room and delivered from a box that runs along a tramway. The silo is of wood, double walls, with paper between; inside heavily painted with coal tar. There are no mangers; the cows feed from the passage floor, the tramway rail acting as a guard to keep the feed from being thrown out of reach. The cows wear halters which are never taken off; are fastened by ropes and snap-hooks attached to halter rings. The owner says that if he had money enough he would build an octagon barn, and has worked up a very good plan of internal arrangement differing in some important points from any that I have seen. Hunter Nicholson.

Knox County, Tenn.

Virginia Lambs for Market.

Eds. Country Gentleman—Last September we purchased near our old home in Livingston County, N. Y., some 200 Merino ewes and eight South-Down rams. They were put into a car on the Delaware & Lackawanna railroad, and came through without change in fair shape although not unloaded to water or feed during the trip, in spite of the repeated protests of the man in charge of them. They were 84 hours on the cars. At one point a bale of hay was procured and an attempt made to feed them in the car, but with what success can be imagined. Notwithstanding this cruel treatment at the hands of the railway corporations, as stated before, they arrived in fair order. When driving them home from the station two or three drank an excess of water at a small run through which they passed, and died. We put the flock into short feed for a few days, then into pasture with both good feed and plenty of water, and they seemed to thrive and do well in their new home.

Our plan is to raise early lambs for market, and as we have the choice of sending them to either one of several large cities such as Washington, Baltimore, Philadelphia and New-York, we hope to make sales at a good profit, and to improve the farm by applying the manure which they make. Our greatest fear was that worthless dogs would cause us trouble, but by the plan which we have followed, of penning them at night under sheds enclosed by a wire and picket fence, we have so far avoided this difficulty. It may seem to be a good deal of trouble to fold them every night in this way, but they soon learn to come at the call, and then the saving of their droppings under cover will pay for all trouble.

On the last day of January the first lamb was dropped, and proved to be a fine, strong one, and from now on good care and attention will be required. In strong contrast with our experience in the North in caring for ewes at lambing time, thus far, has been our labor here. There, zero weather, with strong winds blowing the snow through every crack and crevice; buildings must be provided, at large expense, with basement quarters, where no frost can enter to chill to death the new-comer. Here it is a pleasure to attend to stock; only cheap sheds need be provided for shelter at night, and in case of rain; during the day mother and lamb can run in the field sown to rye, or lie in the warm sun and chew the cud of contentment. Of course our venture is somewhat of an experiment; time alone will determine whether sheep will thrive during the long, warm summer, and can we couple them early enough in the season to get lambs by Jan. 1?

Dairying—Japan Clover.

Another source of income which promises well, is our investment in a small herd of Holsteins. We have purchased thirteen head of registered stock; nine of them came from "Willow Brook Farm," Duchess Co., N. Y.; the other two were procured for us by our good friend, Mayor Rowe of Fredericksburg, this State.

With milk at 10c. per quart, and butter selling at not less than 30c. per lb. in our market town (Franklin) during the year that we have been here, there seems to be no good reason why a good profit should not be derived from them. All the butter sold comes from the North. There are a number of dealers who sell from 50 to 100 lbs. every two weeks; certainly here should be some one's opportunity to make dairying pay. We purpose sowing on the 15 acres of December-sown rye some Japan clover seed, to which our attention was first called by Mayor Rowe, while on a visit to his section last spring. He was very enthusiastic about it then, and from a recent letter I gather that there is a large demand for the seed at this time, some 50 bushels having been sold, and another 50 sure to go for spring seeding. That distinguished resident of your State, Judge Fullerton, purchased 10 bushels to sow on his Virginia farm of 1,200 acres, which is located in Fairfax county. From what I saw on Mr. Rowe's farm, and what he told me of its grazing qualities as a winter and summer pasture, I do not wonder at the great favor it is now obtaining in the South, and am fully convinced that it has many excellent qualities, and is destined to clothe the poor, worn-out, grassless portions of the South with its perennial growth. When I state, as Mr. R. writes, that "it can be sown on standing grass, and if the field is left unplowed, though closely and continuously pastured both summer and winter, it will yet in time cover the whole field," one of its many good points will be seen.

Southampton Co., Feb. 4. J. S. Fowler.

Horse-Breeding and its Teachers.

Eds. Country Gentleman—I have attended a number of the farmers' institutes which have been held under the direction of the State Agricultural Society, in different places. It is unnecessary for me to say anything of the excellent addresses made by such men as Prof. Roberts, Maj. Alvord, Col. Curtis and many others who are known as specialists in their peculiar studies. I believe it is admitted that such men are competent teachers, and, as every man knows, such teaching must produce abundant harvest in soil adapted for its reception. I heard an address about a year ago from James Wood on "Common-Sense Horse-Breeding," and yesterday read the report of another, delivered at a farmers' institute held in Auburn, N. Y., by F. O. Ives of South Easton, N. Y., on "Sensible Horse-Breeding." The ideas of both are very similar, and if both are right, then the breeders of horses in this State are remarkably deficient in common sense, and know little of "sensible horse-breeding." I will take up a few topics in order.

Mr. Ives says that "we have no distinct horses of our own." We have the trotting horse as a distinct breed, and several other varieties, that are not to be found in other parts of the world. All have some desirable qualities, and some not so desirable. To say that "we have no distinct horses of our own," when each week has its shipments of American trotters to different parts of the world, at higher figures than were ever paid for imported horses, some thoroughbreds excepted, is to say something that is contrary to the every-day experience of men. It is known that negotiations were in progress at the time of the death of Maxie Cobb (2.13¼) for the sale of that horse to a Russian breeder for $100,000. Irvington was sold to Australia for $30,000; a team of geldings to South America for $30,000. A great many American stallions and breed mares have been sold, and are constantly sold, to breeders in Germany, Austria, Italy and France for breeding purposes, the prices being very high. Yet, in the face of this undeniable fact, Mr. Ives says "we have no distinct horses of our own." Besides the trotter, we have in the United States and Canada other breeds of approved merit. There is the well known Canadian pony, from which the St. Lawrence breed sprung. He is broad of beam, trappy in action, immense mane and tail, handsome body, good back, well ribbed up, and clean, bony legs of the best quality. His form and general make-up suggest a common origin with the Morgan. The Canadians have the well-known "Kanuck" pacers and trotters, heavy legs with hairy ankles, and great broad hips, that slope sharply from the point to the tail. Their peculiarities are visible in our Clay horses, and in Maud S., (2.08¾). Both these Canadian breeds are well recognized types, and neither has a counterpart in Europe. In the United States we have the Mustang, the Indian pony, the Texas pony, the Creole pony and the Chincoteague pony, besides the trotter.

We buy horses by the car load, it is true, and pay immense prices for them. On the same platform with Mr. Ives sat, I believe, Mr. John Akin of Scipio, Cayuga Co., N. Y., who is one of the guilty parties in this indictment. I buy

seen many of Mr. Akin's purchases, and may say that his judgment is excellent, as his reputation is good. His importation of draft horses and coacher stallions shows that as this country widens, as needs spring up, as tastes differ and money increases, there is a demand for a greater variety of stock to meet all needs. Is there anything wrong in importing good stock, if we need it? We are a growing people—the rate of settlement is so great that the supply of horses has not thus far kept up with the demand, and as we are an eclectic people, I believe that the whole world should pay tribute to our pocket books and our judgment.

Mr. L. says "it is a custom to look for colts in May, but we now look for them in September, it being a more propitious time, the mother getting at this season of the year more rest." I must take exception to this instruction. The mare does not get more rest in September, but less, as she is at that time generally preparing the ground for fall seeding. If she is running out, the flies are at their wickedest development, the mare cannot feed, and consequently cannot give nourishment. Moreover, the nights are getting colder, and the poor little sucker is ushered into the world amid times of constantly increasing hardship. I think it a cruelty to have the mare foal in the fall. Besides this, the pastures are cropped short, and every factor is against the new born. These considerations, however, are subservient to those of the breeder. The breeder should sell his colt as soon as possible. If he has a fall colt, it will be a very small yearling. Breeders are well aware that all horse kind takes its age from the first of January of the year in which it is born. A colt foaled in January will outshow at the spring fairs any colt foaled in May, and the latter again will outshow at the fall fair any colt foaled in September. When all are yearlings on the first of the following January, the foal that is nearest a year actually will sell for more money than the one foaled in September.

I would suggest a directly opposite course from that which Mr. Ives calls "sensible." I will call mine the "insensible." I would have the foal come in January, in a large roomy box stall, which is heated to a temperature of say 68 degrees. I would keep the mother and the little one in on stormy days, and when the "ethereal mildness" of the spring sent a streak of its peculiar balminess I would let the mother out with the little one, so that he could put his tail over his back and show the world that he was born under a happy star. I would feed the mother plenty of ground oats, bran, sweet hay, carrots or other appropriate roots, but no ensilage, or other fermented or half rotten food. When it came April, my mare could work day times, while the baby, now so far progressed as to take his rations independently, could enjoy her society nights. When it came warm nights in May or early June, I would wean my colt or filly and turn it out into the fresh, green, sweet pastures just at that time of its life when it will have the most influence on its future physical development. It would not then be tormented by flies. Moreover, if I wanted to take my colt or filly to the fair, I would have the largest and most perfectly developed on the ground, and there perhaps, after I have taken my premium, I will find my time and customer for selling.

Every farmer knows that he has to temper the work to the mare in foal, and one that is heavy in foal, from common humanity, is not worked nearly so hard as one that has weaned her colt. The prospect of hiring additional help should be looked at. I would say that three mares heavy in foal would about do the work of two that were not. Besides, there is the chance of slipping a colt, which would be not only a great money loss but have a ruinous effect upon the brood-mare qualities of the dam. It costs little to heat a stall. Your mare is lying idle, not through the summer as Mr. Ives suggests, but through the winter.

I believe the standard trotter is a better general-purpose horse than the imported draft horse. To settle the question I think that men like Mr. Ives should prove their faith by their works. I will provide a team of "standard bred" trotting horses to compete with a team of imported Percherons at general farm work at our next State fair, or anywhere else it may be agreed. I will also provide a standard trotting stallion to work at general farm work, against any imported Percheron at farm work. Mr. Ives says that men have oftentimes bred such horses and have been disappointed. It might be said with equal truth and force that men have often planted potatoes, corn, wheat, rye, barley and other crops, and have been disappointed. It is not therefore to be inferred that "raising trotters on the farm is a decided failure." If the same intelligence is used in breeding and disposing of trotting-bred horses as is necessary in other farm operations, as is in particular necessary to breed the hog, there need be no fear of failure. A great many have grown rich by breeding such horses, and a comparative price of stock sold off farms would in most cases show that the prices realized were decidedly in favor of trotting horses. I do not mean to compare stock farm against common farms, nor to compare stock that is imported and soon sold out, with stock raised and sold from the farm. The trotting-horse breeder invites comparison that is equal. Compare the prices paid for importations against prices paid for trotting stock that is exported, and it will be seen that the scale of prices is decidedly in favor of the trotting horse.

I do not wish it to be inferred from this article that I am opposed to the breeding of draft horses in general, or, in fact, to the breeding of any kind of horses. I know what I say when I state that any good kind of horses can be raised at a great profit if due care is exercised. The cheap man will breed poor trotters, poor draft horses, and poor stock generally. There is room for the French Coach horse, which is a decided improvement as a general-purpose horse, upon the Percheron; also for the Welsh, Shetland, Creole and even Indian pony. There is a market, a good one, for mules and jacks, but for the poor man's horse, the work horse on week days, and the gentleman's on Sundays, for the all round widely useful horse, there is none that can compare with that peculiarly American, I might say United States horse, recognized the world over for his high merit—the American trotter. AURELIUS.

Sour Milk for Pigs.

EDS. COUNTRY GENTLEMAN—I am growing twenty pigs and have three sows to farrow in spring. Have creamer milk, but want it for calves. The milk of a dairy of 15 fresh cows, five miles from here, is set in pans and skimmed when sour. What is the skimmed milk (including buttermilk) worth per 100 lbs. when dressed pork is sold for 6 cents? How much would its value be increased by adding shorts and middlings, and what should be the proportion? Shorts are worth $19 per ton, and middlings, $20. Would corn be cheaper at 44c.? I cannot consider the cost of drawing anything. *Stockwells, N. Y.* E. D. E.

E. D. E. neglects to tell us the age of his pigs. The importance of certain foods depends largely upon the age of the pigs to be fed. It may be inferred, in this case, that the pigs are now some three months old. One of his principal objects seems to be to get at the value of sour milk for pigs. E. probably knows that the fermentation in souring milk feeds upon the whey, or sugar in the milk, as well as upon the fat remaining, and to a less extent upon the albuminoids.

If E. can obtain this milk as soon as skimmed, for growing pigs under the circumstances which he mentions, it should be worth 20 to 23 cents per 100 lbs. It is a great advantage to feed other food with this skim-milk, so as to reduce the proportion of water.

To each 100 lbs. of skim-milk, before the pigs are four months old, E. should add 7 lbs. of shorts and 3 lbs. of middlings.

The following analyzed formula will show E. how much digestible nutrients this mixture would contain in pounds:

	Albuminoids.	Carbohydrates.	Fat.
100 lbs. skim-milk	3.40	5.00	0.70
7 lbs. shorts	0.76	3.15	0.39
3 lbs. middlings	0.53	1.92	0.12
Total	4.19	10.07	1.21

Nutritive ratio 1 to 3.5. If these pigs are 3½ months old, and E. feeds 15 lbs. of this mixture to each pig per day, its ration would be of digestible elements—.78 lbs. albuminoids, 1.81 lbs. carbohydrates, .17 fat; or the whole amount of its digestible food would be 2¾ lbs.; this will be all pigs can use. If the pigs were older than four months, it may require 17 or 18 lbs. of this mixture per pig. After examining this food in detail as above, we think after the pig is five months old that it would be better to mix with 100 lbs. of skim-milk, 7 lbs. shorts, 5 lbs. middlings, and 3 lbs. of corn meal—feeding 18 lbs. per day to each pig. This would reduce the water in the skim-milk, and the ration would still be calculated to grow the muscles, bones and frame of the pig very rapidly.

After the pigs are 6 months old, then let E. add the same amount of shorts and middlings, with 5 lbs. of corn meal to each 100 lbs. of milk, and as the pigs grow older and heavier, if he still has the skim-milk to use, let him gradually increase the corn meal and decrease the middlings, retaining the shorts till the end of fattening, at 10 months.

He will find pigs fed in this way to make greater growth than he has yet seen—we have known them to make an average gain of 1½ to 1¾ lbs. per day. S. W. C.

The Dairy Department.

Improved Feeding—Small Jerseys.

EDS. COUNTRY GENTLEMAN—Please compound butter ration from the following: No. 1 corn meal, $20 per ton; good wheat bran, $20; fair cottonseed meal, $26; middlings, $21; hominy, $18 to $20; oil cake, $30; oats, 40c. per bu. Our feed is early cut hay, composed of timothy, white daisy and other grasses—common meadow hay. Our hay is all fed dry, just as it comes from the mow; very few cutters in Delaware county. Our cows are grade Jerseys, and good butter cows—600 to 800 lbs. We have no hay for sale, and cannot buy any. A good many will have to feed more grain to make the hay hold out. Our custom is to feed grain first in morning, then hay, then water; at night, water, feed grain, then hay; feed morning and night only. Butter is our object. Please give the difference between hay fed as stated, or cut and moistened, and grain mixed as is your rule. We have to buy all the grain we feed the cows.

Please give cheapest ration at the prices. We want to feed so that our cows will be healthy; cows are fresh in milk. J. D. M. *Bovina, N. Y.*

J. D. M. has inquired none too soon how to economize the food for his cows. He does not say whether he feeds his grain or ground feed dry or wet; but if he feeds it alone, in either way, except in very small quantity, he will find a portion of it passes through into the droppings, and if fed wet, much more than when fed dry, because the wet food does not excite the flow of saliva, which is an important digester.

Experiments made many years ago showed a saving by cutting hay of 25 per cent., but that had reference merely to the consumption of hay. M. cannot afford to do without a good cutter.

The difference between feeding ground feed and cut hay together, so that the whole is eaten together, and must be raised and remasticated, and feeding hay alone and uncut and the grain alone, cannot be less than 40 per cent.

As hay is scarce with M., we will give him the following combination: 10 lbs. cut hay, moistened just enough to cause the meal to adhere to it; 5 lbs. corn meal, 6 lbs. wheat bran, 2 lbs. cottonseed meal, 1 lb. oil cake meal. And as M. may be desirous to see how much digestible food this ration contains, we will show it in analytical formula, in pounds:

	Albuminoids.	Carbohydrates.	Fat.
10 lbs. cut hay	0.87	4.13	0.11
5 lbs. corn meal	0.42	3.35	0.24
6 lbs. wheat bran	0.78	2.76	0.15
2 lbs. dec. cottonseed meal	0.65	0.35	0.12
1 lb. oil cake meal	0.39	0.32	0.5
Total	2.44	10.71	0.67

This has a nutritive ratio of 1 to 5. We are a little doubtful as to the quality of the cottonseed, because M. marks it "fair," and it may be undecorticated, in which case the price is too high for the quality. It has lately been asserted that there is much of this low quality on the markets and sold for the best, which is a swindle. Its value is not above $16 per ton, as there is 28 to 25 per cent. of indigestible fibre. The chuck is easily detected by a careful examination. Unless M. finds it pure, he should use oil cake meal instead. We do not use the products of the hominy mills, because pure corn meal should be preferred at the same price. We use more grain feed because of the small amount of hay. If M.'s cows were of good size and vigorous digesters, this ration would be too small. It may be cheapened a little, by making the combination—10 lbs. hay, 6 lbs. corn meal, 7 lbs. wheat bran, 1 lb. oil cake meal.

If M. feeds the ration as here given, we hope he will report result. S. W. C.

The Cost of a Pound of Butter.

EDS. COUNTRY GENTLEMAN—Mr. Reeder's article, p. 193, calls to mind a statement made by one of the members of our State Board of Agriculture at a meeting held the present winter. He keeps Jersey cows, makes butter in the winter, and a part of the feed is ensilage. I think he feeds six or seven pounds of mixed grain a day to each cow. He stated that it cost him fifteen cents a day to keep his cows, and the best part of his herd produced a yield of one and one-half pounds of butter a day. This sold for 30 cents a pound, making the cost of a pound of butter, in feed alone, ten cents. This was in winter, when all of the feed has to be furnished.

It is certainly a remarkable statement, but we have no reason to doubt its correctness. Of course the ensilage and the low price of grain reduced the cost below what it would be in some seasons or on some farms. It goes to show that the cows are of the right kind for the purpose, and that the feed is well adapted to the production of butter. Farming of this kind pays well, and one great reason why it does not pay in so many instances, is that the men do not put enough faith in their business to cause them to put more money, labor and brains into it, with the reasonable expectation that the investment will be returned to them in a large measure. R. H. T. *Franklin County, Vt.*

Creamery Machinery, p. 196.—I have had sixteen years' practical experience in the creamery business, making both butter and cheese; have worked in different creameries and used different kinds of apparatus, and think I know something of what is needed for a first class creamery. If I intended to start a creamery South, where the climate and water are warm, I should use a separator; if creamery is to be located where there is plenty of good cold water, I should not think of it. There are a great many ways of setting milk. Some apparatus is all right in private dairies and small creameries (say for 200 cows) that would not be practical in large creameries where they receive the whole milk. The success of every creamery depends largely on a good location with good drainage; creamery must be well built and well arranged and equipped in the very best manner, with good intelligent patrons, competent officers and a thoroughly reliable maker. H. Q. B. *Afton, N. Y.*

Cheese Factory, p. 173.—How much capital would be required for 300 to 400 cows? Is there a book on the subject? A. B. H. *North Hartland, N. Y.* [The cost of such a factory will depend largely on the size and style of the building erected. This will cost anywhere from $600 to $1000, according to the finish and size, and materials used. This will be exclusive of the ground on which the building stands. The furnishing of the factory, in the manner described in a previous article, will cost from $400 to $450. It is estimated that $1,500 ought to buy the land and put up a first class cheese factory, large enough to handle the milk of 400 cows. There are two books that will give much minute information on the subject of factory building and furnishing. "Willard's Dairy Husbandry" is probably the most practical book for Americans, although it has been published for many years and needs to be supplemented by the more modern suggestions to be found in some good agricultural journal. The price of Willard's book is $3, and it can be had by applying to the COUNTRY GENTLEMAN. The other work is the large and expensive book of Prof. Sheldon of England, which costs $12, is freely illustrated, and treats liberally of English dairy methods, but is hardly so practical for Americans as the work first mentioned. R. D. C.]

Canada Milk Ration.—It seems to me from what I read in your paper, that my manner of feeding milch cows is altogether wrong. I have been feeding long hay, with mash of bran and moulie and grue mixed, without weighing. Now, would you be so kind as to give me proper weights to obtain best results. I am just commencing the milk business—that is, the milkman business, as they call it here. I pay $14 for common hay, $10 for straw, $25 for moulie, $19 for bran, $20 for grue. Linseed oil cake is $2.80 per cwt. here. Would it pay to use it at that price? I am getting 6 cents per quart for milk. F. W. *Montreal, Can.* [F. W. appears to be in a situation where economical feeding may be made to pay, as the price he gets for his milk is certainly very encouraging to making an earnest effort. Two of the four foods he mentions, other than fodder, the first "moulie," the second "grue," were never heard of before in this country, and are not found in any English, Scotch or American agricultural encyclopedia or dictionary. From the price he gives, the first may possibly be best quality of middlings, the second, perhaps, shorts or shipstuffs. He does not mention a food commonly used in Canada, pea meal, which, in small quantity, is a valuable addition to the milk ration. If he wishes to get the best results from his foods, his hay and straw should be run through a cutter and moistened, so that the ground feed will adhere to it, and the cows will eat and masticate both together. If he can get a good quality of early cut hay, it is cheaper to feed for milk at $14 per ton than straw at $10. He speaks of lin-

seed oil cake at $2.50 per 100 lbs. If he and others wish to use any amount of it, it can be bought of Mann Bros. & Co., Buffalo, N. Y., for less than half the price he names. If he writes them, they will tell him what it costs to deliver in Montreal. It certainly would not pay to use much of it at the price he names. 2. The following combination of food appears to be the most economical for his locality: 14 lbs. cut hay, 6 lbs. wheat bran, 4 lbs. best middlings, 3 lbs. pea meal, ½ lb. oil cake meal. This, placed in analytical formula, will show just the amount of digestible nutrients it contains, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
14 lbs. cut hay	0.56	5.75	0.15
6 lbs. wheat bran	0.70	2.70	0.15
4 lbs. best middlings	0.60	1.88	0.11
3 lbs. pea meal	0.60	1.68	0.05
½ lb. oil-cake meal	0.15	0.17	0.03
Total	2.61	12.00	0.49

This has a nutritive ratio of 1 to 5.4—a fair milk ration, and after the cows get used to it should produce a good yield of milk that ought to pay W., (although it costs 25½c., besides labor,) if sold at 8c per quart. If the herd are good milkers, it should produce an average of 10 quarts per cow. We should advise 2 lbs. of linseed meal if the price can be reduced to $1.50 per 100 lbs. Sloppy food is not desirable for milch cows, as it prevents proper mastication. E. W. S.]

Farming on Shares.—Will some of the great milk producers who give farmers good land and fine cows to sell milk, and share the money made, please publish particulars of the arrangements? In a late issue there is an advertisement seeking for a man to take a farm on shares, but there is no understanding how matters are fixed so as to give "liberal conditions" without a long correspondence; therefore it would be interesting to know what are the usual stipulations on each side and how other productions besides milk are disposed of. When cows dry up and do not pay to continue in the herd, in what way are they replaced by better milkers? How is it apportioned, when feed of various kinds is bought to increase the quantity of milk? How are taxes, and such bills as blacksmiths', carpenters', &c. paid? At the present moment is there much of this kind of farming done? How have the societies, formed to prevent the middleman from taking so great a percentage, succeeded? O. O.

Bottling Milk, p. 197.—If bottles are used such as pickle jars with open mouth, a common watering pot such as is used for watering the garden, is the simplest apparatus. In the spout tie a piece of muslin over the opening, which renew several times and do not tie it on quite tight, but let it bag a little. It only needs a little practice to handle the can to the best advantage. For narrow-necked bottles I do not know of any device, but perhaps a smaller can will do. C. E. *Charleston, S. C.*

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Belmont Sedrex. W T Reid. M McDonnell		
Bally Hawley. A B & F A Hallin. F J Libby		
Boerden's Daniel. J G Boerden. Keise		
Chief of Niagara. M H Moore. J Hills		
Dalmatia's Captain. O L Wells. C Dobrzensweet		
De Jongh 2d. J A Reid. M McCarthy		
Doontjie's John. J C Morse. H Reed		
Duke of Grand Rondo. T M Gilham. W B Kelly		
Duke of Sea Side. H F W Breser. C F A Baltman		
Earl of Ryland. T S Winton. W Fletcher		
Empress Josephine's Altidwerk. M H Moore. P Billing		
Estaura. C W McClumpha. G M McClumpha		
Esther Marion's Prince. J S Sanborn. W A Russell		
Proerdje's Baron. M F Rhoden. T N Thornton & W B Davis		
Gen Jno O Price. R L Wilmore. P H Powe		
Gertie. G W Trorman. A Johnson		
Hampden. Jr. L C Aldee. H K Hardiman		
Hesia. L H Humbert. A P Groesbeck		
Imperial Gould. M F Morton. Pulsifer & Co		
Kiser. G H Chamberlin. H W Jones		
Lavinia 3d's Cornwall. W A Russell. State Alms House		
Lawrence 3d. J Urquhart. G H Chamberlin		
Lawrence 6th. J Urquhart. T Olsen		
Leila Premmoter's Netherland. D B Whipple. O H Scudder		
Lightning's Seahmore. J A Frye. H Rogers		
Maid of Vernon's Netherland. J B Datcher & Son. F Coleman		
Major Waw. H L Mills. U Cutler		
Mandate. S B Howard. H Thoma		
Meenie Scott 3d's Toy Geo. J M Sevary & Co. H S Baker		
Netherland Chief's Hero. Chapman & Phelon. J A Beidler		
Netherland Chief's Hero. Chapman & Phelon. J Hart		
Nicalia's Cornwall. W A Russell. G S West		
Norman 2d. M E Moore. J S Fayn		
Orphie's Barrington. S S Howard. N N Halsell		
Ovid 8. E A Spencer. J G Kincaide		
Prince of Cayuga. T S King. S S Rathbun		
Prince of Hoda. J L Dean. J O Yadder		
Queen Anne's Champion. Chapman & Phelon. W Hart		
Quinsigamond Chief. F W Grout. D M Boyd		
Roberts. J B Patrell. J A Patrell		
Roy of Allerton. C W Roberts & Co. M F Hoopes		
Saltham Prince. M Sevey & Sons. A Robinson		
Tamris. J O Phelps. D Webster		
Violet Barchamie's De Brave Hendrik. H Huidekoper. A Moore		
Western Chief. C A Parker. A A Sperry		
Zenthia's Jumbo Lad. O L Harrison. Bissell & Pellett		
Aaggie Madeleine and Aaggie Sophia. M P Bradbury. J M Swallow		
Amina 2d. G S Smith. D A Bacon		
Annaline. W L Gardiner. G S Stewart		
Apotheosis. J P Metcalf. J A Severs		
Armistook. J O Chase. F M Chapin		
Balbo. J O Phelps. D Webster		
Beauty Ostrander. H C Jewett & Co. G W Ostrander		
Belle 3 2d. W F Whitney. D R Whitney		
Bessie Clay. H White. G Malcolm		
Binnema. C W Roberts & Co. T Lovelock & Co		
Careno 2d. J A Fisher. P F Johnson		
Cotter M. S L Warner & Son. G A Flagg		
Edith and Hyacinthe. H C Jewett & Co. G W Ostrander		
Fanchonette Lincoln 2d. H F Morton. Pulsifer & Co		
Fwonne 2d. O H Forbush. J M Swallow		
Flora H. H White. G Malcolm		
Gardie. Est C E Dewey. G A Flagg		
Geurjie 2d. C W Roberts & Co. T Lovelock & Co		
Goodro 2d. Chapman & Phelon. J A Beidler		
Grietje 2d Maid. S L Warner & Son. G A Flagg		
Grietje Jorna 2d. C W Roberts & Co. T Lovelock & Co		
Honeysuckle and Honeysuckle 2d. J W Leeper. Sioux County Poor Farm		
Ingles Belle. J O Chase. F M Chapin		
Jamsie. S W Herring. J M Phoebus		
Jemanda. Recon A Boiss. J L Norris		
Lady Bayum. D C Stevens. H C Jewett		
Lady Lee. J Combs. J Combs & Son		
Lady Parr 3d. L T Penn. H H Allen		
Lady Parr 4th. G L Wells. Simon Bros		
La Blonde 4th. F C Foster. H P White		
Lucy 2d. O Phelps. D Webster		
Mabel A. H White. G Malcolm		
Maid of Elkhart. J W Millwell & Co. A B Holderman		
Maystalmac. M M Gardner. W Stokes		
Marianna Beets Maid. Est G Landers. W H Biggs & Bro		
Maud Macala. Mrs J D Goodale. J O Goodale		
Melrose. I Coles. H W Austin		
Minnie Vetsman. J S Sanborn. G W Norris		
Minnie Y D. F C Pearce. G H Workman		
Miss Gilmore. J W Lesper. Sioux County Poor Farm		
Miss Riva and Mollie Deane. A M Gump. M & Helena M McCarty		
Moran 2d Princess. S L Warner & Son. G A Flagg		
Muertje 3d. C W Roberts & Co. T Lovelock & Co		
Nell Queen. C Johnson. C Johnson		
Netherland Daphne. Chapman & Phelon. J A Biedler		
Netherland Narcissy. L S Frederick. M McCarthy		
Parma Girl. S Hofman. L J Jordan		
Parrill's Miser D. J A Frye. O W Haynes		
Patia Tjalling of Alberton. Roberts, Darnell & Hicks Bros. T Lovelock & Co		
Powell Daisy. F M Voorh's. Wiss J Voorhis		
Primrose 3d. T Urquhart. N Zeigler		
Proserpine 5th. G L Wells. H H Allen		
Queen of Grand Rondo. W M Gilham. W B Kelley		
Remie 3d. L C Aldee. J Q Dix		
Saskje 3d. J W Hollinshead. J M Auchenvoll		
Success. T L Heath. J Derr. Jr		
Tryphena. H P Morton. Pulsifer & Co		
Victoria Branlje 2d. C W Wilcott. G A Flagg		
Yiletta Hans. Est T J Esay. H A Blair		
Violet Musgrin. J L & C A Paul. G S Stewart		
Waterloo Girl. W Leeper. Sioux County Poor Farm		
Weithe. H White. G Malcolm		
Wem Clyde. D Anthony. D Anthony & Sons		
Wi Wi 3d. T L Heath. J Derr. Jr		
Woodland Vitus. J M Brennen. J Hambleton		
Yasu. J M Brennen. H D Carhart		
Yewandji Rix. J O Chase. F M Chapin		

Iowa City, Iowa. T. B. WALSH, Sec'y.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Alamo's Son. A T Bradshaw. J W White		
Applewood. C B Wood. H B Alexander		
Band of Bryn Mawr. Mrs S P Wheeler. J M Gillingham		
Childe Harold. L Flood. T Flood		
Clyde Hugo Pogis. M F Cornell. E Thompson		
Duke of Wellwood. Est of D A Stewart. E F Thomas		
Edith's Burlington. D E Mills. R A Potter		
Gilded Prince. W Gettys. G T Treseven & C S Bass		
Jingo's Huntsberry. W B Baird. The Texas Industrial Home		
Mansfield's Dick. D W Curtis. G C Mansfield		
Mayflower's Lad. Est D A Stewart. Mrs L D Curtis		
Noble Cicero's Prince. J G Caldwell. W F Johnson		
Orloff's Pogis. W A Grimshaw. M M Small		
Organ of St. Lambert. G G Hutchinson. C Friend		
Oxford's Khedive. W S Wentworth. Vanderbilt		
Penman. Richardson Bros. D F Robinson		
Prince of Pembroke. Mrs H F Wheeler. J M Gillingham		
Rex of Clairemont. J M Gillingham. Mrs H F Wheeler		
Riotor of Willowbrook. Bowden & Hager. G W Miller		
Royal Nina. J C McClintock. G M Orris		
Sunshine. J S McElwain. R M Fairfield		
Tamarack. H P Hopkins. A Smith		
Tip of Lake Bluff. H P Hopkins. T G Avery		
Town Piper. W F Matson. H M Matson		
Yankee Stoke Pogis 6th. L D Ely. W E Dana		
Abbey Barnes. A G Barnes. Mrs H W Padgett		
Alice Carpenter 2d. W A Clark. H M Dibble		
Anna Bonnie 3d. C G Foster. H B Hill		
Anna Maria. C A Buck. O S Holcomb		
Arthurs' Value. A Banks. M Austen		
Astin's Pride 3d. C G Foster. H B Hill		
Belle Curtis' Maud. D W Curtis. L Mossellin		
Belle Marquise. W B Barron. N P Perkins		
Belle of Cecil. H Graham. Jr. W Barnard		
Belle of Homecroft. W A Clark. H M Dibble		
Bess of the Wilderness. G D Sprague. C W Russell		
Blanche Pilcher 3d. Schreiber Bros. G Laycock		
Bonnie Hugo. Est of D A Stewart. L Ogilvy		
Canaan. Est of D A Stewart. Mrs M E Davis		
Chatsworth Favorite and Chatsworth Maid. A Banks. M Austen		
Christmas Pet. Est of D A Stewart. C J George		
Cleary's Muse 3d. C G Foster. H B Hill		
Clematis' Pride 3d. Est of D A Stewart. H L Storey		
Coquette Mina. G D Sprague. C W Russell		
Cora Cicero. C G Foster. H B Hill		
Corra Bess of Hastlebe and Cortlemn's Rose. G D Sprague. C W Russell		
Coterie. W S Force. H C Kleb		
Cream Polly. Est of D A Stewart. C J George		
Daisy Blanchard 2d. C G Foster. H B Hill		
Daisy Valentine. J McClain. A Wright		
Dashie Pogis. Est of D A Stewart. E F Thomas		
Domestic. C A Buck. O S Holcomb		
Dora's Gold. M Cone. I D Cleveland		
Duchess of Ingleside. J C McClintock. G M Orris		
Elsanor Garfield. W H Richmond. Wells & Tallman		
Elmwood Gem. H A Wilson. C C Brown		
Emily Haven. C A Buck. O S Holcomb		
Emma Champion. Est of D A Stewart. E F Thomas		
Empress Daisy. H Harnden. A G Fulton		
Eagle of R H Farm. W H Richmond. Wells & Tallman		
Etching. Richardson Bros. J B Dinsmore		
Fannie Richards. W B Clark. Mrs H A Vaughn		
Farmer's Maid 2d. C G Foster. H B Hill		
Faustina B. C A Buck. O S Holcomb		
Favora. C G Foster. H B Hill		
Florence of Tanglewood. C E Hill. The Lucerne Horse & Cattle Co		
Gondarme's Clarice and Gondarme's Jane. T W Sutcliffe. W Beall		
Gold and Silver. J C Elstner. W E Oates		
Golden Jewel. J L Thomas. H McRath		
Grey Friar's Nymph 2d. J H Hamilton. C E Hamilton		
Harry's Fawn and Harry's Pride. Est of D A Stewart. Mrs M E Davis		
Kate Butterish 3d. C A Buck. O S Holcomb		
King Clarion 3d and Kate's Blossom. W Garrison. S H Evans		
King's Tuplenose. C G Foster. H B Hill		
Lady's Rose. J L Thomas. H McRath		
Lady Chapman of R H F. W H Richmond. Wells & Tallman		
Lady Eddington. Est of D A Stewart. C J George		
Lady Pierce of R H F. W H Richmond. Wells & Tallman		
Lady Winn 3d. Est of D A Stewart. E F Thomas		
L'Allegro's Beatrice. W Gettys. H Marx		
L'Allegro's Lalleta. W Gettys. A L Parks		
Lea Marsh's Lass and Lily Lass. C G Foster. H B Hill		
Lily Nashua. C S Hill. L L Hancock		
Lily Vance. L D Cesare. H A Cesare		
Little Blanche. G T Hodgson. C Brown		
Lizzie Gray. W B Clark. Mrs H A Vaughn		
Lord Mark's Lady. J H Hamilton. C E Hamilton		
Lottie of Woodlawn. A Wiley. W Russell		
Lou Rose. H Harnden. A G Fulton		
Lu Anna 3d. Schreiber Bros. G Laycock		
Lute of Glendale. Est of D A Stewart. C J George		
Madge Cicero and Madame Belinda. J E Hamilton. C E Hamilton		
Maida Rose 2d. E T Lewis. C Andrews		
Maid of Kirkwood. L Jewison. F B Jones		
Maid of Midsummer. D J Phillips. G B Alexander		
Maid of Nobbin Ridge. W B Clark & Co. Mrs H A Vaughn		
Marchioness Ada. C A Buck. O S Holcomb		
Mary Anne Judy. Est D A Stewart. C J George		
Mary Wignal. Est D A Stewart. Mrs M E Davis		
Matilda Phillips. J E Hamilton. C E Hamilton		
Maud Long. Est of D A Stewart. L Dugal		
May Shepherd. F M Powell. F Alexander		
Mel Rose 2d. W A Clark. H M Dibble		
Miss Cosmopolite and Miss Mac of Ingleside. J C McClintock. G M Orris		
Missouri. C G Foster. H B Hill		
Miss Pyne of R H Farm. W H Richmond. Wells & Tallman		
Miss Rose. H H Harnden. A G Fulton		
Mobilizange. C J Michaelofsky. M C Scott		
Modico. H Harnden. A G Fulton		
Monmouth Princess and Monmouth Princess 2d. D A Vandervoort. H Bodee		
Moody's Cloud. M Cone. I D Cleveland		
Nacianna. Schreiber Bros. G Laycock		
Nadellista. Nadellia and Nannalista. C J Michaelofsky. M C Scott		
Nonnie Pogis. J E Hamilton. C E Hamilton		
Nora Rhamrock. H Harnden. A G Fulton		
Nymph of Kenmore. H King & Co. J D Fulmer		
Olipten. C J Michaelofsky. M C Scott		
Perfection of Longwood. J E Hamilton. C E Hamilton		
Peroee's Rose and Pet 2d Heifer. H Harnden. A G Fulton		
Phoebe S. C C Nichols. A Bloom		
Pogis' Rose. A J Fish. A E Tayer		
Pride of Crawford. J N Wilber. F W Winchester		
Pride of Trinity. C G Foster. H B Hill		
Princess of Rosiane. C A Buck. O S Holcomb		
Princess Tower's Belle. Prince Tower's Belle 2d and Rose Blanchard. C G Foster. H B Hill		
Ruby 3d. T E Morris. R Bodee		
St. Heller's Queen and Sappho Blossom. C J Michaelofsky. M C Scott		
Signalia of St. Lambert. Est of D A Stewart. C J George		
Signal's Tilly. Est of D A Stewart. J H Williams		
Silver's Glory. C G Foster. H B Hill		
Solava. J A Brannal. C Brown		
Spring Belle. Est of W Ward. G Blanchard		
Thamie. C G Foster. H B Hill		
Tirzah Jane. B A Peck. R A Potter		
Venus of Glenealrn. E J Bonbrake. Mrs E J Keefer		
Verona. Mrs M M Beery. E J McGown		
Vic Ridgely. H T Mason. Bardwell & Cochran		
Violet Blanchard. C G Foster. H B Hill		
Warup. C E Hill. R L Hancock		
Wendalina. C C Nichols. J P Vance		

1 & 3 Broadway, New-York. F. W. WICHE, Sec'y.

Record of the Times.

Review of Passing Events.

Deaths.—Justice Stanley Matthews, Washington, March 22, aged 68. Early engaged in the anti-slavery movement, he rose to the Ohio bench in 1851; served two years in the war; was a member of the electoral commission of 1877, and elected to the senate the same year; nominated to supreme bench in January 1881 but not confirmed till May, owing to opposition.—Dr. A. M. Brandis, New York, March 16, for 30 years editor of the German edition of Frank Leslie's Illustrated Newspaper.—Samuel C. Hall, London, March 18, aged 89. Founder, and for more than 40 years editor, of the Art Journal, he was also author of many works relating to English and Irish subjects, in all of which he was aided by his wife who died a short time ago.—General Count Peter Schouvaloff, St. Petersburg, March 22, aged 61. In 1864 was made governor-general of the Baltic provinces and privy chancellor of the Third Section of the Empire, becoming supreme judge over 80,000,000 people, for eight years. He was humane, patient, judicious. In 1874 was ambassador to England.—Sir Thomas Gladstone, brother of William E., London, March 20, aged 85.

Political.—Further nominations by the President: William W. Thomas, Jr., of Maine, to be minister to Sweden and Norway; Samuel R. Thayer of Minnesota, minister to the Netherlands; Whitelaw Reid of New-York, minister to France; Julius Goldschmidt of Wisconsin, consul-general at Vienna; Frederick D. Grant of New York, minister to Austria Hungary; John C. New of Indiana, consul-general at London; Smith A. Whitfield of Ohio, second assistant postmaster-general; Abraham D. Hazen of Pennsylvania, third ditto; Charles E. Mitchell of Connecticut, commissioner of patents; John W. Mason of West Virginia, commissioner of internal revenue; Miles C. Moore of Walla Walla, W. T., Governor of Washington Territory.—Nomination of Eugene Schuyler for assistant secretary of state was withdrawn.—President Harrison has issued a proclamation warning violators of the Alaska seal fishery laws, that they will be vigorously punished, and closing the waters of Behring Sea.—Postmaster-General Wanamaker has ordered clerks in the first assistant's office to begin work at 8:30 A. M. instead of 9 o'clock, and remain until 6 P. M. instead of 4, until further notice.—Speaker Cole of the New-York Assembly protested against the action of the sub committee of the ceiling investigation committee, in prying into his private affairs at Watkins.—Proceedings for contempt against Sun reporter Speer were dropped; those against telegraph manager Sabold continued.—Attorney General Tabor gave opinion before the committee that the State could resist payment to Smith of the $40,000 still in the treasury and compel him and others to refund overcharge of $100,000 or more.—Mayor Grant's rapid transit bill, now before the legislature, provides for the appointment of a commission to be named by the Mayor, which shall decide upon a plan and sell the franchise to the highest bidder. The elevated and cable roads oppose it.—The Connecticut legislature has passed a bill prohibiting the sale or delivery of tobacco in any form to, and use by, persons under 16 years of age.—Rhode Island Republicans have nominated Herbert W. Ladd of Providence for governor.

From Abroad.—The Société des Métaux, Paris, stopped payment, March 18, and the Comptoir d'Escompte in spite of 40,000,000 francs subscribed a few days before, is in the hands of a receiver. The latter institution was regarded as the third strongest of French banking institutions, but the copper syndicate has wrecked it. The suicide of the director, Denfert-Rocherean, some weeks ago, was caused by loss of his own fortune. Cornering the world's product of copper resulted in calling out supplies from so many small overlooked mines that the load became too heavy. Chili bars have dropped from £80 (a year ago) to £26. The syndicate is said to have lost $30,000,000.—Capt. Seagrave of Mitchelstown fame has been suspended; he was dismissed from the colonial service some years ago for gross neglect.—A paper makers' trust, with capital of £3,000,000 has been formed in England.—Prof. Gerhardt of Berlin, visiting in London, was given a dinner and reception by his professional brethren.—Premier Tisza of Hungary was stoned at the lower house, March 20, owing to partisan bitterness.—Prince Bismarck repudiates the acts of Consul Knappe in Samoa.—The American pilgrims to Rome and the Holy Land were cordially received by the Pope last week.—So far this year there have been 15 duels and 16 suicides at Monte Carlo.—The Chilian government has excluded Chinese from the republic.

Miner Items.

The first boat from New York to Albany arrived March 21.

The strike of the feather workers in New York has ended in defeat.

May wheat jumped up six cents at Chicago March 22, closing at $1.04.

The formation of an orange trust in Florida is said to be taking definite shape.

Women voted in New Jersey March 19, for school trustees, and were strongly divided.

North & Co. of Boston, porkpackers, assigned March 19, with liabilities of $750,000.

A salt trust has been formed in Michigan which produces two sixths of the home yield.

Two men were hanged in Minneapolis, March 22, for the murder of a car-driver last year.

The Pennsylvania Coal Company at Scranton has shut down, and 2,000 men are out of work.

Three women and two children have been arrested near York, Pa., for setting fire to barns.

The books of the bankrupt Reading Iron Works show an annual loss for four years of $368,000.

The coal production of the South for 1889 shows an increase of nearly 3,000,000 tons over that of 1887.

Thomas Nast is in California making cartoons for the San Francisco Examiner, a Democratic paper.

Chester county, Pa., has an Easter egg dating from 1809, and an old lady of 94 to whom it was given.

Miss Mary A. Brigham of Brooklyn has been elected president of Mount Holyoke Seminary and College, Mass.

Mary Anderson, the actress, has been prostrated from overwork and her English company has returned home.

Mrs. Ballington Booth of England is interesting wealthy people of New York in the work of the Salvation Army.

Detroit will have a floral exhibition the first week in April, to which California and Florida products will be conveyed free.

Andrew Carnegie has built a large library at Braddock, Pa., for the use of the employes of the Edgar Thompson Steel Works.

Jay Gould has returned from his yearly examination of western railroads, and reports the outlook for the present year as hopeful.

Boscobel, the Peekskill, N. Y., country seat of the late Henry Ward Beecher, has been sold to C. H. Butler of New-York for $75,000.

A storm off the coast last week did over $100,000 worth of damage at Atlantic City, N. J., and wrecked many vessels off Capes Henry and Hatteras.

The annual report of the Chicago, Burlington & Quincy railroad for 1889 shows a deficiency of $4,331,425—result chiefly of the strike last year.

Prices for milk at the Borden Condensery, Orange Co., N. Y., will be, April and May, 3c. per quart; June, 2c.; July, 2½c.; August and September, 2c.

Pauline Fuller, daughter of Chief Justice Fuller, while visiting in Chicago, eloped with J. M. Aubrey, and was married to him in Milwaukee, March 19.

The Fall River, Mass., strike continues. Mob violence has been shown to some weavers who have returned to work. About 3,000 looms are running.

Sorosis, the woman's club of New-York, celebrated its 21st birthday, March 19-22, by a convention of woman's clubs of the country; 19 States were represented.

Robert Sigel of New-York, charged with forging pension checks, has been sentenced to six years' imprisonment at hard labor in the Erie county penitentiary.

Cornell student engineers are visiting iron works and factories in New-York City and New-Jersey. Two other companies are on an inspection tour through the West.

The Fellow-Craft Club of New-York gave, last week, a reception to James Russell Lowell, their first honorary member. Mr. Lowell recently passed his 70th birthday.

An editorial in the New-Orleans Times-Democrat says that within two years 700 people from the north and northwest have settled in one town in Louisiana to engage in farming, fruit-growing and general business. They are pleased with the soil and climate, have erected substantial buildings and are writing home for their friends to follow. The same thing is true of other sections of the State, and it is evident that while the southland is not as widely advertised as is the West, there is a steady immi-

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The Fireside.

The Madonna.

The years may enter not her shrine:
Forever fair and young she stands,
And with her gracious, girlish hands,
Folds tenderly the child divine.

Her lips are warm with mother-love
And blessedness, and from her eyes
Looks the mute, questioning surprise
Of one who hears a voice above

Life's voices,—from the throne apart,
Listens to God's low-whispered word
(Strange message by no other heard)
And keeps his secret in her heart.

Sweet maiden-mother, years have fled
Since the great painter dropped his brush,
Left earth's loud praise for heaven's kind hush,
While men bewailed him, early dead,—

Yet mothers kneel before thee still
Uplifting happy hearts; or, wild
With cruel loss, reach toward thy child
Void arms for the Christ-love to fill.

Time waits without the sacred spot
Where fair and young the mother stands;
Time waits, and bars with jealous hands
The door where years may enter not.

—Ellen Burroughs in Scribner.

Planting School Grounds.

This subject, of great importance in itself, and treated with much ability, occupied the attention of a late meeting of the Massachusetts Horticultural Society, in an address by L. M. Chase of Roxbury. He very correctly remarked at the outset that if we desire to render our school grounds attractive and a public ornament, there is nothing which yields so great results for a small expenditure as the decoration of planting. He remarked that many of the school houses in that highly cultivated region would be far more attractive if a few dollars could be expended in planting trees and shrubs about them, and improving the lines of approach. Except in the State of Connecticut, almost nothing had been done to adorn the country school grounds of New-England. In many instances, five dollars a year would in a few years render them exceedingly beautiful. Many years ago, a distinguished public speaker, who had traveled through a large portion of Western New-York, remarked before a large assembly that he could at once distinguish the common school house in any district from other buildings, by its unattractive and neglected condition, without a tree or a bush to protect it. Another person named a locality where he had seen two magnificent brick barns, supposed to have cost at least six thousand dollars each, and within a mile of them a district school was in session in a house not costing five hundred dollars, and badly neglected besides. This contrast between brick barns and unpainted school houses showed very distinctly the relative estimation in which their horses and their children were held by these farmers!

The district and other public schools, in which so large a portion of the lives of children are spent, and where many of the most important early and permanent impressions are received, should be of a pleasing and instructive character, and not of a repelling influence. The grounds should be planted with trees and shrubs, and neatness studied and kept up. A reason why so many occupants of farms show such a disregard for order, may be traced to the repulsive early lessons received by them at school in their younger years.

Sometimes a moderate amount of attention will accomplish important results. The owner of a farm was asked for a school lot, for a house about to be erected. In selling it he made the provision that a dozen deciduous and a dozen evergreen trees should be planted and kept in good growing condition, and till this was the case, seven dollars a year should be paid to him by the school trustees. They paid the penalty but once; and now handsome trees and comfortable shade distinguish the premises, while other school houses in that region of country are marked for their baldness and neglect.

In connection with planting trees, valuable lessons may be taught of practical utility. Every neighborhood has growing wild within a few miles, many species which every country resident should distinguish at sight. There are growing wild in the northern States of the Union as many as twenty species of the oak, and yet how many men in a thousand can distinguish and name one-half of this number? There are seven species of hickory, six of maple, seven of pine, seven of birch, and if a part of these could be transplanted to the grounds of our larger schools and academies, the knowledge of timber trees which might be thus taught would be of real utility in many instances in after life. Some of these and other trees might be obtained from our best nurserymen at little or no expense; and a collection of named shrubs would add to their value. The temporary and permanent care and protection which they would require, and which competent teachers could induce the students to give them, would be a positive advantage in practical treatment.

The lecturer whose words we have quoted, very justly regards the work of teaching school-children a love of nature, a matter of great importance, both as increasing the sources of happiness to them, and as opening avenues for their future usefulness in many ways. He says: "Set the child down in the lap of nature, in the midst of flowers and trees, of mountains, and of the blue arch of the sky above him. Let him hear the songs of birds, the soft breathing of spring, the sighing of autumn, the blast of winter, and his education is properly begun, and not till then. I have been told by several persons that they first learned to love school through their nature lessons. Such instruction will never be forgotten, and will produce important results in mature life."

During the discussion which followed the lecture above mentioned, a member mentioned an instance in which permission was obtained to plant trees in a school-yard, and the children subscribed money for the purpose, and the trees were planted. Both teachers and pupils took great interest in this movement. He regarded it as important to turn education in a little different direction from that which it now takes.

The Government of Children.

Eds. Country Gentleman—I have been much interested in the discussions on this topic in your paper, and as it is a subject we cannot give too much thought to, I contribute my mite; should it be the means of staying one blow from some little trembling culprit I shall feel amply repaid.

I wish to thank "M. Walton" for her able defense in substituting the law of love and kindness for that of fear and brute force in the government of children. I do not say there are no good parents or good children in families where the use of the rod is thought indispensable, but I do maintain that better results can be obtained without it. "A rod for a fool's back" is the proverb. Are children to be treated as fools? Is there any moral principle in a rod? Any wisdom or virtue? My impressions and principles are all against the use of the rod or similar modes of punishment in the family government.

I may be asked how I am to secure obedience in stubborn cases where moral suasion has no effect? I answer, the fault is not the child's but the parent's. The child can have no firm reliable moral character till its soul is trained to active practical obedience to an authority which it acknowledges just; and without this training its impulses will be its master and all the punishment it receives only drives it further from the motive that should prompt to obedience. There is an old proverb among some religious people—"A child's spirit must be broken or the child will be ruined." To me this is a proverb of tyranny. I would not break, but make or mould a child's spirit; make it by teaching it obedience to the right. Obedience may be won from children. A calm even-handed system of kind and gentle government, in which the persuasive power of love directed by wisdom mingles as the chief element, will in most cases secure a steady and happy obedience. But a strong and steady firmness must rule the ruler. There is no authority in a wavering mind and none in a weak and volatile purpose. More parents ruin their authority by unsteadiness than in any other way. They do not govern themselves. There is no strong authority of principle that rules over them. If they cannot govern themselves, how can they govern their children?

But is simply obedience to parental law all that is required, regardless of the motive that prompts to obedience? You can by brute force restrain the hands, but does the heart give assent? Is the thief honest who is kept from robbing your store-house because it is securely locked? I want my child taught to obey any authority from a different motive, and if I cannot secure obedience except by fear of threatened punishment, I can have no confidence in the motive power by which he is controlled. "Love begets love," and as a rule, where parents love most, the children obey the best. "Be not overcome of evil but overcome evil with good" will apply in the family government of children. C. L. Peacock.

Gordon County, Ga.

Avoiding the Dangerous Rock.

A correspondent of your paper very aptly compares the passion for display and dress to a dangerous rock, and in so doing has clothed in appropriate words a thought which must often occur to observant people. Since reading this unpleasant truth, so plainly set before us I have been thinking whether some suggestions cannot be brought to bear on this increasing evil in time to avert the trouble which is sure to follow.

The victims of this delusion deserve much sympathy—more, I believe, than we are inclined to give them—for we ought to remember how powerfully an individual is influenced by the actions of others. Not only is the condition of those deplorable, who, charmed with the rapidity of the downward stream, drift contentedly and self-complacently with it; but pitiable in the extreme is that of the poor creatures who at first show a weak resistance, and finding that unavailable, yield, and are passively hurried on to the yawning precipice. None of us are perfect; each has faults and weaknesses; if we can aid one another in this turmoil, let us do it gently and kindly.

There is a spirit of rivalry, each competing to get above somebody else, and in the struggle, self-respect, contentment and happiness are heedlessly sacrificed. Why not live according to our means? There is a certain dignity and happiness in every station of life which outside adornment can neither add to nor take from, and a personality showing beneath the plainest hat. It is generally admitted that the making of a garment contributes more to the good effect than the quality of the material; has not the wearing of the garment something to do with it, too? Then why not select apparel becoming both our complexions and our circumstances?

We may admire a delicately painted yacht with silken sails tied with brilliant ribbons and enjoy a pleasure trip in it along the coast on a calm day, but would we not more readily entrust our lives and property to the substantial vessel built and equipped for a stormy ocean voyage? Stranded on a "dangerous rock" those ornaments will not save the pretty yacht.

If we find in the garden one little germ starting into life, we remove the weeds which were choking it, soften and moisten the earth and allow the sun to shine on it until the little seedling grows and expands into a beautiful and fragrant flower. The bright tints may attract the weary traveler, but the sweet perfume will have more lasting influence. So the tiny germ of nobleness, in every heart can be cultivated by plucking away the noxious weeds, and allowing the sun of religion to warm and give it new life.

Again, the greatest musician is he who brings out most plainly and expressively the melody. While the untrained ear hears nothing but trills and runs, the artist follows the air through all the variations and chords, even the notes which sound like a discord being necessary to the harmony of the whole. Let our execution upon the instrument of life be so perfect that the melody will be distinctly heard, and all these needs and desires only thrown in to add to the harmony of the whole. E. S. S. *Stillwater, N. Y.*

Old Maids and their Place.

To the article on p. 196, under this title, I say amen! Only by those not knowing the true value of an old maid, or not able to appreciate her, is she held in disdain. Look where you will, you will find the old maid doing her part nobly and well—helping the needy, caring for the sick, doing missionary work every day, bearing the cross, gaining Heaven. I have known girls rush blindly into marriage, not stopping to think, not asking "Do I care for this man? Is he able to make me a good home?"—simply get a "Mrs." before their names, and then before the honeymoon has passed, running to the divorce court. The question was asked a prominent lawyer, "Is marriage a failure?" He replied: "Not by any means, in my line. I made my fortune out of the divorce court." There are many who chose old maidhood from desire. They felt that they had a great work to accomplish, and could do it in no other way. As one writer says: "We chose our work from a sense of duty; greater pleasure would it have been to have had a life companion, and that companion would not have been one of our own sex."

I believe that the old maid will soon be acknowledged as one of the noblest of our sex; as Mr. Gaines said: "The world is growing kinder to all people." E. M.

An Orphan.—"What is an orphan?" asked the teacher of the class in definitions. Nobody seemed to know. "Well, I'm an orphan," said the teacher, seeking an illustration that would not reveal too much. At this a hand popped up, and the owner of it exclaimed, "An orphan is a woman that wants to get married and can't."—*Harper's Magazine.*

The Virginia Whip Case.—A valuable carriage whip was borrowed. On being returned, the lender would not receive it, claiming that seven inches had been worn off the end of the lash. High words and a quarrel ensued, which was carried into court, and from one court to another, with the usual delays, until the aggregate cost, aside from loss of much time, amounted to $7,000, or $1,000 an inch for the worn lash! [These men, however, were not so much contending for money as for their "honor;" and the disproportion between value and cost was much less than the disproportion between value of cause and cost of long wars, carried on to sustain the dignity and honor of the combatants.]

The Constitution.—It will surprise no one at all familiar with the subject to be told that the government is doing things which, under the constitution, it ought not to do; and, on the other hand, that it is not doing things which, under the constitution, it ought to do. And those who blindly demand an increase of power would do well to first understand the power it actually wields to-day. That amendments will be adopted in the course of time cannot be doubted; for new conditions provoke new questions. But they are serious affairs. They should be made with caution. The person who would offer a change or addition to the constitution to meet every trivial or passing topic of the day is not a safe adviser of the people.—*St. Nicholas.*

How to Read Browning.—To the young lover of poetry, who has been frightened away from Mr. Browning by the sybils who shriek and the priests who beat their vain cymbals around him, interpreting his dark meanings, I would say, read "Men and Women." Read it without puzzling after problems, or grabbing for more than you see on the surface. Read "Men and Women" as you read "Adonais," or "The Ode to Autumn," or "The Lay of the Last Minstrel," or the "Ancient Mariner," just for the first plain sense, for the romance, for the delight of the heart and the fancy, for the human beings who move there, and the human emotions. Whoever does this, not being blind and deaf to poetry, will be a life-long and grateful admirer of Mr. Browning.

—*Forum.*

Amusing Children.—It would be surprising, did not one consider the wonderful, undeveloped creative faculty possessed by the normal child, how much enjoyment, and with it instruction, paper, pins and scissors will furnish. Whole rainy afternoons have been thus happily spent with nothing else for amusement. An occasional word of encouragement, or admiration for some achievement, or an interrogation which will suggest new ideas to the youthful genius will, with tact, be sufficient exertion on the part of the mother. Besides the endless variety of dolls and clothes in which all children delight, many other articles may be produced. Little folks particularly enjoy "dressing up" and personating their elders; and where they can pin each other up in newspapers and attain, by the aid of their imaginations, an equally desirable effect, they are better pleased (because of the consciousness of having created something) than they would be in doing something ready-made.—*Good Housekeeping.*

Herons.—North America has a fine array of herons. Not less than a round dozen of species make up the list, while in Europe only two are at all common, the few other species mentioned being only visitors, more or less rare. The heron of Northern Europe—the bird embalmed in song and story as the noblest quarry at which king or prince could fly his falcons—the bird which it were death, in mediæval times, for villeins to harm—is still carefully protected in England. It is closely related to our "great blue" heron, but is not so large nor so handsome, and, presumably, less courageous than the latter. The large herons are everywhere shy and wary birds. Their great bulk and imposing carriage make them a conspicuous target for gunners, and their hereditary suspicion is intensified by personal experience of the treachery of man until they show an eagerness to vacate the neighborhood at his approach that effectually precludes all attempts at close observation. The smaller kinds, on the contrary, manifest but little timidity, and were they not persecuted, would soon familiarize themselves with the doings of civilization.

—*American Magazine.*

Domestic Economy.

A Lace Pattern.

I was always a difficult child to manage, but my worst failing was a strange one. "Something to do" was a necessity. Without it, I was miserable. To use slang, my industry made my friends "tired." To be sent to weed the onion beds, or to carry a pail of spiced drink to the men afield, to scour the knives, or dust the furniture, was no punishment; but when my father placed me in a chair, with the command to "sit still and think," then I was truly wretched. My two leading indoor industries for winter and stormy weather, were embroidery and crochet. Some time since, during a lengthened spell of bad weather, I revived one of my old industries, and the result was a pretty lace pattern which some of your readers may like to try. Done in coarse crochet cotton, it makes a pretty and indestructible edging for a bureau or wash-stand cover, and for constant use it is a convenience to have these of wash material.

Make a chain of nine stitches; turn.

First row—Wind the thread around the needle, and make three bars in the fourth stitch from the end; this will give four bars; make four more in the second and four in the third stitch, or twelve in all; skip one stitch, and in the next chain make a shell of six bars—thread wound around once, and separated in the middle by a single chain.

Second row—Turn, make three chain, wind thread around the needle, and make shell in shell, make one bar in each of the twelve, taking up two threads of the stitch.

Third row—Make one stitch, turn, and repeat with one bar in, not *in between* each bar below, make shell in shell as before, and thread around the needle, and make one bar, catching it in the top of the preceding shell.

Fourth row—Turn, make three chain, wind thread around needle, and make shell in shell. Make ten bars with one chain between each, inserting the needle this time between the bars of the preceding row, instead of in the stitch.

Fifth row—Turn, make three chain, wind thread around needle, and make shell of four bars, make one chain, skip two bars of preceding row, and make another shell of four bars, and so proceed until you have five shells with one stitch between each; make shell in shell, wind thread around the needle, and make one bar, catching it in the top of the preceding shell. This gives the edge by which it is sewn on.

Sixth row—Turn, make three chain, wind thread around needle, and make shell in shell as before, make six shells of six bars each separate in the middle by a single chain, one in each of the shells of four bars in the preceding row.

Seventh row—Turn, make one chain, and proceed exactly like the sixth row.

Eighth row—Turn, make three chain, shell in shell all the way across the row of six shells.

Ninth row—Turn, make one chain, wind thread around the needle, and in each shell of the preceding row, make a shell of twelve bars. This makes one scallop.

Second scallop—Turn, make three chain, shell in shell, made six chain, and catch with a slip stitch in the third bar of the first shell of twelve bars. Turn, and make exactly like the first row of the first scallop.

Third row—Make like the second row of first scallop, and join with a slip stitch to the sixth bar of the first shell of twelve.

Fourth row—Turn, make three chain, and proceed like the third row of first.

Fifth row—Make like fourth row of first, and join in the middle of the second shell of twelve bars of the first scallop; then finish like the first scallop throughout. ALICE CHITTENDEN.

A Plea for the Babies—III.

The Bath—Clothing.

A young mother, after giving her first born a bath and dressing it for the first time (probably the only baby she had ever dressed), said she felt as though the "world was coming to an end;" and this labor of love will be a trying ordeal while the baby is quite young, for he is very apt to squirm and cry, and make up faces and do other naughty things while he is washed—at least until he gets used to it and concludes to make the best of it. But the mother must be patient, use much skill, and love the little tyrant all the more for his naughtiness.

The points of success in bathing a baby are—doing it gently, never in haste, always when baby is fully awake, and never when he is hungry, about half an hour after breakfast being the proper time, supposing this to be given as soon as fully awake from the night's sleep.

A child less than three months' old must be bathed near a fire, whether it be in winter or summer, with temperature of the room 70° or more. Have the clothes for the day near at hand, warm and well aired. A towel rack is very convenient for keeping baby's clothes on. Leave the night clothes on it through the day, and the day clothes over night; this is more healthful than hanging them in a closet, or putting them away in a drawer. A square of red cashmere, or a thin shawl, thrown over the rack of clothes makes it look presentable, if kept in the nursery, and liable to be seen; it also keeps them free from dust.

The water for the bath should be quite warm at first, and gradually used cooler until, by the time baby is a year old, it can be used with only the chill taken off. Some good authorities say use it quite cold after six months, but all authorities err on some points.

A soft linen or flannel cloth is more convenient than sponge; for a young infant, castile soap may be used sparingly, and the body dried quickly with soft towels. Rice powder should be used, but not enough to form a paste on the body. Physicians advise a little cold water for baby to drink every day; this may be given at time of the bath, and the mouth should be washed out with cold water. After washing the face, always wash the head; use soap to keep it clean, and free from dust, which adheres to the hair.

By the time baby is five or six months old, a plunge bath may be given. This will be enjoyed if care is taken to have room quite warm, and no fright is produced. Always wet the head before putting baby into a tub, thus preventing a rush of blood to the head. Three minutes is long enough to keep baby in a bath tub, and when taken out, wrap in a warmed blanket, uncovering only a part of the body at a time, to dry thoroughly with a soft towel, after which dress quickly.

A bath is sometimes very agreeable to baby at bed-time during the heat of summer, although it is not advised as a regular practice: nor is it advised to give baby a plunge bath every day unless the weather is very warm, and he is strong enough to bear it.

From six months to two years of age, all babies pass through a trying period cutting their teeth, and are generally weak and delicate during the time; for this reason, all care should be taken not to chill the body in any way, also to keep the bowels well protected. It is advised to keep a flannel band on all through the time of teething. Most nurses will say that a band is not necessary after three months; it may not be for support, but it surely is for warmth. For summer, bands made of one thickness of soft flannel are very good and sufficient protection; for winter, two thicknesses of flannel, laid together and escaloped around the edges with linen or silk floss, will help much toward keeping the body warm, provided they are quite broad, reaching from the arms down entirely over the bowels.

By the time a baby is two years old, it is advised to put on flannel dresses during winter; they are very neat and very satisfactory to most persons. Lady's cloth washes nicely, does not need lining and makes pretty dresses—red, blue and brown being serviceable colors. The petticoat made of the same material as the dress is the neatest of anything, with stockings to match in color. These little suits need only a variety of aprons to make them complete. Plaid muslin makes good aprons for every-day wear; long, plain ginghams for eating aprons, and fancy swiss for extra occasions. V. S. C.

Corn Meal Waffles.—Put a pint of boiling water into a saucepan and stir into it sufficient dry corn meal (about two-thirds of a cupful) to make a mush. Lift the corn meal in your left hand; allow it to pass slowly between the fingers into the water, while you stir quickly with the right hand. Let the mush cook slowly for twenty minutes; then add two ounces of butter, and a dessertspoonful of salt, and stand aside to cool. When cold, separate four eggs; add the yolks to the mush; then add a half pint of buttermilk or sour cream. Now stir in gradually sufficient flour, about one pint, to make a thinnish batter. Dissolve a half teaspoonful of bicarbonate of soda in a tablespoonful of boiling water, and add it to the batter. Stir in quickly the well-beaten whites of the eggs, and they are ready to bake.

—*Table Talk.*

Pork Stew.—Cut up salt pork into small pieces, so as to have enough to fill a teacup. Pare and slice a dozen middle-sized potatoes, and put into a kettle with two quarts of water. Season with pepper and salt; cut up a good-sized cabbage, quite fine, so that there will be three cupfuls of it; put this in with the potatoes, stir frequently, and cook till all is perfectly soft. Serve with toasted bread, or crackers. S. E. S. *Falls City, Neb.*

House Slops.—Have a good large iron sink in kitchen; at one end, cistern pump; at other end, well pump. From this sink have a large pipe laid to outside of house, and connect with a tile drain. Have tile large, and placed deep enough to prevent freezing. Also have overflow pipe from cistern run into this drain. Carry water far enough away from house to make no bad smell. At end of drain plant a grapevine. Have grade steep enough to carry all waste water rapidly away from sink. This is a very handy plan. If any bad odor should happen to come in sink from pipe, put in a teaspoonful of carbolic acid with a gallon or more of clear water; it will purify drain all the way through. EDWIN WEBB.

[A trap in drain pipe just under sink is an indispensable addition to above.—EDS.]

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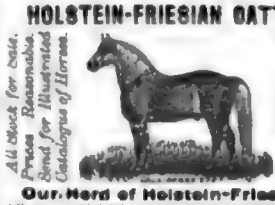

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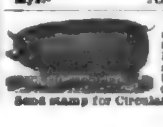

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AGENTS

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THE CULTIVATOR AND Country Gentleman

Albany, April 4, 1889.

Timber Screens.

Observing farmers have often remarked on the loss of crops where tempests have had a free sweep over their fields. Wintry winds and summer storms beat and prostrate grass and grain. In many instances there has been a difference of 50 per cent. between the amount of the crops properly sheltered and of those exposed to the full force of winds. The remedy for this loss is the planting of timber screens. As a single screen will afford protection for only a limited distance, they should be repeated at proper intervals. The expense of retaining large areas of native woodlands is avoided. Screens a few rods in width will protect the land many times their extent, and by the selection of suitable trees, valuable timber is afforded in the lapse of years. By planting the best growers and those which give valuable timber, these screens afford a profit many times greater than natural forests.

These screens may vary in width according to circumstances. If the growth of the timber is a leading object they may be eight or ten rods wide; and more breadth allowed them where the land is cheap than in more costly farms. Double or triple rows of trees will serve to check the severity of tempests, if only a rod wide, and single rows of evergreens will give valuable protection against the storms of winter and for the benefit of orchards.

The accompanying plan represents a farm partly provided with screens. Most of them consist of double lines of trees, so that one part may be cut and removed for timber, while the other remains as an effectual screen, and by this alternation the protection is constantly kept up. After such a double screen is provided, the portion that is cut first, if the cutting is done while the trees are dormant, will send up a natural second growth. This rule applies more particularly to deciduous trees.

In planting these screens, they should be placed against the sweep of prevailing winds. In the accompanying plan, the spectator is supposed to look towards the west, the strongest winds blowing from the northwest as shown by the arrows. Next in severity, are the winds from the south. The principal screens are planted for protection against them. When the descent of the land is towards the west or northwest, these screens will operate efficiently if not more than thirty or forty rods apart. But if the descent is in an opposite direction, the distance may be much greater. The natural shelter of hills will often obviate any necessity for screens.

When about to plant, the ground at a proper width should be well plowed and harrowed and reduced to a fit condition. The trees may be raised from seed, or young trees transplanted.

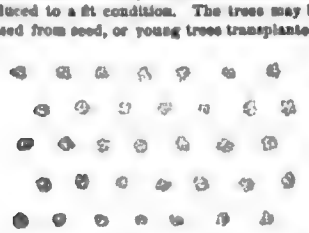
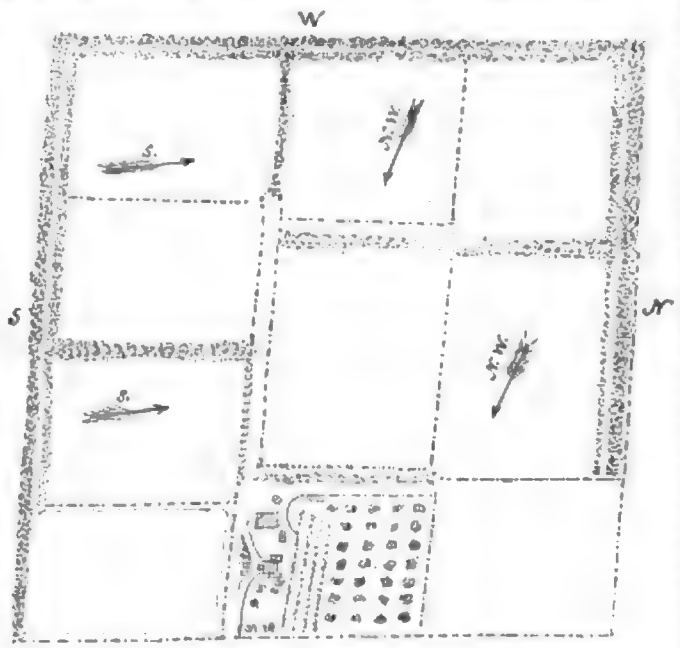


Fig. 2.

Sometimes small trees may be procured in great numbers from the borders of woods; and nurserymen may be able to furnish them cheaply by the thousand. If set in regular rows, the ground between them may be cultivated in corn and potatoes for several years, which would greatly increase the growth of the trees. Or, they may be set in quincunx form, as represented in fig. 2, where five distinct rows are shown, and when a portion are to be cut in future years, either two or three may be taken at one side and the remainder left.

There are many details required in the successful management in planting and taking care of artificial screens. If seeds are planted they must be fresh, or not so dry as to prevent germination. The pruning required to give the trees a handsome form should be done while the trees are dormant, for a check will be given them if much is cut away while they are in leaf and growing. The age when the greatest quantity of wood may be had from an acre is at eighteen or twenty years. We have found that the wood from screens planted twenty-three years, and cut for fuel, amounted to from forty to sixty cords an acre, the plantation having had proper attention. A timber plantation, whether in a narrow line or occupying a broad surface, when cut for timber should be entirely cleared, and not partially cleared by cutting out the best trees, which greatly lessens the value and product. Where the planting is too thick for twenty years' growth a, judicious thinning should be given when the trees are as large as hoop poles; and if necessary, again when the size of fence rails, before the final cutting for timber.



Farm with Timber Screens.

Failure with Alfalfa.

EDS. COUNTRY GENTLEMAN—I was interested in Gerald Howatt's remarks on alfalfa, p. 205, because I tried three quarters of an acre last year very much as Mr. Howatt recommended, and made a lamentable failure of the experiment. The principal weed pest we have to contend with is what I was taught in my boyhood days to call Roman wormwood (its botanical name I am not familiar with) and this completely choked out the alfalfa, although the latter came up in spots quite thickly. That is, I suppose the weeds did the business, for the alalfa finally all died. The peculiarity of its growth was that it never got above two or three inches high, and there seemed to stick. It lived in this dwarfed and stunted condition for two months or more before it finally succumbed to adverse surroundings. My soil is a light sandy loam, the sand and gravel being several feet deep. What would Mr. Howatt recommend in a case like this? Would sowing in drills far enough apart to cultivate with a hand hoe improve my chances? I am anxious to try again this year, and want to adopt some method of cultivation that will be likely to bring success. M. T. R.

Bridgewood, N. J.

[Answer by Mr. HOWATT.]

The trouble seems to be that the land is too light for alfalfa. Had this described soil been the subsoil, and a fibry yellow loam 8 to 12 inches on top of it, the result would have been different. What we term a good corn or pasture soil is alfalfa's home, with perfect cleanliness. Better far prepare your ground the preceding year with a cleansing crop. If you must top-dress in spring with fine manure after plowing, better wait until all weeds show themselves above ground. Then harrow thoroughly and sow. Harrow with brush harrow and roll.

Your seed evidently was good; coming up in spots or clumps may be from starvation, here and there, the surface not evenly manured; seed not equally distributed. I remember once seeing perfectly round clumps of clover in a field; I could not account for it. The following spring I noticed the man sowing took the seed by handfuls; that from between his fingers formed the ring. Or the seed may have been drawn into those spots by a worn-out brush harrow. A proper brush harrow should be made of birch or beech, branches an inch thick, with plenty of laterals (twigs); an old gate, or a 12-foot panel, either used in whole or cut in two; work branches between bars, then on this others, tacked on with fencing staples, making brush 6 to 8 inches thick, and of branches extending 3 or 4 feet behind. As these wear out replenish with new ones. If left stumpy and non-twiggish, it will drag your seed into clumps. I have had my seed so dragged by having to use the drag before replenishing. Do not wait until you want to use it; remember that this brush harrow is a very important factor on all well-managed farms. When finished, fasten an old pump chain to each end, drawn out to hitch your double-trees to; let your entire harrow lie flat on the ground; if those chains are too short, you raise it in front.

Evidently your soil is too poor; if you put the quantity of lime on it I spoke of, you have done farther harm; that was meant for soil named. In your case 15 bushels annually would be better. In laying down, I should, in your case, use wood ashes and bone dust plaster for that crop, drilling it in. Make a marker of ¾-inch sticks of any hard wood, 6 feet long; bore holes so that the teeth will be 12 inches apart, putting in teeth of oak 9 inches long; holes bored with a 2-inch auger; when in head, cut in with chisel, and drive a wooden wedge to fasten tight; teeth a blunt point. To make straight, run a line; let your outside tooth run along this, and follow back on your last row. Bear in mind your marker must be kept square, or else your rows will run to angles. For a handle use a hickory stick (fresh); place an iron ring 18 inches from top; split it and insert the two ends in your frame, pinning them on the outside. There is a much superior article for this purpose, and for the drilling of all seeds, and it can be regulated to any width—Rapp's adjustable marker. I do not see it advertised; it deserves to be, as it is a valuable tool.

Allowing your ground to be in good condition, sown in drills, be careful not to sow too thick. The surest direction that I can give you is to drop it as near as you can to one inch apart; take the seed between the fore-finger and thumb, walk lively up and down, and keep moving and dropping the seed from between the fingers. After a few rows you will have the full hang of it. Five pounds of seed per acre, at this distance, is ample. When sown, brush-harrow both ways and roll with heavy roller. On the first appearance of weeds, hoe and keep clean.

I have no doubt you will succeed; you have learned the first great lesson—failure. When I was passing my examination as a farmer and gardener, I was asked how to grow such and such a crop, and had I ever lost such and such. "Oh, no!" Then I was calmly told that I knew nothing about it. At the time I thought this a great pull down to my would-be dignity, but I have since lived and practiced long enough to appreciate the meaning of the question. Those in doubt of the full value of this crop should try a few rows as above in their vegetable gardens, and make their own deductions. GERALD HOWATT. *March 20.*

Is the English Ray Grass Hardy?

EDS. COUNTRY GENTLEMAN—On page 205, Mr. Henderson controverts some statements of mine relative to that variety of *Lolium perenne*, called "English rye grass," and sometimes "ray grass." The query he puts to me, at the close, might lead a superficial reader to suppose that I had condemned the whole family of Lolium, notwithstanding the plain statement of mine that the ray grass is not hardy, but that the Italian rye grass and Pacey's variety are both hardy. To these statements I still adhere until convinced to the contrary by seeing a culm of ray grass growing on any land where the thermometer often goes to 35° below zero. That Mr. Henderson and his neighbor have grown the ray grass on Long Island, where a milder climate and a softer sea air prevails, I of course cannot deny, and shall be glad to go there and see it; for I have never yet seen culm or panicle of that grass growing in any fields where the seeds of it have been sown by my inducement.

Many years ago, relying on English authorities, I began to introduce the seeds of the grass in question to the farmers of Central New-York, and was sorely disappointed, year after year, in not finding a culm of it anywhere the second season after seeding. This failure led me to make the repeated tests, in separate borders, as stated in your paper. The same too at the Geneva station, where it never produced, in the second year, blade or culm, while the *L. Italicum* and *L. Pacey* stood the winter bravely. I have tried the seeds of several varieties of the *L. perenne*, including the celebrated Devon Raven, but all, excepting the Pacey, with the same results. I might add here, in corroboration, that Dr. Brown of the Guelph (Ont.) agricultural college reported last year that the English rye grass had disappeared from the pastures there.

But what does Mr. Henderson mean by the strange contradiction in terms that—"none of the varieties of the *Lolium perenne* are perennial?" And why does he pervert my language by making me say "with the *solitary* exception of Dr. W. J. Beal," where I have said the *distinguished* exception? And also, what does Mr. Henderson intend where he says: "Almost all our writers on grasses are natives of England and sister isles, and are persons who have had years of practical experience in their respective countries and in this, their adopted one, and are therefore thoroughly qualified, the soundness of their teachings having a practical basis to rest upon?" One might ask—who are these *Magni Nominis*? I have long thought, and still think, that Dr. Muhlenberg, Asa Gray, John Stanton Gould, Chas. Fitch, Dr. Vasy and Dr. Beal, all Americans, are authorities on grasses, equal, if not superior to any of the compilers who are "natives of the isles" and resident here, however worthy they may be. I have one of these compilations, and venture to say that it will never be cited as classic. On one of its pages is an original formula for a lawn seeding. It is a somewhat succotash combination of good and bad, for among the really desirable grasses recommended are intruded such rank herbage as orchard grass, tall oat grass, Italian rye grass, red clover and yarrow. A few gowans, *Bellis perennis*, might be tolerated in a lawn, but who in his senses would deliberately dot a velvet lawn with the coarser plants above named? Then, on another page, that dominant plant, the rib grass plantain, *P. lanceolata*, is recommended as a component of a pasture mixture. Now if there is any one of the grass eradicators that our northern farmers would be glad to get rid of, it is this prolific intruder.

In conclusion let me presume to advise farmers in the colder regions of our country not to seed their broad acres with the ray grass be-

fore having tested it in a border, on a small scale, and so determine for themselves whether it will or will not stand the winter.

Oneida County, N. Y. DAN'L BATCHELOR.

In the Sugar Bush.

If it is best to prepare for war in times of peace, then it may be wise to plan for work in time of rest. We have just had one of the finest runs of sap I ever knew. Last week from Tuesday to Saturday there was no break, except at night fall when it is necessary to have the freeze to prepare for the next day. On the best days each tree produced enough sap for from six to eight cents' worth of syrup. Thus we see that six or eight days of good or the best weather will produce fifty cents' worth of syrup, the amount President Chamberlain gives as the product of a single tree. My average for several years has been considerably less than this estimate. My price has been $1.25 per gallon. My cans cost about 13½ cents. I got the Record can of Ohio, which is by all odds the best can in the market, so far as I have seen.

I am glad to say that we can use two spouts to the bucket, and yet use the covers. The cover rests quite securely on the edge of the bucket and the upper or second spout. Hereafter I shall use two Post spouts for bucket. I am glad that I have not to give up the covers; they not only protect the sap from dirt, snow and rain, but they are a wonderful aid in gathering the sap. Each time we turn the sap out we invert the cover, which is painted red on one side and white on the other. Thus we can see at a distance just what trees have been visited, and are saved much extra walking as every experienced person will readily understand. Again, we are sure not to skip any tree. I am delighted that the new plan of two spouts will not drive the covers from the bush.

The malate of lime was entirely absent, at least none was visible the first run and first day of the second run. The next day there was a trace which increased so that on the fifth day of the second run there was considerable. We would collect a pint in seven gallons of syrup. Is this because the less soluble lime needs more heat and time to liberate it from the cells of the trees?

I am often asked how to prevent crystallization in the bottom of the cans. We are very careful to produce syrup of just eleven pounds to the gallon. This gives us no trouble. Some might prefer the syrup a little thicker, but then the crystallization will annoy. I am sure syrup made from sap in covered buckets, strained twice before it reaches the evaporator, reduced in the Champion evaporator, then strained through cotton cloth at eleven pounds to the gallon, and permitted to cool partially before canning to eliminate the lime, will sell. I could sell three times as much as I can produce, with no effort. A. J. COOK.

Michigan Agricultural College.

An Ideal Earth Closet.

EDS. COUNTRY GENTLEMAN—So many articles have been written of late in reference to earth closets that no doubt many of your readers are preparing to build this spring. For their benefit allow me to criticize the plans that have been brought to notice.

First: Let Mr. Terry's plan (p. 4) pass, unless you are sure that you possess Mr. Terry's energy and promptness in whatever you undertake.

V. Frost, p. 51: I think all will avoid movable boxes.

"An Old Reader," p. 64: I consider this the best plan offered.

"An Old Reader," p. 125: I think a vault objectionable unless located on a ledge or heavy mason work to prevent the frost heaving.

C. H. P., p. 145: I would not advise lining box with galvanized iron. I admit it would prove satisfactory for a time, but it would be apt to rust in spots; then I consider the box worthless.

H. F., p. 165: The same objection to vault, page 125. The designs for using the absorbents are good, but I would not advise storing in large quantities unless the closet room is located inside of a building or a very dry place. When I constructed the one I now use, I attached to the closet room a slanting box similar to Mr. Terry's. I soon found that no matter how dry the ashes or muck were when stored, the top and sides soon became damp, hard, and in cold weather froze. I removed it, and have used the "Old Reader's" plan, p. 64, and have no desire to change.

I will give my ideal of an earth closet, similar to one I have used for years. The building should be about 6 by 8 feet, and, if convenient, attached to end of woodshed, with a basement from five to six feet above the ground. Then construct a receiving box 25 to 30 inches deep that will fit inside of frame, made as follows: Obtain dry, seasoned white pine 3 inch plank, or any durable wood. Cut it up to the lengths required and apply petroleum to the ends, edges and sides—all the wood will absorb. Then make the box strong and water-tight, turn it on its side and give the inside a coat of boiling hot coal tar pitch. Apply immediately all the dry sand or fine coal ashes that will adhere to the pitch. Let it cool, turn the box, and give the other sides and bottom the same.

Place the box in the basement on two 4-inch blocks, to admit the air under and around the box. Board up the sides, put a large door in front to open out, and you have a box whose outside will be sound, dry and sweet for thirty years, if kept from the weather and not allowed to run over. I judge from one I have used for 11 years.

Arrange the seat in closet room so that the droppings will enter the box near the centre, and they will soon form a pyramid. Apply the ashes or muck as directed by your correspondent, "An Old Reader," p. 64, and they will roll down the pyramid sides exactly to the points. Ventilate through the roof, and you have a cheap and valuable earth closet.

In the spring and autumn, when the man is around with dump cart, request him to take his long-handled shovel and load up from the out-house box. In twenty minutes he is loaded, on his way to the field, the door closed, and the box in order for the next six months.

St. Stephen, N. B. C. B. R.

Western Ohio.

EDS. COUNTRY GENTLEMAN—Weather cloudy and cool, mercury 45° to 50°. Grass is starting slowly; so is wheat; a fine time to plow sod while the weather is cool, and many are taking advantage of it. In beginning to plow it is wise to work teams very moderately for a few days until they get used to hard work. There have been many sales here this spring among farmers. Corn sold for 20 cents per shock at one sale. It would go one bushel and a half to the shock. What is the least that corn can be raised for per bushel? I should like to hear from some of your readers. Some farmers advocate shallow plowing, say about 3 inches deep, enough to turn over the sod, while my experience is that 5 and 6 inches is none too deep. They say if you turn over sod too deep it will not do any good the first year, and the corn roots will not find the sod. I say plow deep, harrow well, cultivate your corn well, and the roots will find the sod and will stand the drouth better than with shallow plowing, and you will have a big crop. This just scraping the top of the ground is a thing of the past. It is best to plow sod early while the days are cool and man and beast can stand it better. Then when the time comes to plant, you are ready and it is not "hurrah boys" from 4 o'clock in the morning to late at night, to catch up with the work. Some people are always behind and never ready for the summer when it does come. I say corn cannot be raised for 27 cents per bushel. After a farmer has bought proper tools, done the work properly, husked and perhaps hauled the crop 5 and 10 miles to a warehouse, what does he get for his labor? But if he has meadows that have been down for 5 or 6 years and are completely run out, or to June grass, they must be plowed in order to get them down in clover again. It does not pay to let a meadow run over 4 years. What we want for clay land or any poor land is clover and plenty of manure, and perhaps it is the best plan to plow up and plant to corn, or on very poor land sow oats and in fall sow wheat; then in spring sow grass seed, and hope for good prices.

Many farmers are going into debt, buying quantities of implements on 6 and 9 months time, buying things they do not need because they can get them on time. Sooner or later all these things must be paid for and if the farmer's crops happen to fail, and he cannot pay the implement dealers, it causes hard times. If we are to succeed, we must keep out of debt, keep the mortgage off the farm and home, put our whole mind and strength to the business, and live within our means.

Champaign County, March 21. EDWIN WING.

Road Laws in New-Jersey.

EDS. COUNTRY GENTLEMAN—In our State considerable thought has been given toward revising our road laws. The many special township, county and State laws on the statute book, with various amendments and supplements, confused even our best lawyers. The State Board of Agriculture, one year ago, appointed a committee to frame a general State law. They have found it a perplexing question, and have not as yet been able to report. It is no easy task to frame a law that will be comprehensive, practical and simple. It is an important question, affecting our common interests more largely than people generally suppose.

The opinion held by many is that roads should be divided into two classes, viz., county and township—the main roads to be maintained at the expense of the county and controlled by its officers, and the by-roads to be kept in order by the township and in charge of its officers. As the Board of Chosen Freeholders have charge of the bridges and other county matters, it seems but proper that they should have charge of the main roads if the change is made. They represent the tax-payers, one from each township, and are as likely to be worthy of confidence as any set of men that are likely to be elected. One reason for taking the main roads out of the hands of the townships, is that they frequently pass through townships that are indisposed, or too poor financially, to put them in the condition which the travel upon them demands. They need help, and the cities and towns outside which are benefited should aid them. It may look at first as if the country districts ought to take care of the country roads, especially as the cities and towns look after their streets, but when we reflect that there are ten carriages and business wagons from these cities using these roads for every country carriage and wagon, and also as good country roads invite people of means to reside in the city as well as the country, and the increased population buy, employ help, and tend to make business lively, especially for town people, we think it only fair that they bear a part of the heavy tax. Another reason for important roads being under county control, or one management, is that they may be uniform throughout. Now, there are as many road overseers almost as there are miles of road, and as some parts are kept in very bad repair, they are like the chain which is no stronger than its poorest link.

A bill now before the New-Jersey legislature, endorsed by Union county, gives each Board of Chosen Freeholders in the State the right to acquire, improve, maintain, and assume full and exclusive control of any public road or roads which they in their judgment think the good of the county requires. Before improving, they are to cause a map to be made, and file a copy in the office of the county clerk. They have power to grade, improve by means of stone, engage a civil engineer when laying out the road, and an inspector or overseer afterward. It is lawful for the board to levy a tax or bond the county, but the bill forbids their levying a tax in any one year exceeding one-fourth of one per cent. of the assessed value of taxable property in the county, and prior to their issuing bonds the board has to apply to the circuit court of the county in writing, stating the assessed value of taxable real estate, and the entire debt of the county for all purposes, and the amount of county road bonds the board proposes to issue. After the court has satisfied itself that the statements are correct, and the amount asked for does not, with the entire debt of the county, exceed three per cent. of the assessed value of real estate, the court is authorized to grant the request of the board. The bill puts two thirds of the cost on the county at large, and one-third on the city, township or borough through which the road passes. All work is given out on contract except making repairs that do not exceed $100.

The bill leaves the manner of making the road largely to the discretion of the board. The method most approved by those who have had experience is, after the road has been properly graded, and the wagon-bed rounded, to overlay 12 to 18 feet of the centre of the main road with crushed trap rock, from 5 to 12 inches deep. This soon becomes packed and smooth with travel. By-roads may be stoned over from 7 to 10 feet of the centre, and 6 to 8 inches deep. When the subsoil is inclined to be wet and springy, it is advisable to lay one or two tile drains parallel with and under the stone bed, to keep the foundation solid. There should be a good, free outlet for the drain at the end of every grade. The road should be redressed with a slight covering of stone every two or three years. Large stone are objectionable in the road; while they may be of use when put down deep enough and kept properly covered, they are so often allowed to become exposed, and incompetent overseers, so often make a stupid use of them, that we would favor a law forbidding the use of stone larger than a hen's egg, unless placed 1 foot 6 inches beneath the surface, and then to be used in filling up road drains. The wear of wagons and rain washings, together with the frost and heavy teaming, will before many years displace large stones, even when placed a foot or so underneath. When exposed they are a nuisance, as everybody knows.

Union County, N. J. DENNIS C. CRANE.

English Notes by T. Bowick.

The weather has been very changeable during the winter, and, with the exception of nine days at the beginning of the year, there have been no continuous frosts. There was a fall of snow on the 10th of February to the depth of seven inches in the east midland counties, which, when tested by melting, proved that sixteen inches of snow of the same density was equal to only one inch of rain. There has been very little more snow throughout the winter, and aggregately, the rainfall in the past four months measures but 7¼ inches.

The past year was reputed a wet one by farmers; but our great authority on rainfall, Mr. Symons of Camden Square, London, states that the precipitation of last year was under average. Wet months in summer are the English farmer's dread; so the dripping days of June, July and August led the farmers to designate 1888 as "wet." With an excess of rain there is invariably a low temperature, and this may account for the deficiency of four bushels of wheat per acre, as compared with the yield of the preceding year, namely, 1887, which was hot and dry. With a larger area under wheat than in that year, the estimated return is less, being 68 million bushels, whereas in 1887 there were about 71 million bushels. Barley and oats exceed the produce of 1887. The next important food crop is potatoes, and it is estimated to have been half a million of tons below the produce of 1887 in Great Britain alone. In Ireland potatoes may still be called "the staff of life," and the crop of last year was estimated at 3,050,000 tons, while the year preceding it was 3,654,000—being a decrease in 1888 of 605,000 tons.

It is not, however, so much the deficiency of the crops as the low prices, which is telling on the farmer. The "three quarters" at the present day, viz., wheat, barley and oats, of the respective weights of 480 lbs., 400 lbs. and 312 lbs., only average $16.98, which is fully $1.95 below the average of the small prices of the past five years. But even a better index of the depression of agriculture may be seen on computing the average prices of the five years preceding 1882, in which the figures were by no means high. It will be found that there is a decrease in the value of the said "three quarters" of $8.50, which is more than the equivalent of most farm rents. The time was when many rents were paid according to the price of corn, but that is a rare practice now.

Happily, cattle, sheep and pigs are paying their way, and the dead weights may be quoted as under $15 per cwt. for well finished bullocks and heifers; $13.75 per cwt. moderately fat; bulls, cows and half fed beasts $12.50. The American system of ascertaining the live weight is being gradually introduced, and although not sold by live weight the bids are more or less regulated by the ticket attached to the animal, and thus the price of the cwt. or stone becomes known. Dealers and butchers continue opposed to the plan, but there is no doubt but that it will ultimately prevail. Though an animal be weighed and sold by weight, the butcher is not required to offer a higher price than he deems proper. Weighing is certainly a step in the right direction, and there is some significance and definiteness in being able to say what is obtained for the cwt. or stone. W. Jolly of Apthorpe, Northamptonshire, was among the first to bring out tables showing the comparison between live and dead weight. These were based on weighings he made at Peterborough for well finished heifers and bullocks, and on ascertaining their dead weight,

the four-quarters (stinking the offal), he found an average of 62½ per cent.

The preparatory work for spring sowing is pretty well advanced, and more or less beans have been put in, and other spring grain will now be proceeded with, if the weather continues dry. Winter keep for stock is plentiful—that is, turnips, mangolds, hay and straw. For fattening stock, these are supplemented by linseed and cottonseed cake. About the usual breadth of wheat was planted in the autumn, and it is very promising. Market gardening is a considerable interest in light lands, and vegetables were and still are plentiful, owing to the rains of last year. Onion seed was a deficient crop, and sells at high prices. There promises to be a full supply of potatoes during the season. Disease threatened them last year, but the crop was not much impaired. They sell in retail at $1 per cwt. in the provincial towns, and $15 per ton. There is quite a number of new varieties brought out of late which have been renewed from the seed. Among others that may be mentioned, is the "Celt," which was propagated by W. Nicoll of Arbroath, 1869 (the introducer of the famous "Champion" potato), and it has been brought to perfection by Mr. Duncan of Panlathie, Forfarshire, from which he is realizing $30 per ton of 2,240 lbs. *London, March* 13.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *March* 28.

We have had a March dry as respects rain, and quiet as respects wind. The skies have been remarkably clear, and the temperature above the average. The total of the two rainfalls, only, aggregated an inch of precipitation. No weather could be more favorable for seeding to oats and breaking the land for corn, and on no occasion have these several advantages been more generally availed of. Should the dry weather continue through April, as large as the areas of oats and corn have been, they will be extended farther, even to the seeding and planting of every acre, high and low, that has a broken sod. The season may be regarded as an early one, though the peach buds have not advanced far enough to show the color of the blossoms. Grass is backward, but a warm rain of an inch or two, coming slowly down for four or five hours, would change the complexion of pastures and meadows from gray-green to emerald, in twenty-four hours.

This spring season, like several since, considerably resembles the spring of 1873. Then March was dry, and April so dry there was scarcely rain enough to lay the dust. Under these very favorable conditions for plowing, seeding, and planting, an enormous acreage was put in small grain and corn. It began to rain in May; heavy rains followed in June, and in July they amounted to deluges almost. Nor did the wet weather hold up in August, but continued late into autumn. With this excess of precipitation, the season was a cool one, not a single hot day all summer, as I remember it, and I was abroad in the fields every working day. Hay in harvesting was badly damaged, small grains fared worse, and only the small varieties of corn got in early, matured. Whether we are to see a repetition of the phenomena of low temperature and heavy rains after the spring drouth of 1869, as after a like spring in 1873, I dare not go beyond conjecture that it may be, the reason for it being that after so long a drouthy period, the chances for the extended spell of wet weather are much increased, unless great and important physical changes have so modified conditions that we can no longer count on the repetition—in the matter of weather—of 15 and 20 years ago.

At any rate, I venture to advise the utmost expedition in spring work and the seeding of crops. If the after spring season should prove a dry one, early planting is often the salvation of crops; if wet, the work that has been done before the rains is accomplished with half the force and half the cost of that done after, if it can be done at all, and a profitable outcome of the crops is much more likely to be had.

I do not know that any new crop is coming prominently into fashion. Broom corn is going out, and flax and sorghum have pretty much disappeared. Irish potatoes are losing ground every year, and sweet are so disappointing, both in yield and quality, that they are scarcely more cultivated than Jerusalem artichokes. If any crop is coming to the front for trial it is alfalfa, but experiments with it are limited to a few amateurs who are ready to experiment with almost anything. It is not quite time to report on the condition of alfalfa sown last spring, nor will it be before April 1.

Apples have kept over winter so well, and they are so plenty and cheap, that the cider mills have been set going, and new cider is being retailed about the streets in March as in November, and at about the same price, 20 to 25 cents a gallon. There is a considerable demand for nursery stock, and of varieties the old and well known sorts are regaining their partially lost reputation in consequence of the very good crops of last year. Peaches, too, will be planted quite generally, partly because of the full crop of live buds now on the trees, and partly from the popular impression that we are to have a succession of winters so mild that peach buds will come safely through them, as they have several times before in the fruit history of the State.

The Fertilizer Question.

If no prominent new crops are inviting the attention of farmers, and if the small grains, corn, grass and hay are becoming nearly the only ones, there is progress and a good deal of it in another direction in the increased use of the commercial fertilizers. When some months ago the new doctrine that it is quite out of the question to undertake to keep up the fertility of a farm by the manures made, even where half the crops are sold and the other half fed to stock on it, the proposition was regarded as little less than an absurd innovation. But when farmers came to look at this proposition more calmly, and when it was demonstrated to them that if all the winter manure from the stock of a well regulated farm of 160 acres were hauled out and spread on the land, there would not be sufficient to restore lost fertility to five acres, there was a decided moderation of opposing views; with the result of so much of an increased demand for commercial fertilizers that manufacturers advanced prices from 10 to 25 per cent.

A little experience of my own, showing how far manure saved over winter will go to restoring lost fertility to the land, will perhaps be appropriate. I have three cows giving milk, two of which are large two-year-old heifers, and one a heavy mature cow. When they went into the barn in November, all were as fat as milch cows should be. They had all the good timothy hay they would eat, and had twice daily full rations each, of bran, oats, ground corn and oats, and a due complement of oil meal. They were nightly bedded down and the straw went on the pile of manure outside. They were turned out daily in good weather for five or six hours, and ran to a stack of sound oat straw, and in quite cold weather spent so much time warming their feet on the manure pile that there was no fire-fanging. Well, the pile of manure has been wheeled out and spread on grass land, with the result of covering and restoring lost fertility to less than half an acre. Suppose we admit the manure dropped outside was equal to that of one cow, then we have as a result, the winter manure of five cows is necessary to restore lost fertility to one acre.

Under the present state of Illinois soils of first rate quality, embracing the black soil prairies and the cleared heavily timbered yellow clay loams, there is little call for the nitrogenous fertilizers, and not much for the potash ones. But the phosphates are especially wanted on grass lands, whether pasture or meadow, to arrest the progress of red top in the centre and north, and to meet the invasion of broom sedge in the South. In August last, nearly all the old heavily stocked pastures in the centre and north were so dominated by red top in blossom, as to suggest a red sea, instead of a green prairie, and in the south, rusty colored broom sedge was seen to be driving bright blue grass out.

As for small grains, oats and winter wheat, when the land is fall plowed deeply for the first, there is still phosphate enough in the land to produce heavy crops, and when wheat is sown in the standing corn and that crop has been properly cultivated, the yield of grain is pretty sure to be good. In the case of the corn crop, the presence of a sufficiency of nitrogen is seen in the heavy growth of stalk and blade and the deficiency of the earing, and the lack of phosphate is often in so large a measure, that fully 20 per cent. of the corn stalks are barren. It has been the reproach of our agriculture that as much as 90 per cent. of the fertilizers manufactured in our great pork and beef packing cities, has been sent across the ocean; a reproach which will not long be a just one, if the recent new light on the subject of the absolute necessity there is for commercial fertilizers to restore lost fertility, continues to bring the use of them into further fashion as it has begun.

26th, 8 P. M.—A strong south west wind, rising temperature and falling barometer are the usual signs of rain, except in a dry time when all weather signs are said to fail. S. F. J.

Inquiries and Answers.

Keeping Eggs—Water.—Please tell me best way to keep eggs. At present the market price is 10c. per doz. I wish to hold mine for a higher price. (1) Why is the rain water in our cistern hard? The cistern has not been recently plastered, but the roof of the house was re-shingled last fall. What will soften the water? (2) W. V. C. *Neptune, N. Y.* [1. See COUNTRY GENTLEMAN, vol. 33, pages 257 and 267; also vol. 33, p. 47. 2. There would seem to be some mistake about the water, unless possibly some hard water may leak into the cistern. Can our correspondent empty it, cut off the inflow from the roof, and see whether it remains empty or receives water from the earth?]

Durability of Wooden Silos.—What has been experience on the point of durability of wooden silos, especially of the inside sheeting? A large number are likely to be constructed in Ontario this season. Prof. Robertson of the Experimental Farm at Guelph, predicts a thousand, and looks for no small improvement in our dairy interests therefrom. W. S. *London, Ont.* [The inner portions of wooden silos usually last longer than the owners expect, from the fact that they are wet and dry again but once in the year. They receive moisture from the contents when they are filled, and gradually dry again after emptying by feeding out, and unlike other exposed woodwork, are not subjected to wet and dry many times in the year. There would of course be a great difference between the use of durable or perishable wood; but any kind of wood treated or soaked with crude petroleum, would be rendered much more lasting.]

Saving Old Fodder.—I raised a large quantity of fodder corn last year, cut it in fair shape, and put it up in shocks or stooks of about one-fourth ton each. Have fed 40 head of cattle, 5 horses and 40 to 60 hogs, and have 75 to 100 tons left. Had no silo in the fall, and left fodder out all winter, where it kept well and is in good condition now. I am now getting ready to put in a silo, and the question I want answered is, can I safely cut up my last season's crop of fodder corn, and put it in silo as ensilage next month, to be fed out in August, when feed will probably be short? C. C. S. *Manitowoc, Wis.* [You may doubtless keep it in the best condition for feeding next fall by allowing it to stand as it is. It is now mostly quite dry, and if cut and put into a silo, it would not settle like fresh fodder, and there might still be enough moisture in it to cause it to mould and spoil. It would be well to cut it short before feeding, although the dry stalks require about twice the power to cut them as fresh and green fodder.]

Silo Walls.—I have purchased material for a silo. My plan was to use 10-inch studding, nail on inch oak with either tarred or building paper (two thicknesses), then use ship-lap pine for inside. Would you advise me to use crude oil on all the wood to keep it sound? Which is best, tarred or building paper if oil is used? How can I keep the rats out? Would filling between studding with poor mortar made of quick-lime and sand, about three or four feet do any good? There is no silo in this county or anywhere near, and what knowledge I have is taken from what the correspondents of the COUNTRY GENTLEMAN have written. I would like to build so the silo would not be eaten up by rats or rot down in three years as one of the convention men stated in paper last week. Is there any danger from spontaneous combustion in using the oil on lumber and paper? H. H. *Indiana.* [The only requisites for wooden silo walls are to have them air-tight, reasonable non-conductors of frost, and firm enough to avoid pressing out of shape. Ten-inch studding ought to make one sufficiently firm, although affording a wider air-space than is absolutely necessary. Tarred paper aids in excluding air and cold, but one thickness is enough at one place. The durability will vary much with the kind of wood; it must have been quite poor timber which rotted in three years, with but one change from dry to wet and the reverse in one year. A good soaking with crude petroleum for all the wood of whatever kind, would add greatly to its durable character. There is no danger of spontaneous combustion with common using. We cannot advise you as to rats—filling with mortar would do us good, unless the mortar was well mixed with broken glass, sharp cinders, &c.]

Burning off Grass.—I have a piece of land which had been neglected previous to my taking the place. Last year the grass was allowed to grow and not cut; it lies now a thick mat on the ground, and looks like a very good crop of hay without any weeds. Now I am told it is a good plan to burn off this old grass; on the other hand, I am told it will ruin the next crop if I burn it off. As I am quite ignorant in the matter, will you kindly tell me which is the better way to get rid of this old grass, and make the ground in proper order for the new crop, which will soon be coming up? I. C. C. *Yonkers, N. Y.* [In the absence of personal inspection, positive advice cannot be given. If the dead grass is very heavy, burning might injure the plants below, much depending, however, on the depth of crowns in the soil. The best course would be to try a small portion and then examine the result. If you should wish to try some other crop, turning under this grass with the sod would doubtless give a good crop of corn.]

Floricultural.—I have had a passion flower plant for five years; have kept it in a flower pot plunged in the ground in summer and kept in cellar in winter; also planted some out in open ground. They grow well, but have never shown sign of blossoming; have it now in cellar. What must I do to have it blossom? What must I do with chrysanthemums of last year? Must they be cut back or allowed to grow from the old wood? F. C. *Somers, Wis.* [Checking the growth will often cause the passion flower to produce flower buds. Up to mid-summer the ends of the shoots may be pinched off; and if after this they continue to grow strong without promising bloom, a trench may be cut around them, severing half the roots. This will probably produce blooming. The best chrysanthemums are produced from cuttings, or from the best shoots divided from the old plants. They may receive a good, compact, symmetrical shape by pinching in during the first half of the season. They are gross feeders, and require a rich soil. Liquid manure is occasionally useful.]

Curing Hay.—In Tennessee, much clover hay is destroyed or damaged every year by rain during the hay harvest. I should like to be informed whether experience commends the use of covers for cocks of hay in the field? Are they practicable, and does it pay to purchase and use them? J. M. C. *Nashville, Tenn.* [For meadows of moderate extent, and with very heavy crops, and where prices are high, it pays well to use hay caps; but on more extensive meadows they are not much used. Much depends on management. We have seen, in the same neighborhoods, large crops of clover ruined in the hands of some farmers, and at the same time scarcely a load harmed in the hands of others. The former cut down many acres at once, with the hope that rain would keep off till they had it all secured, but more frequently the unexpected showers spoiled it. The latter cut small quantities at a time, or only as much as could be reasonably secured within a single day or two, and took care to cut no more till the previous cutting was housed or stacked. This appeared like slower work at first, but was more rapid eventually, with the advantage of mostly uninjured hay.]

Green Corn for Soiling.—I have seen it stated that green corn for soiling cows does not increase flow of milk, and if fed on it alone will eventually dry up the milk. Do you think so? At what stage of growth is green corn the best for soiling milch cows? B. *Kent County, Md.* [B. has been correctly informed that green corn for soiling cannot be used as a sole food for milk. It does not contain the nutritive elements in the proper proportion to produce milk. It is always used by those who understand its feeding qualities to keep up the flow of milk on a scant pasture. In this case the grass, although scant, furnishes the elements which the corn lacks, and the green corn

furnishes the carbohydrates which enable the cows to keep up their flow when otherwise they would fall off in their milk. Green corn is an excellent aid in soiling, but it must always be fed with more nitrogenous food. Those who soil their animals endeavor to have good second crop clover to feed with it, or perhaps green oats and peas or green millet, or lacking any such crops, they feed green corn with a few pounds of bran. Green corn is most nutritious when in full tassel, and as a soiling crop this is the best stage to cut it. Before the writer adopted ensilage as the most profitable form in which to feed green corn, he was accustomed to bring it to barn with second crop clover, or green oats and peas or millet, and run both through the cutter together, and this mixture of green food fed with a little bran or middlings would keep up as good a flow of milk as the best pasture. E. W. S.]

Water up Hill, p. 245.—I have had two compressed air pumps, one to force 55 feet and the other to force 65 feet more to the tank 110 feet above spring. We had water when the wind blew, but it took an expert to keep them in order. I then bought a steam pump and had it fitted to a little two-horse ring boiler. I have used this for five years with high satisfaction. I now use a 500-gallon cask 70 feet above the spring and pump directly into it, filling the cask in about twenty minutes after lighting the fire; could pump 110 feet if necessary. No coal is needed, as you are through pumping before you want it. As near as I can remember, the whole rig cost me $300. I bought galvanized iron pipe (one-inch), which stands the pressure first-rate. The water runs into the house; is A 1, and I defy the world to improve the arrangement in any respect. EXPERIENCE. *Bristol, Conn.* [It is unsafe to use galvanized iron for water that is to be drunk or in which cooking is to be done. Some degree of zinc poisoning is highly probable, which is all the more dangerous because the bad results on the health of the victims are both slow and obscure.]

Stallion Law.—Can you tell us if there is any book giving the law complete to date for collection of stud money, liability of owner of mare, &c? A. S. *Niagara Falls, N. Y.* [See COUNTRY GENTLEMAN, vol. 52, pages 281, 342 and 442; also vol. 53, p. 702. See also current volume, p. 230; if the bill there mentioned becomes law, the fact will be promptly noted in these columns.]

Potato Diggers.—I have several large potato growers in the South asking for a potato-digger that will bag them. Do you know of such a thing? I have seen the old digger, but it does not bag them. W. S. H. *New York.* [We do not know that any potato-digger bags; yet there may be such a machine.]

Monroe Potatoes.—Are the Monroe Seedling (the one noticed in the COUNTRY GENTLEMAN of Nov. 29 last) and Monroe County Prize one and the same potato? M. E. M. [We think not.]

Fences and Snow.—I should like to have the following question discussed in your paper: Would it be advisable for New-York State to pass a law obliging land owners to construct wire fences along highways liable to be blockaded with snow, the towns where such fences were constructed to pay a share of the expense? M. E. M. *Guilford, N. Y.*

Cornell Bulletins.—Where and how can I obtain the bulletins of Prof. I. P. Roberts of the experiment station? J. H. W. [Address the professor at Cornell University, Ithaca, N. Y.]

Chewing Bones.—What makes cattle chew bones? What is lacking in their feed or pasture, as they do the same on both pasture and dry feed? Pasture short, and on low, sandy land. Feed good hay, corn, bran and oats, and salt all they want, and are fat and in good health. W. A. M. *Ganges, Mich.* [Cattle sometimes chew bones, because of some relish of salt about them. But where cattle show constantly a desire to chew bones, showing that they feel a want of some nutriment that they have not got, it is no doubt often caused by a lack of phosphate of lime in the soil, and of course in the products of the soil. I have never known cattle to chew bones for the latter reason when they had any considerable amount of food containing the elements of bones. For instance, a regular proportion of wheat bran in the food of cows completely supplies this want. The English, whose soil has been so long under cultivation, often apply lime and ground bones to the land, to supply the waste of material taken away in the crops. But of course I do not undertake to decide that M.'s soil is deficient in any of these elements. I have no basis on which to make such a statement, and my observations can be of only the most general nature. Corn is very poor in the elements of bones, and M.'s corn bran will not be likely to help his cattle in this respect. It is well known that a pig grown upon corn meal alone is often unable to bear its weight upon its legs, simply for want of materials to grow the bones, and this is the reason why I so often, in these answers, recommend a proportion of wheat bran in the food of growing animals. E. W. S.]

Jersey Registration.—"W. A. M." should write to the secretary of the A. J. C. C., giving all names, dates and facts in full.

Three-Horse Whiffletree.—In your paper of May 10, 1888, p. 355, is an illustration of a three-horse whiffletree, by Richard J. Fagan. I have had a set made of the same pattern, length of all pieces exactly the same as given in paper, and had them ironed just as he describes; but when I put them on the plow, the single horse cannot keep his end of the short evener that is marked *B* in a line with the long evener marked *A*, and that draws the single horse's evener in towards the double team. I have tried several ways to obviate it, but have not succeeded. I first took off the short evener, *B*, and put a longer one in the place of it, and put a shorter brace to connect *B* with the single evener; that did not help it. Then I shortened the end that the double team is fastened to, and that did not stop it. I should like to ask whether these two eveners are intended to stay in a line when the team works right, or whether they work at all times as they have for me? They seem to do nicely every other way, and all the difference that I see is that it crowds the single horse too near the double team, and if it can be remedied, would be pleased to know where the mistake is. J. T. C. *Gloucester County, N. J.* [Will Mr. Fagan please explain?]

Weather, Crops and Prices.

Meteorology for March 24-30

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.30	inches.
Lowest	do. do.	..... 29.06	do.
Mean	do. do.	..... 29.93	do.
Highest temperature	do.	..... 65°	
Lowest	do. do.	..... 26°	
Mean	do.	..... 39°	

One clear day; five fair; one cloudy. Three days on which rain or snow fell; total precipitation, 0.21 inch. Prevailing wind, N. W.; maximum velocity, 28 miles per hour, N. W., on the 26th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	24th	25th	26th	27th	28th	29th	30th
This year....	40°	28°	31°	42°	36°	40°	29°
Normal.....	31°	32°	37°	40°	37°	36°	36°

Total excess for the week, 21°.

General Review of the Week.

The weather has been warmer than usual throughout the Northern States, Virginia, Kentucky, Missouri and Arkansas. About the normal temperature has prevailed in the east gulf and South Atlantic States, while in Texas the average daily temperature was from 3° to 9° lower than usual. Throughout the winter wheat section the daily temperature was about 9° above, and in Minnesota and Dakota it ranged from 6° to 9° above the average for the week. The temperature from Jan. 1 to March 30 has been warmer than usual, except in the South Atlantic and southern portions of the Gulf States, where the daily temperature has been about 8° lower than usual. Generally throughout the wheat and corn regions of the central valleys the season has been slightly warmer than usual, and is from three to six days in advance, while in Minnesota and Dakota and the Upper Missouri valley the season has been unusually warm, and is from ten to twenty days in advance, the average daily temperature in these sections ranging from 5° to 7° higher than that of previous years.

During the week the rainfall has been in excess in the Southwest, including the States of Mississippi, Louisiana, Arkansas, and the greater portion of Texas. About one-half of the usual amount of rain fell in the east portion of the cotton region, and only light showers occurred in all other districts, except in Iowa and Minnesota, where no rain is reported. The seasonal rainfall has been greater than usual along the Atlantic coast from New-York to Florida, generally along the Gulf coast, and from Texas northward to Dakota. Over 75 per cent. of the normal rainfall has occurred in the Middle Atlantic States and over the greater portion of the South Atlantic and Gulf States and New-England. In the central portion of the cotton region and over the greater portion of the winter wheat region east of the Mississippi the seasonal rainfall has been from 50 to 75 per cent. of the normal, except in Eastern Indiana, Western Ohio, and extreme southern portions of Michigan, where the rainfall has been less than one-half of the usual amount. Less than one-half of the normal rainfall has occurred in Northern California, Oregon, and Washington Territory, while about 75 per cent. is reported in Central California, and from 80 to 95 per cent. in Southern California.

In the spring-wheat regions of Minnesota and Dakota, and in the winter-wheat sections of the central valleys, the weather during the week was generally favorable for growing crops and farm work, except in portions of Indiana, Michigan and Ohio where the growth of crops was retarded by drouth. Rains which occurred in Kentucky, Tennessee and Arkansas improved the crop conditions in those States. In the Gulf States the general effect of the weather for the week was favorable for the planting of corn, cane and rice, which is about completed, and for cotton planting, which is in progress. More rain is needed in Texas and Alabama, while some injury resulted from heavy rains in portions of Mississippi. In the Middle and South Atlantic States the weather conditions were encouraging and farm work is progressing rapidly, except in Central New York and near Lake Ontario, where unfavorable weather conditions were reported. In New-England the weather continues cold, with frost and snow, but plowing is in progress in Connecticut. Frosts, which occurred in the central valleys during the week, have not affected crops injuriously. Reports from the Gulf States, Tennessee and Arkansas indicate that the fruit crop is in good condition, and up to the present date has not been injured by frost.

New-York—*Vermillion, Oswego Co., March* 28.—What December and January lacked in severe weather February did its best to supply. The mean average of the three daily thermometrical observations for the winter months was 29°—nearly 3° above the winter average for the last 25 years. Coldest day in December was the 22d; in January the 19th; in February the 23d; which last was the coldest day of the winter mean. Mercury was at zero or below once each in December and January, and seven times in February, lowest 9° below, Feb. 26. Snow fell on 4 days in December, 9 days in January, and 15 days in February; total of snowfall was 40 inches—6 below the winter average. During the past week most days have been bright and spring-like, but snowbanks still remain. We have come down to neither sleighing or wheeling. Farmers are hiring hands for the season's work; wages about the same as last spring, averaging $16 to $18 per month, with board, for ordinary farm laborer—good reliable hands get $20. Live stock healthy and in good condition; the mild weather has helped lengthen out the fodder, hay selling at the barns for $10 per ton; wheat, $1.07 per bu.; corn, 45c.; oats, 35c.; barley, 75c.; rye, 60c.; potatoes and onions, 30@35c.; eggs, 18c. per doz.; butter, 25c. per lb.; cheese, 13c.; chickens, 16c.; turkeys, 17c.; mutton, 8c.; beef, $6.50 per cwt.; pork, $6.50 per cwt.; apples so plenty that one has to give a chromo to have them taken. R. B. B.

Connecticut—*Hartford County, March* 26.—Weather now very mild and pleasant; snow and ice melted, and roads nearly dry. If it continues a few days longer the frost will be out of the ground, and early plowing will begin. Live stock of all kinds has wintered fairly well; two carloads of young high grade Jerseys have just been shipped from the north part of county to Illinois. Prices paid for heifers coming two years old, and due to calf this spring, were from $50@65 each. The demand for cows is quite slow at present; $35 buys a good one. Working oxen in slow demand at 4c. per lb. A number of carloads of northern and western horses are in this county for sale; prices for good work horses per pair range from $200@350. Hay is in good demand at $18@15 per ton; meal, $1 per cwt.; butter, creamery, 30@35c. per lb.; dairy, 25c.; eggs, 18c. per doz.; dressed fowls, 16c. per lb.; dressed beef, 8c.; pork, 6½c.; potatoes, 30c. per bu. in market. A. S. W.

New-Jersey—*Orange, Essex Co., March* 30.—Last night a vernal blizzard. During a few days past, summer skies and spring breezes; robins and blue birds making preparations to build nests. Some have spaded gardens and planted seeds. But ground is now frozen solid; and fields covered with snow. We have had an unusually mild winter. The ground was covered with snow, only a few inches deep at one time, for about a week, which was the heaviest fall and the most sleighing during the winter. My residence is in the thinly populated portion of Orange, on a broad plateau at foot of eastern slope of Orange mountain, 180 feet above tide; such a sunny locality favors early seed time. Apples and vegetables of all sorts unusually cheap. Eggs abundant all winter and cheap. At one time the competition between two grocers became so sharp that they sold eighty good eggs for 25c. Cold and frosty nights and mild and thawing weather during the day, is damaging to growing wheat and rye, but favorable for maple sugar. Milkers and a good overcoat essential to-day. E. E. T.

Somerset County, March 29.—Spring opened favorably, about two weeks earlier than usual; since middle of March, weather all that could be desired—no long, cold storms, or hard freezes. Plowing for oats well commenced and in some parts of the county already sown. Winter and spring favorable for wheat and rye; fields properly seeded look well; a large part of the grain, however, was sown as late as November, and while in most cases well rooted, has very little top and under best conditions cannot promise full crop. Clover withstood winter and promises good stand; meadows, pastures and mowing fields also look well. Peach buds not injured. Live-stock of all kinds look well. Grain low and considerable yet in the hands of farmers. Wheat, $1 per bush.; corn, 43c.; oats, 30c.; timothy hay, $12 per ton; veals 7@8c. per lb.; pigs, pair, $8@4. E. B. V.

Maryland—*Forest Hill, Harford Co., March* 28.—Changeable weather for the past few weeks, but upon the whole it has been pleasant and warm, unlike the March weather of the past few years, and a great contrast to that of last year. There were a few days of cold weather, with ground frozen, and what little snow fell did not last long. Farmers were thus able to do their spring plowing, and getting other work forward, some being ready to sow oats and plant potatoes. Wheat is looking very green, and growing nicely. Grass also is starting into growth, and looks well. E. E.

Ohio—*Irondale, Jefferson Co., March* 25.—The weather has been very fine the greater part of this month, and plowing for corn is well on the way. Wheat was looking quite brown the first of the month, but is now green, and the prospect is flattering for an extra good crop. No oats sown yet, but the ground will soon be in good condition. There is no stubble ground plowed for oats in this neighborhood. It is shovel-plowed, harrowed and put in with drill. There is a great abundance of feed of all sorts for live stock. M. W. H.

Mechanicsburg, Champaign Co., March 30.—Yesterday cloudy; rained in the afternoon; towards night, two inches snow, melting soon as it touched ground; mercury, 42°; wind, N. W. To-day fair; wind, S. E.; mercury 40° (3 above freezing) this morning. Snow all gone. I examined fruit to-day, and do not think it is killed. Some have made garden and planted potatoes. Farmers everywhere have quite a lot of sod plowed and ready to harrow. The finest implement to thin raspberry and other bushes is a sharp corn cutter. Eggs, 9c. per doz.; butter, 18c. per lb. E. W.

Wisconsin—*Janesville, Rock Co., March* 26.—The season is still quite remarkable for its genial sunshine and warmth. The glass marked 78° in the shade at 11 A. M. Friday, and 66° at 3 P. M., and still warm. The last two nights a little frosty. Plowing has begun, and we really do expect an early spring, the forecast of a full harvest. Business is improving much, so our merchants say. The general health is somewhat improved. Rock river has not been so moderate in its spring rise for many years. Our farmers are, many of them, undecided as to their crops; many talk tobacco. Wheat, 70@90c. per bu.; barley, 46@54c.; rye, 42c.; corn, 32@37c.; oats, 25@ 26c.; hay, $4.50@7.50 per ton; cattle, $2.50@3.50 per cwt.; hogs, $4.15@4.35; potatoes, 35c. per bu., and plenty of them; butter, 19@20c. per lb.; eggs, 10c. per doz.; tobacco firm at last weeks' quotations. W. M.

Somers, Kenosha Co., March 19.—We are having cold, March wind yesterday and to-day; frost out of the ground deep enough to break sod; no snow; ground in some situations could be sown now; very little rain this year so far; if weather is favorable more wheat will be sown than last year; 15° below zero was the coldest day this winter, very few days below zero—one of the finest winters in 46 years. Produce low, barley, 40c. per bu.; rye, 40c.; hay, tame, $6 per ton; pork, $4@5.50; eggs, 12c.; butter, 18@20c. per lb. P. C.

Kentucky—*Bennettstown, Christian Co., March* 29.—Weather favorable for corn planting, and many busily engaged in this work; more than half the crop will be planted in March if weather continues right. Wheat promises the best I ever saw, fine, color same, branches well, and is covering the ground, while it is 2½ inches high. I think our county will make over a million bushels, and in all probability go on the market in June and July. Tobacco is very low in price on the Hopkinsville and Clarksville markets. Logs, $1.50@3 per 100 lbs.; common leaf, $3@4.50; fair, 5@6c. per lb.; good, 6@ 7c.; extra, 8@9c.; select wrappers, 10@14c.; average price, 4@5c., and yet there will be ¾ of a crop planted. W. H. H.

Mississippi—*West, Holmes Co., March* 22.—Delightful weather; farming well up; corn crop half planted in Central Mississippi. It has been the prettiest March I ever saw. We had ten light frosts the first half of March, from the 5th to 16th. Promise of plenty of peaches; orchards are red with blossoms. Corn is worth 60c. per bu.; potatoes, 60c.; pork, 6c. per lb.; eggs, 9@10c. per doz.; butter, good, 20c. per lb.; poor, 15c.; labor scarce and high. Health good. Money more plentiful than at any time since the war. D. H.

Oregon—*The Dalles, Wasco Co., March* 21.—A very remarkable winter; dry and warm; snow one inch deep; lowest thermometer 26°; streams and springs have not risen; ground not wet down to dry earth; prospect for shortest crops in fifteen years. December is the great stormy month on this coast; no hopes of any rain after this time. The Walla Walla & Seattle railroad to the Sound raised prices of produce one-half last year. Fruit rising every year. Five shiploads of apples went from Portland to New-Zealand last fall. Good prospect for fruit this season; buds and trees not winter-killed. We get a crop of peaches every three years, and apples and pears every year. Plums and cherries do well; quinces grow well, but winter-kill more or less. J. H.

Horticultural Department.

Early Tree Planting.

When trees are dug in the nursery rows where they have grown, the work should be done early in spring before the buds begin to open, or before the first movement in growth. They may then be either set out at once, or carefully laid in mellow soil till ready to transplant. In this condition, with the roots well covered with fine earth among all the interstices, they may remain without harm several days or even two or three weeks, till the ground is ready to receive them, where they are to remain. Digging them up from where they grow, necessarily cuts off a part of their roots, which partly checks their growth for a time; and if done quite early or before the buds have opened, the check is very slight; but if performed after the leaves begin to appear, it is severe, and should be avoided.

The same harm does not happen, if the buds swell or begin to open on the trees which have been dug early and while remaining heeled in; for on taking them out of their mellow bed, no roots are torn, but all are taken which they had in digging. For the same reason, trees which have swelled or have partly opened buds when received from the nursery, take but little harm if they have been dug early, and have been well packed in wet moss for shipment, the roots being kept from drying till well set out.

The importance of reducing the heads of young trees when transplanted, by cutting back or thinning out the young shoots, to correspond with the partial loss of the roots, is well understood; but the mistake is too frequently made of performing this pruning after the buds have begun to open or new leaves to appear. This always gives them a severe check in growth from which they do not soon recover. The shortening back should always be performed before any movement is made by the trees towards growing.

Trees received by railway from the nursery should be immediately unpacked and heeled in, the work being done in the very best manner as already described.

An Outing Day in Jersey.

Crops Indoors—Upstairs Greenhouse.

Ens. Country Gentleman—It is a pleasure to leave one's work for a day and take a little outing among the enterprising crop growers of the State. Yesterday the writer took a morning train from New-Brunswick to Camden. It was March 19th, but with the frost all out of the ground and the surface soil almost dusty, the truck farmers along the way were busy at work, either plowing their land or putting in some early crops. In some places the first peas were all in, and the ground between the rows was being prepared for another crop. Large square piles of well rotted manure sent up their fragrant incense to the gods or goddesses of the harvest. In fence corners were the large square plump sacks of fertilizers that, used either alone or in connection with the barnyard and city stable manure, are expected to bless the land with a profitable harvest. To one who for the past four years has been a resident of the fertile prairies between the Mississippi and Missouri rivers, this sight was impressive. It led him to consider the settled fact that eastern soil is a sort of factory into which the crude elements of plant food must be flung if there is to be a profitable return in the finished products in the shape of grain, fruit or forage. The western farmer, after his careless and somewhat rapid process of soil exhaustion has gone on for a few more years, will learn all too slowly that his ruining process must come to an end.

As we sped southward it was evident that the region around Trenton was earlier, while at Camden the season was still more forward. At New-Brunswick the earliest of the soft maples were fast coming into bloom, but at Camden all were in full bloom. In Middlesex County the grass has started only in the most favorable places, while along the river opposite Philadelphia the fields of grass and grain presented a greenness suggestive of April days. This state of things is in striking contrast with that of a year ago when this whole region made up but a patch in that great domain which was swept by one of the most severe of all the blizzards that has ever come from the west—like a pack of wolves upon an unsuspecting fold.

At Camden the writer met Mr. Edward Burrough, president of the New Jersey State Board of Agriculture, Mr. Franklin Dye, its secretary, and Mr. D. D. Denise, the treasurer of the same board. In pursuance of a previous arrangement a carriage was taken and we rode out into the country—or what was once country, but now half city and half truck garden — until we turned in at the establishment of Mr. Rudolph Bingham, a person well known for his public spirit and private enterprise. Mr. Bingham has recently fitted up a greenhouse in the upper story of his house, and it was to this that our attention had been invited. The rear portion of the house, the upper part of which is devoted to the growing of plants in winter, is built of brick. The chief difference between the construction of the third story of this and an ordinary house consists in the roof. In this case the rafters and shingles, or slates, are replaced by an iron frame bearing large panes of glass, perhaps more substantial, but not very unlike the roof of an ordinary greenhouse, with any provision for ventilation through movable sash omitted. Mr. Bingham finds ample ventilation through doorways placed in the ends of the room. The greenhouse is of medium size, the ground-floor area being large enough for a comfortable dining-room and kitchen. Heat is supplied from a furnace in the cellar and stove in the kitchen, and Mr. Bingham assures us that, with his carefully planned arrangement, the greenhouse can be kept warm with very little more coal than the rooms below require. The chimney passes up through the greenhouse near the centre, and from this the hot air escapes into the plant room. The room is used principally for the growing of plants that are afterward to go into the open ground. Along one side was a bed of tomatoes; in the centre a crop of radishes was ready for market; cabbage plants, &c., were elsewhere coming on, while upon one end was a bank of ornamental plants—petunias, daisies, tropæolums appearing, among many others. The writer infers that this portion of the upstairs conservatory is presided over by Mrs. Bingham, who at the outset was a little doubtful of the practicability of the whole plan, but now ascribes to it perfect success. Mr. Bingham was prompt in his reply to any objection that could be raised, and seemed abundantly able to convince all that he had built a roof-greenhouse, both cheap in its construction and satisfactory in its results. It seems evident that the cost of construction and maintenance is not large, and judging from the healthfulness of the plants, the conclusion is that the crops do not object to the conditions which surround them.

Mr. Bingham has considerable "glass" upon the ground floor in the shape of low propagating houses, in which we found thousands of heads of lettuce finishing their fine growth. Radishes here also were in a most healthful condition. There is a great saving of fuel in having the houses low, with the eashes at their lower ends level with the earth. The heating pipes also pass through the earth of the forcing beds, so that the soil is kept warm from below. After a most satisfying dinner, in which the products of the conservatory appeared in the form of bouquets, and those of the greenhouse in the shape of salads, fresh radishes, &c., interspersed with a most agreeable flow of conversation led by the genial host, the little party took their departure, wishing to kill two birds with one stone by visiting the large establishment of Mabbitt & Wiles, where we were disappointed in not finding either proprietor at home. At this place there are four acres under glass, about twenty hands are employed, and some thing like $30,000 represents the annual sales. In one large house—really a combination of several houses—there were vast low beds of radishes and spinach, as fine as any one needs to see; spearmint (the most profitable of all indoor crops we were informed), and other similar green stuff.

In another house strawberry plants were loaded with flowers and fruit. Other benches bore long rows of full grown lettuce, while beneath the benches were other beds in which mushrooms were just beginning to peep out all along the lines. One of the neatest sights was the great area of watercress grown in earth upon high tables abundantly supplied with water. The old notion is that watercress must have a stream of water in which to flourish, but here it grows as any other land crop, and this is the experience of growers generally. Large houses were devoted to cauliflowers, and as we passed along we found beds of this plant ranging in age from the small thickly-set plants to those which were full grown, with the pure white ball which could but tempt the purchaser in the Philadelphia market where it sells for fifty cents. The heating in this establishment is by large pipes all above ground, and evidently everything is done in the most economical manner. While Mr. Bingham may have finer plants, it is doubtless a fact that Messrs. Mabbitt and Wiles have worked out their methods from an experience which has taught them that they pay. Much can be learned by any one who has an inclination to visit either of these establishments.

New-Brunswick, N. J. BYRON D. HALSTED.

American Pomological Society.

Notes of the Florida Meeting—IV.

Native Grapes.—George W. Campbell of Ohio, then read a paper on "The Improvement of our Native Grapes":

For the last thirty years attention has been given to this subject. We all remember when the native grapes could be counted on the fingers of one hand. The Catawba and the Isabella were the pioneers. Concord was first shown in 1853. The Delaware still maintains the highest position among American varieties. Improvement in the native sorts has been almost marvelous. There are three methods—sowing the seed by chance; second, intelligent selection and planting the seeds, making a careful selection afterward; but the third and best, in my judgment, is by careful crossing and hybridizing of all varieties. The labors of Mr. E. S. Rogers were among the first in this direction, and generally commendable. He was followed by Messrs. Ricketts, Caywood, Moore, Munson and others. I have also spent many years in the work, and my experience warrants me in saying that I feel perfectly assured of success with this method. I am sure we can equal the best varieties grown in foreign lands. But one variety suited to all localities is impossible. See the very conflicting reports about the Pocklington, for instance—one extols it highly, another condemns it utterly, depending on the locality. I have destroyed hundreds of grapes that in other places would have been of great value. I have been striving to produce a variety that would succeed in all good grape growing regions, but have not fully succeeded as yet. Another step has been taken; experiments in crossing with the Rupestris class, which is very hardy, resisting mildew, &c., have been made. My experience shows that the staminate parent generally governs the quality of the fruit. Some of these hybrids re-crossed upon the southern Rupestris, are very promising indeed. At the North the Rupestris has proved absolutely iron clad, standing 30° below zero wholly unharmed, and resisting mildew in the most unfavorable situations. Recent crosses between best natives and hybrids, so far as they have fruited, have produced new types of a most interesting character. The vines have more vigor and the fruit is excellent, showing also considerable variety. One cross with Muscat-Hamburg, a pure vinifera, with Rupestris, produced a bright-red grape, size and appearance of Delaware, but hardly equal to it in quality—rather too much of the foreign element in the foliage, and it has certainly lost something of the healthy character of the Rupestris. Except this, all others of these crosses have been black. Some of our best natives and hybrids, crossed the other way, using pollen from the male plant of the Rupestris, produced very handsome vines, but very poor fruit; showing that the quality is strangely influenced by the staminate parent. My experiments indicate that this is the rule, with rare exceptions.

I believe that through intelligent and continued crossing and hybridizing we must look for the most rapid, successful and important improvements in the character and value of our American grapes. By this means the best of all varieties on the globe can be brought together, and their best elements united to form new types, adapted to all situations where the vine can be successfully grown. I have no doubt there are now growing within the United States, and east of the Rockies, thousands of grapes from seedlings, both accidental and intentional, from the best selections and crossings, that will average higher in character than the few cultivated sorts of a few years ago, and these came through the agency of man. Nature's energies seem directed mainly to the perpetuation of the species through vigorous vines and abundant seeds. Man seeks to eliminate the seeds as far as possible, and increase and improve the amount and quality of the juice and pulp.

Another element of great importance for the future of grape culture is the recent discovery of successful remedies against mildew and rot. During the last two years it has been proved that at a mere nominal expense vineyards may be protected, vines remain healthy, and the fruit abundant and perfect, while without the use of the remedy wholesale loss would have occurred. The sulphate of copper and lime remedies have proved effectual after being fully tested. By using these remedies, at a cost of no consequence compared with their benefit, the finer varieties of our improved hybrids can be successfully and profitably grown in thousands of localities where they could not succeed otherwise. Diseases which attack and destroy the foliage are most serious of all. These are prevented by the timely application of these remedies. Remember that our finest grapes are soonest attacked. I may not live to see it, but I have an abiding faith that through the efforts of our horticultural societies, and the aid of scientific investigation, and the experiments of our scientists, we shall overcome all obstacles to successful and general grape culture, and that both the grapes and the vines of America will rival, if they do not surpass, those of any nation under the sun. Grape culture in this fair Florida, and in the South generally, I believe to be in its infancy as yet. With its charming climate and variety of soil and situation, I see no reason why, with proper selection of varieties, and the aids at command, the sunny South should not be both the garden and the vineyard of the North American continent.

The much-abused Ives Seedling was brought up for discussion and reinstatement in favor by Mr. Brackett. He spoke highly of its uniform success in the West, said it was excellent in and about Burlington, and the most valuable grape grown there. "The only trouble is, people do not leave it long enough upon the vines to ripen. It should be left three or four weeks after it is fully colored. It is not an early grape, as commonly supposed, though generally picked early, and marketed before it is near ripe. This is the reason the Ives is so generally condemned for flavor and quality."

E. Williams of New-Jersey joined in the defence in his energetic manner. "The Ives is not an early grape, though marketed early, and when it is almost unfit to eat at all. But when fully ripe, it compares well with other good grapes, being better than Concord."

Nearly all agreed to this sentiment, and it was surprising to see how anxious everybody was to chime in the chorus of praise for the Ives. A point of importance developed in the discussion was that our cultivated grapes could be and had been grafted successfully upon the Muscadine type of wild grape. Mr. Berckmans said that pomologists had long thought this impossible; he looked incredulous now, and inquired most carefully as to the precise facts in each case given by delegates who had accomplished the feat. Several Florida fruit men said they had done it frequently, getting large growths, and in some cases even fruit. Several pomologists present seemed to remain in doubt with the president.

The following resolution was adopted:

Resolved—That the agricultural experiment stations should give special attention to the raising of seedling fruits upon the most approved and scientific principles, for demonstration in their respective localities. To this end we urge originators of new fruits to send specimens of their plants to the various stations to be tested for their adaptation to the respective localities, and that the results be published in the station reports.

The delegates listened to some wholesome advice on "Honesty in Packing Fruit," by E. Williams, the veteran New Jersey grape-grower:

While he was not prepared to admit that fruit growers were less honest as a class than other men, he was evidently not surcharged with prejudice in their favor, even in comparison with the commission dealers themselves. He said there was a tendency to dishonesty among a certain class which was detrimental to themselves and their competing neighbors. These people, he thought, did not read horticultural papers or believe in "book farmin'." They comprise the missionary ground for society work. "An honest fruit-grower will not put good fruit at the ends of his apple barrels and poor in the middle, if he stops to consider his own best interests, or has any regard for a good name. He who expects this to pay, nurses a delusion to himself and more honest neighbors as well. These people are first to find fault with the commission dealer as to prices he obtains and his dishonesty. The idea that anything will sell for something is erroneous. This practice does more to depress prices and demoralize the market than anything else. Very much fruit comes to market that never should have left the farm. A man who desires to build up his reputation and a demand for his products, will carefully grade his fruit, and have every package just what it purports to be; his merchant can then count on his fruit every time." He thought there were honest as well as dishonest merchants, with quite as large percentage of the former as there were among the fruit-growers. Those most ready to charge fraud could find it at their own doors. Purchasers cannot easily be deceived as to the merits of an article. Placing unripe grapes on the market is another fraud. The fruit itself favors it. With other fruits the eye is the expert detective; with the grape, sampling is the only true test. This is difficult to carry out, as it would soon render the package unsalable. So the eye governs the purchase. Eagerness to be first in market and get the almighty dollar, brings grapes on sale weeks before maturity. Confidence is destroyed; prices depressed beyond recovery. How often people inquire for some real nice sweet grapes, and it is no wonder they have come to doubt whether grapes grow as sweet as they did in former days. Near me live two growers; one puts his grapes in market as soon as colored, says he is after the money, and people may have the fruit green for all he cares. The other will not gather until ripe, sorts and packs carefully, puts in only perfect clusters of No. 1 fruit, warrants each package uniform all through, and puts his name and brand on each. His No. 2 fruit goes unbranded, but it sells for more than the branded fruit of the first grower, and his merchant says he can sell his fruit under any condition of the market." Mr. Williams asked the orange growers about their practice in these matters. He found the same eagerness to get in market first among them. Early oranges in the winter he found the New-York market flooded with Florida oranges, and the merchants told him they knew not what to do with them. He said: "These things carry their own moral. The cost of box, labor, packing and transportation is always the same. Every box of No. 2 fruit reduces the general average of the whole. In this business, honesty is the best policy."

E. S.

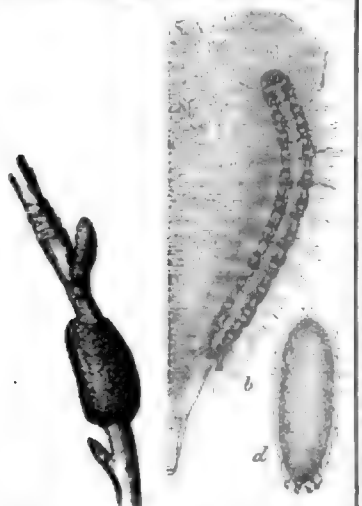
The Entomologist.

Apple-Tree Tent-Caterpillar.

ED. COUNTRY GENTLEMAN—I send you a box containing a twig of peach tree which has a quantity of eggs of some insect on it. Please tell me what they are. H. F. *Warwick, N. Y.*

The package of eggs, forming a belt of three-fourths of an inch long by four-tenths of an inch broad, encircling the peach-tree twig, and coated with a dried, brittle, cellular substance, shining like varnish, are those of the moth of the common tent caterpillar, *Clisiocampa americana*. The eggs were probably deposited in the fore part of last July, following the great abundance of the caterpillar in the orchards of Eastern New-York and the Eastern States, and on wild cherry trees and other vegetation during the month of May last. The caterpillars are usually confined to apple and wild cherry trees, but at times of such phenomenal abundance as was witnessed last year, their over flow spread to several other fruit trees. It is therefore probable that the eggs of the moth have been deposited on various trees where they do not ordinarily occur.

The best possible means to prevent the ravages of this apple-tree pest, and escape such a destructive visitation as was experienced last year, is to search for the egg-belts at the present time, or before the start of vegetation, and cut them off and destroy them. We present herewith a figure of the egg-belt, that it may be readily recognized, in association



with the mature caterpillar and a portion of its nest, and the cocoon spun by the caterpillar, within which it undergoes its subsequent transformations to the perfect insect. These figures were given in the COUNTRY GENTLEMAN of June 21st, 1888, to illustrate an article on this insect, in which are described its habits, the egg-belt, and directions given for removing the eggs (in one instance, as stated, three thousand belts were collected in an orchard in three days), and if this has been neglected, then how best to destroy the caterpillar nests. The reader is referred to this article for valuable information.

It is of great importance that every orchardist should make it his business, during the few weeks that remain before the opening of vegetation, to collect the egg-belts of this orchard pest. Now its depredations may be prevented; later they can only be mitigated. It should be borne in mind that just in proportion that the leaves of the apple tree are eaten, in the same proportion will the fruit be impaired. *All* of the foliage of the tree is as essential to the full development of the fruit as are the entire lungs to the highest health and development of a man. Foliage eaten to the amount of 25 per cent. means fruit depreciated in value 25 per cent. J. A. L.

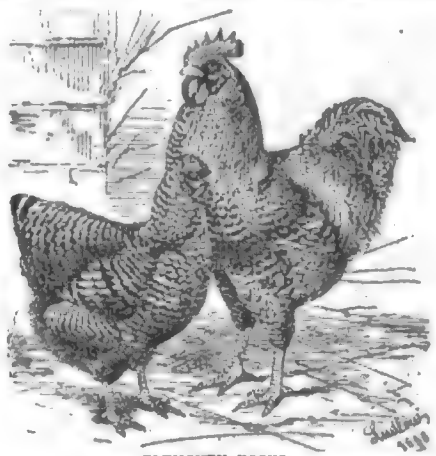
Elm-Leaf Beetle.—Enclosed insect seems very numerous in a house I have recently moved into—house had been empty for two years. They are found principally between the double windows and around the window casings; many of them lie on their backs dead. I should like to know what they are, and whether they are destructive to clothing or carpets; also what is the best way to get rid of them. J. O. C. *Yonkers, N. Y.* [The insects are the clover-leaf beetle, *Galerucella xanthomelæna*, which had entered the house last autumn for hibernation, as is its usual habit. It will not eat clothing, carpets, or anything within doors, as its food consists only of the foliage of the elm, to which it will soon resort for its oviposition. This beetle has frequently been noticed in the COUNTRY GENTLEMAN, and full information respecting it may be found by consulting the indexes for the last few years.]

Apple-Tree Bark-Louse.—I enclose piece of bark from apple tree, covered with something. Is this the scab enclosing eggs of apple-tree bark-louse which I often read of in the COUNTRY GENTLEMAN? If so, when is the proper time to apply remedy? Prof. Cook says beginning of June. A Canadian authority says they hatch out end of May. Is it not better to apply remedy before hatching, to destroy eggs, rather than to try killing lice after they are scattered over the trees? A. D. *Huron, Ont.* [The piece of apple-tree bark submitted is entirely covered with the scales of the apple-tree bark-louse, *Mytilaspis pomorum*. The best time to destroy the insect is undoubtedly when the young are hatching from the eggs, which is usually at the time that the trees are putting out their blooms. The young insects are then very delicate, and may readily be killed by spraying them with strong tobacco water, a soft soap solution, or any alkaline liquid. To ensure the application being made at the right time, a pocket magnifier should be used to discover the young lice running over the bark as mere specks. If the scales are confined to the trunk and principal limbs, they may be scraped off at any time upon a sheet spread underneath, that they and their eggs may be gathered and destroyed. A favorite method of Prof. Cook is to scrub the infested portion of the tree thoroughly with a stiff brush or piece of stout cloth and soft-soap in which some carbolic acid is mixed. If the scales are distributed all over the tree, they may be sprayed after the falling of the leaves with the kerosene emulsion, prepared after the formula of the United States Entomological Division, which will penetrate the scales and kill the eggs underneath them. The same emulsion, not so strong, may also be used for killing the newly hatched insects.]

The Poultry-Yard.

The Plymouth Rock.

It is now somewhere about ten years since the Plymouth Rock first made its appearance in England. Within that short time it has advanced so rapidly that it occupies probably the first place among economic breeds. Few who saw it at first thought that it would ever reach the popularity it has attained, but its undoubted qualities have won for it a host of friends, and many of those who at first scoffed at it have become among its most devoted adherents. Nothing succeeds like success, and enthusiasm is always contagious. Moreover, it is certain that English breeders, at least, are attracted by a breed which offer many difficulties in the way of perfection. They like to have something to strive for, something that is only attained after many years and with the greatest difficulty. This probably has had something to do with the large number of breeders who have taken up the breed. Perhaps, also, there is a lingering liking for the Asiatic type of fowl, one that has no quality in excess, but is a good all-round fowl. Whatever may be the cause the fact is indisputable that the Plymouth Rock stands at the present time as one of the most popular of our breeds of poultry, and some of the classes at the great shows have been remarkable, both as to their numbers and the quality of the specimens exhibited therein. It must, however, be conceded that during the past season there was a lull in the onward progress of the breed, but whether this is a merely temporary check or a breathing period before still greater triumphs remains to be seen. Should it be that we have seen the high water mark of the Plymouth Rock, it will be long ere its influence ceases.



PLYMOUTH ROCKS.

for it has spread very widely apart in the United Kingdom, and the place once occupied by the Brahma is now taken by it, more especially as a fowl for farmers. Fortunately there is not the profuse foot and leg-feathering to be developed, and thus we are free from the danger of development of these features at the expense of the profitable qualities.

As to the adaptability of the Plymouth Rock to the needs and conditions of this country, little need be said, for it has fitted itself most wonderfully to these in every way. It is well known that all forms of animal and vegetable life become more useful and powerful when removed from their original conditions to others. Darwin has shown very clearly a multitude of examples of this law of nature, and even within the limited radius of the poultry breeding world we have constantly further instances in support. Some time ago I was speaking with a breeder in Ireland who has tried several varities, and she told me that the Plymouth Rock is the best of all, in that it is an excellent layer during the winter, and the chickens are sooner ready for market than any other breed she had known. Its hardiness makes it suitable for nearly every place where fowls can be kept with any degree of success, while its "homely" garb saves it from the variations of plumage which are found in many other breeds. Of course, there is the old complaint that the breeder has to produce a hundred chickens in order to secure five decently marked birds. This, I think, will always be more or less the case with any fowl whose markings are "cuckoo." And as years go on there will undoubtedly be greater certainty in markings. The bad colored birds are perhaps those which have done more to spread the influence of the Rock throughout the country, for the breeder is willing to sell them at a small advance upon killing prices, and they are quite as good for all practical purposes. If the proportion I have named be anything like the true one, the number produced must be enormous.

The difficulties of the breeder have been considerably increased by the variation in color produced, but the attempt, a year or two back, to divide the Rocks into darks, lights, and medium shades, has thus far come to nothing, nor is there any appearance of this becoming a pressing question for some time. That there are different shades, which could be divided in the way named, is an accepted fact, but these differences are not sufficient to justify the giving of separate classes to them, and recognizing them as varieties distinct from each other. Between light and dark Brahmas there is a distinct difference, and also between the varieties of Cochins, Hamburghs, Game, &c., these difference not being merely shades of the same color. And there have not been structural differences which have warranted any distinction, either. Some time ago an American writer warned English breeders against the Cochin type of the Rock, but this is really needless, for though an amount of soft feather may be found on some Plymouth Rocks, as upon members of all varieties of poultry, there is nothing like an approach to the Cochin type. Were the Rocks feather-legged, probably there might be some danger of this tendency being seen, but at present I am not aware that there is the slightest trend in that direction.

There can be no doubt that the transference of any fowl to another set of conditions must sooner or later induce drawing away from the original type, and this is seen in the Plymouth of to-day. A well known English breeder writing recently in one of our papers, speaks of another variation which is the result of breeding, rather than of natural variation. In this he points out that the show color in America is much lighter than that which finds favor in England. As a judge he does not believe in drawing a hard and fast line as to shade of color, for Plymouth Rocks are very difficult to breed to any shade of color, and a judge giving awards to only one shade makes a great mistake. So long as the bird is of the true type, and has the correct kind of markings, the mere variation of shade in the plumage is a small matter, and a strict adherence to one shade would be disastrous to the breed in that it would be certain to induce a large amount of in-and-in breeding, which would in its turn lead to enfeeblement and general deterioration. Such a step would be regrettable, for the breed is too good to be spoiled.

In order that your readers may be able to see the difference between the English and American ideal for this breed, I give herewith the standard adopted by the club that has the especial oversight of the Plymouth Rock:

COCK.—*Size*—Large. *Comb*—Single, medium size, straight, with well defined serrations. *Beak*—Thick and strong. *Head*—medium, and well carried up. *Eye*—Large, bright and clear. *Ear-lobe*—Well developed, and pendent. *Wattles*—Rather long, neatly rounded, and large. *Body*—Large, square and compact. *Back*—Broad and short. *Wings*—Medium sized, carried well up, bow and tip covered by breast and saddle feathers. *Legs*—Rather long, stout and bony, wide apart, and perfectly free from feathers. *Feet*—Four-toed, stout and strong. *Tail*—Like a Cochin, but smaller. *Thighs*—Large and strong. *Carriage and General Appearance*—Upright, noble and grand.

HEN.—*Comb*—Same as cock, but small. *Back*—Broad, neck feathers flowing well over the shoulders. *Tail*—Small, upright, and rather pointed. *Thighs*—Large, and well covered with fluffy feathers. *Other Points*—Same as cock.

COLOR.—*Comb, Ear-lobe and Wattles*—Brilliant red. *Beak and Legs*—Bright yellow. *Plumage*—Cuckoo-feathered, viz.: Ground color ashy grey, banded with black, the two colors blending into each other, the shafts of the feathers corresponding with the bands, presenting upon the whole a perfect and even alternate clear dappling of pure light grey and black, and plumage free from red, black, white or yellow feathers. STEPHEN BEALE.

H——, Eng.

House-Breeds.—Please give plan for house for 100 to 200 fowls for eggs (1), and best breeds; also for market. (2) I lack pasture. E. E. E. *Deposit, N. Y.* [1. The form and arrangement of poultry houses will vary with circumstances; the accompanying engraving represents one placed on a hillside, facing the

south or east, and has the advantage of a warm exposure. It is two stories high, and the length may be varied to suit the required capacity. It is about 10 feet wide, and has cross partitions above and below to keep breeds separate. The lower story being mostly below the surface, gives warm quarters in winter. It has ample windows, to give plenty of light. The upper story is for roosts. 2. There are many breeds which have their special merits, and owners differ as to their respective value; but a common favorite is the Plymouth Rock, especially for raising chickens for sale. The Brown Leghorns are non-editers, and are great continuous layers.]

NEW ADVERTISEMENTS.

FORTY CENTS PER LINE.

[Inserted Here for Lack of Other Outside Space.]

WANTED—The address of parties manufacturing BUTTER PRESSES and CRATES for manufacturing and transporting Butter in One-Pound Packages. Address R. P. SPARKS, Letter Carrier 31, Buffalo, N. Y.

WANTED—At once: single Man as Gardener, to grow plants and vegetables for market. State price. R. G. NICHOLSON, Chestertown, Pa.

WANTED—Man and Wife. Woman must be good butter-maker, man milk and work on Farm. Good references. Address apr-2t LOCK BOX 32, Staunton, Va.

WANTED—First-class Vegetable Gardener and Farmer. French couple acceptable $40 monthly; cottage, milk and vegetables. Address, stating full particulars and references, 302 THIRD AVE., New-York City.

WANTED—On a gentleman's Stock Farm near New-York, a position as Foreman, by a practical farmer, experienced in all improved methods of crop-raising, and the feeding and care of live stock. Also in silking all kinds of green fodder, and the use of farm power machinery. Wife No. 1 butter-maker and poultry raiser. Address W. P., Midland Park, New-Jersey.

SITUATION WANTED—As Farmer or Farmer and Gardener, by a Scotchman, age 39, married, one boy 15 years. Has had twenty years experience in United States, and believes himself competent to manage anything connected with farm or garden work, no matter how extensive. Can refer to any gentleman he has ever lived with. Address I. MCK., care of PETER HENDERSON, 35 Cortlandt St., New-York, to whom he is known and refers.

WANTED—At once; competent Working Manager for a grass farm with small herd of choice Jersey cattle, about 30 miles from New-York City. Must understand improved methods of farming and management of stock. Wife must be competent butter-maker. A permanent place, with fair wages, is assured to the right man. State experience and what references can be furnished. Also number of children, and wages desired for man and wife. Address S. P., 79 Water St., New-York City.

FOR SALE—No. 10 and No. 11 of Nash's latest improved "Acme" Harrows (Reversible Coulters). Terms to suit purchaser. Call on or address JESSE ZIEGLER, Royersford, Montg. Co., Pa.

FOR SALE—78-Acre FRUIT FARM, beautifully located, near Dover. All kinds of fruit. First-class land, good buildings. Price, $7,000. Terms easy. GEO. A. MILLINGTON. apd-3t Dover, Del.

IN the noted Piedmont region of Virginia, FARM of 245 acres of excellent land. Brick and frame dwelling, slate roof, 1,000 fruit trees. Suitable for fancy stock-raising or city family's summer residence. Price, $5,000. For full particulars, ARTHUR DAVENPORT, Gordonsville, Orange Co., Va. apd-4t

FOR SALE—A Valuable FARM and ELEGANT COUNTRY SEAT,

Beautifully located in Orange County, Va., in an exceedingly healthy district; one mile from railroad station and post-office, and near the towns of Gordonsville and Charlottesville; three hours by Va. Mid. R. R. from Washington, D. C. Farm 302 acres highly cultivated, well watered, soil chocolate clay, and very productive. A handsome brick mansion, numerous outhouses and farm buildings, valuable garden and orchard, and pleasing improvements.

THE ENTIRE ESTATE IN PERFECT ORDER AND CONDITION.

Will be sold at a great sacrifice to effect a prompt sale, and on easy terms. For full detailed description and particulars, address C. T. BUDDICKE, Prescott, apd-4t Somerset P. O., Orange Co., Va.

INDIAN SPRING FARM FOR SALE,

In HARFORD COUNTY, Md., on the line of the Deer Creek & Susquehanna Railroad, now being built, about thirty-five miles from Baltimore and sixty from Philadelphia. A depot will be on the farm.

FIVE HUNDRED AND SIXTY ACRES—about four hundred in cultivation, balance in woodland. Land fertile and well watered, adapted to wheat, corn and grasses. A splendid Stock Farm. A stream of water in every field. Susceptible of division into two farms of about equal size, on each of which is a fine stone dwelling. One of the dwellings is a large mansion, situated in a lawn of fifteen acres of magnificent shade trees. It has splendid porches, and parlor, library and large dining-room on first floor, and ten chambers, besides servants' rooms, on second and third floors. Water through the house. Adjacent are a large ice-house, ready filled, spring-house, smoking-house, carriage-house and stables. The other dwelling has thirteen rooms. Adjacent to it are a very large barn, with slate roof, with stables for fifty head of stock; corn-houses, &c. Unfailing water at both barns and stables. Everything in good order. One of the finest farms in the State.

Situation delightful and perfectly healthy. Will be sold as a whole or in two parts.

For further information, inquire of JOHNS H. JANNEY, 209 Park Avenue, or ELLIOTT BROS., 25 South Gay St., Baltimore, Md. apd-3t

FOUR-YEAR-OLD STALLION FOR SALE CHEAP.—Black, 16½ hands, 1240 lbs.; fine looking; good mane and tail; broken, and right in every way. For price and particulars, call on or address W. H. ANDERSON, Greece, N. Y.

FOR SALE—Two Grade Holstein Heifers, 1½ years old; one will drop her calf in about two weeks, the other in May. Sold on account of too much stock. F. GOULD, Middletown, Orange Co., N. Y.

GUERNSEY BULL CALVES—Sire and dams prize-winners; very choice and very cheap. Ages from 2 months to 8 months. apd-6t GEO. LAMONTE, Round Brook, N. J.

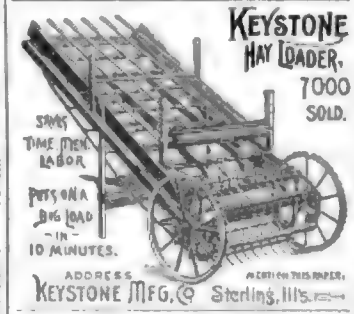
$15 WILL BUY one solid color JERSEY BULL CALF on board cars. Entitled to registry. Sired by A. J. H. B. 1853, g. dam, A. J. H. B. 3265; g. sire, Cyrus. W. A. LEWIS, Hockessville P. O., Delaware Co., Pa.

STOKEPOGIS-EUROTAS BULL CALF—A. J. C. C. butter tests, dams up 22 lbs. 7 oz., 21 lbs. 3 oz., 20 lbs. 14 lbs. 3 oz. Price low. E. L. CLARKSON, 16 West 18th St., New-York.

EGGS FOR HATCHING.—S. C. W. Leghorns, S. C. Brown Leghorns, White and Black Minorcas, $1.50 per 13. apd-4t W. C. ROGERS, Glens Falls, N. Y.

CHESHIRES.—Choice SPRING PIGS, from registered stock, for sale at reasonable prices. Address HOMER J. BROWN, Harford, Cort. Co., N. Y.

FOR SALE QUICK (to make room) at Farmers' Prices—Four standard-bred JERSEY BULL CALVES, three solid color, one part white. Dams and sires' dams, tested cows, averaging from 19 lbs. 13 oz. to 20 lbs. 1½ oz. butter in 7 days. Two of which are Victor Hugo Pogis 10½ per cent. Mary Anne of St. Lambert's, Bertha Morgan, Mary M. Allison calves, and two inbred Duke of Darlington, out-cross the richest daughter of Mary M. Allison, 4.32 lbs. of milk yielding 1 lb. of butter. Send for pedigrees to C. W. H. HICKS, West Monterey, Clarion Co., Pa.



New Advertisements.

Anderson, W. H.	Stallion.
Brown Homer J.	Cheshires.
Bennett, H. M.	Brood Mares &c., Wanted.
Bradbeer, C. T.	Farm for Sale.
Beara, E. P.	Address Wanted.
Bassett, Chas. B.	Jersey Bull and Holsteins.
Carryl, F. M.	Farm for Sale.
Clarkson, E. L.	Jersey Bull Calf.
Challenge Wind Mill Co.	Windmills &c.
Cook, H.	Sale of Horses and Cattle.
Converse, J. F.	Ayrshire Cattle, &c.
Davenport, Arthur	Farm for Sale.
Dennis, E. B.	Jet ing Mare
Dudley & Miss H. C.	Thorough Bred Turkey Eggs.
Ehle, A. W. H.	Jersey Bull Calves.
Eno Frank	Jersey Bull Calf.
Gould, F.	Holstein Heifers.
Good Housekeeping	Extermination of Vermin.
Hoover & Prout	Potato Digger.
Heffley, G. W.	Clydesdale stallion Colt.
Howe, H. M.	Jersey Breeders' Meeting.
Holder, W. I.	Tanning Machine.
Janney, Johns H.	Farm for Sale.
Kellogg & Co., Peter C.	Sale of Trotting Stock.
do. do. do.	Comb. Sale of Jersey Cattle
Keystone Mfg. Co.	Keystone Hay Loader.
Lamonte, Geo.	Guernsey Bull Calves.
Lewis, W. A.	Jersey Bull Calf.
Lagrange, C. C.	Sale of Downing Potatoes.
Landworthy, Isaac M.	Japanese Buckwheat.
Lipstecott, Jr., James	Strawberry Plants.
Lock Box 32	Man and Wife Wanted.
Maltbie & Isaac	Trotting Lands.
Millington, Geo. A.	Fruit Farm.
Munroe, Judson & Stroup	Hard Wood Ashes
Moseley & Studdard	Creamery Supplies.
Martin, M. B.	Poor Hamiltonian Mares
Mack, T.	Mowing Wanted.
Nicholson, R. G.	Gardener Wanted.
No. 302 Third Ave.	Help Wanted.
Osborne & Ladd	Sheep and Horses.
Popular Gard'n'g Pub. Co.	Art Insect Supplement.
Phelps, C. C.	Cheshires and Berkshires.
Russell, J. S.	Guernseys.
Rogers, W. G.	Eggs for Hatching.
S. P.	Manager Wanted.
Seibel, Geo. H.	Excelsior Incubator.
Smith, Henry S.	Ayrshire Record.
Smith, W. A.	Agents Wanted.
Savage & Farnum	Perch von Hermes.
Scovill, J. W. H.	Jerseys.
Tyson, A. H.	Private Sale of Jerseys.
Taber, Geo.	Ayrshires.
Williams, John A.	Farming Lands &c.
W. P.	Situation Wanted.
Wiedman, H. W.	Brown Swiss Cattle.
Ziegler, Jesse	Acme Harrows.

Subscribers' Wants.

FREEMAN & BUTTON, Cotton's, N. Y. Second-hand hay or wagon scales.

Pamphlets, &c., Received.

BAKER & BRO., H. J., 95 Pearl St., New-York. Fertiliser Facts for Farmers.

CLOUD, E. P. & R. K., Kennett Square, Chester Co., Pa. Illustrated Circulars of Poultry and Scotch Collie Dogs.

HOOVER & PROUT, Avery, Erie Co., O. Illustrated Circulars of Hoover Potato Digger—see advertisement.

KELSEY, FRED. W., 276 Broadway, New-York. Catalogue of Trees, Shrubs, Roses and Plants; pp. 32, illustrated.

KEYSTONE MFG. CO., Sterling, Ill. Illustrated Circulars of Hay-Loader, Hay-Rake, Corn-Planter, &c.—see advertisement.

LEILA, ALFRED, Delaware, N. J. Circular of Eggs for sale—see advertisement, p. 262.

ROBERTSON, O. H., Forestville, Conn. Illustrated Circular of Chain-Hanging Cattle-Stanchion.

THORBURN & CO., JAS. M., 15 John St., New-York. Catalogue of Spring Bulbs; pp. 30, illustrated.

TYLER, F. A., Rome, N. Y. Illustrated Circular of Eclipse Vine and Plant Sprinkler.

WARDWELL, W. S., Forestville, Conn. Illustrated Circular of Chain Hanging Cattle-Stanchion.

YOUNG, RICH'D H., Westboro, Mass. "Chicken Fixings," illustrated.

Acknowledgments.

Communications for publication have been received during the week ending April 1, from Thomas Bewick—C. Mills—William G. Coutan—Prof. E. W. Stewart (2)—Mrs. D. H. R. Goodale—A. S. Wells—A Farmer's Daughter—S. L. Stevens—Robt. E. Tomlinson—W. E. Embry—Ada Maria Peck—Edwin Haviland—Garry Owen Gaines—Frank B. Haviland—Wallace Barnes—M. N. Russell—F. J. S.—D. F. Appleton—H. Hendricks—Jas. Chand & Son—C. V. C.—E. J. Crandall—A. Jeffers—George B. Stone—J. T.—Prof. E. W. Stewart—Elmer E. Carlisle—George Parr—Alvin Adkins.

. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, April 4, 1880.

Obituary.—We regret to record the sudden death last week, by heart disease, of EDWIN THORNE, of Thorndale, Duchess Co., N. Y. He was president of the State Agricultural Society in 1876; had presided over the deliberations of the National Association of Trotting Horse Breeders, and was long a member of the Board of Review, and vice-president of the National Trotting Association. He was the eldest son of Jonathan Thorne, one of the most enterprising of our early importers of Short-Horns, and noted as the purchaser (in 1853) of the bull Grand Duke, for what was then deemed the immense sum of a thousand guineas. The tastes of Edwin Thorne ran more particularly to horses; and Thorndale became, under his management, about as famous for its trotting stud as it had previously been for its Duchess cattle. He was one of the first eastern men to bring breeding horses from Kentucky, and met with good success, as the fame of the stallion Thorndale (record 2.23¼, and sire of Edwin Thorne 2.16¼ and Daisy Dale 2.19¾) and the great mare Lady Patriot (dam of Volunteer and Sentinel) abundantly testifies. Mr. Thorne was in his 64th year, and had been in delicate health for some time before his decease.

—— We note also the death of Gen. W. S. TILTON of the Soldiers' Home, Togus, Me., as occasional correspondent of the COUNTRY GENTLEMAN on various questions relating to the breeding of Holsteins (in which he was particularly interested), Jerseys, and horses.

Agricultural Legislation.—The Husted bill for distributing among county agricultural societies the Ives pool money now locked up in the State Treasury, passed the New-York Senate last week, and goes to the Governor. The Senate also passed the McNaughton bill providing for the incorporation of cooperative companies for insuring the lives of horses, mules, jacks and jennies (printed on p. 193), which now goes to the Assembly for concurrence.

Time for Sowing Clover.—There are three different periods in spring for sowing clover seed, each of which has its advantages. These advantages, as well as the drawbacks, vary with soils, climates, conditions and various other circumstances, and if the farmer would succeed he must balance these various conditions and select the best. These three periods are the frozen period, at the beginning or end of March at the North; the time of sowing the spring grain with which the clover is sown; and after the spring grain is up a few inches so as to have a good brushing with the smoothing harrow, and giving at the same time a thin covering of the clover seed. To assist in selecting the best time, the following suggestions are offered:

1. Clover seed may be sown in March in the snow or on frozen ground, or on ground likely to be frozen again, if the character of the season usually favors it. But the ground should have been well prepared previously, giving it a smooth mellow surface. If the snow usually melts off without much severe freezing afterwards, the seed will settle on the ground as soon as the snow disappears, and be thinly covered with the thawing soil. Most of it will germinate, and not being thrown out by later hard freezing, it will make a fine, dense, even crop. But in some localities there is a liability of several hard freezes afterwards, and the farmer must use his judgment and experience in selecting. Sowing on frozen ground, or on bare soil with the expectation of some subsequent freezing, may also be quite successful, the crumbling surface as it thaws, giving the seed a shallow covering. In many places either of the above modes answers well, and often better than any other; but the drawbacks mentioned may render it unadvisable in other places.

2. The next period is a few weeks later, accompanying the sowing of the earliest spring grain, of which barley is one of the best, the early sowing of which is all the better for the crop of grain. A thin seeding of the barley is favorable for the clover, and any decrease of its crop in consequence of this thin seeding will probably be more than made up by the better clover crop. As soon as the barley seed is in, the surface should be made fine and smooth with a fine harrow, the clover sown and then covered with a brush harrow, or often still better, with a roller, which presses the soil over the seed, and aids germination by "firming" it. It should be always remembered that clover seed should not be covered more than an inch deep, or else the young plants will not find their way to the light, and if barely covered they will grow quite as well, provided the soil is kept sufficiently moist until they have fairly rooted. All of the seed, therefore, which may have been buried much deeper than an inch is lost. This cannot be wholly avoided; some will be turned under at a greater depth, making a correspondingly heavy seeding necessary for the best results.

3. The third period is after the grain crop has made a few inches in growth, and when the smoothing harrow is passed broadcast over the whole surface. By this time the young barley plants will be so strongly rooted that the harrow will not disturb or harm them, but will benefit and increase their growth by stirring the surface and breaking the crust. The clover seed being then sown on the mellowed ground, is sufficiently covered by another passing of the fine harrow. In moist seasons we have adopted this mode with entire success.

In adopting either of these three modes, the germination of the young clover is not only made more certain, but its subsequent growth greatly increased by a previous top dressing of fine manure; and the grain crop is much benefited.

4. A fourth mode of seeding is in making the clover the sole crop, omitting any grain crop. In this case, the ground must be prepared in the best manner, and the seed sown early before the soil has become so dry as to prevent germination. In a moist season, it may be done during most of the spring months, but the owner must use his judgment and decide if the soil is in a suitable condition for success. The chief advantage of this mode of seeding is in the rapid growth of the clover from the start, the grain crop not shading and retarding it. But the soil should be free from the seeds of weeds which would also lessen the growth of the clover, rob the soil and do no good in any way.

Clover is often sown with oats, but on account of the shade of its leaves, the growth of the clover is much retarded, and sometimes entirely prevented, but this evil is partly avoided by using a light seeding of the oats. Next to barley, spring wheat does well, and winter rye, lightly harrowed, is best of all.

Spring Silks.—A post-office inspector at St. Louis informs us that he has caused the arrest of N. J. WILLIS, who recently advertised remnants of silk; and we fear that remittances to him are hopelessly lost. There was nothing about the advertisement itself or the order to excite suspicion.

Dairy Supplies.—The well known MOSELEY & STODDARD MFG. CO. of Poultney, Vt., makers of all kinds of buttermaking goods, issue the following circular:

The loss of our works by fire has rendered it necessary, in order to care for our increasing business, to provide, with as little delay as possible, suitable factories for the production of our specialties, and the question of location has been important. Competition in all manufactured articles is now so great that makers must avail themselves of every possible advantage; therefore the matter of securing first-class shipping facilities is not to be overlooked. With this and other advantages in view, we have decided to locate at Rutland, Vt., where we have purchased large and convenient shops and warehouses especially adapted for our use, which are now being equipped with all modern improvements in the way of wood and metal working machinery. Rutland, forming as it does the terminal point for four different systems of railroads, will enable us to secure the best possible rates of transportation to all sections, and has special advantages

over other points on incoming freights. With our increased facilities, which will enable us to serve our trade better than ever before, we shall not only hope to retain the pleasant business relations with our long list of old customers, but attract and add many new ones for our line of "superior dairy goods."

"The Family Horse."—What seems a clear and useful book on this important topic, has been prepared by Mr. GEORGE A. MARTIN, and is published by the Orange Judd Co. Neither breeding nor training is discussed, the author confining himself to the daily care, shelter, feeding and management of horses, whether kept for work or pleasure; and the doctrines propounded seem to be in accordance with modern advanced ideas. The volume has 154 duodecimo pages, with illustrations, and may be ordered through this office at the publisher's price, one dollar.

New-Jersey Food Products.—The report for 1888 of Hon. WILLIAM K. NEWTON of Paterson (who is called the Dairy Commissioner of the State of New-Jersey, but seems to be charged with the supervision of food and medicine in general) is a pamphlet of 156 pages. The oleomargarine law "has been strictly enforced," the commissioner says; but as he adds that "transactions in imitation butter are now generally carried on honestly and according to the legal provisions," one infers that the New-Jersey ideas of strict enforcement are rather different from those that prevail in this State, as indeed the law itself is much milder than ours. As to milk, "nearly all sections of the State have been visited by the inspectors, and the milk supply has been shown to be in excellent condition; the number of cases of adulteration of this article of food noticed this year is less than ever before; the importance of the law to farmers is appreciated by that class, and many samples have been sent by them for analysis, in order to test the milk yielded by their herds." Dairy farmers appear to be in fact far more honest than the producers of most other kinds of food, for examinations of 689 articles intended for human consumption (not including milk) showed that more than 300 were adulterated; and drugs are still worse —281 samples adulterated, out of 415 examined, being considerably more than half!

Iowa Report.—We have received from JOHN R. SHAFFER, Des Moines, the secretary, a copy of the Thirty-fourth Annual Report of the Iowa State Agricultural Society, for the year 1887, a compact volume of more than seven hundred pages. It contains over a hundred pages of the secretary's report, embracing a review of the progress of agriculture, in connection with the many interests involved. Manufacturing interests, we are informed, have had a steady growth in the past few years, and the increase of capital has been rapid. In 1884, the products of the farm were $181,000,000, and the value of the manufactured products was $70,000,000. Three years later, 477 manufacturers employed 13,084 persons, who received in wages $4,225,756. The large increase of manufacturing concerns would not have been made in the presence of impoverished farms and poor crops. Railroads have been powerful agencies in the general improvement. Without them the products of the farms would have been of little value. For the immense capital employed—the roads costing $275,000,000—the people of Iowa hold only $5,699,000, showing that the State is chiefly indebted to outside aid for railroads. They employ 25,761 men, who receive in wages $18,677,780, more by over half a million than the net earnings of the roads of Iowa.

Under the head of forests, we learn that the decrease of the acreage of natural timber between 1870 and 1885, was 360,506 acres, and the increase in artificial timber plantations was 71,963 acres. There are over 2,164,000 acres of natural forests. The introduction of wire fences has greatly aided their preservation. The opening of coal beds and the more general use of coal for fuel, have been additional aid.

Among other matters noticed in this review, are English sparrows, chinch bugs, pleuro-pneumonia, the dairy, cattle-raising, horses, swine, sheep, crops generally, the grasses, State fairs, farmers' institutes, and sorghum. The sorghum product is placed at 9,250,000 gallons, at 40 cents a gallon—a farm product of considerable value. To this is added the product of 73,568 pounds of sugar—chiefly the result of the accumulations in bottoms of barrels.

Appended to this review are the proceedings of the society, the annual reports of the county and district societies, and the report of the State Dairy Commissioner. The society obviously is not financially strong, being reported as over five thousand dollars in debt.

"Frascati."—We are informed that this property (advertised for sale in another column) is one of Virginia's handsomest historical estates, in perfect order, built by one of her eminent men when Associate Justice of the Supreme Court of the United States. It is situated in the garden spot of the Piedmont district of Virginia, noted for its healthfulness and exemption from blizzards and cyclones.

W. N. Y. Horticultural.—The Proceedings of the 34th Annual Meeting of this society, at Rochester in January, are printed in a pamphlet of 180 pages, which we receive from Mr. P. C. REYNOLDS, the secretary-treasurer.

Oswego County.—An independent farmers' institute is to be held at Parish next Tuesday and Wednesday, 9th and 10th. Speaking mainly by gentlemen from the vicinity, but Col. F. D. Curtis is to participate as delegate from the State society.

Personal.—Prof. E. D. PORTER has resigned the chair of agriculture in the University of Minnesota. Mr. W. S. DEVOE, now Botanist of the Ohio Experiment Station at Columbus, is to become Agriculturist for the Nevada Station at Reno.

The Hog Crop.—Associated-press despatch from Cincinnati, March 28:

The number of hogs packed in the last season was 5,921,151; in 1888, 5,463,951. The stock of hog products reported in the West, March 1, shows a reduction of 20,000,000 pounds of meat, 8,000 barrels pork and 52,000 tierces of lard compared with a year ago. Eastern stocks show the same reduction. The summer supply of hogs promises an increase of 5 per cent.

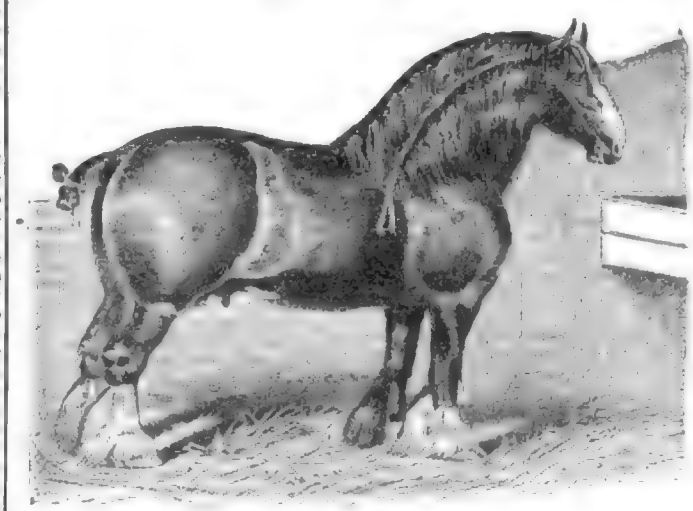
Farm-Yard Notes and Items.

It will be seen by advertisement on the first page that a general meeting of Jersey breeders is to be held by the American Jersey Cattle Club at New-York, May 7. A similar conference at Chicago in the fall of 1886 was largely attended, and gave much satisfaction; and we look for an important and animated gathering on the occasion referred to.

A preliminary catalogue of the sale of the Marshland Trotting Stock, property of Messrs. B. F. TRACY & SON of Apalachin, to be held at New-York, April 17-18, may be had on application to Messrs. Peter C. Kellogg & Co., 107 John St., New-York. We need hardly call attention to the value of these horses. The sale will be an event of much interest.

The Annual Shearing of the New-York State American Merino Sheep-Breeders' Association will be held at Canandaigua, April 10 and 11. All sheep should be promptly on the ground by 12 M. first day. A prize of $10 is offered for best exhibition of sheep, not less than ten in number. Awards for record only are offered for best fleece, sorted and scoured. Wednesday evening there will be a meeting of the Executive and Pedigree Committees. Sheep carried by freight by the N. Y. C. & H. R. R. R., will be charged full fare to exhibition and return free. J. HORATIO EARLL, Secretary, Skaneateles.

The Fourth Volume of the American Shropshire Record is an octavo of 322 pages, containing nearly 2600 pedigrees (4627 to 7213), which is considerably more than either of the previous volumes includes, though they do not occupy proportionally increased space, being more compactly printed. Full indexes are prefixed, and all the work seems to be remarkably well done. Mr. MORTIMER LEVERING, Lafayette, Ind., is the efficient secretary-treasurer; price of the book, $1.



SWEEPSTAKES-PRIZE ENGLISH SHIRE STALLION VULCAN.

We reëngrave in reduced size, from a large plate issued by the Mark-Lane Express, a portrait of the sweepstakes stallion at the Islington Shire Horse Show in February, Vulcan 4145. He is, says our contemporary "a six-year-old black horse of very remarkable style, bred by Mr. John Whitehead, Medler Hall, Lancashire, and owned by the Earl of Ellesmere. His sire is Cardinal 2407, and his dam Jessie (Vol. II.) by Sir Collin 2023. He is a horse of exceptionally fine quality, while he is possessed of plenty of flat bone and beautiful legs and quarters. His head is light and narrow, and his back not over-strung; yet it is possibly within the mark to say that a more stylish stallion than Vulcan has never paced the Agricultural Hall. Vulcan was purchased by Captain Heaton for the Earl of Ellesmere last year for 2,000 guineas."

EDITORS COUNTRY GENTLEMAN—I have sold a beautiful son of Exile of St. Lambert to Mr. W. H. Cobb of this city. His dam, Golden Una was a beautiful orange fawn cow and a good one. I sold her in November to go to Kansas and her present owner Mr. C. W. Talmadge writes me that he is very much pleased with her. P. J. COOSWELL.

Rochester, N. Y.

Messrs. OSBORNE & LADD, Victor, N. Y., whose advertisement appears this week, certainly import and breed some very good sheep, as we can testify from personal observation, having examined and admired their exhibits more than once at State fairs. They write us:

"Our flock of fifty Shropshires are dropping the strongest and finest lot of lambs we have ever seen. One of the ewes that won 1st prize at the State Fair in Rochester in 1887 has a beautiful ram lamb that weighed 31 lbs. the day he was three weeks old."

Messrs. JAS. CLOUD & SON of Clifton Farms, Kennett Square, Pa., have sold to T. Lovelock & Co., Gordonsville, Va. (through advertisements in the COUNTRY GENTLEMAN), the prize-bred Jersey bull Pogis Hugo Rioter, one of the most promising young animals in the State; the grand butter-bred Jersey cow Gold Lace Mostar, daughter of El Mora Mostar and grand daughter of Mostar; and three choicely butter-bred yearling heifers by Clifton Ramapo, son of Ramapo and grandson of Eurotas; a lot of high-bred poultry (Plymouth Rocks, Light Brahmas, Wyandottes, bronze turkeys, white guineas); and Scotch collie dogs of their best imported stock.

Thirty-one fresh outbreaks of pleuro-pneumonia were detected in England during February, and 16 in Scotland; 118 cattle were attacked, and 750 others which had been exposed to infection were slaughtered healthy. In Ireland 17 outbreaks were reported during the month in the North and South Dublin unions; 23 cattle were attacked, and 150 healthy animals in contact were slaughtered.

ED. COUNTRY GENTLEMAN—Mr. T. S. COOPER'S letter in your paper of March 21, explaining the methods he has pursued in breeding Jersey cattle, opens a subject very interesting to all breeders, and this seems a proper occasion for speaking of what Mr. Cooper has undertaken and accomplished and how much service he has rendered the Jersey cattle interest. Mr. Cooper has brought from the island many of the very best animals that have ever been in this country, sparing no money to procure the best; and he has bought American-bred animals, paying the highest prices, to be bred with them. It is true that his principal business has in the past been that of an importer of animals to be sold here, but these fine animals sold to other breeders have done as good service perhaps as if retained in his own herd. He has been known for the past ten years as being constantly struggling with the problem how best to breed Jersey cattle, and I think the animals of his breeding that he has shown at sales and at fairs justify his pretensions as a successful breeder, to say nothing of his having carried away the breeders' cup at the last Kellogg combination sale in New-York, against a most severe competition.

There is another service Mr. Cooper has rendered to this interest. His catalogues with long tabulated pedigrees are the most complete history of Jersey cattle and of different Jersey families that we have. The information they contain was derived, I am informed, at great cost of time and labor, and they are very valuable for reference to all now interested in the subject. D. F. APPLETON.

New-York.

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The Grazier and Breeder.

Milk and Beef.

Barn with Silo for Fifty Cows.

Eds. Country Gentleman—Do you know where I can buy the large grey Durhams for milk? (1)

What do you think of keeping 50 of them for 8 months for milk, and then market them in New-York for beef, and then, in September, get a fresh lot for 8 months more, and keep them on silo corn, with 8 quarts buckwheat middlings and Buffalo feed and 2 quarts corn meal on 2 bushels of silo ensilage? (2)

What is your idea of a barn to stable them in, with silo and grain bins in one end? Have a fine place on hillside to build one; don't want much room for hay—say 30 tons hay. (3)

Dryside, N. Y. R. H. E.

1. We don't know what breed of cattle our correspondent refers to, especially as he calls them "Devons" in another letter. Neither "Durhams" nor Devons are ever really grey, and nobody would call Devons "large." If he refers to milking Short-Horns, let him address S. Spencer & Son, Kiantone, Chautauqua Co., N. Y. If he proposes buying grades of the best milking character, these would have to be selected, a few in a place, involving more cost and labor than he contemplates, and much more than he could afford for the purpose which he mentions.

2. If he had 50 good milking Short-Horns, it certainly would not be profitable to milk them 8 months and then turn them into beef. If they were good milk yielders, they would pay much better to be kept for that purpose. E. will find it quite impossible to get together 50 head of cows of such interchangeable character that they may be milked or fattened with equal facility. If he could do this, he would have solved the disputed problem of the general-purpose cow. There is no doubt that some breeds fatten more readily after milking than others. Any breed bred specially for beef will feed better than if bred for milk. And there must be more or less time consumed in changing the secretions from milk to beef.

3. If we are to suppose that E. has 50 large cows to be fed for milk, and desires a barn, in which to most conveniently feed them, with silos attached—this would involve many considerations: *a.* The silos must be placed so as to communicate with the feeding floor between two rows of cows. The labor of handling the ensilage should be reduced to the lowest point. *b.* To accomplish this the silo is best placed against the basement wall so that a feeding car can be run from the feeding floor into the silo to bring the ensilage to the cows—then a convenient way must be devised to run the ensilage as cut into the top of the silo for filling it. *c.* This is most conveniently done by running a carrier from the cutter on the side of the driveway floor of the barn above the basement. This enables all the cutting to be done in the barn, and prevents the green corn from getting wet by a storm while cutting into silo.

For feeding 50 large cows, most conveniently, E. will require a barn 43 by 80 feet, with a basement stable under, 8 feet high in the clear. The cows will stand in rows across this basement. There will be four rows—two rows facing each other on a feeding floor 8 feet wide. There will be a driveway behind each row 8 feet wide, to carry away the manure in wagon or manure spreader. One driveway accommodates the two centre rows.

Let us suppose the barn to stand north and south, then the driveways for the manure and the feeding floors will run east and west. There will be two feeding floors, and it will require two silos, each 16 by 30 by 16 feet deep, both holding 300 tons, which will give each cow 30 lbs. of ensilage every day in the year. One end of these silos will be placed against the wall on the west side, so that the centre of the end will come at the centre of the feeding floor, so that a feeding car running along this floor would pass along the centre of the floor of the silo. The bottom of the silo is supposed to be on a level with the feeding floor.

This barn can be built cheapest and best as described on pages 110 to 113 in the book on "Feeding Animals," and if E. has not this book, let him send $3 to the Country Gentleman for a copy. He will want to consult it on every subject relating to feeding stock.

This barn will have only five bents, being 80 feet from centre to centre, and the posts 20 feet or more long. There will be no purlins, saving much timber and labor and leaving the inside of the barn clear of these obstructions, making it much more convenient for filling in and taking out hay and grain. There will be a scaffold 8 feet high on the side toward the silos, and it will be under this scaffold that the cutter will stand when cutting ensilage corn and running it into the top of the silo in filling. This gives the whole floor through the barn above the basement for handling the ensilage corn in cutting. This will all be made plain by the book referred to.

R. W. S.

Ensilage for Horses.

Eds. Country Gentleman—Many articles have been written on ensilage for cattle, but I have seen very little about its being used as food for horses. Although the ensilage system is rapidly growing in popularity, there are many who are yet inexperienced, and too much cannot be said to enlighten them.

I built a silo in the summer of 1880, 30 by 15 and 16 feet deep, 4 feet under ground, walled with brick 9 inches thick. I planted four acres B. & W. ensilage corn that made 20 tons per acre. Began to cut it on the first day of September, using a No. 14 Smalley cutter, with 1-inch cut, which cut at the rate of 15 tons per day. To allow the mass to become sufficiently heated to make sweet ensilage, I cut every other day. After the silo was filled, I put on a covering of green hay, weighted down with plank and brick—being just enough to hold the hay to the ensilage as it settled.

I opened my silo Dec. 15, and found about 6 inches of mould on top, and 3 inches on the sides, the remainder being in excellent condition and very sweet. Since that time I have fed it to my horses, cattle and sheep, and they have all done well on it. I gave my horses 16 lbs. a day each, in connection with dry food. This is the bright side of the picture. We will now turn to the dark side.

My brother-in-law built and filled a silo at same time, and under same conditions as mine, the only difference being that his was situated in his barn while mine stood alone. He began feeding Jan. 1 to horses, cattle and sheep. In two weeks twelve out of fourteen horses were dead, the cause of their death being ascribed to *ensilage* by the physicians. They were taken sick on the tenth day, two dying within 24 hours, and four more within 48 hours after being taken. All were affected alike with a drowsiness, with some stiffness in limbs, and with what appeared to be a paralysis of the throat, as they were unable to swallow. They appeared to be in no pain, had no fever, and remained conscious until last stages. The death throes were violent, and their heads were drawn backward. An examination was made after death by the veterinary surgeon, who said the immediate cause of their death was spinal meningitis. The horses had as much ensilage as they would eat, with some dry food.

From preceding facts, can any one tell if the ensilage caused the death of the horses? This calamity, it is feared, will prevent several of my neighbors from building silos during the coming summer. As for myself I am in favor of the silo, and intend building another the coming season. Jno. W. Netherton.

Jefferson County, Ky.

The horses may have been injured by injudicious feeding of ensilage; but we cannot believe that this diet really *caused* such a disease as cerebro-spinal meningitis.—Eds.

Cooking Foods—Hay.—Is hay improved by cooking? If so, how? Prof. Cook stated at a farmers' institute recently that no food was made any more digestible or nutritious by cooking. This question is suggested by a passage in the article by E. W. S., page 213, in which he says "the pigs should have some grass or cut and cooked clover hay mixed with the food in question." Such directions are not infrequent, but it seems to me that of all the food substances in use none can be less improved by cooking than hay. M. L. W. [Let us examine Prof. Cook's statement. Would he say that raw potatoes would fatten a pig as quick as cooked potatoes? If he would, then the universal practice of civilized man contradicts him. The digestibility of some foods is improved more by cooking than others. Would Prof. Cook say that wheat flour made into a dough with cold water or masticated dry would be as digestible to the human stomach as well cooked bread? If not, then this dogmatism falls. Many a miller has got into the habit of chewing wheat, and this has so affected him that he was obliged to give up milling until his stomach recovered. Who that understands the laws governing the digestibility of food does not believe that human food generally is not rendered more digestible by cooking? And if more digestible to the human stomach, why not to the animal that has but a single stomach and consumes the same food? Let us now consider the specific question of W. Is hay improved by cooking? Undoubtedly yes, but improved very much more for some animals than others. The sentence W. quotes from me said the pigs should have some grass or cut and cooked clover hay. Does W. believe that succulent grass is no more easily digested by the pig than the same grass cured into hay? Cooking the clover hay partly brings it back to its succulent state as grass, and the pig can, therefore, more easily digest it with its other food. It was recommended principally to give bulk to the contents of the stomach, and thus to improve the digestibility of the other food. I have often stated that for ruminating animals, except in special cases, the cost of cooking was more than the advantages derived. W's. view is quite correct that hay is less improved by cooking than such foods as corn meal, or those having a large percentage of starch. The housewife knows that her starch, made by the cold process, must be boiled to dissolve it and diffuse it evenly through the water. One who believes that starch is as digestible without cooking as with, will be undeceived by eating it uncooked. E. W. S.]

The Dressed Meat Traffic.

Effects on Farms and Public Health.

Eds. Country Gentleman—The question of shipping dressed meat from the immense slaughter-houses of Kansas City, St. Louis and Chicago to the East, is one which interests the farmers and consumers of New-York to an extent that few of them have appreciated. I propose to discuss this business, or rather, monopoly, from the standpoint of both a producer and a consumer.

Certain firms, mainly located in Chicago, have organized the business of shipping dressed meats to the eastern markets by means of refrigerator cars, and refrigerator buildings located along the lines of the railroads. When this business began, a few years ago, the butchers who supplied the various local markets with fresh meats purchased live animals, which were inspected by local health officers, and were slaughtered, as they were needed, to supply the markets. These animals were brought from the West under a system of freighting and care carefully provided for by law, or they were purchased from the farmers who reared and fattened them. This system made a general competition among producers, handlers and butchers, and enabled consumers to obtain meats fresh and wholesome. The stall-feeding of cattle in New-York and other States furnished a business for the general farmer—a home market for his hay, straw and grain, and also enabled him to make manure on the farm with which to keep up its fertility. The elements of plant food were thus retained on the farm, and found their way into the soil, which made it productive, and gave a fair remuneration for the labor bestowed in its tillage, and some return for investment in land devoted to farming.

The shipping of dressed meats to eastern markets has destroyed this important factor in agricultural industry. It is impossible to estimate the loss inflicted upon this State. As one of the legitimate results, the value of farming lands has depreciated at least one-third. I do not charge the entire depreciation of farm values to this one item of scourging competition, but to it can surely be charged one-third of the loss in farm investments. The soil is not only rapidly becoming reduced in fertility, but the calves born in this State do not have any such value as they would if there was the opening there should be to make them into beeves. They are now quite generally sacrificed when born. Rearing sheep for mutton is another industry cut off by the same monopoly. No man in New-York can now rear and feed either cattle or sheep for their meat without loss.

A small part of the beef now sold in New-York City is killed alive, and here the best meats are sold at the most reasonable prices because of this wholesome competition. All over the State the "butchers," now only meat-sellers, are obliged to purchase the refrigerator meats. The production of beef in the State is destroyed, and if an attempt is made to purchase elsewhere by any one, an opposition shop is set up to crush him out. If a butcher rebels at the clutch of monopoly, which is taking the life out of his business, opposition rears its hydra head, and he is obliged to succumb and buy of his masters at their price.

In all this struggle of greed and monopoly to maintain their hold, the consumer seems to be an indifferent spectator, when he really has a vital interest. It is only when the monopoly is laying its foundation and killing an opponent that there is ever any reduction in price—that is, while the butcher is being squeezed. After the meat seller has been tamed and the chain has been forged, its links are tightened, and the oppression to the consumer begins. We cannot sound the alarm too soon, and the consumer cannot afford to silently sit by and not heed the cold, grasping, crushing efforts now being put forth on our end of the line to establish and maintain a monopoly in this trade—the supply and price of fresh meats. In order to introduce this dressed meat, at first the price to the butcher was put below the possibility of the farmer to produce, and so stall-feeding was destroyed, and now the butcher is compelled to buy of the monopoly. Will the consumer heed the march of this monster and save himself from his unrelenting grasp and never-satisfied maw?

This dressed-meat monopoly is a twin brother to that other fraud—oleomargarine—which came so near wiping out our dairy interests. Both have a sister of the same paternity—bogus lard. The parents of these crushing monopolies do not deserve sympathy if they should lose in their investments in refrigerator cars and refrigerator buildings; for without pity they are devastating the farms in New-York of fertility, with loss in stables, now of no use, and cars and stock yards and barns and feeding accommodations belonging to the railroad companies. The legislator of our State need not stop to any demand for their protection for losses of this kind. If this were a business of *the people* it would be different; but it is not. The scoopings of profits go only to a corporal's guard in number. From the testimony taken before the United States Senate commission, it seems that the producers of beef at the other end of the line are made to feel the power of this beef combination or trust, or organized monopoly. C. C. Slaughter of Dallas testified that if he "refused to sell his cattle in Kansas City, and shipped to Chicago, the same firm that had bid in Kansas City would be the only firm bidding at Chicago." Mr. Brewster Cameron of Arizona testified that Chicago controlled all the cattle markets of the country except California. Other testimony was taken going to show the above facts, and the necessity of breaking the power which made prices at both ends of the line—with the producer and the consumer. From evidence and general observation, it seems that, notwithstanding the large reduction in the number of cattle in the far West, the price of beeves was no higher, and whatever may be the changes in numbers, the retail price is kept up where the refrigerators furnish the stock.

What of the healthfulness of these dressed meats? What protection have consumers in this regard? These are after all the most important questions. The truth is, the consumer knows nothing of the character of these meats he buys and puts on his table for his family to eat. The system of inspection in Chicago for these dressed carcasses is simply nominal. Thousands of cattle are killed and packed every day, and there can be no adequate inspection. The business is too immense. If it were scattered, as it should be, and the beef of each locality in our State was slaughtered and prepared for market where it is consumed, or near by, there could be a careful examination of each animal. There are a number of diseases affecting cattle and that would cause blood poisoning, which cannot be detected in the meat. When we citizens of New-York remember the ingenuity and underhanded efforts made by the makers and venders of oleomargarine to get it down our throats, can we suppose that this twin brother is altogether a saint, or that this monopoly might not attempt to prostitute science and embolden men, and perhaps stultify a possible conscience, in order to work off meat, cheaply bought, at a good paying price, regardless of consequences to indifferent consumers?

The inspection is not a safe one if there is any pretense. There is no competition in the business, and with such a tyranny, how easy it is to override it and to shut the eyes of the law, or to make it of no account. Does any one of the thousands of the eaters of refrigerator meat suppose the cattle are all, or any considerable part of them, inspected, or the meat either? His credulity is childish. L. Leonard of Missouri, a noted stock-breeder, testified: "The price that the consumer has to pay for his meat is much too high in proportion to that which the producer receives. Inspection on the hoof would do away with all danger of big-jawed or cancerous cattle, or those suffering from fever." Levi Samuels, a wholesale butcher in New York City, testified that "local inspections would re-open the markets of the whole country, and would insure the selling of only healthy meat, and would benefit the producer and consumer." Geo. Beck of Michigan testified that the "dressed beef trust had crushed out all local butchering, and compelled all butchers to buy of them." Warren Buckmaster of Ohio testified that "the growing of cattle for home markets was entirely abandoned, and the quality of the dressed meat shipped to Detroit steadily deteriorated. The trust controls the markets." John Duff of Michigan testified that "local inspection would tend to destroy the monopoly."

The most serious part of this dressed meat traffic to the consumer is the unhealthy condition of much of the meat offered for sale in the shops of venders. During its long exposure and transit it is more or less loaded with the germs of ferment and the bacteria which produce decay. While in the shops of the retail dealers it is still more exposed, and in the necessary handling before it is served upon the tables of consumers. In many cases decay has actually begun its work. Such meat is not fit

for human food, even if it was not diseased when slaughtered.

I have purchased this meat and taken it ten miles in the country, and the next day it was putrid and of course unfit for food. Others I have known have also bought it and had it spoil over night. The exposure to the warm air would develop the germs of ferment and the bacteria of decay so rapidly that it would keep but a very short time. Meat thus on the verge of putrefaction is not a safe food. We have enough blood and insidious diseases now not to run the risks of more.

Many people would not feel able, or they might think so, to throw away meat tainted or struck with the beginnings of putrefaction, and so eat it. Shall the public be put to such straits? Shall the public health be thus jeopardized? Shall the foundations be thus laid to poison the blood of the nation without effort for remedy—positive and effectual effort? Is not our legislature bound to protect us from such an unnecessary calamity, when every interest of our people is at stake? Shall we take all these risks, that a few monopolists may be enriched, when the great material welfare of the farmer, the producer and every consumer is involved, and the health of all? My answer is, we should not, we must not, and we will not! Let those who assail our rights and our lives stand from under!

I am glad to know that a bill has been introduced into the legislature of New-York "to provide for live stock inspection, and for the punishment of persons who may sell, or offer for sale, the meat of animals not so inspected." I hope every agricultural society and board of health will act at once, and demand the enactment of this law, before this upas tree of meat monopoly shall take such deep hold that it cannot be uprooted. We are only just beginning to feel its blighting effects, which if undisturbed, will soon paralyze our agricultural industries and make the consumer a helpless victim to its merciless power. F. D. CURTIS.

Kirby Homestead, N. Y.

Northern Ohio Notes.

ED. COUNTRY GENTLEMAN—A winter the like of which has not been seen since the country was new, has given the farmers a great deal of leisure time, and as the result, there has been a larger attendance than ever at the farmers' clubs and institutes, while the ensilage meeting at Cleveland drew out a much larger number of farmers than was thought possible by its projectors. This convention was notable in in being an assemblage of bonafide farmers—men who are working out the practical problems of agriculture. Probably not three persons in the assemblage could lay claim to the title of "Professor." The papers were remarkable for their conciseness and direct bearing upon the questions at issue, and the discussions are said to have been of the highest and spirited. One thing was particularly noticeable—the man who wants to smell everything *new* was not there. On the other hand, the meeting was made up of men who had beforehand become convinced that the silo had proved its substantial claims, and they wanted information as to means and ways to adapt it to benefit them most.

One of the things that drew the crowd was the talk of Dr. Ashmun, the city health officer, on "ensilage milk," for a large per cent. of the city milk sent in from the country is made from ensilage, my neighbor, Mr. Frank Blair, alone, sending in the milk from 125 ensilage-fed cows. The doctor's report was very favorable. He did not believe that cows should be fed exclusively on ensilage, and yet he had milk for analysis from dairies that had nothing but ensilage, that was "not only good but healthy." "If ensilage can be preserved comparatively sweet, there can be no question as to its value," &c. The silo men came home from the convention all aglee, and look forward to next winter, when they propose to have a convention that will make the last doubter a full convert.

There is much good sense in what A. H. R. says (p. 224) about windmills. A windmill large enough to do grinding and all other kinds of power work is too large and expensive a machine to pump water. Let the mill pump water, and let that be its business, and put the extra money that must go into gear, &c., into some steady, reliable power that can be made available every day in the week, except Sunday. I am content if my mill will tend to it and pump so that the two big tanks at yard and barn are full, and let the grinding of corn be done by a yet cheaper way, through the silo.

The past winter I have tried the later ideas of wintering cows, especially the plan of keeping them continuously in the stable, and am wholly pleased with it. The cows were in their stalls from Dec. 1 to March 16, and I have never had cows winter so well, although they were giving large messes of milk. I see in the last COUNTRY GENTLEMAN that Secretary Woodward and F. D. Curtis contend that this is the rational way, and now I have no doubts. A cow wants comfort, *far* more than walking freedom in cold weather. It is little exercise that a cow takes in cold weather if left to herself; and plenty of sunlight and pure air can be admitted to a stable cheaper than the animal can go in search of it. The facts are that in the future one of the greater parts of the profits in our dairying will come from the feeding of large crops, yet more cheaply grown and handled, and so feeding them that there shall be practically no waste or applying this food so that no visible results come of large portions of it. The food fed our live-stock must be made to give results that have a money return for them. No one can collect money returns for food used by a cow in warming a barnyard, or warming 100 lbs. of ice-water up to blood heat. These are leaks quite as wide as cracks in stable floors that let the high-priced part of the manure escape; and only hold back the skeletons of fertility to make ghosts for infertile fields.

The beefmen feel very discouraged, and well they may, when prime 3-year-old steers go begging for a market. The way out does not seem very clear. That a steer 36 months old, when sold, has more than "eaten his head off," cannot be disputed; and as a breeder said to me not long since, "our only way out is baby beef; make a calf weigh 1,000 pounds as quickly as possible and put him on the market." It is only a question how long and how much of this kind of beef the market will consent to take. In this is a hint for the dairymen, a chance to shorten up on the skim-cheese business, the making an article which no one wants, and the killing of so many "deacons;" and instead, feed this skim-milk with oats and oil meal to steer calves, and have them at a year old weigh 1,000 pounds. Would this not pay better than cheese-making? The butter need not be sacrificed—there is always a paying market for the finest butter—and the butter and baby beef together would make a more profitable showing for the dairy, than did Commissioner Brown's report of 1,200 York State factories; something like $27 per cow gross income. The question may be raised that this baby-beef business could not be carried on because the dairies of this section are not of the beef types. The late Chicago fat-stock show came very near proving that a steer of a dairy type of cattle had superior beef qualities about him, better marbled beef, more delicate flavor, and the fats not grease and tallowy, but more like the elements of butter, that made the fat a desirable food, rather than a waste. I never have been an advocate of mixing the dairy and beef breeds to get a combination cow; but if, without sacrificing the dairy type, or even modifying it, we can make the steer calves of our dairy breeds produce excellent and sought-for beef at ten months and a year old, may we not by this course, with good stables and good feeding, make none the less money from our dairies, but even profits from beef? J. O.

Western Reserve, O., March 23.

Cottonseed Meal.—I send sample of cottonseed meal, and wish to know its value for feeding purposes. It seems to have a bad taste, and is very poorly ground; at least it is not at all like that I have formerly used. This is a new lot, just obtained. The price I am to pay, if I keep it, is $27.50 per ton. A. O. M. *Lewis County, N. Y.* [It appears to be only partly decorticated, and is badly ground. When this meal is wet with boiling water, the dark-colored cottonseed chuck, in small particles, appears through it. It is very difficult, without an analysis, to determine how this is produced in this condition, since the pressure of the seed to extract the oil should have broken the seeds more completely than this appears to be. It has the appearance, mechanically, of having been mixed together from two samples—one ground and the other unground. The value of this meal, in its present condition, cannot be considered more than about $30 per ton, if we consider the best quality to be worth $37.50, or the price M. mentions; and this is the highest price that should be paid for the best quality. This sample appears to corroborate the complaints lately made of the inferior quality of this food on the market. 2. It can be fed in its present condition without danger. The stomach of the ruminating animal, when undecorticated cottonseed meal is properly mixed with other food, will dissolve and digest the digestible portion of it. It would require about 2.6 lbs. of this to be equal to 2 lbs. of the pure, finely ground decorticated cottonseed meal. And as cottonseed meal has, within a comparatively short time, risen in price so near that of the best linseed meal, feeders had better consider whether it is not safer to feed the latter, as more conducive to the health of their animals. E. W. S.]

Calves without Milk.—How can I raise a calf without milk, having lost her mother without being recognized by her? The calf is highly prized, and the mother is hard to replace. Must I procure a fresh milk cow, or is there some other food that will do as well? O. S. *Lockport, N. Y.* [This subject was discussed at some length in the COUNTRY GENTLEMAN last year—see pages 13, 73, 193 and 493. Of course we should be pleased to hear further from experienced readers.]

Unruly Bulls, p. 193—"L. P. W." is having some trouble with his bull and threatens to disbarn him if he indulges in any more. Now, friend, let me advise you that when you disbarn your bull, you do it after the method pursued by the man who *de*-tailed a worthless cur—cut off his horns just back of his ears; that will cure him of his vicious propensities as nothing else will. Since "like begets like," a *naturally* vicious bull is quite apt to transmit his dangerous qualities to his female offspring, and we all know that a cross cow is as ugly a barnyard ornament as a cross bull and equally unpleasant company. Not much use sawing off the horns, so long as the head and the disposition remain. Old "Tormentor" I believe had his horns sawed off; yet I learn that he is not a whit more gentle, or less dangerous than before. Where natural ferocity exists and is "bred in the bone" it cannot be gotten out of the flesh or be sawed off in the horns. MRS. KATE M. BUSICK.

Wabash County, Ind.

The Dairy Department.

Beginning in Maryland.

ED. COUNTRY GENTLEMAN—I wish to try dairying on a small scale, with not more than eight or ten cows. I can secure 25 cents per pound for butter all the year round. I propose to raise all the provender necessary, such as clover hay, &c., possibly in addition ensilage and most of the corn, buying all other necessary extra foods; bran sells now at about $17 per ton and corn can be bought here in the fall for from 3 to $3.25 per barrel. With proper attention, do you think it will pay? I should have said the usual price paid for labor is $10 per month. I should also like to feed skim-milk to calves and keep them for beeves. This year I failed entirely to get ice and should be obliged to dispense with a creamery, which I have understood to be the best way for securing the cream. Is it impracticable for me to construct a house under ground and set the milk in shallow pans, or is a creamer now considered a necessary adjunct to a dairy? J. L. *Newburgh, Md.*

The profit of a dairy depends upon close management and good cows. The question here proposed opens up the whole subject of dairy practice, which might well be studied through a good dairy manual, as the Dairyman's Manual (to be procured at this office). A few hints, however, may be given here.

Starting with cows that will make at least 200 lbs. of butter in the season, the income from each cow will be $50. The cost of feeding will be the expense of working the farm, or that part of it which will be devoted to the support of the cows; and this should not be more than $10 per cow; and in addition the bran and other feed purchased, at least one-half of which would be returned in the manure and made available for salable crops. In a small dairy of 10 to 20 cows, the most profitable crops are market vegetables, fruit, &c., which bring in much more than grain, and the manure is thus disposed of at a great advantage.

The foods that can be procured in Baltimore more cheaply than corn are hominy chop, bran and malt sprouts. The hired labor would only be partly expended on the cows, so that there is certainly a very fair profit to be realized from the contemplated enterprise, if the personal management is careful and skillful.

The feeding of the calves for beeves is a questionable venture in this locality. They could be sold at 6 weeks old for veals, fed on the warmed skimmed milk, with a reasonable quantity of meal, for about as much as they would sell for when a year old, and on high-priced land and feed at the prices mentioned, beef would cost two or three times as much as the market value of it at two or three years old. The best of the heifer calves should be reared and the old cows sold off, and by all means a Guernsey or Jersey bull should be kept for breeding calves. If a herd that will make 300 lbs. of first-class butter in a season can be reared, $100 per cow could be made. The advantage of this is evident, as a cow of this kind costs no more to feed than one of 200 lbs. ability.

As to the mode of setting, a dairy can be carried on without ice. It has been done, and can be done again. Shallow pans must then be used, and a cellar should be provided for the dairy, where the temperature can be kept at from 60° to 70°, if not less, in the summer, and 50° to 60° in the winter. For full information in this regard, reference may be made to the book mentioned, as also to methods for preventing too rapid souring of the milk and management of the cream in warm weather. H. S.

Dash Churn—Granulated Butter.

ED. COUNTRY GENTLEMAN—In looking over the Annual Report of the New-York State Dairymen's Association just received from the hands of Secretary Shull, I notice that an inquiry was raised at the conference at Franklin, whether any one present had ever seen granulated butter made in a dash churn. All answered they had not, nor ever heard of such a thing.

I desire to set the old dash churn right on the record.

As long ago as 1871, I was in charge of a creamery where we were using fourteen dash churns, barrel size, and my rule was to unbitch the churns from the power just as soon as the butter formed in granules or pellets the size of peas or kernels of corn. One by one as the indications were at the right point, the churns were disconnected, rinsed down, the covers laid aside, and the butter *gathered* by hand. This was before the day of the now popular churns, and the washing of butter before the gathering; and handling it with the bair sieve has not then occurred to me, but I had learned that to be sure not to overchurn was very important, and to avoid this I gathered it by hand, churning very carefully.

At that time the American Dairymen's Association (the parent of all dairymen's associations) was honored by the leadership of ex-Gov. Seymour, and its secretary, Gardner B. Weeks, urged me to prepare and read a paper on "Butter-making in Creameries," the first paper on the subject ever read before that organization.

In that paper I contended for the "old dash churn" as the best. At that time it was the best I had seen at least, and I do not like to hear it mentioned with curses even now, though I would not now champion it as *best*, since the principle of concussion has become better understood, and the empty box or barrel, revolving squarely, has sent the *paddle churns* into the shade.

By the way I believe that where there has been any marked improvement in butter-making in these later years, by individuals or by communities, it is due more largely to the use of the thermometer, thus tempering the cream properly both before and at churning, than to the particular style of churn used, though I would by no means ignore the advantages of a good churn. H. COOLEY GREENE.

Tompkins County, N. Y.

Milk Setting without Ice.—Owing to mildness of winter we have been unable to secure a supply of ice for the dairy. How can we best utilize well water at 54 degrees for keeping milk? We have a building close to the well, into which water can be conveyed, renewing as often as necessary with little trouble. Please instruct me how to construct the water tank, and the best kind of deep setting can to put the milk in. H. *Farmville, Va.* [Deep setting will have to be abandoned and shallow pans used. Cream rises very slowly in deep pails at any temperature over 45°. But with water at a temperature of 54° the milk can easily be kept sweet for 36 hours, which is quite long enough to get all the cream possible by setting in pans three or four inches deep in a shallow tank where the water can be renewed frequently. A water tank may be made of dry plank as follows: For each 40 quarts 3 feet square of surface will be needed, using pans 16 inches in diameter. The tank should be 3 feet wide, as long as may be needed and 4 inches

deep; having ¼-inch strips 3 inches apart on the bottom to afford a current under the pans, which is better than having feet on the bottom of the pans. The joints should be made close and tight with white lead, and the tank painted two or three coats. It may be set upon a frame at a convenient height, and have a waste pipe and an overflow to run into the waste pipe. Before filling the tank it will be advisable to run out the water and fill it with fresh from the well. By having a double air-tight wall and roof to the milk house, or having it in an airy cellar, the water will not require changing more often than at six hours' intervals. A plan of this kind is adopted by a good many dairymen who have no means of procuring ice. E. S.]

Ensilage for the Dairyman.

Following is the bulk of an excellent address on this topic, delivered at the Unadilla Farmers' Institute, March 27, by J. E. Rogers of Binghamton:

There is no crop so important to the dairymen of this State as fodder corn. I intentionally place it before the grass crop, for our dairies could be kept on less than half the number of acres put to corn, properly tilled, and cured in the silo, that it now takes to grow grass and hay sufficient to sustain them. Not only this, but the product of these dairies fed from the silo could be very largely increased without increasing the expense. This is an assertion which to you who have had no experience with ensilage, may need some confirmation, and this I am prepared to give.

I presume there is not a dairyman present but has had some experience with fodder corn, either fed green or cured in the field for winter use, and knows about what it is worth fed in this way; and I have thought that what was most needed concerning this question, was a knowledge of the value of ensilage as compared with fodder corn, fed either green or dry, and also its expense and value as compared with hay.

On the asylum farm in our town, there was built the last year a silo which was filled with 90 tons (all weighed) of fodder corn—a good growth of stalks, but no grains. This silo was opened last month, and a test made between the ensilage and the same kind of corn cured in the field, cut half an inch long and fed with grain. It was fed to 60 cows, all in milk, and two weeks after the change from dried fodder corn to ensilage, the 60 cows had gained from 90 to 100 quarts a day, or about 1½ quarts per cow—the grain ration all the time remaining the same. Then the feed was changed to dry fodder corn once a day and ensilage once—the grain remaining the same—and 40 quarts per day of the gain was lost. I visited the farm twice while this experiment was being made, and got these facts direct from the superintendent. After this test, they decided to more than double the capacity of their silo for another year.

Now let us compare ensilage and green corn fed fresh from the field and cut 1 inch long; and to do this I will give you our average of milk per day per cow for the months of the past year. We feed ensilage the year round, except when filling our silos in September, and a few weeks after. The grain ration remains the same. For the month of April our average was 8.65 quarts per cow per day; May, 8.50; June, 9.10; July, 8.23; August, 8.17; September, 7.80; October, 7.70; November, 8.60; December, 9; January, 8, and to February 17th, 9. You will notice September and October are nearly 1 quart per day per cow short of any other month, except January, which fell from 9 to 8 quarts, caused by our being out of cottonseed meal nearly two weeks. This shrinkage of about 1 quart per day per cow during September and October we cannot account for in any other way than the change from ensilage to green corn, which is fed while we are filling the silos, and while they are curing, before opening. During the season of 1887, in changing from ensilage to green fodder, the loss was fully as great, and this is not our experience alone, but that of others who feed ensilage the year round. Of course nothing is added to the fodder in the silo, and I can explain this difference only in this way, that the corn cured in the silo is more readily digested, and thus gives better results.

Now let us compare ensilage with hay. Our experiment stations at Geneva and Ithaca have given valuable information in this line during this past season. From actual analysis it was found that the food value of an acre of corn cured in the silo, which produced only 14 tons per acre, having a portion of matured ears, was worth a little more than $47, as compared with timothy hay at $12 per ton. Now suppose hay to yield 1½ tons per acre and ensilage corn only 14 tons, according to this test the corn cured in the silo contains nearly three times as much food as the 1½ tons of hay, and this comparison leaves out the advantage of giving our cows a green, juicy and succulent food in the winter, which we cannot get with hay. But from our own experience, I am prepared to say I do not think this comparison entirely just, because of the small yield of corn reported; 1½ tons of timothy hay I consider a better average yield than 14 tons of ensilage corn. With a yield of 1½ tons of hay per acre it would require 4 acres to keep a cow for one year. In 1887 we had 31 acres of ensilage corn, which averaged 20 3-5 tons per acre, and our cows, with a grain ration, average to eat about 10 tons per year. Last year, because of the extraordinary dry weather with us during June and July, our yield was 18 tons per acre, and this on land which has grown corn continually for five years. In 1887 the Experiment Station of Massachusetts had an average yield of 27 tons per acre, actual weight; so instead of taking three acres to keep a cow for a year, it is possible to keep two cows on one acre. This can be done with the silo and ensilage; I do not know of any other practical way to do it.

Now as to the comparative cost of harvesting the corn and cutting it into the silo. This is what has scared many from a trial of ensilage; many are making a success of it by putting the corn in whole. One man in our town has been feeding whole ensilage for three years and likes it very much. We have always cut ours, so I cannot give any practical suggestions on this point, but if we had not an engine and cutter I should try it. We keep an accurate account each year of the expense of cutting our corn in the field (which is done by hand), hauling to the barn and cutting into the silo, and including our team at $3 per day, our farm help and extra help at its actual cost, including also coal for the engine and all other expenses, the cost has been for the past five years as follows: In 1884, 78c. per ton; in 1885, 49c.; 1886, 37c.; 1887, 43c.; 1888, 36c. Now suppose we call 2½ tons of ensilage equal to one ton of hay, for making milk I would prefer 2½ tons of ensilage made from well matured corn to one ton of hay. By this comparison then we would have to cut our hay, cure it and deliver it in the barn for 90c. per ton in order to harvest it as cheaply as our corn. This we are not able to do. We have 178 acres in our farm, of which 15 acres is woodland, 25 acres a steep hillside devoted to sheep and colt pasture, leaving about 138 acres of tillable land, and we have kept the past year an average of 94 cows, 7 horses, 8 colts and 23 sheep, and have sold 30 tons of hay, grown 5 acres of cabbage, about the same of potatoes, and 5 acres of oats. The grain fed to our horses and cows, with the exception of the 5 acres of oats, we bought.

I do not believe we eastern farmers have any business competing with the West in raising grain when we can buy oats from 25 to 28 cents per bushel. Every acre we grow runs us in debt. Put the oat ground to some crop the West cannot produce for our markets, the returns for which would buy far more grain than the ground would grow. Our dairy fed on ensilage and fodder corn the year round has produced the last year an average of 8½ quarts of milk per cow per day for 365 days, or an average of 3,041 quarts per cow for the year. This amount of milk was produced from ensilage and a grain ration, the cost of which was $25 53 per cow for the year. This is not as well as some have done who feed ensilage, nor as well as we expect to do, but I believe it is better than we could do with any other system of feeding.

One of the most fatal mistakes we made was sowing too much seed. You cannot produce the best results in ensilage by sowing more than 10 quarts of seed per acre, and many prefer 8 to 10, and our ensilage corn should be as thoroughly cultivated as any crop we grow. We cannot cultivate it too much if properly done. Another mistake, equally as fatal as sowing too much seed, is cutting the corn before it is mature. It has been shown by careful experiments made at Cornell University the past year that the food value in our fodder corn increases over 150 per cent. from the time the corn is in bloom to the time the ears become glazed, and this brings us to another important item. Sow some variety of corn that will reach the glazed state where sown. It is possible for us to grow a large bulk of fodder and have very little food, and these facts will apply equally as well in growing fodder corn to cure in the field or to feed green. I want to emphasize this for I am positive that every kernel of seed we sow more than 10 quarts per acre in growing our fodder corn is far worse than thrown away, for it makes the value of the crop worth less than half it would be in milk-producing elements if sowed thin and well cultivated; and if we are keeping cows to manufacture milk, it is our business to know what we are furnishing those cows to make milk of, and not provide them a food which does not contain the elements which make milk, for we may be assured we do not get one quart of milk or pound of beef which is not in the food we furnish.

Heifer Ration on Pasture.—Please give ration for 2-year Jersey heifer, dropped calf March 9, weighs about 500. I have pasture of clover, orchard and red top, but it is short yet. We feed cottonseed meal, cottonseed hulls, wheat bran, corn meal and timothy hay; have turnips also. If you could suggest something better, do so, and I will buy it, as I want to give her all the chance possible. H. M. S. *Brownsville, Texas.* [A very fair ration can be constructed out of the foods mentioned. But cottonseed meal is a very concentrated food and requires to be given with much care. He should have mentioned the ration which he now feeds i. e. the amount of grain, cottonseed hulls and hay. His pasture, no doubt, by the time this answer reaches him, will be in fair condition, so that it is the extra food upon pasture which he will want. Let him make the following combination: 5 lbs. cut timothy hay, 2 lbs. cottonseed hulls, 3 lbs. corn meal, 3 lbs. wheat bran, 1 lb. cottonseed meal. This cornmeal, wheat bran, and cottonseed meal must be evenly mixed together dry, and then mixed with the moistened cut hay and cottonseed hulls, given in two feeds, largest at evening. It is very important that this grain ration should be well mixed with the fodder if F. would protect the health of his young heifer. He does not say if this heifer is acclimated or whether she was brought from the North. In yielding milk and eating rich food there is a tendency in the young heifer to develop a feverish state of the system. It is therefore of greatest importance that the concentrated grain food should be mixed with coarse fodder so as to avoid this. E. W. S.]

Improving Quality of Milk.—Please give me, in pounds, a good and sufficient ration for producing rich milk, for large Devon cow, giving about 16 quarts. Materials: Wheat bran, hay (about half timothy and half clover), ground feed (oats, Indian corn and rye), linseed meal and oat straw. I cut hay and straw in a cutter, and mix bran with it, as recommended in the COUNTRY GENTLEMAN. I desire richness of milk rather than quantity. C. F. B. *Mt. Thoreau, Can.* [Take 16 lbs. mixed hay, 9 lbs. of the mixed ground feed (oats, corn and rye), 4 lbs. wheat bran and 2 lbs. linseed meal. All parts of this ration must be thoroughly mixed together, and given in two or three feeds; if in three, smallest at noon. This ration should gradually improve the quality of milk. It is inferred that the quality is less satisfactory than the quantity. But B. must remember that improvement in quality is produced by steady feeding with a nutritious ration. In every instance where the quality has been much improved above its normal standard, it has taken time to accomplish it; in several cases, from one to three years before the limit of improvement was reached. E. W. S.]

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

PUFFS ON GAMBREL JOINT.—A horse coming six years old has puffs inside of gambrel joint, usually about the size of butternut, but in driving they go down. In the morning are as bad as ever. Never have made him lame, and have always been there. J. J. S. *Mottville, N. Y.* [Apply golden blister, and give two weeks' rest.]

COUGH IN HORSE.—My horse, ten years old, has had a bad cough for six months; has great difficulty in breathing; eyes weak. Feed is corn and cabbage. Is very fat. T. C. E. *Wytheville, Va.* [There is ample advice on this subject in back numbers. Reduce horse's condition and feed oats, bran, hay and flaxseed. No corn or cabbage.]

PIGS WHEEZING.—What causes young suckling pigs to puff and wheeze like a horse with heaves, and then in four or five days die? Pigs have done extra well, are fat and sleek until taken with the wheezing, when they get rough-coated, dumpish, and soon die. SUBSCRIBER. *Spencerport, N. Y.* [Give less food, and let each of the sick and healthy shotes have a dose of epsom salts. The sick ones must have five drops of the following medicine three times a day: Glycerine, 4 oz.; tincture aconite root, 1 oz.; carbolic acid, 1 oz.; mix.]

WARTS IN EAR.—A horse, ten years old, has for last two years had white scaly warts on inside of left ear; ear is not inflamed nor does it seem to be sore, but is very sensitive. A clear looking mucus runs from nostrils occasionally. Eats and works well, but coat looks staring when he is not warmed up. J. R. N. *Crescent City, Cal.* [Give in feed three times a day one ounce of the following medicine: Iodide of potass., 6 oz.; bichloride of mercury, 2½ dr.; water, 3 pints; mix. Apply a little golden blister all over the warty skin with your finger; wash out in three days with soap lather on a sponge. Repeat every ten days. This will cure him.]

LAME IN SHOULDER.—A horse, bought a week or so ago, and ridden over very rough roads, limped some the second day when trotted. After a ride of several miles he points the left foot forward. His heel is not narrow, nor slope of hoof particularly steep. An experienced horse dealer says it is a slight sweeny, and I think I can detect some atrophy of the muscles. Horse flinches badly, too, when skin is caught up and pinched. J. S. *Halifax C. H., Va.* [Seton shoulder from the point or joint thereof to within 4 inches of the top, taking a line from point of shoulder upwards and backwards just back of where a horse collar would rest. Cut seton out on fourth day; in 15 days apply golden blister. My opinion is that the horse will recover. Atrophied muscles, as a rule, recover their tone and volume with such treatment, but it may be six weeks before they do. The blister advised leaves no blemish. Horse should be walked daily after two or three days of rest. Report to us in 20 or 25 days, and refer to this page.]

VIGOR IMPAIRED.—A fine young jack has somewhat lost his vigor, I think by being turned with mare mules. No drugs have ever been given him. R. *Caledonia, Va.* [Give a drachm of fluid extract damiana and 30 drops of tincture nux vomica three times a day. Feed him well, and allow only occasional services.]

Sick Pigs, p. 227.—Tell A. G. H., if his pigs are not dead, to pull their black teeth, and if they are not too far gone they will get well. I have had them act just like his, and get well after the black teeth were taken out. Of late years I look for the teeth when the pigs are about ten days old, and pull all that I can find, and have had no trouble since. S. L. S. *Orient, Vt.*

Record of the Times.

Review of Passing Events.

Political.—Further nominations by the President: Robert T. Lincoln of Illinois, minister to England; Murat Halstead of Ohio, to Germany; Allen Thorndyke Rice of New-York, to Russia; Patrick Egan of Nebraska, to Chili; John Hicks of Wisconsin, to Peru; Robert Adams, Jr., of Pennsylvania, to Brazil; Lansing B. Mizner of California, to Central American States; William L. Scruggs of Georgia, to Venezuela; George B. Loring of Massachusetts, to Portugal; Thomas Ryan of Kansas, to Mexico; William O. Bradley of Kentucky to Corea; James Tanner of New-York, for commissioner of pensions; Francis E. Warren of Wyoming Territory, for Governor of Wyoming Territory; Benjamin F. White of Dillon, Montana, Governor of Montana; George Chandler of Kansas, first assistant secretary of the interior; George L. Shoup of Idaho, governor of Idaho.—In executive session the Senate rejected Mr. Halstead's name because of editorial attacks on that body.—A proclamation from the President declares the Oklahoma lands open April 22.—In the New-York Assembly the ballot reform and excise commission bills were advanced to a third reading.—Owing to misunderstanding between the legislature and the New-York centennial committee, a bill was introduced for the erection of a special stand to view the procession. Explanations were made and the matter adjusted on a basis of 1,000 tickets to the grand stand, 150 to the ball and 150 to naval display.—Assemblyman Charles Smith, Alderman Goets and four others were arrested in New-York City, March 26, on charge of bribing voters in the Eighth Assembly district.—Owing to the absence of two Democratic members from the New-Jersey Assembly, March 26, Speaker Hadspeth kept the clerk calling their names during the entire session.

Death of John Bright.—Of Quaker birth and son of a weaver who became a mill-owner, he was a plain business man until the corn law agitation and the death of his wife led him in 1841 to unite with Mr. Cobden in efforts for its repeal. He entered Parliament in 1843 and became known as an eloquent orator and a strong free trader; advocated the extension of the suffrage and the disestablishment of the Irish church; opposed the Crimean war; defended the North in the American civil war; became member of the Gladstone ministry in 1868; added the purchase clause to the Irish land bill; was chancellor of the exchequer in 1880, resigning when the British fleet bombarded Alexandria. In recent years he antagonized Mr. Gladstone's home rule policy and became a Unionist. His life teaching was that morals are the true basis of politics. He died at Rochdale, March 27, aged 78.

Other Foreign News.—Despatches from Samoa say that the American men-of-war Trenton, Vandalia and Nipsic, and the German men-of-war Adler, Olga and Eber, were driven on a reef by a hurricane, March 15, wrecked, and 13 officers and 113 men were drowned. The Trenton and Vandalia are total losses.

Nipsic boarded; rudder gone, may be saved; chances against it.—In the House of Commons, March 29, tributes of respect were paid to the late John Bright by Mr. Smith, Mr. Gladstone, Lord Hartington, Mr. McCarthy and Mr. Chamberlain.—The English cabinet has decided to introduce an Irish land purchase bill, and a new measure of local government.—Thirteen tenants were evicted at Clongarrie, Ireland, March 26, and 12 buildings burned, one being reserved for police quarters.—Count Herbert Bismarck has been in London.—Mrs. Orbliston Chant recently preached in the George Street Congregational church, Oxford.—Queen Victoria and Queen Regent Christina met, March 27, at San Sebastian, Spain.—Earthquake shocks were felt last week in Alhama and Granada, Spain.—Official announcement is made that the King of Holland is incapacitated for his duties.—The French Cabinet has resolved to prosecute Gen. Boulanger.—The amendment to the Jesuits' estates act was rejected in the Canadian parliament, March 29, by a vote of 175 to 18, the largest majority on any measure since the confederation was formed.

Minor Items.

Recent arrivals of immigrants at New-York averaged 2,000 daily.

The Fall River cotton-spinners' strike has ended, owing to lack of funds.

The trial of Lehigh Valley road employés for the Mud Run disaster resulted in their acquittal.

The Pittston, Pa. collieries have shut down for six weeks, suspending about 10,000 men and boys.

The Central Bonded Warehouse, Chicago, burned, March 26, with 40,000 cases of tea; loss nearly $1,500,000.

A brick block in process of construction at Binghamton, N. Y., suddenly collapsed, March 25, killing one man and injuring two others.

Mrs. Margaret E. Sangster becomes editor of Harper's Bazar, succeeding the late Miss Booth. She has been connected with the Young People.

Two flags belonging to the Fifth Pennsylvania cavalry have been restored by Wade Hampton of South Carolina, who captured them during the war.

Henry Johnson, a 13 year-old boy at Sioux City, Ia., dropped a lighted cigarette into a small keg of powder in a barn, and the explosion fatally injured him.

John McCabe, for 30 years foreman of Frank Leslie's Illustrated Newspaper, shot himself, March 26, after being told that his services would no longer be required.

The Western Union Telegraph Company has obtained an order enjoining the Board of Electrical Control, New-York, from interfering with their poles, wires, &c.

James Gray, engineer of the St. Louis express on the New-York Central road, dropped dead in his cab, March 25, near Chili. He was 70 years old, and had been 40 years in the employ of the company.

A meeting of the Association of Vicksburg Veterans will be held at Indianapolis May 22. All honorably discharged Union soldiers and sailors who served under Grant during the Vicksburg campaign are invited to attend.

Thomas Keegan of Juniata township, Pa., died, March 26, aged 108. He carried a pike in the Irish rebellion of 1798, and came to this country 75 years ago. His first vote was for Andrew Jackson, his last for Grover Cleveland.

Three subway explosions occurred near the Fifth Avenue Hotel, New-York, about noon, March 25. Ton-weight manhole covers and paving stones were blown into the air, and several persons were knocked down but not seriously injured.

The will of the late Charles L. Flint of Boston gives $15,000 for a public library in Middletown; $5,000 each to the Genealogical and Natural History societies; $5,000 for scholarship in Phillips Academy, and $1,000 to Interparate Woman's Home.

President Moffat of the First National Bank, Denver, Col., was compelled to sign a check for $31,000, while in his office, March 29, by a young man who threatened him with a pistol and nitro-glycerine, and also forced him to get the money. The thief escaped.

A decision in the latest phase of the Jones County (Ia.) calf case was filed by Judge Lenehan at Waterloo, March 26, overruling motion of defence for verdict against plaintiff. Case will be taken to supreme court, and before it is ended, the four calves, the origin of the trouble, will have cost over $30,000.

Theodore Roosevelt entertained 200 New-York district messenger and telegraph boys at Association Hall, March 29, with a true account of cowboy life in the West. Although a previous meeting of the kind had been a failure because of the uproarious conduct of the boys, Mr. Roosevelt succeeded in holding their steady attention.

Julius Bourglay, the "old leatherman" of Western Connecticut, was found dead in a cave near Sing Sing, New York, March 23. He dressed entirely in leather and had been a hermit for 40 years. In early life heavy losses in leather in France, which cost him his position and the hand of his employer's daughter, unsettled his mind.

The Norfolk (Va.) Cornucopian says that A. H. Lindsay plants 1,000 acres in Irish potatoes this season. Last year he dug and sold nearly 15,000 barrels, one day's digging and shipping being 1002 barrels. A narrow gauge mule-power tram-road runs from the landing through his patch. He also handles 6,000 to 8,000 bales of hay.

Dr. John Swinburne died at Albany, March 28, aged 69. Served as an army surgeon during the war; in 1864 was health officer at New-York; in 1870, being in Paris, took charge of the American ambulance system, received the cross of the legion of honor and the red cross of Geneva, and his system of treating complicated cases of fracture was adopted by European surgeons. In 1872 he opened a free dispensary in Albany, where over 130,000 persons have been treated. Was elected Mayor in 1883 and to Congress in 1884.

Do not lie awake nights and cough! Ayer's Cherry Pectoral will relieve the cough and induce a good night's rest.

"When the spring-time comes," we greatly need our exercise drawn away and exhausted, owing to the impure and sluggish state of the blood. To remedy this trouble, take Ayer's Sarsaparilla, the most powerful, yet safe and economical, blood-purifier in existence.

"Look Here, Friend, Are You Sick?"

This familiar heading to Prof. Hart's advertisement has made his name almost a "household word." Do you have pains in the chest and sides, or in the back? Are you dull and sleepy? Does your mouth have a bad taste in the morning? Is your appetite poor? Are you fast sinking? Do you have a dry cough? Do you feel tired all the time? Are you nervous, irritable and gloomy? If you have any of these symptoms, or any similar ones, send your address on a postal card to-day, directed to Prof. Hart, 96 Warren St., New-York, and he will send you a bottle of his justly celebrated "Microsiphon" free.

Consumption Surely Cured.

To the Editor: Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [1089-26.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a recipe which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 39 Warren St., New-York City, will receive the recipe free of charge. [oolleowik.

Farm Produce Markets.

Albany Markets—April 1.

FLOUR.—The Argus says: Trade has been dull and market unsettled, owing to fluctuations in wheat.

	March 28, 1889.	March 23, 1889.	March 31, 1888.
Com. State	$4 30@4 70	$4 30@4 70	$3 70@4 05
State Extra	4 70@4 90	4 70@4 90	4 10@4 25
A. & G. R. W	5 10@5 40	5 10@5 40	4 30@4 60
O., Ind. & St. L. Ry	5 10@5 40	5 10@5 40	4 30@4 60
Winter W. Pat	5 30@5 60	5 30@5 60	4 50@4 75
Minn. "Bakers"	5 10@5 30	5 10@5 30	4 30@4 55
Spring W. Pat	5 40@5 75	5 40@5 75	4 50@4 75

Rye Flour selling fairly well at $3.10@3.25 per bbl.; Graham, $4.00@4.25. Oat Meal in moderate demand at $5.10@5.40 per bbl. Corn Meal quiet; fine feasibly at $2.90@3.15 per bbl. Buckwheat Flour, $2.60@2.80 per 100 lbs.

GRAIN.—Corn in better demand; receipts larger: No. 2, 60@60½c; No. 3 mixed, 59@59½c. Oats steady with more active demand. No. 3 white, 34½@35c.; No. 2 white, 36@36½c. Rye steady at 60c. per 56 lbs. Barley dull.

HAY AND STRAW.—Receipts fair; demand good. Timothy, best, $16@17.50; medium, $14@15; clover, $14@15; mixed, $14@15; rye straw, best, $15@16; oat straw, $8@9.

HOPS.—Market dull; prices firm.

N. Y. State, 1888, choice	18	@20c.
N. Y. State, 1888, common to good	15	@17
N. Y. State, 1887, all grades	8	@11
Pacific Coast	16	@20
German	30	@40

Albany Street Market—April 1.

BUTTER.—Good to choice, 20@25c. per lb.

EGGS.—Near-by and new laid, 13@14c. per doz. Western, 13@13c.

FRESH MEATS.—Steer beef, hindquarter, 6@8c. per lb.; forequarter, 4@5c.; mutton, hindquarter, 7@9c.; forequarter, 5@6c.; lamb, hindquarter, 9@11c.; forequarter, 7@8c.; veal, hindquarter, 11@12c.; forequarter, 7@8c.; pork, 7@8c.; sausage, 11@12c.

POULTRY.—Fowls, 11@12c.; turkeys, 14@15c.; geese, 14@15c.; ducks, 13@14c.

MAPLE SUGAR.—11@12c. per lb.; syrup, 60@70c. per gallon.

FRUIT.—Apples, $1.50@1.75 per bbl.; Cranberries, $2@2.50 per crate; Grapes, Catawba, 20@25c. per lb.; Walnuts, $1.25@1 per bus.

VEGETABLES.—Asparagus, 60@80c. per bunch; Beets, $1 per bbl.; Carrots, 40@50c.; Cabbage, $1@3 per 100; Celery, $1 per doz. bunches; Lettuce, $1@1.50 per box; Onions, $1.25@1.50 per bbl.; Oyster-plant, $1 per doz.; Parsnips, $1.25@1.50; Potatoes, $1@1.10 per bbl.; sweet, $2@2.50; Radishes, 30@35c. per doz.; Rhubarb, $1.50 per doz.; Spinach, $4 per bbl.; Squash, $2.50@3.25; Turnips, 75c.@$1.

New-York Markets—March 30.

BEANS—Marrow, 1889			2.00
Medium, 1889, choice			1.80
Pea, 1889			1.75@1.80
COTTON—	Cents/lb.	N.O.s Gulf	
Ordinary, per lb	9½@—	—	10¼
Middlings	10½@—	—	10¾
Fair	11¼@—	—	11¾
EGGS—State and near-by, per doz			19
Western and Canada		11½@	12½
Duck eggs		20@	30
Goose eggs		50@	60
FLOUR—Spring Wheat pat., per bbl		5.15@	6.25
Winter		4.25@	5.75
No. 2 extra State and Western		3.25@	3.60
No. 1 extra		3.75@	4.30
Minnesota clear		3.90@	4.40
Straight		4.15@	5.25
Rye Flour, superfine		3.00@	3.25
Corn Meal		2.65@	2.90
Buckwheat Flour		1.25@	1.60
FRUIT—Apples, Baldwin, per bbl		1.25@	1.50
Greenings		1.25@	1.75
Baldwin		1.25@	1.75
Spitzenberg		1.50@	1.75
Cranberries, Jersey, per bbl		7@	12.50
Grapes, Catawba, per case		1.00@	2.50
Oranges, Florida, choice, per box		2.75@	3.25
Fair to prime		2.00@	2.50
Indian River		3.25@	3.50
Strawberries, Fla., per qt		@	60
Walnuts, per bush		90@	1.00
Black Walnuts		30@	35
Peanuts, per lb		7@8	10c
GRAIN—Wheat, State white, per bus		98@	1.00
Ungraded spring		88@	90
No. 1 red, winter		94@	95
No. 2 red, winter		91½@	94
No. 1 hard, spring		—@—	—
Corn, No. 2, white		45@	46
No. 2, mixed		43½@	43¾
Oats, No. 2, white		34½@	35
No. 2, mixed		31@	32
Barley		65@	75
Buckwheat		50@	55
Rye, State and western		54@	60
HAY—Timothy, per 100 lbs		80@	85
Shipping		70@	75
Clover		60@	65
Straw, long rye, No. 1		75@	80
No. 2		65@	70
Oat		50@	55
HOPS—N. Y. State, 1888, choice, per lb		21@	22
Good to prime		18@	20
Best, 1887		15@	16
Pacific Coast, 1888, best		18@	19
Pacific Coast, 1887		8@	10
German		30@	40
POULTRY—Live fowls, per lb		10@	11½
Turkeys		13@	14
Ducks, per pair		70@	1.00
Geese		1.10@	1.25
Dressed fowls, per lb		12@13	14
Chickens		14@	16
Phila. broilers		25@	30
Capons		18@	20
Turkeys		13@14	15
Ducks, per lb		11@	14
Geese		9@	10
VEGETABLES—Asparagus, Charleston, per bunch		60@	75
Beets, Bermuda, per bbl		1.50@	1.75
Florida, per crate		1.50@	2.00
Cabbages, L. I., per 100		1.50@	4.00
Danish		—@—	—
Southern, per bbl		1.00@	1.75
Celery, L. I., large, per dozen		30@	40
Green peas, Fla., per crate		3.00@	4.00
Kale, Norfolk, per bbl		75@	90
Onions, State, yellow, per bbl		75@	90
Orange Co., red		—@—	—
Conn., white		1.00@	1.75
Bermuda, per crate		1.75@	2.00
Havana, per crate		1.50@	1.75
Potatoes, Maine, per bbl		2.00@	2.25
State, Burbank and White Star		1.00@	1.50
Hebron and Rose		1.12@	1.50
New-Brunswick		2.00@	2.25
Bermuda		7.00@	12.00
Sweet, Jersey		3.00@	4.00
Spinach, Norfolk, per bbl		1.00@	1.50
Squash, Hubbard, per bbl		2.75@	3.00
Marrow		1.75@	2.00
String beans, Fla., per crate		3.00@	5.00
Tomatoes, Fla., per crate		1.50@	3.50
Nassau, per crate		2@	3
Florida, per crate		1.50@	3.00
Turnips, Jersey, Massis, per bbl		75@	1.00

Cattle Markets.

NEW-YORK, March 30.

BEEVES.—Receipts, 11,461 head. The week opened with a liberal supply, but a steady tone in values. Wednesday, on a light supply, values were firm; Friday there was no change reported, and the markets closed as above. The terms taken for export ranged from coarse to good, and reached our top quotations; others ranged mainly from poor to fair. Some fully fatted bulls were taken for export.

[For canital, net.]	This week.	Last week.
Good beeves	$5 35@—	$5 30@—
Fair	5 00@—	5 00@—
Coarse	4 60@4 75	4 60@4 75
Poor	7 00@7 40	7 00@7 25
[For rental, gross.]	This week.	Last week.
Good beeves	$5 30@—	$5 25@—
Fair	4 80@4 95	4 75@—
Coarse	4 00@4 75	4 00@4 75
Poor	3 25@3 90	3 00@3 90
Oxen	3 00@4 25	3 00@4 00
Dry cows	1 50@4 15	1 00@3 90
Bulls	2 00@4 00	2 25@3 75

MILCH COWS.—Receipts, 78 head. The tone of trade has, as usual, been slow. Values, however, were reported as firm. Thirty-six cows were sold at $30@45 per head, one cow sold for $60.

VEALS AND CALVES.—Receipts, 2,430 head. During the week under review no calves were offered for sale. Veals, which were in increased supply, were steady at 5@6½c. per lb. Quality, taken to fair. Buttermilk calves sold at $4@5 per head, and at 5@6c. per lb.

SHEEP AND LAMBS.—Receipts, 32,301 head. The market opened with liberal supply and a decline of ½c. per lb., which was recovered the following wednesday, when the demand was steady and the supply light. Thursday the feeling improved. Friday values recovered the decline, and have closed steady. Range of prices: Sheep, 3@5½c. per lb.; shorn sheep, 3@4½c.; lambs, 6@8c.; spring lambs, 7@9c. per head. Quality of the flocks, poor to good.

SWINE.—Receipts, 27,350 head. The tone all through the week has been dull as to demand and weak as to values, and quit heavy, $5 lbs., 5½c. per lb.; 32 State hogs sold in small lots at 6@6½c. as per cwt.

BUFFALO, March 30.

	This week.	Last week.
BEEVES—[For canital, gross.]		
Extra steers	$4 15@4 40	$4 15@4 30
Best butchers'	3.75@4 10	3.75@3 90
Second quality	3.25@3 65	3.25@3 50
Fair to common	2.75@3 00	2.75@3 00
Stockers, light	2.25@2 50	2.25@2 40
Stockers, good to choice	2.75@3 00	2.75@3 00
Bulls	2.00@3 00	2.00@3 25

Receipts, 12,600 head, against 8,700 last week. The offerings of choice heavy steers were very light, and everything sold easily at the advance. Butchers' grades were also higher, owing to scarcity, and at the closing butchers except a few lots of plain unsalable stuff were in the yards, while the inquiry was active. Stockers quiet, receipts light. Bulls active and firmer.

MILCH COWS.—Dull, weak and lower. Supply heavy. Extra, $45@50; good to choice, $35@37; common to fair, $18@25.

VEALS.—Active; receipts fair; choice to extra, $6@6.25.

SHEEP AND LAMBS.—Receipts, 20,600. Active demand from all quarters; choice to extra, average 80 to 110 lbs., $4@4.40; fair to good, 80 to 90 lbs., $4.25@4.35; common, $3@4; clipped, $3.50@4. Lambs active, strong and higher; choice to extra, $6.10@6.75; fair to good, $5.75@6.05; common, $5@5.50.

SWINE.—Receipts, 49,800. Light receipts early in the week and active demand; prices 5c. higher, closing with liberal offerings and lower; medium, $5.10; Yorkers, $5.15; light mixed and pigs, $5.15; stags and roughs, $3.50@4.00.

Dairy Markets—April 1.

ALBANY.—Butter in fair demand and receipts; lower grades slow; State creamery, choice, 26c.; Western creamery, 24@25c.; State dairy, 23c.; fair to good, 20@22c.; Western dairy, choice, 20@22c.

Cheese steady, with limited receipts. State factory, full cream, 13½c.; dairy, good to fancy, 12c.

NEW-YORK.—Butter in closer supply and steady. Receipts, 8,051 packages. Eastern creamery, fresh, 26@27c.; Western creamery, fresh, 25@26c.; State dairy choice, 24@25c.; old butter, best, 19@20c.; Western dairy, 18@19c.; Western factory, choice, 18@19c.

Cheese quiet. Receipts, 8,211 boxes. Factory, best, 12@12½c.; good to choice, 11@11½c.; part-skim skims, 9@10c.; Ohio flats, 11@12c.

BOSTON.—Western creamery, extra, 25@26c.; extra Ervin, 25@26c.; factory, 24@25c.; Vermont, extra, 26c.; dairy, choice, 23@24c.; Eastern creamery, good to choice, 24@25c.

Cheese, Northern, choice, 12½@13c.; Western, fine, 12½c.; sage, 12@12c.

Wool Markets—April 1.

ALBANY.—Market dull; stocks low.

No. 1, Pulled	29@30	Medium Fleece	32@33
Super Pulled	30@31	Fine Fleece	34@35

NEW-YORK.—Ohio X & XX, 30@32c.; Michigan X, 30@32c.; combing, and delaine, 32@33c.; unwashed, 18@24c.; pulled, 25@35c.; Territory, 24@35c.; scoured, 45c.; Montana, 30c.; Oregon, 22@24c.; Georgia, 46c.; Texas, 16@18c.; scoured, 35c.; California, 18@24c.; scoured, 32c. Montevideo, 22@23c.; Australian, 32@34c.; Mediterranean, 23c.; Donskoi, 24@25c.

BOSTON.—Sales, 1,600,000 lbs. domestic and foreign; Ohio and Pennsylvania, 32@34c.; Michigan, 30@31c.; combing and delaine, 32@33c.; unwashed, 23@24c.; scoured, 35@36c.; pulled, 30@35c.; Territory, 30@32c.; Texas, 24@25c.; California, 32@34c.; Oregon, 28@30c.; Australian, 32@34c.

Did it Elect Harrison?

The following appeared in a Minnesota paper: "Members of the Democratic party have been using all subterfuges to account for their overwhelming defeat, and numerous are the causes alleged.

"I was talking with several of the vanquished on Fourth Street the other day, opposite a bill board, and one of the party exclaimed: 'If it had not been for the closeness of the National Committee in the expenditure of money, we would have elected our man. The Republicans advertised their man like a circus. Several of the party remarked that no advertising was done except small announcements in the papers, and a few 'dangers' on the dead walls.

"'Hangers!' said our informant. 'What do you call that but a circus poster? pointing to a twelve-sheet medicine poster on the bill board, bearing the coat of Gen. Harrison and his grandfather.

"If the Democrats had advertised like that, Cleveland would have been re-elected."

The poster referred to was one of the familiar black and white Log Cabin Sarsaparilla posters sent out by an enterprising firm engaged in the manufacture of old Log cabin home-cures, under the name of Warner's Log Cabin Remedies, and among other equally valuable articles includes the famous Log Cabin Sarsaparilla, which is everywhere recognized as the best of all spring medicines and stands without a rival for the cure of all disorders which are the results of impure blood.

The spring-time of the year is the season when the system needs renovation; the long winter has caused the blood to become filled with impurities.

There exists no better means to use and strengthen the system at such an urgent period than the use of Warner's Log Cabin Sarsaparilla, which speedily restores the blood to a pure and healthy state, which insures health and happiness.

The reputation of the firm putting out the medicine is above reproach, and to the same firm which manufactures Warner's Safe Cure, the standard remedy for the cure of all those diseases peculiar to the kidneys as well as those which are the results of disease in those organs, and which has met with such phenomenal success for the past ten years.

We understand that the posters referred to made their appearance in many parts of the country some time prior to the Chicago Convention which nominated Gen. Harrison as a candidate for the Presidency hence the use made of the portraits of the Harrisons, father and grandson—was either the result of remarkable political foresight or in accordance with the historical association of the old Log Cabin with the name of Harrison.

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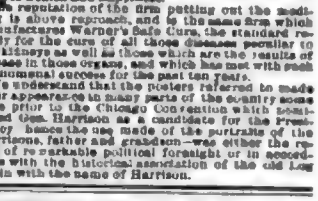

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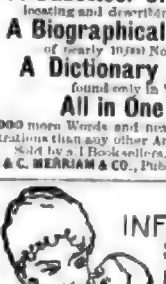


INFANTILE
Skin & Scalp
DISEASES
cured by
CUTICURA
Remedies.

FOR CLEANSING, PURIFYING AND BEAUTIFYING the skin of children and infants and curing torturing, disfiguring, itching, burning, and scaly diseases of the skin, scalp and blood, with loss of hair, from infancy to old age, the CUTICURA REMEDIES are infallible.

CUTICURA, the great Skin Cure, and CUTICURA SOAP, an exquisite Skin Beautifier, externally, and CUTICURA RESOLVENT, the new Blood Purifier, internally, cure every form of skin and blood diseases, from pimples to scrofula.

Sold everywhere. Price, CUTICURA, 50c.; SOAP, 35c.; RESOLVENT, $1. Prepared by the POTTER DRUG AND CHEMICAL CO., BOSTON, MASS.

Send for "How to Cure Skin Diseases."

Baby's Skin and Scalp preserved and beautified by CUTICURA SOAP.

KIDNEY PAINS, Backache and Weakness cured by CUTICURA ANTI-PAIN PLASTER, an instantaneous pain-subduing plaster. 25c.

I CURE FITS!

When I say cure I do not mean merely to stop them for a time and then have them return again. I mean a radical cure. I have made the disease of FITS, EPILEPSY or FALLING SICKNESS a lifelong study. I warrant my remedy to cure the worst cases. Because others have failed is no reason for not now receiving a cure. Send at once for a treatise and a Free Bottle of my infallible remedy. Give Express & Post-Office address. H. G. ROOT, M.C., 183 Pearl St., New-York.

The Fireside.

Recent Publications.

Cheap and Excellent.—Mr. John B. Alden, 306 Pearl St., New-York, publishes "THE INTERWOVEN GOSPELS," containing the four biographies of Christ in the very words of the revised New Testament, but so arranged (by the Rev. WILLIAM PITTENGER) as to form one continuous narrative. When known, the period and place at which the events described occurred are noted. Where the Evangelists have given more than one account, the fullest one, or the one which best harmonizes with the preceding subject, has been taken, and the peculiarities of the others interwoven therewith. There are also many helpful foot-notes, and a table for finding any passage of which the chapter and verse are known. The book contains 240 duodecimo pages, illustrated with very good maps, partly in color; is neatly and tastefully bound in dark muslin, and sold for 75 cents.

Mr. Alden has also issued the eleventh volume ("*Dent* to *Dominie*") of his MANIFOLD CYCLOPÆDIA, and the twelfth ("*Howitt*" to "*Juvenal*") of his CYCLOPÆDIA OF UNIVERSAL LITERATURE—two extremely useful compilations which it always gives us pleasure to commend. The price of the first, in half morocco, is 75 cents per volume; of the second, in dark blue muslin, gilt top, 60 cents. Either is a good purchase.

Other Books.—A favorite juvenile, "FIVE LITTLE PEPPERS," is issued in very cheap style by the D. Lothrop Co., Washington and Bromfield Sts., Boston.

Messrs. D. Appleton & Co., 1 Bond St., New-York, send us four paper-covered stories—1. "Arius the Libyan" (published some years since in more expensive form, and received with great favor); 2. "Constance" and "Calbot's Rival," by Julian Hawthorne; 3. "The Story of Happinesslands, and other Legends," by Oliver Bell Bunce; 4. "We Two," by Edna Lyall, author of "Donovan," "The Knight Errant," &c.

J. S. Ogilvie, 57 Rose St., New-York, publishes "A Missing Husband, and other Tales," by George R. Sims, author of "Outlaw Joe"; and "Fun and Fact," by F. H. Chambers.

Periodicals.—A very beautiful monthly, profusely illustrated with exquisite engravings and colored plates, is "ARTISTIC JAPAN," published at 280 Fifth Ave., New-York—at least the American agency is at that place, the work being originally, we believe, a Parisian enterprise, and very successful in Europe.

Lippincott's Magazine for April has a complete novel (110 octavo pages) by Amélie Rives; title, "The Witness of the Sun."

The current Harper opens with a timely and interesting article on Washington's Inauguration—just the thing to read now. Another handsomely illustrated and very entertaining paper describes sundry noted cafés at Paris. A third deals with Sir Walter Scott's mansion, Abbotsford; a fourth with Tangier and Morocco, and a fifth with Norway—so that an unusual number of places and regions of peculiar interest are represented in this issue.

Two articles among many in Scribner this month are especially noticeable. One describes the building of a modern ocean steamer, and is illustrated with a number of pictures of a great vessel, the City of New-York, in successive stages of development. The other article discusses "the anatomy of the contortionist," and includes a number of pictures of persons in attitudes that would seem to be impossible if we were not assured that they are from actual photographs of the achievements of expert performers.

The latest (January) Scottish Review—Leonard Scott Publication Co., 29 Park Row, New-York—has an extraordinary nightmare of a ghost story by Ivan Turgenieff, a tale called "the white lady." The theme is not new, but it is skillfully and freshly worked.

A writer in the Presbyterian Review makes a careful study of social conditions a century ago as contrasted with those of the present day, and concludes that the world is steadily growing better. In regard to the much mooted labor question, he has this to say:

"How was it here with labor when the last century was on the home stretch? Let some Philadelphia gazettes of 1754 give us one phase of the situation. These gazettes are given up largely to advertisements. The majority of these are headed, 'Ran away from the subscriber.' One escaped negro 'has a flat nose, is a great smoker, and a lover of white woman.' Another 'swears continual.' Another 'is very religious, and ran away with a Bible.' Another 'has a bobbling gait, and the clothes he wears is uncertain.' One young negro woman is offered for sale, '*with her child or without*, as suits her purchaser.' White slaves, English, Irish, Dutch, are offered for sale, 'with unexpired terms of from two to four years.' One of these white slaves is advertised as a runaway. 'Robert Cox, twenty-eight years old, speaks broad, being born in Oxfordshire, England, and had *a steel collar round his neck*,' (what does that mean?) 'but may have got it off.' (It is hoped he had.)

"One hundred years ago the laborer falling from a scaffolding or taken sick with a fever was sure to be seized by the sheriff the moment he recovered from his misfortune and to be carried to the jail for the bill of a few dollars which had been run up during his illness at the huckster's or the tavern. The unskilled laborer got two shillings a day. There was no glass on his table, no china in the cupboard. There were no prints on the wall. Coal he had not, stove he had not, matches he had not.

"Honest labor is far better conditioned now than then. It is freer, it is manlier, it is hopefuller. Take the world over, and the poor and the rich are not wider apart. How can they be? The poor are men, not things to be bought. A thousand arms are outstretched to bridge the separation where there was one a century ago. To day the tyranny of capital is sometimes gross. Yesterday it was infamous. Do I forget the garrets and the slums and the devil of anarchy? No. But these are spots only, and chiefly begotten of the refuse of Europe, rushed in upon us in our unbounded hospitality; while a hundred years ago anarchy tied the Bible to the tail of an ass and dragged it through Parisian streets, made those streets run blood, made all Europe tremble, and threatened to take half the civilized world by the throat. A million laborers are now winning homes to one that ever even dreamed of a home in the old night of toil. And the home winners do not believe in dynamite."

The Water Finder.

[We must say we have ourselves no faith in "water witches;" but as the following letter come from a trustworthy person, we let it appear, and readers may form their own opinions on the statements given.—EDS.]

In modern times, the "water finder," or "water witch," is a person supposed to be endowed with the sixth sense which enables him to detect the presence of subterranean streams. The services of these gifted persons are in special demand when, as was the case in our section of Kentucky last summer, a severe drouth made it necessary to procure an addition supply of water. For early in August, the cisterns, wells, and even many springs and small streams of running water, were exhausted, and farmers were obliged to have a number of new wells dug for the benefit of their live stock. Although wells are now bored by machinery instead of being dug by hand, yet the men who run the machines are of the same class as those who formerly dug the wells, and are accustomed to resort to the same method for finding water.

On one occasion I was present when a well was being located. A company of men with a machine for boring the well and the steam engine for running it, came over in state with that indispensable personage, the "water witch," at their head, whose office it is to point out the exact spot where water can be soonest reached. The "witch" himself selected the divining-rod, a supple twig cut from a peach tree near by, remarking, as he did so, that any fruit-bearing tree would answer, but that he had always found the peach the most active. The engineer, the fireman, and the manager of the machine with his assistants, all stood by watching his movements with the most intense interest, their countenances expressive of implicit confidence, while the face of the water finder, who was a serious-minded, stolid-looking, elderly man, indicated that his faith in his own occult powers was too profound to admit of doubt. In both hands he held the divining-rod, a forked twig with a short stem and two long prongs, held in such a position as to form the letter Y inverted, each of the long ends being held in his hands with the palms turned inward, and the thumbs downward, covering the ends of the twig. In this manner he walked slowly, in a stooping position, over the place where it was desirable the well should be located, and it was observable that whenever he approached a certain spot, the upper end of the twig gradually bent downward until it assumed the likeness of a Y in its natural position, when it remained stationary, pointing to something in the ground beneath. Again and again he walked over the same spot, with no variation of the result. Something in the ground beneath seemed to fascinate the mysterious twig, for it could not pass over the place without bending down and pointing to it.

"Here," said the water finder, as he paused and looked around in the faces of the bystanders, "is the stream of water, and it is a bold one too, for the switch moves so strongly."

"How deep is the stream below the surface?" asked the manager of the party. "We shall soon see," said the "witch," and going to the same peach tree he cut a slender supple switch, stripped the leaves from it, and walked slowly off holding the switch straight out before him with the limber end in his hand. At a certain distance, the end of the wand deliberately turned back and pointed to the spot where the forked twig had pointed down. The distance was measured and found to be forty feet.

"That," said he, "will be the depth of the well, though this measurement is not always correct; we may have to go a few feet deeper."

Afterward, he traced the direction of the stream by holding the forked twig in both hands, one above the other, with the fork pointing horizontally out before him. As long as he walked above the channel the indicator remained in this position, but when he left the stream the fork turned toward it. At one point the divining-rod wavered, and after walking back and forth over the ground several times, the water finder announced that there were two streams which crossed, one above the other, but that they did not run together.

"How do you know that?" asked a bystander.

"If they came together," answered the water finder, "there would be only one stream running off."

At the spot where the two streams crossed, he drove down a peg, and the engineer and his men set the machine so as to bring the borer directly over that point. "It is good luck," said they, "to find two streams in so dry a spell as this: we are sure to get water."

So they went to work with the utmost alacrity and cheerfulness, no more doubting the truth of the "witch's" prediction than if they had seen the water with their own eyes. In a short time the engine was buzzing, the bands whirring, and the shrill sound of escaping steam, with the regular clank-clank of the boring machine could be heard all over the place. The divining rod was thrown aside as being of no further service. My curiosity prompted me to pick it up to see what it would do in my hands, but the Y stood bolt upright in its original position, though I walked repeatedly over the very spot where it had manifested so much activity in the hands of the water finder. He looked on for a few minutes with a pitying smile, as if commiserating my impotency, then came to me, saying, "I will make it turn in your hands," placed each of his thumbs on my wrists, without however touching the wand. Immediately the switch began to move in my hands, slowly but steadily, and with a force that it was impossible to resist, though I held it so tightly that the bark wrinkled and slipped from the wood. What made the fact more curious, was that the wand turned directly against the wind.

"What makes it move?" I asked, turning to the "witch" who stood at my side.

"The water attracts it," he answered, "I do not know how it does it."

Those who possess what they call the "gift" of being able to detect underground streams never attempt to explain it; they simply accept it without question. They are uneducated, illiterate men to whom many of the natural phenomena of nature are mysteries, and they do not object to adding one more. Scientists scoff at all such manifestations, and pronounce this a curious illustration of the tenacity with which an ancient superstitious observance has kept its hold upon life.

In England the hawthorn and hazel are considered most active; here any fruit-bearing tree, as the apple, peach or plum, is used. This curious superstition is almost prehistoric in its origin, and according to Indo-European tradition the mountain ash, the mistletoe, the white and black thorn and several other woods are quite as efficient as the hazel for the purpose of detecting water in times of drouth. The detection of subterranean streams of water is by no means the only use to which the divining rod has been put. Throughout Europe it has been used from time immemorial by miners for ascertaining the position of veins of metal, and for the discovery of buried treasure. With the ancient Romans the caduceus was the mystic plant, competent to rend rocks and discover the existence of fabulous riches. And among many other nations can be traced the conception of these treasure-showing talismans.

If we trace the magic wand further back into the fairy-land of popular tradition, we find a rod which not only points out the situation of mineral wealth, but even splits open the ground and actually reveals at a single glance all the treasures hidden in the bowels of the earth. Our "water witches" do not know anything of all this, and would open their eyes wide in amazement if accused of sorcery, for they do not look upon their art as being at all akin to that of the conjurers, or in fact as being really mystical. Their faith in its efficiency, though, is implicit, and it is our custom when we want a well dug, to show the workmen the spot and allow them to locate the well where they choose, within a reasonable area. The work is carried on with greater vigor and spirit when a "witch" sets the well, and in the last three wells dug on our premises good water has been found at a desirable depth.

M. WALTON.

THE NATIONAL CONSCIENCE.—The conscience of the Anglo-Saxon people never has been so sensitive and never so resolute in dealing with practical life. If the most trustworthy expressions of religious feeling are those uttered in devotional meetings, private journals, and religious biography, it is quite possible that what the theologians call "conviction of sin" was more poignant in the last century than in this: but if the most trustworthy expressions of religious feeling are those embodied in life, the sense of sin and the purpose of reformation have been far more effectively expressed in this century than in the last. Then millions of slaves were held in bondage in America, and other millions under the British flag in its colonies, with only a feeble and wholly ineffective protest. Drunkenness did not lead to social disrepute either in Old or in New-England. Churches paid for drinks on occasions of dedications and ordinations, and the minister's sideboard took on the aspect of a public bar. The conscience of England abolished slavery in all English dominions in 1833; that of the United States, moving more slowly and having a more onerous task, accomplished its work thirty years later and at an awful cost. But the task was accomplished. Almost on the very spot where in the first half of this century a northern missionary was publicly whipped on the bare back, not for circulating anti slavery tracts, but for having one in his possession, now stand the buildings of the Fisk University, dedicated to the education of the emancipated negro. If drinking has not been diminished,—upon that question social statisticians are not agreed,—drunkenness certainly has decreased, both in England and in the United States; and the conscience of the people, awakened to the enormity of a social crime which costs more in both men and money than either war or pestilence, is seeking to find a way to bring the destruction of this enemy to a perpetual end. It has not yet found the way; but it has found, or is fast finding, the will.—*Century.*

Playing-cards were originally square. Perhaps card playing was also; but let us not be too credulous.

Domestic Economy.

A Plea for the Babies—IV.

Sleep—Ventilation—Carriages.

"Sleep and grow" is what all the old ladies—who are supposed to be versed in baby lore—will say when baby is found asleep, and it is reasonably true, from the fact that most restless, uneasy, fretful babies are thin and delicate, while the good-natured, fat, healthy babies are always sleepy, or at least good sleepers.

A happy father of his first born once went to his physician with the statement that something must be wrong with his baby, as he slept nearly all the time. The physician, after learning that said baby was only six weeks old, bade the fond parent return home, assuring him that in two or three months he would have no more such complaints to make.

A young baby should sleep nearly all the time, and will, if well fed, and kept warm and quiet; in fact, there is nothing else for him to do. Light hurts the eyes of the tender baby; he cannot distinguish objects around him sufficiently to make them of any interest, and noises are not attractive to his sense of hearing; hence the only pleasures of life are eating and sleeping.

A baby who nurses will sleep at night by the side of the mother and cause little trouble, but a baby fed from a bottle cares little to be near any one while sleeping, and needs much more

attention to see that he is kept warm and comfortable. He will sleep best in a crib near the mother's bed, but a bottle of warm water or a rubber bottle must be provided, and the hands and feet must be protected with stockings, stockings being kept on the feet both winter and summer, and during the coldest part of winter draw soft merino stockings on over the hands and up on the arms, pin them with small safety pins to the flannel shirt, after which put on the night dress. This is not an "old maid's whim," but a mother's practice—and a good one. All babies throw their arms out of the bed clothes, and if the hands are left unprotected they will feel like lumps of ice on a cold morning, after being exposed all night; hence the stockings have proved very successful in keeping the hands warm. Mittens, being shorter, will work off easily and do not protect the arms.

No child should sleep in the garments worn during the day, as these are damp from the moisture of the body, and the night clothes must be warm and dry. For winter use have them mostly of flannel. I do not advise canton flannel for any use whatever. Shaker flannel is good for night wear, being cheaper than all flannel, and washes well.

Babies are such creatures of habit that a mother can almost as well teach good habits as bad ones. Our baby is undressed at seven o'clock, has a bottle of milk, and is then taken to its sleeping room, laid in the crib, covered with warmed blankets, has a brick at its feet, and is then left alone in the dark to go to sleep, nothing more being done for it until seven o'clock the next morning, when it is generally found awake, playing with its mittens or blankets. We have never thought of calling it a model baby. If baby cries out in the night, or seems restless, often just turning him over will quiet him, and there will be no more trouble. It is a very good plan to turn baby over once or twice during the night, and always a good plan to lay him on either side, as the delicate organs of an infant need equal chances of development. Baby should not sleep where a light is kept burning; it hurts the eyes, disturbs the brain, and makes the air of the room heavy and impure.

In case of sickness, where light is a positive necessity, screen it as much as possible from persons in bed, and allow a greater quantity of pure air in the room. At all times pure air must be provided in the sleeping rooms of infants and children, as well as of adults. A good way to have air and not drafts, is to have a window open in the next room to the sleeping room and then leave the sleeping room door open. Of course this must be regulated according to the time of year and state of the weather, dampness being avoided as much as possible.

It is hoped that low cradles and trundle beds are among the things of the past; these are not fit for children to sleep in, as they get drafts from doors and windows, and all the impure air of the room which, laden with carbonic acid, is found at the lower part of the room.

Among the convenient articles for baby's comfort is a carriage. The rattan are new and very pretty, those high on the side being best. The carriage is used not only for outdoors, but if kept clean can be used in the nursery for baby to sit in; also to take naps in during the day. Some babies almost live in a carriage; the motion of the carriage is said, on authority, to be much more healthful than rocking in a cradle. The carriage, too, can be taken with baby in it from nursery to dining room, parlor or kitchen, thus giving baby a change of air and scene, which will help much towards keeping him entertained, and will be better than holding in the lap or walking about the room with him, thus spoiling him, as some would say.

It is not advised to rock a baby at all, except in the arms. Swing cradles are better tied than left to be rocked by nurses or careless persons; besides, it is bad to have a baby expect to be set in motion the minute he moves in his sleep. Many persons are made sea-sick by the motion of a swing or hammock; the cradle is the same, only that helpless infants have to endure it, whatever the feelings produced. One of our oldest New-England physicians says: "Never swing a baby in a hammock; let him lie in it, well protected, for hammocks are good places in which to take cold, but do not swing it." A case known is that of a little girl about two years old, who was taken with convulsions and was very ill. On being questioned by the physician who was seeking the cause of the sickness, the nurse confessed that she had swung the child in a hammock that morning for a long time, and very high.

As a last, and very important point, in regard to sleep, I advise never to give sleeping mixtures of any kind. "Invaluable as sleep is to children, it should never be purchased with drugs or potions or syrups—again and again should it be repeated to mothers and nurses that these things are horrible poisons, and that the sleep they bring is indeed the sister of death." Sleep is so positive a necessity that nearly all babies will have what they need, and if the time comes that baby will not take a proper amount, after being fully satisfied that all is being done for his health and comfort that is possible, appeal to your physician, and with his help seek out the cause of restlessness, and remove it. There is a reason for all things contrary to nature's laws, and the health of babies must be a constant care and study to the mothers. Are they not our jewels, more precious far than all the world beside?

V. R. C.

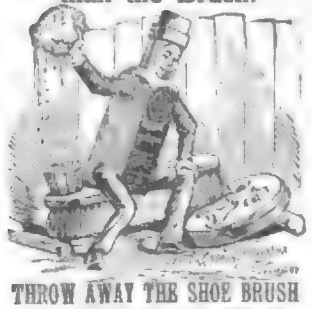
Pure Milk for Babes.

In connection with the articles we are publishing on the care of infants it may be interesting to mothers to hear about a "Nursing Milk Establishment" at Milwaukee, as described by the Sentinel of that city. It is a long two story building about a mile north of the city limits. In a high-ceiled stable, 60 by 30 feet, well lighted and finished in hard wood and plastered walls, are kept twenty choice cows of various breeds. Every day they are washed and curried and treated in the gentlest manner, no harsh words or rude handling being allowed. They are dry-fed on wheat, barley and hay, the aim being quality rather than quantity. About 8 quarts is the average daily yield. In the milk-filling room is a large refrigerator for, and many boxes of, glass-stoppered bottles of from 34 ounces to half that size. The milk is cooled, put in the bottles by girls, and kept in refrigerator till wanted. In the winter the milk is heated to 160° for an hour and a half, then diluted to different strengths, and put up in bottles with nipple attachment. The bottles are graded to suit babies of different ages up to one year. By the heating process the milk will keep for several weeks. This prepared milk is sold at 10 cents a quart, and instructions given with the summer milk for dilution. Take one tablespoonful fine stewed oats or barley meal, one quart of boiled water and boil together ten minutes. Strain through clean white cloth and keep in closed bottle. Boil fresh every morning, also cleanse bottle. Mix this water with milk in different proportions till child is eight months old, then give clear milk.

Roman Blanket, p. 237.—The wool is Germantown fourfold, and the quantity given is for the whole blanket.

L. R. A.
Baltimore, Md.

The Sponge is Mightier than the Brush.



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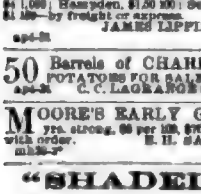

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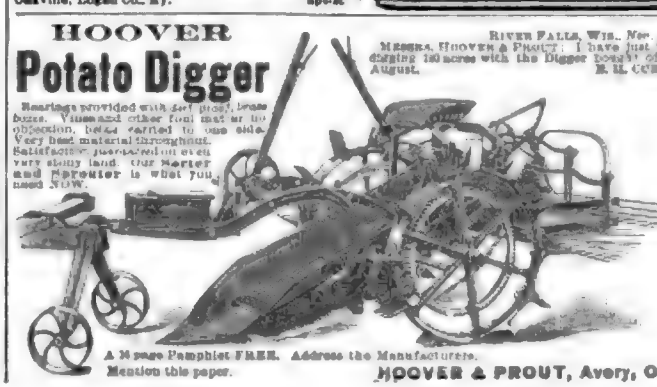

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THE CULTIVATOR AND Country Gentleman

Albany, April 11, 1880.

Manual Labor Education.

The owner or manager of a farm who can turn his hand adroitly to different kinds of work, as opportunity calls for it, in the presence of his hired men, has a great advantage over the owner who may be a bungler in gauging a plow, turning a furrow, repairing a horse-rake, sowing grass seed, laying drain tiles, or running a reaper. Prof. S. R. Thompson of New-Wilmington, Pa., named in a public address the following among other "fundamental arts" which the farmer should understand: 1. Adapting harness to a horse. 2. Hitching up a team. 3. Driving a team. 4. Holding a plow. 5. Setting up and adjusting a mower. 6. Grinding a mower knife. 7. Planting a tree. 8. Grafting and budding. 9. Judging the merits of horses, cows, sheep and other animals. The list might be readily doubled.

Manual labor has been thought by some persons to be degrading. A certain lady once remarked to the writer with apparent pride, when speaking of her son who had charge of a high-priced farm, "I want you to understand, sir, that J—— don't have to work!" A few years later he failed in business by depending on others. On the other hand manual skill is sometimes quite an accomplishment. Many years ago on the occasion of a great public trial of agricultural implements near London, when the want of a skilled plowman embarrassed the trial, the former Duke of Richmond stepped forward, adjusted the implement and turned the furrow in a skillful manner. Sometimes readiness in hard labor is quite a convenience, and the owner who employs hired men will succeed better if he can show them personally how to do a piece of work, than to be compelled to call on one of them to teach the owner how to do it. An amusing illustration occurred in the writer's early years when he had charge of a nursery, and many days of work were required to dress a large plantation of trees with the hoe. Being called away from home a day he spent a little time by way of encouragement among his men before leaving, and took the hoe in hand for a single row. He took no apparent notice of their sly winks at one another, apparently saying, "Now let's give him a sweat!" But the owner had done much more of that kind of work than his men, and it was no effort to keep even without apparently noticing their movements. Pulling out his watch at the end of the row, he remarked to them: "We have been just half an hour a row—that will give you sixteen rows apiece to-day, and we shall get along nicely with the work, reaching sixty-four rows to that tree by the time I get back." They saw how they were caught, but said nothing, and discovered they would have to make brisk work to get the allotted task completed, which they preferred to do rather than make a balk.

The physical exercise in learning how to handle tools gives great advantage to students who are closely engaged in mental studies. A distinguished gentleman of South Carolina stated, half a century ago, that when closely engaged, when a young man, in his studies, he acquired more knowledge, and in a better manner, when he gave ten hours to study and four to bodily labor each day, than he had previously done with his entire fourteen hours in study.

The helplessness of the young man who is afraid of work, or who affects to despise it, is not a desirable accomplishment. The one who knows thoroughly how to help himself, even if he happens to have no money in his pocket, is better off, feels richer, and has happier days, than the young man with a hundred thousand dollars coming to him, but who is compelled continually to call on a servant to supply common bodily wants. Many instances could be cited where young men have been spoiled by the prospect of a great fortune coming to them, and they either became drones in the community in after years, or else speedily ran through with their means after they obtained control.

The Summer Fallow and Fertility.

Keeping Down Canada Thistles.

ED. COUNTRY GENTLEMAN—The old-time summer fallow, once thought a necessity in winter-wheat growing, is now almost entirely discarded, and by some advanced teachers in agricultural science is condemned as a useless process and wasteful of soil fertility. This is a plausible theory, for one often notices that when a plot is covered with brush or other refuse matter during a season it gains fertility, but it does not follow that because the covered soil gains nitrogen, and hence is improved in fertility, the naked soil loses. It would seem sure that a soil exposed to the elements cannot lose plant food, for it is mineral matter, not volatile until combined with other elements, but nitrogen may be accumulated from the atmosphere or drawn from the subsoil below where the sun's rays are shut off.

I would not advise a return to the old-time summer fallow, for it involves needless expense and a loss of the use of land without a corresponding increase of crop, but the theory that it is exhausting to the soil is not supported by experience. My own observation is conclusive that the summer fallow will produce a larger growth of the crop following than when the soil has been otherwise prepared, showing rather a gain than a loss of fertility by the seasons of naked fallow. The last season I harvested a twenty-five acre field of wheat, half of which had been summer-fallowed to subdue thistles the season of preparing for the seed, the other half had grown a crop of barley and was then prepared for wheat; otherwise each part was tilled and sown alike. The half summer fallowed produced a fair crop, the other a very poor crop. The season was very bad for wheat, but the fallow ground showed much advantage. A neighbor whose field adjoined mine grew a crop of wheat on fallow ground the year previous, which was an overgrowth greatly to the damage of the crop.

I have not for many years past summer fallowed land, except for the destroying of thistles or other foul stuff, because I have regarded two crops as more profitable than one, and not because the fallow has been exhaustive of fertility. A rotation of different crops I believe to be essential to the largest production, but if land becomes foul I know of no means so effective to clean it as the fallow, and a rest of one season that it necessitates. The land is thus renovated, producing better crops following. I have harvested some of the largest crops of wheat ever grown on my farm after a thorough fallow to clean the land of thistles, and have never observed exhaustion from that source.

It may be said that thorough cultivation will keep land clean, and there is no need of the summer fallow to destroy thistles and other foul stuff, but this depends much on the character of the land we cultivate. On lands of a sandy character, having an open subsoil containing little plant food, to support the deep-rooting thistle, there is but little trouble in subduing them, but on alluvial lands having a strong subsoil, in which plant food is abundant, and in which the roots will go down several feet, and will grow and spread just as vigorously in the driest season as in the wettest, it is impossible to subdue them or to keep them from damaging a crop by the most thorough cultivation. I have made a war of destruction upon them many times, but have never been victorious. They have come to stay here in Western New-York, and are increasing every year. Nothing but thorough summer fallowing seems to give them any check, and for this purpose I believe that the fallow is occasionally useful under the most thorough system of husbandry. After many attempts to eradicate the thistle from my farm, and as many times failing, I have concluded to be content to keep them in check so that crops are not injured. It has often been written and proclaimed that to keep the thistle from the light, or from breathing the atmosphere through its leaves, during the growing season of one summer, the plant must die. The principle is doubtless true of all vegetable life, but in my experience the thistle has come again the second year, and was soon as flourishing as before, but whether from germination of seed left in the soil, or from the survival of the root deep in the subsoil, cannot be determined. There is no noxious weed so injurious or annoying to the farmers of Western New-York as the Canada thistle, and nothing so difficult to eradicate. While the summer fallow does not wholly destroy them, there is no treatment that gives them so great a setback. Let them grow undisturbed till they are in blossom, about the middle of June; then turn them under a deep furrow, covering all out of sight, and work the surface every week till the middle of September. This is the most effective treatment to check them. In my vegetable garden, located over thirty years ago, a small plot of thistles was there, and I have since cultivated my garden thoroughly, I think, and have made special effort to clean out this pest, but they are there yet, and more abundantly than when I commenced. Hoeing the ground over every week during the summer does not prevent them spreading. F. P. ROOT.

Monroe County, N. Y.

Preparing Jersey Land for Alfalfa.

TO GERALD HOWATT: *Dear Sir*—Your communication in the COUNTRY GENTLEMAN of March 14 prompts this note. I have a farm of about 200 acres in the northeastern part of Monmouth county, N. J., and raise Jersey cattle, among other fancies. The subject of alfalfa interests me, especially as I note in article referred to that a sandy loam on sloping land, with deep subsoil, is the proper soil for alfalfa. I have at least one plot of twelve acres which I think responds to your suggestion. In anticipation, for some weeks past, of planting potatoes there, I had ordered a mixture to be spread over this lot of 600 lbs. black peaty soil, 200 lbs. slaked lime, 250 lbs. superphosphate of lime (containing about 14 per cent. soluble phosphoric acid) and 150 lbs. muriate of potash — total, 1,200 lbs. per acre, well mixed; but I would prefer starting this spring with alfalfa, if I can do so with a fair probability of success. There are no weeds of any moment on the land. I sowed it lightly in rye late last fall, more to keep the sand from blowing off than for any other reason, and I expect to plow it in for a spring crop. I am willing to fertilize more generously if required. The land to-day is rather in want of manure, the top soil being very sandy. C. C.

New-York.

[*Answer by Mr. HOWATT.*]

I know of no county in the United States more suitable for the perfect growing of alfalfa than Monmouth, N. J. Generally speaking, the soil named will suit it, subsoil, with a reasonable depth of surface loam. If tolerably clean, plow in your rye by attaching an ox chain from beam to whiffletree; this, if understood by the plowman, will lay your rye at the bottom of furrow. If you have a doubt as to its cleanliness, a wise maxim, "Go fast slowly," may be applicable in your case. If so, I should, as suggested, plant potatoes—not in the best way, but as follows: In every third furrow when opened, drop three or four inches of manure on the rye; cut one eye to set, and plant twelve inches apart—the next mould-board earth covering them, in this case five or six inches deep. Do not let your wagon or cart go on standing rye; to do so would make very bad plowing; let them travel on plowed ground. When potatoes are planted on turned-in rye, and finished, use chain or Acme harrow, then roll. I always find a marked difference in yield when I use a roller, and one should be kept as much as a mower. Use same harrow on appearance of weeds; a tooth harrow, as in other instances stated, would drag up rye haulm.

Then spread your compost, and use a chain harrow both ways; a tooth will drag your rye to the surface. This harrow is far preferable to the Acme for this purpose. I should put at least two tons of this black clay (subsoil peat I presume it to be), mixing lime with it, and getting it as dry and fine as possible. Spread this on first, then plaster. Superphosphate of lime I have never been able to use profitably. Hen manure at 25 cents a bushel is far preferable; also pulverized and mixed with plaster, 50 bushels per acre. In this case I should also apply 300 pounds of wood ashes and a coating of fine manure.

Let your whole effort be to give it a good start; after that it will take care of itself, and smother out all weeds. Should you plant potatoes, the digging, whether by forks or by machine, will incorporate the manure with the soil. Your land being light, do not back-furrow it, but immediately after removal of the tubers, roll it thoroughly. Should weeds appear, harrow them off, or cultivate them out. Do not wait for the frost to kill them, in your case. Then a good top-dressing of this black peat, with your subsoil, and a skimming plowing in the spring, will answer. No fall crop; first expense will pay.

Corn and Cow Peas as a Forage Crop.

The rapidly growing popularity of this crop in the South, will, I hope, afford sufficient explanation of my frequent reference to it in your columns. Lot No. 1, (previously referred to on page 404, 1866, and again on page 465,) 6½ acres of clay loam, red clay sub-soil, well drained, limestone land, which I estimate would have made 12 to 15 bushels corn per acre. This piece was dressed with 20 loads good manure on the poorer places, and turned April 24th and 25th. It was harrowed off and ¾ bushel of corn and 1¾ bushels of peas drilled in per acre, on the 28th, with 200 pounds of ammoniated bone per acre on four acres, one acre unfertilized, and one barrel of unleached hardwood ashes on one and a half acres. Alternate hoes were used for grain, putting fertilizers between rows. The drag was then run over to smooth the ground. May 30, and June 4, 5 and 6 it was plowed out with long, narrow, bull-tongue plows. The corn seemed to take the ascendancy in this piece, and the peavines did not make the growth I expected. Season fair. Aug. 24th mowed; 25th, afternoon, put up into large cocks; 27th, hauled up, putting it into the bay with alternate layers of straw. Yield, five large loads—all that four good mules could well take out of the field, and two good two-horse loads; a low estimate nine tons. Cost, cash outlay, $22.55; counting use of team at current rates, $53.70; at least $15 ought to be added for home-made manure and use of tools, making the whole cost $68 70, aside from use of land, which, however, the unexhausted manure will fully balance; cost per ton of product about $750. Neither the ammoniated bone nor the unleached ashes made any marked improvement over the unfertilized. The effect of the stable manure, however, was pronounced.

Lot No. 2—Four acres clay loam, red clay subsoil, well drained, limestone land, which three years ago made 16 bushels wheat per acre without fertilizer. The second year's crop of clover was mowed off this piece June 24; on the 11th and 12th it was turned and harrowed off; on the 19th, drilled in ¾ bushel corn and 1¾ bushels peas per acre, with 200 pounds ammoniated bone on three acres, leaving one acre unfertilized, using all hoes for both grain and fertilizer; then rolled. Grain came up nicely. June 30 three sacks of plaster was applied, leaving a strip across the fertilized and unfertilized of about half an acre without. No after cultivation. The peas came forward well on this piece, and constituted fully half the crop. Sept. 26th mowed. The weather being fine, it was allowed to lie until the 28th, when it was put up into small cocks, and on Oct. 1st these cocks were doubled or trebled. My object was to have it best in cock, but the weather being a little cool, it did not. On Oct. 6th it was hauled in, and put up with straw, as before. The yield was one 2-horse load more than the other, was drier, and would have made by weight, at the lowest estimate, ten tons. Cash outlay, $23 80; counting use of team at current rates, $33.30; use of tools was worth at least $8—making the whole cost $66.30, or $3.63 per ton of product. In these estimates a man's labor is put at 50c. and that of team at $1.50 per day; peas $1 and corn 50c. per bushel. The fertilizer produced a more marked effect here, and, I believe, paid in the crop; also the plaster, which evidently helped to bring the pea-vines forward, though probably their better success was partially due to later planting.

The apparent difficulty with this crop is to get it properly cured. No such difficulty exists. Do not try to dry it out; just get it well wilted and put it up as other hay. It will not spoil. Mine got so hot one could hardly bear the hand in it, but nicer and brighter hay I never saw come out of the mow than it is at this date. Many people go too far in this curing business. The greener you can put up clover or peavine hay, so it is well wilted and has no external moisture, the better and softer it will be. I have seen my uncle, R. F. Cooke, one of the best farmers and largest stock feeders who ever lived in East Tennessee, haul up clover hay by the hundred wagon loads into his barn the same day it was cut, and nobody knew or appreciated good hay better than he. I know several others who do the same, among them Mr. John H. Gaines of Carp, Rhea Co., Tenn. My brother-in-law Mr. W. M. Scott of Ashley, Madison Parish, La., put up 75 large loads of corn and peavine hay into one rick last summer, without straw

and with only 1¼ days of sun, part of this time in small cocks, and it has kept perfectly. It smoked like a tar kiln, they say, but did not mould or damage in the least.

Mr. Robt. F. Houston of Aberdeen, Miss., grows quantities of this hay, and is enthusiastic in its praise. He lets it sun, usually about a half day, then puts up into small cocks, which after two or three days are doubled, throwing two or three small ones together; these are allowed to stand a few days and heat up, when they are hauled in and stored away as ordinary hay, without straw. Corn and peas for a catch crop are ahead of anything known to me, both in quality, quantity and assurance of crop. No matter how bad the season, they will grow if anything else does. The effect upon the land is a point greatly in its favor. The greater weight of the cow pea plant is found to be below the surface in a long, deep, tap root, and it is known to be one of our finest renovating crops; hence after the hay comes off, the land is left in fine condition for wheat.

Oct. 17, 18 and 19, I had these lots plowed up with double-shovel plows (two mules to a plow), bull-tongue plows, &c.; harrowed off with the disc harrow, and drilled in wheat with 100 lbs. ammoniated bone per acre. At the present date the wheat looks quite well, and evidently it was a good preparation. Perhaps the fertilizer unexhausted by first crop may be producing some effect, but I cannot now detect any difference in the strips originally fertilized and unfertilized.

Dr. Dabney, president of our State University, said in our last farmers' convention, that the fertilizing matter contained in the root-system alone of one acre of good peavines, was equal to that contained in one ton of average commercial fertilizer. He will report what that wheat crop says on the subject.

Monroe County, Tenn. P. F. KRAUSER.

The Wheat Fields of the Future.

EDS. COUNTRY GENTLEMAN—During the past sixty years the centre of the wheat producing section of this country has been gradually moving to the westward. Fifty years ago that centre was in Central New-York and Pennsylvania, and the flouring mills of Rochester, Baltimore and Philadelphia supplied the major part of the flour found in the Eastern markets. Then no brand was more popular than "Genesee Superfine, Rochester, N. Y." Since then this centre of wheat production has followed along the isothermal line till now it is found in Western Minnesota. It will not be many years before it will be found in Dakota then in Montana and finally in Washington Territory on the Pacific coast and perhaps in Alaska. As a nation we are more than fortunate in possessing such a vast area of country adapted to the growth of this all-important cereal, and we are to be congratulated on the fact that we still have many millions of acres capable of producing the best wheat of the world, that have as yet been untouched by the plow. Our resources in this direction are immense, and can only be measurably appreciated by those who have to some extent traversed this vast domain and marked its capacity for giving the future millions bread.

The writer, in the month of October, left the great flour-making centre of the continent (Minneapolis), and traveled about four hundred miles to the northwest, along the line of the Manitoba railroad, through or rather into the best wheat-producing section of this country. Along that portion of the journey within the State of Minnesota, the land is more or less rolling, interspersed with timber of maple, oak, elm and basswood, numerous streams and a great number of lakes of pure water. No region could be better adapted to a varied agriculture, as the soil is fertile and seems equally adapted to the production of wheat, corn, oats, flax, potatoes, onions and grass. In passing through the counties of Douglass and Ottertail, the scenery is unusually beautiful, as one is scarcely out of sight of some handsome lake, coupled with rolling woodland and patches of prairie.

On reaching Fargo, one enters the valley of the Red River of the North. Here is a belt of country extending at least to Grand Forks, a distance of about 80 miles, which is 20 or more miles in width. This is an unbroken prairie, save here and there a narrow belt of timber along the river, and the few small streams which find their way to it through this great meadow. This comparatively small portion of Northeastern Dakota contains more than a million of acres of the choicest wheat land, and in summer about one-third of this productive valley is waving with wheat. Directly westward of this valley the country becomes more rolling and diversified, but none the less adapted to wheat growing. For hundreds of miles through this great territory and into Montana, the country is peculiarly inviting by reason of its fertile soil, healthful climate and rapid development through the easy means by which the country is settled. It is of vast importance to the wealth and prosperity of the country and especially to this almost boundless region of the Northwest, that the enterprising railroad companies find it to their advantage to push their tracks on into the wilderness even in advance of the pioneer settler, so that the emigrant, instead of weeks of traveling with teams under very unfavorable conditions, is carried with all his effects, with speed and comfort, almost to his homestead claim. One who has thus traveled hundreds of miles through such a country with only here and there a settler, feels that he cannot be sufficiently grateful for this powerful appliance for settling a new country. No other developing influence can compare with the railroads which have penetrated far into these boundless wheat fields of the future, and I have little patience with the chronic croakers who growl because the government has rendered assistance in these vast and beneficent enterprises.

Minnesota, Dakota and Montana all give promise of great things for the future in agricultural productions. In extent they contain more arable land than a half dozen States like New-York, and a large portion of it is good farming land,-capable of producing the best of hard wheat besides other grains and vegetables common to this latitude. When we consider that the mills of Minneapolis convert annually more than thirty million bushels of wheat into flour, turning out over thirty thousand barrels every twenty-four hours, besides the large amount sent to Eastern markets, via Duluth, Milwaukee and Chicago, we get some idea of the amount of wheat now grown in this Northwest where as yet not one acre in ten is under cultivation. We are lost in calculation when we attempt to estimate the amount which will be produced 10 or 30 years hence as the country is naturally developed by settlement. It seems to me that in this region alone there is land enough, of first quality, to give a farm to every young man in the country, who has an ambition to till the soil. When I returned from my trip into Dakota I felt as though I would like to go into New-England, collect and transport ten thousand young Yankees with their wives, to this rich and fertile section where they could soon make themselves financially independent, and secure a competency for old age.

Hennepin County, Minn. M. M. FRISSELLE.

A Satisfactory Windmill.

EDS. COUNTRY GENTLEMAN—I have had in use for years a mill manufactured by H. H. Babcock's Sons, Watertown, and by them put up, for me. The tower is 30 feet high, and the wheel 18 feet in diameter. The well from which it draws water, is 24½ rods from my pump and mill, and the top of draw pipe, attached to pump is 27 feet and 9 inches higher than top of well. As you see, the pump draws the water up a grade of about 28 feet, and a distance of 24½ rods, then forcing the water from pump into a tank 30 feet therefrom and 20 feet high. All this it has done from time first put up to present time, and no part of pump or mill ever broken. The quantity of water drawn will average at least 100 barrels per week the year round; wheel has been in gear several times in very heavy winds for from 12 to 24 hours at a time, also pumped many times in very heavy winds, and none the worse for the usage. When it was put up, the manufacturers were the only ones of three different mill manufacturers who dared risk their mills to do the work, the other companies declared the pumping water such a distance impossible. Many other makes of mills have been put up hereabouts, and nearly all of them have required repairs, and some of them are completely used up. I am not an agent for any windmill, but I will say if any one is about to buy a mill, and wishes an A 1 mill, they cannot do better than buy a Watertown. DEXTER WHEELER.

Cayuga County, N. Y.

Trout Culture.

EDS. COUNTRY GENTLEMAN—A trout preserve requires a permanent supply of pure cold water, and a sufficient feeding ground where animal food, as aquatic insects, crawfish, frogs, and such minute creatures as exist in running streams, can be procured. Otherwise these fish must be fed upon such food as milk curds, waste meat and offal, finely chopped. Where a trout stream can be diverted in part into a pond, or a succession of them, an excellent preserve can be made.

Just now the eggs of these fish can be easily procured, either by purchase from dealers, or through the fish commissioner at Washington, who is the agent for the public who support a very complete establishment for this purpose. I have a fine trout stream running through my land here, which is doubtless the finest locality for this fish in North America, as the climate is cool and equable the whole year, and the copious rainfall (60 inches in the year) provides a large supply of spring water, containing an inexhaustible quantity of the best kind of food. Being a popular pleasure and health resort, a large number of visitors come here to enjoy the fishing and hunting, and were it not that the streams are restocked by spawn gathered at the proper season, and hatched artificially in suitable apparatus, the supply would soon be exhausted.

The hatching troughs are quite simple affairs. For 10,000 eggs, a wooden box 14 inches wide, 12 inches deep and 6 feet long, is sufficient. Mine are prepared as follows: The box, open on the top and at one end, is divided by cross cleats, 3 inches wide, set 3 inches apart in sections. A 1-inch rustless iron pipe brings pure cold water from a spring into the troughs, the water flowing through the box so as to overflow the cross-cleats and run off at the lower end, or it may pass from trough to trough through several of them. The sections are covered one inch deep with coarse, clean-washed gravel, and the water is filtered through a flannel screen at the upper end of the trough. The lower end of the trough is open, but covered with a wire gauze strainer. The eggs are divided so as to put about 2,000 or 3,000 into each section, and are spread carefully with a feather, to prevent them from lying upon each other. Only pure water is used to flow over the eggs, and freezing is to be avoided as fatal to them. To prevent freezing, the troughs may be sunk a few inches in the ground and covered by a close shed, which need not be lighted.

The eggs, in a dormant condition, may now be procured. They are shipped by some rapid transit in boxes with damp moss. As soon as they are received, they are carefully transferred into pans of cold spring water, and the moss floated off without handling them. When quite clean, they are gently poured from the pan into the trough, and spread with the feather over the gravel, so as to lie closely, but not touch or overlie each other. They will hatch in 30 to 45 days, as the temperature is warmer or cooler, when the tiny fish gets outside of the egg, but still adheres to it, and it may be seen swimming about with the egg still attached. The young trout are supported by the egg, which is all absorbed in course of time and disappears. When this happens, they may be turned into the stream to take their chances, or they may be fed for a few weeks until they are larger and stronger.

The food may be curd of milk rubbed up with water into a thin paste, which is quickly diffused in the running water of the troughs; or fresh liver or lean meat pounded or chopped into very fine particles. The small fragments of food are picked up voraciously by the hungry infants, which grow very fast, and when an inch long are quite capable of taking care of themselves along with other trout in a stream or pond where there is plenty of room for them. They seek the shallow places where larger fish do not venture, and shoals of the tiny things may be seen on the shallow sandy banks. By fall they will be three inches in length, after which they will disappear in deeper water.

Some kinds of trout grow with amazing rapidity. Three years ago I put 100 California or rainbow trout into a millpond on the stream mentioned, in the fall; they were then "fingerlings," or three inches in length. A year after, I took one eight inches long, weighing half a pound. Last year some were taken 14 inches long and weighing 20 ounces. These fish are extremely beautiful. The back is a deep purplish black, the belly silvery white and the sides scarlet and crimson in various shades melting into the other colors. The flesh is as good as the best of the common speckled trout. The two species breed together, as I saw them last season pairing on the spawning beds on the bright gravel in the clear water as I stood on the high bank of the stream. What the cross will be, of course will not be seen until a year or two to come.

Trout may be preserved in a stream if the small fish taken are always returned to the water without serious injury. They seem to be but little hurt by the hook if it is carefully removed. I have released a small trout hooked through the jaw or the nose, and have taken it again the next cast. Fish are cold-blooded and have a low, nervous organization, and do not suffer pain as warm-blooded animals do; hence when released after having been caught, go on their way without trouble. The loss of an eye by the hook is not any serious injury to them, and if the small ones under 6 inches in length are thrown back, the stock will soon be visibly replenished. I would like to impress this idea on those interested in the stocking of streams, so as to procure a law to prevent the killing or sale of trout less than 6 inches in length. I have taken trout no longer than this that were full of eggs fully two months before the spawning season, and on this account the close season for this fish might be anticipated by a full month earlier than it now is with much advantage to the future supply.

Trout will do well anywhere in streams which are supplied by springs, and are never warmer than 60° in the summer, and have deep holes and shaded banks and an outlet into a lake. They are found in the highest perfection in the Northern States, especially where they can winter in large lakes, or can run down in the fall to deep pools and estuaries; and especially in the southern mountain region, where the clear, pure cold water gives them the brilliant hues and firm flesh which I have not seen surpassed, excepting in the streams of Lake Superior. In ponds that are devoid of shaded banks, the required protection from the sun may be afforded by means of large plank floats, moored to stakes, under which they will gather in the heat of the day.

In feeding fish, care is to be taken not to foul the water with the refuse that is not eaten, and to give no more than will be consumed at one time. The newly-hatched fish should be fed every two hours, with a very little food at a time. And it is indispensable that all sediment in the hatching troughs should be prevented, or removed if any should get in through the strainer; any dead eggs, which are opaque and discolored, should also be removed. HENRY STEWART.

Macon County, N. C.

Northeastern Dakota.

EDS. COUNTRY GENTLEMAN—March came in warm, with wind from the south; thermometer 60° to 50° above zero, remaining so for three days, and causing nearly all the snow to disappear. Some farmers began harrowing their land preparatory to seeding, and a few did commence seeding on the 9th and 10th, but a norther set in which put a stop to what I consider nonsense in this northern climate—sowing wheat in March. With one exception, ten years ago, we have had sleighing up to the middle of April. March 12, thermometer went down to 20° below zero, with heavy wind from the north; 13th, snow storm from the north; 15th, very disagreeable roads; but at present writing we have fine weather, and I think seeding will commence generally this week. No rain so far this spring.

Live stock has come through the winter looking well, with hundreds of tons of hay left over. The winter will be long remembered as the pleasantest for years past.

The seed wheat question is giving many farmers great bother of mind. The State of Minnesota loaned the different counties $100,000, to help the farmers out; but when the applications came in, there was not one-quarter money enough to go round. Whether the State or the different counties will raise the deficiencies, is a question hard to answer. The legislature of Dakota authorized any county within her borders to raise money to buy seed grain with, but there is not one-tenth the number of applications for help in Dakota that there is in Minnesota; there, chinch bugs and hail did great damage to many farmers

who are making applications for help, outside of the frost calamity.

There is a large immigration into Dakota from Eastern and Middle States and Canada; also a considerable number of Norwegians.

Ice in Red River is melting away fast; river is open in many places, but the ice has not begun to move. If weather continues as at present, navigation will open April 1, an unusual circumstance in this country.

Markets in Grafton: Wheat, No. 1 hard, 86c. per bush.; No. 1 northern, 77c.; No. 2 northern, 67c.; No. 3, 55c.; oats, 25c.; barley, 35c.; flour, $3.25 per 100 lbs.; beef, $5 forequarters, $6 hindquarters; eggs, 12½ to 15c. per doz.; butter, 15 to 25c. per lb.; hay, $5 per ton; wood, $4 50 per cord. GEORGE FARR.

Walsh County, Dak.

Western New-York.

EDS. COUNTRY GENTLEMAN—The time has arrived when we may be called on at any moment to begin wrestling with the annual task of plowing and planting; indeed a few of my neighbors have already consigned some peas to the care of mother earth. The weather, however, on the morning of March 30 was decidedly wintry; the ground was covered with snow and a cutting north wind made the cold, which might be expected with the thermometer denoting 18°, more impressive. The frost was out of the ground some time previous to the middle of March, as the following temperatures of the soil would seem to indicate:

Depth.	*March 16th.*	*March 23d.*	*March 30th.*
4 inches	43°	47°	38°
6 "	40°	46°	34°
8 "	37°	41°	35°
10 "	36°	41°	35°
12 "	36°	42°	36°

The average temperature of the air for the week ending March 16 was 26°; March 23, 32° and March 30, 31°. I attribute the low soil temperature of March 30 to melted snow, of which a large quantity fell on the 28th and 29th, the ground being quite wet at ten and twelve inches deep.

The mean temperature of March in 1887 was 28°; in 1886, 31° and this year 29°. March 1886, was nearly as mild, being 28° (though we did not plant until April 20) yet there was a range of temperature of 46°, from —3° to 43°; this year the range was only 27°, from 13° to 40°. Planting was begun April 9, in 1887, and April 18 in 1886 was the earliest date on which we could advantageously sow peas. There has been the usual amount of March winds, some of them boisterously unpleasant, but not the normal and very necessary rainfall; a heavy snowstorm yesterday, however, furnished us with some moisture, the record being forty five hundredths of an inch. This morning there was seven inches of snow on the level and we had a merry time digging out the hot-beds which stand in a sheltered corner where the snow drifted.

It has been my experience that when the soil has been thoroughly drenched by a warm rain in the spring prior to planting or sowing, the crops always respond so much quicker and better that I prefer to run my chances of being a little late to planting without it. There have been several very pleasant days in March this year, notably on the 27th, when the mercury was 63° at noon. The advent of the robins does not seem to afford any guide to our planting prospects, since a six years' observation shows that they come pretty regularly, varying only five days in that time, from March 15th to 20th, the earliest date being this year's. A native of the emerald isle the other day assured me of an early spring, and to my inquiry for his reasons for supposing so replied: "Because March has two young moons in her!"

Wheat has declined since last month, being quoted at from 95c. to $1 per bush; State corn at 56 to 58c.; oats at 35c.; good clover seed brings $6 per bush.; hay is scarce at $18 to $20 per ton; good baled timothy realizes $15 to $17. One dealer in Rochester has disposed of 4,800 tons in that city this winter which he bought in Iowa and Wisconsin. Oat and wheat straw ranges from $10 to $14; bright rye straw sells readily at $15. Butter is quoted at 20 to 22c. per lb.; eggs, 13c. per doz. Dressed hogs sell at $6.75 per cwt. Potatoes and onions are actually unsalable at 20c. per bush., and large quantities will be plowed under this spring. All winter and early spring vegetables bring very low prices; fine heads of lettuce can be bought in the store for 25c. a dozen heads, and radishes for 30c. a dozen bunches.

Another canning factory is in course of erection in a neighboring village where tomatoes will be the specialty. The proprietors (a Chicago firm, I believe) are anxious to contract for 200 acres in the vicinity, they furnishing the plants at $6 a thousand and giving 25c. a bushel for the tomatoes. It is claimed that 400 bushels per acre is only a fair crop; if that is so, notwithstanding the plants would cost about $30 an acre, such a crop would pay better than most others a farmer can raise, were it not so dependent upon the weather.

Farmers' horses are looking in finer condition than usual this spring, the reason for which I take to be that they have been fed from the oat bin instead of the hay mow. It is not every winter a farmer can realize a cent a pound for his hay, so that if his crop was small the temptation to market what he had was great. Oats, too, are the better food, and the cheapest just now, so that horse and man were alike benefited.

About this time of year there is always a certain amount of "seeking fresh fields and pastures new" among farmers, but the present season a much greater number have struck their tents, why or wherefore no one knows; it seems to be epidemic. Most of them "auctioned off," as they term it, all but their household goods. These auction sales, where twelve months' credit is given, are not altogether unmitigated blessings tempting, as they do, many farmers, young ones especially, to buy implements or animals which they do not really need, bidding from ten to, oftentimes, fifty per cent. more than they are worth, simply because they can obtain them without immediate payment. I know a young farmer, just about to work a farm on shares, already owning one good span, who gave $330 for a showy team at an auction sale the other day, whereas one costing $200 would have answered his purpose as well. Twelve months hence, when almost $350 must be forthcoming, he may not feel so proud of his purchase as he now does.

Monroe County, April 1. J. H. C.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *April 2.*

A light rain of three-eighths of an inch, March 31, added to what fell before, gave us a little over an inch of precipitation. March dust, highly regarded in the proverbs of old time agriculture, was quite abundant during the month, and if it shall have the beneficial influences on on crops formerly attributed to it, a fruitful growing season is before us. Still I see or seem to see, a possible wet summer on the edge of the horizon of the future. After the severe drouth of 1874, the summer of '75 was a very wet one, the spring previous however, being quite as dry as the present. Succeeding the equally severe drouth of 1881, the summer of '82 was cool and moist, but not enough of one or the other to affect the crops adversely, except corn which did not mature satisfactorily. Neither in the summer of 1875 nor 1882 was there any really hot weather, that is, hot for this latitude, where in average warm seasons, the temperature ranges from 80° to 105°. The present year belongs to the seven-year period of cool, wet summers, dating back just how far I do not know, the wet summer appearing sometimes one year later, again one year earlier, but keeping up the average of seven years. Mind, I do not say this rule applies to more than a limited region compared with the vast area of the country from east to west; probably only the valley of the Mississippi above Cairo and the Ohio river and the region south of the lakes.

From that patch of a third of an acre of alfalfa, the winter mulch of straw was raked off the first day of April. The new growth is not less than four inches, and if it continues to grow as vigorously through April as for the last half of March, the herbage will be six to ten inches high by the first of May, and show bloom by the middle of June or before. In order to ascertain the liability to winter killing, a rod or two square was left uncovered, with the result of dead herbage on the surface, but no appreciable damage to the crowns or the roots. In order to show the depth the roots ran into the earth, the patch was trenched last fall here and there, leaving a few of the plants on the sides of the trenches where they were frozen and thawed a dozen times in the course of the winter. These exposed roots were found to be alive. Consulting persons from Colorado, Kansas, and elsewhere, as to whether alfalfa would be likely to winter kill in Central Illinois, some said it certainly would, and others spoke as decidedly the other way—allowing me to arrive at the conclusion that if for the first year the drouth is a weak one and the crowns and roots are but feebly developed, there is danger of winter-killing; but if the crowns are full and strong and the roots have penetrated fully four feet or more, there is little to be feared from any frost or freezing in a Central Illinois winter.

Some may be disposed to credit the forwardness of the alfalfa to an early spring. Just how early or late it may be, let the inquirer take these data and satisfy himself. Early and late crocuses are in bloom, daffodils are just beginning to open their flowers, the peach buds show what color the petals of the blossom will be, the fruit buds of the apple are swelled so they can be distinguished from mere leaf buds, and the stamens and pistils of the pear can with difficulty be recognized in the swelling buds. E. F. J.

The Valley of Virginia.

EDS. COUNTRY GENTLEMAN—Our winter has been uncommonly favorable; somewhat warmer than usual, but not unseasonably so. The Blue Ridge mountain has been only twice covered with snow that has remained unmelted for any length of time. Our ice crop was scant. Spring has opened beautifully, but we do not yet feel secure against damaging frosts. Wheat is very promising, and the grass is green. Cattle have come through the winter in fine condition, and those that have access to pasture fields care little for dry forage. The willows are fully green, the red bud is blushing, the elms are out in the bloom that precedes the leaf; some early species of maple are bursting their buds, as is also a Lombardy poplar in the yard; some pear trees are showing white tips, while lilacs and other ornamental shrubs are just not in bloom; and the gooseberry bushes can almost cast a tinge of shade. On sunny banks and river cliffs anemones and arbutus can be plucked.

Nothing from our gardens yet, but a homely, though acceptable salad of tops from turnips that have stood in the ground all winter. Most of our spring birds have arrived. Robins in abundance, flocks of blackbirds, doves in pairs, wrens and pewees. The cat-bird does not usually make his appearance before April 15; when we hear his note we are sure spring has come to stay.

On the farm, oats and grass seed have been sown, and the land for corn is plowed, most of it mellowed by winter freezing and waiting in fine condition to be planted from April 15 to May 1.

Everything is encouraging except prices. Corn 45 cents a bushel and dull sale at any price; potatoes sprouting in cellars and pits for want of a market, and cattle down, down lower than ever. One prospect opens large before us. The remarkable advantages of this region for manufacturing (especially iron) hitherto unaccountably overlooked, have attracted the attention they deserve. Within a few miles of Lexington, sites along the base of the Blue Ridge, have been secured by two large companies just incorporated, for iron and other manufactories. Abundant capital has been subscribed at home and from abroad; the stock is already selling above par; work has begun, and sites for future cities are being laid out. With the success that is fairly anticipated, prosperity will come to us in full tide. I. T. L. P.

Lexington, April 1.

Inquiries and Answers.

Horse Barn.—Please send any publication you may have containing plan, drawings, &c., of an approved modern barn exclusively for horses. W. H. B. *St. Louis, Mo.* [Without information as to the size and other requirements of the barn, or your preferences, we can only refer you to a few plans in RURAL AFFAIRS, which you may enlarge, reduce, or otherwise modify, according to your wishes. See the plans given on pages 244, 268, or on page 336 (changed from cattle to horse stalls), of vol. VIII; or the several given in vol. III, p. 195, &c.]

Stone Silos.—Please give me experience as to stone or wooden silos, as I wish to build one for about 50 cows, and having plenty of stone could build almost as cheap as wood; also if built of stone whether to plaster or cement the inside or leave the rough stone inside, for my experience has been that a stone barn not plastered inside will keep hay better than one plastered. J. J. M. *Philadelphia, Pa.* [The only advantage possessed by the stone walls over wood is their greater durability, while increased cost is a drawback. They should be plastered and made smooth and even inside, so that the contents may settle freely. The rough wall is better for hay by allowing more free, although imperfect, ventilation between the wall and its contents; but for ensilage this is what we wish to avoid.]

Manufacture of Starch.—Can you tell me how to convert a few hundred bushels of potatoes into starch? I have a good apple grater and cider press, some vats, tanks, &c. C. P. *Kirksville, Mo.* [Can some one of our readers furnish a brief statement of the process of making starch from the potato—the machinery, water power, pulpers, washers and the various operations for success? Where experience and skill are required it is not probable that success would be at once obtained from a description, or even from a single examination of the process. Potatoes would not probably furnish as much starch at this time of year as when freshly dug, especially if sprouting. The percentage of starch commonly varies from 17 to 24, under the influence of season, culture, &c., and the smaller quantity would hardly pay labor and cost.]

Harrowing Wheat in Spring.—Is it a good plan to disturb the soil in the spring where winter grain is growing? If so, at what time and with what implement? (1) What relation should such an operation bear to seeding with clover and timothy? (2) A. P. P. *Rochester, N. Y.* [1. Strong or rather very heavy soils form a crust during the time after sowing of the wheat in autumn and its starting again in spring; and breaking this crust with a fine light harrow is quite a benefit to the crop. From our own experiments, we have found it to increase the product of the grain, on an average at least five bushels an acre. The work may be done as soon as the ground is dry enough to bear tread of the horses; the wheat having become strong enough to hold its place while the harrow-teeth pass over it. It is less important for light soils, but often of much use in destroying young starting weeds. Any light harrow with numerous small slanting teeth will do the work well, or any modification of the smoothing harrow, the patent on which has long since run out. 2. You will find a full answer to this inquiry in the fourth column on page 270.]

Cow Sucking.—Please give me a good way to cure a cow from sucking herself. I hate to turn her off for butcher stock as she is a high grade Short-Horn. C. S. T. [This topic has been discussed at great length in several recent volumes of the COUNTRY GENTLEMAN, and our correspondent had better study it up for himself, by the aid of the annual index.]

Sawdust.—Is sawdust from chestnut and oak, used in stables as bedding and as absorbent, as good as from other kinds of wood? Is there any acid or other principle that would be injurious to land if so used? M. S. M. *Guilford, N. Y.* [Well dried sawdust of the kind mentioned, used moderately and not copiously, may be applied as an absorbent, but will be all the better if mixed with chopped straw. Green or wet sawdust of any kind should not be used.]

Fertilizers Wanted.—What is the matter with the fertilizer men that they do not advertise? The Mapes Company seem to be the only ones who have vitality or enterprise enough to place an advertisement this year. Have all the rest gone to the wall, and is Mapes the only one left? Their fertilizers may be good, but I like a variety to choose from, and other things being equal, always patronize those firms that have faith enough in their material to advertise. M. T. RICHARDSON. *84 Reade St., New-York.* [Our correspondent will be safe in following his usual rule this year; but the Mapes Company is not the only one advertising—see p. 283.]

Ensilage for Horses.—In all my readings on the subject of ensilage, I have seen nothing about feeding ensilage to horses. I have become the owner of a place at the foot of the Catskill mountains. There is no pasture or meadow on the place, and very little hay raised in the neighborhood. I have three horses and two cows, and am thinking of building a silo about 10 by 10 by 15 feet high. Is it safe to feed corn ensilage to horses? If not, it will not pay to build the silo as I have so little stock. S. E. *Greene County, N. Y.* [Good, well preserved ensilage has been fed to horses without harm in connection with one-half or one-third hay and some grain. We would not advise you to feed it alone. Begin moderately, and increase it as it appears to do well. There is some natural difference in animals, and some will bear more than others. Your silo will hold 25 or 30 tons, and feed your five animals about five or six months.]

Steers—Cottonseed—Manure.—We feed 175 cattle, have silos of 700 tons, and will build enough more this summer to add 600 tons. Your paper has furnished us untold information, without which we could not see our way. We can buy cottonseed at 25 to 35c. per 100 lbs., and the cottonseed oil mills sell cottonseed meal after it is pressed at 50c. per 100 lbs. Which is the better? They say the meal is better than the seed, but it does not look reasonable. I hope you will continue to give us the latest items on silos and ensilage in future as in past. (1) Three years ago, an agent went through here selling manure spreaders, but never delivered. He said name of spreader was "Philpot." Do you know anything of this machine? I see but one advertised in your paper. What is the best now in use? (2) T. & B. *Lynchburg, Tenn.* [1. The scale on which Mr. T. is feeding shows that a right determination of the value of different foods is a matter of great importance to him. And to this end, if he had given the foods which he does or proposes to use with his ensilage, in feeding his steers, we could more easily determine the relative values of cottonseed and cottonseed meal, as he will understand that it is not absolute but relative value that must be determined. It depends upon the combination of foods, as to which is the most appropriate for the purpose intended. If to be fed with ensilage alone, then cottonseed, having such a large percentage of oil, would be less valuable than decorticated cottonseed meal, because so much oil would only add the excess of

carbo-hydrates. But T. does not say whether the cottonseed meal is decorticated or still contains the shuck or hulls. It may be inferred from the price that it is not decorticated, but that the oil is pressed out without removing the shuck. The analysis of cottonseed shows the following digestible nutrients: Albuminoids, 17.1; carbo-hydrates, 14.7; fat, 27.8. Decorticated cottonseed meal: Albuminoids, 38.2; carbo-hydrates, 17.6; fat 8.0. Undecorticated meal: Albuminoids, 17.5; carbo-hydrates, 14.9; fat, 5.5. The calculated value is, of seed $8, decorticated meal $2.30, undecorticated $1.14 per 100 lbs. But this valuation means that when the complementary foods are used to balance other foods in a ration they have these comparative values. The seed, having 2.7 per cent. of digestible oil, cannot be used except in small quantity without having an excess of oil, which is wasted. The decorticated or hulled meal is worth twice as much as the unhulled meal, when it is used as a proper balance in the ration. It may be inferred that T. intends to fatten on ensilage and cottonseed or cottonseed meal. The following formula will show, perhaps, the best combination that can be made of these three foods, in pounds.

	Albuminoids.	Carbo-hydrates.	Fat.
8 lbs. corn ensilage.....	0.48	4.00	0.21
6 lbs. cottonseed.....	1.03	0.96	1.64
6 unhulled cottonseed meal	1.05	0.99	0.33
Total.....	2.56	5.87	2.18

Nutritive ratio 1 to 4.6. It will be seen that this contains 2.18 lbs. of digestible oil. This is a very large proportion, but as the carbohydrates proper are deficient this oil will assist to balance it, and if the cottonseed were ground so that the cottonseed and unhulled cottonseed meal can be thoroughly mixed with the ensilage, it may produce a very good result in fattening, and it certainly would be a very cheap ration. It would improve this, if 3 lbs. of rice meal were mixed with it. This would increase the carbohydrates proper and help to balance the ratios. 2. I have used the Kemp & Burpee spreader, but the Empire appears to contain what is said to be the latest improvement. If he addresses the former company at Syracuse, N. Y., and the latter at Phœnix, N. Y., he will be able to see which is least liable to breakage, and that is the one he wants. R. W. S.]

Red Top.—My farmer presents me with sample of a peculiar kind of grass, which he says has lately appeared in my clover and timothy meadows. He also states that it is eaten with the greatest avidity by the cows, sheep and calves, and wishes to know its botanical genus. I enclose sample of the tops and seed. It grows about three feet high. W. H. B. *Honesdale, Pa.* [The grass is the common "red-top," formerly given in the botanies as *Agrostis vulgaris*, but now, both it and *Agrostis stolonifera* are generally considered as mere varieties of the "white bent grass," *Agrostis alba*. It is a fine grass with slender culms or stems and is good for lawn, pastures or meadows, but owing to its rather small size it does not produce so large an amount of hay on a given area as timothy. It makes hay of excellent quality, however, and is relished by stock. It differs from the "white bent grass," chiefly in its shorter ligule and in its purplish or greenish-purple panicle of flowers. C. H. P.]

Raising a Calf.—Last night we lost a fine imported Jersey cow within five hours after giving birth to a lively heifer—parturient apoplexy. We want to raise this calf on account of the superb qualities of its dam. Please advise mode of treatment. As we are in city, must buy everything wanted. WILLIAM. *Pittsburg, Pa.* [As this calf is valuable and William desires undoubtedly to raise it in the best way, he would do best to take her to some reliable farmer, and let her suck a cow recently calved for two months. It would probably cost scarcely any more, and ought to be much better than any treatment he could give in the city. If he raised her on milk obtained in the city this milk should be had as fresh as possible, and given to the calf blood warm. If raised this way in the city she should have one gallon of milk morning and evening, and it would be well to stir in a spoonful of flaxseed jelly at each feed, this jelly being formed by boiling flaxseed in six times its bulk of water for about twenty minutes. R. W. S.]

Draft Stallion—Walking Gait.—Please tell me the proper way to feed a Percheron stallion while in service, to make him vigorous and sure, besides the exercise he requires. C. J. D. *Harford Furnace, Md.* [C. J. D. will find instructions given to fit his case on p. 228, in answer to A. S. But if D. can have 200 lbs. of oats ground with 100 lbs. of cow peas, then for his heavy stallion he might use the following ration: 12 lbs. cut timothy, 7 lbs. oats and peas ground, 7 lbs. fine wheat bran and 2 lbs. linseed meal. This ground feed should be well mixed together dry, and then thoroughly mixed with the moistened cut hay. Moisten the hay only so much as is necessary to make the ground feed stick to it, so that both will be eaten together. This will be given in two feeds, but if to keep it sweet it is necessary to mix shortly before feeding, then mix half the quantity at a time. During the season of greatest service, mix six fresh eggs into one or both feeds. This combination of food is calculated to give great masculine force. It would be of greatest service if draft stallions were trained systematically to *fast walking*—the most important gait for this class of horses—and there is no doubt that such a fixed habit is transmissible. R. W. S.]

Bushing Peas.—D. L. B., in the COUNTRY GENTLEMAN for Nov. 22, 1888, tells of bushing peas by strings leading from splints in the ground up to wires stretched between stakes. Why is this better than stretching the strings horizontally between the stakes? Will D. L. B. please tell? R. K. T. *Brownsburg, Pa.*

Crops for Ensilage.—Will some subscriber who has used large quantities of sorghum and clover for ensilage please tell us his success? *Mason County, W. V.* P. S. C.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*

ANTI CRIBBING OIL, p. 194.—Where can this oil be obtained, or can it be made here? J. C. *Spiceland, Ind.* [Address Geo. Walker & Co., Wayne St., near Fremont St., Jersey City, N. J.]

COCKED ANKLE.—A 5 year-old mare seems to be developing a cocked ankle on right hind leg. First noticed two weeks ago when putting shoes on her with heavy toe and heel calks. She seems all right when working, but in stable she stands with pastern joint bent forward. Is not lame; no swelling. F. J. S. *Glenlock, Tenn.* [Use a lighter shoe with high heel and low toe calks, and apply golden blister to sides and back of leg.]

LUMPS UNDER SKIN, p. 945.—What farther can I do for the four-year-old Oregon gelding to relieve him of his cough, which is no better? Skin disease is better. T. D. W. *Flint Creek, N. Y.* [Give one of the following balls every other day: Powdered barbadoes aloes, 1 oz.; powdered nitrate of potass., 2 oz.; powdered gum camphor, 6 dr.; fluid extract of digitalis, 1 dr.; fluid extract of belladonna, 4 dr.; powdered gentian root, 1 oz., and sufficient quantity syrup. Mix and make into six balls. Continue flaxseed.]

SWOLLEN JOINTS.—A colt one-year old in May next, is in good condition; two or three days ago its ankle joints began to swell to nearly twice their natural size; they are quite hot and sore, and colt is not as lively as formerly. Is fed with oats, wheat bran and small potatoes, two or three times a week, with all the hay it will eat. T. F. H. *Bridgehampton, N. Y.* [Give a tablespoonful of the following powder in feed three times a day: Powdered nitrate of potass., 3 oz.; powdered chlorate of potass, 2 oz.; bicarbonate of soda, 3 oz.; mix. Give colt ½ pint raw linseed oil; repeat in three days unless bowels are loose.]

FISTULA—ENLARGED JOINT—NOT IN HEAT.—A colt, ten months old, has a discharge from the left ear, about one inch from the head. At the base of the ear is a knot; seems hard, like bone. This discharge has been for four or five months. If you take hold of ear close to head and press between fingers, discharge comes out of a small hole in the front edge. (1) Another colt got caught in stall two months ago, beat his knee against the boards and bruised it so badly that a large portion of flesh sloughed off to the bone three inches across, on right side; it is not stiff, but leaves a large joint. (2) Two heifers, 3 years old, bought in Ohio two years ago, have never done well since I had them; are thin in flesh, though having plenty to eat. Have never been able to get them with calf; have never seen them in heat. Had a two-year old bull with them last summer and fall, and have had them with a bull every day for two months. (3) J. H. G. *Port Gibson, Miss.* [1. Fistula in the neighborhood of the base of the ear is a very tedious thing to treat. Sometimes they result from injury, but the worst case I ever saw was caused by invaginated skin. The imprisoned skin continued to grow hair in great quantities, and this, as well as the skin and the excretions therefrom, being foreign bodies, caused periodic abscesses, and finally fistula. You need the services of a good surgeon for this case. 2. Apply golden blister, and repeat in three weeks. 3. Examine them per vaginam, and note if there is any slimy discharge in the vagina, and whether the os uteri is relaxed and too much dilated or closed. State whether os is scirrhous or ragged, &c. Do you know if either ever had a calf or aborted? Give details.]

SKIN HUMOR, p. 167.—Have given each of the mares half an ounce of Fowler's solution twice a day, and half an ounce of cream tartar at noon. Their coats are looking brighter, and the scurf on their skins is gradually disappearing. This morning the older mare had a blotch on flank a foot long by 6 inches wide, and the younger one a somewhat smaller one on her back near the saddle. The older one seems to have considerable skin irritation, as she tries to bite herself whenever opportunity offers—which is rare, as I keep them constantly muzzled except when feeding or watering. The older one during the last year, and twice within the past seven months, has had an attack ill staggering in her stall, and on two occasions fell, and then would paw and tremble. W. P. S. *Nethermood, Mich.* [Give each a dose of physic, and repeat in a week. Then feed ½ oz. powdered nitrate of potass., and ½ oz. of bicarbonate of potass., twice a day for a week.]

GARGET—My seven-year-old cow gave me a great deal of trouble last year; udder was hard and swollen after she calved, and she gave a very small quantity of milk. I used belladonna, mutton tallow, &c., and after many weeks removed the swelling, but she was nearly dry. Is not due to calve in six weeks yet, but right side of udder has begun to swell already. Have given her saltpetre and epsom salts nearly every day, and greased udder daily with mutton tallow, turpentine, kerosene and vinegar. She gives about a pint of milk daily, mostly from the swollen side. I strip her out three times a day. B. K. B. *Hackensack, N. J.* [Give general cow drink, then half one every three days for two weeks. Rub udder with the liniment recommended for garget on label of general cow drink; milk twice a day. Give an ounce of powdered chlorate of potass. in pail of water daily for a week. Great care in diet is necessary.]

FAILURE IN MILK—ANKLE CUT.—One of my best cows came in fresh, Feb. 6. She is all right, eats well, and is apparently in good health every way, but has not given over 10 or 11 quarts of milk a day, her usual quantity being 18 to 20. Is there an index for the veterinary column? (1) I bought a horse a short time ago, that has been cut on the cords of one fore leg above ankle, leaving a scar, and the cords are also quite thickened. She is a little stiff in that leg when she first starts off. Would it do any good to blister? J. D. W. H. *Walden, N. Y.* [1. All these questions are included in the index published at the end of each year. Give cow one-quarter teacupful of the following powder twice a day, in half a pint of molasses and a pint of warm water: Powdered black antimony, 4 oz.; powdered nitrate potass., 6 oz.; ground caraway seed, 4 oz; ground fennel seed, 8 oz.; mix. Feed whole flaxseed, steeped. 2. Apply golden blister on ankle every three weeks until the parts are in good condition.]

ECZEMA.—A 14 year-old mare, about five years ago, after a sharp drive, in which she was much heated, had over her body wheals from one to three inches in diameter and one-half to one inch thick, painful to the touch, but no discharge; hair was not apparently injured. In a few days they disappeared, and the mare seemed as well as ever. Soon after an eruption appeared about her head, neck and shoulders, which has since continued. Remainder of coat is nice, and she is in good condition and fine spirits. Eruption has the appearance of mange. Three months ago the mare had a slight attack of what I supposed was anoturia; gave 6 drachms aloes. In a week she was able to go to work. A month ago, after severe driving, the wheals appeared again, but passed away, as before, without treatment. Please give diagnosis, treatment and prognosis. J. H. *Arcadia, N. C.* [Five years is a long while for skin disease to exist in a horse. Is she in foal? What have you done for her? Are you a physician?]

IN CALF TOLD.—A veterinary surgeon of reputation here has for a consideration been teaching some of the dairymen how to ascertain whether or not a cow is safely with calf after three months, by locating a point well up on her right flank, where he says you can "actually hear the calf's heart beat." I confess I am somewhat incredulous, but if it is a fact that such can be done I would willingly pay the fee $25. What says Dr. Moore? BRIGHTVIEW. *Pittsburg, Pa.* [It was formerly said by men of considerable reputation in their time that the sun moved. Be patient, and after a while you can buy the recipe for 25 cents, or listen for yourself and if the heart of the fœtus can be heard you can hear it just as well before paying $25 as after. We do not think the three months old calf will furnish much heart music any way. Still, we have heard of horses on exhibition where for a "consideration" a horse would be shown with his head where his tail ought to be.]

SPRAINED JOINT.—A mare 8 years old, in plowing two days ago, sprained pastern joint; is very lame in that leg, steps on her toes and when she puts her weight on that foot it appears to slip out of joint at the coronet and makes a slight cracking noise. F. D. S. *Racine, O.* [Apply golden blister to the leg from top of hoof to fetlock all the way around. Report in a week. Rest is necessary.]

MARE DAZED.—A mare 12 years old in good condition, suddenly stops in the road, seems to lose all power of locomotion for a few minutes and then recovers. While the spell is on seems like an animal on glare ice and afraid to move. R. V. S. *Plaisdale, Mass.* [How long have you had mare and when did she show this first? What is her feed and condition? Is she in foal? How frequent are the attacks?]

COLT OUT OF CONDITION.—A colt one year old last November began to go down in September, and is now very poor. In December sheath was badly swollen, and in belly half way to front leg, slightly. Bathed with fish brine, and enlargement has disappeared; gave medicine. Four weeks ago he seemed to have staggers, walked against the fence and fell backward. J. R. C. *Aurora, Ind.* [Give 1 oz. spirits of turpentine and 4 oz. linseed oil; mix. Repeat in a week.]

INJURED BAG.—A cow injured her bag at one of the teats last year and gave milk only from three teats. She has just calved and will not give milk in that teat; by hard work a person can force a few drops through. T. J. Y. *Seneca Falls, N. Y.* [I do not think there is any milk in that quarter to exceed perhaps a tablespoonful. Give her a cow drink and rub the quarter twice a day with chloroform, 2 oz.; tincture of opium, 2 oz.; fluid extract of belladonna, 1 oz; tincture aconite root, 1 oz.; alcohol, 6 oz.; mix.]

NYMPHOMANIA—STERILITY.—A cow eleven years old calved last August, came in heat and was served in due time. Since then she has been nearly all the time in heat. Had her served four or five times the first two months, but since then have stopped service; have been obliged to keep her in stable or yard by herself; she has always been a regular breeder and is a large strong healthy cow. (1) Another cow five years old dropped her last calf last March, one year ago; comes in heat regularly but am unable to get her with calf. (2) F. W. T. *Canaan Four Corners, N. Y.* [Both these cows should be treated with injectio vaginæ.]

SWOLLEN FEET.—A young cow nearly seven months with calf is very lame in one fore and one hind foot, or rather in ankles. They are quite swollen, mostly at the back of leg, and sensitive; hoofs seem all right. She is so lame that it is painful for her to move about, even to stand on them, and she lies down much of the time. A. F. C. *New York.* [Give her a general cow drink, and a half one every three days. Rub the swollen parts with some of the following liniment twice a day: Tincture of opium, tincture of aconite root, spirits of camphor and chloroform, of each 2 oz.; mix. Give an ounce of saltpetre in drink daily for ten days.]

FOUL SHEATH—SCOURING.—A six-year-old horse is foul in sheath; when cleaned will be better for a few days, and then as bad as ever. If he stands in stable two or three days, will swell in sheath and around it. Is in good condition, eats well and drives freely. (1) What can I do for young calves that scour while sucking the cows? (2) Also for calves that are fed on skim-milk and scour? (3) J. T. *New Milford, Conn.* [1. Wash sheath out with soap and warm water, and put no oil or grease in. Give horse a physic ball and repeat in a week. Feed him ¼ oz. bicarbonate of soda twice a day for two weeks. 2. See Scours, in back numbers. 3. Mix half flaxseed tea with the skim-milk.]

FAILURE TO SERVE—LICKING SOAP AND EARTH.—A friend has a fine bull three years old that has become so "pot gutted" and hollow backed that he cannot serve cows, although he is willing to try. (1) A cow will lick common bar soap every chance she can get, she will also lick and eat earth. I think there is something she needs. (2) V. B. *Montgomery, N. Y.* [1. Give bull a pound of salts every four days until three or four doses are used. Also feed two tablespoonfuls of the following powder twice a day: Powdered filix mas, 8 oz.; powdered gentian root, 4 oz.; powdered kino, 2 oz.; powdered sulphur sub., 8 oz.; mix. 2. Give one ounce of bicarbonate of potash in feed twice a day.]

Horticultural Department.

Editorial Notes and Comments.

THE APPLE SCAB.—An inquirer asks if any remedy has been discovered for this disease, which defaces and spoils so many of our fine apples, the Fameuse and some others being nearly ruined by it in Canada and other localities, and in some places it has greatly increased of late years. The most successful remedies which have come to our knowledge are those of E. S. Goff, reported to the session of the American Pomological Society, at Boston, in 1887. He sprayed trees which had been badly affected, using a solution of one pound of hyposulphite of soda to ten gallons of water. The result was that the sprayed trees showed a much larger proportion of fine fruit than those not treated. The experiments were made on the Siberian crab, Seckel pear and Fall Pippin, and they were continued through the summers of 1885, 1886 and 1887, the application being made in the month of May. The results were partially successful. About six per cent. of the fruit on the Seckel pear trees were saved by the spraying, and there was a greater difference on the apples between the sprayed and unsprayed portions. It is therefore an imperfect remedy at best. The best preventive is doubtless planting those varieties which are least affected.

NEW FRUITS BY CROSSING.—For those who can give the time and attention, the production of new varieties by crossing those which have long stood as the most valuable, would prove an exceedingly interesting occupation. Among others which have been reported, President Alex. McD. Allan of the Ontario Fruit-Growers' Association, gives an account of a new pear raised by P. C. Dempsey, a cross between the Bartlett and Angoulême, bearing the characteristics of both pears well blended together. He thinks it will prove one of the most valuable on the list. He proposes for crossing, the Winkfield for size and the Malines for quality, for producing new winter pears. Mr. Dempsey has produced a new apple called the Trenton, a cross of the Golden Russet and Spy. The form and size go with the Russet parent; the color more intense than Fameuse, and the flavor richer. Those who experiment in this way should bear in mind that in order to get a new fruit worthy of cultivation, several thousand seedlings are usually necessary, and the compensation consists in the interest and delight to be derived from turning out new forms.

LATITUDE AND RIPENING.—We published, many years ago, the results of observations made on the ripening of fruit in different latitudes in the country at large, making a difference of one day for every eleven miles, on an average, modified of course by changes of seasons as well as the time during the summer, there being less difference during the heat of summer than in the cooler days of spring and autumn, and mountain ranges, lakes and altitudes would more or less affect the result. Take the State of Illinois as an illustration. It is about 350 miles in length, north and south, and there is a difference of a month in the ripening of summer fruit at the two extremes, or a day for every eleven miles between. We observe in the recent horticultural bulletin of Michigan, giving a large number of observations under this head which have been made and recorded, although attended with much variation, that the general rule we have laid down is corroborated as an average. It may be applied to other parts of the country, by allowing for the various controlling influences mentioned.

ANNUAL FRUIT PLANTING. — Every land owner, from the one who has only a quarter-acre village lot to the farmer who occupies a thousand-acre farm, should have a constant and yearly supply of fresh fruit for his table the year round. All that is needed is an intelligent selection of kinds and varieties, and a moderate amount of care and labor. The man who plants only once in ten or twenty years, and gives no attention between, will be sure to fail. The planting should be made every year, with a few choice kinds. This, properly done, will keep up a constant supply, and the yearly attention, and the continued ripening of new sorts every year, will add to the interest and keep up a fresh knowledge of the best kinds. There are a few newly-introduced fruits of value, but it is best to plant proved standard varieties. The owner may purchase annually at a nursery, or raise a small nursery of his own. Now is the time to begin such a system.

Window Garden—Shelf and Trellis.

Many ardent admirers of flowers look with envy on their neighbors' gardens filled with an abundance of rare and blooming plants, tended by an experienced gardener, and because of the expense and work such a display necessitates, do not have any for themselves.

A few plants well selected and carefully tended will yield an abundance of bloom and give their possessor an amount of satisfaction not easily estimated. Where space is limited, a window-box can be used to good advantage; besides being very ornamental, it is where a busy, tired woman can enjoy and look after it without leaving her work or taking an extra step. The plants being all together are more easily taken care of and are more sure of receiving the attention they need.

Window-boxes are much in favor in the cities, and there is certainly no reason why they should not beautify the village or the country home.

The box (see engraving on page 291) can be made of any kind of wood. It should be a foot or a foot and a half wide, the same deep and as long as the window is wide. It should be lined with zinc, and securely fastened with strong screws and bracket supports so the top of the box will be on a level with the window sill. The box may be stained to imitate walnut, or it may be painted to match the color of the house. If something more ornamental is desired, it can be painted to imitate tiles; cream, white, browns and dull blues are good combinations and harmonize well. All bright reds, blues, or greens are to be avoided as they are apt to spoil the effect of the delicate shades of the blooms. No matter if the box is plain; the growing, blooming plants are its ornaments.

The box should be filled to within a short distance of the top with such soil as would be used for potting plants. In selecting the plants the amateur gardener will be wise to shun novelties and confine herself to well established and easily cultivated varieties. It is surprising what beautiful boxes can be made out of common every-day garden flowers. The tallest plants should be set near the centre and some vines along the edge; these should be allowed to droop and trail over the sides, adding grace and lightness to the whole. For this purpose there is no better vine than Kenilworth ivy. Sweet alyssum should have a

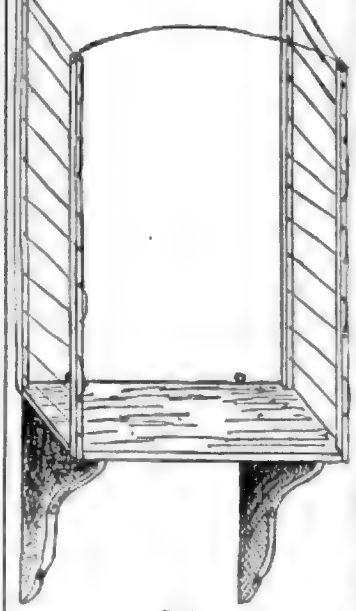


Fig. 1.

place near the front and at the ends. If the seeds are carefully clipt off it will bloom freely all the time. Almost any of the varieties of coleus are good. Heliotrope is easily grown and blooms freely. A box on a north window may be filled with ferns exclusively, which can be brought from the shady wood, as there are few localities but furnish several varieties.

An excellent effect is produced by having but one variety in a box, and this is at the present time the popular fancy. Nasturtiums stand at the head of the list, for this purpose, growing easily, flowering freely and looking beautiful, with their cool light green leaves and bright flowers. Petunia is another good grower, flowering freely. They can be had either single or double, white or tinted and their delicious fragrance will perfume the room outside of which they grow.

A shelf and trellis combined are shown in fig. 1. It is intended for a single plant and can be put up against the side of the house or at the end of the porch. The dimensions may vary to suit the plant for which it is intended. Any carpenter can saw out the bracket supports and nail them firmly to the shelf, adding a strong upright support at each corner. These supports have holes at equal distances, through which medium sized wire is passed in a manner easily understood from the illustration.

Any man handy with tools could put up such an arrangement himself in a little time. A pot of German ivy, or one with a plant or two of *Cobea scandens*, or a pot of mauranndia will soon cover the trellis. It also makes an admirable support for an English ivy. When used for this the shelf and plant can be removed indoors for the winter.

A simple trellis like fig. 2, is made of a

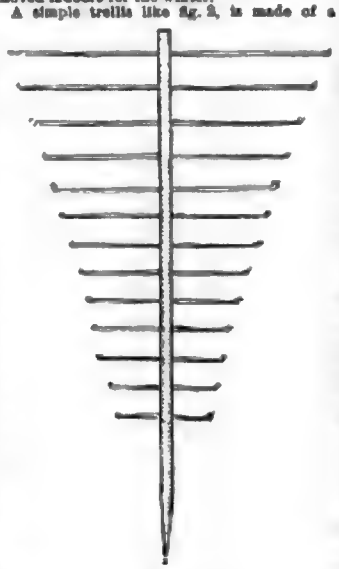


Fig. 2.

single round stake of any kind of tough wood, sharpened at one end so it can be easily driven into the ground. The cross-pieces are made of grapevine wire, put through the stake. The wires are slightly turned up at the ends. By varying the size of the stake and wire a trellis strong enough to support the most rankly growing vine, or small and delicate enough for a window-box or pot-plant, can be made. MARGARET RYDER. *Knox County, Ill.*

American Pomological Society.

Notes of the Florida Meeting—V.

ORANGE GROWING.—The paper of GEORGE R. FAIRBANKS on "The Orange Industry from a Commercial Standpoint," was next in the sub-tropical series which took up so large a portion of the time:

The probable origin and history of the orange in Florida was sketched. Mr. Fairbanks said there was no evidence that any of the citrus species was indigenous to the State; the seeds were brought there over 300 years ago by French and Spanish explorers. The fruit had no commercial importance, however, until steam was introduced in transportation. The orange, too perishable to ship in the old sailing vessels, was grown only for home and ornamental use. Soon after Florida was acquired by the United States, groves were planted along the coast and the St. John's river. The fruit then began to find its way North in small coasting vessels to a very limited extent. Zephaniah Kingsley, an enterprising Englishman, was then the leading grower. With the advent of steamboats and railroads, a new impetus was imparted to the industry. Wild groves were cleared up and budded, nurseries established, villages built up in the forests, and capital flowed in. Yet it is hardly fifteen years ago that the orange industry acquired any special prominence in the State. The few hundred small groves of twenty years ago have now increased to over ten thousand, and the present annual orange product of Florida for market is about 3,000,000 boxes. At the low price of $1 a box, a well-established mature grove may be relied on to yield $300 per acre. It is the most compact and productive of all agricultural industries. To move the present annual product of the State, requires 10,000 cars, costing about $2,000,000 for freight. The box stuff costs about $390,000; nails, $30,000; paper for wraps, $120,000; labor of gathering and packing, $600,000; total paid for preparing fruit for market, $1,140,000. To this must be added the cost of cultivation, fertilizers, packing-houses, teams, tramroads, tools, &c. Then when we remember that as yet not over one-fiftieth of the trees are in bearing, the probable future of this industry becomes truly amazing. We now import about 3,000,000 boxes annually, California contributes some 700,000, and Louisiana 200,000 or 300,000, which shows an apparent total annual consumption of 7,000,000 boxes in the United States. The citrus capacity of Florida is almost unlimited. If all the trees now planted in this country come into bearing, the supply will far exceed the present demand. Lower prices are certainly to be anticipated, but this in itself will increase the demand.

Among our disadvantages are, first, unpropitious time of ripening, when northern fruit is still plentiful in the market, succulent fruit in small demand in winter, and risk of loss by freezing in transit; second, competition with inferior foreign fruit; third, poor transportation service at rates in excess of those charged on foreign fruit. Over half the gross receipts is now absorbed in expenses of marketing; and still I look for fair profits from orange-growing under proper conditions even in the future. With an average yield of 40,000 oranges per acre from matured trees, a net return of 50 cents per hundred would give a handsome profit. We must reduce all our expenses of growing and marketing, and then enhance the quality of our fruit. The best always pays best.

Discussion ensued. Rev. Mr. Phelps said: "The companies should handle our oranges as perishable fruit, and not like cord-wood. I ask not for lower tariff; I want better service. Sicily oranges are delivered in our markets for half less freight than is charged us."

Pineapples—Guavas—Root Knot.

The pineapple was then discussed in a comprehensive paper by Rev. Dr. WHITE. A few of his points only are appended:

Success depends first upon entire exemption from frost. It is strictly a tropical plant, and must not be frozen. Only a very limited area of the United States is adapted to its growth. This is the lower part of Florida, south of a line drawn across the State at Jupiter Inlet. Heat is very necessary; mere exemption from frost is not sufficient. There is great diversity of opinion as to the best soil for pines. It must at least be dry and fine, and it should be prepared as for a well cultivated garden, and well fertilized. I use cottonseed meal; a great lover of ammonia is the pine. Last of February and March is the best time to plant. Spanish Red is the best variety. Large size and fine appearance are the main requisites. Sugar Loaf and Egyptian Queen are other favorite sorts. I plant 2 by 3 feet apart; in the Bahamas they plant 2,000 on an acre if they can find holes enough in the rocks to put the plant in. They need plenty of water.

As to the profits of the business, Dr. White said: "Some years ago my accounts showed something like $1 200 per acre; later I got only about $600. I think it would be safe to estimate it at from $400 to $700 net, with all expenses out. My smallest fruit measures 12 inches in circumference; do not call anything under that fruit. I have been growing and shipping pines about 12 years now, and I think my fruit has averaged 14 inches. Pines are propagated by suckers, crowns and slips, and the plants bear about in that order of time, respectively. Under the best conditions the plant blooms in a year from the planting of the slip."

Speaking of the guava, which the doctor grows quite extensively on Indian river, he said: "We do not use it much for jelly there, though this is the only form in which it can be sent to distant markets. We like it raw and use it freely in the family, deeming it delicious. But the fruit is very perishable."

The subject of "root-knot" was next introduced. This is a troublesome disease quite prevalent in the South. Dr. J. C. Neal opened, giving the habits of the insect at length. He showed small trees of the peach and plum where the roots were badly affected, being a mass of hard, knotty excrescences. He said trees in sandy soil were most subject to the disease. Each knot was composed of millions of worms, as revealed by the microscope. The growth of the tree is gradually impaired, and it finally dies. He considered the insect a native of America, and thought very little of the Florida soil was entirely free from it. The insect has great tenacity of life, but frost kills it. At the North, where the frost penetrates the soil four inches, it need not be feared, but if allowed to go on at the South they would soon be unable to grow peaches, plums, grapes, or almost anything else, for it would be only a question of time when the orange trees will be affected by this insect. It has migratory power, and is therefore contagious. Care should be used to purchase trees which are known to be unaffected. Over 1,000 experiments with the disease have been made by Dr. Neal, and a paper giving the results of these observations has been sent to Prof. Riley at Washington.

Florida Lemons.

H. S. Kedney presented a paper on "Lemon Culture in Florida," giving an interesting resumé of the origin and progress of the growth of this very useful fruit:

Like the orange, it is not indigenous, but came from imported seeds. Gen. H. S. Sanford introduced the finer varieties about fifteen years ago. The famous Belair lemon grove, near Sanford, was planted and is now owned by him. Here he grew and shipped the first profitable lemon crop raised in the State. Rev. Lyman Phelps is another pioneer enthusiast in the lemon industry there, growers being largely indebted to him for the best methods of handling and curing now in use. Varieties are numerous. The wild native fruit is brilliant orange in color, skin very rough

and thick, juice sweetish; is valueless except as a stock for the *better* kinds. Among the choicer and most profitable lemons grown there are the Villa Franca and Belair Premium. Two-thirds of the groves are planted to these. Water and heavy timber on the north and west are favorable protections to the grove. The Genoa and Eureka, resembling the above sorts, the latter from California, are also favorite kinds. Sicily and Lisbon are good, but more susceptible to cold. The largest groves are in the Lake Weir and Apopka regions. Low budding on the sweet or sour orange—the latter best—is advised. More moisture is needed than for oranges; hence plenty of shade is best, which, besides, is a protection against rust to some extent. It should be planted closer than the orange—say 15 by 20 feet, or even less. At five years the trees should be 10 to 15 feet high, and the same in breadth. They should then begin to bear, averaging from a quarter to half a box that year, and doubling this yield annually until the product is about eight boxes per tree at twelve years. Two crops are usually produced each year; the first ripens in July and August, the second in October and November. Much care is necessary in gathering, grading and packing. The oblong shape of the lemon precludes the use of mechanical "sizers," as in the grading of the orange. The fruit must be clipped from the tree, put in baskets, and sorted by hand into three sizes, 200, 250 and 300 to the box—the latter being most salable—wrapped in paper and tightly boxed. As to coloring, there is much diversity of opinion; the summer crop, being picked quite green, requires curing. After trying the various methods, Mr. Kedney preferred to pack and ship at once only to such dealers as have curing rooms. Some gather the crop when two or three inches in size, ripe or not. His plan was to clip all on July 15 that were 2½ inches in diameter, without regard to ripeness. He wanted to receive the high prices then. The lemon is less subject to disease than the orange. Rust mite is its greatest enemy. A russet orange will sell, but a russet lemon will not. "Our lemons bring the highest price in market, and I look hopefully for the profits of lemon culture in Florida." E. E.

Heliotrope Culture.

ED. COUNTRY GENTLEMAN—The fragrance of the heliotrope is so pleasant that everybody likes it. Its easy culture during summer out-of-doors, and suitableness for bouquet-making, make it always in demand by plant-growers. It is, however, one of those plants that well repay a suitable position and good culture, grown either as a pot plant or planted in the flower bed. An open exposure, with an abundance of plant food, are requisite in maintaining unchecked growth and plenty of blossoms. I often have complaints from customers of their plants not producing many flowers, the cause of which I generally find to be their being planted in the shade of some larger-growing plant and in poor, dry soil. Under such circumstances heliotropes are never satisfactory.

The same principle holds good with them grown as pot plants. Let us take the newly rooted cutting and pot it in a two-inch pot with a soil composed of thoroughly rotted manure and sandy loam in equal parts, and if kept in a temperature of not less than 50° or 55° it will at once start into growth. When about three inches high, pinch out the point of the shoot, to reduce branching, and as soon as the pot is well filled with roots, shift into a 4-inch pot and again pinch the points of the shoots off, which will induce more branching, and if kept in a sunny position every point will produce a good large spike of flowers. If wanted for pot culture it will have to be potted into large pots to maintain a healthy growth, as the soil gets exhausted; or else give every few days an application of liquid manure.

Some of our finer varieties are subject to rust on the foliage, the best preventive of which is an unchecked growth in a sunny position. The darkest variety we have is Queen of Violets, which, under poor treatment, is always covered with rust, and has for this reason been discarded by many growers, but I find no trouble with it when liberally supplied with food and moisture. It is probably the most beautiful dark-flowering heliotrope in cultivation. M. MILTON. *Mahoning County, O.*

How to Grow Currants.

ED. COUNTRY GENTLEMAN—Six years' experiments with currants have led me to abandon wholly the handsome tree form for a much larger and more economically harvested yield. I allow each year from four to six new shoots to grow from the ground surface on each bush, keeping the soil well fertilized and cultivated clean, destroying the currant worm when it appears by a careful dusting especially of the under surfaces of the leaves with powder of white hellebore applied while the dew is on. When the currants are sufficiently ripened (and for perfection in making jelly, they should hardly all be red or ripe) the pickers cut off with a corn-knife or grass-hook every branch which is in bearing, lay the branches carefully in the garden barrow, and wheel them off and dump them in the shade, where they afterward sit and strip the branches at leisure. As all the currants under this treatment grow on new wood the fruit is finer and more abundant, and the dread of picking while "squat like a toad" in the boiling heat of July has vanished.

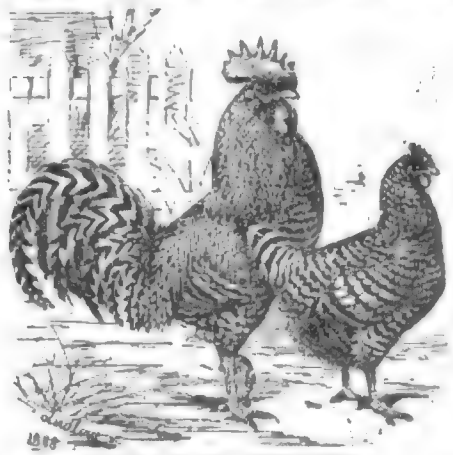
After six years of this apparently severe treatment my old bushes are more vigorous than when I commenced, and in better condition than the new planting which I then made in the expectation of killing out the old ones and relying on the new. I estimate the time required for picking as not more than half that consumed by the old way. The increased comfort of the pickers and the improved quality of the crop cannot be estimated. C. E. O.

Brentland, Conn.

The Poultry-Yard.

Scotch Greys.

One of the most valuable breeds of poultry, for economic purposes, is the Scotch Grey, which, as the product of the northern half of Great Britain, has been evolved amidst conditions which are not the most favorable, and where "survival of the fittest" means "survival of the strongest." It has been spoken of as a "large, hardy cuckoo Dorking, without the fifth toe;" but this is scarcely true, for it is not only a better layer and more hardy than is the Dorking, but it is a non-sitter, very few of the hens showing any disposition to undertake maternal duties. The carriage and shape are more upright than in the Dorking, and the bird more active. Cocks weigh 8 to 9½ lbs. when a year old, and the hens, as a rule, a pound less. The groundwork of the plumage is a beautiful blue-gray, with neat moons of a metallic black on every feather, and in good specimens the tail feathers of the cock will be marked right to the tip. The comb of the cock is large and single, the wattles proportionately long, and, with the face and ear-lobes, should be of bright scarlet. In the hen the comb should fall slightly over to one side. The legs are white, but if mottled a little with black this is not objected to. The Scotch Grey is a first-class all-round fowl, and very suitable, indeed, for all who look to profit. It is a good layer of large white eggs, which are well flavored, averaging about 120 to 130 eggs per annum. As table fowls they are not much inferior to the Dorking, and the loss in eggs is quite made up by this quality, as the chickens are plump, and look well on the table. The frame is not so large or the breast-bone so deep as in the Dorking, but there are not many persons who could tell the difference between them on the table. One thing, however, seems essential to the Scotch Grey, namely, green food, and they are not very suitable to confined yards.



A PAIR OF GOOD SCOTCH GREYS.

The following is the standard of excellence adopted by the Scotch Grey Club:

COCK.—*Comb*—Single, medium size, fine in texture, perfectly straight and upright, and with well-defined serrations, bright red in color, free of side sprigs, and come well down on the head behind. *Beak*—Strong, well curved, white in color, or white streaked with black. *Head*—Neat, long and fine. *Eye*—Large, bright and clear. *Ear Lobe*—Medium size, fine in texture, and bright red in color. *Wattle*—Medium in length, bright red, well rounded on lower edge. *Neck*—Medium length, finely tapered, well arched, and having hackle flowing down on shoulders and back. *Breast*—Broad, deep and full, and carried well forward and upward. *Body*—Medium length, compactly built, and full of substance. *Wings*—Medium size, carried well up, distinctly barred, bow and tip, covered by hackle and saddle feathers. *Tail*—Medium size, carried well up, and receding from body—not squirrel—with flowing sickles and secondaries nicely and evenly barred. *Thighs*—Long, straight, wide apart, and strong; not quite so prominent as in Game. *Legs*—Strong, and rather long, white in color, or white mottled with black—not sooty. *Feet*—Four toed, stout, and strong, same color as legs, toes straight and well spread out. *Size*—The larger the better, if combined with quality. *Shape*—Neither Dorking nor Game, but having feathers allied to both. *Carriage and Appearance*—Erect, lively, active, bold, and graceful. *Plumage*—Cuckoo-feathered, grand color of body, thigh and wing feathers should be bluish-white, while that of hackle, saddle and tail feathers may vary from bluish-white to light grey. The color of the barring must be glossy black, with a metallic lustre. The barring in body, thigh and wing feathers should be straight across, while that on hackle, saddle and tail may be slightly angled or V shaped, and the alternating bands of black and white should be equal in width, and proportioned to size of the feather. The bird should read throughout, i. e., be the same shade from head to tail, and be free from red, black, white or yellow feathers, and the hackle, saddle and tail should be distinctly and evenly barred, while the markings all over should be rather small, even, distinct and sharply defined.

HEN.—*Comb*—Medium size, fine, evenly serrated, either erect or falling slightly over. *Beak, Head, Eyes, Ear-lobes and Wattles*—Same as cock. *Neck*—Rather long, hackle distinctly marked, and same shade as body. *Breast, Body and Wings*—Same as cock. *Tail*—Medium size, well marked, receding from body—not squirrel. *Thighs*—Long, strong and well shown. *Legs*—Rather long, pinky-white or slightly mottled—not sooty. *Feet, Size, Shape, Carriage and Appearance*—Same as cock. *Plumage*—Same as cock, but markings rather larger, even and distinct, producing an appearance like shepherd's tartan.

STEPHEN BEALE.

House for Six Hundred Fowls.

MESSRS. EDITORS—A letter recently received from a reader of the COUNTRY GENTLEMAN contains this request—"Please give your idea as to what sort of a house we shall need for about fifty dozen chickens, to start with." As to answer this satisfactorily to the writer and to myself would require more time than I could give a private letter, I send the information to you, and perhaps it may be read by others interested in poultry-houses.

But before speaking of the buildings, let us consider the yards. Six hundred fowls will require two acres of ground; three would be better, but this area will answer. If possible, locate the yards on a southern hillside; a convenient arrangement is to have the extent from east to west twice that from north to south, making the inclosure about 13 by 26 rods. The yard must be well drained; it is imperative that the fowls have dry runs. From my own experience, I know that chickens do best in small flocks, and that not more than ten or twelve dozen fowls should be kept in one inclosure. Run four division fences north and south, equi-distant from one another, dividing the two-acre lot into five equal parts, each with a front of about 80 feet. Each of these will accommodate ten dozen fowls nicely.

The model poultry-house has four requisites—warmth, room, light and ventilation. For 120 fowls, I would suggest a building 20 by 75 feet, fronting to the south. Artificial heat I cannot recommend. Make the house with balloon frame, weather-strip it and line the walls with building paper, and no stove will be needed. In the centre of the south side is a door three feet wide, from which runs a passage three feet wide to the opposite wall. On either side of this passage, and beginning three feet from the door, are two tiers of box nests, one just above the other. The nests are 18 inches deep, and high by 17 wide, with tight bottoms; they are durable and easily handled. Timbers six feet high support a strip on which rest the perches. To these timbers is secured a strip to support the upper tier of nests. The perches, extending from the passage to the wall on either side, have each a length of 10½ feet. Make the perches at least three inches broad. Place the first one foot from the north wall, the second two feet from this, and so on. This will bring the ninth three feet from the south wall, leaving space for a stage leading to the perches. On either side is provided a movable stage, with iron claws which rest on the middle perch. The stages should be broad boards, across which strips are nailed every few inches. As the inquirer expects to use incubators, I make no provision for sitting hens. Where hatching is done by the latter method, build the house longer, and partition off a sitting-room at the east end.

For ventilation, have openings at the highest part of the roof, the openings sheathed to exclude rain and snow; and others near the floor arranged to prevent drafts from striking the perches. Light is supplied through glass windows extending along the south side on either side of the door. Over the windows on the inside stretch wire netting. Provide shutters for the outside, to be closed at night during the winter. For summer, awnings over the windows will be found a good thing, but may be dispensed with.

Adjoining the house on the southwest build a tight board shed 16 by 30 feet, open on the east. This is dressing room and dining hall in one. Under it place large shallow boxes filled with a mixture of two-thirds road-dust to one of fine wood ashes, to which is added a small quantity of sulphur. It is imperative that the fowls are given good dusting facilities. Cleanliness means health to the chickens, and so profit to the raiser. Nail to the walls, 12 inches from the floor, smaller shallow boxes—some containing charcoal and others crushed oyster shells or bones. Place about drinking vessels filled with fresh water and milk. Scatter the food upon the ground under the shed.

Southeast of this "L" formed by the house and shed is a sheltered spot—just the place for Biddy to promenade. The rear of the poultry house may be made part of the fence, making in the five enclosures a swing of forty yards of fencing. Dividing up the grounds somewhat increases the cost of fencing and building, but this difference will soon be made up in the increased profit of fowls kept in small flocks. Then where so large a number of fowls is kept, there are likely to be different breeds which the raiser desires to keep separated. Each division fence should have a gate, that fowls may easily be changed from one lot to another. Besides, it would require a better architect than I to plan a house for 600 fowls that would combine the four requisites already given and be *economical*.

Adams County, Ill. EDITH JUDSON STAHL.

Sick Chickens.—Please give remedy for my chickens. They are affected by excrescences around the mouth and eyes; some close the eyes; others have the warts, and in the mouth is a yellow "scruff" which will fill the mouth and throat and prevent their swallowing. I have several old ones affected and quite a number young; am afraid it will kill them. They do not droop but eat for some time, at least until they become blind or their mouths become filled. C. V. C. *Kingston, Md.* [Quarantine all birds thus affected; disinfect the premises; disinfect also the hospital where you place them, before letting any healthy fowls go there; bury *deeply* such as die. We doubt whether treatment will do much good, but the following might be tried: Holding the fowl so that it cannot swallow, fill throat with kerosene for a few seconds, then allowing it to run out of the mouth; and inject a few drops into each nasal passage. Also put two grains of bromide of potassium for each fowl into the drinking water for a few days, or inject the crop with milk in which the bromide has been dissolved. Can any reader favor our correspondent with better advice?]

Turkey Eggs by Sea.—A friend in New South Wales has read the articles in the COUNTRY GENTLEMAN on bronze turkeys, and wishes to get some. As she thinks the birds would not come safely, she inquires whether the eggs could be so packed and shipped as to hatch after arrival. Would the voyage be too long, or would the salt water affect them? T. E.

New Advertisements.

Aultman, Miller & Co..... *Buckeye Blender.*
Boden, E..... *Jerseys at Keeney Sale.*
Beer, Theo. C..... *Jersey Heifers.*
Beebe, J. M..... *Eggs for Hatching.*
Barlow & Co., A. G..... *Eggs for Hatching.*
Barnes, A. E..... *Farms for Sale.*
Brookside Stock Farm..... *Trotting Stock, &c.*
Bee W..... *Jersey Cow Wanted.*
Batchley, G. W..... *Percheron Mares.*
Blakeman, L. V. S..... *Gentleman.*
Chamberlain, W. S..... *Shares of Stock.*
Cochran, T. A..... *Jersey Heifers.*
Clark, Thomas S..... *Farms for sale or Exchange.*
Chadborn & Caldwell Co., *Lawn Mower.*
Cooper, Albert..... *Ayrshires.*
Dutcher & Son, J. S..... *Holstein Princess.*
Gregory, Jas. J. H..... *Seed Catalogue.*
G. R. L..... *Help Wanted.*
Graham, Emlen & Farm'rs. *Lawn Mower.*
Gladwin, S. M..... *Lawn Mower Wanted.*
Harris, J. C..... *Fine Poultry.*
Hardee, Millard..... *Farm for Mulberry.*
Hemet, J. G..... *Black Minorca Eggs.*
Kellogg & Co., Peter C.... *Sale of Trotters and Colts.*
do. do. do. .... *Combination Sale Holsteins.*
do. do. do. .... *Trotting Mares.*
McMath Bros..... *Early Vegetable Plants.*
McBride, A. D..... *Jersey Bull.*
Northam, Geo. H..... *Eggs for Hatching.*
Nicholson, R. G..... *Gardener Wanted.*
P. O. Box No. 8..... *Do Local Contributors, &c.*
Peters, Frank..... *Virginia Plantations.*
Poe, Frank..... *Seed Potatoes.*
Schnebly, M. N..... *Short-Horn Bull Calf.*
Tucker, Mary..... *Short-Horns.*
Underhill, A. S..... *Fowls and Eggs.*
Vanderson, F. H..... *Seed Oats and Corn.*
Williams, Geo. L..... *Man Wanted.*
Williams, C. F..... *Eggs for Hatching.*
Wood, Chas. B..... *Herd of Jerseys.*

Subscribers' Wants.

JOHNSTON HATCH, *Fairview*, Pa. Hydraulic ram and pipe.

C. H. CURTIS, *Waterville, N. Y.* Goodhue Wind Engine, mentioned on p. 245.

Pamphlets, &c., Received.

BAIR, J. F., *Philipsburg*, Pa. Poultry List.

BARLOW & Co., A. G., *Miller's, Orleans Co., N. Y.* Poultry List—see advertisement, p. 301.

BEAUBIEN, Hon. LOUIS, 20 *Rue St. Jacques, Montreal, Can.* Address (in French) at Annual Meeting of Quebec Dairy Society at L'Assomption, Jan. 28-31; pp. 13.

BULLARD, E. M., *West Sweney, N. H.* Poultry and Seed List.

CAMPBART, W. B., *Acona, N. C.* Circulars of Winter and Sporting Resort.

DENSMORE BROS., *Red Wing, Minn.* Circular of Steam Evaporator for Syrup and Sugar Making; pp. 16, illustrated.

DRAPER, JAS., *Worcester, Mass.* Bloomingdale Nursery Catalogue; pp. 60, illustrated.

DUNLOP, W. W., Secretary Horticultural Society, Rue 1145, *Montreal, Can.* Premium-List for September Exhibition; pp. 16.

GUNN, Rev. D. G., *Wilder, Jackson Co., Minn.* Circular of Real-Estate for sale.

HICKS, JACOB, Sec'y Queens County Ag'l Society, *Old Westbury, N. Y.* Price-List for 3d Summer Exhibition, at Mineola, June 19-20; pp. 48.

HOVEY, Hon. ALVIN P., Governor, *Indianapolis, Ind.* Inaugural Address, Message and Vetoes;" pp. 63.

HUBBERT FENCE & WIRE CO., *204 Olive St., St. Louis, Mo.* Illustrated Circulars.

LANGLAMMER, Dr. PAUL, 28 *Barronne St., New-Orleans, La.* Illustrated Circular of Decorticator for Flax, Hemp, Ramie, Jute, &c.

LORD, G. P., Secretary American Sabbath Union, *Elgin, Ill.* Circulars.

LORD & THOMAS, Advertising Agents, 45 Randolph St., *Chicago, Ill.* Advertising Type Measures and Rules.

MALONE, W. L., *Fort Worth, Tex.* Circular of Texas Spring Palace.

MOORE, DELANO, *Presque Isle, Me.* Seed List.

NELLIS, J. H., *Canajoharie, N. Y.* Poultry List.

NORTHUP, GEO. H., *Batcellle, Washington Co., N. Y.* Illustrated Poultry Circular—see advertisement.

RUMSEY & Co., *Seneca Falls, N. Y.* Illustrated Circular of Spraying Pumps.

SHENK, SON & Co., *Freemansburg, Pa.* Circular of Royal Washing Machine.

STILSON BROS., *Oshkosh, Wis.* Private Catalogue of Glendale Short-Horns—23 bulls, 38 females; pp. 72, illustrated.

TURNER, Mr., *The Grange, Ulceby, Lincolnshire, Eng.* Circular of 500 Lincoln Sheep to be sold, Sept. 9.

WELLS COLLEGE, *Aurora, Cayuga Lake, N. Y.* Twenty-first Annual Catalogue; pp. 63, illustrated.

WEMAN, BRANTUS, 324 *Broadway, New-York.* "The Greater Half of the Continent;" pp. 30.

In the Legislature.—The New-York Senate passed, last week, the Erwin bill appropriating $4000 for the dairymen's association, and the Coggeshall bill fixing tare on hops at five pounds per bale, and sent them to the Assembly for concurrence; also the Enz bill appropriating $4,500 for a State meteorological bureau at Cornell University—which now goes to the Governor. The Assembly passed (and sent to the Senate) the Husted bill giving the Hatch money to the Cornell station, and the Baker bill distributing among existing county agricultural societies the lapsed appropriations under the law of 1841, being about $24,000. The Nixon anti-dressed-beef bill was hotly debated, but finally ordered to third reading by a vote of 85 to 39.

The Senate finance committee reported in favor of reducing to $85,000 the appropriation for the dairy commission, which the assembly had made $100,000.

The supply bill, as presented to the Assembly, includes three items of agricultural interest, viz.: For farmers' institutes, $10,000; for dairy commissioner's expert teachers, $3,000; for Geneva experiment station, $26,500.

Committees of the Assembly advised the passage of the Cottrell bill establishing dairy schools—see p. 130, and the McAdam bill requiring cottonseed lard to be marked as such. A bill was introduced by Mr. Sheldon, offering a bounty of half a cent for each pound of sorghum syrup made in the State, and exempting from taxes for ten years $6,000 worth of property owned by the sorghum growers.

Acknowledgments.

Communications for publication have been received during the week ending April 6, from C. B. C.—David E. Hotchkiss—Prof. E. W. Stewart—Gerald Howatt—E. D. B.—Stephen Beale—R. M. R.—John R. Hashalem—Palmetto—C. R. M.—Elmer E. Sumney—Prof. W. R. Lazenby—S. B. Strong—T. J. Yawger—Subscriber—P. D. S.—S. Hemingway—Mrs. E. S. Titus—O. S. T.—Henry Stewart—C. O. Newton—A Farmer's Sister—G.—G. F. M.—J. Hill—J. Hannum Clarke—Waldo F. Brown—W. S. Jackman—L. H. Morse—H. Hendricks—I. T. L. P.—S. F. S.—L. B. Pierce—George A. Stockwell (2)—Thomas Bowick—G. M. W.—Henry Stewart—J. W. Jenkins—T. B. Terry—Burnam Wilbur—Prof. E. W. Stewart—J. J. W. S.—Thomas Bowick—A. P. Rowe—Aunt Chloe—Stephen Beale—John Gould.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, April 11, 1889.

Maryland, not "Pa."—By an unfortunate error (discovered shortly after the printing of last week's paper was begun), the address of Mr. R. G. NICHOLSON, who advertised on p. 270 for a gardener, was printed in a part of the edition as Chestertown, "Pa.," instead of "*Md.*" The advertisement appears correctly this week, and persons who wrote to the wrong address will do well to apply again.

Experiment Stations—Results.—Some interesting statements were made by Prof. Geo. H. Cook at a Bellefonte institute last year, and published in the proceedings of the Pennsylvania Board of Agriculture, from which we gather the following items:

More than forty thousand tons of commercial fertilizers were used in New-Jersey in 1887, which were sold for over one million dollars. Prof. Cook thinks that over a million tons are sold in the United States annually. Farmers cannot judge correctly of the genuine or spurious character of these fertilizers by the color, smell, taste or appearance. The published accounts of the analyses are of great value to both honest manufacturers and to purchasers. In one case, the station analyzed a fertilizer which was sold for $45 a ton, but which could have been made for $8. The station has been the means of driving nearly all these impositions out of the State, and saved hundreds of thousands of dollars to farmers.

Some varieties of wheat will yield five, ten or even twenty bushels an acre more than others. Growing side by side under the same circumstances, with the careful weighing and measuring of the experiment stations, will reveal remarkable differences. A case occurred where a farmer was induced to buy seed of a new and lauded variety. It grew by the side of his good old sort, with the same treatment. The new kind looked better while growing than the old one, the straw was taller and heavier, and the farmer intended to save it for the next year's sowing. But when he threshed the crops, he found the new wheat yielded 22 bushels to the acre and the old kind 44½ bushels. That was the end of the new sort. Many questions like this could be settled by experiment stations. The wheat crop of the United States is from 400,000,000 to 500,000,000 bushels a year. When the question is properly answered as to which are the best kinds for profit, the answer will return to the country more than all the experiment stations have cost. If by the diffusion of such knowledge to a tenth part of the wheat-growing farmers in the Union, one-tenth of the whole amount could be gained, the aggregate gain would be $40,000,000.

The Roots of Plants.—The Experiment Station of the Storrs School has made some interesting and very useful examinations of the amount of roots of plants found at different depths in the soil. This amount has an important bearing on the value of different crops for enriching the land on which they grow. Clover appears to stand far above all others, for in addition to the mechanical benefit of its roots, it was found that the roots and stubble,—that is, what is left after the mowing,—contain large percentages of the three most valuable ingredients of plant food, and at the same time a large amount in quantity is left in the soil. In one instance, a heavy crop left a little over three dry tons of stubble and roots, containing 100 pounds of nitrogen, 71 of phosphoric acid and 77 of potash. The report of the station states that it would require 1,100 pounds of nitrate of soda, 400 pounds of dissolved bone-black, and 150 pounds of muriate of potash, to furnish the same amount of fertilizing materials; but these materials would however have the advantage of being used at once by the growing plants, and before the decaying roots and stubble could supply them.

Wheat and other grain crops as a class, were found of little value for enriching the land by their roots. Timothy—stubble and roots together, with the young after-growth—was found to possess much enriching value, which was mostly confined quite near the surface. In the cow pea, three-fourths of the roots were within six inches of the surface, although a portion went down more than three feet. In timothy, the difference in favor of the six inches of the surface was still greater, and greater still with buckwheat, where the upper six inches of the soil held twenty-five times as much of the roots as the next six inches.

Sunburnt Potatoes.—Last year attention was called in the COUNTRY GENTLEMAN to the fact that of the potatoes then on the market a large part were green with sunburn. This year the market price for bitter or such potatoes is a dollar a barrel less, and there must be a still greater marked difference as the public is being educated not to take them at any price. It hardly needs the stating that if potatoes are kept well covered with earth while growing there will be no sunburnt ones. It certainly will pay the producer to follow a method so cheap and simple. N. K. B. *Brooklyn, N. Y.*

Reaching the Public.—Discontinue my advertisement [of horse tail tie] for the present. Your paper has paid me the best of all I have tried. O. HASBROUCK, Jr., *Modena, N. Y.*

—— My advertisement has been very satisfactory, a large number of orders being received for seed oats and potatoes. J. CORWIN JACKS, *Batavia, N. Y.*

—— My advertisement [costing $4.80] *sold the stock*—a pair of mares and a gelding. W. J. FICKLIN, *Charlottesville, Va.*

Arkansas.—Prof. ALBERT E. MENKE, Director of the Agricultural Experiment Stations of the Arkansas Industrial University, has issued his First Annual Report, which is certainly one of the most interesting that have yet appeared under the provisions of the Hatch bill. Among other things, experiments on dishorning cattle have been tried under Prof. Menke's direction, and the following conclusions are given:

1. The operation requires some care, but is not difficult or dangerous.

2. The wounds heal favorably as a rule, although in exceptional cases and when the operation is improperly performed, continued suppuration and chronic inflammation may ensue and seriously interfere with the health of the animal.

3. In cases that progress normally, from three to four months may be given as the time which elapses before complete healing occurs.

4. When amputated at the proper place, the horns do not return.

5. The constitutional disturbance is not severe, and is manifested by a slight and temporary rise of temperature, with probably, in most cases, a slight decline in weight and milk secretion, lasting over the first week or so.

6. The quality of the milk is not injuriously affected.

7. The operation must be considered painful, but there is no evidence that the pain is excessive after the operation is over.

On calves we conclude that—

(1.) The operation is less painful than in adults.

(2.) When removed as above directed, the horns do not return.

(3.) There is little constitutional disturbance manifested.

(4.) When the animal is healthy the wounds heal favorably in about six weeks or two months.

On the important topic of Texas fever, the following remarks are of general interest:

The cattle native to the northeastern counties [of Arkansas] should be prevented from mixing with the cattle from further south or from passing over their trails. The neighborhood of a railroad should always be considered infected ground. Cattle brought from the North into Arkansas should be imported when young and in the winter months. In spring they should be isolated as far as possible from the native cattle and kept on dry upland pastures. Beyond attention to the general health no further measures have so far been found available in conferring immunity against the germs of the disease.

From the success of recent experiments in vaccination against anthrax it is probable that a preventive vaccine may also be found for Texas fever. Such a discovery would prove of the greatest advantage to the southern States by allowing the importation of the best breeds of cattle, so essential to the improvement of our native stock, without the risk with which shipment from northern States is now attended.

On the occurrence of the disease in any locality where the native cattle have not acquired immunity, the healthy but susceptible animals should at once be removed from the sick, and the latter quarantined, remembering that it is not the sick animals, but their surroundings—soil, vegetation, &c., that constitute the media of infection.

Cattle that die ought to be burned or buried deeply and disinfected with lime. No curative treatment is attended with much success. An aperient drench, followed by doses of antiseptics, as quinine or sodium hyposulphite, with stimulants in later stage, have sometimes proved successful.

The Potato Outlook.—Potatoes, this year, I judge will be valuable, since the glut of last year will naturally produce a scarcity that Have seldom known it to fail. The year I was at Newburgh, vegetables did not pay the grower, but next year the crop paid for itself and the losses of the previous season. Potatoes are now selling here at 15 cents per 60 lbs. delivered at cars, and most of them (except ours) are bitter. Some farmers have learned the lesson that deep-planted potatoes are not bitter, though at first they thought the seed would rot in the ground. C. H.

Tioga County, N. Y., March 23.

An Invaluable Implement.—A prominent farmer in Tennessee, writes as follows of the "Acme" Pulverizing Harrow, Clod Crusher and Leveler, advertised on p. 299 by Duane H. Nash, Millington, N. J.

"I had ten acres sown to rye for winter grazing, and wished to turn the rye over to seed with clover. The rye roots had taken a strong hold and it tore up terribly rough in great long flecks. I was disappointed, knowing that I could not get a stand of clover unless the land was pulverized. I knew of no implement that would pulverize the land, and was about to give it up and fix it as best I could for corn. A friend persuaded me to try the Acme Pulverizing Harrow, Clod Crusher and Leveler on it, which I did, and in going over the field twice, this tarry land was made as smooth and as fine as a cabbage bed. I never saw anything in my life equal to it. With the Acme I can pulverize the cloddiest and roughest piece of land that was ever broken up."

Taxes on Fertilizers.—We give place with pleasure to the following letter on a subject of general interest to all consumers of commercial fertilizers:

EDS. COUNTRY GENTLEMAN—We enclose copy of memorial to the secretary of agriculture, which we had intended sending out for signature among the farmers and others using fertilizers, to secure his influence with the treasury department to induce the reversal of the former ruling of that department, and place manure salt containing over 20 per cent. potash on the free list, as the law of 1883 intended. In talking over the matter with Mr. Charles V. Mapes, president of the Mapes Formula and Peruvian Guano Company, he suggested that instead of approaching the farmers direct, as we proposed, it would be much better to lay the matter before you, and ask your cooperation in putting the subject before the consumers of commercial fertilizers. We contend that the ruling of the treasury department, in striking from the free list manure salt containing over 20 per cent. potash (where the potash is in the form of sulphate) is unfair, unjust and damaging to every farmer in the United States using commercial fertilizers and potash salts, as we already have a law making free all substances used for manure. We are reliably informed that you are ready to take up any matter which benefits your numerous patrons all over the United States, and therefore take the liberty of requesting you to give this question prompt attention in your valuable paper.

164 Front St., New-York. HELLER, HIRSH & CO.

The enclosed memorial (which seems to tell the whole story so well as to leave nothing for us to add) is as below:

Hon. J. M. RUSK, Secretary of Agriculture:

Sir—The undersigned, farmers and users of manures and fertilizers desire to call your attention to the great injury suffered by the agricultural interest of the country by reason of the classification by the treasury department of manures and manure salts, containing over 20 per cent. of potash, as "sulphate of potash" under the provision of par. 70 of schedule A, at 20 per cent. *ad valorem*, instead of free as provided in the free list par. 505. This duty amounts to a tax of about $10 per ton, and operates largely to the disadvantage of the agricultural interest of the country to the extent of half that amount per acre. Were a law required to give us free fertilizing materials, we would ask you to recommend the same in our behalf to the favorable consideration of Congress, but as we already have a law making all substances for manure free, we ask from your hands that you will make speedy inquiry into the matter, and interest yourself in obtaining for us a reconsideration of the arbitrary ruling complained of. It is not necessary, we suppose, to remind you that one of the necessary constituents of fertilizing substances is the potash contained in it, in the nature of sulphate of potash, and the exclusion from the free list of all such as contain 20 per cent. and over of potash is to exclude the higher and best grade of fertilizers from our reach. We, therefore, urge upon you a speedy action in our behalf to the end that we may obtain its benefit for the approaching season.

Alfred Bates' Horse and Hound Medicines.

DISTEMPER.—Alfred Bates' Distemper Medicine is a certain cure for Distemper in Dogs, Cats, Monkeys, Foxes, Wolves, Bears, Lions, Tigers, Leopards, Panthers, Jackals, Hyenas, Ferrets, Rabbits, Guinea Pigs, Squirrels, Rats, Mice, Birds, Parrots, Cockatoos, Canaries, Pigeons, Poultry, Ducks, Geese, Turkeys, Peacocks, Pheasants, Partridges, Quails, Hares, Deer, Antelopes, Camels, Horses, Cattle, Sheep, Goats, Pigs, Asses, Mules, Zebras, Kangaroos, Armadillos, Sloths, Ant-eaters, Elephants, Rhinoceroses, Hippopotami, Giraffes, Alligators, Crocodiles, Snakes, Lizards, Tortoises, Turtles, Frogs, Toads, Newts, Eels, Fishes, Sharks, Whales, Porpoises, Dolphins, Seals, Sea Lions, Walruses, Sea Cows, Sea Serpents, Sea Monsters, Sea Horses, Sea Dogs, Sea Cats, Sea Rats, Sea Mice, Sea Birds, Sea Fowl, Sea Ducks, Sea Geese, Sea Turkeys, Sea Peacocks, Sea Pheasants, Sea Partridges, Sea Quails, Sea Hares, Sea Deer, Sea Antelopes, Sea Camels, Sea Horses, Sea Cattle, Sea Sheep, Sea Goats, Sea Pigs, Sea Asses, Sea Mules, Sea Zebras, Sea Kangaroos, Sea Armadillos, Sea Sloths, Sea Ant-eaters, Sea Elephants, Sea Rhinoceroses, Sea Hippopotami, Sea Giraffes, Sea Alligators, Sea Crocodiles, Sea Snakes, Sea Lizards, Sea Tortoises, Sea Turtles, Sea Frogs, Sea Toads, Sea Newts, Sea Eels, Sea Fishes, Sea Sharks, Sea Whales, Sea Porpoises, Sea Dolphins, Sea Seals, Sea Lions, Sea

The Grazier and Breeder.

Milk Ration—Brewers' Grains.

Eds. Country Gentleman—I send dried brewers' grains from Philadelphia; please give their nutritive constituents. Do you deem them an economical feed at $17 per ton, when bran is $18, corn meal $16, cottonseed meal $28 25 per ton? I am using the three last mentioned with cut corn fodder and mixed hay, with good results; milk being my object. Can the dried grains be substituted for either of these feeds to advantage, or would it be better to use them all mixed? The prices I give are for carload lots at the time I purchased.

Montgomery County, Pa. J. B. C.

This by-product of the breweries when quickly dried (as this appears to have been) is a sweet and wholesome food. Its composition is: Water, 8.19; ash, 2.58. Its organic substances are: Albuminoids, 19 69; fibre, 11.01; other carbohydrates, 51.75; fat, 5.56—having of digestible nutrients: Albuminoids, 14.62; carbohydrates, 37.41; fat, 4.77. Nutritive ratio 1 to 3.3.

The digestible nutrients of wheat bran are: Albuminoids, 11.73; carbohydrates, 44.66; fat, 2.58. Nutritive ratio 1 to 4 4. It will be seen that wheat bran is inferior in albuminoids and fat, but superior in carbohydrates. When figured from the digestible nutrients, dried brewers' grains appear to be worth a little more than wheat bran, and slightly more than corn meal. But C. must understand that the practical value of a food depends upon its combination with others. He will see that brewers' grains, being stronger in albuminoids, would be a better complementary food with corn meal and poor fodder. It will be noted that dried brewers' grains has 2.58 per cent. of ash, while wheat bran has 5.66 per cent.

To grow the bones of young animals, and to replace the waste of bone, wheat bran is better food, and 1 lb. of wheat bran has a little more bone material than 4 lbs. of corn meal.

C. may make the following combination: 500 lbs. corn meal, 200 lbs. wheat bran, 300 lbs. dried brewers' grains and 200 lbs. cottonseed meal. The digestible nutrients in this combination are: Albuminoids, 15.0; carbohydrates, 46.9; fat, 4.5. Nutritive ratio 1 to 3.8.

Now let us suppose that C. has timothy and red top hay to feed with this, and suppose his cows are large enough to require the following ration: 14 lbs. timothy and red top and 14 lbs. of the above mixture. Expressed in analytical formula the digestible nutrients would be as follows in pounds:

	Albuminoids.	Carbohydrates.	Fat.
14 lbs. timothy and red-top	0.56	6.30	0.14
14 lbs. grain mixture	2.10	6.86	0.63
Total	2.66	13.24	0.77

Nutritive ratios 1 to 5 5. This is a well constituted ration to produce a large flow and good quality of milk if the cows are qualified to produce it. Situated where C. is, he could probably get a bright, clean quality of malt sprouts for considerably less per ton. With poor fodder this would be better, except in fat, than the dried grains. E. W. S.

Points in Barn Building.

Mr. Terry's Plan Criticized.

Eds. Country Gentleman—A barn should never be commenced until it has been carefully planned and drafted even to the smallest details, as it is hard to make alterations after the building is up. Much assistance was obtained by the writer in studying the plans and estimates that have been published in the Country Gentleman and the Rural Affairs. I would particularly refer the inquirer after barn-knowledge to the latter work, vol. 8, page 399; vol. 9, page 69; and to the description of Dr. W. I. Chamberlain's Ohio barn on page 269. Before beginning my new barn I visited several which were said to be remarkably convenient. The owners were very courteous, and in answer to the question—"If you were going to build another barn what alterations would you make, if any?"—would frankly point out any mistake they had made.

Mr. Terry's barn, as described by himself in the Country Gentleman, page 52 (current year) has some very important and desirable arrangements. The basement is well lighted. It is a very general fault of basement barns that they are too dark, and when the doors are all shut, there is scarcely light enough even on a bright day, to see how to do work without a lantern. Windows are not expensive, and particular pains should be taken in building, to put enough to make the basement as light as possible. Horses and cattle enjoy the light as much as folks and it is cruel to them, and injurious to their eyesight, to confine them in a dungeon instead of a well-lighted stable. Mr. Terry's basement is 9 feet high, which is another desirable feature. A low ceiling is not conducive to health in house or barn, and is particularly objectionable in a barn when large forkfuls of hay and straw cannot be carried without hitting the beams over head. The reason why so many low basements are built, is to save the expense of so much digging. Mr. Terry avoided this by building where the bank had to be removed but 4 feet deep, and this only on one side. It is not best to have the basement much under ground. It requires more digging, you cannot get in so many windows, and it can be made warm enough with less cost. When a person is at liberty to choose the site, it would be better to dig into the bank only far enough to get sufficient earth to make the embankment for the driveway.

The short bridge from the embankment to the barn floor at Mr. Terry's barn is a good thing, not merely for getting a window into the granary but to prevent the sill from rotting. His barn has a good height, being 45 feet from the basement floor to the peak of the roof. I suppose his posts are 20 feet high, and the rise in the roof above the plates 16 feet. My basement is 9 feet high, posts 20 feet, and rise in roof 20 feet, but as my barn is 5 feet wider than his, the pitch of the roof is probably about the same. A steep roof looks just as well, is not so apt to leak, and gives more room in the barn for hay and grain.

I cannot discover that Mr. Terry has made any provision for the accommodation of visitors' horses, unless he puts them on the barn floor, in the cow stable, or in the covered barnyard. He has three box stalls, in each of which two horses can be tied or one turned loose. As he usually gives each of his horses a separate stall he would have to double them up when visitors came, and having become accustomed to stand alone with an abundance of room, they might feal cross, quarrel and kick each other. One of my neighbors had a span of horses that had always stood together in a double stall peaceably from the time they were colts until they were eight years old, and then they quarreled and one of them kicked the other terribly. I prefer giving each animal a separate stall.

Mr. Terry's cow stable is 76 feet long and intended for 20 cows. It will hold that number and more if he confines their heads in stanchions, but I do not think a humane man like him will do that; he wants all his animals to take comfort while they live with him, and he will give each cow a separate stall. My cow stalls are 4 feet wide, and they are not an inch too wide to give room to milk. Nineteen stalls are as many as ought to go into that cow stable. His hay bays extend down into the basement to a floor up a few inches from the ground. In my opinion hay and grain bays should not go down into the basement at all. A barn the size of Mr. Terry's has abundance of room above for all the hay, grain, straw and stalks that an ordinary farmer can raise on a hundred-acre farm without encroaching on the basement, every foot of which is needed for the horses, cattle, sheep, the silo, the granary and root cellar.

Mr. Terry's hay may keep well on a floor up only a few inches from the ground, but my experience is not favorable to the arrangement. If it did nothing worse, such a bay makes a great harbor for rats under it. My grandfather built a barn which I tore down a few years ago, that had the hay bay extend down to a floor about a foot above the ground, so that the hens laid under it, and I used to crawl under for the eggs, when a boy, and yet the hay in the bottom of that mow, no matter how dry it might be when put in, always came out musty and spoiled. There is a dampness constantly coming up out of the ground that will injure hay only a foot above it.

I think it was a mistake for Mr. Terry to make his foundation walls only 8 inches thick. The most important thing about a building is the foundation. The Scripture commends the wisdom of the man who built his house on a rock, and the stability of the farmer's barn is about as important as that of his house. I hope when Mr. Macdonald of Prince Edward Island builds his new barn he will make his foundation walls twice the thickness of Mr. Terry's. I think there should be a small door for ventilation opposite the main entrance to the barn floor. It would be a great comfort to man and beast when drawing in hay and grain in hot weather.

I can hardly approve the plan of elevating the whole load of hay or grain, wagon and all, to the peak of the roof for the sake of pitching off by hand down hill. It would require much stronger ropes and more powerful pulleys than needed for the horse-fork, and there would be more liability to accident. No person should ever incur any danger or risk when it is not absolutely necessary, and in this case it surely is not. It is a principle in natural philosophy that what is gained in power is lost in time. For instance, if a span of horses walk 30 feet to elevate a forkful of hay to the peak, they would be obliged to walk more than 300 feet to elevate the whole load with the wagon to the same height. In other words, they would nearly pitch off the load in the same time they would be elevating the wagon. With a good horse-fork a load of hay can be unloaded as soon as it can be pitched off by hand, and a great deal easier. I timed my loads last summer, and they were unloaded with a horse-fork on an average in 7¼ minutes from the time the wagon was driven into the barn until it was out again. The only objection I find to the use of a horse-fork is that the hay does not get mowed so well; but with a hay knife to cut down the mow in sections, there is no difficulty in getting the hay out when wanted.

Sugar Run, Pa. J. W. I.

Certainties in Horse-Breeding.

Eds. Country Gentleman—Notwithstanding the wonderful progress in horse breeding, we often hear that it is a lottery, and the notion in breeding to a stallion of whatever type is pretty certain to ask what are his *chances* of success? If breeding to a horse of trotting blood, what hope is there of raising a trotter? If to a draft stallion, what certainty is there of raising a fine draft animal?

What then are the chances of success? How much must be left to chance? And with how much certainty can the breeder foretell the conformation and characteristics of the colt?

The brood mares used by that large class who are not interested in breeding, but occasionally raise a colt, are generally of unknown blood; often animals that for some useful quality, either as roadsters or on the farm, have endeared themselves to their owners. In breeding such mares to a trotting stallion, it seems almost needless to say there is usually very little hope of speed. Assuming the stallion to be a good one and the mare of the right conformation and temperament, an excellent road animal may be raised. But *speed*, in the sense in which the term is now generally used, is not to be had so easily.

In breeding to a draft stallion there is generally more hope, because, if the mare is big enough, a colt may nearly always be raised that will bring a good price in the market, and if in addition to being large she is also of the right shape, success is almost certain. In either case, however, in breeding common mares to either a draft or trotting stallion, the conformation of the foal can only be foretold with any degree of certainty when the mare is in type like the horse.

When we come to the domain of pure-bred stock the chances of success are vastly increased, for under the great law that "like begets like" we know to a certain extent what to expect. In fact, the term "pure-bred" or "thoroughbred" can be properly applied only to a race in which the type is fixed, and which reproduces itself unaltered when bred like sire to like dam. Here, then, is something to go by. By a proper selection of pure-bred animals we can breed the size, shape and even color that we desire. The result is as certain as in any agricultural operation.

But in breeding horses, as in everything else, the higher the point aimed at the more difficult it is of attainment, and the great fact remains that where form, size and color are the only requirements, it is much easier to succeed than where the object sought is in the line of great performances. In this we are dealing not only with matter, but with mind as well.

Take for instance the American trotter. The type has become fixed—at least in such a degree that a standard has been established, and we recognise a certain conformation as belonging of right to him. It is not difficult to breed a horse of this conformation. He has also the trotting instinct largely developed, so that a colt of trotting blood is almost certain to have some speed. But when we come to the superlative degree, the horse that shall distinguish himself on the track, he must have something beside conformation and the trotting instinct. He must have brain and will-power, the ambition and determination to "get there," combined with a level-headedness that keeps him on his feet, and a physical conformation that admits of the greatest speed and endurance.

In this, however, as in breeding for any other purpose, the conditions of success are essentially the same. Whatever the point aimed at, whether dealing with the physical or nervous organization of the horse, "blood will tell" must be the breeder's motto. By studying their pedigrees we ascertain to what families the greatest number of fast trotters belong, and must conclude that in those families the various qualities essential to the fast trotter are to be found in the highest degree. It remains with the breeder to decide whether to inbreed to some one strain of blood, or to try the effect of crossing. Speaking abstractly, the former course is safest, because as the type becomes more firmly fixed, it the more certainly reproduces itself, and the domain of chance is decreased. Crossing, unless the result has been previously proved by trial, is always more or less an experiment. But where it has been proved—where it is known that one strain of blood will "nick" well with another—the case is different, and we again see light ahead.

I have used the trotter as illustration, because in breeding him we have the greatest number of requisites to consider. The thoroughbred, though the highest type of horse, the source and fountain head of speed and endurance, is not so difficult to breed, because his gait is a natural one, and in him is represented the greatest prepotency and fixity of type of any breed in the world.

It may be added that while success is not so certain in breeding for speed as for size and conformation, so well is the fact recognized that the highest degree of speed is to be found in certain families, that hundreds of colts are sold every year on their breeding alone. And that the well-bred trotter will trot is only less certain than that the thoroughbred will run. As time advances and the type of the trotter becomes more firmly fixed, this difference must grow less; and just as now any thoroughbred can outrun any common horse, so doubtless the time will soon come when the same superiority in his gait can be claimed for the trotter.

Lest my readers think I have made the matter too easy, I may say that whoever engages in raising horses of whatever kind, is presumed to know what points it is desirable to fix and perpetuate, and the fundamental principles of breeding. If he does not, let him not undertake it, for in no business is there less room for ignorance and stupidity. The laws of stock-breeding, though many of them are general and subject to exception, are laws nevertheless, and it is only by their knowledge and proper application, combined with a clear understanding of the object in view, that success can be obtained.

Orient Farm, R. I. DAVID BUFFUM.

Fattening Old Horses.—My business compels me to have, off and on, old horses that are very poor and unable to masticate their food properly. What shall I feed them to bring them into condition in the least possible time? I have heard that buckwheat flour was good, but do not know in what proportion to feed it. L. O. T. *Spirit Lake, Iowa.* [Old horses, like other old animals with poor teeth and in poor condition, may be put in a thriving condition most rapidly in the following manner: Cut clover hay short, say ½ inch, take cheap molasses—poor sorghum molasses is as good as any—dissolve 1 pint of molasses in 1 gallon of water, sprinkle this sweet water upon 3 lbs. of short cut clover hay, mix 2 lbs. of buckwheat flour with 2 lbs. of wheat bran: now mix this 4 lbs. with the 3 lbs. of clover hay moistened with the sweet water. Feed this amount to each horse three times per day. For the first two days feed a little less than this, holding back his appetite, but after this he will take it safely. The sweet water will make the food very palatable to the horse, and the sugar will assist in fattening. This combination will produce as rapid an amendment upon an old horse, or a poor horse, as any that

can be given. Should the horse show too much relaxation, use less molasses. The writer, on returning after some weeks' absence, found a favorite horse in a very thin condition, caused by bad usage, and he adopted nearly the above formula in his case, and put on 100 lbs. in a little over thirty days, and then by using a ration to harden his flesh prepared him in three weeks for his accustomed work. E. W. S.]

Heating Water for Animals.

EDS. COUNTRY GENTLEMAN—When the articles appeared in your paper last autumn in reference to a heater, I, with the aid of a tinsmith, constructed one that has proved very satisfactory.

The box is small, 3 by 2 feet and 2 feet deep. The pipe is made of common galvanized iron, 5 inches in diameter, one end attached inside of box near the bottom, with one-inch flange lined with thin rubber. The pipe is placed near the bottom, runs the length of box, returns, and then turns up perpendicularly above the water. If in barn or shed, extend with common, cheap pipe, to a flue or out the side of building to carry off the smoke; no danger of fire if heated by kerosene. Opposite the end secured to box cut a 5-inch hole, so that a smaller pipe (*A*) 6 inches in length may enter the box-pipe, to be used as a damper, made as follows: One end with a cover attached, with a small flange, and all round the pipe near the flange make ¾-inch holes to regulate the draft.

I have heated the present winter with a patent brick 8 by 10 inches. Seven of them will absorb one gallon of kerosene, at a cost of two cents each—one will burn 55 to 60 minutes. Set the brick inside of box pipe, apply a match, enter the damper or short pipe just enough to regulate draft. If the water becomes sufficiently heated before the oil is consumed, shove the damper in tight and the fire will go out. The box I used this winter stands on the barn floor, supplied by pump. In cold weather the ice has been half an inch thick, but burning one brick has heated the water so that it would remain all day about summer heat by covering the box with horse blanket.

The bricks are made in five sizes; by using a smaller one you may regulate the heat to suit—for a large water box, you may use one or more. The bricks may be used or refilled as long as they remain unbroken.

The heater complete and setting cost $2.50. In my opinion, if any of your readers are in favor of warm water for animals, they cannot have it for less expense or trouble. C. B. E.

St. Stephen, N. B.

Short-Horns, Calves and Hogs.

EDS. COUNTRY GENTLEMAN—Please form ration for butter and cheese for grade Short-Horn cows fresh in milk, average 30 to 40 lbs. a day. Also to fatten hogs on the whey, and for the calves with the sweet whey, from the following—Clover hay, $8 per ton; wheat bran, $15; wheat middlings, $16; corn meal, $16; barley meal, $16; crushed oats, $28; corn, oats and barley chop, equal parts, $16; O. P. oil meal, $30. F. J. B. *Orangeville, O.*

F. J. B. having clover hay at $8 per ton, I should give a larger amount of hay than if it were worth the usual price. His cows being grade Short-Horns, and yielding well, they are presumed to be of large size. He may combine the following ration: 20 lbs. cut clover hay, 8 lbs. corn meal, 4 lbs. wheat bran, 2 lbs. O. P. linseed meal. This, stated in analytical formula, shows the following digestible nutrients, in pounds:

	Albuminoids.	Carbohydrates.	Fat.
20 lbs. cut clover hay.....	1.40	7.05	0.24
8 lbs. corn meal.....	0.97	5.14	0.39
4 lbs. wheat bran.....	0.47	1.94	0.10
2 lbs. O. P. linseed meal....	0.59	0.06	0.13
Total.....	3.13	14.19	0.84

Nutritive ratio 1 to 5.5—a well balanced ration. It will be seen that this is a full ration, containing all the elements required to produce the best milk in large quantity. This ration costs 20 cents per day, and the milk should be worth more than twice its cost.

2. As B. uses the term hogs, for which he wishes a ration with whey, it is presumable he means grown shotes; young pigs would be required to be fed differently from grown hogs.

It is presumable that this whey is sweet, or nearly so. To 100 lbs. of whey, or say 12 gallons, let him add 10 lbs. wheat bran, 2 lbs. corn meal, 2 lbs. O. P. linseed meal. The bran, corn meal and linseed meal should be well mixed together before stirring with the whey, and if he can cut a little clover hay short, let him stir in 1½ lbs. of clover hay, and let the hogs eat it all together. He will find that they will both grow and fatten rapidly.

3. The ration for calves with sweet whey may be the following: To 20 lbs. of sweet whey mix in 1 lb. of wheat bran, 1 lb. of middlings, ½ lb. O. P. linseed meal; also ½ lb. cut clover mixed in. This would be a day's ration for a calf weighing 180 lbs. If the calf weighs less, less should be fed. If the calves should show any constipation, then there ought to be a little flaxseed jelly given, which is made by boiling flaxseed for 20 minutes in six times its bulk of water. Put one gill of this into each feed. But ordinarily the O. P. linseed meal will keep the digestive organs healthy. It requires more skill in feeding calves than pigs. The feed of the calf should be given warm. E. W. S.

The Dairy Department.

Corn Fodder—Ensilage—Mangels.

EDS. COUNTRY GENTLEMAN—Five years ago I bought a badly rundown farm near this city, which is a good market. The first two years I spent in cleaning off rocks and breaking up old pasture land; then I stocked up with 14 milch cows, and retailed my milk in the city. I have had to raise corn and green oats in order to winter my stock. I have tried sowing corn thin so as to have it grow large and mature, and sowing thick broadcast with three bushels of Southern white corn to the acre, and have had better success with the thick sowing; as it does not get so large, it will cure better to put into the mow. I think it better than meadow hay, red top and timothy, to make milk. I have had excellent fodder until the past season; we had so much rain that it was very hard to get it dry enough to put in the mow. What is the comparative value of ensilage with well-cured corn fodder of the above variety, when cut to one-half inch long and mixed wet with 1 qt. corn meal, 4 qts. wheat bran and 1 qt. cottonseed meal at each feed, night and morning, with ½ bush. of cut mangel beets to each cow every morning? I can get a silo in one end of my barn 16 by 16 feet, and 25 feet long, if the silo feed is enough better to balance expense.

I will give my method of curing fodder; it may be of benefit to some of your readers: First, I cut up and stack around a corn-horse, and bind as near the top as I can and make the band hold the stook up firmly until well cured, generally in November. Then open out on good days, to dry the inside of the stook. In case of dampness, let it lie two or three hours, and bind up in small bundles to handle conveniently. My storage barn is 26 by 36 feet, and with 14-foot posts, with girts or beams about five feet apart. I mow loosely up to the first girt, then I put a dooring of poles across the girts and fill in again, and so on until the barn is full. When it settles, it leaves an air space between the layers under the poles, which prevents it from heating. When well cured, I cut with a power cutter once a week as wanted, half an inch long, and feed about three pecks twice a day to large-sized cows of common breeds. G. B. P. *Waterbury, Conn.*

G. B. P.'s question seems to be complicated. He appears at present to feed half a bushel of mangel beets per day with his dry corn fodder, but he does not seem to understand how much this changes the case, that this is 25 lbs. of mangel beets, which is as much as some feed of corn ensilage, and that it completely represents corn ensilage. The digestible nutrients in mangel beets are nearly identical with the digestible nutrients in the best green corn fodder.

2. If P. can raise mangel beets per ton as cheaply as he can raise green fodder corn and preserve the same in silo, then his question is already solved, for by feeding the requisite amount of mangel beets he will get the practical effect of the best ensilage. But it is generally supposed to cost twice as much in labor to raise a ton of mangel beets and harvest them, as to raise a ton of green corn and properly preserve it in silo. This is the secret of the rapid progress made by ensilage as a food for milk and beef, and we have only to refer to the progress of ensilage in England to illustrate this point.

Ensilage has made greater comparative progress, in the last three or four years, in England than in this country, and if they cannot afford to raise roots to be fed in place of ensilage there, how can we afford to do it here? There is just as much difference between ensilage and dry corn fodder as there is between succulent grass and cured hay.

Statements, made by agricultural teachers, are not wanting, that a ton of succulent grass will produce no more beef or milk than the same ton of grass cured into hay. But it is a sufficient answer to this, to refer to the great practical fact, that cattle can be and are fattened, and cows caused to give a good quantity of milk upon succulent grass, but no one thinks of fattening or producing milk in any paying quantity upon hay alone. This theory is shallow nonsense.

3. It may be a help to P. to show him the probable digestive nutrients in the ration he has been feeding—three pecks morning and evening: 1½ bushels of dry-cut corn-fodder (say 12 lbs.), 25 lbs. mangel beets, 2 quarts corn meal (3 lbs.), 3 quarts bran (6 lbs.), and 2 quarts cottonseed meal (4 lbs.) This is only approximate, as he gives only measure, not weight. When placed in analytical formula, this shows the following digestible nutrients, in pounds:

	Albuminoids.	Carbohydrates.	Fat.
12 lbs. cut corn fodder.....	0.36	4.80	0.11
25 lbs. mangel beets.....	0.37	2.30	0.03
3 lbs. corn meal.....	0.25	1.69	0.14
6 lbs. wheat bran.....	0.70	2.76	0.15
3 lbs. cottonseed meal.....	1.35	0.72	0.18
Total.....	3.03	12.27	0.61

Nutritive ratio, 1 to 5.3—a fairly balanced ration for cows of moderate size. These succulent beets would favorably modify the dry corn fodder.

4. P. is assured that it will cost less to ensilage his green corn than to shock it and afterwards preserve it in barn, as he has related. It is cut much more rapidly into the silo than the same, cured into fodder, can be cut afterward. There does not seem to be any valid argument in favor of cured corn fodder over well-preserved ensilage. E. W. S.

Balancing the Ration.

EDS. COUNTRY GENTLEMAN—I would say (in reply to answer regarding feeding my cows—p. 907) that my cows vary in size, from an ordinary three-year-old Jersey grade, to a native cow of 1100 lbs. Buckwheat middlings cost $20 per ton, corn meal $20, and wheat bran $19. When I wrote, I was milking nine cows, one giving only about 3 qts. per day; was getting only 70 qts. per day from the 9 cows, but I tried some glucose on my own account, with 50 lbs. each of the first three feeds named. I added 30 lbs. glucose at $23 per ton, giving my cows the same amount each day—12 lbs. The result is a large increase in milk. I have stopped milking the cow that gave only 3 qts. per day, and from the same 8 cows, I now get 90 qts per day. My miller has two kinds of glucose, the first I ever saw; one is very light feed, as light as wheat bran, the other is very heavy and very hard, like fine gravel. I used the heavy kind, both kinds I call dry.

My idea was, when I was feeding a ration that was equivalent to the best pasture I should get a flow of milk as large as if they were on good pasture. I wanted their udders to be well extended with milk both night and morning, and not be only half full. Is my idea right?—I mean for fresh cows.

I want a full ration, that will give a full flow of milk, and will answer for both small and large cows, of course the large ones eating more of the same mixture, and also a ration of the same foods, (glucose excepted) with cottonseed meal, at $27 per ton. If it will be an improvement. S. B. J. *Napanoch, N. Y.*

S. B. J. has given some further particulars, such as the size of his cows, their previous yield of milk and their present yield. We showed on page 907 that his ration was deficient in quantity, especially the carbohydrates; and we advised him to add 2 lbs. of corn meal, and also 1 lb. of buckwheat middlings. But on reconsidering it, we think it would have been better simply to add 3 lbs. of corn meal, to increase the digestible carbohydrates. If we simply add 3 lbs. of corn meal, to the formula given on page 907, we have albuminoids, 2.91; carbohydrates, 12.74; fat, .85. This has a nutritive ratio of 1 to 5. It is not difficult to see why the addition of dried glucose should add to the production of milk, because it somewhat increased the proportion of carbohydrates.

The glucose meal is stronger in some of the nutrients than corn meal, but corn meal contains precisely the elements he required, and the glucose cannot be considered as fairly worth any more, especially in J.'s combination.

2. J. asks for a ration with cottonseed meal added. Let me try to explain why he does not require this. When the ration is weak in albuminoids, cottonseed meal is added to balance this, because it is very strong in this element. But as J. uses buckwheat middlings which has 23 per cent. of albuminoids, and also a good proportion of wheat bran, which is well balanced in that respect, he needs an addition with easily-digested carbo-hydrates, and corn meal gives this in best form. In making up his combination of food, let him take the following: 50 lbs. buckwheat middlings, 50 lbs. wheat bran, and 60 lbs. corn meal. When these are all intimately mixed together in that proportion, this will constitute his combination of grain food.

Now let him feed, as he has been doing, 15 lbs. mixed clover and timothy hay and 15 lbs. of this grain mixture. This will give him a daily ration equal to the needs of his cows; and if they are good milk yielders, it should produce, after a few weeks, an average of 30 lbs. of milk per head per day, or about 14 quarts, when the cows are in full milk. E. W. S.

Ration for Butter.

EDS. COUNTRY GENTLEMAN—Please give ration for Jersey cows averaging 900 lbs., butter being the object without forcing to the detriment of health, from the following: Medium meadow hay (chiefly herd's grass and red-top), $9 per ton; corn meal, $19; oats, 42c. per 32 lbs., or $25 per ton; wheat bran, $20; cottonseed meal, $28; O. P. linseed meal, $36.

Pittsford, Vt. T. D. H.

If T. D. H. would procure and study the book on "Feeding Animals" he would soon learn how to substitute one food for another having nearly the same composition. He will find on page 190, in answer to E. H., a ration close to his case. But the combinations which may be made out of all the different foods presented by those who write for information to the COUNTRY GENTLEMAN are endless.

The prices of T. D.'s foods given are rather high, except the hay and corn meal, and present the anomaly of wheat bran higher than corn meal. It is appropriate here to remark that oats at 42c. per bushel is not an economical feed by the side of wheat bran at $20 per ton and corn meal at $19. The digestible nutrients in oats and wheat bran render each of about the same value. Probably the most economical ration which can be constructed out of T. D. H.'s foods is the following: 16 lbs. mixed hay, 4 lbs. corn meal, 6 lbs. wheat bran, 2 lbs. cottonseed meal.

It is presumed that this cottonseed meal is the best quality of decorticated. The price is certainly high enough for that. Linseed meal should be laid down there as low as $36 per ton, if purchased in quantity.

To show H. the digestible nutrients in this ration, the following analytical formula is given, in pounds:

	Albuminoids.	Carbohydrates.	Fat.
16 lbs. mixed hay.....	0.64	7.17	0.16
4 lbs. corn meal.....	0.34	2.82	0.19
6 lbs. wheat bran.....	0.70	2.76	0.15
2 lbs. cottonseed meal.....	0.70	0.44	0.13
Total.....	2.38	13.20	0.63

Nutritive ratio, 1 to 6.

It may be advisable, after H. has fed this ration for a few weeks, to add one pound of linseed meal. This would improve it. It is understood that this hay is to be run through a cutter, well moistened, and the ground feed, having been all mixed together dry, is mixed evenly with the hay. It may be given in two or three feeds, as may be most convenient.

But, as we have so often said, this is rather a combination of food than an exact ration per head, although this is about the average ration that these cows will take, when properly fed. H. is no doubt aware of the peculiar nervous organization of the Jersey cow, and that there is no breed more affected by irregularity in feeding and milking. No person should be permitted to have the care of this breed who is not distinguished for kindness to animals, and any change of milkers should be strictly avoided. E. W. S.

Bottling Milk, p. 984.—Take a common 40 quart milk-can, with brass faucet of suitable size inserted half an inch from bottom. The milk is to be strained through the wire gauze on the pail, and also through cloth fastened over mouth of can by an elastic cord, or held by clothes-pins, and then quickly cooled by being set into a tank of cold running water, and stirred while cooling. Then place can at convenient height, with tin tray 18 by 42 inches, and one inch deep, to catch drip. With practice, one can fill Warren milk jars as fast as they can be handled, say 200 quarts in thirty minutes, with an assistant to finish and close

cans. After bottling, set in a shallow tank of cold water till shipment. The large faucet-can must be kept perfectly sweet and clean, letting the water run through the faucet when washing the can. D. D. B. *Prospect, Conn.*

Ration for Rich Milk.—Please give ration from the following—for 900-lb. cows: Corn ensilage, good growth of stalk, no ears, B. & W. corn; cornstalks, cut one-half inch, not moistened; oat and barley straw; wheat bran; N. P. linseed meal; corn and cob meal; buckwheat middlings. Another, substituting clover hay for corn fodder. E. B. G. *Hoosick, N. Y.* [E. B. G. evidently supposes the composition of his ensilage is below what it would be had the stalks contained ears. This is by no means certain, if the corn was cut in full tassel, as it then contains, very nearly, the nutriment of ear and stalk later. He wishes to use with this cornstalks, which may be supposed to be the stalks of field corn. He cuts the stalks but does not moisten them; why, he does not say. Perhaps because he thinks the ensilage is moist enough for both. But it would be better to moisten the cut stalks when mixed with the ensilage. G. may use the following combination: 30 lbs. ensilage, 5 lbs. cornstalks, 4 lbs. cob meal, 4 lbs. wheat bran, 4 lbs. buckwheat middlings, 1 lb. N. P. linseed meal. This, placed in analytical formula, shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat
30 lbs. corn ensilage	0.36	3.60	0.15
5 lbs. cornstalks	0.10	1.85	0.03
4 lbs. cob meal	0.27	2.36	0.15
4 lbs. wheat bran	0.47	1.84	0.10
4 lbs. buckwheat middlings	0.36	1.17	0.21
1 lb. N. P. linseed meal	0.20	0.89	0.03
Total	1.61	11.60	0.67

Nutritive ratio 1 to 5.2. This is a fairly balanced, and will be a successful ration for his weight of cows. It should be given in three feeds, smallest at noon. The success of this ration will largely depend upon its complete mixture. 2. He wishes a ration with clover hay substituted for the cornstalks. This will be made up as follows: 30 lbs. ensilage, 6 lbs. clover hay, 4 lbs. cob meal, 4 lbs. wheat bran, and 4 lbs. buckwheat middlings. This has the same nutritive ration as the other formula, without the use of the 1 lb. of linseed meal. The clover hay must be cut and mixed with the ensilage, and will, probably, require further moistening. This should produce rich milk from good cows—and it will gradually improve the quality. E. W. S.]

Hot-Climate Milk-Setting.—I run 27 cows, use 10 to 15 gals. milk per day on my hotel table, make butter of the surplus milk, use a Davis swing churn, churn the *whole* milk, use Wells & Richardson's color, and think I have very fine butter. Have no power on my farm other than horse-power for cutting feed, &c. Would like to raise water from spring, having a temperature of about 55°. In summer I set milk under tank, with cloth over cans; allow drip from the water-tank on the cloth-covered cans, and the evaporation keeps milk cooler than any cheap plan I have tried. I make a pound of butter from 8 to 10 qts. of milk. I want more butter, better if to be had, and sweet milk to feed calves. Have no ice—cost would be ½c. per lb. Will you give me advice? D. W. C. B. *Greensboro, N. C.* [This system is just about over the dividing line between the deep-pail and the shallow-pan, and it has more advantages for the latter than the former, on account of the temperature. If this cool water could be run through a shallow trough, in which the open pans could be set and the milk kept at the temperature named, it would keep sweet for fully 36 hours, practically all the cream would be raised, and the most butter would be secured of a quality unsurpassed—if all other conditions for good quality are provided. Fifty-five degrees is too high for deep setting, to get all the cream, and churning the whole milk causes a loss of butter. With well-fed cows of ordinarily good kind (even if natives), 7 to 8 qts. of milk should make a pound of butter; the loss indicated is doubtless due to the two reasons above suggested. This case is essentially one for shallow-pan setting, and offers every condition for its best results. As I have for many years practiced both of these systems, mainly because of the limited supply of ice, I have had very good opportunities for noting these points suggested; and my experience leads me to advise your correspondent to arrange a milk-room, so that a supply of the cool water could be made to flow through a trough (of plank, well painted), in which the pans, each holding 8 qts., with four inches depth of milk, could be set—having narrow strips, set edgewise in the bottom, for the pans to rest upon, that the current may pass under them. No doubt the water thus used could be turned to account in some way that it would not be wasted. Finally, skim the milk after 36 hours setting, or later if the milk keeps sweet, and churn only the cream. There is no deep setting apparatus which would work perfectly at the temperature named. E. S.]

Ripening Cream.—Will readers give views in regard to ripening the cream raised in a Cooley creamer, *i. e.*, should it stand in a cool place until enough is gathered for a churning, and then be scured all at once, or should the first skimming be put in a moderately warm place, and successive skimmings added, until enough is had for churning? C. E. C. *Forestville, N. Y.* [The ordinary practice is to keep cream from the Cooley creamers in an ordinary cream jar in the dairy-room, but not in the creamery; 60° to 65° will ripen the cream perfectly in three days, the whole cream being gently stirred whenever fresh is added so as to thoroughly mix the whole. The last addition to the cream should be made in the evening, and the whole will be in condition for churning the next morning. This gives two churnings in the week. If the cream is not sufficient in quantity to churn twice a week, it may be kept in the creamery in a separate pail, and when the last addition is made, the whole may be poured into a jar and set out at a temperature of 60° for 12 to 24 hours, as the case may require, to effect a proper ripening, which is when the cream is moderately and pleasantly sour, but quite free from any whey or watery liquid which separates from the cream. When this whey is seen the cream is over-ripe. Cream may be well ripened in 36 hours for churning, if kept in a separate jar, by a little more stirring, so as to hasten the ripening. E. S.]

A Creamer.—Have any of the readers of the COUNTRY GENTLEMAN had experience with Delaware County creamer? E. D. B. *Worcester, N. Y.*

Record of the Times.

Review of Passing Events.

Terrible Prairie Fires.—During the past week Southeastern Dakota and parts of Minnesota have been swept by fires kindled in the unusually dry herbage of last year's growth. In Yankton county alone the damage is $150,000. Many families in Rapid Valley barely escaped with their lives, so rapid was the rush of the flames, the wind blowing 60 miles per hour. Near Freeman 23 families lost their homes, together with hay, grain, and live stock. In Douglas county many farmers lost everything. A Mrs. Cline, 70 years old, was burned to death. In Brule county one hundred families are destitute. Two women were burned to death near Chamberlain. The Crow Creek agency had a narrow escape. Like reports come from several other counties, including the burning of villages, with more or less loss of life.

Political.—Further nominations: James N. Huston of Indiana, treasurer of the United States; Ellis H. Roberts of New-York, assistant treasurer at New-York City; William F. Wharton of Massachusetts, assistant secretary of state; George H. Shields of Missouri, assistant attorney-general; L. Bradford Prince of Santa Fe, N. M., governor of New-Mexico; William W. Jenkins of Fairfield, Iowa, Indian inspector; Robert J. Fisher of Illinois, assistant commissioner of patents, (Charles E. Mitchell of Connecticut, commissioner, previously appointed.) The Senate adjourned April 2; since then the President has nominated Joel B. Erhardt to be collector of customs at New-York; Cornelius Van Cott, postmaster at New-York.

Stanley Heard From.—A letter from the explorer, dated Bunganeta Island, Aruwimi river, Aug. 28, 1888, gives account of his movements since June 28, 1887, when, leaving Maj. Bartelot and 257 men at Yamburi, as rear guard, Stanley with 389 started for the Albert Nyanza lake, which he reached Dec. 14, after great suffering, attacks by natives and Arab traders and the loss of 115 men. For 160 days they traversed a terrible forest; once a mutiny occurred and two men were hung. A boat and much goods had to be left behind. At Ipwiri plenty of food was found. Forced to return here from the Nyanza by native attacks, it was not till April 29 that he joined Emin Pasha who came down the lake to meet him. Emin was well equipped, with 1,890 soldiers and about 10,000 people in his care; he was not disposed to leave them. May 25 Stanley, reinforced with 100 men, started back, and Aug. 17 found his rear guard at Bunalya, reduced from 257 to 71 men. He had been reported dead, officers and men had deserted, and only Mr. Bonney was left in charge. Stanley proposed to make a short cut to the Nyanza, and if Emin decided to join him, go on to the Zanzibar coast.—Later advices from Stanley Falls say that Arabs saw Stanley and Emin in February, marching for Zanzibar, with several thousand men, women and children, and 6,000 tusks of ivory.

Other Foreign News.—Lord Randolph Churchill has refused to contest the seat made vacant at Birmingham by Mr. Bright's death.—The case for the Parnellites was opened by Sir Charles Russell, April 2, speaking through the week.—The French chamber has sanctioned the plan of the government to prosecute Gen. Boulanger for attempting to overthrow the republic. The general has gone to Brussels, where he has issued an appeal to the electors.—A plan for the reconstruction of the Comptoir d'Escompte has been arranged between the minister of finance and a syndicate of bankers.—The great Eiffel tower at the Paris exposition was officially opened, March 31. Premier Tirard delivered the oration.—Emil Treitel, a large grain dealer of Berlin, has failed, with liabilities of 6,000,000 marks.—An extensive Nihilist printing establishment has been discovered in Warsaw.—King John of Abyssinia has been killed in battle with the Dervish Mekema.—The Richmond, Alert and Adams have been ordered to Samoa. The Germans will send the Sperber and the Alexandrine. The British man-of-war Calliope, which escaped the hurricane in Apia Bay, has arrived at Sidney, N. S. W., and reports that the Nipsic has been successfully floated. Three more ships have been ordered to strengthen the German fleet at Samoa.—The storm did extensive damage at Tahiti, Tonga and other islands.

Minor Items.

Snow fell throughout this State, April 1.

The President's mail averages 600 to 700 letters per day.

Vermont has organized a society of the Sons of the Revolution.

A violent gale unroofed many houses in Baltimore, April 3.

Three thousand carpenters went on a strike at St. Louis, April 1.

Governor Beaver has named April 26 as Arbor Day in Pennsylvania.

Mr. Cleveland and his party returned from Cuba to Florida last week.

John E. Hudson has been elected president of the Bell Telephone Company.

A $40,000 fire occurred in Geo. T. Swift's packing house, Chicago, April 5.

Mrs. Turner Sargent, daughter of Dr. O. W. Holmes, died at Boston, April 3.

The Savannah steamer brought 12,000 quarts of strawberries to New-York, April 4.

May wheat was knocked down by the Chicago bears, April 4, from 99¾c. to 93c.

Miss Mary Anderson has partially recovered from her illness and sailed for Europe.

The jute bagging trust is said to be preparing for another squeeze on the cotton crop.

The Pennsylvania Horticultural Society held a spring bulb show in Philadelphia last week.

Large tracts of South Carolina phosphate land have recently been bought by northern capitalists.

A whale recently killed at Atlantic City, N. J., has been sent to the Smithsonian Institution, Washington.

Thomasville, Ga., does not complain of hard times. In the winter northern visitors spend there about $250,000 a month; after they leave the Le Conte pear crop comes on, bringing in from one to two hundred thousand dollars, then other fruit crops, and in the fall a cotton crop, after which the people are ready to see their northern friends again.

The 146th anniversary of the birth of Thomas Jefferson was celebrated, April 2, by the Single Tax clubs of New-York.

Sixty-five of the Indian students at Carlisle, Pa., have been placed with farmers in several counties for the summer.

The famous steamship Haytien Republic was sold at auction, April 2, at Boston, for $41,000, and will be sent to the Pacific coast.

Edwin Booth was taken seriously ill while playing Iago at Rochester, N. Y., April 3. Cause said to be excessive smoking.

Philo Remington, eldest son of Elphalet Remington, founder of the Ilion, N. Y., arms works, died in Florida, April 4, aged 73.

Extensive prairie fires have prevailed in parts of Minnesota and Dakota, destroying hundreds of farm houses, live stock, &c.

The ship Walter H. Gibson, owned in Belfast, Ireland, and carrying 4,000 tons of cargo, lately arrived in New-York from Calcutta.

M. Coquelin, the French actor, delivered a lecture on Shakespeare and Molière before the Nineteenth Century Club, New-York, April 5.

Henrietta and Emma Day, servant girls 16 and 26 years old, have been arrested for setting fire to buildings in Summit and Plainfield, N. J.

The Chicago Inter-Ocean is to have a new home in the Haskell building, which, remodeled, will cost $300,000, besides $40,000 ground rent.

Frederick Douglas was the guest of the colored people at Jacksonville, Fla., April 4, and made a speech at the sub-tropical exposition.

Riots at the Democratic primary elections in Cohoes, N. Y., April 5, resulted in the fracture of a policeman's skull with an axe, and numerous bloody fights.

A Bible convention, to last 60 days, opened in Chicago, April 4, conducted by Mr. Moody, just arrived from California, and Rev. W. W. Clarke of Brooklyn.

Isaac Rich & Co. of Boston, the oldest fish house, and part owners of the Haytien Republic, are financially embarrassed owing to the troubles in Hayti.

An American and Mexican Improvement Company, with capital of $3,500,000, has been formed at Chicago; object, to develop mineral and other lands in Mexico.

Joseph P. Smith, a colored man, supposed to have given information about the murderers of Congressman-elect Clayton, was killed at Plummerville, Ark., March 30.

Fire destroyed a club house at Travers Island near New-Rochelle, N. Y., April 4, but the firemen saved a noble oak which overhung it. The house was built in 1812.

The Miles Standish monument at Duxbury, Mass., is approaching completion. It was begun 18 years ago, on Captain's Hill, will be 100 feet high, and cost about $30,000.

The various fires at the Catholic Protectory, Fordham, N. Y., have been traced by Inspector Byrnes' men to a discharged fireman and his associates, and six arrests have been made.

Rev. Dr. Edward Beecher of Brooklyn, N. Y., fell in alighting from a Coney Island train, April 4, and his foot so injured by car wheel as to require amputation. He is 85 years old.

The President has issued a proclamation appointing 9 o'clock A. M., April 30, as an hour of divine worship in connection with the centennial celebration of Washington's inauguration.

Henry W. Raymond of the Germantown (Pa.) Telegraph, and son of the founder of the New-York Times, has been appointed private secretary to General Tracy, secretary of the navy.

The Albany Evening Journal has been sold by W. J. Arkell to William Barnes of the Morning Express, and the two papers will be issued under one management. Editor Sleicher will take charge of Frank Leslie's Newspaper recently bought by Mr. Arkell.

The American Meat Company has been incorporated in Pennsylvania, with capital of $35,000,000, and control of many ranches in the Southwest; John H. Flagler, president. It will compete with the Chicago dressed-beef firms, but not with private butchers.

Allard & Co., a Parisian firm dealing in art, antiques, furniture, &c., with an agent in New-York, have been found guilty of extensive smuggling on costly goods bought by wealthy New-Yorkers. The unpaid duties are over $250,000 and may reach $1,000,000.

Downs & Finch, fancy shirt manufacturers of New-York, have assigned, with liabilities of $450,000—and assets said to exceed this. They were the leading firm in that business, having absorbed several other firms and factories. Demand for fancy flannels checked their trade.

Physicians, clergymen and scientists unite in recommending Ayer's Cherry Pectoral as an invaluable remedy for throat and lung troubles.

In purchasing medicines, don't try experiments: the first and only consideration should be genuineness. Ayer's Sarsaparilla has stood the test of forty years, and to day it is in greater demand than ever—a triumphant proof of popular approval.

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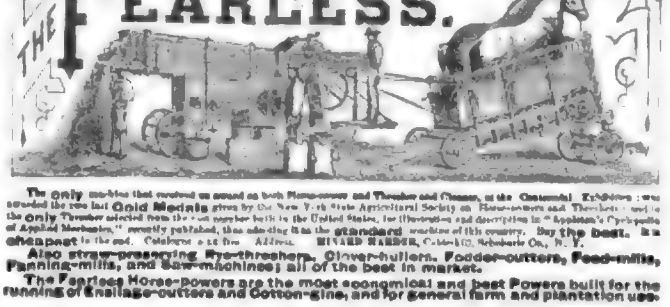

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Farm Produce Markets.

Albany Markets—April 8.

FLOUR.—The Argus says: Trade was quiet and dull; tone of market unsatisfactory.

	April 6. 1889.	March 30. 1889.	April 7. 1888.
Com. State	$4 30@4 70	$4 30@4 70	$3 70@4 00
State Extra	4 70@5 10	4 70@5 10	4 00@4 30
Am. State & W.	5 00@5 30	5 00@5 30	4 30@4 60
O. Ind. & Pa. L. Ex.	5 00@5 30	5 00@5 30	4 30@4 60
Winter W. Pat.	5 10@7 00	5 10@7 00	4 30@5 10
Minn. "Bakers"	5 00@5 30	5 00@5 30	4 30@4 30
Spring W. Pat.	5 10@7 10	5 10@7 10	4 30@5 10

Rye Flour quiet and unchanged at $3.00@3 25 per bbl.; Graham, $4.10@4.40. Oat Meal in fair demand at $4.10@4.40 per bbl. Corn Meal quiet; fine family at $3.10@3.70 per bbl. Buckwheat Flour, $3.10@3.40 per 100 lbs.

GRAIN.—Corn in moderate demand; receipts slow; No. 2, 60@61½c; No. 3 mixed, 48@49c. Oats steady; demand slow; No. 2 white, 34@36c.; No. 3 white, 32@33½c. Rye firm at 69@70c. per 56 lbs. Barley continues dull.

HAY AND STRAW.—Receipts light; demand brisk. Timothy, best, $18@17.50; medium, $15@16; clover, $10@11; mixed, $11@13; rye straw, best, $13@14; oat straw, $8@10; wheat straw, $10.

HOPS.—Market unchanged.

N. Y. State, 1888, choice	19	extra.
N. Y. State, 1888, common to good	16	@18
N. Y. State, 1887, all grades	8	@15
Pacific Coast	16	@22
German	16	@22

Albany Street Market—April 8.

BUTTER.—Good to choice, 24@25c. per lb.

EGGS.—Near-by and new laid, 13@15c. per doz. Western, 10@12c.

FRESH MEATS.—Steer beef, hindquarter, 6@9c. per lb.; forequarter, 4@6c.; mutton, hindquarter, 7@8c. per lb.; forequarter, 5@6c.; lamb, hindquarter, 10@11c.; forequarter, 7@8c.; veal, hindquarter, 10@11c.; forequarter, 7@8c.; pork, 7@8c.; sausage, 11@12c.

POULTRY.—Fowls, 10@11c.; turkeys, 12@13c.; geese, 14@15c.; ducks, 12@13c.

FRUIT.—Apples, $1.25@1.75 per bbl.; Cranberries, $1.25@3 per crate; Grapes, Catawba, 8@10c. per lb.; Walnuts, $1.25@2 per bus.

VEGETABLES.—Asparagus, 20@25c. per bunch; Beets, $1 per bbl.; Carrots, 25@30c.; Cabbages, $2@3 per 100; Celery, 8 per doz. bunches; Lettuce, 2@3.50 per box; Onions, 30@35c. per bbl.; Oyster-plant, $1 per doz.; Parsnips, $1.25@1.50; Potatoes, $1@1.25 per bbl.; sweet, $2@3.50; Radishes, $1 per 100; Rhubarb, $1.50 per doz.; Spinach, $3 per bbl.; Squash, $2.50@3.50; Turnips, 75c.@$1.

New-York Markets—April 8.

BEANS—Marrow, 1888	1 95 @	1 95
Medium, 1888, choice	1 70 @	1 75
Pea, 1888	1 70@1	1 70
COTTON—	Uplands.	N.O.s Quil.
Ordinary, per lb	10½@ —	@ 10¾
Middlings	11½@ —	@ 11¾
Fair	12 @ —	@ 12¾
EGGS—State and near-by, per doz	— @	11½
Western and Canada	11 @	11½
Duck eggs	18 @	20
Goose eggs	30 @	—
FLOUR—Spring Wheat pat., per bbl	5 25 @	5 50
Winter	5 20 @	5 50
No. 2 extra State and Western	3 00 @	4 35
No. 1 extra	5 60 @	6 30
Minnesota head	5 75 @	6 70
Straight	6 00 @	6 30
Rye Flour, superfine	3 15 @	3 65
Corn Meal	2 85 @	2 95
FRUIT—Apples, Baldwin, per bbl	1 25 @	1 50
Greening	1 25 @	1 50
Nectarines, Russet	1 25 @	1 75
Cranberries, Jersey, per box	10 @	1 25
Grapes, Catawba, per case	1 00 @	2 50
Oranges, Florida, choice, per box	2 75 @	3 00
Fair to prime	2 25 @	2 50
Indian River	3 25 @	3 50
Strawberries, Fla., per qt	35 @	50
Walnuts, per bush	80 @	1 00
Black Walnuts	60 @	75
Peanuts, per lb	3½@4	4½
DRIED—Apples, sun-dried, per lb	3½@	4½
Evaporated	4 @	6
Peaches, sun-dried	4 @	6
Evaporated	8 @	12
Plums, Southern	3 @	—
Cherries	10@	15
Blackberries	4 @	4½
Raspberries	12 @	15
Huckleberries	12 @	—
GRAIN—Wheat, State white, per bus	82 @	87
Ungraded spring	80 @	—
No. 1 red, winter	85 @	—
No. 2 red, winter	82½@	—
Corn, No. 2, white	45 @	—
No. 2, mixed	43½@	44½
Oats, No. 2, white	35½@	36
No. 2, mixed	32½@	33
Barley	70 @	75
Buckwheat	44 @	45
Rye, State and western	60 @	62
HAY—Timothy, per 100 lbs	80 @	85
Shipping	70 @	75
Clover	60 @	65
Straw, long rye, No. 1	60 @	—
No. 2	50 @	—
Oat	40 @	—
HOPS—N. Y. State, 1888, choice, per lb	17 @	20
Good to prime	14 @	16
Best, 1887	8 @	12
Pacific Coast, 1888, best	16 @	18
Pacific Coast, 1887, a	7 @	12
German	16 @	18
MAPLE SUGAR, per lb	7 @	9
Syrup, per gal	60 @	65
POULTRY—Live fowls, per lb	— @	12
Turkeys	10 @	12
Ducks, per pair	60 @	1 00
Geese	1 00 @	2 00
Dressed fowls, per lb	11 @	12
Chickens	12 @	16
Fowls, broilers	11 @	12
Capons	13 @	16
Turkeys	12 @	13
Ducks, per lb	10 @	12
Geese	8 @	10
VEGETABLES—Asparagus, Charleston, per bunch	40 @	75
Beets, Bermuda, per box	1 50 @	1 75
Florida, per crate	1 25 @	1 75
Cabbages, Southern, per bbl	2 00 @	3 00
Cucumbers, N. C., per doz	1 00 @	1 50
Green peas, Fla., per crate	1 00 @	3 00
Kale, Norfolk, per bbl	1 25 @	1 50
Lettuce, N. C., per bbl	1 00 @	4 00
Florida	75 @	1 50
Norfolk	1 00 @	1 50
Onions, State, remove, per bbl	1 00 @	1 25
Orange Co., red	80 @	90
Conn. white	1 00 @	1 50
Bermuda, per crate	1 00 @	—
Potatoes, State, per bbl	1 00 @	1 50
Eastern	1 00 @	2 00
New Brunswick	1 00 @	—
Florida, new	3 00 @	5 00
Bermuda	8 00 @	12 00
Sweet, Yineland	3 00 @	4 00
Delaware, River	2 50 @	3 25
Spinach, Norfolk, per bbl	75 @	1 00
Squash, Hubbard, per bbl	1 75 @	2 00
Marrow	1 75 @	2 00
String beans, Fla., per crate	2 00 @	—
Tomatoes, Fla., per crate	2 00 @	4 00
Key West, per box	1 00 @	1 25
Turnips, Jersey, Russia, per bbl	50 @	60

Cattle Markets.

NEW-YORK, April 8.

BEEVES.—Receipts, 9,350 head. The week opened with a liberal supply and a steady tone in values, followed on Wednesday by light arrivals and a recovery in prices of 10 per cent. Friday the markets closed with a stronger tone. The herds offered ranged from coarse to fair; those taken for export ranged from coarse to good. Some well fatted cows and heifers were sold in mixed lots at 4c. per lb.

[Per central, cut.]	This week.	Last week.
Good beeves	$5 35 @ —	$5 35 @ —
Fair	5 00 @ —	5 00 @ —
Coarse	4 50 @ 4 75	4 75 @ 5 00
Poor	7 00 @ 7 50	7 00 @ 7 50
[Per central, gross.]	This week.	Last week.
Good beeves	$5 10 @ —	$5 10 @ —
Fair	4 75 @ 4 90	4 90 @ 4 95
Coarse	4 60 @ 4 70	4 60 @ 4 70
Poor	3 90 @ 4 50	4 00 @ 4 40
Oxen	3 75 @ 4 25	3 90 @ 4 30
Dry cows	3 00 @ 4 00	3 90 @ 4 15
Bulls	3 00 @ 4 00	3 00 @ 4 00

MILCH COWS.—Receipts, 90 head. The tone of trade has been dull, and the poor quality of the cows offered has largely been the cause. 3 cows were sold for $145 the lot; 11 cows sold at $30@45 per head.

VEALS AND CALVES.—Receipts, 1,050 head. As the supply increases, values decline. On Monday last prices were off ½c. per lb., and on Wednesday another decline of ½c. per lb. was reported; Friday trade was very dull. Range of prices: Calves, buttermilk-fed, sold at 3½c. per lb.; hobs and lean veals, in mixed lots, 4@4.60 per cwt.; veals, from lean to fair, 5@7½c. per lb.; 11 veals, 8c. per lb.

SHEEP AND LAMBS.—Receipts, 27,700 head. The week opened with a steady feeling; improved on Wednesday when sheep advanced ¼c. per lb., and lambs were firm. Thursday the markets were firm; Friday trade closed unchanged. Range of prices: Woolly sheep, 5@6c. per lb.; rams, 3½@4c.; sows, 4½c.; shaw sheep, $4.25@4.90 per cwt.; woolly lambs, 6½@7.85; shaw lambs, 5½@6½c. per lb.; spring lambs, $4.12½@7 per head.

SWINE.—Receipts, 32,120 head. On Monday last prices advanced ¼c. per lb. The feeling was dull on Wednesday, when values were scarcely sustained. Thursday the feeling was better, and Friday the markets closed stronger; 17 State hogs sold at $5.40 to 5.50 per cwt.

BUFFALO, April 6.

BEEVES.—[Per central, gross.]	This week.	Last week.
Extra Steers	$4.75@4.90	$4.75@4.90
Best butchers	3 90@4.10	3 90@4 00
Second quality	3 25@3 60	3 25@3 60
Poor to common	2 25@3 15	2 25@3 00
Stockers, light	2 75@3 00	2 75@3 00
Stockers, good to choice	3 25@3 60	3 25@3 60
Bulls	2 50@3 10	2 50@3 50

Receipts, 1,650 head against 16,400 last week. Offerings not sufficient to go around, and 10@15c. advance was easily obtained. Eastern buyers held off, but local and interior butchers were willing to take all they could get at the advance, and the market closed bare of stock. Reasons for the light run were plenty, such as elections, farmers busy, &c., but the main cause undoubtedly is dissatisfaction among shippers at the continued low range of prices. Only one load of stockers here; few wanted. Bulls dull, light supply.

VEAL CALVES.—Receipts light; demand good; good to choice, $4@5.

MILCH COWS. Offerings very light; better inquiry; prices higher; extra, $50@60; good to choice, $40@45; common to fair, $18@30.

SHEEP AND LAMBS.—Receipts, 24,600. Active demand throughout the week, 25@30c. higher. Choice to extra, 100 to 110 lbs., $4.40@4.60; fair to good, 80 to 90 lbs., $4.25@4.35; common, $3.75@4.25; clipped, $4@4.30. Lambs quiet; offerings liberal. Choice to extra, 65 to 70 lbs., $6.35@6.60; fair to good, $5.90@6; common, $4@4.50; clipped, $5@5.50.

SWINE.—Receipts, 44,400; active; 10@15c. higher. Yorkers, mediums and pigs all sold at $5.60@5.65; roughs and stags, $4.75@4.85.

BOSTON, April 8.

BEEVES, NORTHERN.—Good oxen, dressed, 9@10 per cwt.; fair to good, $4.75; second quality, $3.50@4.50. WESTERN, Alive—Extra, $4.75; good to prime, $4.50; light to fair, $4@4.25.

MILCH COWS.—Supply not heavy and few choice; good at $35@40.

CALVES.—About 1,200 head; best, 5½@6c. per lb.

SHEEP AND LAMBS.—In lots at $5@5.40 per head. Spring lambs, 7@8c. per lb.

SWINE.—Western fat hogs, alive, dressed, per lb; country dressed, 6½c.; pigs, $3@3 per head.

Dairy Markets—April 8.

ALBANY.—Butter easier; receipts increasing. Lower grades slow; State creamery, choice, 23@24c.; Western creamery, 20c.; State dairy, 21@22c.; fair to good, 19@20c.; Western dairy, choice, 20@21c.

Cheese in limited receipt. State factory, full cream, 12½c.; dairy, good to fancy, 12c.

NEW-YORK.—Butter firmer for fresh grades. Receipts, 22,574 packages. Western creamery, fresh, 19@24c.; Western creamery, fresh, 18@21c.; State dairy, choice, 21@24c.; old butter, best, 17@18c.; Western dairy, 14@15c.; Western factory, choice, 16@17c.

Cheese quiet. Receipts, 10,447 boxes. Factory, best 11@11½c.; good to choice, 10@10½c.; light-milk skims, 9@9½c.; Ohio Sets, 10½@11c.

BOSTON.—Western creamery, extra, 24@25c.; extra State, 24@25c.; factory, 18@19c.; Vermont, extra, 24@25c.; dairy, choice, 20@22c.; Eastern creamery, good to choice, 20@24c.

Cheese, Northern, choice, 11½@11¾c.; Western, 11¼@11½c.; sage, 12@13c.

Wool Markets—April 8.

ALBANY.—Market dull; sales 10,000 lbs.

No. 1 Pulled	32@33c.	Medium Fleece	30@32c.
Super Pulled	30@31	Fine Fleece	28@29c.

NEW-YORK.—Ohio X & XX, 31@32c.; Michigan X, 30@31c.; combing, and delaine, 32@34c.; unwashed, assorted, 22@26c.; pulled, 28@34c.; Territory, 18@21½c.; scoured, 46c.; Montana, 26c.; Oregon, 16@20c.; scoured, 46c.; Texas, 17@19c.; scoured blades, California, 19@20c.; scoured, 40c.; Bended, 17@18c.

BOSTON.—Sales, 1,454,200 lbs. domestic and foreign; Ohio and Pennsylvania, 31@32c.; Michigan, 30@31c.; combing and delaine, 32@34c.; unwashed, assorted, 22@26c.; pulled, 28@41½c.; Territory, 18@20c.; Texas, 17@19c.; California, 17@20c.; Oregon, 18@19c.; Australian, nominal.

Our Apples Abroad.—J. C. Houghton & Co. cable that American apples are arriving in very bad condition in Liverpool. Buyers are afraid to take hold, and prices are away down; Baldwins, 5s. to 8s.; Ben Davis, 3s. to 5s.

New-York, April 8. DE LONG, MAYER & CO.

The Fireside.

Recent Publications.

Using One's Eyes.—A book which we take great pleasure in commending to attention, belonging as it does to a class so useful that they can never be too widely circulated, is that entitled "THE PLAYTIME NATURALIST," by Dr. J. E. TAYLOR, F. L. S., republished from the English edition by Messrs. D. Appleton & Co. of New-York, in a handsome duodecimo of 286 pages, with nearly 400 accurate and excellent illustrations. The title is almost a sufficient description of the book; Dr. Taylor strives to interest his readers, particularly boys and girls, in the study of the infinite variety of forms of life that a discerning eye will find everywhere about, in air and earth and water; and to indicate the readiest means of learning something of their structure and their habits. The following bit of sound sense will indicate in part the style of his counsel:

"I advise you," says one of the characters—

"to get a pocket magnifier first, and begin to examine with that. Some fellows begin right off with a powerful microscope they get their governors to buy them, and they work it like mad for a month or two, and then get tired of it. Fact is, they never learned the art of observing."

"What do you mean by that?" said Jack.

"Why, getting into the habit of looking about you, keeping your eyes open, and quickly spotting anything unusual. Fancy a fellow beginning to use magnifying glasses of thousands of times before he has begun to use his own eyes! Use your own eyes first, then get a little extra help in the shape of a shilling pocket lens, and by-and-by you will be able to use a real microscope, and enjoy using it too."

Co-operative Saving.—Another valuable work issued by the Messrs. Appleton is—"Co-operative Savings and Loan Associations, including Building and Loan Associations, Mutual Savings and Loan Associations, Accumulating Fund Associations, Coöperative Banks, &c., with Appendix containing Laws, Precedents and Forms;" by SEYMOUR DEXTER. The author is "earnestly desirous of encouraging the growth of this form of coöperation on simple, safe and equitable methods, believing" [and with good reason] "that when so conducted, these associations are the most potent agency for stimulating steady savings, industry, home owning, and good citizenship, yet devised and put into operation."

Other Books.—New-Yorkers especially should take peculiar pride in the forthcoming work on "The Honors of the Empire State in the War of the Rebellion," by THOMAS S. TOWNSEND, compiler of the immense "Library of National Records," now at the Columbia College—a compilation that has cost 30 years of labor and $25,000 in money. The book referred to, dealing with the share of this State in preserving the integrity of the Union, is to be a handsome octavo of about 225 pages, and the subscription price is $2. Orders should be addressed to Mr. Samuel O. Fields, Columbia College Library, 49th St. and Madison Ave., New-York.

The twelfth volume of the Manifold Cyclopædia (John B. Alden, 393 Pearl St., New-York,) has entries from *Dominis* to *Electric Clock*, filling more than 600 pages, and including a considerable number of illustrations. The price, very tastefully bound in half morocco, cloth sides, marbled edges, full gilt back, is only 75 cents.

"A Dreamer of Dreams, a Modern Romance," by the author of "Thoth," is issued by the Appletons in their "Town and Country Library," at 30 cents.

Anglophobia.—The March Westminster Review (Leonard Scott Publication Co., 29 Park Row, New-York), has a particularly vigorous and entertaining article on "Anglophobia in the United States," from which we clip a paragraph:

What is Anglophobia? To say that it is hatred of England assists us little in our inquiry. England is a geographical expression, and geographical expressions do not usually excite hatred in rational beings. Anglophobia is not hatred of a latitude and longitude, but hatred of historic England: hatred of English institutions, of English customs, of English habits of thought, above all of English liberty—to which England practically owes everything typically English. No man whose lips can form the one word *liberty* can be an Anglophobist, and remain sane. It is the shibboleth whereby the true England can unhesitatingly separate her friends from her enemies. Where liberty is there England's interests are also: where liberty is not there England's interests (save they be missionary of liberty) are not, and cannot therefore be threatened. Anglophobia, at its worst, is high treason against liberty upon England's own soil. This granted, as it must be, the rest follows.

There is no need for beating about the bush in this matter. History furnishes us with authoritative examples of what Anglophobia is. Most solemnly was the cause heard, most solemnly was the decision given; and the records remain for the enlightment of the world and for the instruction of Englishmen to the end of time. At the head of Anglophobists stand the traitor King, Charles; the traitor Minister, Strafford; the traitor Priest, Laud; wretches who resorted, at every turn, to the meannesses of lying, to the pettinesses of chicanery, and to the villanies of fraud, in order to accomplish their unhallowed ends—the enslavement of a free, upright, and generous people. These Anglophobists—whose acceptance of French gold, and traitorous intrigues with the Bourbons, and panderings to Rome may be passed over as insignificant details, buried out of sight and lost, in moral bogs of slimy turpitude that are simply bottomless—paid the penalty of their execrable crimes. Long may England remain sufficiently *English* to exact such penalty against State traitors. Though the Stuart dynasty is dead, it would seem there are still among us resurrectionists of the politically putrescent. Be it so. Under management of the skilled husbandman rottenness itself may become a forcing ground for things healthful and useful.

Under existing circumstances the less discussions about Anglophobia in the United States, and elsewhere, the better. Let Englishmen attend to the work in hand, and to that alone; the spirit of lying, chicanery, and fraud, that so fearfully possessed the arch-traitors of the seventeenth century, is once more moving in our midst—nay, grasping the very helm of affairs. Assuredly there is no need for alarm, but most assuredly there are precious reasons why every Englishman, worthy of the name, should just now acquit himself as a soldier on duty—unboasting, undistracted, silent, alert, resolute.

For the Bedroom.

A pretty and inexpensive hassock like fig. 1, is easily made. Pieces of old carpet were

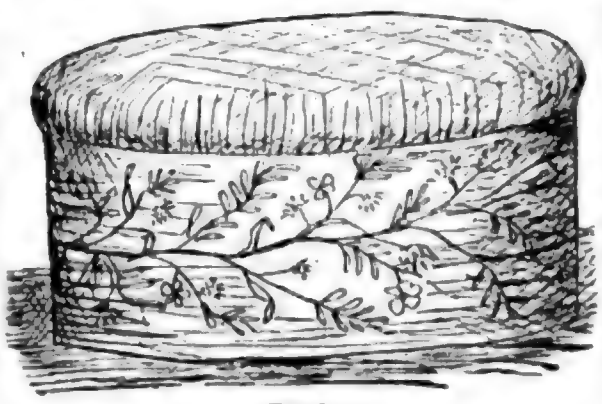

Fig. 1.

used for the foundation. They were first thoroughly freed from dust by washing, then folded into strips about five inches wide and rolled one around the other, until a form five inches high and eleven inches in diameter was made. A few stitches taken with a coarse needle and strong thread fastened the end and kept all in place. A circular piece of brown cambric, the size of the bottom of the hassock, was cut and bound with dress braid. The top of the hassock was given a rounded shape by placing a little excelsior on it. It was then covered with a circle of brown plush, which was drawn well down over the edge and hemmed around to the foundation with long stitches. A piece of darker brown felt, with a vine worked on it with crewel, was put around the sides. It was measured to fit exactly and seamed together, turned wrong side out, and sewed strongly to the plush top, then drawn down over the hassock. The bound circular piece of cambric, previously prepared, is sewed over the bottom by overhanding to to the felt.

These hassocks are very convenient. They may be covered entirely with the felt or with cloth. A cover crocheted out of strong Germantown both looks and wears well.

A small sized table, large enough to write on, with pens, ink and paper ready to hand, will often make answering a letter the pleasure it ought to be, instead of the task it often is. A plain square of felt is a suitable cover for such a table. An inkstand and pen-rack combined is pretty, and is apt to possess the desirable quality of sitting firmly, without danger of tipping over.

A handsome blotter for holding the writing paper, which makes a charming addition to the furnishing of such a table, is made by covering two pieces of strong pasteboard or millboard with strong grey linen. These pieces of board in the blotter described (fig. 2) were each seven inches wide and twelve long. The linen cover was cut large enough to cover the pasteboard both outside and in. Before it was put on, a vine was embroidered on the linen in outline stitch, with a
twist. The vine started
ran toward the top an
The cover was smoothly
and overhanded aroun
same kind of twist used
The stitches were taken

that the edge mig
sheets of pale pink
leaves a quarter
than the blotter
They were then f
narrow slits cut
through which ra
drawn. These r
eyelets worked
a small bow on t
is opened flat, it
24 inches, to w
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square one. Of
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A variation f
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move them to a dish while you thicken the butter in the saucepan with a large tablespoonful of flour; add seasonings, a pint of hot water, the yellow peel of a lemon, half a lemon, lay in the ducks, and stew gently until tender. They are improved for some tastes if a gill of white wine and a pint of broth be used instead of water, but every kitchen does not have broth always on hand, and many American appetites do not relish the use of wine in cooking game and meats. Dish the ducks, skim off all the fat from the gravy and season it. Pass in a boat, but surround the ducks with a circle of green peas (canned, of course, at this season of the year). Treasure the remains of the ducks for a salmi at breakfast. Trim all the meat neatly from the bones, and if you have no gravy left make some by stewing them for an hour with some soup vegetables and seasonings. Make a roux with butter and flour, and turn in a large cupful of boiling gravy; season with cayenne, lay in the pieces of duck, heat through, pour over buttered toast, and I am sure you will agree with me that the last state of these ducks was better than the first.

STUFFED ONIONS.—Peel and parboil eight large, white, Bermuda onions in salted water; drain and let them cool. Remove the inside with a teaspoon; chop fine and add an equal quantity of bread crumbs; season nicely, and moisten with gravy: fill the onions with this forcemeat; put them in a baking dish; sprinkle with crumbs; put a bit of butter on each; pour a cupful of white sauce around, and bake for half an hour in a moderate oven.

PEACH PANCAKE.—Sift four ounces of flour with two of sugar; mix with two ounces of melted butter and three beaten eggs, and dilute to the consistency of pancake batter with cold milk; fry in a small omelet pan a number of pancakes the size of a tea plate; dot with bits of butter, and spread with canned peaches drained from the syrup and cut fine; roll up like a jelly cake; sprinkle with powdered sugar; heat some syrup from a can of fruit; sweeten, add a little brandy or wine, and pour around the cakes. PALMETTO.

A Plea for the Babies—V.

Health and Disease.

If an ounce of prevention is worth a pound of cure to persons of mature age, it may be said to be worth one hundred pounds of cure to young children and infants. Happy is the mother who willingly and cheerfully gives her whole time and best skill to the care of her infant, for she will generally be rewarded by seeing her darling grow and thrive. And is this not infinitely better than to yield to a nurse the little life which God has placed in your arms, young mother, to teach you the grand lessons of life?

It is supposed by many persons that all or nearly all children born of poor or foreign parents, and allowed to live or not, just as it happens, are the ones who are the surest of life and health, but statistics give quite different facts, so that it may be safely assumed that those most carefully watched and tended develop into the most healthy and intelligent of adults. Exceptions are found of course, and malignant types of dread disease steal upon our households and rob us of our darlings, sometimes ere we can trace their source.

"There is no household, however defended,
But has one vacant chair."

An infant to be kept healthy must be watched closely—as my doctor expresses it, "children change so rapidly in sickness that it is necessary to see them several times a day;" so in apparent health trust not the fact that baby was well in the morning, but guard most carefully while in perfect health, and at the first appearance of any illness redouble your care and watchfulness, and never, if you value the little life, fail to send for a good physician as soon as your infant shows symptoms which you do not understand or cannot govern.

Your neighbor Mrs. A. will come in and give her advice willingly, probably suggesting catnip or mullein tea, while Mrs. B. would prefer soothing syrup, but in the meantime baby is growing worse, and you are trying experiments which may result seriously. You may reason thus: Mrs. B. has had seven children and ought to know more than any doctor. You are making a mistake. Has not the doctor attended hundreds of sick babies? Does he not make disease in all its forms a life-long study? Has he not the thermometer, which is the only true test of temperature? Does he not know scarlet fever from measles while you do not, and so on *ad infinitum*?

Among the sure ills of infants is cutting teeth, and nearly every cry or sigh from the age of three months to three years is attributed to the fact that a tooth must be coming. Although there are a few smart babies who can show two tiny teeth at three or four months, there are not many who show any sign of teething before the seventh or eighth month, so that according to the old adage "Never cross a bridge until you get to it," I would advise that the subject of teething be never thought of or worried over until there are sure signs of this trouble, which are shown in the swollen gums, nervous and fretful condition of the child, and a general tendency to fever and unnatural condition of the digestive organs. A simple remedy for the nervous condition induced by teething is bromide given in small doses, and frequently; a laxative is also good when the system will admit of it. Children seldom have convulsions when teething if they are watched carefully, that the head is kept cool and nerves not over exhausted.

Among other sure troubles that come to the infant are falling, and swallowing foreign substances. In case of a fall, let the mother be the one to lift the infant up, and soothe it as best she can, for no other person can make up the lack of the mother's loving embrace. When the child is hurt enough to raise dark bruises, let water be applied, as warm as possible, with a soft cloth or old handkerchief, and changed frequently until the swelling subsides. When the child receives a cut, the same treatment may be used until the doctor arrives, who will generally bring the edges together with adhesive plaster. Severe scratches or burns are prevented from forming matter (which causes a lasting scar) by being kept moist with vaseline or sweet oil. In case a child falls on the head, and is somewhat stunned by the fall, after which vomiting ensues, it is always best to send for the doctor, as the indications are that the brain is injured, which requires the greatest watchfulness and care that some serious trouble does not ensue.

Children should never be allowed to put pins, buttons or things small enough to swallow (which cannot be digested), into their mouths, and very unwise is the mother or nurse who allows the child to see such a thing done.

If the child should swallow anything liable to cause trouble, castor oil, given in large doses, is the most effective remedy. No physician can vouch that it will successfully relieve the child, although many strange articles have been known to pass safely through the digestive organs of young children; still it is an experiment not wise to try.

All children take colds, in various ways—sometimes by the carelessness of the nurse, but often when no cause can be found—and colds take so many forms that one never feels safe about the result. Croup is one of the terrors of every mother, and many precious children have died of this insidious disease. Fortunately it seldom comes in that terrible form known as "membranous croup."

The first symptoms of croup may be easily detected by the hoarse barking kind of cough, dry and harsh, and frightful to hear—coming, as it often does, in the middle of the night, without any previous warning. The remedy always at hand, which is recommended by most medical authorities, is onions and lard, placed on the chest and throat. The onions may be sliced or chopped, mixed with the lard, slightly heated, and placed between flannel, which should be sewed together to form a small bag, about six inches square. These are also bound on the pulses when the temperature is high. As a medicine, nothing is more used than ipecac, given in small doses until vomiting ensues, which clears the throat. A noted New-York physician says that nothing but steam will cure membranous croup. This can be successfully used at home, if one understands it; otherwise, it does more harm than good. There are said to be a few cases on record of croup being cured by the performing of tracheotomy, but this is rare and difficult, even with a skillful surgeon to perform the operation.

Finally, the rule may be broadly laid down that none except the very simplest medicines should be given without the advice of a physician, and that even these should be given as seldom and in as small quantities as possible. Dosing children with this that and the other, is by far too common a habit among all classes, but especially among the ignorant, for it is safe to say that those who know most about children give them the least medicine. It is, of course, sometimes necessary to give drugs to little children; yet in nine cases out of ten, intelligent care in the first place will prevent any such necessity. V. B. C.

Crumpets.—Scald one pint of milk, let it stand till lukewarm, then add a teaspoonful of salt and about three and a half cupfuls of sifted flour. If you use granulated spring wheat flour, three cupfuls will be quite sufficient. Beat vigorously, then add four ounces of butter, melted, and a half cupful of yeast, or a half of a compressed cake dissolved in a half cupful of lukewarm water, beat again and stand in a warm place until very light. This should take about two or two and a half hours. When light, grease large muffin or crumpet rings and place them on a hot griddle. Fill each ring half full of the batter, bake until brown on one side, then turn and brown on the other. As soon as the crumpets are turned remove the rings, as they bake more quickly without them. A moderate fire is required for the cooking or they will brown on the outside before they are thoroughly done in the centre. —*Table Talk.*

BE WISE!

BOOTS AND SHOES DRESSED WITH

Wolff's ACME Blacking

NEVER GET HARD AND STIFF,

Always look neat. Equally good for Men's, Women's or Child's Shoes. No blacking brush required, and the polishing is done in three minutes without labor

WATERPROOF and warranted to preserve leather, and keeps it soft and durable.

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Try it on your Harness.

WOLFF & RANDOLPH, PHILADELPHIA.

"AGE CANNOT WITHER HER,"

remarked an old gentleman, as he gazed fondly upon the comely little woman by his side; "but frankly," he continued, "at one time I was afraid cosmetics would. The silly little women, in order to appear youthful, plastered her face with different varieties of whitewash, yclept 'balms,' 'creams,' 'lotions,' etc." "Yes," interrupted the little woman, "I did, until my skin became like parchment and *so* pimply and coarse." "Well," said the listener, "What do you use now?" "Use," was the reply, "nothing but common sense and Dr. Pierce's Golden Medical Discovery. Common sense told me that if my blood was pure, liver active, appetite and digestion good, that the outward woman would take on the hue of health. The 'Discovery' did all those things and actually rejuvenated me." If you would possess a clear, beautiful complexion, free from blotches, pimples, eruptions, yellow spots and roughness, use the "Golden Medical Discovery." It is *guaranteed* to do all that it is claimed to, or money paid for it will be promptly refunded.

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$500 OFFERED for an incurable case of Catarrh in the Head by the proprietors of DR. SAGE'S CATARRH REMEDY.

SYMPTOMS OF CATARRH. Headache, obstruction of nose, discharges falling into throat, sometimes profuse, watery, and acrid, at others, thick, tenacious, mucous, purulent, bloody, putrid and offensive; eyes weak, ringing in ears, deafness; offensive breath; smell and taste impaired, and general debility. Only a few of these symptoms likely to be present at once. Dr. Sage's Remedy cures the worst cases. Only 50 cents. Sold by druggists everywhere.

Weather, Crops and Prices.

Meteorology for March 31-April 6.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	30.36 inches.				
Lowest do.	do.	.....	29 06	do.	
Mean do.	do.	.....	29 93	do.	
Highest temperature do.	.....	54°			
Lowest do.	do.	.....	25°		
Mean do.	do.	.....	35°		

One clear day; two fair; four cloudy. Five days on which rain or snow fell; total precipitation, 1.04 inch. Prevailing wind, W.; maximum velocity, 30 miles per hour, S. E., on the 31st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day.....	31st	1st	2d	3d	4th	5th	6th
This year....	29°	34°	38°	41°	44°	39°	44°
Normal.....	36°	40°	40°	39°	39°	39°	40°

Total excess for the week, 4°.

The Month of March at Albany.

According to the reports of Sergeant Sims of the Signal Service, the highest temperature last month was 65°, on 26th; lowest, 19°, on 1st. Warmest day, 26th—mean, 45°; coldest, 10th—mean, 23°. Prevailing wind, N. W.; highest velocity, 30 miles per hour, on 31st. Frost on 11th and 21st. Clear days, 5; fair, 11; cloudy, 15. Snow or rain on 14 days. Mean temperature and total precipitation for last ten Marches as below:

1880—Mean Temperature,	35°	Precipitation,	1.76 inch.
1879	do.	26°	do.	5.64 "
1877	do.	29°	do.	2.90 "
1876	do.	33°	do.	2.18 "
1875	do.	24°	do.	0.63 "
1874	do.	36°	do.	4.09 "
1873	do.	30°	do.	1.11 "
1872	do.	28°	do.	1.79 "
1871	do.	37°	do.	3.80 "
1870	do.	32°	do.	2.17 "

General Review of the Week.

The week ending April 6 has been warmer than usual in all sections, except in New-England and the lake regions, where the daily temperature ranged from 1° to 3° below the normal. Throughout the Southern States, and over the greater portions of Missouri, Iowa and Minnesota, the daily excess of temperature ranged from 3° to 5°, while in Kansas, Nebraska, Dakota and Montana it was from 6° to 9° above the normal for the week. The temperature for the season from Jan. 1 to April 6 has been unusually high in the northwest, including the Upper Mississippi and Missouri valleys. In Minnesota and Dakota the average daily temperature ranges from 3° to 5° above the normal, and the season is from ten to twenty days in advance. In Iowa, Kansas, Missouri and New-England there is also an excess of temperature for the season, which is about one week in advance, while in the Southern States and Ohio valley about the normal conditions are reported.

The rainfall for the week has been in excess over the northern portion of the winter-wheat region, where rain was most needed, and over the greater portions of Missouri, Kansas, Arkansas, New-England, New-York and Pennsylvania. Well distributed rains also occurred over the greater portion of the South Atlantic and Gulf States, Tennessee, Kentucky and the Upper Mississippi valley. No rain fell in Nebraska, Colorado and Northwestern Kansas, while light showers are reported from the North and Central Pacific coast regions. The rainfall for the season continues in excess along the Atlantic coast south of New-York, and from the Texas coast northward to Missouri and Kansas. In the central portion of the cotton region, including Alabama, Mississippi and Louisiana, the rainfall for the season at present ranges from 15 to 20 per cent. of the average. There is a greater deficiency in moisture in the winter-wheat region east of the Mississippi, where only from 10 to 05 per cent. of the usual rainfall is reported, although the rains during the past week have doubtless greatly improved the crop conditions. There is also a large deficiency of rainfall in Central Iowa, Southern Minnesota, and on the North Pacific coast, where less than one-half the seasonal rainfall is reported. The seasonal rainfall in New-York and the interior of New-England exceeds 90 per cent. of the normal, while on the Southeast New-England coast there is a large deficiency, amounting to about 30 per cent.

The weather during the week was generally favorable to growing crops in the Southern States, where the grain crop is reported in good condition and the cotton crop about two-thirds planted. Heavy rains retarded farm work in Arkansas and West Tennessee, and more rain is needed in Kentucky and the southern portion of the East Gulf States. In the winter wheat region extending from Ohio to Kansas and Nebraska rains during the week affected growing crops favorably. The season is well advanced and the crops are in good condition, but there is a general deficiency in moisture throughout both the winter wheat and spring wheat regions of the central valleys and the northwest. In Minnesota and Dakota the weather was generally unfavorable, and high winds, with destructive prairie fires, interrupted farm work, which, however, is well advanced. In the Middle States the conditions were generally favorable for wheat, rye and oats, but the work was delayed by wet weather. In New-England the ground is generally covered with snow, and but little farm work has been completed. The prospect for the fruit crop in the Southern and Western States is excellent, although slight injury is reported from frost in Missouri and Kentucky, and probably some damage will result from frosts which are likely to occur east of the Mississippi to-night.

New-York—*Setauket, Suffolk Co., April 2.*—In March we had 10 rainy days, 17 cloudy, 6 fair and 8 clear. Total precipitation, 2.74 inches; snow 4 inches. Highest temperature, 18th and 26th, 60°; lowest, 12th, 26°; mean, 36°. Highest barometer, 1st, 30.51 inches; lowest, 7th, 29.15; mean, 29.89. A very light thunder shower early in the morning of the 28th. S. S. S.

New-Jersey—*Vineland, Cumberland Co., March 31.*—March came in lamb-like, but goes out like a half dozen lions. To-day we have a snowfall, turning into rain. Yesterday morning snow followed by sunshine. On the 21st we had five inches of snow—the only fall of snow of the winter season worth naming, and that soon disappeared. First-class potatoes are offered at 25c. per basket; butter, choice to extra fine, from 25@28c. per lb.; eggs, 10@12 per doz. Fertilizers are retailed as follows: Kainit, $1.80; ground bone, $3.25; complete manures, $30@4; muriate of potash, $3, for 200 lbs. of each. C. R. C.

Ohio—*Mechanicsburg, Champaign Co., April 6.*—Yesterday it rained toward night; half an inch of snow fell this morning; 10° below freezing; regular March weather. It still looks stormy; wind N. Eggs, 7@8c. per doz.; butter, 18c. per lb.; corn, 30c. per bu. I predict a cool, wet summer. R. W.

Indiana—*Greencastle, April 6.*—An enormous crop of wheat is in prospect in Indiana this year; the croakers have not yet killed off a single field. The acreage is perhaps a full average. The cold of the past winter was not sufficient to freeze out the roots, which lacked the protection of snow. In some solis damage was done the wheat, but for the most part it is in good condition. Light showers during the month of March seemed to make the outlook more promising. Quite a large acreage of oats has already been put in. Gardens are being made, and ground being prepared for the corn crop. The stand of clover this spring is the best we have had for years. The season is about three weeks in advance; peach trees now putting out blooms. Very cold winds have prevailed for the past few days; last night the thermometer showed 28°, and some are alarmed for the fruit. T. C. O.

Wisconsin—*Janesville, Rock Co., April 2.*—The past week has been decidedly March-y; two days the cold was below any day for more than a month past. We have had quite a March breeze for three days; plowing is nearly done; seeding in full activity; the ground is in good condition generally; quite an early spring is looked for. Tobacco beds are in preparation; there will be a full average acreage at least, of the weed. Broom-corn and clover I never hear mentioned; they are among the past. Wheat, 70@78c. per bu.; rye, 45c.; barley, 46@50c.; corn, 30@35c.; oats, 24@26c.; potatoes, 40c.; hay, $4.50@5.50 per ton; apples, $1.70@2.25 per bbl.; butter, 18@22c. per lb.; eggs, 9c. per doz.; cattle, $2 40@3.40 per cwt.; hogs, latter, $4 30@4.40; tobacco, 8½c., 8½c., 9½@14½c. for wrappers, binders and fillers. W. R.

Iowa—*Jewell Junction, Hamilton Co., April 2.*—It has been a fine winter in Central Iowa; only six days of zero weather, and a splendid spring so far for putting in crops, though too dry, as there was little snow all winter and no rain this spring. More wheat is being sown than for the last three years. Corn at railroad station, 18@20c. per bu.; potatoes, 20c.; oats, 18c.; wheat, 65c.; hay, $3@3.50 per ton; fat cattle, $1.75@3.25 per cwt.; fat hogs, gross, $3 50@4.35; butter, 15@18c. per lb.; milk, 7c. per 100; eggs, 8c. per doz. About one-third of hay left over; corn plenty; cattle cheap, cows, $30@35. C. A. T.

Virginia—*Birdsnest, Northampton Co., March 31.*—This month has kept its usual reputation for blustry, stormy and unpleasant weather. There was a good deal of rain, but not so much as in last March, when 8.50 inches fell. Some of the early-planted potatoes have rotted in the ground, and the earth has been too wet to plow most of the time. There was a skim of ice on the 29th. Maximum of thermometer, 68°; minimum, 29°; mean, 48°; rainfall, 7.20 inches. The grass is quite green. Hyacinths in blossom, and leaves on rose bushes. C. E. M.

Tennessee—*Bristol, Sullivan Co., April 1.*—Our wheat crop is looking better than usual, and a good acreage sown. Grass is starting, and looks as if pastures will soon carry their usual amount of live stock. C. H. W.

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Aaggie Major Veeman, J Frink,		H Rosekrans
Antietam Prince,	D Hollinger,	S D Wingert
Arad, J A Chanler,	N F Sholes	
Bardolph of Agnes,	Baron Von Hoenboldt and Bulbeck Beck,	Burton & Sheets, Teton Stock Co
Christabel's Mahomet,	C Robinson,	J H Smith
Day Break,	H Foster,	H H Hammond
Duke Gain,	J S Dutcher & Son,	I H Dahlman
Eldon,	W B Young,	F Burton
General Tyrant,	Mrs S J Lescom,	S L Sumner
Garrit S,	W A Russell,	Vermont Asylum
Goldstone,	S Stephens,	H Pearson
Governor Bardolph,	Burton & Sheets,	Teton Stock Co
Grant,	H C Gale,	N F Sholes
Hartje's Armory,	M S Stanton,	N F Sholes
Incas A,	W H Kingsley,	J Abraham
Ingraham 6th,	Burton & Sheets,	Teton Stock Co
Ipthitrates 2,	W H Kingsley,	Wilna Farmers' Club
Kennett 3d,	D H Rice,	W H Wallis
Lady St Croix's Major,	J D Kinne,	O Nettge, Jr
Leo Francis,	E D Carter,	Hull, Crump & Vasey
Lord Thrifton,	W B Preston, Jr,	J Hollinger & Co
Maia 8d's Prince,	G Allanson,	H E Hurley
Makedoid Chief,	Burton & Sheets,	Teton Stock Co
Meadow Lea Mum,	G S & H E Griffin,	Estate, N F Sholes
Mollwagen's Emperor Fritz,	N F Sholes,	W H Hallock
Netherland Prince Aaggie,	Smiths, Powell & Lamb,	A G Starkweather
Prince Daphne,	D Z Detweiler,	W H Wonder
Sir Aaggie Clothilde,	Smiths, Powell & Lamb,	G E Brown
Success to Mole,	J W Sellard,	M F Hope
Zemilow,	Lashbrook Bros,	H H & G H Hathbun
Aaggie Cornelia 8d's Lass,	Smiths, Powell & Lamb,	W R Reed
Amy Allister,	G J Edmunds,	Mrs J Harvey
Beatrix,	H C Gale,	Rand Bros
Bird, G T	Rohr, W J	Mendenhall
Cameos and Chatsworth Belle,	L C Alexander,	S McIntyre
Clalia, Gurnet & Mitchell,	S V Love	
Dove 3d,	G F Rohr,	W J Mendenhall
Duchess of Windsor,	Smiths, Powell & Lamb,	H P Spencer
Exquisite 3d,	Pearlie and Fabiola 4th,	C Robinson, J H Smith
Glorietta 3d,	Burton & Sheets,	H W Pratt
Hannah 6 and Havre 8,	W M Singerly,	Wilna Farmers' Club
Honey Moon 3d and Idaard,	N S Carlisle,	Mrs John Harvey
Idelia,	J A Chanler,	N F Sholes
Isetta,	J A Chanler,	N F Sholes
Jolsum Maid,	J W Sellard,	M F Hope
Jongula 3d,	F Sholes,	Rand Bros
Kleitery of Clinton,	D Bullolph,	M F Hope
Ladoga,	H C Gale,	N F Sholes
La Favorita,	C Robinson,	J H Smith
Leopoldine 3d,	H Lamont & Son,	N F Nellson
Lillah,	H C Gale,	N F Sholes
Lucinpar's Lady May,	H C McGeveran,	H Germann, Jr
Louisa 8d,	Burton & Sheets,	H W Pratt
Maid of Forest View,	Burton & Sheets,	W Butler
Mayd 3d,	H C Gale,	N F Sholes
Milly,	J A Chanler,	N F Sholes
Mionah,	G F Rohr,	H M Cotton
Nicola,	C Robinson,	J H Smith
Nora Upperstone,	D Hannah,	Mrs J Harvey
Queen of Lakeview,	B Haire,	J H Smith
Thalia,	N F Sholes,	C M La Monte
Uwharie's Pet,	N F Sholes,	Rand Bros
Witch of Brook Lawn,	C Robinson,	J H Smith
Yankton 3d,	W Bothin,	D Cheesman

Iowa Clip, Iowa. T. B. WALSH, Sec'y.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Abbie's Rioter H,	W H Hayden,	E S Harris
Albert Prince,	W S Montgomery,	T U Brewer
Alphadrus, Est of	S L Briggs,	J L Glessler
Alphea Episcopa,	S L Clarkson,	F P Mitchell
Beamie,	W S Sartwell,	F L Sertwell
Bessie's Welcome,	S S Gillett,	Mrs A S Williamson
Bonnidge of Va,	J R Watson,	J Powell
Bonnidge's Prince,	J M Watson,	T M Anderson
Count Verna,	W Woodruff,	R A Potter
Daphne's Bloss Pogis,	L H Morse,	S F Prince
Earl of Eastmoor,	J M McFarland,	W W Leach
Edith's Burlington,	R A Potter,	M W Woodruff
Exile of St Lambert,	30th, P J Cogswell,	W G Cobb
Highland Pogis,	F Rosenbaum,	R McClure
Idea of Pamela,	S W Hunt,	Miss L Libby
Ivan of Pamela,	S W Hunt,	N V Ketcham
Jambo of Maplewood,	H Bandford,	T C Moore
Kansas Victor Pogis,	J T Cushenbery,	G Allen
Lori P Morton,	G H Week,	C S Bussey
Lord of Dunkirk,	W C Hilton,	R D Cureaons
Major Lack,	G T Sackin,	W E Cummings & H S St John
Master Belwyn,	F D Hinkley,	C A Smith
Mayor Carlo,	N W Atwood,	B C Green
Midget,	A D Lloyd, Gray & Hardin	
Minnie's Rioter Lizzie,	F C Farley,	T Mott
Nero's Sir Hugo,	W Cozzy,	H S Kingman
Pearl Hero,	R F Holly,	J Mason
Pogis Hugo Rioter,	W A Herod,	T Lovelock & Co
Prince of Belle Meade,	J E Lowe,	A G Harnet
Prince of St Lambert,	W Crozier &	F C Farley, F C Farley
Rajah of Rothsaie,	C B Lakin,	A H Lindsay
Red Tormentor,	W D Mayo,	W D & Z T Mayo
Rival's Florist,	C H Greenwood,	R O Jones
Roy's Mascot,	S S Reed,	G M Heidt
Signal Boom,	Nisbet & Plant,	R A Nisbet
Sir Hugo of Elmhurst,	by Hugo of Oneida and Sir Hugo's Rioter,	F Losey, H S Kingman
Stanco's Rioter,	J L Gaston,	S Fellbrick
Stecle's Gildersly,	F G Lyon,	S N Steele
Thaurell,	Cumcord Stock Farm,	J A Harwood
Tontris,	A H Wilson,	H Berry
Turner M,	W S Montgomery,	J S Dwyer
Victor of Hazelwood,	L H Morse,	S F Prince
Album,	A Kimball,	C M Hill
Almeda S,	Est of S L Briggs,	J L Glessler
Alphabet,	Richards Bros,	A A Nisbet
Alpheo Prize,	C W Roberts,	H Gray
Alpheo Royalty,	R F Holly,	F Tillinghast
Amy Trot,	G H Merriman,	R A Potter
Anamda,	T Mott,	T Wheeler
Amalia,	Est of S L Briggs,	W P Rose
Arlane of Summit Grove,	W R Williams,	S Hoopes
Atwater,	J J & A S Carter,	Stanhope Bride
Aurelia nilss,	C W Talcott,	D W Clark
Barbara of Maple,	H Gallup,	J C Bogardus
Beauty of Allandale,	H Gilliott,	H A Allen
Belle K,	G H Kelly,	J C Hart
Belle Mitchell,	S T Coleman,	M J Young
Belle Morris,	C C Brown,	A G Rigabee
Belle of Northport,	Mitchellcamp,	C D Kimball
Bell Turner,	A Buck,	O S Holcomb
Bessie Pearo,	L P Bailey,	D S Richey
Brasso,	Brassy 2d and Hybla,	C H Owen, C W Cowles
Castelara 4th,	Castelara 5th and Castelara's Beauty,	J T Cushenbery, G Allen
Claudia,	J Mason,	H F Holly
Clover Smith,	S Simcox,	J Stephenson
Colorado Queen,	W Brown,	J Curtis
Comic,	Richardson Bros,	S Miller
Compeer's Beauty,	H Holmes,	H M Beam
Coppemoo,	L P Bailey,	D S Richey
Daisy Tillinghast,	R F Holly,	F Tillinghast
Dora's Belle,	S Rogers,	J Rogers
Dora Stella,	N S Tindley,	J G Granniss
Dottie Darling,	J L Briggs,	J S Murphy
Drama,	A Kimball,	C E Hill
Duchess of Middle Seld,	R A Potter,	M H Tyler
Estie McBride,	Stuart & Skeen,	Mrs L Stuart
Euphony,	S T Coleman,	J C Whitaker
Europa of Willow,	J E Lowe,	J L Glessler
Gendarme's Choice,	W Seal,	A G Gooch
Genevieve of Pamela,	S W Hunt,	N V Ketcham
Glen Allen of Lowland,	A Campbell,	J C Eastend
Golden Pile,	C Sackett,	G Brown
Gold Lace Monitor,	J Cloud & Son,	T Lovelock & Co
Harry's Hallie,	W D Mayo,	W D & Z T Mayo
Hazel Witch,	J T Cushenbery,	G Allen
Helen of Bridge Hill,	J Steele & Bros,	S E Nivin
Hooper of Pine Grove,	W H Beck,	J A Harwood
Ida Plumb,	P Bailey,	D S Richey
Jamesetta Darling,	Est of S L Briggs,	J L Glessler
Jessie Clover,	L P Bailey,	D S Richey
Jazz Ogden,	J T Henderson,	S M Jones
Kate of Sandhill,	R A Nisbet,	R Kingman
Kate Ona 3d and Kitty's Lock,	L P Bailey,	D S Richey
Lady Birch 3d,	T Sanders,	N S Waldron
Lady Cowles,	C H Owen,	C W Cowles
Lady Darling of at Heber's,	W Watson,	F G Campbell
Lady Pepo,	Est of W J Bond,	S Strickland
Lady Phoebe,	W E Allen,	J Clifford
Lady Portia,	J Steele & Bros,	H A Kurtz
Lady Wildwood,	W Gentry,	T S Silvers
Lady Willieta,	W H A Carter,	A W Stanhope
Lassie Pamalparax,	J T Cushenbery,	G Allen
Lizzi,	J J & A S Carter,	Stanhope Bros
Lois Rhea,	W Gentry,	T S Silvers
Lorna Bonne,	S C Russe,	H W Jansen
Lucia Hugo of St Lambert,	W Cozzy,	C Frake
Lucky Choice,	J H Reed,	J C Munden
Mary Ann of Maple Lane,	S Simcox,	J Stephenson
Merlette's Darling,	Est of S L Briggs,	J L Glessler
Minnie of Ashland 3d and Minnie of Netwood 3d,	W C Myer,	R F Shallcross
Minniecoma and My Ona,	L P Bailey,	D S Richey
Nama Radical,	Est of S L Briggs,	J L Glessler
Nancy Regal,	J T Cushenbery,	G Allen
Nobe of Brookwood,	S T C Noman,	J C Whitaker
Nort, C McDermott,	E Bodine,	
Noble Boy's Lady,	E Litsey, Gray & Hardin	
Numaria,	J T Cushenbery,	J Y Given
Nutritia,	W Chapman,	T S Cooper
Ogra,	S S Reed,	G M Heidt
Olo of Allandale,	S S Gillett,	D A Allen
Ona Signal 3d and Ona Signal 4th,	E Litsey, Gray & Hardin	
Fanny Orton,	L P Bailey,	D S Richey
Pet's Daughter,	J D Rudd,	W B Davenport
Pet of Elm Spring,	E Litsey, Gray & Hardin	
Princess Cleadias,	L P Bailey,	D S Richey
Prince's Sylvia,	Est of S L Briggs,	J L Glessler
Prin's May,	L P Bailey,	D S Richey
Pussy Bloomfield,	J T Cushenbery,	G Allen
Queen of Elm Spring,	E Litsey, Gray & Hardin	
Queen of Sparta,	W Coney,	R S Kingman
Queen of Wildwood,	W Gentry,	T S Silvers
Quicksilver,	C H Owen,	C W Cowles
Retta's Daughter,	L P Bailey,	D S Richey
Rex's Bonnie,	Rioter's Duchess and Rioter's Gift,	J T Cushenbery, G Allen
Rioter's Gloriana 3d and	Rioter's Gloriana 4th,	E Litsey, Gray & Hardin
Rioter's Pussy and	Rioter's Viola,	J T Cushenbery, G Allen
Rose Seale Sellers,	I Sellers,	L E Clark
Rose of Elm Spring,	E Litsey, Gray & Hardin	
Rose of Waverly,	J T Cushenbury,	G Allen
Roy's Daisy,	S S Reed,	G M Heidt
Sallie Love,	A D Lloyd, Gray & Hardin	
Signal's Kitty,	J T Cushenbery,	G Allen
Sigrid's Mary,	L P Bailey,	D S Richey
Sparkling and Sparks,	A Kimball,	C M Hill
Spray's Jewel,	N W Tallaferro,	Maury Jersey Farm
Stella K,	L P Bailey,	D S Richey
Strawberry Maid,	C Wellington,	S Barnard
Susa Pearce,	J T Cushenbery,	J T Glessler
Swallow Barn,	J F McMullen,	J N Hughes
Tether,	W D Mayo,	W D & Z T Mayo
Tennilla Wade,	S T Coleman,	I I Clements
Tonica,	L P Bailey,	D S Richey
Valerie of Maple Hill,	M N Woodruff,	R A Potter
Willecka,	J J & A S Carter,	Stanhope Bros
Wilma,	Est of S L Briggs,	J L Glessler
Winsome Daisy,	L P Bailey,	D S Richey
Wrexeyer Mary,	Est of S L Briggs,	J L Glessler
Xeraida Hardy,	M N Woodruff,	R A Potter

1 & 3 *Broadway, New-York.* F. W. WOLFE, Sec'y.

Vivid Writing.

A little descriptive piece entitled "Over the Sea," from the Detroit *Free Press*, of which we give a paragraph, reminds us that great advertisers, like H. H. Warner & Co., proprietors of Warner's celebrated Safe Cure might get a hint from it.

Here is the paragraph:

"Shoot to the right or left, over the guns or under them. Strike where you will, but strike to destroy. Now the hail surges down, even to the windows of the old farmhouse—now back under the apple trees and beyond them. Dead men are under the pendulous wheels of the guns, mad devils are slashing and shooting across the barrels. No one seems to know friend from foe. Shoot, slash, kill and—

"But the hail is dissolved. The smoke is lifting, shrieks and screams grow fainter, and twenty or thirty living men pull the dead bodies away from the gate. Three hundred dead and wounded on the single acre. They tell of war and glory. Look over this hell's acre and dad the latter." And is just as deadly a strife, though in nameless, as we are fighting at our right and left to-day. Is it war? Yes, war of the blood. Blood loaded with poison through imperfect kidney action. And is there no power to stop this awful slaughter? Yes, Warner's Safe Cure, a tried specific, a panacea that has brought life and hope to hundreds of thousands of dying men and women.

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VOL. XXXIII.—No. 1,687.

THE COUNTRY GENTLEMAN

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THE CULTIVATOR
AND
Country Gentleman

Albany, April 18, 1889.

Blue-Grass Pastures.

EDS. COUNTRY GENTLEMAN—I have to-day, April 24, turned my young cattle to pasture, and a careful examination shows that the grass has made so good a start that they will thrive on it. It would not be wise to stock even a blue-grass pasture heavily so early as this, but one animal to each three or four acres will do well, and the grass will gain on them rapidly from the start. The hardest time of the entire year for cattle, I think, is the period between hay and grass; and when cattle must be kept on dry feed during the entire month of April, they often lose flesh and appetite. The turning out from three weeks to a month earlier than those farmers can who depend on timothy and clover for pasture, gives the farmer who has a field of blue-grass a great advantage. Often, also, the gain is greater in autumn than in the spring, for timothy does not usually make a strong fall growth, and a severe, long-continued drouth sometimes kills it out entirely; and while clover makes a good summer pasture, its growth is checked as the cool fall weather comes on, and often it is entirely killed out by an unfavorable winter.

I speak from long experience in this matter, for from my boyhood I have lived where these three—clover, timothy and blue-grass—constitute ninety-nine one-hundredths of the pasture grasses, and in fifty years I have never known a blue-grass pasture to run out, or to be permanently damaged by frost or drouth. I have seen steep hillsides facing the south where the stratified stone came so near the surface that it could not be plowed six inches deep, and during a long-continued summer drouth the grass would look perfectly dead; not a semblance of moisture could be found by digging, and it would seem impossible that there was any life left in the roots. But a soaking rain would fall, and in ten days the hillside was a carpet of living green, and all through October and November the cattle throve and fattened on the fresh grass, when without it the owner would have been obliged to feed hay.

The farmer who depends on clover and timothy for pasture cannot turn on it earlier, on an average, than the 10th of May without damaging it, and some years it will be later. An examination of my diary shows that for ten years past, the average date at which I have turned my cattle out is April 9, and three years out of the ten April 1. During these ten years twice or three times there has been a failure of all spring-sown grass and clover, and once or twice the winter has been such as to kill nearly all the clover, and as a consequence many farmers were obliged to reduce their stock, or hire cattle pastured at high prices. I can show fields of blue-grass in this and adjoining counties that I have known for from forty to fifty years, and which were undoubtedly old established pastures before I was born, but to-day are as vigorous and profitable as ever. In the lower part of my county, the bluffs of the big Miami river rise to the height of 300 feet or more, in many places so steep that it would be impossible to drive a wagon up them, and wherever these have not been plowed, they are carpeted with the velvet sward of blue-grass, and where they face the south often furnish pasture long before the end of March. On other farms the owners have attempted to cultivate these hillsides, and the result is that they are gashed and scarred by gullies and utterly ruined.

Another property of blue-grass which adds greatly to its value is, that it flourishes in the shade, and land will grow timber and at the same time yield a profitable crop of grass, and

locust trees and blue-grass seem especially adapted to each other. Near where I live a rough hillside of irregular shape was planted in locust about thirty-five years ago, and as soon as the trees were three or four years old it was seeded to grass. For thirty years there has been a heavy growth of blue-grass which being protected furnishes the earliest feed of the neighborhood, and during this time the timber has been twice cut for posts and has given a cash return of more than two hundred dollars per acre. Similar hillsides on adjoining farms which the owners have attempted to cultivate have not paid for the labor expended, and to-day would not sell for ten dollars per acre.

How to establish a blue-grass pasture is a question I am often asked. The way I started mine was to sow one bushel of blue grass seed to the acre, and at the same time seed heavily with a variety of other grasses and clover. The blue-grass made no show until two years later, but has been improving ever since. The last piece of blue-grass on my farm was started by cutting sod at the roadside and chopping them into pieces about two inches square, which were dropped from a basket, about two feet apart, and stepped on to press them in the soil. This was on land just sown to oats. These pieces grew to the size of dinner plates the first year, and in a few years crowded out all other grasses, and formed a complete sward. This plan, though a little slow, will pay on land inclined to wash, where it is of importance to get a stand as soon as possible. I think not more than one farmer out of three or four in my county has a field of permanent blue-grass, and yet I believe that, taking one year with another, it pays better than any other crop, and, at the very least, ten acres out of every hundred ought to be occupied with it.

Butler County, O. WALDO F. BROWN.

The Value of Leached Ashes.

EDS. COUNTRY GENTLEMAN—Your correspondent J. B. (p. 190) inquires about ashes and potash. The probability is that a part of his ashes have been leached, partially dried, and then mixed with damp unleached ashes. The same thing has been done on my farm, but they are all the better for it. The white material is probably lime or refuse potash. Until the last few years all the wood ashes made on this farm (we burn no coal) were leached to produce lye for soft soap, and my mother always insisted on having a half bushel of lime mixed with ashes in the leach, to produce lye strong enough to bear up an egg, and in selecting the ashes for the leach, if any of them had become damp, they were discarded as unfit, and were mixed with the last year's leached ashes, and applied on the farm, usually where corn was to be planted, and always with good results.

The lime put in the leach will show itself in the soil many years afterwards. I have plowed up lime with a few ashes distinguishable that my father put on 20 years before, and never a poor crop where they were put. It was on stony ground that could not be so thoroughly tilled as freer soil, consequently lasted longer. Some ten years ago I planted corn on a field that had a poor spot in which nothing of any amount would grow. No one could tell why. Before planting I took the ashes from the last year's leach and spread them over this poor place, then spread stable manure over it the same as the rest of the field. The corn grew larger on that poor spot where the ashes were than on any other part of the field. The next year the oats were a failure on that spot; they grew up a little, half headed, fell down and died. The crop of rye following, and all other crops, since even the grass, have been better on that spot than any other in the field, but there were too much ashes for oats the first year.

A near neighbor that I have lived by seventy years, and one who has never done anything but run a farm, has told me several times that if any one would take his ashes and leach them, and bring back the same ashes, they were welcome to do so; and he is a very penurious man too.

When traveling through Northern Pennsylvania and Ohio several years ago, I passed by many asheries, where they made black salts for the saleratus factories. Around these asheries I have seen horse scrapers scraping the leached ashes out and away on to huge piles larger than a large barn. They had evidently been years accumulating unmolested. I asked the farmers near by why they did not put these ashes on their farms, when they could have them for the drawing; the answer was: "Our land is new and does not need them." I replied that it would need them before this generation passes away. L. F. SCOTT.

Litchfield County, Conn.

Observations in Kansas.

EDS. COUNTRY GENTLEMAN—A recent trip to Kansas has confirmed the ideas I had entertained of the conditions in that State. While undoubtedly the mortgaged indebtedness on the farms has been exaggerated by some papers, it is certainly a very serious matter to the Kansans, especially in the newer counties, and yet it is plain that the sad state of affairs is not due to any fault in the soil or climate of the State. Kansas is a grand State, but it has been much injured by its over-enthusiastic friends.

The fact that first forces itself upon the tourist in Kansas is that the towns have been built up too fast; they have grown faster than the country that must support them. The booms have been biggest in the towns. The "boom" is the child of the speculator, and it is easier to buy and sell town lots than farms. The real estate gambler, like other gamblers, prefers town to country. Hence it is the town that is first given a speculative, false, boom price. Also, many not real estate speculators have been drawn to the towns by the wiles of those speculators. Hence the towns are overpopulated at the expense of the country. If you go to Kansas, keep out of the towns.

In many places, making in the aggregate an area truly surprising to one who has not closely watched the course of events in the State, farms can be bought for very little above the mortgages upon them. The mortgages are held by loan and trust companies. Offices of these companies are thick; a town without at least two is a curiosity. These companies handle almost altogether capital from east of Ohio. In the localities of which I speak these mortgages were generally placed two, three and four years ago. As these companies place a loan for only one-third of the price of the land, and as the mortgages now very nearly equal the price of the land, it is plain that there has been a heavy shrinkage in the prices of land the past three years. This shrinkage in the prices of farm lands has not been so great, however, as the shrinkage in prices of much town property.

The mortgages draw from eight to twelve (perhaps more) per cent. interest. This is concealed from those who do not know how such things are managed. The Kansan has borrowed $1,000 for five years at ten per cent., giving a mortgage on his farm. But his note for $1,000 calls for only seven per cent. interest. At the same time he has made a note, secured by another mortgage, for $150—$30 yearly without interest. Or rather, he signs five notes for $30 each, due in one, two, three, four and five years. These notes are supposed to be for "commissions," but they are to make up the ten per cent. interest; commissions are taken out of the thousand dollars. Moreover, when the Kansan signs the principal mortgage note for $1,000, he also signs a note for each year's interest, or more often for each half year's interest, to draw 12 per cent. interest per annum after maturity.

The past two years have been bad crop years for Kansas. Last year the hot winds—more than cooking everything green—came farther east than for many years, and in some localities were more violent than ever before since the settlement of the State. Suppose that three years ago the settler, enthused and inflamed by the real estate agents and speculators, the railroad companies, and gullible persons in and out of the State, has bought 160 or 320 acres when he should have bought only one-half as much, has been compelled to borrow one-third of the purchase money, paying ten per cent. interest per annum, due semi-annually, giving a mortgage for the amount; has depended upon good crops and the rise in the price of land that good crops would bring, to help him out, but instead has scarcely been able to raise feed, while his land has decreased in value; and you can understand why I can get farms of 160 acres, part in cultivation, with sod house and barn, for $200 or $300 above the mortgage—enough for the settler to return to whence he came.

This is the dark side of Kansas. There is a bright side, perhaps nowhere so bright as the darkest spots of the other side are gloomy, but having on the whole far more light than the dark side has of gloom. Kansas has some poor land—rocky and thin-soiled, and some too sandy—but in the main the land is excellent; much of it is as good as can be found anywhere in this country. While in the western half of the State sufficient rainfall cannot be depended upon, in general the climate is favorable to the farmer; fully as favorable as the climate of many prosperous States. While there are farms blanketed with mortgages, there are as fine farms as any State can show, free from debt.

Whenever you find a Kansas farmer who has been too sensible to be duped by agents and paid newspaper writers; who has made his plans with a view to bad seasons as well as good; who has not gone in debt deeply, especially for more land; and who has farmed diligently and lived economically; you find a prosperous, contented man not afraid to tell the truth about Kansas. In short, the same conditions that would bring prosperity elsewhere have brought prosperity in Kansas; and what has brought disaster to Kansas would have brought disaster in Illinois or New-York.

Let me say gladly that no matter how recent the settlement or how debt-burdened the property, everywhere in Kansas you will find school-houses. The regard that the Kansans have for education should be to their great honor always. Newspapers are very plentiful. The State is indeed well supplied with railroads—railroads largely built and equipped by the people; and railroads that have contrived in many ways to rob the people, especially the farmers. The Kansans have put upon themselves an enormous railroad bonded indebtedness; and their reward is robbery. I remember that last summer Mr. Depew said he could not understand the western antipathy to railroads and railroad officials. That is simply because he has never been a western farmer, particularly a Kansas farmer.

I have never known a better time to stay in Kansas if you have property there, or to invest in Kansas land. It would be beyond all precedent if the next two years were as unfavorable as the past two. The chances are overwhelming that this year and some years afterward will be very prosperous. Those in debt, if they only hold on a very little longer, will get out of debt, and while they are paying off their mortgages their property will be advancing in value. Those who buy now will, if they stay out of a few localities where the boom is yet on, get property very low, and that must advance rapidly during the next few years. I am so sure of this that I put $4,200 into Kansas property—not as a speculation, but with the design to have the land "grow up with the country," and to help it grow. Three years ago I cautioned the readers of this paper about investing in Kansas. The boom was then on; and the things I prophesied have come to pass. Now, I would sell my gift of prophecy for ten cents; but nevertheless I say that now, when the boom is sadly wrecked, is the time to buy; and especially is the time to hold on and fight it out if you are in the State. JOHN M. STAHL.

Adams County, Ill.

Beet Sugar in California.

EDS. COUNTRY GENTLEMAN—A three months' journey through the lower counties of California has given me new and greatly extended ideas of the physical, agricultural and social conditions of the State. I have seen much that has greatly interested me. One thing which came to my knowledge lately may be new and interesting to many of your readers. Two or three years ago I was much interested in the accounts given in your paper and others, of the manufacture of sugar from sugar beets, by parties in one or two places in Maine and one in or near Schenectady, N. Y., and later, of attempts on a large scale near Wilmington, Del., in Illinois and in Kansas. I was led to correspond with some of these parties with the idea of starting the making of sugar in Homer, N. Y., my place of residence, but the information I gathered was not entirely satisfactory, and no result followed. If I am correctly informed, the making of sugar at these places as a profitable business has proved a failure, although in France it is so acknowledged a success.

My interest was newly awakened when, at a lengthened stop of my train, I got out at a station, near which was a large new building, boiler and engine house, and other buildings, to be informed that it was erected by J. Sprecksels, the great California "sugar king," for the purpose of making sugar from sugar beets; and that last season, its first, the profits of the business was $25,000. From my informant, a fellow-traveler, and very intelligent man, and long a resident of the county, I gained the following information: That Mr. Sprecksels—who has long controlled the entire sugar crop of the Sandwich Islands, and the sugar trade of this coast, and in addition is now building a large refinery in Philadelphia, in which to manufacture sugar in opposition to the great sugar trust of New-York—had the idea that sugar from sugar beets could be made a successful and profitable business for the farmers of this State, if the manufacture was conducted with correct knowledge of the various manipulations for making it. The success of the first year's attempt is so far satisfactory that Mr. Sprecksels intends to start one or two other establishments in other sections of the State further south.

In an address given by Mr. Sprecksels to the farmers before he built his works, he stated that one reason of the failure of eastern sugar beet manufacturers was that they did not possess the process of extracting all the saccharine matter from the beets, and that he or an agent had been to Germany to investigate the process there, which resulted in his bringing German workmen here to superintend his works. Another item I learned was that the variety of beets used was an entirely different one from what we call sugar beets East, and that any part of the root which grows above the ground is of no account for sugar making. The common sugar beet grows here to a large size, weighing sometimes 50 or 60 pounds. I have seen some very large ones myself, but these are not here used for sugar making. The variety used grows small, weighing only two to three pounds each, all within the ground, and has a leaf something the size and appearance of our plantain leaf. The seed is imported and great care taken to keep it pure. It yields crops of thirty or forty tons to the acre, which sell from $6 to $4 per ton, according to test of sweetness, which runs 10 to 18 and sometimes up to and over 20 per cent.

The rainy season here is about over; the rain fall has been about the average throughout the State. Growing grain is looking vigorous and healthy, promising an abundant yield. The prospect is good for large crops of all kinds of fruit, and generally I think farmers are anticipating a prosperous season. C. O. NEWTON.

Santa Cruz County, Cal., March 28.

Earth Closets.

Make the closet good and roomy in size. In the back part build a tight box of fine flooring or siding to the top of closet, large enough to hold a good load of fine road dust, muck or ashes mixed. On outside of back part of closet have a good-sized door near the top of closet, hung on hinges, and opening in your earth department; through this door you can throw your earth in from wagon. When full shut the door and fasten with button or other device. Now from the earth department build two or three shutes of pine or other wood, set slanting and run in under seat, one shute for each hole, not far enough, however, to catch droppings. Have two slides for each shute, a few inches apart; draw the upper slide, then close, and draw the lower slide; just so much earth will slide to proper place, and no more. You do not have to use paddle or scoop.

Get four iron wheels from some worn-out machinery, or saw out wooden ones. Make a box to hold enough for a month, place box on wheels, same as cart. Line the whole inside with tin if you wish. In back end have gate, same as to spring wagon, fastened with spring catches, not hooks. Place hind wheels so they can be removed. Make a tongue, and when your box is full put in the tongue and pull out your cart to garden or wherever you wish; take off your hind wheels; with a stick lift your springs to end gate, let it down, and your load will easily slide out. What is cleaner to handle than such a device? When your cart is in place again, take off your tongue and put up until wanted again.

In south side of closet have a ventilator placed, painted, and the whole building whitewashed inside and out, or painted.

EDWIN WING.

—— On reading Mr. T. B. Terry's letter (page 4), I thought there were things about it that I did not like, and was about to tell my plan; but your correspondent "An Old Reader" (p. 64) has told it exactly, all but the way

of cleaning out. I dig a hole in the ground outside, at the end of the trough, hauling all into that, mixing with muck, earth or anything for absorbents, with house slops, cleaning twice a year and being careful to keep all covered with soil—the swing-door closed in cold weather. Then every spring this compost is taken to my garden with a wheelbarrow, and used for corn and peas. Many years ago, the editor of the COUNTRY GENTLEMAN urged all to collect road-dust when dry in summer, which to me was a new idea, and has been worth many dollars. I get from two to fifteen barrels a year of it, and use it in all places where it is slippery, as in a pig's stye that has become wet and slippery, or in a stall where a cow has dropped a calf; if there happens to be no bed (which should not happen), throw in a few shovelfuls of dust, and a calf can get right up on it and stand. Those who never collect any dust do not know the value of it. It is always dry, if under cover, and never freezes. I consider it much better than muck for the closet. The dust idea alone is worth the cost of the COUNTRY GENTLEMAN all these years, to say nothing of hundreds of others. L. F. S.

Bethlehem, Conn.

Public Roads in Pennsylvania.

EDS. COUNTRY GENTLEMAN—In my younger days, to be sent to work upon the roads was considered almost the equivalent of being permitted to attend a picnic. It meant solid fun with the boys for miles around—a "rassel" at least, possibly a fight, with some rival fellow from the "other ridge"—and at the evening roll-call it was a matter for self-congratulation if a "chunk of a boy" could be entered as a full hand in the books.

We worked under a supervisor, by which is meant that when he was not immediately over us, we did not work. His qualification for the place seemed to consist in an abundance of leisure, which he could devote at the rate of two dollars per day in trying to keep up with a crowd of men and boys as they wandered along the township roads, scratching here a little, there a little, working out their taxes.

It is needless to say that such a system (?) of road making has given certain portions of Southwestern Pennsylvania an unenviable notoriety for bad roads. Heavy taxes are levied, but the roads have been going from bad to worse, until now, at times, they are almost impassable. The extra amount annually expended by farmers and others in the repair of vehicles, would probably make a fair tax in itself.

At a recent meeting of the Western Pennsylvania Engineers' Society, the report of a committee shows that the country roads in many parts of the State are deplorably bad. Farmers are, in certain seasons, practically cut off from markets and schools, and live in a state of semi-seclusion. The State is taxed about seven millions of dollars a year for roads, but has little to show for it. It is estimated that if the unnecessary knobs and bends were removed from the roads, seven thousand miles would be saved.

To remedy this great evil two things are necessary—first, the supervisor must be an engineer, and, second, the construction and repair of roads must be let out by contract to responsible parties, which will necessitate the payment of a money tax. Farmers can well afford to do this in consideration of what they will receive in the way of good roads. They have demonstrated in the first place that, as a rule, they are too ignorant to know how a road should be made; second, they have shown that they will not do a square day's work on the highway, and, third, the roads most need attention at those times when farmers are busiest with their crops.

After a long report on the condition of the roads in various parts of the State the committee submitted a bill which provides that all roads and bridges, except those in cities and boroughs, be under the care and supervision to and management of a board of road trustees, be elected in each township in February, 1890, who are to serve for one, two and three years respectively. Every road trustee must be a citizen and a freeholder. These trustees are to meet annually in convention on the first Tuesday in March, in their respective counties, and elect a president and clerk; a clerk who shall be entitled to the same compensation as a clerk of courts, and who will serve for three years. At the first meeting the trustees shall report the mileage and total amount of road taxes assessed in their townships for 1889. A certified list shall be submitted to the county commissioners, who shall notify the assessors to assess the amount as township road tax on each property that was paid in 1889. This tax must be paid in cash. The convention shall also elect a suitable man, who has had ten years' experience as county engineer, whose salary shall be the same as a county commissioner, and who shall engage such help and pay such wages as the president shall approve. All improvements to roads shall be done by contract whenever possible. The classification of roads in three classes is also approved of.

The committee was instructed to have this bill forwarded to Harrisburg at once.

Allegheny County, Pa. W. S. JACKMAN.

The Last of the Institutes.

The closing institute of the year in New-York was held at Unadilla, Otsego Co. As this is an important maple sugar section, it was feared that the attendance would be less than usual, on account of the good sugar weather. The hall was well filled, however, and much interest was displayed, particularly in regard to all matters connected with dairying which is the leading industry in this and the adjoining counties. Many are planning to build silos during the coming season, realizing that ensilage is the cheapest and best food for dairy cows.

The address of welcome was responded to by Mr. Geo. T. Powell for the State society. He spoke of the reduced prices of every class of goods, during the past decade, caused, in his opinion, by the greater competition in all lines of business: "Manufacturers have to put their brains together to meet this increased demand for a lower-priced article. Look at the first cost of mowers and reapers. The farmer also must follow the example of other business men, and study his business more closely than ever before. Products are coming to our markets from lands that are very cheap, and from which the freights are very low."

An admirable paper entitled "Brains vs. Farming" was presented by Harris Gillette of Sidney. Forty years ago if a young man had plenty of muscle and ambition, he was thought good enough for a farmer. Farming differs from some kinds of business, in the fact that in farming you cannot palm off brass for brains. In many pursuits the former is the more essential quality of the two. We need to enter upon a practical work of self-defense. It is idle to think that other classes will look to our welfare. Unscrupulous politicians have been left to make nominations, and brains outwit the plodding laborer who earns the profit. Will we awake from our stupor, with this opposition? A few cuts from our enemy are kindness after all. They keep the dust off from us. Competition is too close to permit us to keep on clinging to our grandfather's coat tails.

Mr. Powell thought we should not join any party but work for the best man without regard to politics.

At the opening of the afternoon session considerable time was devoted to the question box. Secretary Woodward said that next to putting it in a silo, the best way to preserve fodder corn was to tie in small bundles and put these together into large stouts. Clark's cutaway harrow was mentioned as being almost as effective as plowing for preparing fall-plowed ground.

Col. Curtis, whose cows have been kept constantly in the stable during the past winter, said they had never done as well before, and had not only gained in flesh, all the time, but every cow had been milked throughout the winter. He found that one day's exposure in the fall, before putting in, had reduced the quantity of milk one-half. The same quantity of feed given in a warm stable will produce one-third more milk.

Mr. Woodward said none of his cows had been out-of-doors since Nov. 1. The stable never gets below 50°. Each year makes him more and more satisfied that it is the correct system. In Germany cows are kept indoors all the time. His experience had proved the Golden Tankard to be the best variety of mangel. Use the imported seed only. For feeding before Jan. 1 the Long Red is better. Beets are more valuable when ripened, the same as apples.

E. S. Munson of Delaware county was the next speaker—subject, "Butter; if not good, why not?"

The greater part of the butter brought to our markets is below what is classed as prime. Last year more than half of the New-York dairy butter was below the standard. Having found out the cause of this we should try to remedy it. I will point out a few of the rocks upon which we have stranded. Not all of those who think they make good butter really do make a fine article. If these could only be convinced of its inferiority there would be a hope for repentance. We must not think we have attained the highest standard, which is constantly changing, if not to a higher then to a different one. With the old methods it cannot, and will not, stand in the front rank. Overconfidence cannot result in the highest grade of butter. This is one of the strongest forces that clog the making of a better quality. Let us stop pouting at the buyers and seek to elevate the quality of our butter. No man ever succeeded in any business without sinking some capital to start with. The old rule, 'Spare not nor spend too much,' holds good in every business, dairying not excepted.

Some still use the old pans and dash churns. I do not deny that just as good butter can sometimes be made in this old way, but have never failed to find one or more packages of inferior butter made during the hot season. Throw out the old pans and dash churn. Give your wife a chance to smile back on you when you come in from the field and your improved mowers, reapers, &c. Prove to her that she made no mistake when she took you for her husband. Anybody can make butter that stinks; the skill is needed to get the right kind of odor. A bright young man can learn in two weeks' time to make butter fit for a king. Set in deep cans and, if practicable, in a vat of running spring water, not above 50°. If the air in the room is sweet and pure, the milk need not be submerged. If the coolers are corrugated, like the Cooley, they may be put on at once. With deep setting you can have perfect control of the temperature, also there is greater economy and space, and all cream can be raised in 36 hours or less. In skimming, remove one quart of milk with every 10 quarts of cream. It lessens the danger of a salvy product. Until you have enough for churning, set the cream in a vat of water to preserve a uniform temperature. Stir frequently, but not violently, to oxygenize the cream, which should be kept at about 60° until churned. Mixing sour and sweet cream is not to be commended. The acidity ceases to be a truthful one if foreign gases are brought to bear. If the churn is not self-ventilating, the gases caused by swelling of the cream must be allowed to escape. Draw off three-fourths of the buttermilk and replace it by double the quantity of water, at about the same temperature required for raising the cream.

Three washings will suffice. Salt to suit the taste or market requirements. If made to sell in the fall, I think it makes little difference what kind of salt is used. I use about 1 lb. of salt to 14 lbs. butter. This must be varied somewhat, depending on the amount of water left in the churn at the last washing. Any one churning every day can tell within a half pound how much butter there is in the churn. More or less salt is always worked out when applied on the worker. But make 40 or 50 turns of the churn and it is done in less time and with less labor.

By following these rules certain results are obtained. I refer chiefly to private dairying and for long keeping.

In regard to using the old dash churn, he said that not one butter-maker in five would stop churning in time to prevent injury to the butter. A shallow vat is best for ripening cream.

The excellent address on ensilage by Mr. J. E. Rogers of Binghamton has been printed, p. 274. His principal grain feed for a herd of about 100 cows, is the refuse from making corn starch, which he obtains at a cost of about 10 cents a bushel.

The subject of killing grubs in the backs of cattle was brought up, and Sec'y Woodward said that in England a mixture of tar, carbolic acid and linseed oil is successfully used to prevent the flies from laying their eggs on the cattle.

The question, "Can we Make Farming Pay?" was eloquently discussed by S. H. Sherman of Milford:

A much better style of farming is now necessary for success than we practiced 25 or 50 years ago. The farmer who allows his land to lie idle will suddenly find his land taken away from him. Only good farming pays. We do not now control the markets of the world, nor have we virgin soil. More thought than muscle is necessary. The way out of the difficulty is in knowing and doing anything that will advance your calling.

Ascertain, by a judicious system of bookkeeping, just how you stand with the outside world. Spend judiciously; keep alive to your business, and so keep your business alive. Stay at home, unless your work calls you elsewhere. Make no promises that you are not reasonably sure of meeting on time. Beautify your homes; stock your library with good books, and admire a good team. All kinds of business is done on a smaller margin of profit than formerly. Mr. Powell emphasized the suggestion to cultivate only what land can be worked at a profit.

Prof. Roberts of Cornell delivered an address. He believed agriculture the most difficult of all occupations. Not only the art of farming must be learned, but the science as well. Science was defined as facts properly arranged. Warmth, air, water, fertility and culture are all needed by the soil. It is bad policy for a farmer to let the energy of the sun waste itself in pumping water from the earth instead of warming the soil, which would be done were the land not properly drained. Fall manuring not only gives the plant food, but keeps it warm during the winter. Autumn is nature's time for manuring. At the market rates for commercial fertilizers, about $130 worth of plant food has been removed from each acre of the lands used for the last fifty years. Where there is too much water we want tile drains. At last we have discovered that mind governs matter. My corn crop last summer was proved by analysis to have increased in feeding value three and a half times in a short period. We must think more. There is no power in a muscle unless driven by some force behind it. I think a part of my success as a farmer has been due to my resolve never to own an animal which I could not make comfortable. The lines of success lead in three directions. First we must create a want. So long as a man wants nothing, he will do nothing. All the grain we send across the ocean will not pay our bill for the sugar imported.

Mr. Geo. T. Powell predicted that as cobbling, harness-making and spinning are no longer done on the farm, so also cheese-making and butter-making must be done by those having the best machinery and skill for the work. The day is rapidly approaching when all will be made in this way. Dairy butter does not sell as readily as formerly. The people are becoming educated to the use of creamery butter.

Col. Curtis and several other speakers, who have previously been reported, also spoke, thus closing the series of institutes for the winter of 1888–'89. C. B. S.

Central Indiana.

EDS. COUNTRY GENTLEMAN—A mild winter, and now an early spring. At this writing oats are coming up, and the wheat will almost "hide a rabbit"—a western phrase, indicating the height of a growing crop. The breaking for corn is well begun.

A number of farmers' institutes have been held the past winter and during the month of March. They have been fairly well attended. Farmers in this State have somewhat to learn as to the practical value of such meetings. In a few instances the gatherings were up to expectation, but someway or other the impression prevails in many sections that somebody has an axe to grind, notwithstanding the fact that many of the workers had to bear their own expenses to and from the meetings, and give their time in addition. However, in most instances, the expenses were paid by the local organizations. The members of the State Board of Agriculture generally did good service in the institute work in their respective districts. The late legislature appropriated $5,000 to aid the undertaking, and the appropriation is put in charge of the Purdue University board. It is well, we think, that they did so. The faculty so far has rendered good service in the work already done. The placing of the work in charge of this board will serve to bring the agricultural department of the university and the farmers of the State into direct association. The faculty will learn the immediate wants of the farmers, and the farmers will become acquainted with the faculty, and with the advantages offered to their sons and daughters at the university. So far, President J. H. Smart and the professors in the institute work have made a very favorable impression, and we predict for the future royal good results under their management.

The live stock sanitary commission was selected by the State Board of Agriculture yesterday, consisting of Adam Earle of Tippecanoe county for four years, Samuel Bowman of St. Joseph county for three years, and Geo. Hall of Rush county for two years. It is said that considerable dissatisfaction exists on account of the Short-Horn interest having no representative upon the board. The men selected, however, are fair-minded, and will no doubt serve the live stock interests impartially.

Prospects for fruit are good. Growers, however, are not sanguine as to a heavy crop for the reason that the large crop of the past year was exhaustive of the vitality of the trees; even though the season may be favorable, they do not expect a crop equal to that.

Blue-grass pastures are green, and where they were not grazed bare last fall they afford good picking for live stock. It is better not to graze them when grass is so tender, but the stock quite generally have the run of woodland pastures at this season of the year, and no feed that can be placed before them is so tempting or satisfying as the nipping of fresh and tender grass. Nature seems to demand it. Some of us have a liking for a good dish (well heaped up) of "jowl and greens."

During the very mild weather of the past

winter, croakers very generally said: "Oh, we shall pay for all this in March." In March they said: "Wait till April," and now we have April fair and mild. When will people learn to enjoy what they have, and when they have it, and quit making doleful predictions, and enjoy being miserable in spite of wind and weather fair! *J. J. W. B. Indianapolis, April 3.*

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *April 8.*

It has been raining lightly this morning, but no more than enough to lay the dust. About the first there fell as much, but for all March and so far in April not quite an inch and a fourth of precipitation. Meantime it has been cool and vegetation has made slow progress. Grass in pastures and meadows holds back, the wheat plants are drying out and yellowing, germination has been partially arrested in oat fields sown after the common country fashion, and corn land made ready for the seed is pasting with that sufficient moisture that insures a full stand. But the advantages of a long spell of dry weather at seeding-time are many. The soil fines after the plow into a nearly perfect tilth, the force required to turn the furrow is considerably reduced, the disc and Acme harrows are used to great advantage, the soil makes little resistance to covering the seed—and in short, the labor of preparing the land for crops and sowing or planting, is scarcely half as much as in wet spring seasons. As good examples of how dry the land is and how nearly completely surface water has disappeared, undrained ponds are being broken up for corn which were never known to be dry in April before. I am disposed to doubt the correctness of this statement, knowing from personal observation that the thick sward in sloughs was burned out in the autumn of 1856, after the protracted drouth of the three previous years, and in the spring of 1875, ponds thought to be perennial previously, were dry enough for the plow, and were broken and sown to crops, as they will be this year.

The nearly complete failure of the Irish potato crop in this region in 1867 and '68 has not apparently disheartened growers from planting, and from present indications the acreage will be a reasonably large one. Good seed from the North is abundant and cheap, there are acres of sod and half sod land easily broken and prepared for them, and the demand has been so large for two years past that it is thought the crop will be a paying one. Growers of experience have learned the importance of early planting, and some who anticipated the first of April and did the work the last week in March, suffered the partial loss of the seed in the severe freeze of the night of the 28th of the month, when the mercury in exposed situations, fell to 15° and 18° above zero. I may say in this connection that Colorado beetles in large numbers have survived the winter and will be ready to commence operations as soon as the plants appear above ground.

Give me opportunity again to remind intelligent orchardists and amateurs, who are disposed to avail themselves of advanced ideas and practices in fruit-growing, that in case drouth is prevailing and the soil is not supplied with abundant moisture, there is great danger of the failure of fruit to set. At the critical period of opening vegetation, when foliage and blossom are making heavy drafts for plant food in weak solution, it is essential it be supplied, else there is an arrest of growth and development, and a failure of crop. Few are so fortunately placed that they have a copious supply of water at hand or within easy reach, but none are so destitute of it that they cannot command enough to save the fruit of half a dozen or more favorites. As to the quantity, barrels are needed where formerly buckets were thought to be sufficient, and the false notion that a little and often is better than once and a great deal, has been exploded. I question whether on any good average corn or wheat-land, orchards will bear more and better for the application of stable manure or the commercial fertilizers, provided there is no lack of sufficient moisture and the trees are given a monopoly of the soil. Still there is no doubt such stimulants promote foliage development and wood growth, but at the expense of fruit. At the risk of repetition, I will say in conclusion, that difficulties in the way of successful fruit growing in the valley of the Mississippi will be measurably removed when growers come to recognize the changed conditions of soil and climate and respect them in orchard management. S. F. J.

Does Farming Pay?

An Answer from New-Jersey.

A friend sends us the following financial exhibit for the year 1868 of a farm in Monmouth County, N. J., containing about 400 acres, 25 of which are in woods, and 25 in salt meadow, leaving 350 under cultivation. The soil is in sections both light and heavy, and when purchased was thoroughly worked out, but by the generous and persistent use of lime, manure, &c., has been brought to its present condition, producing as shown in the statement. We should add that the owner has abundant capital, but he is a very successful man of business, accustomed to using money judiciously as well as liberally. The produce of the place for 1868 was:

24,295 qts. milk	$1,822.10
591 lbs. butter	236.40
480 doz. eggs	144.10
30 lambs	120.00
23 calves	184.00
1 Holstein cow	150.00
25 pigs	175.50
183 lbs. wool	40.25
625 bush. rye	375.00
114 bush. wheat	114.00
618 bush. oats	185.40
13 turkeys	9.75
70 bbls. apples, 15 baskets pears	31.00
147 chickens, 14 ducks	103.25
300 tons hay	4,100.00
10 tons millet	200.00
12 tons oat hay	180.00
15 tons pumpkins	90.00
4,500 bush. corn ears	2,520.00
7,000 bunches cornstalks	350.00
1,000 bbls. potatoes	2,750.00
1,500 heads cabbages	75.00
1,200 bush. beets, 300 bush. turnips	420.00
250 bush. carrots	90.00
7 Holstein bulls, 4 heifers	875.00
6 Kerry bulls, 2 heifers	360.00
1 H. B. heifer	35.00
5 colts	250.00
60 tons straw	600.00
Garden truck	270.54
	$15,288.69
Expenses, including wages of gardener, who keeps the lawns, &c., in order, but not including interest on money invested, as the rental of mansion on the property cancels this item	5,998.00
Balance of profit	$9,720.69

Eastern Wisconsin.

EDS. COUNTRY GENTLEMAN—Three inches of snow on the night of the 30th and one inch night of April 3d, with a drizzling rain on the 3d, has kept the land too wet to stir much. It still freezes a little, nights, but not so as to hinder plowing by those who were caught by frost last fall. To-day, April 7th, it is much warmer, with a drying south wind, and if it freezes no more nights and we escape a storm which is now threatening, seeding will be pushed with vigor, and as the land is in a very mellow condition, not having been washed down and baked by the hot sun, it is a sure thing that crops will be left in the ground in the finest of condition.

Grass is well started, but so far has grown very slowly; yet if the weather holds warm, a few days will bring it forward so that sheep and young cattle can be turned out. Still, it matters little, for there is plenty of hay and coarse grain to keep most of the stock through the entire summer.

Prices of farm produce are very low, which has created a demand for grass seed; so, seemingly, there will be a large breadth of land stocked down which will lessen the breadth of grain in 1869. It matters little what the farmer raises in the West; he must get poor pay for anything on the farm. With wheat at 75c. per bushel, barley at 30c., corn at 30c., oats at 20c., live hogs at $4.25 per cwt., stall-fed steers (three years old, weighing alive 1,300 to 1,400 lbs.,) at $3 50, and help on the farm at $16 to $22 per month and board, the farmers get small returns.

As the census is to be taken next year and all the acreage and all products, as well as live stock, will be required by the census taker, farmers should keep an exact record of every acre of each crop, also the number of bushels of grain, hay, apples, potatoes and other fruits and vegetables. They will also be required to report their increase of horses, cattle, sheep and swine. In assessing our town in years past, not one farmer in a hundred could give an exact account of his stock and crops, and nearly all could give nothing but guess-work in reference to sales and expenses on the farm; in fact all was guess-work. Probably not one farmer in ten has thought about the census next year, and no preparation has been made for keeping accounts of the transactions on the farm. I suggest that all the editors in the United States mention this matter to their readers, also that the superintendent of census furnish blanks, naming all the articles to be enumerated, with space to fill out the amount, and have them distributed *this season* with a penalty attached for neglect, and then we shall be more likely to get an exact report; otherwise not. S. S. *Fond du Lac County, April 7.*

Northern Ohio Notes.

QUESTIONS IN MAPLE SUGAR MAKING—COST OF A BUSHEL OF CORN—IMPROVED ROAD WORKING.

EDS. COUNTRY GENTLEMAN—The owners of maple camps hereabouts would be glad to have Prof. Cook yet further enlighten us about the "second sap-spout" business, and wherein it is beneficial or profitable over the one spout plan. Of course the spouts must be close together, and how can they both, drawing from the same source, secure more sap than the one? I believe that the usual idea is that the sap is absorbed from the surrounding wood to some distance from the spout, instead of drawing only from the wood punctured by the auger. Will the genial professor please testify for "the faith that is in him," about two spouts close together running in the aggregate more than one could. A great many do not use covers on buckets for the reason that the latter are of wood, in half of the camps at least, and the staples needing to be above the edge of the stave the cover will not readily fit. This is quickly overcome by sawing a notch into the cover 1 inch wide and 1¼ inches deep, and when it is put on the pail this notch fits around the spout, and does not, while covering the bucket perfectly, interfere at all with the drip of the sap into the bucket. One can, if he chooses, economize somewhat in paint; and yet see at a glance whether the sap has been gathered or not. The cover is square, simply cut from the end of a half-inch board. A cleat is then nailed on crosswise of the grain of the board, and short enough, when cleat down, to have the latter go inside the pail or bucket. The cleat tells the story as well as red, white and blue, and the slightly protruding corners of the cover make an exceedingly handy handle by which to turn the cover.

Would the professor also kindly give his opinion, whether or not the evaporators are responsible for which is known locally here as "pop-corn" flavor in syrup, a flavor that is different from that genuine maple aroma, and far inferior? In talking with some of our noted makers, I find them disposed to go back to the Russia iron pan, on this very account, asserting that with iron, they can preserve this desirable flavor better than boiling in tin.

What corn can be raised for, (Mr. Wing, p. 265) is as difficult to answer as would a reply be to "What does it cost you to live?" There are so many items that one man deems essential to charge up to the crop, and another declares are foreign to it; one man insists on charging $4 for the use of the land, in order to get interest on an expensive house and barn that have nothing to do with the crop or its cost; and another farmer says that taxes and labor are all that should be charged to the crop; that house and barn rent should be provided for by charging it to comfort and style. To whom is this interest on land paid? Who pays me if I do charge $1 per day for labor on corn? I wish we could have a set of rules formulated so that all could base cost by it, and then discuss what it costs to raise a bushel of corn. I am half inclined to think that quite as important a matter to discuss would be, how much do we sell an acre of corn and its fodder for, or realize from it? It is when we sell that we get paid for our labor. I had a few acres of fine fodder corn, heavily eared, and about $15 per acre was all I could realize for it; so I discarded the idea of selling it for that price, and put all I could of it into the silo, and fed the remainder. That which I put into the silo realized me, net, $30 per acre in winter milk, and I have a fine coating of valuable manure on my fields for another crop. There was not a cent paid out to raise the crop, as I performed all the work myself. It cost me a few cents less than $8 per acre to silo it. I am now paid for my work. The field would have yielded 90 bushels per acre easily, as indicated by husking some trial shocks. Did that corn cost me 27 cents per bushel, even by adding the $8 per acre that it cost to put it, fodder and all, into the silo?

The defeat of the Tryon road bill, that promised to be a forward step in solving this ever canvassed road-working problem, has made a discussion of old ways of road-working again prominent. A friend of mine calls it the problem of road shirking, which, may be, is not so far out of the way. At the Windham institute, Mr. Chaffee told how they worked on the road in his district, and it seemed a model way, and is being adopted in other localities, with great satisfaction. Mr. Chaffee has been reelected twelve times as supervisor in his district as evidence of its popularity.

The taxpayers of the district are not all called upon at once to work this tax. They are grouped into three squads. Squad No. 1 is first called out in May, only two teams and about four men. The teams are put upon the road machine, and the road all gone over and scraped smooth. The two odd men are set to work with crowbars and shovels, tinkering and digging out stone, &c. As quick as the road has been scraped, the remainder of the two days is devoted to general road repair and some turnpiking with the machine. The squad is too small to need to stop so that all can hear and enjoy the stories, and as Mr. C. rigidly insists that at least nine hours shall constitute a day's work, they do little loafing and shirking.

A few weeks later, squad No. 2 is called out, and they repeat the same programme, and repair all of the wear and rutting of the first job. In the latter part of August, squad No. 3 is called out, and repair and improve what has got out of shape, and add their improvements. In October, all those who have a "little more tax to work out" are called upon, and the road shaped up for winter; but no attempt is made at turnpiking—a general scraping and cleaning out of ditches and sluices comprising the final job.

This comes the nearest to any plan under the old system, by which continuous work is performed on the highway. The plan of doing all work in May, and not doing anything more until the next May, is all wrong in principle and practice. There must be a plan somewhat like that of the railways—that of never ending work on the road-bed. The little mud hole in July becomes the actual pond by the next April, large enough to float a goose and her gosling family. No one ever sees a poor piece of road when he has a shovel in his hands; and I cannot imagine a better plan to adopt (if we are to have any progressive road law), that will give us better highways, than neighbor Chaffee's plan. J. G.

Western Reserve, O., April 6.

Straight Rail Fence.—The cheapest and best fence, by all odds, is the straight rail. I have just finished 120 rods, all new (posts and rails) at a total cost of thirty dollars, or twenty-five cents per rod. I was unable to do any part of the work, and hired it all. The above amount includes making the rails and posts and setting the fence complete. Of course I have the timber from which rails and posts were made. A good fence can be made from an ordinary rail fence, and if all rails are sound, one third of the rails will be left, and from an old fence enough rails can be got to make a straight fence if one-third are worthless. It is the strongest fence and most durable. I have barb wire, plank, combination wire and plank and wire picket fence, but like the straight rail most of all; the barb wire fence is really only a very poor substitute—cannot be called a fence—and costs more money. The combination wire and plank is better but more expensive; I built eighty rods of it last summer at a cost of ninety cents per rod. I have eighty rods of plank fence, that cost me $1.10 per rod. The straight rail at the small cost of twenty-five cents per rod, will outlast either of the others, and will need little or no repairing. B. *Brazil, Ind.*

Miller's Prolific.—On p. 204, "Experimentation in Ohio," you say: "The poorest yield out of forty-nine varieties [of wheat] was 16 bushels, and the name, like that of many other lauded sorts, was 'prolific'—'Miller's Prolific'." Before it was named, I thought it had merited it. It produced 30 bushels from three-fourths of an acre (sown with 45 pounds) in 1865, and it was not my best soil for wheat. A measured square rod of the best yielded at the rate of 50 bushels per acre. The best heads contained 40 to 60 grains. I exhibited it at the State Fair, and was awarded first prize. A 10 acre field yielded the next year equally well. That fall I sowed it on my best soil, manured it, and before harvest I estimated it would yield 50 bushels per acre, but

it did not yield 30 bushels; and when I had sold seed, it fell below other varieties, and I have not offered it for sale since. Last harvest it yielded still less. I selected some of the best heads and sowed a small plat last fall, but fear it will be a failure. I have a cross of that with Clawson and with Martin's Amber, which retain the length of straw and head of the latter, and strength of straw and compactness of head of the former; but as I only had about a pound of seed of each variety to sow last fall, it will be some time before I can ascertain their merits. JAS. MILLER. *Yates County, N. Y.*

Inquiries and Answers.

To English Readers.—If one of your correspondents *from* England would give a statement *in detail* of the equipment and management of an English estate of 500 or 1,000 acres, including the different gradations of employment and the compensation to each, it would be appreciated. G. H. *Tarboro, N. C.*

Potatoes—Cooked or Raw.—Would it pay for time and trouble to boil potatoes to feed milch cows, instead of feeding them uncooked? What value have they for feeding raw or cooked? L. F. P. *Watkins, N. Y.* [L. F. P. will find an answer on p. 112. He will there see that it depends upon what quantity of potatoes are fed per day, whether it will pay to cook them for cows. And it may be further said that if cows are fed upon dry hay, 4 quarts of potatoes per day would be advantageous, fed crushed but raw; because the raw potatoes would act as a laxative, prevent any ill effects of dry fodder, and probably assist in the digestion of the hay. Another point may be made that if P. is feeding bran to his cows, he might feed 4 quarts of crushed raw potatoes mixed with 2 or 3 quarts of bran, night and morning, or 1 peck of potatoes with 4 or 6 quarts of bran per day. In this case there would be a more complete digestion of both potatoes and bran, because of their mixture together. If he desired to feed more than this per day, they should be cooked, mashed and mixed with cut hay before feeding. 2. To explain the value of cooked potatoes, as was done in the article referred to, we estimate the dry food in the cooked potato as equal in value, per weight, to corn meal, and as the dry food in 60 lbs. of potatoes would be only 15 lbs. (the potato being 75 per cent. water), if we estimate corn meal as being worth 1c. per pound, then cooked potatoes would be worth 15c. per bushel. Perhaps we might properly make a slight allowance in favor of the potatoes over corn meal, for its effect in helping the digestion of other food. E. W. S.]

Fences and Snow, p. 267.—I should like to shout "*Yes!*" so loud that it could be heard all over New-York and every other State where roads are blockaded by drifting snow. In my opinion, the obstruction of our highways by snow for about a third of the year, as at present, is a worse drawback to the financial prosperity of the country than all other evils together. I have no patience with the sentimental idiots who oppose barbed-wire fences. I have had in use for the last five years, 90 rods of the sharpest barbed-wire fence along my pasture, and have never seen a mark of it on my live stock. Animals have been injured and killed by wire and by most other kinds of fence, but the damage in that way is nothing compared to that caused by teams wallowing through snow drifts that should not be there; and then, again, no load can be drawn through such roads; so business is killed. In my opinion, the damage caused by barbed-wire is almost invariably the fault of the unskilful managers of the animals. EUGENE WILBER. *Broome County, N. Y.*

Hay with Grain.—I feed grain mostly, as hay is scarce and dear here. I am feeding 6 qts. of corn meal, 6 qts. of wheat bran and 1 pail of oil meal each day, in two feeds, morning and night, and a light feed (3 lbs.) of hay, morning and night, to each cow weighing about 800 lbs., and to heifers and smaller cows a little less. What can I do to improve the ration? I am not used to feeding so much grain; most of my cows are in milk now. S. E. *Potsdam, N. Y.* [S. H. appear to be feeding in the old way—corn meal, bran and oil meal separately from the hay. He must be aware that he feeds nearly twice as much corn meal as bran, and that this makes a very heavy concentrated food to be given alone. He feeds very little hay, but if that little were cut and moistened, and the grain food mixed with it, this little hay would answer all the purposes of bulk in the stomach, and the cows would do much better on the same feed. If he wishes to improve this ration let him cut 4 lbs. of hay, moisten it, then mix 5 lbs. corn meal, 5 lbs. of wheat bran and 1 lb. of oil meal together, dry. Now mix this mixture of meal with the 4 lbs. of cut hay. This will be a ration for a day, to be fed half in the morning and half in the evening, and when the cows go to pasture give about half this amount, mixed in the same way, that is, 2 lbs. of hay, 2 lbs. corn meal, 2 lbs. wheat bran and ½ lb. oil meal—all mixed together, and fed principally at evening. The pasture is always scant at first, and it is important to keep up the yield of milk. H. will find that it always pays to do things well. This small amount of hay, well mixed with the grain, will produce a better effect than two or three times the amount fed separately. E. W. S.]

A Good Pump.—"Max" (p. 245) asks in regard to the pump made by the Hartford Compressed Air Pump Company. I have used one for twelve years, furnishing water for thirty animals at the barn, and sufficient for household uses. Have a tank in the garret of house, also one at the barn. The windmill and pump are on the top of the barn, 450 feet from the well. The water must be raised 30 feet to the barn and 60 feet to the house. It has cost from $10 to $15 per year for repairs. The pump has never been out of repair, except repacking, and that has not been done in five years. If the water is clear and free from grit, I know of no reason why the buckets will not go for a number of years without repairs; but if grit gets into the buckets, it will cause leakage of the valve after a time, and they must be sent to the factory for repairs. E. S. H.

Kerosene Bricks.—I notice a communication by C. B. E., p. 293, which seems to be very simple and probably as economical as any device can be for heating water in tank. Would like to know who manufactures the patent brick; also if it can be obtained in different lengths? In a large tank such as we have, it would require a brick probably 2½ feet in order to get necessary heat. We are very much pleased with our two years' experience in warming our water, believing that we can fully pay for the outlay in the better health of our cattle, as in very cold weather when the cattle had to drink ice water they were often injured; also we get a much larger flow of milk by warming. E. F. K. [Manufacturers of these bricks will do well to advertise them—we do not know where they are made.]

Binding Twine.—A large and enthusiastic meeting of farmers was held here to-day and voted to investigate the matter of making binding twine from flax. We want all the information possible on this point. Do you know of a plant that is making twine from flax? If so, give me the address at once, as farmers are anxious to sow a large crop of flax, and the capital to start the work is already pledged if it can be done. A. M. ANSON. *Canastota, Dak.*

Grain on Long Hay.—Please make ration for butter of the following feeds, to be fed clear and dry, as I have no arrangement for cutting and mixing with the hay. The hay is mostly timothy, somewhat mixed with other grasses, about three-fourths timothy. The grain I have to feed is corn meal, cottonseed meal, ground oats, wheat bran and wheat middlings. Cows range from two-year heifers to ten years old, what are called "natives," with a mixture of Ayrshire. The grown cows weigh about ten hundred, and have never had heavy feeding of grain. Have been fed some grain through the winter and are in good heart. O. W. F. *Redmon, N. Y.* [Our correspondent should prepare himself for feeding his cows economically, and this cannot be done by feeding his hay and grain separately. But if he will not take the trouble to cut his hay and mix his grain with it, then he is advised to do the next best thing. Let him make the following mixture of feed: 50 lbs. corn meal, 50 lbs. ground oats, 50 lbs. wheat bran, 25 lbs. cottonseed meal, all mixed evenly together. Now let him proceed as follows: Morning and evening place a thin layer of hay in the bottom of his manger; sprinkle a little water on this hay; take 5 lbs. of this grain mixture and spread it evenly over the hay for each cow, dry. When the cow eats this meal she will work it down among the hay, and eat more or less of the hay with it, and this will help to carry it to the first stomach to be raised and re-masticated. This is better than feeding grain and hay separately, but at the same time is quite inferior to the plan of mixing the grain with the cut hay; for in the latter case the grain and hay must be eaten together in due proportion. When the grain is fed separately from the hay, a portion of it goes through undigested into the droppings. Some western farmers, where grain is cheap, say they can afford to lose the grain rather than to take the trouble to save it. But New-York farmers certainly cannot afford this. E. W. S.]

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*

STIFLE INJURED.—A large Percheron colt has hurt his stifle while exercising, about a week ago. He gets lame and at times you can hear a noise as though the bones were cracking when he moves. Is growing very fast at present and doing well otherwise. D. H. *New-York.* [Apply golden blister and repeat in three weeks, and if necessary the third time three weeks later. The actual cautery has to be resorted to in some of these cases. Write us in three or six weeks.]

STALLION LAME IN HIND LEGS.—A valuable tallion, ten years old, was taken lame about eight months ago in off-side hind leg. In a short time began to be lame in the other hind leg. Moves with a swaying motion of hind parts as if there was weakness in the loin. Seems better by spells, then is worse; appetite good, but is thin in flesh; has all the oats and wheat bran he can eat, and occasionally a mess of carrots. Have tried several remedies without success. J. T. *Windham, N. Y.* [Give him one of the following balls every four days: Powdered Barbadoes aloes, 12 dr.; powdered nitrate of potass., 1 oz.; powdered gentian, 1 oz.; sufficient quantity of Venice turpentine; mix, and make four balls. Give 25 drops of tincture NUX vomica three times a day. Animal should have regular exercise.]

CASTRATION OF COLT.—Is there any reason why a colt should not be castrated when a few weeks old, or younger? W. A. S. M'C. *Louisa C. H., Va.* [There has been a vast amount of superstition regarding castration. The age of colt, time of year, condition of the moon and the method have been points on which the wise ones differed. Then there was a great North American ointment known only to certain operators that should be used after the operation or between the "sticks." Much of this nonsense is now passing away. The modern method of operation with the ecraseur does away with all ointments and treatments. Some English operators castrate when the colt is but a few days old, and it is stated by some of the best authorities that the sooner an animal is castrated after the testicles reach the scrotum, the better.]

LOSS OF SHEEP.—I have lost four sheep, and one is now sick. General symptoms are: First, a drooping of the eyelids, head carried low, hopeless expression of face, loss of cud, appetite variable, not unusual thirst, a tendency to gnaw wood, bowels irregular, sometimes excrements apparently natural, again lighter in color; large lumps covered with mucus alternating with diarrhœa; rapid emaciation, death occurring in two or three weeks. The first was noticed to grab wool from the others and swallow it; another seemed to have paralysis of the limbs, and could not stand for several days before death; another aborted; was found dead in the morning, in a natural position; next morning the body was much bloated, back parts green in color; odor very offensive; wool pulled easily. The last had always been rather a small, unthrifty looking sheep, with ragged wool. Body was found almost bloodless, except for a clot of blood in the heart; lungs reddish; abdomen partially filled with water; liver looked quite natural in color, but was soft and easily torn with a stick; did not discover any parasites. Gave first two sheep Harvel's condition powders: the last, salts, oil, gentian, chamomile, boneset, oil of turpentine in flaxseed jelly, warm milk and raw eggs; injections when needed. Am now feeding a mixture of grain, gentian, salt and sulphate of iron. I have removed the flock from a rather low shed to airy barn floor, and let them run in a sunny barnyard on bright days. No new cases have developed since the change, except the swelling just mentioned. Their appetites have improved since feeding the tonic mixture. L. B. *Minetto, N. Y.* [Since making the changes you speak of, I think there will not be much trouble. Continue as you are doing for another week or two, then stop medicines.]

SWELLING ON MARE.—A mare in foal due about June 1, has a swelling under her belly about the size of two hands placed together, and about 1½ inches thick; pressing a finger on it, the indentation remains for quite a while. Small white worms pass her at times, a little over one inch long. Will it be safe to work her? A. V. S. *New-Baltimore, N. Y.* [Moderate work will not hurt her. The swelling is due to pregnancy and requires no treatment at present. Moore Bros.' worm powders may be fed to her and after parturition she may have some injections of tobacco infusion per rectum.]

HOOF INJURED.—A mare, six years old, had hoof of right front foot partly pulled off when a sucking colt, and from inattention its frog rotted and shrivaled, and outside of the hoof grew off to the right side. Last year the frog was treated with spirits of turpentine and linseed oil, and then blistered around the coronet, and hoof was nearly in proper shape; at beginning of winter treated again. Now frog has rotted out again and she is apparently as bad as ever. Have several times gotten a nice new growth, and had the heel to expand and develop and look as if it would soon be all right, but as soon as turned off and treatment stopped all was wrong again. G. M. W. *Bristol, Tenn.* [If foot is long have it cut down, heels opened and diseased parts of frog cut out. Soak foot an hour a day in the following: Powdered nitrate of potass., 4 oz.; powdered sulphate of copper, 3 oz.; powdered alum, 2 oz.; hot water, ½ of a pailful; use it warm the first time and cold after. In two weeks write again.]

LAME SHOULDER.—My horse, aged 11, 15½ hands high, strong and chunky built, in use for the past five years, about an hour a day in city and country, never speeded since I have owned him, apparently sound and healthy in every particular, inside and out, about four weeks ago became lame in the left fore shoulder. Changed his shoes and allowed him to remain, ten days at a time, in box stall, and tried daily applications of horse liniment and cold water without results. In walking, lameness is hardly observable, but becomes so when he starts to trot. Some horsemen pronounce it "sweeny," but the skin on the shoulder does not stick firmly to it, and in comparing the two shoulders, you cannot detect any difference. I cut a hole in the skin and inflated it once by lifting it up and letting the air get in. Now the horse is rowsted in pasture and never used, eating 8 qts. corn and 2 qts. oats cracked each day, and does not show any signs of improvement. J. C. *Charleston, S. C.* [Put a seton down the whole length of shoulder, or apply golden blister.]

DEATH AFTER FOALING.—A fine mare in foaling had all four legs presented. After trying in vain to turn the foal by pressing it back and searching for the head, we concluded to dismember it, cutting off the fore legs, disemboweling, then cutting off the head; finally got it all away. The mare seemed relieved, and drank water copiously. Next day she seemed to be sore, which was to be expected. The second day was a good deal worse, back worked up, stiff, a good deal of fever about the uterus. I gave epsom salts, injected hot water per vaginam, applied hot cloths to back and shoulders, rubbed back and shoulders with turpentine. As she did not pass urine, I gave some extract of buchu and spirits of nitre. Next day she died. Is not this an uncommon misrepresentation? What should have been done? G. A. F. *Peterson's Mill, La.* [It was abnormal but not such an unusual occurrence. Of course the thing to do was to secure either the two fore legs with fine rope, or the two hind ones. The pair to be thus selected would depend upon the position which favored expulsion. Then the fœtus should have been pushed back, or rather one end. This could be done with a crutch. If you had no instruments you would labor under great difficulties. If the mare was not injured, she probably would have recovered. Had you examined her post-mortem, we might have discovered the cause of death.]

Horticultural Department.

Editorial Notes and Comments.

NEW ORNAMENTALS.—Among the originators of new varieties of ornamental trees, J. C. TEAS of Missouri has been particularly successful. Among others, his weeping mulberry is a very distinct production, the pendulous shoots often reaching the ground when the tree is grafted six or eight feet high. Another successful production is his new hybrid catalpa, obtained from seeds of the Japan catalpa (*C. kæmpferi*), fertilized with the hardy western catalpa—the former a small tree, the latter a free grower, but the new variety outgrowing either, and proving quite hardy. Mr. Teas informs us that it has been entirely uninjured when the mercury has gone 25° below zero; and Prof. Hussmann describes it as "massive in all its proportions, straight and rigid, it looks like the production of the tropical zone." It appears to have been widely disseminated among nurserymen, some of whom fail to give the originator proper credit, Mr. Teas having devoted many years to the study and production of ornamental trees and their varieties.

HARDY SHRUBS.—Jackson Dawson, of the Arnold Aboretum, Boston, remarked in a recent address before the Massachusetts Horticultural Society, that in making out a list of "perfectly hardy" shrubs, he named such only as would live and grow and flower in any ordinary well-prepared soil, without any protection whatever, either by covering or being planted in a sheltered position, and which when established would give, with ordinary attention, satisfaction to the planter. He then names, under this head some two hundred species and many varieties, native and exotic, which we have not space here to enumerate, but we may mention some of the leading genera and families which contain them—among which are several of the clematis, a large number of species of the barberry, many of the euonymus, several of rhus, a large number of prunus, many spiræas, and numerous wild species of rose, some of which have run into endless varieties. In addition to these, a large number of isolated shrubs are named, or where there is only one, or at best but a few, species under one generic head. It is indeed a rich collection which contains all these, and compact descriptions with engraved illustrations, written with scientific accuracy, would make a very interesting and valuable book.

SETTING STRAWBERRY PLANTS.—A western cultivator gave in substance at a horticultural meeting the following mode of setting strawberry plants in spring: First have the ground clean and in mellow condition. Trim the plants neatly, wet the roots, sprinkle on earth to prevent their drying, run a furrow with a shovel plow, carry the plants in a pail of water; one person drops them, another follows and covers with a hoe, pressing the roots with his foot. This answers for large plantations. He sets the Crescent, fertilized with Capt. Jack. The strawberry ripens about four weeks after blossoming. Warfield No. 2 is regarded as specially promising.

MISSOURI FRUIT CROPS.—The Rural World gives a few figures of the products of fruit in some of the counties of that State a few years ago. In 1860 Pike county produced $45,000 worth of fruit. Platte county, on the western border of the State, produced $53,000 worth. Marion county grew $21,000; Buchanan, $66,000; Andrew, Holt and Atchison gave respectively $55,000, $21,000, and $21,000. Since that time the northwestern counties have largely and steadily increased their orchard products, while the northeastern have hardly held their own.

Apple-Tree Pests.—On p. 269 are articles in regard to the apple-tree tent-caterpillar and apple-tree bark-louse, and information is asked for the destruction of those pests. I have before offered this receipt to your paper, and am convinced from experience that all such pests may be destroyed by watchful care and thorough application of potash dissolved in water (say about one pound of potash to a barrel of water, more or less), as often as may be necessary, to the trunks and limbs of the trees, with broom or brush. This will cause the rough bark and moss to slough off, and the trees will look as if they had been painted. The vermin can thus be destroyed. SUBSCRIBER.

New-York.

How to Pack and Ship Apples.

EDS. COUNTRY GENTLEMAN—The question how to get paying prices for the apple crop of your State has induced me to offer a few suggestions, as I have been in the wholesale and retail fruit business in this city some twenty years in connection with Mr. D. Heaning of Chicago, one of the largest apple dealers in the world.

To get the best results, in the first place good barrels of uniform size should be used. The standard flour barrel size is the best. The fruit should be carefully picked, thoroughly assorted, and all small and imperfect specimens rejected and used for cider, as it does not pay to ship such stuff to a distant market. The fruit should be uniform through the barrel, so that a dealer can say to a customer: "I can warrant that barrel uniform in size all through as you see at the ends." It does not pay in the long run to pack small apples in the centre of the barrel, as there will be a kick from the consumer and then from the wholesaler; discounts will have to be made, and in the end loss results to the shipper. Apple packers must learn to be honest, and aim to get a reputation for good honestly-packed fruit. Such a packer will soon find there is a demand for his fruit, even in dull times, at fair prices.

Care must be taken in pressing the apples, and also to see they do not shake in the barrel; this fault will condemn the best of fruit. Then carefully head-line and nail the hoops. With a neat stencil brand the name on the faced head, and the packer's or shipper's name, but never the town, as wholesale dealers do not want that. Keep the barrels as clean and neat as possible. Some people think anything will do for an apple barrel, but let me say that a nice barrel, in good condition when it arrives at destination, helps to sell the fruit. Some shippers think writing the name with pencil is just as good as a nice stencil, but they are mistaken. When a dealer goes to inspect a carload of apples and finds poor barrels, some heads out, hoops off, and the name scratched on with pencil or chalk, he says at once: "This is a snide car; some tramp put this up, and I will not touch it unless at a very low figure." On the other hand, if on opening the car he finds nice, clean packages, uniform in size, with name of fruit nicely stencilled, and shipper's name on the same, he says: "Well, I guess this is pretty good, or this man would not have done it so nicely, and to cap all, put his name on every barrel." The fact is, the car is more than half sold before opening a barrel. Then when he comes to open up the lot and finds it of uniform size, such as he would be willing to turn out on the floor for his customer's inspection, he is delighted, and you will soon find him writing to the shipper, saying: "This fruit is all right; how many cars can you furnish me that will come up to this standard? I will take one or two hundred cars if you can guarantee them as good as this one." If the fruit had been such as is usually shipped he would have written that the quality was so poor that he had to take a very low price, and did not care for further shipments.

If fruit growers and shippers would come to this end of the route and stay through one season and hear the "cuss-words" uttered over poorly-packed apples, and see the frauds practiced, they would see why prices seem low; and yet they are always high enough for the quality of the goods. In doing a large shipping business the most careful person will sometimes get imposed on. A good way to avoid this is to furnish each packer with a small bill on which is printed: "This barrel was packed by John Smith." Then if fraud is discovered it can be traced to the one guilty of it. There are packers who ship to me and as soon as I get their list I can say to a customer: "Here is a car I can guarantee without inspecting it." I sell it, ship in to the country, make a draft against it, which is paid and no fault found. Soon there comes an order from same customer: "Send me another car; I want same man's packing as the last." This is much better than to have your draft returned with notice that the fruit is so poor they cannot use it, and it is subject to your order.

No, gentlemen, farmers of the State of New-York, and all other States as well, give us good fair-sized apples, uniform through the barrel, in good barrels tightly pressed, neatly and correctly stencilled, and you will find you will get more for your apples and have a much pleasanter deal! A. M. ANDON. *Minneapolis, Minn.*

American Pomological Society.

Notes of the Florida Meeting.—VI.

Dr. Hexamer read report of Committee on Wilder Medals and Fruit Exhibit. Silver medals were awarded to Florida exhibitors for citrus and other semi-tropical fruits as follow: Lake County Shippers' Union, Marion county, Sumter county, Lee county; also to E. C. Hart, Rev. Lyman Phelps and Dudley D. Adams. Bronze medals were given to Citrus county, Polk county, and O. P. Rooks.

Among new fruit noted by the committee was the Idaho pear. After stating its origin and history, Dr. Hexamer said its eating quality was far superior to others of its class; season September to October. It had not been fruited outside of its native locality, but there the tree stood a temperature of 35° below zero. An improved dwarf Juneberry from Nebraska was noted; flavor similar to huckleberry; pronounced delicious by some. J. H. Hale sent a report, in which he said fewer new fruits had come to his notice of late than usual. They have been testing some twenty new strawberries lately. Of these, he considered the Pineapple the most remarkable plant he ever saw—large dark-crimson berries, excellent flavor. He thought the Miami would yield more large berries to the acre than any other sort. In a report from Dr. Hoskins, it was asked to have the Scott's Winter and Yellow Transparent apples added to the society's list; also McIntosh Red, for which Vermont and Quebec asked two stars each. A new seedling apple of promise was reported by Dr. Merriman of Alabama. A few other new fruits from different States were brought to the committee's notice.

Mr. Marble of the Credentials Committee said there were 99 members of the society present from 16 States, Territories and Provinces, and many delegates from kindred societies.

Apples—Apricots—Blackberries.

A discussion of the merits and demerits of the later new fruits was then entered on. Mr. Parry asked of the success of the Yellow Transparent apple in Virginia and the South. Mr. Van Deman had received creditable specimens from Southern Illinois, and had information to the effect that it was doing well from that point South. It was the best of the Russian apples, he thought.

Mr. Strong spoke highly of the Murphy apple. He said "it has been exhibited for two years past as a new variety, and called 'Barre's Stripe,' and has attracted much attention. It is a beautiful apple—as good as the Baldwin, and much finer in appearance. It is really an old sort, but it seems to have come out of cultivation. It succeeds nicely in Hingham, Mass." Mr. Marble said it resembled the King in some respects, though handsomer. Mr. Strong said: "It is the most beautiful apple we have ever seen."

Mr. Van Deman inquired if anybody knew of apricot growing in Florida. Mr. Moore had grown it successfully on the plum stock; it should not be cultivated near the roots; curculio does not trouble it, except in clay soil; sandy soil destroys the insect by its great heat. He said "where chickens and pigs can get to the trees, there is no trouble from curculio."

A promising native blackberry was noted as having originated on the farm of Mr. Callihan, in Florida. He found it growing wild, took it in cultivation for family use, and has not found anything better since. He said, as a rule, Florida blackberries had bitter seeds. Mr. Mr. Steele said: "I have grown the Lucretia here in Florida with success, and it exceeds anything I have ever seen in size and quality, without exception. It is a success on moist land. I have also a variety from Mr. Roesoner, found by him at Manatee, which he considered equal to Lucretia." Mr. Peck had grown the Florida native seedling, and was well pleased with it. Mr. Strong thought the Lucretia blackberry should now be placed in the society's catalogue. Mr. Van Deman advised giving it one star in all States where it succeeded. Mr. Campbell said: "It has been successfully trained up from the ground on stakes. The late Mr. A. J. Caywood has been growing it thus with fine success." Mr. Marble had seen it trained thus on Mr. Caywood's place, bearing very heavily, and it was beautiful, indeed. Stars were demanded for it in Massachusetts, Ohio and Iowa.

Dr. Hape of Georgia inquired about the new Minnewaska blackberry, whether it had been tried to any extent. Mr. Van Deman said: "I have not fruited it yet, but specimens sent me by Mr. Caywood were very fine indeed." Mr. Marble—"I saw Mr. Caywood's plants in fruit, and I must confess I was completely surprised at the amount and quality of the fruit."

The Erie was regarded as very nearly identical with the Lawton. Mr. Williams said he had tasted it several times.

The cherry being next in order, Mr. Callahan spoke highly of the success of the old English Morello in Florida, no other cherries being named.

Other Small Fruits—Grapes.

Mr. Parry asked about the Crandall currant. Mr. Trowbridge was not prepossessed with it, had seen it but never fruited it; a black currant originating in Kansas. Mr. Teas—"It belongs to the black currant family, and is similar to it for cooking. I consider it valuable. Common people will be reasonably well satisfied with it for eating. It is questionable however whether it is a hybrid with our common fruit."

The gooseberry was next called. Mr. Williams said: "I have failed with the Industry in New-Jersey; can not make it live: tried a dozen plants. I like the Triumph, and consider it the best gooseberry we have in the State." Mr. Trowbridge replied: "I have grown the Industry in clay soil; it does not mildew, and I am pleased with it; grows very large and fine. It is all I can ask."

Grapes came next. Some one called out "Lutie." Mr. Von Lindley of North Carolina—"I had a dozen vines of it planted, but after reading the last catalogue of this society I was discouraged and thought to throw it away, but I kept it. The vine is very fine, no disease about it. I exhibited the fruit at Raleigh in competition with many other fine grapes, and they all pronounced it equal to any. It is foxy when first colored, but afterward the flavor becomes good. It ripens about with the Delaware. I do not know what its market value is." Mr. Brackett said he heard that at Nashville it brought high prices in market. Mr. Van Deman—"I am glad somebody can say something good about this grape, for if I had to say anything I should call it the worst flavored and the foxyist grape I ever tasted. I am really surprised to hear any favorable report about it. I received two lots of the fruit, and it smelled so badly I could not keep it in the office." Mr. Galloway—"Yes, he gave me some of the fruit and I have borne him a grudge ever since." Mr. Parry was not willing to throw the Lutie overboard in New-Jersey as yet. But Mr. Campbell was ready not only to do this but even feed it to the sharks—"Having made the report in the catalogue referred to, I felt it my duty to say something. I am inclined to agree with Mr. Van Deman as to its being the foxyist and poorest grape I ever saw. Our late President Wilder threw it out of his house before he died. It was represented to me as equal to the Muscat of Alexandria, and better than any foreign grape grown. From my birth to the present day I have never tasted another such miserable grape." President Berckmans—"I have not grown it, but without knowing anything about the grape, as chairman of the Georgia fruit committee last summer, we reported the variety as a fruit. They were exhibited from Macon, Ga. The grape is not fit to eat."

The Jewell came next. Mr. Campbell—"I have fruited it three years. It is a small, black grape, good quality, has been recommended by some as equal to Delaware; it is not so to my taste; more pulpy than the Delaware, but it is without its high character; its thicker foliage stands better against disease. Small size is almost its only fault; berries rather larger than Delaware, clusters no larger, slow medium growth; habit like the Early Victor, flavor as good as the Eumelan, though different in character."

Mr. Newman named the Berckmans, and said: "I fruited it last year for the first. It is generally pronounced equal to Delaware in flavor; its growth is more vigorous." Dr. Hape—"I have fruited it a number of years; it is more vigorous than Delaware, quality quite as good, which is saying much in favor of it; berry larger than Delaware, bunch not so compact; quality most excellent, vine healthy." Dr. Hexamer—"I have seen the Berckmans in New Jersey. I think the flavor is equal to the Delaware, it has more loose, open bunches, the vine seemed vigorous, and I was surprised to see it doing so well in New-

Jersey." Mr. Strong found it very healthy in Massachusetts. President Berckmans—"It is not a new grape, having originated in 1871. It is a cross between the Clinton and Delaware." Mr. Williams—"That seems to be the character of the vine in New-Jersey. I have not fruited it yet."

The Progress was next asked about. President Berckmans—"I have seen it, and it looked very promising indeed; specimens very fine, very large, and very good. What it is, however, I can not say." On motion the Berckmans grape was then added to the society's list.

A colored plate was shown by pomologist Van Deman, which he said was a new wild Scuppernong. But as he proceeded to describe its habits the variety was soon recognized by several members as the "Mish," a sort of no special value.

The Elk Eagle was named by Mr. Merriman; he had fruited it, found it a vigorous grower, but the berries rotted badly. The Green Mountain was next asked about. Mr. Manning said: "I have seen it bearing in Connecticut; it is a very sweet grape, ripe August 25 last season, strong grower, very good grape. In foliage it resembles the foreign varieties."

H. E.

Columbus (O.) Horticultural Society.

The last regular monthly meeting of this society was of more than usual interest.

The committee on fruit reported that plants had wintered in good condition, and prospects for an average crop were good. This report brought discussion as to the causes of the winter injury to fruit. One member thought the cold west, or southwest, winds did a considerable portion of the damage, since he had frequently observed that the sides of fruit trees exposed to such winds often contained little or no fruit, while other parts of the tree were well filled. Another said the causes of winter injury were many and various. Low undrained land was one cause; a dry soil at the time of the winter freeze-up was another; bright sunshine succeeding severe frosts another; cold rains and windstorms at the period of blossoming still another. One member said that peach buds are often killed in the lower or more level portion of an orchard, while they remain uninjured on the slopes and crests of hills. This was explained by the fact that the colder air always settles in the valleys, because it is heavier than warmer air. It is also less likely to be in motion than the air around and above the top of a hill.

The committee on meteorology reported that March had been remarkable, both on account of its high temperature and light rainfall. The highest temperature was 74°, on 17th; lowest, 17°, on 11th. Total rainfall, including snow, only 0.90 inch. In March, 1888, the rainfall was 4.88 inches. Another remarkable feature of the month was the large number of clear, sunny days. Over half of the thirty-one days were either clear or fair; only six were rainy. The daily range of temperature was much less than usual. The least daily range was about 5°, and several days showed a range but little greater than this. The greatest daily range of temperature was 41°, which occurred on the 17th.

As might be inferred from this report, the committee on botany was able to announce an unusual degree of advancement in spring vegetation. Never before in the history of the society had so large a number of species of wild flowers been seen in bloom in March. The list reported included twenty distinct species.

The committee on entomology reported gratifying results from the spraying of fruit trees with solutions of Paris green and London purple. It was recommended that this remedy be tried more systematically and generally by all fruit growers in the county. Except in the case of the canker worm it was recommended that a rather mild solution of the poison be applied, especially the early applications when the foliage was tender. A pound of Paris green or London purple to 150 gallons of water, if well applied, had been found amply strong enough for the curculio and codling moth. A somewhat stronger dose appeared to be necessary to destroy the canker worm. One pound of the poison to fifty gallons of water had given excellent results.

In a discussion of the strawberry, Mr. A. D. Selby said the fruit of this plant is the enlarged pulpy receptacle of the flower bearing on its outer surface, either in depressions or not according to the variety, the numerous dry achenia or true fruit. While keeping in mind the fact that we eat the enlarged end of the flower stalk in the strawberry, we should also remember that this enlargement and growth of the berry, as we call it, never takes place without the fertilization of the pistils is effected by means of the pollen from the same or an adjoining plant. The tendency of the wild strawberry is to be perfect flowered, that is, to bear both pistils and stamens in the same flower. In some of the western varieties this tendency is not so well marked, and imperfect flowers are often seen.

In most cases of pistillate varieties of our cultivated strawberries the stamens are not entirely wanting, but are often present in an abortive form, producing no perfect pollen. The common designation of varieties as "staminate" when the flowers are perfect, and "pistillate" in case the stamens are wanting has now been largely superseded by the preferable terms "perfect" and "imperfect." As a general rule imperfect or pistillate varieties, when properly fertilized, give a better yield of fruit than do the perfect sorts. While the individual plants are sometimes not as large, they are usually quite as thrifty and almost invariably form more runners.

Rev. W. M. Parsons, among other good things, had this to say concerning "The New-England Garden":

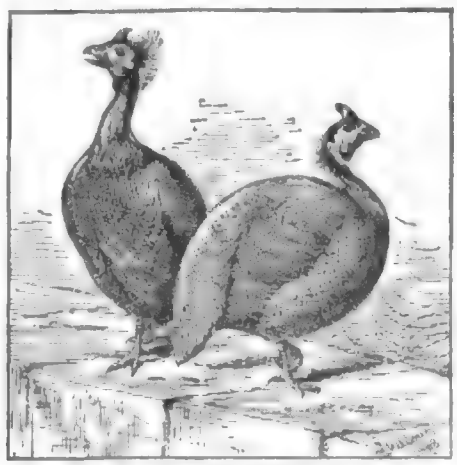
Whatever the typical New-Englander did was usually well done, although at the cost of great toil and infinite patience. The proverb most in esteem was "no pains no gains." Another common saying was this: "A good garden is half the living."

The amazing thing about New-England gardens is that they should be so good, yet as these same New-England Yankees say, "All deacons are good men, but there is odds in deacons," so we say all gardens are good, but there is odds in them. The present garden in New-England or in Ohio, is worth many times what it cost. No land pays so well as that devoted to the kitchen garden, and the better the garden the more pleasure, pride and profit.

The seeds that we plant are full of integrity. They never assume to be what they are not. The seedsman may lie—he sometimes does—but his seeds never.

Years ago when slavery was a power, a southern planter asked a Yankee gardener, "How many acres do you cultivate?" With a slight nasal twang the man of the spade and hoe replied: "I have about eight acres in garden sauce." The planter turned away with a derisive laugh. But when the Yankee told him what his annual income from these eight acres was, he stopped laughing and confessed that it was more than he derived from five hundred acres. There are two things that a real Yankee abhors—laziness and "small potatoes." By avoiding the one he is not troubled with the other. A well-planned and carefully managed garden not only helps to feed us, but it keeps our bodies strong, our minds active and our thoughts pure. It is an invaluable object-lesson for the young, a satisfaction for the middle-aged, and a comfort for the aged.

W. R. L.



GUINEA FOWLS.

The Poultry-Yard.

Black Langshans.

This breed has attained great popularity in our section of the country. It seems to combine the most desirable characteristics of the Plymouth Rocks and the Brown Leghorns; the fowls being prolific layers, good brooders, excellent mothers, and active foragers.

They are specially recommended for being good winter layers, and I can well believe that cold does not hurt them like other chickens, on account of their remarkably thick coat of feathers, which lie close to the body like the feathers of a turkey, and are very soft, downy, and silky. In fact, it is rather difficult to get to see their skin in the winter time, it is covered so deeply with soft overlapping feathers, but when you do catch a glimpse of it, it is pure white, clear, and clean-looking, like that of a turkey.

The Langshans are large stylish birds, with full broad breasts, small wings, and single erect combs. The bright scarlet color of the comb, wattles and gills, glowing against their brilliant black plumage form a striking contrast.

Their eggs are much larger than those of the Plymouth Rocks and Brown Leghorns, and are nearly round in shape, and of a dark yellow color, sometimes speckled like a turkey's egg.

Their legs are rather heavily feathered, blue-black in color, with purple tints between the toes. The chicks are black with whitish breasts, and a white tip on each wing; as they grow older, however, all the light color disappears, and there is nothing visible except jet black. In some strains the breast and wing tips are canary colored instead of white.

My objection to black chickens, hitherto, has been that they are so difficult to dress; every pin feather shows so plainly that it is almost impossible to make a broiler look nice on the table; but this objection does not hold good with regard to the Langshans; they are said to be as easily dressed as the Plymouth Rock, and to be quite as plump and shapely in appearance. In fact, their admirers declare that they get large enough to broil before the pinfeathers appear, but I do not know so well about that.

The lady whose poultry yard I visited yesterday told me that her pen of Langshans—one dozen hens in all—had furnished her a greater number of eggs this winter than had been produced by her flock of one hundred common hens outside. Some weeks ago they were very much addicted to laying at night while on the roost pole. She concluded it was because they were being fed too freely on soft food and changed their diet, and since then has had no trouble in that respect.

In the centre of the yard stood a box half-full of fine coal ashes, and to it I saw one hen after another come for a dust bath.

"They are very fond of laying in the box," the lady said, "I found five or six eggs in it this morning."

I noticed on the ground some broken ears of corn with the grains half burned, and the lady, seeing my attention called to them, said: "I feed them corn once a day, and always burn it, as otherwise corn seems to have a tendency to make hens too fat. They have wheat too, scalded sometimes, and sometimes dry, and in addition to this, table scraps and other kinds of soft food. I have found the Langshans a very healthy breed," she continued. "Last year when most of my other chickens died of cholera, some of them very near this pen, only two of the Langshans were affected. One died before anything was done for it, and to the other we gave a pill of copperas and it recovered."

I was anxious to weigh the cock, a splendid fellow, who looked as if he weighed 10 pounds or more. One of the hens she caught for me to look closely at its fine thick plumage; it felt very solid and heavy, and probably weighed 7 or 8 pounds. The lady however, did not expatiate on their size, but said she valued them principally on account of their being such prolific layers, and because of the excellent quality of their meat, which is remarkably tender, juicy, and sweet. "The hens are good brooders too," she added, "and though they quarrel industriously whenever any one comes near, yet they do not seem to know how to peck. They are irreproachable mothers, and as for the little chicks, they are not a bit of trouble to raise; they grow rapidly and live in spite of everything."

Logan County, Ky. A FARMER'S DAUGHTER.

Guinea Fowls.

Guinea fowls are not nearly so much kept as they very well might be, considering that they are, as a rule, very profitable. They cost nothing to raise; they prefer to seek their own food in the fields, and seldom come home for food as long as they can find a supply for themselves. As a rule they mate, and it is best to have the sexes equal. The hen steals her nest, but cannot refrain from making a noise when she comes off, which betrays her to the watchful farmer. Guinea fowls are valuable on farms where their range is wide, as they destroy a large number of insects and do not scratch up seeds. In fact, a flock of twenty guineas will consume a number of insects so large as to almost appear incredible, as they are active and always searching. They also consume grass and young seeds, as well as the seeds of the undesirable plants and grasses.

A breeder of this variety of ornamental fowl, some time ago wrote that it is usual for the guinea fowls to lay in the nearest hedge bottom, or among a group of nettles. One soon finds out where the nest is by observing when the cock is alone and watching to see from what direction the hen returns. She will certainly do her best to hide the eggs by picking fresh grass and laying it upon the eggs, which lie on the ground, not in any regular nest.

A guinea hen will begin to lay about the end of April or the beginning of May, and will generally produce altogether about a hundred eggs. She may, perhaps, show sign of wanting to sit; this must not be allowed, and she will soon begin to lay again. It is not advisable to set any eggs later than the second week in June, because they take a month to hatch, and the chicks, though quite easy to raise in June and July, will probably succumb to the first cold if hatched later. When young they need chopped eggs, and it is also well to supply them with insects; a sod full of ants is a capital thing to bring them.

The proper number of eggs for a sitting is sixteen. Each hen should provide three sittings, and that would leave about fifty eggs for use in the house. They are very rich and are much fancied by some people for a delicacy. It is best to eat them cold like plover's eggs, with salad, or in the shape of aspos.

Once reared, the birds are not expensive to keep, as they roam far afield and partially feed themselves; they eat a great many insects, and without any special fattening are always nice and plump in spring. They come into season when game goes out, and are generally killed between the middle of February, and the middle of April.

In a private establishment they are most useful as a substitute for game when the only other birds to be had are expensive quails or ptarmigan, tasting like turpentine. If raised for sale they will fetch in this country about seven shillings ($1.75) in the market, but private purchasers can generally be found, who will gladly give the producer the eight shillings ($2), which the poulterer would demand, in order to secure really good birds. Although nominally in season only in spring, they may really be eaten at any time. All birds no longer quite young must be hung before eating, as long as ever the weather will permit. All guinea fowls, it must be remembered, should be well larded, or they will be dry when roasted; whereas, if properly prepared, they are tender and juicy. Ignorance as to the right method of cooking them has led many people to discontinue eating them, on the ground of their being thought dry and tasteless.

H—, England. STEPHEN BEALE.

Changing Cocks.—I am breeding game chickens. I bred out of a good cock, and have two settings of eggs. How long must I wait until I can put another cock with my hens to be sure the peeps will be out of the second cock? After I breed the first, how many eggs need I put aside until I can save eggs of the second cock? There is a great difference of opinion among people here, and we submit the decision to you. J. A. H. *Harrisburg, Pa.*

NEW ADVERTISEMENTS.

FORTY CENTS PER LINE.

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FOR SALE—Three HOLSTEIN Calves, from 3 to 6 mos. old; two Heifers and one Bull; all reg. in H. H. B.; sired by a son of Netherland Prince. Price, $40 to $50 each.
LEWIS DAVIS, Port Jefferson, N. Y.

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Offers for sale young TROTTING STOCK, the get of Baron Prince, record 2.21¼. Reg. GUERNSEY Cattle, SOUTH-DOWN Sheep, BERKSHIRE and POLAND-CHINA Swine. P. Block and Wyandotte, B. Rocks. $1.50, $2, $2.50. BROOKSIDE STOCK FARM,
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CHESHIRE HEADQUARTERS.—Get my prices before you buy.
ap18-4t E. E. COE, Kirkville, N. Y.

FOR SALE—One CHESTER WHITE BOAR, one year old. One SOW, two years old, with nine PIGS, five weeks old. They are all choice animals, and will be sold cheap if taken at once.
ap18- L. H. MOSES, Newark, Wayne Co., N. Y.

LOCUST HEDGE POULTRY YARDS.

EGGS. Price reduced to $1 per 13. Specialties—White and Laced Wyandottes, Light Brahmas, Plymouth Rocks, Houdans, &c. E. E. COE,
ap18-4t Kirkville, N. Y.

THE ECLIPSE
VINE & PLANT SPRINKLER

Has no equal for effectually destroying the Potato Bug and other insects. It is a Combination Sprinkler for WATER or PLASTER, and works equally well for each. One man can carry two at a time, and two cans filled will cover 600 hills thoroughly and effectually.
AGENTS WANTED IN EVERY TOWN. Sample shipped to any address for $1.50. F. A. TILER,
121 W. Thirteenth St., Rome, N. Y.
☞ See Illustrated Note, p. 311. ap18-6t

The Symmes Patent Hay & Grain Cap,

Made of Wood Pulp (thoroughly WATERPROOFED); Cheap and Durable—half the price of canvas. One hundred will cover six to eight tons hay. Not necessary to fasten down. Will send half a dozen or more as samples, for thirty-seven and a half cents each, here. SYMMES HAY CAP CO., Concord, N. H.

New Advertisements.

Adkins, Wm. H.	*Sale of Farms.*
Allen, Charles L.	*Jersey Cows*
Ball, E. Phelps	*For Sale or Exchange.*
Bradley, A.	*Holsteins*
Brookside Stock Farm	*Trotting Stock, &c.*
Cloud & Son	*Chester Whites.*
Coe, E. E.	*Houdan Fowls.*
do.	*Eggs for Hatching.*
do.	*Cheshires*
Clarkson, R. L.	*Jersey Bull Calf.*
Dennis, Martin	*Poland-Chinas.*
Davis, Lewis	*Holsteins.*
Dana, M. H.	*Stock Farm for Sale.*
Dorman	*Situation Wanted.*
Harkness & Co., Alfred M.	*Sale of Jersey Cattle.*
Hilton & Sons, Joseph	*Devons*
Jones, Mrs. M. M.	*Jersey Bull Calf.*
Lewis, P. H.	*Fruit Tree Sprayer.*
Live Stock Association	*Animals Insured.*
Miller, T. F.	*Plymouth Rocks, &c.*
Moore Bros.	*Draft Stallion.*
Murdoch, John B. & A.	*Seed Potatoes.*
Moore, Delano	*Hutchings Seed*
Morse, L. H.	*Chester White Boar.*
Nason Co.	*Flower Seeds Free.*
Overton, S. W.	*English Mastiff Pups.*
Parr, F. R.	*Nursery Stock.*
do.	*Sale of Horses.*
Popular Pub. Co.	*Insects Named.*
Rensselaer, O. H.	*Cattle Starvation.*
Sebastian, John	*Land for Sale.*
Scranton, W. A.	*Hereford Bull.*
Solenberger, S. W.	*Short-Horns.*
Symmes Hay Cap Co.	*Hay and Grain Cap.*
Tiler, A.	*Vine & Plant Sprinkler.*
Troy, I. H.	*Situation Wanted.*
The Mapes Co.	*Fertilizers*
Taber, G. F.	*Red-Patent Bolts.*
The Sewickley Dairy Co.	*Jerseys Wanted.*
Turner, Thos. T.	*Auction Sale of Horses.*
Van Wyck, Jacob S.	*For Sale or Service.*
Williams, Mark D.	*Pair of Mules.*
Wright & Son, Geo. E.	*Seed Potatoes.*
Warner, E. H. & A. C.	*Eggs for Hatching.*
Williams, Jones	*Situation Wanted.*

Subscribers' Wants.

H. H. MORRECRAE, Box 81, Washington, Ct. White Delaware or Southern seed corn for fodder.

Pamphlets, &c., Received.

BENSON, C. F., Cardinal, Ont. Poster of Short-Horn sale, May 1.

HOGINTON, ARTHUR, St. Ella, Hull, Eng. Catalogue of Aberdeen-Angus Cattle, 5 bulls, 35 females.

MACAULEY, D. F., Shoreham, Vt. Circular of Trotting Stallion Lambert Wilkes.

PEEK, F. S., Mt. Morris, N. Y. Circular of Spraywike Hill Farm Small-Fruit and Flower Plants.

PENFIELD & SON, Willoughby, O. Large and handsome illuminated Poster of Clay-Working, Brick and Tile-making Machinery—see advertisement, p. 288.

SALMON, Dr. D. E., *Dep't of Agriculture, Washington, D. C.* Paper on Inoculating Animals for Contagious Diseases.

SYMMES HAY-CAP CO., Concord, *N. H.* Illustrated Circular—see advertisement.

Inquiries and Answers.

Using Fresh Ensilage.—Will it answer after filling silo to commence using the ensilage instead of covering up, or must it lie and heat up? Will some of your readers who have had experience in the matter give us the facts? It would save time and expense of covering, wastage of ensilage from moulding, &c., if it will do to commence feeding immediately. W. H. B. *Oxford Depot, N. Y.* [It is always better to allow the contents to settle, and thus become more compact and solid for the exclusion of the air. If the top is left uncovered, and especially if not pressed solid, the air will enter, and a layer on the top will be spoiled. All the lower part will be pressed by the mass above, and be uninjured. If well settled first, you may cut down narrow slices at the sides, or take layers from the top. If the latter, it should be used fast enough to keep ahead of any moulding or rotting by exposure.]

Salt for Pork.—Can you tell me if there is any difference in the strength of the different kinds of salt? I put up my hams this year by a receipt that I have been using for 20 years, and after smoking them three weeks, found they were almost as fresh as when put in pickle. I put them in another pickle that would pop an egg, and find that they are still fresh. The salt was fine (not table salt). I am afraid they will not keep. They were in the first pickle seven weeks and the last one three weeks. I have never had this to happen before, and am at a loss to understand it. The meat was cut up the day after killing, was perfectly cool, pickle was boiled and skimmed and put on cool. Receipt: 7 lbs. salt, 4 gals. water to the 100 lbs., sugar and saltpetre, and would pop an egg. Salt used was of a little finer grade than "ground alum." C. V. C. *Kingston, Md.* [Packers inform us that different kinds of salt produce unlike results on the pork—will some of our readers who have tried them, please point out the difference and the results? Perfectly pure salt is chloride of sodium and nothing else, but foreign matter may control its operation.]

Lucern and Grasses.—Will you advise as to best of the new fodder grasses, mode of treatment, &c? Have had lucern highly recommended. Can this or any other variety be sown with oats advantageously, and can I get good results this year? I wish to sow something for the coming winter's fodder for cattle, and for permanent meadow thereafter. What would be best for a crop of this kind on ground from which early potatoes are dug in July, and also on ground from which oats are harvested, if advisable not to sow with oats? If best results can be obtained by devoting the land entirely to the crop from this spring, please signify to that effect. A. P. L. *Chatham, N. Y.* [Lucern will grow well on a deep and rich soil which has a perfect natural underdrainage. If you have such soil, free from the seeds of weeds, you may sow it at once in the same way that grass seed is sown alone, and it will give you a fair crop this year and a heavy one next year. If the soil is not as described, you may sow timothy and clover with similar success. Or, you may sow the lucern (or clover) with a light crop of barley, but you will not have much of a crop this year. If these grass crops are sown alone, the work must be done as early as possible on a finely pulverized surface, and the seed be lightly brushed or rolled in. If your land is very weedy or has much foul seed, it would be better to drill in the lucern seed, so that the crop could be cultivated for a while in order to destroy the weeds.]

Mules—Virginia.—What is the best authority on the mule—how to breed and raise him? (1) Is there always a sure market for the mule at fair prices? (2) In what part of Virginia is the best grazing country? (3) Is blue-grass natural to any part of Virginia—if so, what part? (4) S. J. M. *Philadelphia, Pa.* [1. We do not know of any. 2. We think there must be, in some part of the country. 3 and 4. In the mountain and valley regions of Western and Southwestern Virginia, where are situated the richest farming lands of the State. Hotchkiss ("Virginia") speaks of blue grass in Piedmont, the Blue Ridge, the Valley and Appalachia, a section of the State west of a line drawn through Loudoun county on the north to Henry county on the south. There are vast tracts of mountain land in this region, says Hotchkiss, that furnish a range for young cattle, enabling the grazier to rear them at but little expense. These tracts of land are covered by a growth of timber, more or less heavy, beneath which is an undergrowth of rich weeds, wild grasses, &c., that are highly nutritious, and on which cattle can subsist from April to November. King, in "The Great South," says that most of the perennial grasses, including the noted blue-grass, growing naturally from the deepest valleys to the mountain-tops of this (the Valley) and adjoining sections, are famed for their nutritious and fattening qualities, are used for the grazing of horses, cattle and sheep, and make the Blue Ridge, the Valley and Appalachia one of the finest stock-raising regions of the world.]

Trimming Raspberries.—I cannot agree with you in leaving the old canes for protection to the young canes. I think they are a damage to them by chafing with their sharp thorns, and are greatly in the way in after cultivation, besides looking bad, and bringing too much labor in the hurry of spring work. I cannot see that they stand up any better by being left. Pinch the young canes at about eighteen inches high, but do not cut any more until winter or early spring. Remove the old canes as soon after picking as possible, while green, as they cut much easier then. The young canes, if in the way, can be swung aside and tied to others, then the horse and cultivator can do their work with ease. I trim early in winter, and then with a horse hitched in front of a sleigh draw in manure, and give each hill a good forkful. In this way much of the work is done in the winter. This applies to blackcaps. Red raspberries require no pinching back or cutting off until winter or spring, aside from cutting out suckers and leaving only canes necessary for bearing. C. M. *Onondaga County, N. Y.* [The remark which our correspondent objects to was probably in the answer to an inquiry some weeks ago, that the only object in leaving dead canes was for the support of young canes in the severe winds of winter in unusually exposed places, and which in his more sheltered locality would not be necessary.]

Butter Ration.—I have grade Jerseys weighing 600 to 800 lbs. Would like an economical ration out of the following articles: Wheat bran, $19 per ton; corn meal, $19; cottonseed meal, $36; early cut timothy, $12. Wish to make hay go as far as possible as I am a little short. Have no feed cutter. Cows have been calving since January up to the present time. Object butter. E. D. S. *Worcester, N. Y.* [Our correspondent will find several rations lately given almost identical with the one he asks for. It seems he wishes to economize his timothy hay, but has no cutter to cut it. There is no economy in feeding hay uncut. The only way he can economize his hay is to cut and moisten it, and mix his grain feed with it. Cottonseed meal is too concentrated a food to be given without mixture with hay. For cows of light weight like his he may use 3 lbs. cut timothy hay, 5 lbs. wheat bran, 5 lbs. corn meal, 2 lbs. cottonseed meal. The bran, corn meal and cottonseed meal must be well mixed together, dry, and then mixed with the 3 lbs. of cut timothy hay. This is a day's ration to be given in two feeds, morning and evening. 2. As this will not probably reach B. much before his cows will be turned to pasture, he may feed on early pasture the following: 3 lbs. cut timothy hay, 2 lbs. wheat bran, 2 lbs. corn meal and 1 lb. cottonseed meal mixed as before; a small part of it given in the morning, principal part at evening. As he makes butter it is important that his cows be full fed, so as to keep up the richness of milk. When cows are fed scantily, the quality is reduced more than the quantity. E. W. S.]

Cottonseed—Water Witches.—Will readers who have used cottonseed-hull ashes give the results of their use as compared with other fertilizers? M. Walton, p. 276, in his article on finding water, does not give the result of the information imparted by the finder. Will he please state it? READER.
Camden County, N. J.

The First Fair.—Please tell me when and where the first agricultural fair was held in the United States. M. H. *Arkport, N. Y.*

In Texas.—You can count on me as a permanent subscriber, and should send me extra copies, &c., for distribution, which I would give to stockmen and farmers who might subscribe. I think in a very few years we will have institutes all over the State; the first one was held at Austin a few months past.
Comanche, Tex. J. M. McC.

Acknowledgments.

Communications for publication have been received during the week ending April 15, from Thomas Bowick—C. H. Strong—Mrs. S. H. Howell—Levi Chubbuck—McD. Watkins—N. S. Bronson—J. W. Ingham—Prof. E. W. Stewart—M.—Jacob Tutt—D. Harrington—P. Q.—Reader—J. W.—E. R.—B. W. Hunt—S. A. Walker—John Gould—John K. Cash, Jr.—Henry Stewart—E. L. DeLano—Prof. A. J. Cook—A. L. Potter—Sparr & Taylor—Nellie Burns—W. A. S.—H. Hendricks—E. H. S.—John Henderson—Stephen Beale—Prof. A. J. Cook—W. A. H.—Prof. E. W. Stewart—A. C. Gliddon—M. Walton—C. Frewirth.

. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, April 18, 1889.

Manual Labor, p. 264.—Middle of first column, for "hard labor," read *hand labor*.

In the Legislature.—We are glad to say that the Assembly last week reconsidered the Mase dog bill (see p. 111), and passed it by a vote of 74 to 30, the counties of New-York, Kings and Erie being exempted from its provisions. The following members voted against final passage—Acker, A. B. Baker, R. P. Bush, Carson, Cheney, Connolly, Cottrell, Demorest, Kent, Lewis, Little, Maynard, McKenzie, Mead, Nixon, Pearsall, Peck, Saunders, Towns, and Townsend. The bill now goes to the Senate, and we suggest that readers write immediately to their representatives in that body, urging on them the necessity of passing it. In its present shape the bill fixes the tax on male dogs at $1, and on females at $3 for the first and $5 for the second owned by the same individual.

The Assembly also passed the supply bill (see p. 260) and Senator Vedder's bill exempting agricultural and horticultural societies from corporation tax, which latter now goes to the Governor.

The Senate passed the appropriation bill (see pages 210, 220 and 260), and sent it to a conference committee to endeavor to reach agreement with the Assembly.

"The Rose Garden."—We are favored by the author, Mr. WILLIAM PAUL, F. L. S., (Waltham Cross, London, Eng.,) with a copy of the ninth edition of his well known standard treatise under this title, which won high encomiums on its first appearance, forty years ago, and has steadily maintained its position in the regard of rosarians ever since. As now offered, the book is a royal quarto of about 400 pages, very beautifully printed, and illustrated with numerous woodcuts, 20 highly finished colored plates, and 16 full page engravings. It is divided into two parts, the first embracing the formation of the rosarium and detailed directions for practical work, together with interesting historical and poetical matter, while the second includes long lists of the most esteemed varieties, with descriptions, and remarks on their origin. Papers on the botany of the rose, by J. G. Baker, F. R. S., and the entomology of the rose, by Arthur W. Paul, are appended, and also a list of sixty or more rose books, dating from 1799 down to the present time. Altogether, the work is one of which rose-growers in general, hardly less than the author, may well be proud. The price is 21 English shillings, say $5 13, and the book is well worth it, but it is also issued as an imperial octavo, illustrated with woodcuts only, at just half as much.

Cheap at the Price.—The Pennsylvania State Board of Agriculture reports the analyses of a great number of "complete fertilizers," one of which, selling at $30 per ton, is stated to be worth $1.19; another, selling at $18, is worth 17 cents; a third sells for $31 and analyzes for 71 cents. Several brands, however, are estimated to be actually worth something more than their cost. Prominent among these is the "complete manure for general use" offered by the Mapes Formula and Peruvian Guano Co. of New-York, at $40, while the State Board analysis makes it really worth $42.93.

Colman's Rural World—Published at St. Louis, Mo., copies without credit, April 4, the 25 ensilage rules given editorially in the COUNTRY GENTLEMAN of March 21—which is

hardly the thing to be expected from a respectable paper. "I suppose now," writes the correspondent who calls our attention to the matter, "that other papers will copy them and give credit to the Rural World. Some papers seem to regard the original matter in the COUNTRY GENTLEMAN as common plunder."

Country School Grounds.—We offered to our readers in a recent number (page 266) some remarks on the importance of neat and pleasing surroundings of school buildings, not only that the students may enjoy pleasant associations while in attendance, but for impressing on their opening minds a taste for whatever is neat and beautiful in the way of planting and cultivation. In their early years it is important to lead their tastes in the right direction. We have seen a whole neighborhood infused with a spirit of neatness and improvement about their dwellings, from seeing a good example set by a single resident; and in the same way the small district school may become a valuable aid in imparting taste and instruction to the young who are growing up and acquiring habits for after life.

We give a rough sketch showing how the half acre or more of the grounds which surround a small country school may be laid out and planted, in a bird's eye view as seen from the public road. The school house, which may be large enough for a dozen or twenty scholars and one teacher, stands two or three rods from the road, and has a neat path for entrance. This path may be a well kept gravel walk, but more commonly if the soil is dry and gravelly, it may be made of the earth, trodden smooth by the feet which daily pass over it. The trees which surround it should be of small-growing kinds if they stand near the house, so as not to shade unduly the windows and obstruct the light, and larger ones may be placed more remote. The grass may be kept short by a lawn mower or otherwise. The closet buildings on each side have also neat paths for access, and the paths for reaching them should be flanked with evergreen trees, so that snow storms may not make them difficult of access. On the left of the house is an open piece of ground in front, and another towards the rear, for the boys' and girls' play ground, respectively.

We have known some districts where teacher and scholars had so much cultivated taste as to place and keep in fine order a few circular flower beds in the grass lawn. And in more rare instances a small cabinet was placed in the school house where rare minerals were kept for teaching what every person should know of ores, limestones, gypsum, sandstones and other rocks of a valuable character.

A Handy Implement.—The Lewis Combination Force Pump advertised this week makes three complete machines, and is largely used for spraying fruit trees, for which purpose it is especially adapted. It is approved by leading entomologists, and we think has been more than once commended in the COUNTRY GENTLEMAN by Prof. Lintner. Mr. Lewis has just issued an illustrated book on destroying insects, and gives one to each purchaser of a pump. Dr. Lintner says of this book:

"It promises to be a good and valuable publication, and I am glad you are bringing it out, and will give it a wide circulation. Just this information needs to be generally known, for it will be of incalculable value now that fighting insects has become a necessity to fruit-growers and cultivators of the soil."

Japan Clover.—It would seem from what J. S. Fowler (p. 283) writes, that Japan clover should be a much-valued grass for this section. I had the same opinion of its good qualities from what I could hear, until a neighbor tried it last year. He wrote to parties in Mississippi, who referred him to a Mr. Babcock of Fredericksburg, Va., who furnished the seed. He sowed it with oats, and obtained a fine catch. It grew to be about eight inches high. Animals did not seem to be over fond of it, and as to being of value for winter grazing, it would compare well with broom sedge; for when winter came it was as dead, root and branch, as pennyroyal, and the dead stalks resemble that herb as they now stand as much as anything I can think of. It appears to be starting from the seed again, but it is certainly of little value as a grass for any purpose here. Perhaps others have observed differently—should like to hear from those who have had experience.
Lancaster, Va. E. L. D. L.

What Others Say.—What farmer of today would be satisfied with the style of running a farm that seemed to satisfy his ancestors? They farmed as their fathers did, and did not make any change until about a quarter of a century ago. Then changes began to

Small School Lot—

creep slowly into the mind of the farmer; he began to think the old scythe was a little slow, and that the old revolving rake was an improvement over the hand rake; that good horses and good cows paid; that it needed a warm barn as well as good feed to keep them during the winter. They commenced to read up the best magazines and papers on the subject of farming. Then came many periodicals which treated on the general subject of farming, and now the question with the farmer is, which shall I subscribe for? The COUNTRY GENTLEMAN!—*Prendiniville (N. Y.) Journal.*

——The COUNTRY GENTLEMAN maintains the excellence in all departments that has made it the universal favorite through so many years, on the farm, in the garden and at the fireside. —*Athens (Tenn.) Post.*

Stop the Advertisement!—Discontinue my advertisement. I get more letters than I can answer. ALEX. R. BAKER. *Cedar Hill, N. Y.*

Agricultural Exports.—The New-York Journal of Commerce gives the following table of exports of agricultural products from that port for three months, from Jan. 1 to April 1, for each of the years named:

	1887.	1888.	1889.
Apples, bbls.	29,016	67,389	184,709
Beeswax, lbs.	10,021	1,415	4,057
Breadstuffs—			
Wheat flour, pkgs.	1,486,944	1,490,917	870,199
Rye flour, bbls.	970	440	951
Corn meal, bbls.	39,720	30,553	34,654
Wheat, bush.	10,999,194	4,067,317	894,078
Rye, bush.	97,040		24,973
Oats, bush.	43,000	39,147	42,000
Barley, bush.	69,720	7,000	1,000
Peas, bush.	69,950	23,004	69,173
Corn, bush.	3,886,500	1,044,287	6,585,310
Cotton, bales.	254,708	243,247	3 9,497
Hay, bales.	15,320	44,977	34,363
Hops, bales.	958	5,000	14,144
Oils—Lard, galls.	139,744	132,530	130,774
Linseed, galls.	19,647	15,288	14,196
Provisions—			
Pork, bbls.	55,270	44,720	49,665
Beef, bbls.	14,354	26,402	24,192
Beef, tcs.	11,637	11,764	11,141
Cut meats, lbs.	21,712,400	31,852,700	30,102,713
Butter, lbs.	2,172,933	1,630,040	4,729,417
Cheese, lbs.	6,183,300	10,407,873	8,744,958
Lard, lbs.	41,777,400	44,308,350	70,869,779
Rice, bbls.	4,031	2,854	3,198
Tallow, lbs.	1,276,600	12,656,105	16,609,304
Tobacco—			
Crude, pkgs.	39,725	31,967	39,047
Mfd., lbs.	1,972,951	2,245,366	2,720,460

A Capital Sprinkler.—We give a cut showing the operation of the Eclipse Vine and Plant Sprinkler advertised by Mr. F. A. TYLER, Rome, N. Y. Unlike any other, this is a com-

bination intended for water and plaster, either or both. "The principle of applying the water," the inventor says, "is by spraying it on the hills, which more effectually covers them than by any other method employed. I also paste on each can a receipt for making a poisonous fluid, which being put into the water makes the whole poisonous. This method, you will readily see, is a great improvement over putting the Paris green itself into the water dry, and the economy alone of this method will save the purchaser the price of the sprinkler in one season. The method of applying the plaster is by means of a feed cup placed in the inside of the sprinkler, with wings adjustable to the use of any kind of powdered substance, distributing the same so evenly that it is a great economizer of material. One man can use two of these sprinklers at a time, covering two rows of potatoes or other plants, and two cans filled with either water or plaster will cover 500 hills of potatoes or other plants thoroughly and effectually. This sprinkler is no experiment; over 15,000 were sold last season."

Farm-Yard Notes and Items.

Six Holsteins for Dr. Collier's comparative tests have arrived at the Geneva station, having been selected by the committee of the association from the herds of Smiths, Powell & Lamb (2), Gerrit S. Miller, S. Burchard, D. B. Whipple and Henry Stevens. Two Holderness steers and two heifers have been sent by Mr. T. A. Cole of Solsville. Four Ayrshires are expected shortly, Secretary Winslow informing Dr. Collier that the selection has been made. The choice of the Jerseys has been delayed by the illness of Mr. Edward Burnett, who was to pick them out. The selection of the Short-Horns also hangs fire, which is to be regretted, as all the cattle ought to come under Dr. Collier's management at about the same time.

Mr. H. W. AUSTIN of Woodstown, N. J., held an auction sale April 3d, of horses and Holstein Friesian cattle (as advertised on p. 243), resulting in the disposal of 20 animals. Three horses, by Young Volunteer, were sold for a total of $665. The cattle were mostly young things. Seven bulls brought $275, averaging $39 30, and ten females went for $770, averaging $77 70 each. The highest prices were:

Pava 3671, 5 years, D. T. Magie	$115
Lanehen 3d, 1888, 4 years, W. Cooper	105
Palma 3d, 16018, 1 year, G. H. Cole	102
Heifer, 1 year, Clark Pettit	90
do. 1 year, H. Moore	75
do. 1 year, do.	75

Messrs. S. SPENCER & SON, breeders of dairy Short-Horns, Kiantone, N. Y., write that their advertisement in the COUNTRY GENTLEMAN has brought about the sale "to A. Sydney Logan of Philadelphia, Pa., for his farm at Dover, Del., of the heifers Maid of Kiantone, Conewango 26, Belle of Erie and Juniata Clay 2d. They were a choice lot and arrived in safety."

EDS. COUNTRY GENTLEMAN—I have sold bull calf out of Duchess Noble 37090 (28 lbs. 8 oz.), to Mr. George R. Davis of Meridian, N. Y. Daphne's Stoke Pogis 10627, sire of this young bull, is a son of Daphne of Arcadia 21710 (28 lbs. 12 oz.) Thus this little bull has an average butter record from dam and sire's dam of 28 lbs. 10 oz., which is seldom equaled by a Jersey bull. L. H. MORGAN. *Newark, N. Y.*

EDS. COUNTRY GENTLEMAN—We report test of our Jersey cow Fanny White 9804, 11 years old, between 700 and 800 lbs. She gave from March 5th to April 5th, 1,008 lbs. 2 oz. of milk. Her test began March 27th and ended April 3d: Milk, 253 lbs. 2 oz.; butter, 11 lbs. 14½ oz., thoroughly worked, salted ounce to pound.
Nashville, Tenn. SPURR & TAYLOR.

EDS. COUNTRY GENTLEMAN—Mention was recently made in your paper of the Breeders' Cup of 1889, to be awarded at the New-York Combination Sale of Jersey cattle, to be held April 23-25, under Messrs. Peter C. Kellogg & Co.'s management.

The cup, which this year takes the form of a solid silver churn, large enough for actual use, will doubtless be keenly competed for, as usual, both for its intrinsic value and for the honor of possession, and I sometimes wish I had not been so fortunate last year in winning the cup, as I would send to the sale such a lot that would make more than one old man "shed tears," as I think the most tempting prize of all that have ever been given is the solid silver churn of 1889.

The offering of cups for best average prices realized, has been a feature of the spring combination sales for the past nine years, and the competition thus engendered has been of the greatest benefit to the Jersey cause. To have any chance of winning, one must enter none but the very best, and in this manner a class of cattle is drawn together for unreserved sale that would not otherwise be put on the market.

Judging from the active demand for good utility cows that we have experienced during the past fall and winter, I look for prices to be fully maintained this spring. This demand seems to be occasioned by the constantly increasing call for Jersey products, as is quite noticeable in this section (Philadelphia). I always find, when a family once gives the genuine article a trial, that no other is afterwards satisfactory. It is safe to say that the Jersey cow (irrespective of family) is *the* cow to supply this call for the choicest of milk, cream and butter. We all have our ideas of breeding, and preferences for certain families. In-breeding I have not felt justified in practicing in my own herd, and think that, with constitution, one dash is enough, followed by a direct outcross. While recognizing merit in all prominent families, I have long had a leaning to Coomassie, with Eurotas and her next of kin, Stoke Pogis. On my first visit to the Island of Jersey, I was privileged to see Coomassie when in her prime, and think now, as I did then, that she was the grandest cow, in every respect, that was ever bred there. Soon afterwards I saw Aurelia in the stable of Mr. John Arthur, and it struck me that with such a dam and granddam, Tormentor ought to prove one of the most successful of sires. Two of his daughters I secured at a cost of £300 each, which at that time was rarely heard of, but they were worth it, and ever since I have been watching how the number of his get in the 14-pound list has been increasing, until it may be he will yet stand at the head.

Several weeks ago, in looking over the Jersey Bulletin, I was attracted by two paragraphs, following each other, in the gossip column, which struck me as quite a coincidence. They were: "Dead—the great Tormentor;" "A correspondent thinks Stoke Pogis 5th, if put up at auction, would sell for more money than any other bull." While regretting that circumstances required his being sold after my former partner's death, I still rejoice in the possession of his full sister, Marjoram 2d, that has just presented me with another heifer calf, which makes the fifth. T. S. COOPER.
Linden Grove, Pa.

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Basements for Barns.

Those who are about erecting new barns should never fail to provide basements for them. Besides the sheltered space which they furnish for cattle stalls, and for the storage from frost of roots and other succulent feed, they are a valuable protection of the wooden building above from decay. Their design in construction or form must depend on the nature or surface of the ground they are to occupy. It may be a dead level, a moderate slope, a steep decline, or between two knolls.

When the ground is a dead level, the first requisite is to secure perfect underdrainage. The next, is to provide for a slight excavation, the earth taken out to form an embankment for a roadway to the next story above. The earth being taken off from the whole surface, will be enough for the roadway several feet high on one side. For example, the removal of only one foot of earth from the whole area of a barn 30 by 60 feet, will give 1,800 cubic feet; and this earth will make a sloping bank against one side with an average of 20 feet wide 6 feet high at the barn, and sloping 30 feet from it to the level ground. Fig. 5 is a section of this basement with its sloping roadway, the dotted line showing the natural surface of the ground.

If, however, this amount of excavated earth is not enough, a greater depth may be dug for the basement; and two feet of excavation would give a road embankment 7 feet high, 25 feet wide and 40 feet long.

It rarely happens that the ground is perfectly level, and special advantage therefore may be taken of the slope to aid in the construction of the road, which will require a less amount of embanking, and give a more level passage. It is well to calculate beforehand the amount of earth to be removed, and the space to be filled for the road. A descent of two feet from one side of the above mentioned barn and two feet of excavation on the upper side would give the 1,800 cubic feet, to be placed for the road, making it more nearly level if 30 feet long—fig. 6, the dotted line being the natural surface.

A common mistake in building walls of masonry, is in placing earth against them on the outside. By successively freezing and thawing the walls become displaced, and in the course of time they are thrown over. Fig. 1 represents such a wall, which has been distorted in the course of years by the successive freezing. To prevent this disaster, a vertical stratum of broken stone or gravel, ten inches or a foot thick, should rest against the outside, as shown in fig. 2, which will prevent the successive thrusts of the frost, and allow a perfect drainage from the outside down to the tile around the basement. For this purpose, the cellar is dug a foot wider on each side, the wall built leaving the foot space which is then filled with gravel or broken stone. Figs. 5 and 6 show this vertical stratum on a smaller scale.

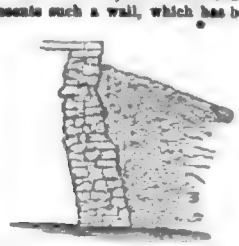


Fig. 1.

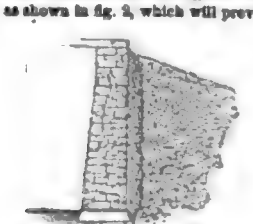


Fig. 2.

Where a barn can be built between two slight knolls, with its ends against them, a convenient arrangement is to have an entrance at each end, with a passage-way through the whole length, thus saving much hand labor in the various operations of loading and unloading hay, fodder and grain. Fig. 3 represents the external appearance of a barn with this provision, showing also the open shed and closed stables in the basement. Fig. 4 exhibits the plan of the second story, or the one next above the basement, which may be adopted for such a barn.

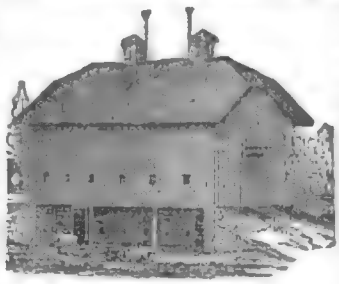


Fig. 3.

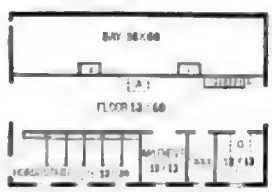


Fig. 4.

This mode of erection may be adopted on a side hill or moderate declivity, running parallel with the length of the barn, the excavated earth from the basement to be placed at each end.

Fig. 5.

Since the general introduction of horse-forks, it has become less common to build the three-story barns, for which a rather steep hill-side is required. But they may still be profitably used for large barns, reducing the manual labor of discharging heavy loads of hay and grain; and now since the more common use of silos, they afford a greater depth for the ensilage, by driving the loaded fodder to the upper story and reducing the work of the carrier. Fig. 7 represents in outline such a barn, the basement opening on the low ground below; the side-track for wagons on the lower bank, to the first story above; and the embankment and bridge affording access to the upper story for wagons loaded with hay, ensilage and unthreshed grain.

Fig. 6.

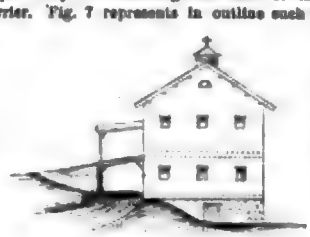


Fig. 7.

Feeding Brood Mares.—Please give ration for brood mares weighing 1,300 lbs., used entirely for farm work; will foal about the latter part of May. Have corn, oats and bran; good timothy hay. *S. Centre Hall, Pa.* [S.'s brood mares, being heavy, may be fed as follows, till after foaling: Grind 50 lbs. of corn with 100 lbs. of oats, and then make up ration as follows: 12 lbs. cut timothy hay, 8 lbs. ground corn and oat mixture, 8 lbs. wheat bran. In analytical formula, this shows the following digestible nutrients, in pounds:

	Albuminoids.	*Carbo-hydrates.*	*Fat.*
12 lbs. cut timothy hay.....	0.44	4.94	0.12
8 lbs. ground corn and oats,	0.70	4.36	0.32
8 lbs. wheat bran.....	2.24	3.70	0.31
Total.....	3.08	13.00	0.75

Nutritive ratio 1 to 7. It will be seen that this is not too large a ration for 1,300 lb. mares. It would not be proper to have any greater proportion of corn meal. 2. After these mares have foaled and recovered from its effects, let the ration be the same with the addition of 2 lbs. of linseed meal. This will afford rich milk for the foals, and if the brood mares have moderate work the ration will not be too large to sustain their labor and produce the milk for feeding their foals. After two months old the foals should be encouraged to eat a few oats or oats and bran mixed. They will continue to eat more and more, and at weaning time be able to continue a steady growth without milk. E. W. S.]

What Killed Those Horses?

Probably not Ensilage but Ergot.

EDS. COUNTRY GENTLEMAN—The letter of Mr. Netherton, page 272, in regard to the death of the ensilage-fed horses, and your own doubts in the matter, seem to justify the explanation on other grounds than that of the direct results of ensilage-eating. I had, a few days since, a talk with Dr. G. Stewart, a noted veterinarian of Cleveland, and he informs me that cerebral spinal meningitis is so rare that he doubts if a dozen cases were ever found in close connection, for it is a disease that old veterinarians have hardly met with a dozen times in their lives. He went on to say that the symptoms mentioned in a letter to me, written by the gentleman referred to by Mr. Netherton, indicated poisoning by corn smut—ergot—which would produce paralysis of the spinal column and brain. Last year was both wet and hot, and very favorable to the growth of smut spores, and the ensilage corn about here was more or less covered with smut balls. It was the duty of every man, during silo-filling, to pull such off from the corn, or if the growth was pronounced, to throw away the stalk altogether.

While not a botanist, I still think that if these smut balls were to go into the silo, they might possibly find conditions there of heat and moisture that would insure them life and even power of propagation. The gentleman who lost the horses wrote to me that the ensilage was badly spoiled in places, and there were now and then layers of mouldy ensilage.

The question is, was this mould or ergot in some stage of development? I do not know that there was a smut ball on the corn, but that ergot given in large and frequent doses, produces convulsions, followed by death, leads me to think that this ensilage was charged with ergot. There is a species of ergot mould, described by Berkeley, and believed by him to be true ergot, which vegetates readily under the proper conditions of heat and moisture—conditions which may be very different from that under which true ergot is produced, and it may be this "mould" that was noticed in the layers of the ensilage pits at Crescent Hill, may not have been a simple fungoid growth, but ergot, and when "the horses were fed all they would eat" of this ensilage the result was ergot poisoning. This would explain when even the smut balls on the fodder might be wholly wanting. The lesson of this is, how shall we know this ergot mould, and how prevent it if there is liability of such a spore growth taking place in the pits?

Hereabouts, all who have silos, feed more or less ensilage to horses and colts, and all say that it has not in any instance proved otherwise than beneficial. J. C.

Western Reserve, O.

—I am satisfied that I lost two horses and a mule from feeding ensilage. One of my neighbors lost a fine mule from the same cause. The ensilage had been fed with great satisfaction for some time to my cows. It was corn ensilage, and had delightful aroma. I did not give very much to my horses, but they all died about the same time, and were affected very much as Mr. Netherton describes. Although I am delighted with ensilage for my cows I shall never let my horses or mules get any of it. I was very particular to see that the ensilage that they got was sound and nice.

Mecklenburg County, N. C. MCD. WATKINS.

Developing Colts.

EDS. COUNTRY GENTLEMAN—Please make ration for growing colts from the following: Whole oats, wheat bran, hominy chop, and old process oil meal. Have for fodder, timothy hay and corn stalks. Want to feed hay and stalks without cutting. Should like to give the hay at night in the stall and the stalks in the paddock where the colts are turned out in the day time every day, except when it storms hard. If a better ration could be made by adding corn and cob ground together, would do so. How many pounds of the grain mixture should I feed a day to colts one year old in order to grow them as fast and as large as possible? The colts are now of ordinary size—would like to push them as fast as possible to make large carriage horses. Please give the quantity of each, and without the corn and cob meal added. *C. Long Island, N. Y.*

G. will find ration for developing colts on page 146, in answer to H. F. S.

G. wishes to make as rapid a development as possible. Of course, he must wish to do this in a safe way to promote health. Yet, it appears that he wishes to feed his hay and stalks without cutting, and thus necessarily must feed his grain and fodder separately. This is a fatal error in the development of colts. They have but one stomach, and can masticate their foods only once.

If G. wished merely to grow his colts in a slow and easy way, I could recommend him to feed such grains as would be little likely to clog the stomach and would hence do less harm when fed alone. But full nutriment must be given to make a rapid development. This cannot be done without mixing the grain food with cut fodder, so that both must be eaten together, and therefore he must feed grain by itself, because he cannot take the trouble to cut the hay and mix the grain with it; then the only advice to give him is that he may feed 3 qts. of oats and 2 qts. of bran, mixed together, divided into two feeds, to his colts per day, and feed them the hay separately without injuring their health, and also without the rapid development.

2. But presuming that G. may conclude to feed in a safe and successful way, the following ration is given: Six lbs. of cut timothy hay, slightly moistened; 2 lbs. ground oats, 2 lbs. wheat bran, ¾ lb. O. P. linseed meal. The ground feed or linseed meal are well mixed together and then mixed with the moistened cut hay. This is a day's ration for each colt and may be given in two or three feeds. But perhaps two feeds are as well. When the colts eat this it goes into the stomach in a light porous condition, so that the gastric juice comes in contact with every part of the mass at once. When this ration has been fed for one month, and the colts are found to digest it well, ¼ lb. may be added to the oats and ¼ lb. to the bran. G. will see that a ration must be given by weight and not by measure. Weight is the only standard. But in mixing the ration, weights may be arrived at by weighing certain measures. For instance, if he has six colts he can easily determine what bulk of cut hay is required to make the 36 lbs., and what bulk is required for the 18 lbs. of ground oats, and the 18 lbs. of wheat bran, and the 3 lbs. of O. P. linseed meal, which would be a day's ration for the six colts.

3. No corn meal should be given to young and growing colts, because its office is to fatten and not to grow, muscle and bone. The ration given above will produce a very uniform development of all the parts, and will afford all the development that the breed to which the colts belong is capable.

Horses that, grown under ordinary circumstances, would weigh 1000 pounds, developed fully under this method, from weanlings, would weigh 1200 pounds. E. W. S.

Ensilage—Pea and Oat Hay.—Has ensilage of E. & W. corn, cut after ears are fully matured and slightly glazed, been analyzed? If so, what are its digestive nutrients? The old analysis of ensilage, I assume, was when it was cut at a much earlier stage. As the present mode of curing it substantially secures everything which is secured in the method of raising field corn, it occurs to me that the carbo-hydrates must be much greater in ensilage composed of fully matured ears and fully matured stalks than the proportion heretofore given. (1) Is there any reliable analysis of hay, oats and peas grown together, and cut in this latitude, say July 1, carefully cured and put in the mow in good condition? (2) *S. Montgomery, Pa.* [1. We do not know of any analysis of ensilage made from corn matured in ear and stalk before preserving in silo. If S.'s

suggestion is correct—that the percentage of carbo-hydrates "must be much greater" than in less matured corn—then the analysis is decreased in feeding value. One of the greatest items of expense in feeding, is balancing an excess of carbo-hydrates. But it is highly probable that the most accurate and careful selection and analysis will show that the proportion of digestive nutrients is not materially changed from what it was when the corn was in full tassel; the increase in digestible nutrients in the ear, is balanced by the loss of digestible nutrients in the stalks. We may perhaps approximate to E.'s desired analysis of mature corn in this way: By supposing field corn to yield 40 bushels of matured ears weighing 70 lbs. per bushel, and then by estimating, as usual, 2½ times the weight of stalks to ears. Now if we analyse these and estimate 25 per cent. of water, the average digestible nutrients of stalk and ear are as follows: Albuminoids, 3.66; carbo-hydrates, 40.80; fat, 1.45—but if we calculate this as ensilage with 80 per cent. water, we have, albuminoids, 1.14; carbo-hydrates, 13 5; fat, 0.45. Let us compare this with the standard analyses of maize ensilage. The average of 53 analyses made, up to the present, of digestible nutrients, is—albuminoids, 1.10; carbo-hydrates, 11.0; fat, 0.52. E. will see that these are quite similar, and, although not the precise analsis he asks—yet indicates what may be expected when such analysis is made. 2. No analysis has been made of the combined crop of oats and peas grown and cured together as he mentions. But there have been analyses made of oat-hay, seed in milk, and of pea-hay, seed in milk. The digestible nutrients in oat hay are: Albuminoids, 5.07; carbo-hydrates, 43 86; fat, 1.31. Of pea-vine hay: Albuminoids, 9.56; carbo-hydrates, 37 02; fat, 1.34—and if we are to suppose that there is an equal weight of each, then the digestible nutrients of the combined fodder would be as follows: Albuminoids, 7.31; carbo-hydrates, 40 43; fat, 1.32; nutritive ratio, 1 to 5.9—showing a feeding value equal to the best clover hay, and much superior, in feeding for milk, to meadow hay. We have often advised this crop as the best substitute for clover hay. H. W. S.]

An Ayrshire Herd.

EDS. COUNTRY GENTLEMAN—Having a few hours of leisure in New-York, I accepted an invitation from Mr. H. R. C. WATSON to visit his farm. After a pleasant ten-mile drive from the Fifth Avenue Hotel through Fifth Avenue and Central Park, we turned toward West Farms, and just across Harlem river we came to a stately brown-stone residence of gothic architecture, situated on what seemed to me the height of land overlooking the city, with Flush ing in the distance. The broad verandas and stately trees, with convenient openings to catch the attractive views of extensive meadows and pastures, gave one a charming sense of freedom in coming so suddenly from the heart of the city.

The farm consists of 250 acres, lying around the house and extending to Harlem river. The house was built and farm originally owned by the late Mr. William Watson, who was a great admirer of Ayrshires, and one of the early importers of the breed. Men who knew him in early days tell me he was a wonderfully shrewd judge of an Ayrshire cow, and was so thoroughly honest that buyers were accustomed to go there to buy foundation stock, and rely entirely on his advice, even against appearances—the sequel of which showed that their confidence in him was not misplaced, for to-day some of the finest herds of Ayrshires in America are the descendants from stock purchased of Mr. Watson in this manner.

Mr. H. R. C. Watson inherits from his father much of his love for Ayrshire cattle, and keeps on the farm a choice herd. What is particularly noticeable is the uniformity of size, style and color, while most of the cows show a wonderful milking capacity. The grand old Duchess of Smithfield 4256 has been in Mr. Watson's stable for five years, and in that time has given an average of 8,980 lbs. of milk a year, with a record of 10,748½ lbs. when she was ten years old. The same year she gave an official record of 468½ lbs. of milk in seven days, from which was made 19 lbs. 6 oz. of butter. The average for the whole herd, without including heifers with first calf, for the five years ending Dec. 31, 1888, is 7,515 lbs. The whole herd in its uniform makeup, and the careful weighing of the milk, morning and evening, for five consecutive years, show the taste, care and persistent determination to breed and keep nothing but the best, which is really the foundation of all successful breeding. C. M. WINSLOW.

The Dairy Department.

The Flavor of Butter.

EDS. COUNTRY GENTLEMAN—Seeing your reply to J. D. M., p. 253, calls forth a few questions from me: Which has the greater influence on the flavor of butter—hay, such as timothy and clover, grains of any kind, or the cow? (1) Is there any butter color that will not sow the germ of rancidity in butter? (2) Could you promise J. D. M. anything but a rather flat quality of butter from hay and grain only? (3) E. K. *Poughkeepsie, N. Y.*

1. While the flavor of butter is due to some extent to the character of the feed given to the cows, it is more completely developed by a chemical change in the butter itself, due to a process which may be called ripening. What this change is, precisely, is a matter of uncertainty among experts, but the writer has reason to believe that it is due to an incipient alteration in its fats which, when fully developed, result in what is known as rancidity. It may be due to an internal change of its inherent substance, which goes on very slowly when well-made butter, free from excess of moisture and of any moisture not in solution with the salt, is completely protected from the atmosphere, but which takes place very rapidly when the butter is exposed to the air. But so little is exactly known in regard to the effect of variations in the cows that it is not possible to speak particularly in this respect. It is very well known that the very best butter may be made when timothy and clover hay of the very best quality, or well-cured green-corn fodder, with corn meal, is fed to the cows; while other foods, inferior in character, will produce butter of poor quality, in regard to appearance, texture, color and flavor.

2. Any of the standard butter colors may be used, when fresh, without bad effect on the flavor. Those made with oil need not necessarily have any germ of rancidity in them, and the butter-maker of course must be on his guard against danger in this way. But why should butter be colored artificially? It is so well known that most of the butter so colored is artificial, that consumers are beginning to express objections against the practice, and the uncolored butter I am now making sells as readily as any that is higher colored, while with the best quality of timothy and clover hay and yellow corn meal I am getting a very good natural color even in the middle of winter.

3. The "flat" flavor of the butter referred to is doubtless due to some error in the management of the milk, or to some peculiarity of the cows—possibly, long calved—or the cold weather; but there is no reason for it if the hay is good and the grain is sound corn meal, yellow preferred. E. S.

Beans as Milk Food.

EDS. COUNTRY GENTLEMAN—Please give analysis of common white beans, and their value for feed to cows compared with corn meal, oil meal, bran, &c.; prices about a dollar per ton higher than in Buffalo. Beans cost $11.25 per ton ground. Can they be used to advantage in connection with any or all of the above feeds and corn fodder grown rather thick, no ears to speak of? I find no difficulty in getting cows to eat the beans when mixed with other grain. E. B. P.

Monroe County, N. Y.

Sound common white beans, when ground, are very valuable food for milch cows, because of their very nitrogenous character, being well adapted to balance strongly carbo-hydrate foods. The following analysis will show this by comparing beans with several other kinds of foods, in pounds:

	—Digestible Nutrients.—			
	Albuminoids.	Carbo-hydrates.	Fat.	Value per ton.
Field beans	19.00	60.20	1.94	$21.61
Indian corn	9.36	66.62	4.74	1.15
Oats	9.99	48.11	3.94	.98
Wheat bran	11.72	44.66	2.83	1.03
Wheat middlings	11.69	43.67	2.63	1.00
Linseed meal, O. P.	25.95	26.59	7.09	1.48
Linseed meal, N. P.	29.25	27.95	2.89	1.54
Glucose meal, h'n d'd	10.51	69.76	7.81	1.40

This will show P. the digestible nutrients and their quantity in each of the above foods. The prices above given mean the comparative feeding value of each food, when properly used in a balanced ration. But the low price given by P.—$11.25 per ton for ground beans—indicates that the bean meal is from refuse beans, or at least unsalable beans. The analysis shows perfectly sound beans. What deduction for quality should be made from the beans referred to, P. may be able to determine. They might be unmarketable, and still injured but little for feeding.

If P. has use for much cow feed, he would do well to lay in largely of this bean meal. The bean is too rich in albuminoids to be fed in large quantity, but it will make a most excellent balance for fodder corn, corn meal and straw.

The following formula (in pounds) will show how it will help out in a combination:

	Albuminoids.	Carbo-hydrates.	Fat.
16 lbs. corn fodder	0.48	6.40	0 15
5 lbs. bean meal	1.15	2.51	0.07
6 lbs. corn meal	0 90	5.04	0 39
4 lbs. wheat bran	0.48	1.91	0.10
Total	3.01	14.89	0 60

Nutritive ratio, 1 to 6. This is a full ration for cows in full flow of milk, and very cheap, the grain costing only 12 cents per day. It will be seen how deficient the bean is in fat, but corn meal balances this. Here we have a fodder with poor albuminoids, and yet we are able to balance it with 5 lbs. of beans.

It will be found that the bean is an excellent food to keep up the condition of the cow. Prof. Horsfall, one of the most advanced dairymen England has ever produced, was accustomed to feed 2 lbs. of bean meal per day regularly to each cow, as he said, to keep up her condition. H. W. S.

Feeding for Butter.

Cornstalks, Bran and Middlings.

EDS. COUNTRY GENTLEMAN—We feed ten grade "Durhams" and Jerseys for butter, which we sell for 25 to 28c. per lb. to consumers. Cows in good condition and give fair quantity of milk, about 25 lbs. of which makes a pound of butter. Their feed has been whole cornstalks (husked) of fair quality, and from 5 to 10 lbs. (according to size) of the following grain mixture: 100 lbs. corn meal, 200 lbs. wheat bran and 50 lbs. O. P. linseed meal. Could we feed 3 or 4 lbs. oil meal per day without hurting cows, or making the butter taste? Would not feeding the grain mixed with pulped mangels be a great improvement on feeding it dry? Will you make up a ration for cows of 1,000 lbs., from corn fodder, corn meal at $18 per ton, bran at $14, rye feed at $15, middlings at $16 and oil meal at $28; also mangels? What is the construction of the wheat kernel? Why is it that the less flour in bran, the less it is worth for feeding? From what part is the middlings made, and what part makes the best flour? G. *Spencerport, N. Y.*

G. asks for a ration to produce butter, to be fed with whole cornstalks, and evidently wants an economical ration. This is a feat too difficult to perform. To have an economical mixture of the foods given he must run his cornstalks through a cutter; and if he cannot do any better, let him take a broad hatchet and chop his cornstalks fine on a wide wooden block.

A very good ration may be made up of his foods if he has any facilities for combining the foods together. He will find his pulped mangels an important addition, especially for the health of his cows.

Let him make the following combination: 14 lbs. short-cut corn fodder, 15 lbs. pulped mangels, 3 lbs. corn meal, 3 lbs. wheat bran, and 3 lbs. O. P. linseed meal. The following analytical formula will show the digestible nutrients in this combination, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
14 lbs. short-cut corn stalks	0.33	4.90	0.07
15 lbs. pulped mangels	0.15	1.80	0.03
3 lbs. corn meal	0.35	2.52	0.19
3 lbs. wheat bran	0.24	0.99	0.30
3 lbs. O. P. linseed meal	0.39	0.83	0.18
Total	2.06	11.05	0.80

This has a nutritive ratio of 1 to 6, and, for cows of 1,000 lbs. weight, it is only a fair ration when in milk. G. can make this combination by mixing 300 lbs. corn meal, 300 lbs. wheat bran and 300 lbs. oil meal. This would last his cows just 100 days. The ration he has been feeding was quite too small.

The grain part, in the above ration, costs only 12½ cents per day, and if his cows give a good yield of milk, should produce 30 lbs. per head, and make 1 1-5 lbs. butter per day, or should earn 30 cts. per head.

But the best grade Jerseys produce a pound of butter from two-thirds this quantity of milk, and G. will perceive the direction which his improvement should take—improve the quality of his milk. But this can only be done by selecting his cows, and then giving them steady feeding to that end.

These cows can be improved as to quality of milk, but not in a few weeks. It requires steady feeding for months to carry a cow much above her normal standard.

G. will see why it requires much nitrogenous grain to balance his ration of poor corn fodder. If he had the best clover hay he could get the same standard of food with much less grain.

He will find that his pulped mangels perform a good deal better office in this combination than if he fed it with his grain food alone. The 3 lbs of O. P. linseed meal here given, fed in such a combination, will not injure the quality of his butter.

2. G. asks why it is that the less flour contained in bran makes it worth less for feeding. He is mistaken in the supposition. The old-fashioned middlings, which is not in market now, contained some flour, and this was popularly supposed to increase its value for feeding. But the greater the amount of flour it contained as formerly ground, the less it was worth as a balance for poor fodder; because the flour contained very little but starch or other carbo-hydrates—the same as poor fodder, while the bran contained a large proportion of albuminoids.

The new machinery for grinding takes the middlings and separates all the bran from it, and this makes the highest priced flour, because it contains more albuminoids and less starch. The best flour comes from the coating of the kernel, lying next the bran.

There is so much poor hay and corn fodder fed to our stock that, practically, roller-process bran is worth more per ton, to feed with this fodder, than the best old style middlings.

The middlings (so called) of the present consists nearly all of very finely ground bran, the flour having been separated. The cheapest flour on the market now is made from the inner part of the wheat kernel, containing the principal part of the starch. This is purchased principally by laborers, but it is poor food to sustain physical strength. H. W. S.

About So-Called "Theories."

Management of Cream.

EDS. COUNTRY GENTLEMAN—There is unreasonable prejudice against "theories"—generally an indication of ignorance on the part of the objector. Galileo had a "theory" about the solar system; Leverrier had a "theory" about the existence of the planet Neptune; Columbus had a "theory" about the existence of an unknown continent, and in like manner a great many men of the highest intelligence have originated "theories" from the depths of their great minds, which have been finally proved by practical processes. Our modern chemistry is based on "theories," and that great theory about a universal element which occupied the brains and gave employment to the old chemists in the search for it, has led to the discovery of nearly all our known elements of matter, and still occupies the attention of chemists. The present condition of agriculture and all its allied industries has been reached through the "theorizing," first, by profound thinkers, then the practical experimenting of scientific and practical workers, and thus it won't do for any person to treat "theories" with contempt, for no one knows really what the truth is or may be, unless a theory is palpably opposed to reason and facts.

Thus, when Mr. Boyd of Illinois—who is nothing if not a theorizer in regard to the management of cream in preparation for the churn—says "this excess of theory has been the curse of the dairy business for years," he stultifies his own action and simply declares himself a very injurious person. For he has a "theory"—a most theoretical theory, in fact, in regard to the effects of the exposure of cream to the atmosphere—to the effect that stirring the cream interrupts and retards, but does not prevent acidity in it, and the bad effects of stirring are so apparent, that he is astonished to hear men advocate the practice. Moreover this gentleman claims to have invented (which means really "found out") the fact that cream should have a "starter" to begin the development of the ripening process, and further claims that he can carry milk through all the necessary processes of the dairy without exposing it—to any effective extent—to the action of the atmosphere, and so make his "starter" the actual agent for the development of acidity in the cream. How does Mr. Boyd get his "starter" if not by or through atmospheric action, and if his "starter" is so produced, why not make use of the atmospheric influences still, and save all the trouble in getting the starter and mixing it with his cream.

There 'are many "experts" who advocate

stirring, and they have a "theory" too, to the effect that in stirring the cream it becomes oxidized, and the action of the oxygen ripens it and brings it into the right condition for the churn. Others have a theory somewhat different and at the same time something like this, and this is the theory which I advocate, viz., that this stirring of the cream, in common practice, both retards and at the same time develops acidity, or in a convenient and indispensable way, produces that right and necessary condition of the cream for churning, to which the term "ripening" has been applied.

Now let me go through this ripening process, from beginning to end.

1) The milk, drawn from the cow, carries with it into the pail by its natural viscosity so much air that the milk is covered with foam. The milk in fact is thoroughly aerated, and this aeration is indispensable to get rid of certain volatile gases to which the term "animal odor" has been applied. The milk thus aerated and exposed to oxygen, and the unavoidable germs of fermentation and change, at once begins to undergo a process of acidification, which is retarded or hastened by the temperature to which it is exposed. At 45°, several days are required to effect this change; at 60°, 36 to 48 hours; at 80°, 12 hours only. By submerging the milk it may be kept sweet longer than by any other process, and therein Mr. Boyd is right and I fully agree with him.

The cream is then skimmed, and whether it is taken from shallow pans or from deep pails set in cold water, it is again exposed to the air very fully, and unavoidably so, too. This is fact. And the cream undergoes a change less or more rapidly, as it is kept at a low or a higher temperature. This exposure to the right temperature is one of the most particular operations of the dairy, for the quality of the butter depends very much upon it. But there is something more to be considered at this stage of the management of the cream, and that is the stirring process, which Mr. Boyd considers as foolishness and is so much astonished about. In the business creamery where hundreds of gallons of cream are worked up at once, this stirring process is as indispensable as in the private dairy, where a farmer's wife has only two or three gallons to churn.

Just here it may help to explain this process and the object and effects of it. If any person will go into a dyer's establishment he will find the workmen lifting the yarn or cloth out of the vats, and plunging them again in the hot liquids, and lifting them out again repeatedly. The dyer is airing the goods for the purpose of developing the color and making it strike evenly through the material. The exposure to the air is required to oxidize the dye, and also to give free access to every particle of the goods. He is stirring the goods for these two purposes, and precisely for these two purposes cream must be stirred, or else the requisite change, called ripening, is not evenly effected through the mass.

With a small quantity this stirring is even more necessary, because the oldest cream at the bottom will become very sour, while the youngest cream at the top, last added to the jar, will be quite sweet, or at least very little soured, when it goes into the churn; and then come the various troubles which worry the patient farmer's wife, who sometimes is led to believe that really and truly "the witches" are in the churn; and the witch of oxygen or acidity, or whatever it may be called, is there beyond a doubt, and is causing the trouble. Mr. Boyd may call this "theory," but it is a matter of fact due to the mistake of neglecting to stir the cream and get the whole of it in that even condition which is indispensable to the making of good butter. The gentle stirring—no violent dashing, but by means of a large spoon or broad paddle—the gentle lifting of the soureat cream from the bottom and mixing it with the sweet cream just poured in, simply brings the whole mass into the same condition of acidity or ripeness—the sweet cream neutralizing (and retarding) the excessive acidity of the sour cream, and this acting as the "starter" advocated by Mr. Boyd to ripen the fresh cream, thus hastening the acidity at the same time as it retards it.

Let any good housewife attempt to make bread by adding to a mass, without thoroughly mixing, fresh flour paste, with her sponge duly raised and ready—ripened, in fact—for the oven, and what kind of a loaf will she have? This is exactly analogous to the preparation of the cream for the churn, and unless this stirring, which is mixing, is done, the butter will not be good, and there will be a waste of it in the churning as well.

I beg Mr. Boyd to abandon all fear about theories in regard to dairying. If theory, is "the curse to the dairy," which Mr. B. says it is (I do not believe he thinks it), dairy work will stay where it is, and there will be no improvement. Let us, then, all work together, combining theory with practice, and letting what little light each has shine for the general benefit. HENRY STEWART.

Permit us to suggest that the word "*theory*" is often used where "*conjecture*" or "*hypothesis*" would far better convey the meaning intended. Thus universal gravitation and the Copernican system in astronomy are now accepted theories, while the so-called "development theory" is still only a conjecture. The distinction is well drawn in Worcester's dictionary—"a theory is founded on inferences drawn from *principles which have been established by evidence*; an hypothesis is a supposition to account for certain phenomena." To call this kind of supposition a "theory," only confuses the mind.—EDS.

Record of the Times.

Weather, Crops and Prices.

Meteorology for April 7-13.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.49	inches.
Lowest do.	do.	.....	29.67	do.
Mean do.	do.	.....	30.04	do.
Highest temperature	do.	.....	69°	
Lowest do.	do.	.....	32°	
Mean do.	do.	.....	47°	

Two clear days; four fair; one cloudy. One day on which rain or snow fell; total precipitation, 0.02 inch. Prevailing wind, W.; maximum velocity, 24 miles per hour, W., on the 7th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	7th	8th	9th	10th	11th	12th	13th
Day.....	42°	46°	48°	48°	50°	54°	49°
This year....	42°	46°	48°	48°	50°	54°	49°
Normal.....	45°	45°	45°	44°	43°	41°	43°

Total excess for the week, 34°.

General Review of the Week.

The week was warmer than usual throughout the United States, except along the South Atlantic and East Gulf coasts, where the temperature was about normal. In the grain regions of the central valleys, including the cotton region, the daily temperature ranged from 5° to 6° higher than usual, while in the Missouri Valley and Dakota the daily temperature was from 9° to 12° above the average. The temperature for the season from Jan. 1 to April 13 has been unusually high in the Northwest, in Dakota and Minnesota, and thence southward to Texas, where the season is from seven to twenty days in advance. In the winter wheat region the average daily temperature has been about 3° above the normal, while on the South Atlantic and G lf coasts the season has been cooler than usual, and is from three to four days late.

There has been an excess of rainfall during the week over the greater portion of the Missouri and Upper Mississippi valleys, including the States of Kansas, Nebraska, Iowa, Colorado, and portions of Missouri, Illinois, Wisconsin, Minnesota and Dakota. The rainfall has been heavy in these sections, which include a large area of the spring and winter wheat regions, where moisture was much needed. Well distributed rains also occurred over the States of the Ohio valley, Tennessee, Arkansas, Pennsylvania, Virginia and Michigan, which will doubtless greatly improve the crop conditions in those sections. There was a general absence of rain in the South Atlantic and the southern portion of the Gulf States. Light showers occurred in New England and the Middle Atlantic States, and reports indicate that about one-half inch of rain fell during the week over Oregon, Washington Territory, Northern and Central California, and a quarter of an inch in Southern California. The seasonal rainfall continues in excess along the Atlantic coast south of New-England, and from the Texas coast northward to Dakota. From 50 to 75 per cent. of the normal rainfall has occurred over the winter wheat and cotton regions, while over the greater portion of the spring wheat section of the Northwest the seasonal rainfall exceeds three-fourths of the usual amount. On the North Pacific coast, including Northern California, the rainfall for the season does not exceed 40 per cent. of the average, although the well-distributed showers during the past two weeks have been especially favorable to growing crops. From San Francisco southward to San Diego the rainfall for the season exceeds 80 per cent. of the normal.

The weather during the week was generally favorable for all growing crops throughout the Northern States and in the central valleys as far south as the northern portion of the cotton region. The recent rains and excess of temperature over the winter and spring wheat regions have doubtless greatly improved the crop conditions in those sections, where the farm work is well advanced and seeding almost completed as far north as the northern portions of Minnesota and Dakota. The South Atlantic and Gulf States have been less favored during the week, and growth of all crops has been retarded, owing to the deficiency of rainfall over the greater portion of the cotton region, although no permanent injury is as yet reported, and the general conditions continue favorable. Reports from Tennessee and Arkansas state that the weather conditions were favorable for all crops, which were unusually well advanced and in excellent condition. During the past 24 hours heavy rains have fallen in Kentucky and the Ohio valley, where rain was much needed. The weather was also favorable for crops and farm work in the Middle Atlantic States and Southern New England, but in Northern New-England the ground is reported as not yet opened. The budding of fruit was retarded by cold in the Ohio valley, and some damage is reported in Kentucky from frost on the 7th, but in all other sections the weather was favorable to the fruit crop, which is reported in excellent condition. Excessive sunshine, with an average amount of rain improved the grain and cotton crops of Texas, the latter of which is reported as looking well.

Agricultural Department April Report.

The seeding of wheat was somewhat delayed in the Middle States by early autumn rains, and west of Ohio by dry weather in September and October. Later conditions were favorable in both sections, with mild and drier weather in the East and a fair supply of moisture in the West. In the South the condition of the soil for seeding was generally favorable, and germination was prompt and growth good. In California the autumn rains were followed by a dry season in winter, but refreshing showers in March caused the germination of the lately sown and a vigorous growth of the early seeded area.

There is little winter protection except for a short time in mid-winter in the latitude of heavy winter snows; consequently the more northern breadths are somewhat brown in color and patches in wet soils are winter killed. Yet the temperature has been so mild, with no few sudden extremes, that the present condition is very good. The plants are generally well rooted, and have been growing over a large part of the area through the winter.

The general average condition is 94, nearly the same as the April condition of the crop of 1888, which fell at harvest to 89. That of 1889 was 82, and that of the previous year 88.1. The April condition of the large crop of 1884 was 95, going up to 98 at harvest. The present condition by principal States is: New York, 94; Pennsylvania, 96; Texas, 97; Kentucky, 97; Ohio, 98; Michigan, 97; Indiana, 96; Illinois, 97; Missouri, 90; Kansas, 96; California, 98. The condition in the Southern States ranges from 90 to 97.

The rye crop is also in good condition, better than that of wheat in Ohio and Michigan and worse in Missouri, with slight differences in other States. The general average is 91.

The mild winter has been favorable to farm animals, which are generally in high condition. The general average for horses is 98, for cattle, 97; sheep, 97; swine, 96. The estimated losses from disease and all other causes during the past year have also been much less than usual. That of horses is 1.5 per cent; cattle 3.4 per cent.; sheep, 3.8 per cent.; swine, 6.2 per cent.; in each case less than last year.

New-York—*Geneva, Ontario Co, April 8*—With good spring weather farmers are commencing to plow, but roads have been in such bad condition that not much farm produce has been brought to town. The tree business is very brisk this spring; many dealers cannot get supplied here, as apple trees are very scarce in some varieties, but the business is rushing. The State experiment station has a number of hands at work getting ready for the summer; they seem to be pruning up all their fruit trees, and I expect they will be able to report something about the different styles of pruning so that the public may learn from them. J. W.

New-Hampshire—*Hanover Centre, Grafton Co., April 8.*—March was a fine month for New-Hampshire. People said we were going to have an early spring, but fields are yet covered with snow, and farm work at a stand still. Sugaring has been the order of business. Syrup 60c. to $1 per gallon. Prices low; farm help high and scarce. L. C. HEP.

Connecticut—*Hartford County, April 12.*—Past two weeks warm and dry for the time of year; season about two weeks earlier than last year. Potatoes and peas were planted last week; early tobacco beds being sown; plowing for oats has been in order for the last two days, trees are budding, grass quite green and everything indicates an early spring. Hay is quite plentiful in this locality and is selling at the barn for $14@16 per ton; potatoes continue very low, 45@55c. per bushel; onions, 75c @$1. Western and northern horses are continually being shipped in and the sales are good. Working oxen are in slow demand, price about 4c. per lb. live weight; fat oxen dressed, 5@6½c.; pork, 6@6½c.; poultry in good demand at 16@18c.; corn meal, $1 per cwt. Flour is a little lower. Young high grade Jerseys are in good demand at present. Cows fresh in milk, $35@40 each. A. G. W.

Ohio—*Mechanicsburg, Champaign Co, April 13.*—Cloudy and cool; mercury 42°; wind north. Yesterday we had some glorious thunder showers; about an inch of rain fell. The wheat needed it; grass looks refreshed and green, and is growing fast for time of year. Wheat looks O. K. Peach trees will soon be in bloom. There will be lots of corn planted this season. Many are about done plowing. There will be plenty of fruit if not killed by frost. Eggs, 8c. per doz.; butter, 15c. per lb.; hogs, 4½c.; heifers, 3c.; potatoes, 45@50c. per bush. E. W.

Illinois—*Vandalia, Fayette Co, April 13.*—Cloudy, with high, southwest wind. We have had no rain sufficient to do the wheat any good for four weeks, and it needs it badly. In fact, everything needs rain. There has been a greater quantity of oats sown this year than for several years, but it too needs rain. Wheat, 85c. per bu.; corn, 35c.; oats, 25c.; hay, delivered, $6@8.50 per ton; straw, $3. hogs, $4.25 per cwt; veal calves, $3@5 each; cows, $10@30; butter, 10@12c. per lb.; eggs, 8c. per doz.; beans, $1.25 per bu.; potatoes so plentiful that they are not worth anything. E. A.

Wisconsin—*Janesville, Rock Co, April 10.*—The weather is remarkably fine, but a little too dry. We have had one gentle rain during the week, which did much good. Seeding is nearly through in most of our section. Tobacco beds are being prepared now with great care, and more in number than usual. Truly we have an early spring. The land is in good working condition. I do not hear clover or brown-corn even mentioned. All our women are tobacco sorters; domestic servants are out of the market in consequence. Wheat, 84@86c. per bu.; rye, 46c.; barley, 45@50c.; corn, 30@35c.; oats, 26@28c.; potatoes, 45c.; hay, $4.50@7.50 per ton; butter, 18@22c. per lb.; eggs, 10c per doz.; apples, $1.75@2 per bbl.; cattle, $3.40@3.40 per cwt.; hogs, $4.70@4.85. Health and business only fair. W. B.

Missouri—*Kansas City, April 6.*—March was a lovely month—like May in New-England. April came in bright and clear, and holds its own yet. Cherry and plum trees are in bud; grass green, also lilac bushes, and the flower spikes are formed. This is a large, bustling city, full of life and business. Cable and steam cars are running from daybreak till midnight, and the jingling bells and rattler are not sedatives to slumber. Rents for dwellings are quite high, but provisions of all kinds, groceries, and clothing, are cheaper than in eastern markets, or in the State of Nebraska; competition keeps prices down. There are many elegant buildings scattered through the city, with of course many quite the reverse; and churches of every denomination. Many dwellings are being erected. Kansas City is truly styled the emporium of the West. Representatives of every nation are congregated here, and the streets are crowded with foreigners from all European countries. S. M. R.

Columbia, April 5.—The winter was remarkably mild and free of storms. Mercury dropped below zero but two or three times in any part of the State. Stock was continued on pasture until about Jan. 1, and those who have blue grass pastures have been able to graze them almost continuously throughout the season. During season for plowing for winter grain the weather was dry in the northern part of the State, and in some sections continued so until late in the fall. In consequence the plowing was delayed, or when done, the land turned over dry and cloddy, and the conditions for seeding were not good. Germination was slow and uneven, and the growth seemed generally weak. These facts, coupled with almost an entire absence of winter protection by snow, caused many to fear that the plants would be badly frozen out. There does not seem, however, to have been much injury done, and the wheat seems to be constantly improving. In the southern section the climatic conditions have been favorable for wheat from plowing until this date and a frequent statement of correspondents is, "I have never seen a better prospect for wheat." The prevalence of chinch bugs last season, however, prevented many from sowing as large an area as they otherwise would. The dry weather in the northern part of the State had a similar effect, and the result is a considerable reduction in the area sown. The spring is ten days to two weeks earlier than usual, and farm work is, in general, up with the season, though in the southern part of the State continued rains have interfered somewhat. Orchards and small fruits are very promising. The prospect is now good for a crop of peaches throughout the State. This has not been the case for many years. There are not, however, many peach trees left, owing to the past severe winters and failure to plant new trees.—*State Board Report.*

Review of Passing Events.

The Oklahoma Rush.—Crowds of would-be settlers are gathering on the borders of Oklahoma, ready to pour in and stake claims on the 23d. Secretary Noble has given permission to Kansans on the north to cross the Cherokee strip before that date. As the district contains less than 2,000,000 acres of land, and there are five times as many settlers as will cover it, fears of violence are entertained. The tract is in the centre of the Indian Territory, and belonged to the Creek and Seminole nations. In 1866 it was sold to the government, and the Atlantic & Pacific road granted a right of way and land, but the road was never built, as the country was not opened to settlement. It is believed the first Oklahoma "boomers" were men secretly hired to break in and settle. In 1880 an organized company under Capt. L. D. Payne started a settlement called Ewing, but were driven off by U. S. troops. This was repeated many times by Payne and others, latterly by Major G. W. Lillie ("Pawnee Bill") of Wichita, Kas. These attempts extended to Cimarrone or No Man's Land in the northwest corner of Indian Territory, which is now included in the new territory of Oklahoma created by recent act of Congress and containing 23,000,000 acres. Only the original district is now opened.

From Abroad.—The House of Commons, April 9, rejected the Clarke Scottish home rule motion by a vote of 200 to 79. Mr. Gladstone said the time was not ripe for the measure.—Mr. Balfour was sharply questioned as to his police orders, but declined to reply except that as to the use of battering rams in leveling tenants' houses, it was necessary.—Sir Charles Russell continued his plea for the Parnellites before the Commission, tracing the history of the National League, and of the plot against Mr. Parnell, closing on the 12th.—London, by court edict, puts on mourning for the late Duchess of Cambridge.—Mr. Stanley's letter to the Royal Geographical Society, was read April 8. It is mainly a repetition of news already published.—The trial of General Boulanger before the French Senate began April 12.—Emperor Francis Joseph has bought the Meyerling estate, owned by the late crown prince Rudolf. The main building will be made a Carmelite nunnery.—The American Catholic pilgrims reached Jaffa, April 7, and proceeded to Jerusalem where they will remain till the 23d.—Ex King Milan has started on a six weeks' tour in Palestine.—The famine in Northern China is increasing and 6,000,000 people are said to be starving, the government doing nothing to relieve them. Small children are killed, girls sold into slavery, and thousands in the Soochi districts are subsisting on grass and living in pits.—Four men have been shot in Mexico for attempting to kill President Diaz.

Deaths.—Michael Eugene Chevreul, the eminent French chemist, at Paris, April 9, aged 103 years and 6 months. At his birth, in Angers in 1786, chemistry was practically an unknown science. In 1803 he entered M. Vauquelin's laboratory in Paris; in 1817 became chemical director of the Gobelin tapestry works—a life position; in 1826, member of the Institute; in 1834, director of the museum; when 100 years old received degree of L.L. D. from Glasgow University. After 1812 he began the investigation of organic bodies which continued for years under difficulties which required immense labor, and preceded the work of Liebig and others. The words margarine, stearitea, butyric acid, oleic acid and xylam were of M. Chevreul's coining, and he made practical the use of glycerine in the arts. In 1886 his hundredth birthday was widely celebrated, his oldest living pupil, Dr. Ricord, 86 years old, taking a conspicuous part.—The Duchess of Cambridge, aunt of Queen Victoria, at London, April 6, aged 92. She was wife of the last surviving son of George III, himself dead 40 years ago.

Minor Items.

Minneapolis street railroads were all stopped by a strike last week.

Governor Ames of Massachusetts has appointed April 27 as Arbor Day.

Pike county, Ga., reports the birth of eight sets of twins and five of triplets.

Lyman E. Knapp of Middlebury, Vt., has been appointed Governor of Alaska.

Rains have checked the Dakota fires. The damage is estimated to be over $2,000,000.

Two new gas wells at Findlay, O., have a capacity of 20,000,000 and 30,000,000 feet per day.

In a liquor case at Mount Pleasant, Iowa, Judge Travers decided that cider is an intoxicant.

P. F. Pratt, cashier of the First National Bank of Anoka, Minn., is a defaulter to the amount of $100,000.

A fire in Savannah, Ga., April 6, burned 30 buildings, including a public hall and a church; loss $900,000. On the 9th the only cotton mill,

Lima Rubber Works, Lima, Ohio. Manufacturers of Lima Rubber Goods. Catalog and Price List on Application.

Lima Rubber Co., Lima, Ohio. Manufacturers of Lima Rubber Goods. Catalog and Price List on Application.

Lincoln Rubber Co., Lincoln, Neb. Manufacturers of Lincoln Rubber Goods. Catalog and Price List on Application.

Lincoln Rubber Works, Lincoln, Neb. Manufacturers of Lincoln

The Fireside.

A Plea for the Babies—VI.

Advice in General.

These sketches on the care of babies can only give advice and methods in outline. The theme, as a whole, is an endless one; and strange as it may seem, each helpless babe must have certain arrangements made for his own especial care. Even in one family no two babies can be treated alike. From the day of birth a positive individuality asserts itself which continues as long as life lasts, and even with plans well arranged, and everything done according to best authority for baby's comfort, the little creature comes and asserts its claims, and establishes rules of its own quite different from any laid down by mamma or nurse.

As this individuality develops, the will power develops, and alas! too soon will the loving mother discover that she has not only the physical health of her darling to watch and guard, but the still more difficult task of governing and training the will and the intellectual powers.

Varied are the opinions of the best thinkers on the subject of training children. When to commence? How to commence? What kind and condition, what quality and quantity, will lead to the best results?—are the questions which must engage the mother's thoughts. No fixed rules can be laid down—we are all creatures of circumstances; no one can act for another, or give another unerring advice.

Let me urge only the following: First, do nothing hastily; second, put not off this sacred duty, till it be too late; third, do this duty faithfully, prayerfully, thoughtfully, and having done all that you can, leave the result with the great teacher, God.

If you are weary with well doing, O mother, remember that these helpless little ones, placed in our arms by a Father's love, are "the choicest gifts of God to man," and should death claim your darling, what remains? What is your home, what your money, what your position? Would you not rather have your baby than all the wealth of ancient Rome or the wisdom of Solomon?

Do not forget that you have a duty to your fellow man and to the world in the training of your children, and these little ones are the future generation. We who are the young and hopeful parents now, will soon pass away, and these children will fill our places. Will they honor us in the lives they lead? Will they show to the world that they have been brought up most carefully, most thoughtfully? Will they become useful members of society? Will they uphold the church and the cause of Christ? These thing are what we are hoping for, but we must not expect it unless we do our duty by them, and guard most jealously the example we set before them. Can we expect to gather figs of thistles?

One evil of the present day is turning the children into the street as soon as they can run alone, and so allowing them to associate with any whom they may chance to meet. As "by-words" and "slang" are quickly caught, your little three-year-old will soon call her grandpa "the old man," and sing out "Whoa, Emma!" or "Chestnuts!" when you least expect such a thing. Experience has taught me that the quickest way of curing children of slang is to pay no attention to it. Don't laugh when it is first said and punish when repeated, but no notice at all being taken, the child soon forgets to say it. Swearing, which grates so fearfully on the ear, coming from the lips of innocent childhood, can be best stopped by a quiet confidential talk with the child if taken at the outset. But the surest and easiest way to avoid such evils is to keep your children in good company. You say: "My children must mingle with others; they must hear evil." No. This is not necessary. English children are kept in the nursery until they are old enough to be sent to select schools. Cannot you keep your children near you, be their companion and playmate if necessary?

In winter I give my children a large pleasant room and sit with them in it. I allow them to use it as they like; their toys are scattered about in it, and they have a general good time. What matter, if they only put the things in order when they are tired of play? In summer it is well to have leisure to walk or drive or play with the children. This may be done by a little planning. I do all my summer sewing during March and April, and when the nice weather comes I am ready to enjoy it. Try it, young mother, it will do you good; it will be a delight to the children, and your conscience will tell you that you are doing your duty.

Take your children with you to church; the earlier you take them the easier it will be for them and you, as they soon learn to sit still; and the habit of going to church should be formed in youth to be kept up in manhood and old age.

One habit which experience teaches me is a good one, is to have your little ones take naps daily; they will do it as infants, and when older grown will continue it, if you insist upon it. Just as soon as the mid-day meal is over is the best time. I always lie down with them, and after sleeping an hour or more they will come down fresh for a walk, a drive, or in stormy weather a run through the nursery and halls, and will be sweet and happy till bed-time. I often hear mothers say: "My children get so cross by five or six o'clock!" Why not? If they have been up all day their nerves and muscles are worn out, and when put to bed, instead of a good night's sleep they will be restless and too weary to sleep soundly.

Do not be over-anxious if your infant does not advance rapidly in intellect—never try to awaken the faculties by jumping or tossing; never tickle baby to make him laugh, or in any way try to make him attractive; be content to let nature take her course. You may be sure that your child, if healthy, will, by the time it is three years of age, talk, laugh, run, and make noise enough to fully satisfy all his friends.

Do not attempt to cram a child with names, dates, or any kind of knowledge. It resembles too closely an educated pig to hear a child of tender years relate intelligence which you have taught with so much care and weariness, like the brilliant little fellow who, on being asked "Who discovered America?" with beaming countenance replied, "George Washington!"

Mistake not my meaning; children must be taught much, but education is a leading out of the faculties, not a cramming process. There are many pleasant lessons to be taught when out of doors. Children love flowers, and lessons in botany would be acceptable to the inquiring mind of childhood.

A bright-eyed little fellow of six years, one whose intellect was almost too great for his physical strength, said to the parent one day: "Papa, what makes the rain fall slanting?" These little philosophers often ask questions which wise men cannot answer.

A little book was sent me when my first born was three weeks old which I wish every mother owned—"The Baby's Journal," published by Randolph. It is so unique and the bits of verses are so tender and so touching that I have said them over a thousand times to my darlings. What can be sweeter than these verses, by George MacDonald?

Where did you come from, baby dear?
Out of the everywhere into the here.

Where did you get your eyes so blue?
Out of the skies as I came through.

Where did you get that little tear?
I found it waiting when I got here.

Whence that three-cornered smile of bliss?
Three angels gave me, at once, a kiss.

Feet, whence did you come, you darling things?
From the same box as the cherubs' wings.

How did they all just come to be you?
God thought about me, and so I grew.

But how did you come to us, you dear?
God thought of you, and so I'm here.

V. E. C.

Water Witches.

Faith in the water finder (p. 276) depends entirely on the actual results accomplished, and at best the practice of the "witch" must be viewed with some degree of incredulity for the simple reason that it is a matter of business. Having no faith in current superstition lends additional bias to our minds, and when *personal observation and experience* prove the folly of the one under discussion, my advice would be to treat the matter carefully before entrusting a "witch" with a commission to find water.

Three years ago my father consulted a professional well-digger with a view to increasing his supply of good drinking water. An abiding faith in his knowledge of soils and rock formation was the basis for an extremely favorable story, and with the statement that water could easily be struck at twenty-five feet, the water finder was permitted to begin operations. The mystic wand was introduced, and after the movements accompanying such workings had occupied between ten and fifteen minutes, the spot was selected, whence was to flow such a bountiful stream of pure cold water!

Ground was broken immediately, and anxious eyes were directed to naught but this rapidly deepening hole. Twenty-five feet was reached without much difficulty, but where was the water? It did not gush forth in a mighty stream as was promised, in fact the bottom of the hole (it was not a well) was as dry as a tinder box. Little need to follow every foot of earth removed. Suffice it to say that forty-four feet was reached, and yet no water. The man was then called to an account and asked to explain. At his request the top of the so-called well was boarded over and allowed to stand a few days. He was to examine again and report the probable outcome, which he did—he brought water up with him and that was sufficient to prove its existence—a forerunner of the realization of our most sanguine expectations. The fact of its being surface water never occurred to us—it surely did not to the digger! The well was bricked up and a pump put in—but there was nothing to pump.

The turning of a hazel twig over this spot had aroused a belief in the existence of a vein of water, and had caused the digging of a hole 44 feet deep with a diameter of 6 feet. A neat pump, nicely painted, and standing in the midst of a well kept lawn had no attraction for water it seemed; and many times during that summer did I relinquish my hold of the handle, observing mentally that if there was any water there it would have to stay; I was simply tired out pumping for nothing.

One other lesson attaches to this story to show how persistent—in certain hands—a hazel twig is to incline in one direction. For more than a year this pump stood as a sort of sentinel, watching in its loneliness, I suppose, for water. One day a stranger called at the house and inquired about our "well." There was no sarcasm in his speech, and his manner had the appearance of disinterestedness. But a few moments' conversation developed the fact that he was acquainted with a well-digger who could pronounce with certainty as to the prospects of securing water in that particular spot. The man called, examined the well and told us that the first digger had not gone deep enough—water there was in abundance, but he must go through rock to secure it. He was granted the necessary privilege and removed *eight feet of solid rock*. The result was as before. By this time it dawned on us that though in the second man's hands the twig turned exactly as with the first, no more results would come of the endeavor, and finally the whole thing was abandoned in disgust. The pump was placed back in its original position, purely for ornament, and to-day it stands as a monument of the folly of the faith reposed in the "water-finder." Under certain conditions it may perhaps be, and doubtless is proved that the location of a vein of water is determined by the inclining twig, but by all means beware of the mercenary motives which may underlie supposed faith in the superstition—it may prove a costly lesson.

R.

Rensselaer County, N. Y.

Effects of Alcohol.—But if the physical results of alcohol are varied, much more diverse are its effects upon the mental and moral nature of man. Indeed, they are as multiform as man himself. One general classification only is possible. Certain individuals (fortunately the small minority) are always pleasurably affected by stimulants. Each successive dose arouses in them increased exhilaration, and when intoxication supervenes, their sensations are delightful. Their every sense is exalted; they fancy themselves endued with every gift—with all power and possession. As is often remarked, these are generally men of the most brilliant intellect, and of the most charming moral qualities. Once led captive by alcohol, these unfortunates seldom have sufficient power of will to refrain from renewed indulgence. No moral considerations avail to restrain them, and, with few exceptions, they yield wholly, finally and fatally to the tempter. For such men total abstinence is the only refuge. * * Upon the large majority of men the effects of alcohol, taken to intoxication, are clearly and essentially different; although at first exhilarated, repeated indulgence brings drowsiness, dullness of apprehension, anæsthesia, vertigo, nausea and vomiting—in short, bodily and mental symptoms which are excessively disagreeable. Of this class very few become drunkards, and those are men to whom anæsthesia becomes desirable as a temporary refuge from bodily pain or mental distress. Herein lies the sole explanation of the fact that the proportion of drunkards to moderate and habitual drinkers remains so small.—*North American Review.*

The Baby's Head.

I am only a bit of amber
That dazzles the baby's eyes;
But the light in my innermost chamber
Is the light of the pristine skies.

For ages ago, and ages,
When, far in the upper air,
Vast fire, like archimages,
Shed incense everywhere,

And, all in the wide gray weather
Which wrapped the whole round world,
Solemly waved together
As the thick warm vapors curled,

In the sunshine's sudden bursting
I oozed from a topmost bough,
And I drank that splendor thirsting—
There is no such sunshine now!

And the wings that come round me flashing—
None like them are fluttering here—
I caught in my heavy plashing
And sealed in my shining sphere.

Oh, life that was wild and glorious
When the elements wrought for man,
And wave over fire victorious
Shaped the earth to her ancient plan!

Then the tides, in the great world-changes,
Rose in their mighty turn,
Rolled over the fir-tree's ranges,
And the plume of the giant fern.

And ages had past, and ages,
When the winds scooped the deep sea-floor,
And the seas in their storm-blown rages
Tossed me to light once more.

And now, half a jest, it may be,
Half a charm, you hang in your mirth,
Round the throat of the newborn baby,
The oldest thing on earth!

—*Harriet Prescott Spofford, in St. Nicholas.*

The Cost of Ocean Steamships.—An order for a new ship of the class required to compete in the modern passenger service of the Atlantic is not by any means a matter to be determined on without grave consideration. Speed is costly, and as you increase it it is generally necessary to also increase the tonnage. This forces upon your consideration tides, channels, harbor-bars, and dock accommodations, all of which impose limitations upon you. And then the cost of the ship herself is not a matter which even the wealthiest of corporations can provide for at a moment's notice; it is not one hundred thousand dollars, nor five hundred thousand dollars that the work calls for, but about five times the latter sum, for it is safe to say that a vessel superior to the City of New-York or the Etruria could not be built for less than two million and a half of dollars.

—*Scribner's Magazine.*

The Bastinado.—I witnessed this punishment in front of the pasha's palace at Damascus. The culprit was lying full length on the ground, with a brawny Turkish soldier sitting cross-legged on his chest, like a nightmare, by way of making him comfortable, while two men held up the soles of his feet in the air, and two others belabored them with long sticks, as if beating a carpet. The victim himself never uttered a sound, but the two who were thrashing him screamed and howled like demons—perhaps to save him the trouble of doing it himself. The moment the punishment was over, up jumped two other men and flogged the floggers themselves, doubtless for not hitting hard enough; and then a fat old Turkish major, who had been watching the whole business with a smile of quiet, heartfelt enjoyment, waddled placidly up and boxed their ears all round, as if he were giving them his blessing, after which the congregation dispersed.—*Cosmopolitan.*

German Universities.—The superiority of the instructors is the most important factor. The German institution, the *privat docent*, is very effective in preventing the fossilizing of the professors. Upon showing a requisite degree of scholarship, any student is allowed to give lectures upon any subject in his department. He receives no pay from the university, but if he can succeed in obtaining hearers he is entitled to all the fees. If he is a good lecturer, the attendance increases, and the full professor loses a corresponding number of students. Not only does the latter lose the fees of the students, but he soon loses his popularity, and the privat-docent is on a fair way to a professorship. There is thus a scientific rivalry continually going on, and the professors are forced to keep themselves well informed. There is a mathematical professor in one of the Bavarian universities who for three semesters had not a single student. All the students who should have attended his lectures preferred to hear a live young privat-docent. Nearly all the present professors have in past years served in this capacity.

—*Atlantic Monthly.*

Washington as a Farmer.—Good reason had Brissot de Warville, traveler and author, to cry out in astonishment of the general's success in farming when he went the rounds of Mount Vernon in the autumn of 1788. The estates were then at the highest pitch of improvement they ever attained, crops of wheat, tobacco, corn, barley and buckwheat "burdening the ground." What excited the Frenchman's chief surprise, was that every barn and cabin, grove and clearing, field and orchard, passed daily beneath the eye of the master. All the busy life of the negro world was regulated by his personal directions to overseers

and bailiff. No item was too insignificant to bring before his notice. The minutest contract for work agreed upon was put into writing. How curious, for example, the agreement with Philip Barter, the gardener, found among Washington's papers, wherein Philip binds himself to keep sober for a year, and to fulfill his duties on the place, if allowed "four dollars at Christmas, with which to be drunk four days and four nights; two dollars at Easter, to effect the same purpose; two dollars at Whitsuntide, to be drunk for two days; a dram in the morning, and a drink of grog at dinner, at noon!"—*Century.*

AMERICAN PRODUCTS IN NORWAY.—As the greater part of the corn and pasture land is situated on the hill and mountain sides, its cultivation is necessarily arduous and expensive; and for every five years the farmers generally count upon one bad year, sometimes two. Either too much rain spoils the crops or early frost nights destroys the corn and potatoes. But the people do not lose heart; they try again. When they have forests or fishery, they make good their losses from these sources, or they carry on more extensive sheep and cattle farming by means of their great mountain pastures than the farm otherwise could support. The Norwegian peasants live frugally, but, notwithstanding this, their farms are generally mortgaged. They cannot compete with the great corn-producing countries, especially since America has begun to supply the markets of the world with its enormous production of corn and pork. Many are now trying to confine themselves to sheep and cattle farming only; but the change involves much expense, and the character of the people does not dispose them to relinquish the labor of tilling the soil; it is the noblest.—*Harper's Magazine.*

Domestic Economy.

An Easter Dinner.

SALMON STEAKS.—Take slices of salmon about an inch and a half thick, dry them well, and sprinkle them freely with salt and pepper; butter the bottom of a large stewpan very liberally with fresh butter, lay in the fish in a single layer, squeeze over it plenty of fresh lemon juice, add a small teacupful of stock, cover closely with a sheet of thickly buttered paper, then put on the pan lid and cook slowly until the fish is sufficiently done. Drain the fish carefully, put it on a hot dish, and place it where it will keep hot. Strain the liquor in which the salmon has been cooked into a small stewpan, stir into it a teaspoonful of finely chopped parsley, boil up, and then pour over the fish.

Cucumber Garnish for Same.—Peel and cut the cucumber into slices half an inch thick; throw these into a saucepan of cold, well-salted water, bring to the boil, then skim, and simmer gently until the vegetable is quite soft and tender, without being at all broken. When done enough, drain the cucumber and put it into another saucepan, in which has been melted a good slice of fresh butter; add a tablespoonful of finely chopped parsley, stir gently until the slices of cucumber are thoroughly coated, and then arrange them in little heaps round about the salmon. For potatoes, see "Mashed Potatoes," COUNTRY GENTLEMAN, Jan. 14th, 1886.

SPRING CHICKENS, WATERCRESS.—Prepare the birds very carefully, as the flesh, being very tender, easily tears. Rub them freely, inside and out, with good butter, dredge them lightly with flour, and roast either before a clear, hot fire, or in a good oven, for about half an hour, being careful to baste them frequently while cooking. When done enough place the birds neatly on a hot dish, surround them with a thick border of fresh, crisp, watercress, and serve with a little good brown gravy in the tureen. The watercress should be thoroughly washed, well and patiently dried, and be sprinkled with pepper and salt. For asparagus, see COUNTRY GENTLEMAN, May 31, 1888.

LAMB CHOPS, TOMATO SAUCE.—Cut the chops from the neck, or loin; trim them neatly, season well with salt and pepper, brush them entirely over with beaten egg, and coat thickly with fine bread crumbs which have been seasoned with salt, pepper and grated cheese. Press this covering firmly into the chops, and fry them in hot butter until lightly browned on both sides; drain them carefully from the fat, and dish them up on a potato border (COUNTRY GENTLEMAN, Feb. 4, 1886). Fill in the centre with tomato sauce, and serve very hot.

GREEN PEAS.—Put a quart of freshly shelled peas into plenty of boiling water, which has been well salted. Boil from fifteen to twenty minutes, then drain, and turn the peas into another saucepan, with a good slice of butter, a seasoning of salt and pepper, and a teaspoonful of fine, white sugar; toss them lightly over the fire for a minute or two, then serve in hot vegetable dish.

SWISS PUDDING.—Butter the inside of a rather deep pie-dish, and put at the bottom a layer of stale sponge cake cut in slices about half an inch thick; over this put a layer of apples which have been pealed, cored, and stewed with a little water and sugar until soft and pulpy, and upon the apples lay a few small bits of butter. Continue in this manner until the dish is nearly full, then pour over all two eggs, well beaten up in a small teacupful of milk. Bake for about half an hour in a moderate oven, then sprinkle the top of the pudding with pink sugar, and serve either hot or cold. To make the pink sugar proceed as follows: Put some fine white sugar into a saucer, pour over it a few drops of cochineal, and work the sugar about until every grain is colored; dry it thoroughly, pass it through a fine sieve, and put it into a perfectly clean dry bottle to preserve for future use. This is a most useful thing for a housewife to keep on hand; it will remain good for any length of time, and it comes in useful in such a variety of ways, more especially for ornamenting sweet dishes.

TRIFLE.—The whipped cream intended for a trifle ought by rights to be made the day previous to being required. Put a pint of good cream into a basin with three ounces of loaf sugar which has been rubbed on the rind of a fresh lemon and then crushed to a fine powder; add the whites of two eggs, whisked to a stiff froth, a tablespoonful of lemon juice, and if approved of, a tablespoonful of sherry or brandy. Whisk the cream briskly, and as the froth rises to the top, take it off and place it on an inverted sieve to drain. Continue whisking until the cream is all frothed, then set the sieve in some cool place till next day. Fill the trifle dish sufficiently full with stale sponge cake cut in finger pieces, maccaroons and ratafias, spreading a thin layer of raspberry or strawberry preserve between each layer of cake, and moistening it with a little good custard. Or if preferred, tinned pineapple or apricots, cut into very small dice, may be substituted for the preserve. Pile the whipped cream on the top, making it very high in the centre; sprinkle it over the surface with pistachio kernels which have been blanched and chopped fine, and place little knobs of bright colored jelly round about. AUNT CHLOE.

London, Eng.

Stained Floors.

My experience of the past year has so firmly convinced me of the desirability of stained floors, that I should like to give a few points on the subject to the readers of the COUNTRY GENTLEMAN. They are especially economical where people are apt to make sudden or frequent moves. Where families are stationary, and prefer carpets to rugs, if the floors are stained, the carpets may be taken up for the summer, thus saving the wear and tear for five months of the year, to say nothing of the fact that stained floors are more healthful, and more easily kept clean during the hot weather than heavy carpets, that accumulate dirt, and fill your lungs with the same every time you sweep them.

If floors are smooth, and laid with narrow boards, stain is always preferable to paint. It is cheaper, prettier, more easily applied, and lasts longer. The light and dark oak, ash, and mahogany are the most satisfactory, showing dust less than the dark stains. One quart, prepared for use, will cost 35 cents, and will be sufficient for a room, say 15 by 15 feet. One coat is sufficient. Allow two days for it to dry, and then apply a coat of floor varnish. This can be had in small quantities, or in two-gallon cans costing $2.50 per gallon. One can should be sufficient to varnish all the floors of an eight-roomed house, giving one coat to each room. Give it a week to dry if you would have a really good piece of work. Now, if after this you give a coat of "wax finish," which will cost about forty cents per room, and a good deal of labor of the sort called "elbow grease," you will have a hard, beautifully-polished floor that will show no scratches. If you use carpets in winter, lay papers under them, but rugs are lighter, more easily handled, more artistic, and cheaper than carpets. The "wax finish" is applied with a piece of soft old muslin, made into a kind of swab, much as you would grease a griddle, and it is then rubbed in hard with the woolly side of a bit of Brussels carpet. If the boards are wide and ill fitting, it will pay to putty the cracks, and if they are discolored with ugly stains, it will be necessary to use paint instead of the stain, which does not hide such deficiencies. If the village store does not furnish you with the right article, it will pay to send to some paint store in a large city, get a price list, and then make out your order. Floors of this kind will save the housewife many a backache when sweeping day comes. Every week they should be washed with a cloth wrung out of clean, warm water, if the rooms are in constant use; once or twice a month if seldom used.

Old ingrain carpets make nice, heavy rugs, if you are within reach of a carpet weaver. Cut them in strips lengthwise, about an inch wide, and ravel each side of the strip, leaving about a third of an inch of the carpet in the middle. Sew these strips together, wind in balls, and have woven in breadths of the desired length. ALICE CHITTENDEN.

A Chat about Housecleaning.

"Never wash clean dishes, Belle," and Annie stepped briskly round the dining table, gathering up plates, saucers, and other table furniture that had not been used during the noonday meal, adding, as she put each article in its place in the cupboard: "There are always dishes enough that *do* need washing."

Annie's remark is worth remembering. In this workaday world, with the much to do pressing us on all sides, it is well to select out the "clean dishes," to keep our work from "lapping over," as well as filling up the hours of each day.

Cleaning-house time is just upon us, sister readers, the period we look forward to in terror from the time the last snowflakes fall in the spring until it shall be warm enough to begin the out-turning of dust; and the first song of the katydid in autumn reminds us that the trying period is again not far distant.

But, when we come to think of it, housecleaning of itself is not such hard work. Many of its details are easier by far than our daily duties throughout the year. It is its coming among these daily duties, crowding them into corners, causing them to go at times undone, or be done in half their usual allotted time. Well! what are we to do about it? Let me make a suggestion in Annie's words—"*don't wash clean dishes.*" In other words do not let us spend time over the places that are *already* clean. The spare bedrooms for example that, it may be, have been used but little—do not, for pity's sake, let us, for the sake of feeling "so clean," turn them out of doors—carpets, mattings, shades, &c., each spring and fall. Do not let us do it even every spring. Let us sweep well, cleaning windows and spots of paint where it needs it. Let us treat our parlors in the same way, spending our time and energies on kitchen, dining and sitting room, and much used bedrooms. No lack of employment will be found then!

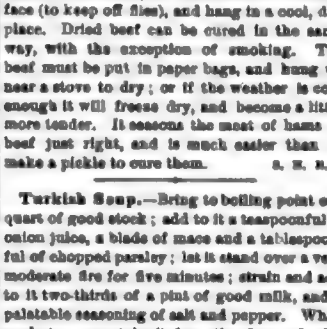
And the cellars! As we value our health, do not let us forget the cellars, but gather our energies together and turn out all the winter leavings, in the shape of decaying vegetables. Whitewash with plenty of *fresh* lime, and sweep well the cellar floor—be it cement, earth or flag—with air-slaked lime; sweep it up over our nicely scrubbed benches, it will make them sweeter; and whisk the broom filled with dry lime around the outsides of the corned beef and other meat barrels—we shall be almost sure to find mould clinging to the hoops.

To finish it up, let us try not to overwork, and be taking quinine for "neuralgia" and "malaria" all the rest of the spring!

Orange County, N. Y. A FARMER'S SISTER.

Curing Hams.—Trim off all the rough meat, so that they will be smooth. Keep them in a cool room, where they will not freeze. Mix a pint of fine salt and a pint of coffee sugar well together, and rub over every part of the hams and shoulders. Rub them in this for three successive days; then as the moisture begins to come from the meat, lay them in pans or wooden trays, and as the juices run out, dip it over the meat as you rub on the salt and sugar. After three or four weeks they will be ready to smoke. Smoke enough to be pleasant to the taste; then rub a little black pepper over the surface, put into cloth bags, tie up tight, put a coating of whitewash over the surface (to keep off flies), and hang in a cool, dry place. Dried beef can be cured in the same way, with the exception of smoking. The beef must be put in paper bags, and hung up near a stove to dry; or if the weather is cold enough it will freeze dry, and become a little more tender. It seasons the meat of hams or beef just right, and is much easier than to make a pickle to cure them. S. H. R.

Turkish Soup.—Bring to boiling point one quart of good stock; add to it a teaspoonful of onion juice, a blade of mace and a tablespoonful of chopped parsley; let it stand over a very moderate fire for five minutes; strain and add to it two-thirds of a pint of good milk, and a palatable seasoning of salt and pepper. When ready to serve, take it from the fire, and add, quickly, the yolks of two eggs, beaten with two tablespoonfuls of cream. Serve in bouillon cups.—*Table Talk.*



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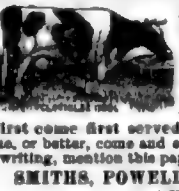

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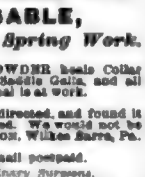

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read all his articles on this subject, but in none of his directions does he mention one point, and that I believe to be a vital one. Does he, after a day's filling or before he puts on another lot, tramp what has been previously put in? Nothing less than an elephant could so trample four feet of cut corn that all the mass would be pressed down, and it seems to me that this tramping only makes a layer of bruised, tightly packed corn that effectually prevents the escape of the gases in the mass below it, therefore, when they reach this layer they stop and spoil it. The ensilage that is good is of a bright green color, slightly moist and has an alcoholic odor that is not at all unpleasant.

I was much disappointed in the yield per acre, as it took 4¼ acres to make the amount mentioned. I have seen in one of your communications that peas planted with the corn improves the ensilage; will be glad to know how this is done. Do not the peas mature too much in advance of the corn? C.

Jefferson County, Ky.

Alfalfa in Maryland.

ED. COUNTRY GENTLEMAN—In your issue of March 14 was an article on alfalfa by Gerald Howatt, in answer to J. R. B., a part of which in connection with the amount of lime and plaster to be applied per acre would seem a little beyond belief were not the idea self-suggestive that as regards the plaster, at least, the writer unintentionally made use of the word tons, instead of hundred weight. The quantity of lime (from 6 to 8 tons per acre) also would seem an enormous application. In the culture of ordinary crops in Maryland there is seldom applied more than 40 bush. per acre, the usual average being from about 25 to 30 bush., and where plaster is used, 400 or 500 lbs. is considered a good dressing for one acre.

The article was full of interest to me as I have a plat of ground that corresponds very closely in its nature with what Mr. Howatt classifies as the proper soil for alfalfa—a deep sandy loam. Were I certain of a result of two-thirds the crop he claims for it, I would not hesitate about giving it a trial and the extra cultivation, but as its cultivation is entirely new to me I would like to ask him a few more questions. Will it succeed mixed with other grasses in seeding for permanent pasture; or does it possess no value for pasture beyond a single season without reseeding? At what stage of growth should it be harvested to secure the best hay? At what cutting can the best seed be obtained? Would it be advisable to sow in the spring on land already sown to wheat the preceding fall by using a light harrow to give it a fresh seed bed?

The lot I have spoken of has had a dressing of from 20 to 25 two-horse loads of manure per acre each of the past two years, and is now receiving a similar coat. It grew a crop of potatoes last season, and will be planted to the same again this year. During the two years of its potato culture there will be applied to it about 2,400 lbs. of fertilizer per acre, composed of superphosphate, potash, salt and plaster, the superphosphate forming the principal part. I mention the amount of fertilizer used, thinking it may not be necessary to put it on so heavily where the alfalfa is sown. Would it not be better to spread a light dressing of the lime and plaster at intervals of two or three years rather than apply all at the start, or is the heavy use of these materials at the commencement necessary to insure a catch of grass?

Forest Hill, Md. F. B. H.

[Answer by Mr. HOWATT.]

There was no error in quantity of lime and plaster named per acre, alfalfa being a gross consumer of these. Knowing that there would be skepticism on this point, I appended an analysis of 100 lbs., green, to my statement. I presume it to be for the light soil, adapted for this crop. If a lighter soil, less, and annually. And in all after top-dressings, let it and plaster, wood ashes, peat or muck, and well rotted manure, be the compost, if possible. If the horse could talk, he would say, "Feed me well and I will feed you;" alfalfa repeats. Remember that this is no ordinary crop, nor a three-year one; it will last you ten to twenty years; and I have far under-estimated its yield. As to the quantity of lime per acre you apply, I do not doubt, in your case. I have used from 40 to 60 bushels per acre for ordinary crops, all depending on quality of land.

It will not do mixed with any other grasses, because they will smother it out the first year, and this is its most critical period of growth. After that its growth will crowd any and all grasses and weeds. It can be used as a pasture, but such would be expensive farming, and very dangerous to all live stock—in fact to do so would require a man to watch them to prevent bloating; 60 to 70 lbs. a day of it is ample feeding for cattle. For best hay it should be cut when in flower. If for seed, especially, the first growth, and, the same as red clover, it is easier threshed, being contained in pods like peas, or, more nearly, English vetches, and is much easier in separating than clover. This in no case should I recommend a farmer to practice, as by so doing he loses his soiling, and, in all cases, when you let any crop come to seed, your haulm becomes a straw; also the ripening of the seed exhausts the soil. Seed can be purchased at 20 and 25 cts. per lb., retail—you can judge the wholesale price. Men who make a specialty of seed-raising, can make money out of it; this is the great drawback to farmers—wanting too much from little. Grow simply for one purpose, and you will come out right in the end. It will not do on a wheat moth, but will do finely on a wheat land.

If the plat referred to (in potatoes last year) has been kept perfectly clear of weeds, and with the manuring proposed, it will do; if not kept clean, do not use it this season—you will be disappointed. Had you stated the number of bushels per acre it yielded, I could better advise as to its quality. Planting or sowing the same crop on the same land is bad farming; bear in mind that proper rotation of crops is one-fourth manuring. I know a 30-acre field of rye sown every year in same crop for six years; the last crop had little or no grain in it, and the straw could hardly carry that; owner could not account for it. I have seen heaps of manure from 50 to 60 head of cattle, drawn on top of a hill, two inches loam, subsoil gravel, put there that the seepage might flow down in winter, when winds from the four quarters whistled round it; have seen hundreds of loads of stable manure dumped in heaps, all fire-fanged for want of turning, and the farm suffering for its waste, and been told that they had plenty of manure—expecting results from this killed straw. These, I am sorry to say, are not solitary cases. Alfalfa is not an exceptional crop—it is a common one—but can be grown only by high farming, which simply means, make your crop produce its utmost by proper manuring and tillage; 20 acres so managed will produce more than 100 not properly handled, with less wear and tear on tools, machinery and muscle.

Should have said above, in saving for hay, do so precisely as you would clover. My plan is, three feet of alfalfa or thereabout, on this one foot of cut straw, and so on to the top in mow, stack or rick, for either of them; I prefer the latter. Cut when dry, let it lie in winrows until the following day, put in trim cocks one night, and then cart in. A field of wheat, ripe and waving, has a fine appearance; a field of potatoes without a weed to be seen, with its various-colored flowers, white, pink and purple, and each truss of flowers six to ten inches in diameter, looks fascinating; but a field of alfalfa in flower (purple), with its glossy, peculiar green, oily, rich leaves, surpasses them by far. Sow a few seeds in your flower garden, and judge of its appearance. It will transplant readily, and make a stockier plant. Its growth and appearance will show any practical man its wants.

The Culture of Oats.

A Letter Unavoidably Deferred.

ED. COUNTRY GENTLEMAN—The time is approaching when the final preparation for the first spring crop (oats) will be made. I say final preparation, for the reason that I wish to impress upon your readers the absolute necessity for a thoroughly good fall plowing, and a winter dressing of manure upon the land, as a preliminary preparation for this important crop; and I propose to show that not only the yield, but the value of it, depend in a very great measure upon the highest possible culture—and not only this in regard to the direct advantages from the crop, but also the indirect results of this thorough culture for the sake of the grass or clover seeding which may be made with this crop.

I have good reason to believe, from a long experience, and from a careful reading of communications in the COUNTRY GENTLEMAN, as well as in other journals, made by intelligent farmers, that the unusual, and, let me say without prejudice to my good friend Col. Curtis, unreasonable, method he has so strongly urged—viz., the sowing of oats upon the snow, or upon frozen ground, and the leaving of the seed to take care of itself at so many risks, and with almost certain failure—will no longer be advocated as a common practice, and that the better method I propose will be found safe and by far the most successful.

Fall plowing I consider imperative, for the reason that unless oats are sown at the earliest possible opportunity, a large yield of heavy oats cannot be secured. The usual light yield and chaffy grain are the necessary results of late sowing, which in our warm climate does not give the requisite time or coolness for this grain, which reaches its best development only in cool climates and with a long growing season. It is sometimes possible to slip in, as it were between Scylla and Charybdis, and get a warm spell in March, when the land can be plowed and the seed got in before the surface is again frozen or too wet. And if only 3 or 4 inches of dry soil lies upon the frozen subsoil, the opportunity should be taken to get the seed in as deeply as possible—4 inches by all means under any circumstances—upon fallow land that has not been plowed in the fall. Then one may get a yield, little if at all inferior to that from the fall plowed land. Two and a half bushels per acre sown upon the mellow soil made fine and yet firm by repeated harrowing, with some of those improved implements furnished with cutters which turn as well as stir the soil and so cover the seed well. Complete and deep covering is required with early sown oats, as it is also for late sown; in the first case to protect the oats and stems from possible injury from late frosts; and in the latter case to protect the plants from too much heat and dryness, for oats are a shallow-rooted plant.

The seed then has a deep and rich bed, and the root growth is strong before the spire appears on the surface, and if after this the plants should be cut by a late frost, there is vitality enough below to push up a strong shoot again. It is hardly necessary to say that the aerial growth of a young plant is in proportion to the vigorous roots, and a well-rooted crop will withstand the heaviest spring frost I have ever known, at least it has done so with me always. I have harvested 80 bushels of oats per acre as my best crop sown four weeks, on fall plowed and winter manured land, before any of my neighbors were able to put a plow in their fields, and the grain weighed 47 lbs. per bushel—exactly the weight of the seed, which was imported Scotch oats.

Actual Results in Figures.

The results of good culture follow the crop all through, not only as to yield and weight of grain, but also as to the quantity of nutriment. I have been moved to write these lines by a perusal of a most interesting paper in one of the volumes of the Highlands (Scotland) Agricultural Society. This paper gives some very full analyses of oats, good and poor, showing the ratio of actual feeding value of good and poor crops, grown on good or poor land, with good and poor culture. A crop of 80 bushels of 40 lbs. per bushel, is compared with another of 10 bushels of 22 lbs. per bushel. In one case 3,200 lbs. of grain was harvested, and in the other 220. But on the old principle of "to him that hath shall be given," the large crop was found to be far more valuable in regard to the feeding elements contained than the small one, as the tables (here condensed) will show.

COMPOSITION OF THE GRAIN.

	Large Crop.	*Small Crop.*
Albuminoids	8.16	2.79
Starch, gum, &c.	66.11	64.49
Fatty matter	1.69	1.66
Fibre	7.69	16.36

ACREAGE VALUE.

	Large Crop.	*Small Crop.*
Albuminoids	2436 lbs.	3½ lbs.
Carbo-hydrates	21702	141½
Total food value	24138½ lbs.	145 lbs.

Can figures speak with greater force? One acre yields nearly 15 times as much heat and fat-producing matters, and nearly 70 times as much flesh-forming matters. What a text for enforcing the highest culture of this valuable crop!

Another instance approximates more closely the extreme yields reached by American farmers, viz., 97 bush. per acre of 40 lbs. per bush., and 29 bush. of 20 lbs. per bush. per acre. The latter is perhaps the highest yield secured by the best farmers in the Southern States, and the former that of northern grown oats. The analysis of these oats is as follows:

	Large Crop.	*Small Crop.*
Albuminoids	9.76	3.73
Starch, gum, &c.	64.39	61.17
Fatty matter	2.33	2.93
Fibre	11.88	12.96

ACREAGE VALUE.

	Large Crop.	*Small Crop.*
Albuminoids	349 lbs.	13 lbs.
Carbo-hydrates	2978½	270½
Total food value	3328½ lbs.	287½ lbs.

So far it shows the result of the large yields in favor of the good farmer.

As regards the value of a heavy grain, the analysis of the 40-lb. oats, as compared with that of the 20-lb. grain, is as follows, per bush.:

	Heavy Oats.	*Light Oats.*
Albuminoids	4½ lbs.	¾ lbs.
Carbo-hydrates	31	10½

Thus a bushel of the heavy grain has 72.8 per cent. of nutritive substance against 70 per cent. of the lighter grain, but there is a very large deficiency of the more valuable albuminoids.

As showing the advantages of skillful over inferior culture, some examples were taken from farms naturally equal in respect of soil, climate and other local conditions, excepting only the manner of managing the crop. Analysis of the grains thus grown gave the following results: The grain from well cultivated farms weighed, on an average, 43 lbs. per bushel, and the yield averaged 50 bushels per acre; on the ill-managed farms 10 bushels per acre of grain of 22 lbs. per bushel was the average. The composition of the grain was as follows:

	Under good cultivation.	*Under bad cultivation.*
Albuminoids	10.80	3.79
Starch, gum, &c.	61.09	64.49
Fatty matter	2.88	1.66
ACREAGE VALUE.		
Albuminoids	1545½ lbs.	38½ lbs.
Carbo-hydrates	12885½	1415½
Total	14430½ lbs.	140 lbs.
FEEDING SUBSTANCE IN ONE BUSHEL.		
Albuminoids	8 lbs.	¾ lbs.
Carbo-hydrates	29	16½
	31 lbs.	16¾ lbs.

Thus, while the measured crop was reduced by bad management to one-fifth or 20 per cent., the actual feeding value of the remaining 20 per cent. was reduced 50 per cent., or in a ratio for the crop on the whole of from 100 to 10. Truly 90 per cent. of a possible crop is a fearful tax to pay for poor cultivation, and yet how many farmers who complain the loudest that farming does not pay, thus voluntarily tax themselves to this ruinous amount.

Drainage—Seed—The Weather.

The good effects of drainage are shown by the following figures: Two adjacent fields exactly alike in soil, but one being drained, produced from the drained land, 38 bushels per acre weighing 42¾ lbs. per bush.; and from the other, 26 bushels of 37 lbs. per bushel under the same kind of culture.

As the figures of the analysis tell the story more forcibly than words, I beg space to give them as follows:

COMPOSITION OF OATS OF

	Drained Land.	*Undrained Land.*
Albuminoids	10.29	8.86
Starch, gum, &c.	64.10	59.67
Fatty matter	4 25	3.36
Water	13.55	16.60

I give the quantity of water in these samples, because in all the other analyses the better grain had the more moisture, while in this case the better grain had less water, thus showing the influence of the drier soil to produce not only better but drier grain.

ACREAGE VALUE.

Albuminoids	191 lbs.	67½ lbs.
Carbo-hydrates	2412½	570
	2603½ lbs.	637½ lbs.

Showing a difference of 40 per cent. in the crop as an annual dividend on the investment in drains.

The selection of seed is a *sine qua non* for good crops, but so far this advantage has never, or rarely if ever, been put in figures. Two crops were grown, one with the best selected seed and the other with seed taken hap-hazard from the granary. The differences are here shown.

COMPOSITION OF OATS FROM

	Good Seed.	*Poor Seed.*
Albuminoids	7.49	5 19
Starch, sugar, &c.	67.35	65.39
Fatty matter	2.81	2.09

Without giving the full figures, I will say that the good seed gave 35 bushels per acre of 41-lb. oats, and the poor seed 22 bushels of 30-lb. oats. Like produces like! Again, to show the difference between the best seed procured from a distant district from a different soil, and the best selected home-grown seed, two crops grown in this way gave these results:

COMPOSITION OF OATS GROWN

	New Seed.	*Home-Grown Seed.*
Albuminoids	10.29	8.71
Starch, sugar, &c.	69.70	69.77
Fatty matter	2.46	4.67

The yields were, from the fresh seed, 41 bushels per acre of 43 lb. oats, and from the home-grown seed 24 bushels of 33-lb. oats.

The effects of continued unfavorable weather at harvest time were found to reduce the value of the grain as follows:

	Without Rain.	*Damaged by Rain.*
Albuminoids	8 37	7.20
Starch, gum, &c.	65.69	60.71
Fatty matter	4.76	3.89

These figures show the effect of *fermenta*

tion by which the starch, gum, &c., were changed into matters closely related to fats, as has been found in the case of ensilage, in which the so-called fatty matters are usually increased, while other carbonaceous matters are reduced in quantity.

In regard to difference of soils and climate, as affected by elevation above sea level, the following notes were taken as an average of several observations. Four locations were made use of, as follows, with the results that a low level and one of 1,100 feet elevation gave respectively 1,275 and 1,280 lbs. of grain per acre; while 300 and 900 feet of elevation gave 1,533 and 1,824 lbs., respectively. In this regard I might add that where I am now temporarily residing, at an elevation of 4,500 feet above sea level, I can grow oats 47 lbs. weight to the bushel, while 1,500 feet lower down the same seed will yield only 32 to 34 lbs. per bushel, and 3,000 feet lower the oats weigh only 30 to 34 lbs. per bushel. This goes to show the advantage of a cool and moist climate—a rainfall of 60 inches per annum—for this crop.

In closing this too long article, I would like to say that my experience during, now, a good many years, convinces me that oats are the best crop for seeding with clover or grasses, or both together. I have never yet had a failure; but at the same time I should say that fall plowing, winter manuring, and thorough working of the soil to give the oats a good chance, have doubtless secured the unfailingly successful seedings. HENRY STEWART.

Macon County, N. C., Feb. 25.

"Some Questions about Fertility."

My friend WALDO F. BROWN has some very readable and sensible ideas on the above subject, on p. 4. To most of what he says I give hearty assent. A few points seem to me to need more careful guarding. I do not quite agree with him that the discussions on manure and clover have thrown little light upon the subject. All over Iowa, at the institutes, farmers introduce themselves to me and tell me they read those discussions with interest and profit. Many facts were clearly brought out, and facts in their relations are the basis of all science.

To begin with, it seems to me the sub-heading of the article needs explanation—"Live-stock sometimes not useful."* What he means, I think is that live-stock poorly bred, and fed on land over stocked and gnawed bare will not pay. Thrice true. Divided into three parts, each part will stand alone and be true; thus: First, it never pays to keep live-stock ill bred or ill adapted to the purpose—at least animals better graded up and better adapted to the purpose (wool, mutton, beef, milk, &c.) will pay much better. Second, it never pays to under feed. The feed of mere sustenance never brings profit, even with good stock. It is like burning just enough fuel under your boiler *not* to get up steam in your engine for work. It is the feed above that of mere sustenance (or still more surely above that of actual shrinkage) that gives us growth, fattening, butter, &c., and these give us the profit. Third, it never pays to gnaw our pastures too close, "into the ground." It exhausts fertility, drives out moisture, kills grass roots, injures the texture of the land and greatly deteriorates its value. Clearly we can agree that live-stock is sometimes not useful if either or even all three of these conditions be violated. We must assume good animals well adapted to environment, judiciously fed, on farms not ruinously overstocked.

Again, Mr. Brown speaks of much land in the fertile portions of Ohio and Indiana, under cultivation fifty years, never manured except by the droppings of the cattle that graze upon it, and on level fields not subject to wash, and kept under rotation one-third of the time in grass and clover, and producing as good crops now as fifty years ago. Well, for rich land thus situated this seems to me safe farming. Live stock and manure are not then ruled out. The cattle graze and leave their droppings. In winter they consume the clover and other hay, the corn fodder and the straw, and turn it partly into money and partly into manure, which last is put *somewhere*, if not upon the "level fields not subject to wash," then upon the sloping fields, adjacent, that for centuries down to date have had part of their own fertility washed down upon those "level fields." This can hardly be said to be farming "without live stock or manure."

Again, Mr. Brown says: "Now, Mr. Terry's plan of farming, *practically without manure*, has set me to thinking" [in substance] "whether on our best soils not subject to leaching, we cannot keep up fertility by clover and rotation without live stock and their manure." Of course we can. We can return to the soil as large a portion of the plant food taken from the soil, without as with live stock. What we return as straw, clover seed haulm, cornstalks, and clover plowed under, is as truly plant food, as truly *manure* as the voidings of animals, except that usage at present seems to limit the word "manure" to voidings with their absorbents. We *can* maintain fertility without animals. The question is, can we as well without animals. As with, get the "money value" of our crops for our pockets, and put the "manure value" back into our soil in presently available shape? That is a somewhat complicated question,—a question of skill, tastes, methods, environment, relative prices, markets, transportation, nearness to city, to manufacturing or mining centres or to the sea board. It is a question of finance, of bookkeeping. It is a question which shows that the farmer must not only be a skillful tiller of the soil, but a thinker and a business man. He must not only know how to raise crops and live stock wisely, but how to sell them well. This really requires that as a citizen ruler he should think wisely and compel wise legislation on all questions that affect his markets, such as freight rates, pools, trusts, &c. That, however, is merely incidental here.

It seems to me that Mr. Brown is misinformed when he speaks of "Mr. Terry's farming, *practically, without manure*." I have noticed Mr. Terry's method with great care and interest for many years, and all his farm life, except three years, seems to me to have been a most conspicuous example of one who farms *with manure*. For three years, to raise money for building, he drew very heavily on the stored fertility of his land. Two years he had 24 out of his total 26 acres of possible plow-land in potatoes—quite an exhausting crop—and the third year 15 acres. Some of us thought and said that this was not safe farming *for permanence*, that he could not and would not continue it long, and that, unless he clearly said as much, his apparent example would be injurious. He soon abandoned it, as those who knew him best supposed he would. And I am free to say that his present practice and writings seem to me to be eminently wise and safe to follow. He seems to me to be the most conspicuous example now before the American agricultural public of a farmer who *actually does save* every possible element of plant food that comes from his farm, and returns it to his soil, except what cannot, by his system, be separated from the "money value" in selling. A model barn stores his grain, straw and clover hay, and shelters horses and cattle to turn it into money and manure. Twelve acres of wheat each year return all their straw to the land as manure and absorbent; twelve acres of clover each year return the "manure value" of the first crop of hay fed on the farm, and of the aftermath in the haulm of the clover seed, or in hay fed, rotted as a mulch, or plowed under entire; while stable floors absolutely water-tight, plenty of absorbents, and covered manure-yard, unite in saving every particle of the manure, solid and liquid, which is all applied to the land in the best known ways. In one leading agricultural paper lately he says, in substance, (I quote from memory), that he thinks he can keep his already rich land fertile under his present system, by plowing under clover sod with a moderate dressing of stable manure every third year. In another leading agricultural paper he tells what a "moderate dressing" is, and what he put on six acres in 1888, viz., 20 loads per acre on most of it, and 30 loads per acre on a part.

My impression, however, is that he actually applies stable manure at present at this rate only once in six years, on all the fields, and trusts to clover haulm, or hay, or straw rotted down or plowed under, to alternate with it, in three years. But at all events the straw and the clover from 24 out of 26 acres go back into the land every year in some shape, with no waste of plant food, and the potato vines from the other 2 acres, for what little they are worth. Then the smaller wastes are all saved. In the next column to Mr. Brown's article, Mr. Terry describes his earth closet, a simpler, easier means of doing just what he (and a few others) had been doing for some years, viz., saving every particle of the night soil with Chinese faithfulness, and putting it where it will be fertility in the soil instead of death in the well. Then his barrel on wheels does the same for all kitchen slops. He keeps less live stock, and plows or applies under more straw and clover unfed, because his time is needed and worth at least as much in cash, to lecture at institutes and write for the press in winter as to feed this roughage to cattle or cows and save its money value. That is a question of finance not of fertility. Most farmers, however, are not situated like him. And yet it is amazing how much actual stable manure four or five horses will make when kept up, night and day, the year round in box stalls with tight floors, bedded knee deep, and tramping the manure for days before it is removed. More actual plant food I doubt not than some herds of forty cows return to the plow land of some farms, stabled only three or four months each year, nights only, on leaky floors and with manure soaking under the eaves. It is less a question of numbers of animals than of care and economy. In short, I think all who have such land as Mr. Terry's, and are circumstanced like him, will be safe in following his present plan of "farming, practically, without manure."

Just as I was about to finish this article (Jan. 12) came the COUNTRY GENTLEMAN of Jan. 10. I stopped and, as usual, devoured it at a single sitting. Of the twelve agricultural papers that come to me regularly, none equals this in value. This number seems of unusual worth. In the instruction and impetus it will give, it will be to many a subscriber worth the year's subscription price. To my mind the four articles by E. W. S., T. B. Terry, Waldo F. Brown and J. G. seem to have grown directly out of past discussions on clover, tillage and manure, and seem to disprove Mr. Brown's assertion that "the question has had but little light thrown upon it." E. W. S., in "Cropping and Fertility," gives the scientific view, except that the majority of scientists have not probably adopted the belief of atmospheric absorption of nitrogen in appreciable quantities by plant leaves. Mr. Terry, in "Farming without Cattle," is extremely conservative. Evidently, with him, this title is not synonymous with "Farming without Manure." He says that the field where the clover is now so thick is the one that, of all on this farm, has produced the most for the last 50 years. It is also the one I think he will agree, that is, on the whole, of best and most uniform soil, and best located naturally, and that has received much more of stable manure and rich swamp muck than any other. Mr. Brown, in his "Management of Manure," urges best methods, shows that he has not gone out of live stock, and does not believe in "farming without manure," as might be wrongly judged from his article of the week before. And finally, J. G., in "Manufacturing Fertility," one of the soundest articles he ever wrote, seems to me to give the true offices and relations of commercial fertilizers (on soils adapted to them), clover and yard manure. Even his "nitrogen trap" he now makes simply hold the nitrogen in the soil till needed; not lure it from the skies. I think, however, he underestimates wheat in Ohio, as a crop to seed clover and timothy with and to produce straw for feed, bedding, absorbent and manure. Clearly we are coming nearer to each other and near to the truth by our observations of facts and by our discussions.

Iowa Agricultural College. W. I. CHAMBERLAIN.

* We believe Mr. BROWN is not responsible for this—think it was added in the office.—EDS.

Likes His Windmill.

EDS. COUNTRY GENTLEMAN—Believing that a properly constructed windmill, is the most economical power, and the safest, that any ordinary farm can be supplied with, I give my experience.

I bought a mill manufactured at Albion, Mich., and started it in operation on the 1st of last July. I feed cut and ground feed to my live-stock, (25 horses and colts, 80 cattle, old and young, 30 to 40 hogs, and a small flock of sheep). We have no trouble in grinding oats and corn with a light wind, I built a hopper holding 15 bushels and set it on a frame over my grinder; turn the mill into working position, and let it run. With a reasonably fair wind we have ground as high as 50 bushels in ten hours; as a rule, however, we consider from 20 to 30 bushels a fair day's work. Keeping the machinery well oiled is all the attention required. For cutting hay stalks or straw, it needs a good strong wind to run my machine, (a large double knife cutter).

To utilize the power, I keep watch of the wind and when it is blowing reasonably strong I put two men cutting, and in four or five hours they will cut enough to feed for ten days or two weeks. I could easily do three times as much work with my windmill if the necessities required it. It is not running to exceed two days a week on an average. It requires no engineer, no fuel, and there is no danger of fire if the machinery is kept oiled. I could easily saw wood or pump water if I needed the power for that purpose.

I find that in cutting feed you must get at it when the wind is right—that is, reasonably strong. At first I disliked to take my men from other work to get the benefit of a good wind, but very soon realized that wind was what furnished the power, and it being something we had no control over we necessarily had to make our work (so far as running the cutting was concerned) conform to its whims.

My windmill complete, with grinding mill, cable for running cutting machine, and other connections for running pump, fanning mill grindstone, or wood saw, cost me, set up, $315. If I could not get another I would not take a thousand dollars for it. In my judgment there is no power that can be so economically furnished (for the purposes intended) as a well constructed windmill. H. J. C.

Ontario County, N. Y.

English Notes by T. Bowick.

Neither farmers nor traders are happy over the working of the new railway rates. The increase (where it was expected there would be a decrease) is so great as in many cases to be equivalent to an increase of $10 an acre of annual rental. This comes about through extra terminal charges chiefly, although in numbers of cases the direct rate for transit is also much enlarged.

Mr. John Thornton is to have a busy time of it throughout the summer. His appointment list is filled up with many leading names, among the more important being Colonel Kingscote's sale in Gloucestershire and the Duke of Manchester's herd at Kimbolton. Some of your readers will wish also to make a special note of the dispersion of the Whittlebury herd in the middle of May next. The late Sir Robert Loder certainly possessed some of the highest bred specimens of Bates' blood in the kingdom. Mr. Thornton gives a very neat genealogic note in this wise:

"The Duchesses, although springing from one foundation are divided into three branches. The largest number are descended from Third Duchess of Hillhurst, a celebrated heifer bred by the Hon. M. H. Cochrane in Canada, imported into this country in 1877, and purchased at that remarkable sale at Bowness the same year. The others are bred from Duchess of Ormskirk (dam of that magnificent cow Duchess of Buckingham), a costly purchase of the Earl of Lathom's sale in 1879, and from Grand Duchess of Geneva 5th, bought privately from the late Mr. F. Lacey at Waterlingbury."

Another landmark is also about to be removed, under Mr. Thornton's persuasive care—the celebrated flock of pure South-Down sheep, bred by Mr. Henry Webb in Cambridgeshire. The well known Mr. Jonas Webb's flock of Babraham was the lineal and direct descendant of the flock of Mr. John Ellman, who was the father of the breed in its leading Sussex branch. Mr. Henry Webb followed well in his father's footsteps, and has an unrivalled flock, to be offered unreservedly in the beginning of July. The sheep are folded throughout the year on the land, for out of about 550 acres only 50 are pasture. The sheep have the same striking, healthy, robust character and uniform type, and in the opinion of many excellent judges, have never been better. Lameness is unknown in the flock. Every sheep is tattooed with a number inside the ear, and a careful record of its breeding is kept in a private flock-book, showing its descent from Babraham flock. I should like some of your friends who have had experience in "tattooing," to tell us all about it; for I have used it both with sheep and pigs, and have no remarkable amount of success to chronicle.

Those breeding places of pleuro-pneumonia, the Dublin cow-sheds, seem to be pretty hotly at it again, but somehow or another very few out of the hundreds of cases of disease existing get reported to the authorities. Here the inspectors would be down on the black spot in a moment, and not one of the animals in any shed where disease exists would ever leave it alive. Nor do they appear to leave it alive in

Dublin; for the butchers are kept busy night after night slaughtering cows, and removing their carcasses so that no signs remain behind. It is not difficult to detect the malady in its very earliest stages, by the known scientific tests, and hence the whole affair is hushed up and disease keeps on as rife as ever. I should say, remove the cause and the effect will cease.

London, March 22.

——Our mean daily temperature makes a spring of an unwonted character towards the end of March. Vegetable life also responds immediately, and our London squares begin to tell that spring is upon us. In the fields the young lambs frisk joyously; wheat, winter oats, rye, and tares are showing up well. Field-work is in a forward state and in a few days potato planting and mangel sowing will be looked at in good earnest.

The Royal Agricultural Society was playing at high jinks last week, the Queen, as president for the year, having dined the council and chief officers at St. James's palace. The Prince of Wales presided, and made the usual after-dinner speechifying in rather more than the usual style. It is fitting that the 50th year of the society's existence should find its annual gathering take place under the shadow of Windsor Castle. What has the society done with the great means at its command? Among other things it has stimulated the improvement of our live stock; it has promoted the development of agricultural mechanism; and it has by its field experiments, its analytical work, its examinations, and its literature encouraged or aided in an all-round manner many things that bear on our interests. We hope it will have a long career of usefulness before it.

It is not pleasant to learn that Hull, Grimsby, and Deptford are being invaded by the import of sheep infected with foot-and-mouth disease. Germany, chiefly through her great port on the Elbe, is the offender in this case. Every thing is being done to prevent the development of what might become a plague, and an order in council prohibits the landing of any more live stock from that country, till they can show a clean bill of health. I should like to have the German rural statistics before me of a recent date, but have failed in obtaining them. Here, however, are the French figures: Comparing the latest returns with those of five years earlier, we find an increase of horses, 70,500; cattle, 893,000; while there is a decrease of sheep, 980,000; goats, 305,000; pigs, 1,108,000; asses, 9,300; mules, 13,200. From what I have lately seen of France—and I have crossed the channel six times since the New Year—they are evidently getting depleted of the smaller animals. Still the consumption of meat is on the increase; the use of horse flesh also grows year by year, as many as 16,000 horses having been reported as slaughtered in Paris alone for human food during 1889.

As you are aware, there was lately a big boom in nitrates, though this was chiefly a stock exchange affair, under Col. North's influence. The pendulum has now swung the other way, and the great nitrate king's interests in various stocks have fallen close on $10,000,000 within the past eight weeks. A drop in the price of $2 50 per ton in the past few days succeeding a fall of $5 per ton last week, with an excess of stocks afloat, does not give a cheering outlook to investors. Unfortunately for holders, nitrate is not an article which can be profitably stored; it loses strength by exposure to the atmosphere; it is somewhat costly to handle, and the custom of the trade is to sell as quickly as possible. Unless used judiciously, according to the results of the Rothamsted experiments, its application is not an unvarying success.

The Lancet, our chief medical journal, has been giving attention to skim-milk as an article of diet. Although the removal of the cream (or butter fat) appears to impoverish milk, the actual nutritive value of the skimmed bulk is not so very low after all. As skim-milk can be bought at half the price of the ordinary milk, or even less, you have, if used fresh, a dietic product of much more than half the original value left behind. Why not then obtain your fat from a separate and cheaper source? I do not think that any great city is so well supplied with new milk as this metropolis with its five and a half million inhabitants; but you often find that the adult stomach cannot digest new milk, whereas I have never seen a case in which boiled skim-milk, with a slight addition of sugar, could not be used with comfort and advantage. Where there is any tendency to kidney disorder, I have seen the greatest good result from the free use of it. Speaking of milk, the Agricultural Gazette has recently given some curious information as the results from different kinds of food supplied to the cows. Eoslage and hay produce hard butter; while grass and clover give a different result. Pea straw diminishes the yield; barley straw gives a bitter taste; potatoes give a hard, insipid product, while cabbages, if largely used, do likewise. Wheat and barley are followed by a medium consistency; bean and pea flour make the butter hard; oats make it soft; and an excess of linseed, or rather oil cake, spoils the flavor. It appears that turnips, properly mixed with other food, give rich milk and well-flavored butter.

A bill is about to be introduced into the House of Commons, for the purpose of charging the debt of London—$190,000,000—to the ground landlords. The great public improvements of London have hitherto been carried out on the principle that the occupiers should pay all the costs, principal and interest, while they reap the smallest share of the benefit. Nor is London alone in this kind of experience; I observe that Glasgow has just bought a block of land for its new municipal buildings at the rate of $180 per square yard. And yet that identical bit of ground was alienated for a very nominal feu-duty, by the Glasgow magistrates of a former generation. Little or nothing was done by the new owner to give an enhanced value, and it does seem worth looking into whether the man who neither toils nor spins should have all the advantage of the unearned increment, with none of the burdens on the property. Of course, if you carry this far enough, you arrive at a doctrine of spoliation. In Italy, at present, something of this kind is going forward, on rather a grand scale. The Italian treasury, like Pharoah's lean kine, is generally in a state of chronic impoverishment, and they are to have a heavy duty on salt, on railway tickets, and on various other things, as well as an additional loan which may be heard of even in our own market. Emigration is going on rapidly from Lombardy, and Venetia; many of the peasantry are in a state bordering on want, while the glorious prospects of a few years back do not seem in the way of being fulfilled. Of course they have the luxury of a standing army beyond their needs, and of a fleet out of all proportion to the wants of their commerce. But there is still another cow to be milked, and this time the "pious foundations" in Italy—said to be about twenty thousand in number, and all under the control of the church—are now to yield up their treasures. If, as I lately suggested, France has more troubles ("revolutions") in store for her, not less has the Italian peninsula conditions that may blaze out into a Vesuvius conflagration any day. Let not my kind reader put this down as a dyspeptic hallucination; I am in good health and generally take a hopeful view of things—but with respect to the continent, I speak that I do know. *London, April 5.*

Southwestern Georgia.

Eds. Country Gentleman—Farmers are planting cotton rapidly. Some finished corn-planting three weeks ago, but few are yet done with it. I have been over a large part of the county on horseback, and find wheat is looking fine. Some early-sown is heading; the stands are good. The work done in this county is better by 50 per cent. than it was five years ago. The people seem to be less in debt, and have provisions at home. The Alliance has twelve or fifteen lodges, and say but little about their order. Provisions are cheap; Corn is selling for 35 to 44c. in Calhoun; meat retailing for 8c.; butter, 15 to 12c.; eggs, 6c.; grown chickens, 20c. or less, and other things in same proportion.

A large acreage of cotton is being planted, and 30 to 40 per cent. more commercial fertilizers used than in former years. More colts, both horses and mules, are being raised, and altogether agriculture is in the ascendency. We should wish it Godspeed, for it has been disgraced—to, these many years! The labor here is still unreliable and scarce. Few hire for wages, and are seeking to become the owners of the land and cultivators of the soil. A great opposition of labor to capital exists here, and more are ready to pull down rather than to help the landowners.

I advise the sowing of more grass and clover, the raising of hogs, mules, horses and cattle, and letting our lands rest and become improved. Bermuda grass would be a great crop to keep our lands from washing, and it makes the finest fall pasture. Where the rivers overflow the lands, it would stick, and there would be no overflow but they would catch the sediment and be richer than before. Dairy farming is on the increase, and many who laughed at the pioneers, and called it a *little* thing, are now anxious to engage in it, seeing the pay it affords.

Thousands of your people could do well to come and settle with us, and would be gladly welcomed, and destroy to a great extent the envy which now exists between the two sections. Come and unite with us in building up the country and waste places.

Gordon County, April 14. WM. H. BONNER.

Our Illinois Correspondence.

Champaign County, *April 16.*

It is a warm, spring like day and very dry for the season. The rains for the month have been little better than nothing, and for two months, not over an aggregate of two inches. So far in this month, cold, dry and strong winds from the northeast have prevailed three-fourths of the days and nights, while for the other fourth, they have blown from the opposite quarter. The skies are smoky, the roads dusty, and vegetation continues to advance slowly. Still, early peaches are in bloom in this latitude; daffodils, hyacinths, and tulips are in their glory, the irrepressible dandelion is coming on at a great pace, and the asparagus beds of the market gardeners are yielding the first crop. Unless sown on fall-plowed or deeply-turned lands, oats are germinating unsatisfactorily, and if rain and a plenty of it does not come soon, the stand on many fields will be imperfect and thin.

It is too early to speak of potatoes as to how they are coming on, and though four or five times more acres than usual of corn have been planted, the germs have not stirred enough to be heard from. The present show is for nearly a full average bloom of all the fruits, tree, bush, shrub, and vine. The drouth is at present telling more severely on the strawberry beds, but will probably tell more decidedly on the trees and shrubs when fruit-setting arrives. In the spring of 1887 the fruit bloom was nearly as large as now, but the refusal of the fruit to set was so general that there was almost a complete failure in everything. Then, as now, the soil was very dry in consequence of a drouthy winter and a dry spring, and when the blossoms in connection with the leaves made the customary drafts for moisture, the roots had little or none to give. However, it may be expected that those varieties that bore almost no crop last year, like the Northern Spy, will, under favorable conditions, retain vitality enough to hold their fruit the coming spring and mature it afterwards.

The Chicago drainage bill, that gigantic scheme for diverting one half or more of the waters of the St. Lawrence river and directing them from Chicago south through the Illinois and Michigan rivers to the Gulf of Mexico, passed the House of Representatives last week, with the surprising majority of nearly fifty, and is almost certain of a proportionate majority in the Senate. It will be five and perhaps ten years, before the work will be completed, and perhaps twice that time before the value of the improvement for irrigation will be generally recognized. When the advantages to be derived from this great stream flowing through the State—so far as it may beneficially affect transportation, commerce and manufactures—come to be recognized, they will appear of trivial value compared with those other benefits conferred on agriculture and climate.

Since writing the above, I have taken a trip across the country of some hours' length. The colors showing where and what they are, one is surprised at the number of peach trees, and scarcely less surprised at the extensive acreage of winter wheat. The early-sown oat fields show a very uneven stand, while the acreage of plowed land ready for corn is quite out of the common, even in corn-growing Illinois. Pastures are still more gray than green, and the last year's aftermath in the average meadow is not overgrown. As the country gets drier and drier, and the water surface of pond, slough, and river shrinks under the draft of open ditches and tile drains, the flights of geese, brant, ducks, cranes and other aquatics grow less and less, and the present spring has been nearly destitute of them. To compensate perhaps, the common country birds are more numerous than ever—to say nothing of the sparrow, which seem to be deserting the town for the country, thus setting an example which his elders and betters might follow with credit to their understanding and benefit to their fortunes. B. F. J.

From the Chemung Valley.

Eds. Country Gentleman—The weather thus far this spring has been in every way favorable to farmers. The absence of the usual heavy spring rains and the warm, bright sunshine and drying winds have favored early plowing and seeding, which in this valley are well advanced. Early potatoes are being planted, and preparations for corn planting are already in progress. Though the winter was generally of an open character, winter grain seems to have come out all right and is starting nicely. Indeed I have seldom, if ever, seen these crops look so well at this season. Recent warm rains have started grass also, and the general appearance of the country would be in fair keeping with the month of May.

In marked contrast to the encouraging conditions of the weather and season are the prevailing low prices of most kinds of farm produce. A few articles, including butter and milk, are yielding fair returns, but with the majority of products there is little in the present prices and outlook to encourage production, and many farmers will commence the summer's campaign with little hope and encouragement to aid them in the arduous labors of the farm. As a result of this unfavorable outlook considerable uneasiness has been manifested on the part of many farmers, who would gladly change their present position for one offering greater inducements. Some have gone West and many others manifest a personal interest in the glowing accounts of the fertile lands of Oklahoma.

While the future outlook for eastern farms and farmers may reasonably give some occasion for apprehension to those whose interests are at stake, it seems evident that the danger, if there be any, has been greatly exaggerated. The more discouraging feature of this question is the fact that a few products upon which our farmers have long based their farming operations are no longer profitable by reason of western competition. Corn, wheat and beef cattle seem to have had their day as profitable products of our eastern farms. They are now the main stays of western agriculture, as they were formerly of New-York and New-England.

Obviously what is needed to prevent further decline in farming and in the value of our farm lands is something to supply the lack occasioned by the transfer of the raising of live-stock and grain to the West. We need to intensify our farming, to produce larger returns from fewer acres, or in other words to change a system of farming now out of date and unprofitable to one more in keeping with present conditions and times. Special crops, or the production of fancy articles or products, which a particular kind of soil or location especially favors, offer inducements for many farmers to improve upon their old-time system of farming. In so far as my observation goes, the farmers who have attempted this plan have usually been successful. Thus, an acquaintance is making a specialty of fancy butter from a dairy of Jersey cows with excellent success; the product is made with a view to fancy prices which are readily obtained by shipping to a fancy butter dealer in Philadelphia. Another, in the growing of small fruits, is making a specialty of extra fine berries which are readily sold to wealthy families for prices which justify the extreme measures required in the production of fruit of the best possible quality. Still another acquaintance has established an enviable reputation for canned fruit of maximum quality, and he, too, is meeting with excellent success. I mention these merely to show that if there is no profit in growing corn or wheat on our high-priced eastern farms, it is not proof that the farm cannot be made to pay.

The Tobacco Industry.

Among special crops the growing of tobacco has been for many years successfully carried on in this valley. The better growers have found tobacco a means by which they have been enabled to make their farms pay, and lay aside something for a rainy day besides. The several hundred thousand dollars that have been annually distributed among our tobacco farmers for their tobacco has materially benefited them, and assisted the merchant and laboring man also. It seems pretty certain, however, that profitable tobacco culture is about done for until Congress increases the duty upon its competitor, Sumatra tobacco. This product grown on the Sumatra island by slave labor has been a growing competitor to American grown tobacco since its introduction in our market about 1880. The best grades of the

product—the wrappers only—are imported to this country, and by reason of its extreme fine texture and large wrapping capacity it has gained a foothold with the manufacturers of cigars which is difficult to overcome. Gradually but surely this Sumatran tobacco is driving our home grown wrappers from the market, and without legislative aid we must soon class tobacco along with corn and wheat as "no longer profitable."

However, though the price of tobacco is now low and the market in a stagnant condition owing to the general use of Sumatra for wrapping cigars, there is reason to believe that the duty will be increased to a point which will give adequate protection to our domestic-grown tobaccoes. The bulk of the '88 crop in this valley has been bought, prices averaging all the way from 7c. up to 16c. according to quality. Of late prices have materially declined.

Hinsdale, N. Y., April 15. G. A. G., Jr.

Southwestern Michigan.

Changes in Use of Gypsum.

EDS. COUNTRY GENTLEMAN—The spring so far has opened very auspiciously for wheat and grass. At the beginning of the month, the precipitation was in excess of the average, showers have been frequent enough since, and the temperature so warm that all vegetation is well advanced for the season. Last evening there was a thunder shower from the southwest, that gave us a little more than half an inch of rain. It is cloudy to-day (the 12th), with the wind in the east; but the thermometer stands at 48°—a good degree of temperature for the growth and spread of wheat and grass.

Oats on dry ground are nearly all sown. Clover seed sown on the wheat is coming through the ground, and the weather could not be more propitious for its early growth. Once, almost every farmer would be sowing plaster on the young clover; now, but few practice sowing it. It has come to be generally believed that plaster does not prevent drouth from killing young clover. With a drouth severe enough to dry the ground to the point that young clover plants would dry up, they could not be saved by the application of plaster at any period of their growth. If the latter part of summer was wet, the plastered young clover would be somewhat larger and of better color, but there would be no more plants to the square foot; so it was questionable whether there was really any gain in the end by sowing it in spring with the seed. But on clover a year or more old, there was no more doubt about its effect than there was as to the good a shower of rain would have on parched plants. Now, scarcely any plaster is sown. A carload or two at a station supplies the demand, where twenty carloads were once needed. One cause for the falling off in the demand, was a trial of strength between the combined plaster interest of Grand Rapids and the farmers, a few years ago. The latter demanded a purer article, at cheaper rates. The grange interest furnished the capital to build a new mill, and patronized it exclusively until it was bought up by the "combine," and the plaster was advanced 50 cents a ton from that time. Members of the grange then determined not to use plaster. This, combined with the dry seasons which ruined the old clover fields, and prevented a catch in new ones, has nearly ruined the plaster business, except what is needed in the manufacture of stucco and for a few other purposes.

Some farmers really believe that plaster has lost its former power on our soil, to influence the growth of clover. They reason backward from effect to cause, but I believe that they have lost sight of the real cause for its failure to produce its former luxuriant growth of clover. There has been a steadily diminishing rainfall for several seasons during this period in which plaster has lost its grip on the faith of farmers. I believe that plaster is dissolved and enters into the circulation of the plant through the sap of the soil. I do not believe that the clover plant spreads its leaves to drink in some etherial gas furnished by the plaster spread on the ground, but needs abundant rains to dissolve it before it can offer any element to stimulate growth. There is never any indication of the effects of plaster on a clover field except where it actually falls. If only a yard wide is skipped, there the clover plant is dwindled in stature and blanched in color, which would not be the case if an energizing gas exhaled from all the surrounding surface where the plaster lay. The winds must distribute it to each plant alike under the latter hypothesis, and there would be no faint-looking plats of clover, or streaks in the field, where the plaster did not fall; but around a lump of plaster, where the gases steamed up most profusely, there the clover plants would have a tropical luxuriance. The effects are not in conformity with this idea. Shake the dust of plaster out of a bag on a patch of clover, and it will grow as large as though a shovelful had been placed there.

I have faith yet that, in seasons when the spring rains are copious enough to dissolve plaster, we shall see just as good results from its application as ever. I believe that our State is as much indebted to plaster as to clover, and that the renovating power of these two agencies has alone kept our land from becoming sterile and barren, and that when clover again covers our fields, plaster will serve as good a purpose as it did a few years ago.

Van Buren County, April 13. A. C. GLIDDEN.

Progress in Sugar-Making.—Improvements in sugar-making are exciting much interest in the cane-producing States, and the Louisiana Planter and the Sugar Bowl give much space to the experiments in progress at the sugar station and elsewhere. The "diffusion" process, first employed to extract beet-root and sorghum sugar, has within a few years been applied to cane sugar with great success, and seems likely to supersede the old-fashioned crushing of the cane. In the new process the cane is cut into small slices or strips, an eighth of an inch or less thick, placed in a receiver or "cell" holding ten gallons, and subjected to the action of hot water, which extracts or "diffuses" a certain amount of the sugar. The water passes into another cell and the chips are again charged, and so on nine times. Eleven "cells" constitute a "battery," two being always in use for emptying and filling the chips. The diffusion water is then treated in the usual way by boiling, &c. This was the process in 1884, but many improvements have since been made, and recently Prof. Wm. C. Stubbs of the Kenner experiment station has discovered a method of clarifying the cane juice by the use of milk of lime in the diffusion cells, causing impurities to be retained in the chips, and doing away with the old, complicated and expensive methods of purifying.

On Governor Warmoth's plantation at Magnolia, nearly all difficulties have been overcome, and 226 pounds of sugar, all grades, have been produced per ton of cane. By the ordinary mill work the product is from 130 to 180 pounds. The diffusive process is also in successful use at Colonel Cunningham's Sugar Land plantation in Texas, where 1,000 acres of cane are grown.

But planters are slow to change their methods, especially as greatly improved machinery for crushing and purifying has been introduced in recent years. If by the new process an average gain of 35 pounds to the ton can be made, and the cost not be in proportion, a change will take place, and the sugar industry receive a wonderful impetus, increasing the State product to perhaps 500,000 tons.

Sugar-making is now completed, and the total crop of Louisiana put at over 200,000 hogsheads, against 360,000 a year ago, the recent cane crop having been greatly injured by storms.

In California, the first running of Claus Spreckel's beet-root factory at Watsonville is completed. The factory in 70 days has crushed 14,000 tons of beets, for which the price has been a little over $5 per ton to the farmers who raised them on contract. Delay in completing the factory and two heavy rain storms injured the crop and lessened the product. The factory disbursed for labor and beets over $350,000.

Sweet-Corn Ensilage.—In reply to A. G. M. in regard to sweet-corn ensilage (page 250), let me state that after a trial of two years I am so well satisfied with it that I shall plant no other kind this year. The past season I put in one acre of it. When cut into the silo nearly every stalk had one or two well-matured ears. It made a solid section of three feet in depth across the silo, with several feet of other corn above and below it. It kept equally well with the other. When I came to feed from this section the flow of milk at once increased on a diminished ration of meal, and it kept up till I struck the poorer corn. I intend to plant Marblehead Mammoth this season, which is a week or ten days earlier than Stowell's or Egyptian, and, on good land, will grow seven feet high, and produce two large ears to every stalk. S. W. T. *Middlesex County, Mass.*

Inquiries and Answers.

Plaster Sower.—Please tell me where plaster sowers to sow broadcast, with one or two horses, are made. W. B. T. *Canisteo, N. Y.* [Different plaster-sowers are made in the country, and among them we have used for several years the one made by Williams Brothers of Ithaca, N. Y., who manufacture a broadcast sower complete in itself, or as an attachment to a rake, and whose advertisement appeared conspicuously in our last volume.]

Oyster Shells.—Please say whether oyster shells for fertilizing purposes are improved or injured by being burned. Or are they just as good when ground raw as burned? What is the value in either state? F. W. P. *Amherst, N. S.* [Usually there are two advantages in burning the oyster shells—they can be more finely and completely pulverized for thorough intermixture through the soil than by grinding the hard shells; and the fresh or sharp lime acts more readily on the fibrous vegetable matter in the soil. Unburnt shells are quite similar in character to old or air-slaked lime, and are often of much benefit. The value of either is determined only by making the trial, as soils vary in character, and old and fresh lime benefits some soils more than others, but is generally more or less useful.]

Corn Culture.—How far apart would you advise me to plant corn in the drill, and also how far apart would you put the rows on land in a good state of fertility? How often would you cultivate the corn? Would you recommend the use of the harrow for the first cultivation, when the corn is a few inches above the surface? J. H. R. *Buckland, Va.* [The distance asunder of corn in the drill will vary with the needed requirements. If fully matured ears should be the main object, the distance should be greater than for a larger amount of fodder; and the large southern varieties must have more room than the smaller northern varieties. If the corn is intended exclusively for fodder, the drills will be much thicker. As an approximate rule, the varieties which are mostly cultivated in Virginia should be planted with the stalks a foot apart in the drill if grain is the chief requirement; or as near as eight or ten inches if more fodder is wanted, with some reduction of the grain. Smaller varieties may be correspondingly nearer. The drills may be about three and a half feet apart, to afford convenient cultivation. The cultivator, passing as often as every week or ten days, will increase the crop, provided the weather is suitable for the operation; but on a strong soil it would do more harm than good in wet weather by hardening and crusting the surface; and the operation should always be confined to the top soil, so as not to tear the roots. A fine, slant-tooth harrow may be run over the whole surface broadcast several times, where the corn is from a few inches to a foot high, saving much other labor by destroying the young weeds just as they are reaching the surface.]

Cultivation of Corn.—Oblige a subscriber by naming the most approved implements in use by the most extensive and successful growers of corn—as well those for preparing the soil, as for planting and cultivating the crop, and for handling it afterwards in the most economic way for feeding. T. M. M. *Fauquier County, Va.* [As this inquiry would occupy too much space to answer in detail, we can give only a general reply: First are the appliances for spreading the manure for the crop doing the work well and intermixing it perfectly with the soil. The manure spreaders advertised in our columns are of great value, both as labor-savers and for the fine pulverization and even spreading of the manure. In their absence, a slant-tooth harrow will aid in grinding up the lumps. The soil is made mellow and thoroughly pulverized by the use of harrows, among which the Acme stands high in general estimation, especially for inverted sod. There are several other harrows advertised in our columns that are useful in reducing soils to a clean and mellow condition, among which are the several spring-tooth implements, adapted to other soils than inverted sod, and the disc and cut-away harrows. A good corn-planter, drawn by a horse, saves much labor in planting, of which there are some efficient ones advertised in past numbers. For large corn fields, walking and riding cultivators which take two rows at a time, and drawn by two horses, are generally employed; and some farmers save much labor and prevent the growth of weeds by running the fine slant-tooth harrow several times over the whole crop broadcast, taking care to use it when the weeds are scarcely above the surface and are ground up and destroyed by the teeth. Several modes have been adopted to secure and use the crop when mature. Before the introduction of the silo, some of the best farmers cut up and shocked the crop in the field, and allowed it to stand till needed in winter, and then drawing in daily loads, cutting them up daily with steam power as drawn, and then steaming the chopped stalks and chopped ears in a large steam vat, with the spent steam from the engine. Now, the practice of ensilage is gradually superseding this mode.]

Cows in Stable—Warbles.—Mr. Woodward and Col. Curtis state (p. 305) that they have not let out their milch cows since Nov 1st. Will they give us their treatment as to stable, feeding, watering and general care of cows and milk per head per day, so we can have a practical idea of their winter management? Also the English mixture as to quantities of each and when applied to cattle for the killing of grubs in back? W. E. B. *Oxford Depot N. Y.* [We do not believe our correspondent can find anything better for warbles than McDougall's famous dip, sold in this country by F. Porter Thayer & Son, 104 Chambers St., New York. See advertisement, p. 302.]

Feed Mills.—Please let me know the name of the manufacturers of the best corn mill on the market, and the price, if you know any. Any information will oblige. T. E. H. *Oxford, N. C.* [There are two kinds of mills for grinding feed—those with buhr-stones, which are the most efficient as well as most expensive, and among which are the Harrison of New-Haven, Ct., and the Stevens of Auburn, N. Y., advertised in past numbers of the COUNTRY GENTLEMAN; and those having rapidly revolving steel plates. Among the latter, are those made by the Foos Manufacturing Company of Springfield, O., the Kelley Duplex mill of Springfield, O., and the mills manufactured by A. W. Straub & Co. of Philadelphia. We have made a practical trial of the two last named, and have found them efficient grinders, the Duplex especially operating in a very perfect manner for this kind of grinding—the advertisements of all of which may be found in back numbers or volumes.]

Harold's Dam.—Please give all that is known concerning the pedigree of Harold's dam. The horse I mean is the sire of Maud S. H. H. P. *Berlin, O.* [Harold's dam was Enchantress by Abdallah out of an unnamed daughter of imp. Bellfounder and an unknown mare. What else would our correspondent like to know about her?]

Ground Meat for Cattle.—Is there such a thing as food composed of ground meat for cattle? From what I understand, it comes in the shape of cakes, and is to be found in the market. If so, would you inform me where it is to be had? H. J. H. [We regret to say we do not know. Perhaps this may meet the eye of some dealer, who may answer by advertisement.]

Three-Horse Whiffletree, p. 267.—I think J. T. C. can overcome, to a great extent, the difficulty he has found with his three-horse whiffletree, by properly arranging his horses. In doing so I have found the best way is to couple the heads of the double team rather closely together, putting the steadiest horse in the furrow. The single horse should have more head room, so that he can keep out from the team. He should have longer traces than the others, and should be the fastest walker of the three. As the double team pull directly on the evener **B**, sometimes it is drawn out of line with the evener **A**. RICHARD J. FAGAN. *Union County, N. J.*

Holsteins Wanted.—I should like to be informed where I can obtain buttermilk calves of the grade Holstein stock to fatten for veals, with a view of selecting out the best to raise for my future dairy; also the number that can be freighted on a car, and the probable cost per head; also the time of year best to purchase them. J. M. W.

Dried Brewers' Grains.—I should like to know where to get them in Philadelphia. If you would oblige me by finding out through your paper you would confer a favor. W. S. L. [Dealers will do well to advertise.]

Horticultural Department.

Interesting to Plum Growers.

Among the papers recently read before the Massachusetts Horticultural Society, was one by James F. C. Hyde, on the "Cultivation and Varieties of the Plum." It furnished many useful and practical suggestions, and some requiring a little criticism. The black knot was pronounced the worst enemy, causing many orchards which formerly produced abundant crops to entirely disappear. Mr. Hyde pronounced the cause of this disease still involved in mystery, an opinion with which scientific men who have distinctly discovered the parasitic fungus which produces it, will not agree. He adds that in order to succeed in raising plums, one must "fight the black knot," an expression which implies a doubtful struggle. Where the disease has not been allowed to make headway, prompt, quick and complete excision proves effectual with little fighting or trouble. We have a plum orchard which has stood and borne for twenty-five years, and although the trees have been frequently attacked by the black knot, some have been lost by this disease, but some have died of old age and others by overbearing and exposure to the cold of winter.

When treating of the curculio, Mr. Hyde very properly recommends jarring on sheets, and then dumping the insects into a vessel of water with a stratum of kerosene on top. He recommends square iron plugs to receive the jarring blow which brings down the beetles, over an inch square at one end, and tapering to the point which is inserted into the tree. An objection to this form is that a few sharp blows upon it with the hammer drives its sharp point into the wood. A better, simpler and cheaper plug is made by cutting up an iron rod three-eighths of an inch in diameter, into pieces three inches long, one-half of which is inserted into a bored hole, and the outer end used for receiving the blow of the hammer. The inserted end being blunt is not driven further into the wood. Mr. H. correctly remarks that if the work is faithfully performed each morning for several weeks, the fruit will be so abundantly set that much labor will be required to thin it. We have found the need of this thinning by losing some trees through overbearing.

In the discussion which followed the conclusion of the paper, the question came up as to the efficiency of arsenical poisons for destroying the curculio, and the reports represented their use as partially but not fully reliable. In the experiments which we made some years ago with Paris green, and published at the time, we found the work of the curculios somewhat reduced, but not so thoroughly prevented as by the use of the iron plug and stiffened sheets.

The inquiry was again made whether the beetles were intelligent enough to avoid laying their eggs in trees overhanging water, the answer apparently being in the affirmative—a conclusion obviously an erroneous one. Some twenty years ago or more, we examined a row of plum trees planted on the bank of a mill race, and one half of each tree hung over the water. The owner had reported that the instinct of the beetles prevented them from laying their eggs in the young plums which would drop into the water when they fell. Not being satisfied with this conclusion, we climbed out on the overhanging trees to examine the young plums more closely; the result was that as many insect marks were found there as on land, which the distance had prevented the owner from seeing. His mistaken opinion had been further strengthened by the insects in the infested plums falling and perishing in the flood, and thus thinning their numbers. The water was useful in destroying them, but not in frightening them away.

Winter Pears.—The London Garden very properly speaks of the greater difficulty of growing and ripening winter pears than the summer and autumn varieties; and the longer they keep before becoming mealing in texture, the greater is the required care. That journal states that an enriched and moist soil, and even liquid manure, may make all the difference between dry, hard fruit, which refuses to ripen and which shrivels instead, and good, well developed specimens, which will not fail to come to perfection. With early winter varieties, such as Lawrence, Jones, Anjou, Winter Nelis, and others, there is little difficulty; and even the Josephine de Malines at mid-winter is attended with little trouble, but with some of the newer and later pears much care is required in growing them well and in giving them the right degree of temperature and the right amount of moisture in the air. The result is, that while late winter pears properly matured are a delicious luxury, they will not be likely soon to constitute large plantations for market. The amateur will always enjoy the care and management of a few; and skilled cultivators may in future find them profitable on a larger scale.

Wrong and Right in Lawn Making.

A year ago this spring a neighbor of mine and myself prepared our front yards and sowed seed, intending to have fine lawns as a result. While my efforts proved satisfactory, and stood the hot, dry weather very well, Mr. Brown's lawn, though starting out well in the early part of the season, could not endure the drouth and heat of summer, notwithstanding the fact of water being used quite freely, as it was on mine also. As this adverse experience in lawn making is not uncommon, and having been a close observer of my neighbor's operation, I will describe our several ways of work and the secret of my success, by means of the accompanying cross-section illustrations. Fig. 1 shows

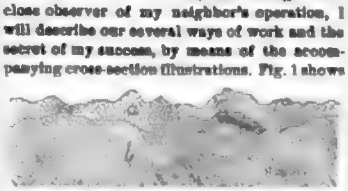


Fig. 1.

the general appearance of the ground on both plots before any finishing work was performed; the fine top soil is marked *a*, subsoil *b*.

Mr. Brown, while very intelligent and a lover of beautiful home surroundings, has never given much thought to the soil formation, below the surface; so he simply leveled off the top of his land, with result as shown in fig. 2, there being at many places not more

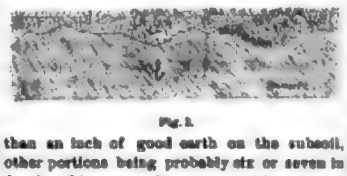


Fig. 2.

than an inch of good earth on the subsoil, other portions being probably six or seven in depth. Of course the seed would start and grow well in the early spring, but when called upon to undergo such dry seasons as we usually have, the roots lie too shallow in the thin places, and the lawn is spoiled by the burned-up appearance, which numerous spots present, and to get it into presentable shape, the work would nearly all have to be done over again.

When I undertook to prepare my lawn I was strongly impressed with the importance of a thorough filling of the soil as a foundation for future satisfaction. Beginning with the soil as in fig. 1, I carefully went over my yard with a spade, stirring and leveling the ground at the same time; when I came to a place where the under-soil was nearer the surface than five or six inches, I threw the top soil off, as far as it was so shallow, removed the subsoil, and then filled in with good upper earth. In this way I proceeded with every part, and when finished, and given a dressing of fertilizer, sowed and rolled, it presented the appearance of fig. 3.

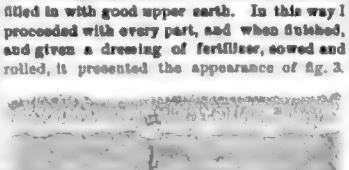


Fig. 3.

Equal parts of red top and blue-grass, with a little white clover added, was the mixture used in seeding, and was quite thickly applied, for I have found that the thicker the grass starts the dwarfer it is in growth, consequently making the finest and softest of sward. It seems hard for most people to realize that such a simple thing as growing grass ought to have so much care given in starting. The cause does not lie so much in the requirements of the grass itself (though important), but largely in the nature of the seasons which have to be endured. In cities and towns where a constant supply of water may be conveniently applied, this deep working of the soil is not so essential, but where the lawn depends upon the rain for its moisture, the summer months are exceedingly trying, and often fatal, as is evidenced by the yellow, dry appearance of many country lawns during July and August; in some cases they are killed outright; others do not recover before winter sets in, and are winter-killed, and still others drag out a miserable existence the following summer, doing somewhat better if the season proves fairly wet.

The secret of having a lawn that will undergo all such dry periods as occur, with least damage, and not be injured for the following seasons, lies in preparing the root-bed in such a manner as to allow the roots to go as deeply as they will and below the reach of the hot sun and drouth, so that even if the tops look withered and burned, the roots are not injured to any harmful extent. In the fall an inch or so of mulch of very strawy manure can be given, removed in the spring, and a dressing of commercial fertilizer applied at the rate of a quarter of a pound to every two square yards. A lawn so treated each year, the mower used during the fore part of the season once a week, and every two weeks as the summer advances, but at all times being careful not to cut so closely as to expose the roots—keeping the grass blades about an inch high, being a safe rule to follow—will well repay the labor spent upon it. E. E. SUMMEY.

Niagara County, N. Y.

American Pomological Society.

Notes of the Florida Meeting—VII.

Discussion of some of the newer fruits was continued by the calling of figs. Mr. Peck named the White Adriatic as doing well with him. Mr. Pierce also spoke well of it on Indian River. It was placed on the list, and recommended for trial. Peaches being named next, Dr. Hape asked how the Peento succeeded. Mr. Trueblood said:

I have grown it successfully, being among the first to do so in Florida. I think the only objection is, it blooms too early; frost often catches the blossom. The tree is very vigorous. We have now many seedlings from it which are better than the parent in size, shape and in general appearance. I think a few more years will give us much better varieties, and I have great hopes in that direction. The Peento's shape and size are objectionable. Some of the seedlings seem to partake of the hardiness of the pear. The Honey does well with me, and always escapes the frost. Neither is subject to the attack of borers.

Mr. Adams found very little trouble with the early blooming of Peento in South Florida. Mr. Callahan said:

I have now trees loaded with the Peento; have fruited it six or seven years, and never lost a crop by early blooming. My trees stand the frost extremely well. I live in the western part of Clay county.

Dr. Carey said he had failed to get fruit on the Peento down at Lake Worth so far, and that the tree was almost an evergreen there. Mr. Trowbridge considered it a grand acquisition as a peach in Florida, and he moved that it be placed on the catalogue with one star for that State, which was so ordered.

Dr. Hexamer then rose to praise the new Idaho pear. "I consider it one of the most promising fruits which has been introduced in recent years," said he. President Berckmans had received specimens from the grower, which he found of excellent quality, and he thought the variety very promising. Doubt was expressed as to its being of Oriental origin, but no decision was reached.

The Kelsey plum was called. Mr. Callahan responded:

I have fruited it two years, and am well satisfied with it, having great faith in it. I have an orchard of 6,000 trees now, and expect to plant more of it. Kelsey promises well for Florida. I think it will make a good prune; some think it would be better than the French Prune. It stands shipment well; I have sent it by mail to Boston, Cleveland and other distant points, where it arrived sound and good. The tree is hardy, and grows vigorously. I use no fertilizer. Work it on the plum stock; it is not so good on the peach.

Mr. Pierson said: "I planted it three years ago. The trees did well, and bore early. Twenty of my trees fruited last year, and they were very satisfactory, indeed. I shall have about 100 in fruit this year." Mr. Callahan preferred to graft and plant the Kelsey, so that it took root above the graft. He worked it on the native Florida plum in this way, and it did well.

Mr. Van Deman spoke well of the Satsuma, which he said was similar to Kelsey in quality, same size, red as blood inside, earlier by a month than Kelsey, and he thought it was more hardy, which would make it more valuable for the North, where the Kelsey would not do.

Another new plum, the Clyman, was well spoken of; earlier than Wild Goose—some seasons six or eight weeks earlier than others of that class.

It was resolved that the society should hold its next biennial meeting in Chicago, unless the executive committee should find it better to meet elsewhere.

This was the end of the business sessions of the society, and everybody hastened to get dinner, in order to be ready for the special excursion trains which took them to the great Citra and Orange Lake orange groves in the afternoon. Here the extensive and beautiful groves of the Crescent Orange Company, Bishop, Hoyt & Co., and the great Harris grove, were visited by an appreciative company. The Harris grove is the largest in bearing in the State, if not in the Union. It has 200 acres of trees, from 12 to 17 years old, in full bearing, budded on the wild stock just as it grew in the forest. It produced a crop of 46,000 boxes this past season, there being some 3,000 boxes still on the trees at this time. The Crescent grove produced 30,000 boxes last year from its 100 acres; the Hoyt grove has 130 acres. The process of sorting, packing, &c., was also inspected with much interest.

Very few of the visitors left Florida either that night or the following day, as a week or ten days of pleasure and sight-seeing, for which their Florida friends had so amply provided, had been determined upon by almost everybody. So on Saturday excursions and parties started in all directions, bent on visiting all leading points of interest in the wonderful State. Some went to the Cocoanut Walks, near the Everglades, on the Atlantic coast, others to Tampa, Punta Gorda and Manatee, on the Gulf, and very few points in the State escaped a visit from some member with the red society badge.

Some Papers not Read.

A few of the essays which were sent in, in response to official solicitation, were left unread for lack of time, the writers not being present. These will appear in the society's report. Among them is one on "Unsolved Problems in Pomology," by Prof. E. S. Goff. It is a valuable paper, and a few of his points are here presented:

He urged closer relations between the practical fruit-grower and the experimental pomologist, as being helpful to each. The establishment of the experiment stations marks a new era in the progress of pomology. Not only should new methods be tried, but existing methods also, however fully accepted, to see if they could not be improved. The condition of our pomology to-day is not encouraging. The products of our larger fruits are far more precious than those of our cereals, though both are subject to the same climatic conditions. Destructive insects and diseases are on the increase. The discovery of causes and remedies offers a wide field for experiment. Our propagating methods may be at fault, and exert an unfavorable influence on the future tree or its fruit. The nurseryman's knowledge of the science of grafting and budding is quite incomplete. Healthy stocks and scions are conceded to be important, but it is probable that the manner of selecting buds and scions is also of much importance. In budding roses, it has been found that bloom depended on the particular part of the plant from which the bud was taken. The same may be true of fruit trees. With the pear and apple, certain particular stocks have been found best adapted to certain other varieties. This is a promising field for experiment; quality and appearance of fruit may be improved by judicious combination of varieties. Our native plums and cherries should be improved; the imported sorts are not satisfactory. We should not be content to adopt the varieties of the old world and neglect our native species. We have been forced to abandon the foreign grape and raspberry, and supply their place with improved native sorts. Why not do the same with our native plums and cherries? There is hope that our peaches may be increased in hardiness by crossing with *Prunus simonii*, and such experiments should be made. Our present methods of pruning the grape, removing almost the entire growth annually, may be one cause of the greater liability to disease. Some experiments offer hope that increased productiveness and improved quality may be secured by allowing a freer growth of wood. The practice of girdling just below the bunch should be carefully investigated; if not injurious, the earliness and increased size resulting are often profitable. Smoke in the air prevents radiation of heat from the earth. Now that we can be warned of the approach of frost, it seems possible that by burning coal tar, or some other cheap smoke producer, it may in some cases be prevented. Such in substance covers Mr. Goff's leading suggestions.

Prof. C. V. Riley has an interesting paper on "The Plum Curculio," in which he emphasizes the importance of the use of arsenical sprays in the warfare against this very destructive insect, regarding it as marking a new era in the fight. He says that experiments all over the country for two years past, almost in every case disprove the idea of immunity of wild

plums, and confirm the partial efficacy of a proper spraying with Paris green or London purple. The successful use of these sprays for canker worm and codling moth, has done away with a great part of whatever fear existed of the poisonous nature of these substances, as to its effect upon the fruit.

Mr. H. M. Eagle treats of "Nut Culture," in another interesting paper. He thinks that thousands of acres which now pay neither interest nor taxes, might be made profitable if devoted to nuts, giving large supplies of food with more certainty than by an equal expenditure of money and labor in other ways. Mankind would be much better off if more of the natural products of the earth, and less of the artificially prepared and adulterated articles, were eaten. A reliable chemical analysis of the nutritive properties of nuts was urged. Where the chestnut would flourish, it may safely be put at the head of the list. As for quality, it is unsurpassed. He said that much had been claimed for the Japan chestnuts, but as a rule they were not equal to some of the Spanish in size or quality. Nut culture affords a wide field for hybridization and cross-fertilization. Many, if not all, of the best qualities of the originals, may thus be combined, as in the case of other fruits. Other nuts may be improved in the direction of less shell and more kernel. H. H.

The Entomologist.

Tent Caterpillars—Bark Lice.

ED. COUNTRY GENTLEMAN—I notice that many, and among them some of our most able entomologists, are urging the old method of Dr. Harris to destroy the tent caterpillars. This is to collect the egg masses in winter, or early spring, before the foliage puts out, and destroy them. I cannot but think that such persons have had little actual practice. Certain it is that if all the egg masses are gathered and burned, there will be no caterpillars; but the search and destruction will cost so much that no sensible man would long practice it. If we should pick all the weed seeds from the soil, there would be no weeds; but who would do it? It is far cheaper to let the weeds spring up and then destroy them. So, too, with the tent caterpillar. We had better wait till May; then just as the leaves are unrolling, these caterpillars commence to spin their webs and are quickly seen, when it is but the work of a moment to cut them off, if on a small branch, or crush them with gloved hands if on a branch too large to be cut off. I know whereof I speak, as I have practiced both methods very carefully to test their merits. I would engage to destroy twenty nests in this manner while the sharpest-eyed entomologist was finding one egg mass.

Apropos of the above, let me advise against the use of the shot-gun and the kerosene torch to kill these tent larvæ. Of course it a fun for the boys, but death to the trees. These methods are not only unsafe, but not thorough. The crushing by the hand—and with a tall step-ladder this is not difficult—early in the day before the insects pass out of the tent to feed, is both safe and sure.

Harris gives another piece of advice regarding this insect which has been criticised, but which I think sensible. That is to set wild cherry trees about the orchard. These trees are preferred by the insects, and so the eggs will be laid on them. In this case, if, through carelessness or neglect, the insects are not destroyed, we save our more valuable fruit trees at the expense of the wild cherry. If we fight the insects, as we should do, then it is easier to kill them, as they are gathered on a few trees, and not scattered all through the orchard.

In the COUNTRY GENTLEMAN of April 4th, the statement is made that the apple tree bark louse (*Mytilaspis pomorum*) hatches at the time of blossoming. I am sure that this is a mistake, at least in this latitude. I have watched these insects for years, and find that it is two or three weeks after the trees blossom before these suppers come forth from the scale-protected eggs. This is important, for we should not apply the carbolic acid and soap mixture till the lice are hatching, if we would receive the most benefit. A. J. COOK.

Michigan Agricultural College.

A Remarkable Insect.—I have a bee half drone and the other half worker. One side—jaw, eye, wing and leg—is drone, the other worker. I have seen several bees which have head and thorax of worker, and abdomen of drone, or vice versa. This longitudinal sex differentiation is quite new to me.—*Prof. Cook.*

The Poultry-Yard.

Mandarin Ducks.

The Mandarin duck is one of the most beautiful birds that can be found, having a brilliancy of color and a richness of marking which is almost indescribable. It has become a great favorite of late years, especially with those who have small sheets of water. It is a native of the celestial empire, and has been called the Chinese teal, being bred there with great care, and highly prized. Mr. Riley, secretary of the Water-fowl Club, says that the Mandarin is very small, in fact, a toy. The general appearance of the body is short and plump, head

THE MANDARIN DUCK.

almost round; bill small and short, but not very thick. It is very difficult to describe, on paper, the intricate and beautiful plumage of the drake. His bill in color is a light pinky red, with a tip; the eye deep red or black; on the pate a few long feathers form a crest, which is very prominent when the bird is angry or excited. These feathers, from the base of the bill, are a deep metallic green, shading into deep claret or chestnut down the back of the head. A band of lovely cream color strikes right across the cheek or face from the bill, extending a little way down the side of the neck. A few reddish feathers below this cream color form a kind of ruff in front of the neck. These are very peculiar and are not found on any of the other varieties. The breast is a rich, deep claret. Separating the breast from the body feathers are two bands of white edged with black, the sides of the body being a greenish-maize color, shaded with delicate wavy lines of deep grey of a similar nature to the grey-lined water feathers of the Rouen drake. The under body is a very light or whitish grey, and the wing feathers brown, edged with white. Another peculiarity of this variety is the furnishing of the wings, which bear a shell or shield-like appendage, tipped at the edges with pale green. The legs are of a rich pink color. All this gorgeous plumage is exchanged in summer for the more homely duck feathers. The plumage of the duck is of a more sober description, being simply a pencilling or mottling of brown, or rather a greenish brown, the bill and legs being the same as the drake. The young birds have a pale brown down, with white cheeks; there is a dark stripe from back of eye to the head; the bill is dusky yellow, the eye black; the feet and legs are ash color, and the breast and abdomen dirty white. The eggs are white and incubation occupies 26 days. STEPHEN BEALE. *H——, England.*

Rations for Fowls.

In order to feed fowls to the best advantage during the different seasons of the year, we must consider, in the first place, what specific result we are desirous of accomplishing at that special season; and in the second place, what is the cheapest and most effective means of accomplishing that result.

During winter, it is of primary importance that fowls should generate sufficient heat to keep the body at an even temperature, and therefore their food in cold weather should be rich in carbohydrates, whose main office in animal nutrition is to produce heat and the formation of fat, which is reserve fuel stored away in the body ready to be converted into heat. According to some estimates, corn, barley, potatoes, rye, &c., contain a large percentage of carbon, and are good winter foods. But as there is a steady demand for eggs in winter, the daily rations of hens should also contain a liberal supply of albuminoids—those substances which go to make up flesh, ligaments, tendons, &c.; for it is said that all which remains of the albuminoids after supplying the waste of the body, is utilized in the direction of egg-making.

The typical albuminoids are white of egg, lean meat and curd of milk. As the spring opens and the weather grows warmer, the rations for poultry should be altered so as to decrease the fat-producing foods, and increase those foods containing a preponderance of egg-elements, in order to obtain an abundant supply of eggs for hatching purposes, in addition to keeping up the regular market engagement; for it sometimes happens, as was the case this year, that the market price of eggs was higher in March than in February, the remarkably mild winter having caused an unusually large production of eggs. In summer, the heat-giving foods should be curtailed to a still greater extent, both on account of the warm weather and because the supply of food attainable elsewhere is more abundant. When fall comes, we have to return to the heat producers, as the first cold weather is very keenly felt by all animal life, and then comes the moulting season, when a greater variety of food is necessary than at any other time; for feathers are the most highly refined of animal products, and only a small part of the substances entering into their composition can be obtained from a large quantity of food.

The moulting period is a very trying one, and in order to bring hens through it in good condition for winter work, they should be liberally fed on foods containing a large percentage of carbon, nitrogen, and albumen, and not be expected to produce many eggs, either. They should be allowed perfect rest for a month or six weeks in the fall, and not be thought hard of, or fed upon exciting egg-stimulating concoctions. Many of the Leghorns are stimulated in this way until they actually die from no disease whatever except over-production. It is wrong to treat them so; a hen does not need any medicine to make her lay eggs; if she be fed properly, it will be impossible to keep her from it. She realizes that egg-making is her mission in life, and is so bent upon doing her duty, that all the nutriment she can spare after building up the tissues of her body, and maintaining them under the wear caused by the living functions, she manufactures into eggs.

A careful study of Prof. Stewart's combinations for feeding different kinds of live stock, and especially for dairy cows, would be exceedingly helpful to poultry-keepers. The wise ones say that whatever will make a cow give milk will make a hen lay eggs. For instance, corn meal, potatoes and barley are said to be rich in carbon, and therefore these foods are fattening; while wheat, oats and buckwheat are composed of a preponderance of albuminoids, and the surplus is converted into eggs instead of being stowed away as fat.

Then too, like the anxious inquirers who write to Prof. Stewart and tell him what they have, we must take an inventory of our stock of foods and make the best combinations of what we have on hand. Just now I have a quantity of potatoes left over from last winter, but as potatoes are very poor in egg-elements when fed alone, containing very little albumen, I will mix with them cottonseed meal, which contains about 45 per cent. of albuminoids. The latter, however, is said to be rich in carbon also, so lest the diet be too concentrated I will put only one pint of the cottonseed meal to one gallon of cooked potatoes, thus making a tolerably well-balanced ration for one meal. This should be given them in the morning, for it will digest in a few hours, and compel the fowl to take a considerable amount of exercise in searching for their midday meal. At evening they will have boiled corn, which contains carbon in preponderance, and some sort of dry grain, as oats, which contain a large percentage of albumen; and the uncooked grain being slow of digestion, will occupy them during the night. Out of this combination the fowls can obtain all the nutriment they require, both for sustaining life and for the production of eggs, though no set of foods should be fed exclusively for any considerable length of time.

Young chicks that are making bone, muscle, feathers, &c., should be given foods that are rich in both carbon and albumen, for while no animal can live unless supplied with carbonaceous food, neither can it grow when deprived of albuminoids. Many poultry raisers feed nothing to chicks except corn meal, which is principally fattening in its tendency, when equal parts of corn meal and wheat bran would come much nearer meeting their requirements. After the chicks get their growth then the ration for fattening them would be compounded very differently, arranged so as to afford a preponderance of the carbo-hydrates.

A FARMER'S DAUGHTER.

Points from Experience.

The articles by G. Q. Dow in COUNTRY GENTLEMAN of Jan. 24 and Feb. 21, strike me as the common-sense writing of a practical man, who, like myself, keeps fowls for the money realized for poultry and eggs in the market, and not for pastime alone. I wish there were more such writers.

I have been in the poultry business for forty years—more extensively for the last ten years—but I am aware that I can learn much from those who have not followed it so long. I have my houses built in warm, dry places on southeasterly slopes of hills, 40 or 50 rods apart, large enough for 75 to 100 fowls, so that I may experiment on some of the different plans that I see advanced in the poultry journals, and my experience agrees with that of G. Q. D.

It has been generally advised to keep only pullets or year-old fowls for laying, but I have learned that three and four-year-old fowls will lay as many eggs in a year as younger ones. It has also been thought for many years that broken oyster and clam shells, if not necessary, were beneficial to fowls whether laying or not, and—some professional poultry keepers to the contrary—I think they are, for my fowls when let out, go for the pile of shells and eat them as they would corn, and I think if the shells were not of some service to them they would not do that, and I also think they are good substitutes for sharp gravel which cannot always be got as easily as shells.

Again, I frequently have read that a yard of fowls having no cock with them would lay more eggs and be less inclined to set than where there were cocks, and as I thought that would be a saving of food I concluded to try it, and in each experiment have lost more than 10 per cent. in numbers of eggs compared with other yards under same circumstances except the company of male birds.

Much is written about whitewashing houses and using kerosene for destruction of lice, and keeping houses free from foul odors. I have kept 500 to 1,000 fowls for several years, and have never used a spoonful of kerosene or a gill of whitewash in these houses, and I have not seen a hen-louse in years and think one cannot be found on my premises, and I know some who have small lots of fowls and use all preventives recommended by fancy poultry keepers and they are always troubled with them, but they are like the leper who was directed to go wash in the river Jordan—they think my plan too simple. All I ever do for deodorizing or for destruction of vermin is to use plenty of coal or wood ashes, land plaster or air-slaked lime sown on and under the roosts, and thrown into every crack or place of lodgment of the parasites as often as once a month at all seasons of the year, which not only has the desired effect but increases the value of the manure.

These are but a few of the notions in poultry keeping that I have by experience proved to be baseless—but enough for this time.

Orange County, N. Y. OSCAR GARDO.

New Advertisements.

Aultman, Miller & Co.	*The Buckeye Binder.*
Associated Fanciers	*Poultry Book*
Bridges, Mrs. H. F.	*Eggs for Hatching.*
Burnham, Wm. H.	*Jersey Bull Calves.*
Bronson, James L.	*Sale of Holstein Cattle.*
Cloud, Dr.	*Scotch Collies.*
do.	*Jersey Bull.*
Clark, Thos. S.	*Fruit Farm for Sale.*
Call Bros.	*Carpet Weaving.*
Clayton, Henry	*Farms for Sale.*
Cornell, Charles E.	*Jerseys.*
Davenport, T. C.	*Hay Horse.*
do.	*Seed Potatoes*
Donovan, M. C.	*Jersey Heifers.*
Elmwood Farm	*Help Wanted.*
Palmer	*Help Wanted.*
Funk, John	*Jersey Bull Calf.*
Hasbrouck, Ira H.	*Stock Farm for Sale.*
do.	*Scotch Collies*
Jenkens, D. R.	*Cold and Horned Mare.*
Kinsley, J. H.	*Metallic Hame Strap.*
Lessels, Wm. S.	*Jersey Bull Calf.*
Miner, U. H.	*Sale of Holstein-Friesians.*
McBride, A. D.	*Jersey Cow*
Mrs. G. E. A.	*Woman Wanted.*
Morehouse & Annis	*Dairy Farm Seeds.*
do. do.	*Stock Farm Seeds.*
do. do.	*Seeds for the Farm.*
do. do.	*Farm Seeds.*
P. S.	*Help Wanted.*
Rice, H. C.	*Calf Weaners.*
Rutherford, G. F.	*Saddle Horse for Sale.*
Smithson, W. W.	*Sweet Potato Plants.*
Rocklands	*Holstein-Friesians, &c.*
Stewart, Joseph H.	*Farms.*
Thompson, Geo. W.	*Eggs for Hatching.*
Van Schaick, J.	*L. I. Cave-Stock Farm.*
Wain, F.	*Stock Farms.*
Wint, W. N.	*English Mastiff Pups.*

Pamphlets, &c., Received.

ANDREWS & LOGAN, *Ohio Stock Farm, Youngstown, O.* Catalogue of Trotting, Cob and Thoroughbred Horses; pp. 124.

COFFIN & STANTON, Bankers, *New-York.* Very handsome Perpetual Calendars.

CROSBY, THOS. S., Sec'y Yarmouth County Agricultural Society, *Yarmouth, N. S.* Prize List for Exhibition, Oct. 10-11.

GREYLOCK FARM, *Greenland, Henrico Co., Va.* Circular of Standard-bred Trotting Stallion Altonian 2:28.

KING & CO., 22 *Grove St., Lisson Grove, London, Eng.* Illustrated Circular of Saddles, Bits, Bridles, &c.

STUART, HENRY C., Real-Estate Agent, 180 *Curtis St., Denver, Col.* "Treasures of the Rockies;" pp. 48, Illustrated.

Inquiries and Answers.

Flax Culture.—A friend is anxious to get information on the cultivation of hemp and flax, and preparing the same for market by baling or otherwise. The very low price of breadstuffs renders it necessary for farmers to endeavor to find other crops suitable to their sections that will pay better than our regular farm crops are now paying. I well recollect when both flax and hemp were cultivated in this section, and some of it manufactured on the larger farms. S. *Spottsylvania County, Va.* [Will some one of our readers who has made flax culture a practical success, please do us the favor to answer the above inquiry? Meantime, our correspondent is referred to the several articles on the subject in the COUNTRY GENTLEMAN for 1867, which he may readily find with the index, if he has that volume.]

Leaky Floors.—My house, recently purchased, has developed the fact, the past winter, of single floors first story, and the air comes up from the cellar through the carpet with under-lining of double brown paper and cotton batting between, sometimes raising the carpet. The winds are strong here and very cold; the rooms, consequently, too cold to sit in. I am considering pasting building paper under floor, between beams in cellar. Will not this be more effective than increase of carpet lining? F. W. S. *Ridgefield, Conn.* [Yes, but it would be still better to attach the paper (by tacks) to the *lower edges of the beams*, thus imprisoning a considerable thickness of air between paper and floor. Of course the paper must fit tight, and it will probably be best to have two thicknesses, one covering the joints of the other. Get paper in rolls, not sheets, and run it crosswise of the beams.]

Farm Wanted.—I see a number of farms for sale in your country and have been thinking of looking some of them over. I have some boys coming up and would like to get them more land than we now have, being 180 acres. I should want from 300 to 500 acres. A stock and grain farm with plenty of wood and water, near church and school, postoffice, etc. As we have severe winters here, I should prefer a milder climate. Would Virginia be a good state to suit me, or would you recommend some other? S. *Ontario, Can.* [There are so many requisites in selecting and managing a farm, and purchasers differ so greatly in their preferences, that it would be advisable to make your own selection after thorough personal examination. The further south you go, the warmer the climate becomes; at the same time the warmer regions have their drawbacks. The advantages and defects will be variously balanced by persons of different preferences. A large state like Virginia affords in its different parts a great diversity of soil, climate, and the various facilities for successful farming. If you will give in an advertisement a description of the farm you desire, with its market and other local advantages, you will doubtless receive many applications for examination.]

Autumn Seeding.—We have a field of about thirty acres that we want to get in grass. We do not care about the grain crop. Would it be advisable to sow in fall with timothy by Reel? C. H. *Centre Square, Pa.* [If your soil is reduced to a fine, smooth, mellow condition (which would be improved if it had a top-dressing of short manure), a seeding with timothy would doubtless give you a good crop next season—the grass seed to be brushed or rolled in, so as to be buried not over an inch deep, and the weather proving sufficiently moist to cause germination.]

Repelling Rats.—Will some of your readers kindly tell us the most feasible way to rid a barn of rats? We cannot use poison, as chickens, &c. are all about. MUNCY. [If easy access can be had to their holes, wedging these full of small broken glass will exclude them, but these energetic little fellows will pull out large loose fragments. Chloride of lime placed in their holes is extremely distasteful to them, and will aid in repelling them. But in barns which have as usual a great many hiding places, we have never found anything equal to a few cats—not house cats, but such as can be induced to frequent or remain in or breed in barns by occasionally feeding them there. For other devices that have worked very satisfactorily, see p. 47.]

Prices of Milk.—Please state prices paid by creameries and cheese factories in different states for milk per hundred pounds in summer and prices in winter. A. C. *Irwin, Va.* [We can give the figures for New-England only. Factories run on the Cooley system of cream gathering in New-England paid for the last summer term (May 1 to Nov. 1) 21½ to 25 cents per pound of butter net to the patrons without any deductions; this was the price that the farmer got in his pocket, the creameries paying all the expense of gathering the cream and every other item. For the entire year the average runs in the different factories from 25 to 28 cents net to the patrons per pound. The whole milk and cheese factories in New-England paid on an average for the season 81 cents per hundred for milk.]

Crops on Sod Ground.—I have an acre of pasture that has not been plowed for thirty years, and I shall plow this spring. What would you advise planting, corn, oats or potatoes; and of corn (that is to cut green for fodder) would you plant in drills, hills, or broadcast? E. W. *Brockville, Ont.* [Doubtless you would obtain a good crop of corn, if not plowed more than five or six inches deep and the sod handsomely laid over. If the corn is intended exclusively for green fodder it would afford the best return if in drills—thickly planted if the stalks only are wanted, or thinner if you desire some grain with the stalks. Sowing broadcast is objectionable, giving a less valuable crop, preventing horse-cultivation, and favoring the growth of weeds. You may probably obtain a good crop of potatoes if the plowing is seven or eight inches deep, the upper surface of the inverted sod being well pulverized, and the potatoes planted at least four or five inches deep. Oats might afford a tolerable crop on a preparation like that for potatoes, if the crop is sowed quite early.]

Milk Separating by Horsepower.—I wish to know whether any one has successfully used a two-horse tread-power to run a cream separator. To get up sufficient motion, does it not require such rapid action of the horses as to injure them? G. W. F. [A two-horse tread-power may be used to run a centrifugal cream separator as easily and safely as it can run a threshing machine or a circular saw. All that is required is to gear up the machine with the requisite pulleys and belting without in any degree accelerating the speed of the tread-floor. A simple calculation will give the needful size of the pulleys. If the band-wheel of the horsepower makes 100 revolutions a minute, the separator drum must be moved 40 times as quickly. Then, if the band-wheel of the power is 40 inches in diameter, and the drive-wheel of the separator is the same, the band from the horsepower may run on a pulley 8 inches in diameter on the drive-shaft of the separator, and the band from the drive-wheel of the separator run on a five-inch pulley on the drum shaft. This would increase the velocity forty times, because forty divided by eight equals five, and forty divided by five equals eight, and eight multiplied by five equals forty, which multiplied by 100 gives the 4,000 revolutions required.]

Melon Caterpillar.—How shall I treat my cantaloupes? Every year we are troubled with worms that destroy more than half the melons. H. M. *Atlanta, Ga.* [In the absence of any description, we only infer that the "worms" here spoken of are the melon caterpillar (*Rudisoptis hyalinata*), which in some parts of the South is quite destructive to melons. The larvæ feed on both leaves and fruit of cucumbers, melons and pumpkins, in all stages of growth, excavating shallow cavities or penetrating directly into the substance of the fruit. During the early growth of the plants, sprinkle on them water in which powdered hellebore has been mixed at the rate of an ounce to two gallons of water. Where the plants are few they may be killed by hand.]

Gapes.—For two years I have been raising chickens, and have been terribly troubled with gapes. I saw an article in your paper that led me to believe it was a disease of the old fowls; so this year I had a chicken yard made so that the old ones could not run with them, and thought that would do away with the gapes, but this morning I found they have it very badly. I have tried a great many remedies. Do you think it would be best to have the chicken yard plowed? Any advice from you would be very thankfully received. M. H. A. *Magnolia, N. J.* [Plow the ground by all means, putting the poultry in a fresh place meanwhile. See valuable articles in the COUNTRY GENTLEMAN for 1868, pages 269, 339, 369 and 389.]

Seeding to Grass.—I have a piece of land that I sowed last fall with rye which I intend to cut about the latter end of May for green fodder. After this is off I propose seeding down. Would you advise sowing with oats to cut green (the oats to be cut before ripening for fodder), or would you think it preferable to wait till August and seed down with fall rye? The land is light, but will be well manured. S. W. *Brockville, Ont.* [If your principal object is to seed down to grass, we advise you by all means not to sow grass seed with the green crop of oats, as this would shade the young grass and prevent it from making sufficient growth before winter. This would be especially the case where oats are sown more thickly for fodder, as is usual. A second crop of winter rye, preceded by some manure, would be better, timothy or orchard grass being sown when the rye is sown, making some growth before winter, and clover added early next spring. The rye crop to be cut for the grain next season. Or, you may reduce the soil into a fine condition after the first crop of rye is cut, and sow alone with grass this season and with clover next spring. If the soil is fairly moist, this will give you a better grass crop next year than sowing with grain.]

The Idaho Pear.—I have been waiting a whole year to see who has the Idaho pear for sale, which was promised this spring, but have waited in vain. Do you know who has it? I expected to find it in your journal, but probably the propagator does not know the value of printer's ink. O.

Agricultural Legislation.—The first law of any agricultural interest passed by the present New-York Legislature was signed by the governor last week, becoming chap. 148 of 1869. It establishes at Cornell University a State meteorological bureau under the (unpaid) care of the State superintendent of public instruction, the Cornell professor of civil engineering, and a person to be named by the governor. These commissioners are to "establish, if practicable, one or more volunteer weather stations in each congressional district and supervise the same, cooperating with the chief signal officer of the United States for the suitable location of stations, in order to increase the usefulness of the State and National services. The commissioners are authorized to print monthly reports and distribute the same in such manner as they shall deem most serviceable to the people." The sum of $4,500 is appropriated for clerk hire, printing, &c.

The Assembly passed (with some amendments) the Maynard fertiliser-control bill—see p. 98.

Mr. Lane introduced in the Assembly a bill providing that cheese made from milk from which any part of the cream has been taken shall be branded "skim cheese."

Acknowledgments.

Communications for publication have been received during the week ending April 23, from Prof. E. W. Stewart (2)—Stephen Beale—G. A. Gri, Jr.—Geo. A. Stockwell—Palmetto—M. H. Albertson—John Gould—F. W. T.—Thomas Bowick—S. Annis—J. H. Alexander—J. Hannam Clark—Sylvester H. Clark—Richard J. Fagan—Wm. H. Boomer—Agricultural Engineer—N. G. Williams—Wm. Horne—John B. Shafer—L. C. Mead—Geo. Parr—Reuben Brown—James S. Smith—E. Reynolds—Stephen Beale—Henry Stewart—John Boyd—A. P. Rowe—Mrs. Bearhand—Prof. E. W. Stewart—R. M.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, April 25, 1869.

Perkins' Farm Accountant—Is now again (and we suppose finally) out of print. We have sold the last copy, and no further issue is expected.

Back Numbers Wanted.—We have two orders to complete sets of the COUNTRY GENTLEMAN from the beginning, and lack the following issues; persons having them, *or the volumes in which they occur*, and willing to sell, will do well to let us know:

1853—Jan. 13 and 20; May 5; June 16 and 23; July 7.

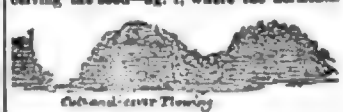
1864—Jan. 28; Sept. 1.

1865—April 6; Aug. 17 and 24; Sept. 7, 14, 21 and 28.

It seems a pity that two sets should be left imperfect for lack of these few issues, and we sincerely trust that readers who may have piles of the paper stored away will be willing to try to assist us to fill the blanks.

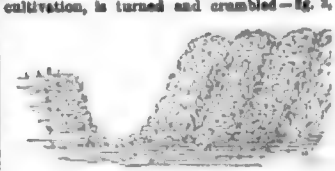
A Few Practical Hints.—The spring work of putting in crops, and directing the growth for the season, if properly performed, will have a large controlling influence for success. Among some of these operations are the following:

Plowing Stubble Ground—Or any land other than sod, may be done in a thorough manner on one hand, and superficially on the other. A most important requisite is thorough pulverization. Some sowed crops have been nearly doubled in preparation by repeated harrowing, reducing the soil to a finely pulverized state. But much of this work may be done by the right kind of plowing. Farmers are apt to hurry the matter too much in their anxiety to push rapidly their spring work. Their plowing is too much like the old "cut and cover" way. A part of the soil is never moved at all. It lies solid and undisturbed, and the narrow furrow slice which the plow turns up is thrown upon it. If this furrow slice consists of clods, the whole is in a very poor condition for receiving the seed—fig. 1, where the horizontal



Cut-and-cover Plowing

lines show the soil undisturbed by the plow. In direct contrast with this slip-shod work, is the complete mellowing of the whole soil by the simple and effectual plowing of *narrow furrow slices*. All the soil, to the full depth of cultivation, is turned and crumbled—fig. 2,



Narrow-slice Plowing

where loosening all the soil forms a deeper bed of mellow earth. It is much better to plow off only five or six inches from the land than to try to drive the work so fast as to attempt to turn a foot and a half at a time. Plowing narrow slices pulverizes the whole to the full depth, and in this respect does better work than repeated harrowings, which only mellow the surface. Both when combined fit the soil for the seed in the most perfect manner, and make it as fine as an onion bed.

Plowing Sod—A common preparation for

THE LATE MR. JOHN OSBALDESTON'S CHESTNUT COLT BY THE BARON—BEAUTY, BY BEE-HIVE.

Sold by all Chemists, 1s. 6d. per Box.
DR. DE ROOS'S
PILLS OF HEALTH.
Prepared from Herbs only.
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Sold by all Chemists, 1s. 6d. per Box.

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The Grazier and Breeder.

Corn Fodder, Clover and Bran.

Eds. Country Gentleman—In your rations, people never say anything about corn fodder as a food for cows, cut or uncut. Will you make a ration for Jersey cows from clover hay, chop of one-third oats, two-thirds corn and wheat bran, and corn fodder? Will you also state whether a ration means enough for a day's feed, divided into two portions, and fed half in the morning and half in the evening? Or does it mean just one feed, to be doubled each day? Also, will you tell me which of the Belle City cutters will answer for me with four cows, the No. 7 hand lever, or the No. 5 section feed cutter, which is spoken of as the best hand cutter in the market? The difference in the price is very great, and I want to know if the first would be good and easy for a man to use. Also, is the Red Jacket horse hay-fork a good, reliable tool? S. *Muncy, Pa.*

1. S. cannot have read very attentively the rations given the past winter, since a large part of them used either corn ensilage or corn fodder. He will find one in answer to E. H., on page 190, March 7; also on pages 208 and 294, with corn fodder as a part of the ration for milk and butter.

He asks a ration for Jersey cows, from clover hay and chop, one-third oats, two-thirds corn. Let him take the following: 14 lbs. clover hay, 12 lbs. oat and corn chop, in analytical formula. This will show the following digestible nutrients, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
14 lbs. clover hay.....	0.98	5.60	0.20
12 lbs. oat and corn chop....	1.03	6.79	0.57
Total.....	2.01	12.39	0.77

This has a nutritive ratio of 1 to 7, and is rather wide; would be better with 9 lbs. chop and 3 lbs. wheat bran. This—like all rations given—is for one day's feed, to be fed half morning and evening.

He also asks a ration with wheat bran and corn fodder, but a ration with corn fodder cannot be balanced with wheat bran. We will therefore give him a ration with half corn fodder and half clover hay, say 7 lbs. corn fodder, 7 lbs. clover hay, 4 lbs. oat and corn chop, 10 lbs. bran. This will have the following digestible nutrients, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
7 lbs. corn fodder.....	0.17	3.45	0.03
7 lbs. clover hay.....	0.49	2.80	0.10
4 lbs. oat and corn chop....	0.35	2.26	0.19
10 lbs. wheat bran.....	1.17	4.80	0.35
Total.....	2.18	13.31	0.67

This has a nutritive ratio of 1 to 6, and is a slightly better ration than the other. But it is easy to see that if we had taken 14 lbs. corn fodder, it could not have been balanced by bran alone, but would have required several pounds of oil meal to balance it. This is the best ration S. can compound of his foods if he proposes to use his corn fodder. But he will understand that the corn fodder and the clover are to be cut, and that the ground feed and bran are to be mixed together, dry, and then mixed with the cut and moistened corn fodder and clover hay.

He may think this is an excessive grain ration, but if his cows are large and rich milk yielders, this ration will be none too strong, and will pay better than a smaller ration. But if these cows have been fed scantily, and are moderate yielders of milk, then he may deduct one fifth of this ration, until they get used to it, and then increase it up to the standard.

2. I cannot advise as to the cutter. He needs a cutter that runs with the least power, and has got several lengths of cut, for the corn fodder should be cut short to have the best effect. He can determine in regard to the cutter best by a trial. The cycle cutters run with least power. Nor can I advise as to the horse hay-fork mentioned. H. W. S.

Cooking Feed, p. 273—I see I am referred to as stating at the New-York Institute that cooked food is no more digestible than uncooked. Prof. Stewart, in a very courteous way, rather takes me to task for this statement, and asks for information. I do not remember making the statement; very likely I did, but if so, it was in reference to feeding live stock, and had no reference to our own diet. I believe that experience, no less than scientific research, has shown that cooking food for live stock does not pay. That while the food may be made slightly more digestible, the improvement does not warrant the expense. Else what mean the idle steamers purchased at considerable expense now rusting in some shed or corner of the barn on so many farms of our most intelligent farmers? I believe careful experiments at our stations show that the "game is not worth the candle." With us it is different. We, and our ancestors for ages, have had our food cooked, and our digestive organism has become modified, so that it requires the cooked food, just as the Short-Horn needs good care. Cared for as the scrub often is, the Short-Horn becomes lank and dies. So too the reindeer in our sunny warm barns would die. Our animals are not used to cooked food, and do not need it. If we should cook their food for several generations, then, like us, they would require this extra preparation. Now I believe they do not, and that cooking is not profitable or desirable.

Michigan Agricultural College. A. J. COOK.

A Model Cattle Barn.

Eds. Country Gentleman—Last week I visited the Geddes Farm at Fairmount, N. Y., and was cordially entertained by the proprietor Mr. Geo. Geddes and his superintendent Mr. J. P. Snider. The principal business of this old and well known farm now, is the production of milk, which is sent twice a day to the Onondaga County Milk Association in Syracuse N. Y. This is a large stock company which delivers milk, cream, cheese and ice cream throughout the city.

Mr. Geddes has just completed a large barn with accommodations for 90 cows, and in addition has a room especially arranged with box stalls of various sizes, for the raising of calves, as he is of the opinion that he can supply his own dairy cheaper by raising them. His mode of raising calves is simple and can be briefly stated. The calf is allowed to stay with its mother until it is three days old, and then it is taught to drink new milk, which is gradually changed in about four days to a sort of warm gruel, composed of skim-milk, ground oats and hot water. This is fed to them in quantities, from four to six quarts each, according to the age of the calf, and in addition to this they have a regular allowance of corn ensilage which he thinks is an indispensable article of food for the growing of young cattle and the production of milk, on account of its cheapness and milk-producing qualities. His herd is composed of Holstein-Friesians, and are a credit to that breed of cattle.

His barn is constructed in two one hundred-foot buildings standing at right angles to each other, and is supplied with a six-foot passage-way running the entire length. The floor is made of planed plank and has iron tracks for the accommodation of cars which convey the feed, &c. The cows stand in two long rows, facing each other, and are secured by the Wasson revolving stanchion. The floor on which they stand, as well as the gutter and space behind them, is made of grout, composed of sand, gravel, small cobble stones and Portland cement, which has the appearance of lasting a life time. The bottoms of the mangers are made of boiler iron, rivited together in sections 38½ feet long, and are watertight; they are in the shape of a half circle 18 inches in diameter and 9 inches deep, resting on circles cut out of plank placed three feet apart. In one end of the manger there is a 1¼-inch hole in which a piece of pipe five inches long is inserted at watering time and also acts as an overflow pipe. At the other end is a 1¼-inch pipe running from a large cold-water tank overhead in the hay mow and also a one-inch pipe coming from a hot-water tank situated in the same place. So it will be seen that the cows are supplied with water at any temperature desired, which in this case is from 66° to 70°.

The system of ventilation adopted is, I think, worthy of note. On each side of the barn there is constructed a double flue box 8 by 6 inches, making the flues 6 by 12 each, which extend from 6 inches above the floor of the stable, up through the mow, and out just under the plate, and in one of them just under the ceiling of the stable is a door, which, when it is too warm, is opened to allow the hot air to pass off, while at all times one is taking the foul air from the bottom.

As I have noticed several articles lately in regard to warming water for cattle, the method used here may be of interest, especially to milk-producing farmers. The system was built by the H. M. Jacobs Furnace Co. of Syracuse, and is known as the "hot-water circulation" plan. There is placed in the [house] furnace directly over the fire pot a hollow round casting, holding four gallons of water, and at one side near the top and bottom there are two holes in which are screwed 2-inch pipes, which run underground side by side to the barn, 260 feet, into a tank where they connect with a coil containing 108 feet of pipe, and are then joined together, thus making a complete circuit of about 600 feet of 2-inch pipe; to one of the pipes about 5 feet from the furnace is attached a pipe one-inch in diameter which runs to a supply tank in the top of the house which acts as an expansion tank as well.

The first time the heater was started up, last fall, the water was warmed from 55° to 148° in one hour and fifty minutes. It does not cost a cent to warm the water, as I am informed that no more coal is ever put into the furnace than is required to heat the house. This plan is about the best that has ever been brought to my attention. I would advise any farmer who thinks of erecting a cattle barn to visit Mr. Geddes' barn, knowing by past experience that they will be very agreeably entertained. C. P. T. *Syracuse, N. Y.*

Fast-Horse Breeding.

Eds. Country Gentleman—Horse-breeders and farmers here are turning their attention toward the light weights — thoroughbreds, coachers and trotting stock. Already symptoms of a fast-horse craze are abroad, and if the thing goes on as it has started off, in the course of two or three years Central Illinois will become as large a source of light-weight supply as the region has been for drafts in the last five years. The favorite appears to be the Kentucky trotter, and no wonder, considering the enormous strides into popular favor, both at home and abroad, that it has made within a few years; something like a measure of which may be learned from the fact that high-grade and first-class stallions, valued at $35,000 ten years ago, advanced in money price to $80,000 five years since, and to-day cannot be purchased for $100,000—at least so say the enthusiastic breeders and sportsmen devoted to this now famous stock. I have some confidence that the central counties of Illinois will yet rival the celebrated blue-grass counties of Kentucky and Tennessee in the successful breeding of fast horses, because there is nothing in the way of such a success but a knowledge how to so handle the Illinois black soils, and fertilize and phosphate them, that the grains and forage will be nearly like and equal to those produced from the mulatto soils of the blue-grass counties south of the Ohio river.

Next to the Kentucky trotters in favor with our breeders and farmers, appears to be the French Coach horse—the noted *demi-sang*, or half-blood, so called because the product of the English racing stallion bred to the best French native mares. Following these closely is the German Coach horse, the get of the English Cleveland Bay on the choicest of German breeds and races. Both the French *demi-sang* and the German Coach are largely employed as coach and carriage horses by the landed and money aristocracy of France and Germany, and not a small contingent of those bred by the two governments serve as mounts for the superior officers and staff of the several enormous standing armies.

While the demand for heavy weights and drafts asks for and will be satisfied with none but the best, the call for coach and carriage horses of size, step and style, is nearly unlimited, and common large-boned and muscled animals, capable of continued hard and fast work, are wanted in every large town and larger city quite as much. It is, I think, a striking feature of new communities and of communities which cannot be considered old, that when a craze, a fashion, a belief, or a notion gets abroad and seizes upon a few, it is pretty sure to become epidemic. It is thus with the rising rage for fast-horse ownership and breeding. Not only professional horsemen and breeders and farmers are buying and keeping horses for the season, but men of the professions, bankers and merchants engaged in active business, together with idle men or those of no special calling, are devoting their time to this work—or, perhaps, to phrase it more nearly, engaging in the fascinating affairs of speculating in fast and fine horses for a rise. Of course it is not safe to predict how far this new rage will carry those who have been taken by it. The draft horse furor lasted twice the time predicted for it, but if fast horses bring as much money into the State and save as many at some future time from financial disaster as the heavy-weight horses did, we need feel thankful for the present rise and future reign of the fast-horse furor.

Now in this connection it will not perhaps be out of place to make suggestions toward the improvement of pastures and meadows and the lands yielding grains and forage. Essential things above all others are that the fast horse shall have large and strong bones, wiry and not too large muscles, compact and firm articulations of the joints, and great staying qualities, the result of large nerves and abounding vital energy and force. These high qualities can be had combined from no other source than the feeding from birth of grasses, grains, and forage containing that amount of the phosphate in the first place and albuminous matter in the second, which the plants take up from the soil and which make the perfect individual. These essential qualities of soil to produce grains and grasses of the highest perfection are common in the land of the blue grass region of Kentucky, and hence the all-prevailing reputation of Kentucky trotters and thoroughbreds.

The soils of Central Illinois, whether the black of the prairie or the yellow loams of the timber, are in some things as rich as those of the blue grass, notably nitrogen and potash, but they are deficient in the phosphates, and these must be added in quantity sufficient, else the Illinois fast horse of the future will be in danger of developing soft bone, flaccid muscles and weak articulation, with the consequences all these defects imply. If breeders and amateurs would properly consider these facts and use the phosphates so liberally that every spear of grass, every blade of herbage and every kernel of grain should contain the largest amount of these life-giving principles consonant with vigorous health, they would soon find themselves in possession of breeds of fast horses in speed, energy, size and staying forces equal to those of Kentucky or even the famous Arabian of the East. B. F. J.

Champaign, Ill., April 12.

Developing Heifers.

Eds. Country Gentleman—Please give ration for developing two Jersey heifers, 18 mos. old, due to calve middle of April—will be pastured on good blue-grass and clover during summer—without regard to quantity or quality of milk. Feed, coarse, and fine wheat bran, corn meal, corn fodder, and linseed meal. Have no hay, but if fodder is not sufficient I can get timothy hay. Please give analyzed formula of the above ration. M. *Olney, Md.*

M.'s heifers will have dropped their calves before this reaches him. Until they get entirely over the effects of calving, they should have no stimulating food. Perhaps the best that he can do will be to give them 2 lbs. short-cut corn fodder, with 3 lbs. of fine bran, ½ lb. linseed meal, all mixed together, given in two equal feeds, morning and evening.

They should only be allowed to go in pasture for an hour or so per day, until they thoroughly get over the effects of calving. Let him feed the above small ration, say to the middle of May—then he may combine the following: Two pounds short-cut corn fodder, 2 lbs. corn meal, 2 lbs. fine bran, 1½ lbs. old process linseed meal.

In analyzed formula it shows the following digestible nutrients, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
2 lbs. short-cut corn fodder,	0.05	0.70	0.01
2 lbs. corn meal.....	0.17	1.36	0.09
2 lbs. fine bran.....	0.25	1.05	0.06
1½ lbs. O. P. linseed meal..	0.42	0.42	0.09
Total.....	0.89	3.53	0.27

This has a nutritive ratio of 1 to 4.4. This combination is well adapted to developing these heifers as milk yielders, and to keeping them in good health. It will probably be best to feed a little less at first and gradually increase it up to this amount. The corn fodder is given for the purpose of giving bulk to mix the concentrated food with. This is a precaution necessary to the health of the heifers. It will be better to feed about one-third of this in the morning and two-thirds at evening. This will give them a better appetite for grass during the day.

In developing heifers, excessive feeding should be avoided. When they get more feed than they properly digest, it prevents, rather than promotes, development.

2. It may be well for us to state that a long milking season is the most important point in a profitable butter cow. Therefore, we recommend that a heifer with her first calf should not be bred again until about six months after dropping her calf, so that she may have a long

milking season and help to establish this habit. If M. will report in the fall the effect of this ration through the summer, yield of milk, &c., the ration adapted to winter will be given.

E. W. S.

Malt Sprouts for Pigs.

EDS. COUNTRY GENTLEMAN—Have the kindness to let me know the difference in the price of bran (new or roller process) and malt sprouts. What is the price of bran and malt sprouts in your market? Can they be made a substitute for clover hay for shotes of 100 lbs. and over, and in what proportion should the sprouts be used? I am feeding one-fourth crushed corn and cob, one-half bran and one-fourth shipstuffs, all mixed with boiling water, let stand twelve hours and fed warm. F. J.

Fredericksburg, Mo.

Roller bran has less albuminoids, or muscle-forming matter, than malt sprouts, and also less digestible carbohydrates, but more fat. At the present time the price of malt sprouts and wheat bran is about the same, say $12 per ton by carload, but it must be noted that malt sprouts often vary very much in quality, being sometimes scorched in drying, frequently dirty from sweepings of floor. The quality we give is supposed to be dried at the proper degree of heat, to be of a bright color, and have a sweet, fragrant smell.

2. The ration for shotes of 100 lbs. weight might very properly be made up of cob meal, bran and malt sprouts. The cob meal should be ground fine. He may mix in the following proportions: Two parts cob meal, one part bran, one part malt sprouts. The digestible nutrients of this mixture will be: Albuminoids, 11.2; carbohydrates, 52.2; fat, 3.0. This has a nutritive ratio of 1 to 5.5—a very good combination to grow the pigs into a large, rangy frame.

He may mix all these materials together and wet up with boiling water, letting it stand a few hours, and then feed warm. As the period of fattening advances, he should increase the proportion of cob meal, and decrease the proportion of the other two.

The pigs ought to do well and keep healthy on this diet.

E. W. S.

The Dressed-Meat Traffic.

EDS. COUNTRY GENTLEMAN—I find on page 273 an article on the above subject, its effects upon farms and public health, which, mainly because it has been printed in your journal, seems to me to require reply.

It would take too much space to consider and one by one refute the reckless statements of that article. I prefer to state facts which are historically true in relation to the grazing of cattle and the supply of beef to the City of New-York.

In the time, within my own memory, when there was no Erie railway and no Hudson River railroad, and when the railroads afterwards consolidated as the New-York Central had but a single track and small traffic capacity, the city's supply of meat came from near-by counties. Some came from Long Island, some from Connecticut, some perhaps from Western Massachusetts, some from Otsego and other central counties, but the greater part of the prime steers came from Duchess and the other counties of our State on the east side of the Hudson. These prime steers, it should be remembered, were from four to six years old. Our family supply of beef came from old Grainger, in Washington market, one of the best butchers that ever wore blue check, and he used always to apologize if he offered four-year-old beef. "Six years old and never did a day's work," was what he was after.

By-and-by we began to get beef from Ohio, on foot, and then, as more railroads were built, the supply from Ohio and Illinois became abundant. The rich agricultural counties of Western New-York began also to furnish a good deal. Grazing in Duchess and the other river counties felt the competition, but grazing in those counties declined less because of western competition than because the growth of the city so increased the requirement of milk as to make the production of milk upon farms near enough to the Harlem and Hudson River railroads more profitable than the production of beef.

It was not long, however, before the extension of our railroad system brought in the competition of Kentucky, of Missouri, and gradually of other western States. The vast improvement produced by the general use of bulls of the Short-Horn breed enabled the western graziers to make three-year-old steers weigh 1400 pounds and over. This, with cheap land, fine grass, and low rates of freight, settled the matter, and stall feeding in New-York was virtually abandoned.

Now, when did this occur? In great part before the war it became absolute in the effect of the changed conditions more than twenty-five years ago.

Yet, while there is now no stall-feeding, or next to none in our State, it is a mistake to suppose that we do not produce a good deal of our own beef. To say nothing of the poor stuff made in the dairy districts, and indeed all over the State from worn-out cows and miserable young cattle, and consumed in places where nothing better is to be had and by people who cannot afford to buy what is better, or who have not learned that the best is really most economical, there is a great deal of very good grass-fed beef made in New-York State, especially in the best western counties. Thousands of lean steers, the leaner the better, pass through the Buffalo cattle market every spring. They go to the enterprising farmers of "the Genesee country," as it used to be called. Some of them have permanent grass lands, as all along the Genesee river. More of them have learned that their best profit is in keeping little or no permanent stock, but in yard-feeding sheep in winter and in grazing steers in spring and early summer on their mower fields. Some carry steers from March to November, and then ship them or such of them as they cannot sell to butchers near home, but most of the beef thus made supplies the home demand from July on until the time comes to get in the stock of sheep for winter feeding.

Enough has been said, I think, to show that the dressed meat business has had nothing to do with the present state of grazing husbandry in New-York. That came about many years before the first car load of dressed beef ever came to the seaboard. But what was the character of our beef supply before we began to have beef brought from the West in the car-cases? It was adequate in amount, and generally satisfactory in quality. There was, however, a very considerable loss in weight, and occasionally deterioration in quality from the hardship of long railway transportation, and upon both economical and sanitary grounds some improvement was demanded. Laws were passed requiring more frequent stopping of cattle trains for rest and feeding. These did some good, but not good enough. Attempts were made to diminish the sufferings of the animals and the loss to the owners by inventing and introducing improved cars. This, for one reason or another, failed. Then, by degrees, the majority of thoughtful men settled down to the conclusion that the best way to get beef from the West to the East was to kill the cattle where they grew. Finally the refrigerator car became a success—shrewd and enterprising men saw in it the solution of the problem, and we got what we wanted—the "dressed-meat traffic."

I have said that our beef supply, before the dressed-beef era, was adequate in quantity and generally satisfactory in quality, notwithstanding the defective system of transportation. Why? It is such an absurdly wild misstatement to say that the animals were inspected before slaughter by "local health officers," that I cannot conceive it to have been made in ignorance of the fact that we have never had any system of inspection. No, the public has been protected by the high average probity and intelligence of our butchers—tradesmen equal in character to the men of any other craft or calling in the country.

Now, as I have remarked, we have got what we wanted—beef killed where grazed, and transported in refrigerator cars, which are practically independent of temperature—and at once there rises a howl of what I cannot believe to be honest or intelligent discontent. What is the new system at fault in? I have been using dressed beef ever since the traffic began. I am a good judge of meat, both as a consumer and a sometime feeder; I can testify that the average quality of the dressed beef that has come under my observation is as satisfactory as that of the beef I have eaten from the stands of the best city butchers. As to price, in New-York, beef on the foot, of the best quality, was worth seldom less than ten (and frequently as high as twelve) cents per pound for the estimated weight of the quarters, usually about 55 or 56, and occasionally as high as 60, per cent. of the live weight. Now the dressed meat, just as good in my humble opinion, can be bought for seven, eight or nine cents by the side.

What else is the dressed meat traffic doing? I am no longer a resident of the city of New-York; let me take the town nearest my country home—it is quite a large town, and has perhaps a dozen butcher shops. Of these, three only sell western dressed beef. In consequence these three have all the best trade of the town. Formerly if I wanted a piece of beef fit for anything better than soup-meat, I had to send to the city, pay city price and express charges besides. To-day I had on my table a second-cut rib roasting piece, three ribs, that weighed 15 pounds before it was cooked; a better piece of beef nobody could desire, and I paid 15 cents a pound for it, cut short at that. So it is in every town and village of our State not unfortunately too unaccessible.

As I have written with some warmth, though I think with no more than the importance of the subject justifies, it may perhaps be as well for me to disclaim having any interest in it except as a citizen and a consumer, and to state that I have no acquaintance with any person interested in or connected with the dressed meat traffic.

Whether the article which has occasioned my addressing you this letter has any connection with the bill now before the legislature, except as it appears upon its face, I do not know. I hope that bill may not pass. If it becomes a law, very serious loss and inconvenience must result, and that, so far as I can see, without any compensating benefit. The bill may have been inspired by the State Board of Health, a body of unquestionable good intention, but not always wise and far-seeing in judgment, but to me it looks like a "strike" of the worst kind. I may be wrong in my opinion, and am more likely to be because we have just now a sort of epidemic of silly legislation, which is quite as bad for the body politic as the vicious and corrupt legislation of a not remote period.

F. G.

The Dairy Department.

Ration on Pasture.

Testing Milk.

EDS. COUNTRY GENTLEMAN—My two year old Jersey is doing nicely on the ration prescribed in the COUNTRY GENTLEMAN of Feb. 21. Will you be kind enough to give me the best ration for this cow when I turn her out to pasture? I want the best to make her give a large rich flow of milk. Never mind the price on the ration prescribed. She is now giving 18 lbs. of milk per day, and on Sunday last I tested it in a cream gauge and it tested 20 per cent cream. Do you consider this a good cow or not? Whenever this cow gets a chance, she will eat my grape vines and also will lick ordinary hard soap, and when I let her out will lick earth. I think there is something this cow needs. Can you tell me what it is? I feed her 2 ozs. salt per day in her feed. This cow had been 5 months and 4 days in milk when the above test was made and about 3 months in calf. T. B.

Montgomery, N. Y.

1. T. B. may give the following ration on pasture: Three lbs. cut hay, 1 lb. corn meal, 3 lbs. middlings, 1 lb. oil meal. This ration will be mixed according to directions given in former ration. Let ½ of this be fed in the morning and ½ at evening. If his pasture becomes short, let him add 1 lb. to the corn meal, 1 lb. to the middlings. After three months let him omit the oil meal.

2. The yield of milk of this heifer five months after calving is very good. Twenty lbs. at the best is considered a favorable yield for a heifer with her first calf. Her milk tests very well also, but the per cent. of cream does not give a certain index to the quality of the milk. Only raising the cream and churning it to butter will do this.

It may be presumed that this heifer would yield a pound of butter from about fourteen pounds of milk. B. would do well to set her milk for two days and churn it to butter. He will then know precisely the quality of his heifer's milk.

3. He speaks of the morbid appetite of this heifer, but this will all pass away after she is turned out to the field. The ration which he has been feeding must supply all the wants of her system. Perhaps he might properly add another ounce of salt or place a lump of rock salt within reach that she may lick it at will. We have never known cows to show a want of bone material when given five pounds of wheat bran. The ration above given for pasture is all this heifer should have to insure her safe future development.

E. W. S.

A Cold-Storage Room.

EDS. COUNTRY GENTLEMAN—I have a log-house, weather-boarded on the outside and plastered inside, dimensions 16 by 20 and 11 feet high, which if possible I should like to make into a cold storage room for milk, butter, cheese, &c. Can you give me a plan to accomplish it? O. B. S.

Buckland, Va.

But for the location it might be supposed that this cold-storage room is to be cooled by ice. Considering this a matter of doubt, a method for constructing an ice chamber in the upper part of the building will be described first, and then suggestions given for making a dry cool-house of it.

As several tons of ice would be needed, the lower part of the house should be partitioned off by strong posts, at least 8 by 10 inches, set on bases of 4-inch oak plank, 16 inches square, bedded in the earth. These posts should be set 6 feet from the walls, leaving a space for cool chambers 6 feet wide. These chambers may be made 6 feet square on each side, which would leave one of 4 by 6 feet at one end and a doorway at the other.

Strong beams should be laid on the posts 6½ feet above the floor, and a series of 2 by 6 scantling set on edge upon the beams, 12 inches apart. A floor of sheet zinc, soldered water-tight, is to be laid on the scantlings, and the ice is to be packed on this metal floor. Drain-pipes are provided to carry off the water from the ice as it melts, and this may be collected into a cistern for cooling milk in deep pails in one of the closets, or in the 4 by 6 space at the end opposite the door. Shelves of strong lath covered with coarse wire netting should be put in the closets, and doors of matched boards, doubled with air-proof paper, should be used and made to fit tight. This will make an effective cold storage house by the use of ice.

But ice is not always to be procured in Virginia, and if a cold store-room is desired, without the use of ice, a cellar must be used. In this case the cellar should be quite tight, with a good stone wall and a dry cement floor. The ceiling should be lathed and plastered, and the floor above doubled, with air-proof paper between the boards. A trap-door or a closed stairway should be used, and for light and ventilation a well-hole should be made in the floor, with a close wall around it, and the top glazed, one sash being hinged, that it may be opened when necessary.

In both cases, if the air is found to be damp, it may be dried by the use of fresh quicklime, a peck of which in a pail, placed in a closet or the cellar, will absorb four quarts of water and still be dry, and it will fall into fine powder. Butter and milk should not be stored with cheese, or they will acquire the cheese odor. But with the air-tight closet, cheese may be kept in the same house with them.

H. S.

Feeding Malt Sprouts.

EDS. COUNTRY GENTLEMAN—Please state the value of barley sprouts for feed for milch cows. Also proper way of feeding them. I am now feeding some meal and shorts. J. W. J.

Vernon, N. Y.

J. W. J. no doubt wishes to know not the absolute but the relative value of barley sprouts as a feed for cows. A good quality of barley sprouts contains very much more albuminoids but less fat than wheat shorts, consequently, this food is better to balance other food poor in albuminoids, such as corn meal, poor fodder, &c. The cost in market of barley sprouts is usually less than wheat bran or shorts. It is not considered profitable to feed more than about 4 lbs. of malt sprouts per day to a cow on a full ration. The ration is always best when made up of a variety of foods.

2. The best way to feed malt sprouts is to wet them up with cut hay. As the pasturing season is now rapidly approaching, the ration may be made up with a very small portion of hay. Let us suppose at this season of the year J. desires to feed 2 lbs. malt sprouts, 2 lbs. wheat shorts, 3 lbs. corn meal, on 2 lbs. cut hay.

Let him place 2 lbs. cut hay for each cow evenly over the bottom of his feeding box. Now, let him spread evenly over this hay 2 lbs. of malt sprouts for each cow. Then let him moisten the malt sprouts freely with a watering can, with a sprinkling nozzle. This will thoroughly moisten the malt sprouts and the hay. After waiting awhile for the water to work down, let him distribute evenly over this 2 lbs. wheat bran or shorts, and 3 lbs. corn meal, for each cow. Then, with a fork, work this evenly altogether, letting it stand a few hours before feeding. This is a day's ration to be given half in the morning and half in the evening.

To show J. the amount of digestible nutrients in this ration the following analysed formula is given, in pounds:

	Albuminoids.	Carbohydrates.	Fat.
2 lbs. medium meadow hay	0.09	0.90	0.02
2 lbs. malt sprouts	0.26	1.08	0.08
2 lbs. wheat bran	0.21	0.98	0.06
3 lbs. corn meal	0.28	1.80	0.14
Total	0.84	4.76	0.30

This has a nutritive ratio of 1 to 5.6. This small ration will keep up the milk of his cows until the pasture is sufficient; and if his pasture is scant he can continue it. It is well adapted to assist in producing a good yield of milk.

E. W. S.

Setting Milk, p. 273.—I hardly agree with reply to "H." I should not advise him to give up deep setting. Of course the cream will not separate as rapidly with water at 54° as at 45°, but this small question of time is of little importance comparatively. So many patent cans and so much philosophising about deep setting tend to confuse the average dairyman, and make him look at the whole thing as a delicate operation that he dreads to touch. Exactly

the contrary is the truth; no operation in the dairy is more simple; it is far more simple than in pans. My advice to "H." would be—Go to your nearest tinner and have him make you cans enough to hold your milk for three milkings. My cans are 14 inches deep and 7¼ in diameter; the sides of common I. C. bright tin, but the bottoms ought to be heavier, say X., and a heavy wire rolled in the top. Such a can will hold 18 to 20 pounds of milk, depending on whether you float them in the water or allow them to stand on the bottom—I always allow mine to float. The water tank for three cans should be 16 inches deep inside, and large enough to hold two milkings. Place this tank in a good clean cellar if convenient; if not, in a room well protected from sun and wind. Care should be taken to strain and place the milk in the cold water while *quite warm from the cow*. After standing for a short time, until the water is somewhat warmed by the milk, change the water, putting on an entirely new filling. This plan is cheap, more easily managed and, in my opinion, will produce better results than shallow pans.

Jackson County, Iowa. A. L. POTTER.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]*

SORE NECK.—A horse eight years old became sore on top of neck, under collar, a year ago. During haying last summer, when very warm, pipes would form, but be gone by morning. The sores are all healed, but there seems to be a tenderness just in front of collar and a few inches below mane. Am poulticing to reduce soreness. H. C. S. [Rub neck twice a day with some of the following wash: Powdered nitrate of potass., 3 oz.; powdered alum, 2 oz.; compound tincture aloes, 4 oz.; tincture opium, 3 oz; water, 3 pts.; mix. Give horse a dose of physic.]

CUT BY WIRE.—A valuable mare was cut on hock joint with barbed wire, about five months ago. In healing it has left a callous place on inside of hock. Can it be taken off? It seems to be only skin deep; no lameness from it. S. M. C. *Ursa, Ill.* [The location is not a desirable one in which to do much dissecting; however, the callus could be taken out, but you need the services of a good surgeon. I advise you not to undertake the operation, for while that may be highly successful, the sequels may prove disastrous, and the hock is good enough for every day as it is.]

FAILURE TO BREED.—A pure-bred mare, four years old this spring, has never taken the horse. We tried to breed her as a two-year-old, but about that time she ran a nail in her foot, resulting in lock-jaw. The following spring we could not get her in season, and then we forced her. She never came in season, and proves not to be in foal. We are trying her to the stud constantly, but with no success. She is apparently very healthy, works steadily and is in good condition. She is fed in winter on chop, one-third bran, one-third ground oats and one-third corn. Turned to grass in summer. SUBSCRIBER. *Newburn, Va.* [It is impossible to say what is the cause of sterility. As a rule forcing fails in its object, and is apt to produce mischief. Have you examined her per vaginam? Unless the periods of oestrum are restored, it is probable she will never breed. Injectio vaginæ would be the best treatment to start with. However, I am of the opinion that the worst form of barrenness we have to deal with is that in which animals show no desire to breed; still some of these cases recover.]

FILM OVER EYE.—Some six weeks ago a nine-year-old mare had her left eye affected (supposably by hay seed from mow above stall), so that it watered continuously for a week or more. As this had happened some half dozen times in past two years, little attention was paid to it. But when, after lapse of week, a bluish film was noticed rising over the eye, a veterinarian was consulted, and a salve of commoline and citrine ointment prescribed, a portion, pea size, to be inserted in eye daily. The film was dispersed, but the eye is sightless; just the merest speck of pupil is visible, that being overhung by a small, spongy-looking growth, and in the depth of the pupil a trace of white. The eye itself looks smaller than its fellow, and seems less firm to the touch. The other eye is in no wise affected. J. L. M. *Springfield, Mo.* [Read up on constitutional ophthalmia in back numbers. Strange it is to me that you have always thought the horse was getting hay seed in his eye from above, the same eye each time, and that you did not remove the cause! However, hay seed had nothing to do with it.]

Record of the Times.

Weather, Crops and Prices.

Meteorology for April 14-20.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.75	inches.
Lowest do.	do.	..... 29.96	do.
Mean do.	do.	..... 30.15	do.
Highest temperature	do.	..... 80°	
Lowest do.	do.	..... 42°	
Mean do.	do.	..... 64°	

One clear day; six fair. Prevailing wind, S.; maximum velocity, 16 miles per hour, S., on the 20th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	14th	15th	16th	17th	18th	19th	20th
Day.....	74°	75°	70°	77°	76°	78°	80°
Third year...	44°	49°	49°	52°	60°	62°	62°
Normal.....	43°	45°	47°	49°	49°	49°	49°

Total excess for the week, 80°.

General Review of the Week.

The week has been warmer than usual in all districts, except in the South Atlantic and Eastern Gulf States, where the daily temperature was about 3° below the mean for the week. In the grain regions of the central valleys, and from Texas northward to Dakota, the daily temperature for the week ranged from 3° to 6° above the average. The temperature for the season, from January 1 to April 20, has been above the normal, except along the South Atlantic and Gulf coasts, where it has been slightly cooler than usual; the season in the last named section being retarded from two to four days. In the Ohio and Mississippi valleys and the Middle Atlantic States the season is slightly in advance, while in the northwest it is from five to ten days, and in Dakota from ten to twenty days earlier than usual.

The rainfall during the week has been largely in excess over the southern portion of the United States, including the entire cotton region from Texas to the Atlantic coast. From the bulletin of the previous week, it will be seen that rain was much needed in the Southern States, although no permanent injury had yet resulted to growing crops. Excessive rainfall is also reported generally over the States of the Missouri and Central Mississippi valleys, including the greater portion of Dakota, Western Minnesota, Iowa, Illinois and Indiana. Timely rains are reported from Kentucky, Michigan and Wisconsin, and along the Atlantic coast from Virginia to Maine, while there was almost a total absence of rain in Northern New York and the lower lake region, but showers are reported in this section to-day. Showers continued during the week on the Pacific coast, and although there is a large deficiency in the seasonal rainfall in that section, recent rains have doubtless greatly improved the crop conditions in the wheat sections of that coast. The seasonal rainfall continues in excess on the Atlantic coast south of New York, and from Texas northward to the Missouri valley. The seasonal deficiency in rainfall in the States of the Mississippi valley has been generally reduced by recent rains, but there is a large deficiency in moisture in the Central Ohio valley, where the rainfall for the season has been less than one-half of the usual amount. Over the greater portion of the cotton region about 70 per cent. of the seasonal rainfall has occurred, while in Texas and the extreme eastern portion of the cotton region there has been about 35 per cent. more rain than usual.

The weather during the week has been generally favorable for growing crops in all sections. The crop conditions were improved throughout the cotton region by the abundant rains in that section, where the reports indicate that the cotton is nearly all planted. Drouth conditions were also succeeded by rains in the Ohio valley, where the crops are reported as greatly improved, but more rain is needed in Kentucky, Ohio and Indiana. Generally throughout the winter and spring wheat States warm weather, with excessive sunshine and timely rains improved the condition of wheat, grass and oats, which are reported as growing rapidly. Plowing and seeding are nearing completion in the extreme northern portion of Minnesota. Excessive rains in Southeast Kansas were doubtless unfavorable to corn, and some damage from hail is reported from Western Tennessee. The fruit crop in all sections was improved, and is generally in fine condition. The growing season has opened favorably in New-England and New-York, where grain, grass, and other crops were favorably affected, but more rain is needed in this section.

New-York—*Canton, St. Lawrence Co., April 17.*—Clear, bright, sunshiny days, with frosty nights, just the kind of weather for maple sugar makers, of whom we have a goodly number in this county, it being manufactured by some and shipped to city markets. The quality is excellent this spring, and the yield large. Dairy interests are quiet, and cheese remarkably low, all things considered. Butter in better demand at fair prices. Hay seems plenty at $16 per ton. Potatoes a drug at 25c. per bu. There is no trade in cows to speak of, $30 being about the average price. There will be no pasturage under two weeks. Little seeding yet, but will be soon. Rain is needed to give grass a start. L. T.

New-Hampshire—*Dover, Strafford County, April 20.*—Season is at least two weeks earlier than last year. Much work already been done, such as plowing and sowing grain. Grass looking well; pastures will furnish feed at least a week earlier than last year. Strawberry beds much injured by alternate freezing and thawing; crop will be light. Milk production and co-operative dairying are much discussed by our farmers; conclusion reached that the milch cow either for the production of milk for our city markets or for the butter factory is the only profitable resource remaining for the general farmer of New-England. Quite a large acreage of potatoes will be planted, and much corn for sealing and the silo. Hay plenty; $15 to $16 per ton. Some farmers have kept their apples until spring, and are now making them into cider. J. E. H.

Illinois—*Springfield, April 20.*—Fall sown wheat has come through an almost snowless winter in excellent condition—contrary to the common belief that in this latitude wheat does better if covered with snow. March seemed much like April; with April showers left out. Until within a few days the weather has been remarkably mild and dry. The occasional rains of late are advancing the pastures rapidly. Oats look well. Plowing for corn begun. Peach trees in full bloom for a week. The English sparrow, in unmolested possession all winter, is now on the war-path protesting against the return of the blue bird, the robin and the wren. F. T.

Wisconsin—*Janesville, Rock Co., April 17.*—I was a little too early with spring seeding and spring work generally. I find in a long ride through the country that seeding is only just commencing instead of be nearly over as I reported last week. The weather is quite spring like and seasonable. In my own neighborhood seeding is more advanced. Tobacco is going to be a full average if not more. Onions and potatoes are exceedingly low. Moisture is needed in the whole country. Wheat, 85@94c. per bu.; barley, 46@54c.; rye, 42c.; corn, 32@37c.; oats, 23@25c.; hay, $4 50@8 50 per ton; butter, 18@22c. per lb; eggs, 10c. per doz.; cattle, $2 50@3 50 per cwt.; hogs, $4 00@4 75; tobacco, 8½c., 9½c., 4½@11½c. per lb. Business good. W. H.

Fond du Lac County, April 17.—Seeding nearly completed, and the rollers are rolling on in all directions. As we have not been visited by pouring rains to pack the fall plowing, the land has been worked up very fine and mellow; so we expect average crops if nothing more. The ground is getting rather dry on the surface, so that dust is driven before the rollers, and at the same time the land cultivates sufficiently moist to give the crops an early start. The fields are quite green, and except for the abundance of feed and hay, sheep and small stock would be turned to grass, a thing that has not happened so early for a number of years. Eight years ago yesterday we dug through six feet of snow to get burying ground to bury a neighbor's remains, and then it came off, and by May 10 our seeding was completed, and we never had better crops of all varieties than in that year. So we are not all excited over an early spring. Indications of drouth still prevail. At times the heavens are overcast with dark threatening clouds. When arrangements are made for a storm, we get a sprinkle of rain, just enough to stick up the roller, and in a few hours it is all sunshine again. I hear it often said we need rain, but still the ground is not suffering. 9.30 P. M.—We are having a good rain just commenced with vivid lightning to the South. Prices still very low. Barley, 30c. per bush.; potatoes, 10c. per peck; eggs, 8c. per doz. E. S.

Iowa—*Des Moines, Polk Co., April 19.*—A glorious spring for Iowa. A light rain falling to-day; never a finer spring, and never finer prospects. J. S. S.

Minnesota—*St. Paul, April 18.*—The Pioneer Press publishes 280 reports representing all the wheat stations on the Manitoba railroad, and covering about half the wheat produced in Minnesota and Dakota. One hundred and ninety stations report good to excellent condition of the ground, 80 consider it fair, while only 10 rate it not good. The percentage of crop planted is equal to or above last year, and the average will also exceed last season, only 13 stations reporting any decrease, while 102 have increased acreage. It has rained within the past week and the dry spell is broken.

South Dakota—*Watertown, Codington Co., April 15.*—Weather pleasant, and seeding mostly done. Farmers are investigating their interests more and purchasing pure bred stock, especially sires. A fine rain last week. Grass green, and cattle are out on feed to a great extent. O. P. E.

Charles F. Hatch of Minneapolis, president of the Wisconsin, Minnesota & Pacific Railway, shot himself in his office, April 15. Ill health is the only known cause.

Review of Passing Events.

A Lard and Grain Fire.—The largest fire that New-York has had for many years broke out at 4 P. M., April 19, in the Wilcox lard factory, 59th street and Hudson river, and at once became uncontrollable. The few men at work jumped from the windows, and one was killed. Next came the Rossiter stores filled with general merchandise, and soon the flames rose 50 feet from an area of 200, with a heat which drove the firemen back. North of these were two elevators (one 225 feet long, containing 100,000 bushels of grain, mostly oats) to which access by engines was difficult; both were burned, also part of stock yards, from which 5,000 sheep and some cattle were saved, and the piers to 58th street. The mass of flame was indescribably grand, and the heat unpleasant 1,000 feet away. Firemen and fire-boats could do little. All the real estate belonged to the New York Central road, and the loss is over $3,000,000.

Cutting Down the Poles.—The telegraph, telephone and electric light companies of New-York not having complied with Mayor Grant's order to bury their wires by a certain date, a body of 40 axmen set to work, April 16, cutting the poles on Union Square and Broadway to 58th street; on 6th avenue from 23d to 58th; and on leading cross streets. No interference occurred. As fast as cut, poles and wires were carried off by the department. At 16th street a decayed pole fell across the front platform of a car, the driver jumping for his life. On the 17th, 200,000 feet of wire was removed, and 70 poles cut down. Some of the companies now went to work to save their wires. On 6th avenue, near 24th street, 18th, two linemen, holding a guy rope to a cut pole from a third-story window, were pulled out, one being killed, the other seriously injured. Much of the city was in darkness for a time, and the gas service was greatly increased.

From Abroad.—Mr. Goschen's statement of the budget showed an excess of revenue over estimate of £1,645,000, while expenditures were £941,000 under estimate, leaving surplus of £2,586,000—the largest since 1872. Increased army and navy expenses this year will cause a deficit of £1,917,000, to be met by £1,000,000 of the surplus, additional 1 per cent. tax on death duties on estates worth £10,000 and upward, and an additional 1-14 of a penny on each gallon of beer.—John Albert Bright was elected, April 15, to succeed his father, the late John Bright, as representative of the central division of Birmingham in Parliament.—Prof. Harrison of Oxford University, an Englishman, has been sent to Londonderry jail for assisting besieged tenants at Gweedore, Ireland.—Mr. Parnell has brought suit against the London Times for libel, claiming £100,000 damages. The trial will take place in the fall.—The town council of Edinburgh voted to offer Mr. Parnell the freedom of the city.—Six thousand emigrants left Liverpool, April 17, on seven steamers. Most of these were bound for the United States.—After May 1 the French government will levy a duty of 60 cents per 100 pounds on all importations of lard mixed with cottonseed oil, without regard to percentage of mixture.—In the Boulanger trial the charges are, corruption of the army, malversation of army funds, and seditious utterances. The general has been ordered to leave Brussels.—The Eiffel tower, Paris, has attained its full height, 300 metres (984 feet).—A plot to kill the Czar with dynamite, at the funeral of General Paucker, has been discovered at St. Petersburg, and a number of Nihilists arrested.—Cholera is epidemic in the Philippine Islands, and 1,000 victims are dead.

Minor Items.

The Minnesota meat inspection bill has been signed by Gov. Merriam.

General Franz Sigel has resigned his office of pension agent in New York.

Only 750 buffaloes are said to be now alive, and of these 243 are domesticated.

A rock-salt mine has been struck at Kingman, Kansas, 675 feet down, clear and pure.

John P. Usher, secretary of the interior under Lincoln, died at Philadelphia, April 18.

Nineteen hotels and boarding houses in the Catskills have agreed not to entertain Hebrews.

The Richmond & Alleghany railroad has been sold to the Chesapeake & Ohio for $5,000,000.

Postmaster Henry G. Pearson of New-York, died at Highwood, N. J., April 20, aged 46, from overwork.

Roosevelt Hospital, New York, receives by will of the late W. J. Syms $350,000 to endow a surgical operating theatre.

The Union League Club of Philadelphia gave Postmaster-General Wanamaker a reception, April 17; 1,700 guests were present.

W. M. Callender, president of a waterproofing company in Newark, N. J., is missing, and also $400,000 of the company's funds.

A great increase in cottonseed oil mills at the South is reported, a dozen companies having been organized in the last two weeks.

The National Academy of Science was in session at Washington last week. Prof. O. C. Marsh of New-Haven was reelected president.

The 24th anniversary of Lincoln's death was observed at Springfield, Ill., April 15, by services at the tomb in Oak Ridge Cemetery, under charge of the Lincoln Memorial League.

Among the decorations was a magnolia wreath from Washington's tomb, and a floral pillow from Mrs. Harrison.

Governor Prince of New-Mexico was inaugurated at Santa Fe, April 18; 5,000 citizens were present from every part of the Territory.

Robert P. Porter of New-York has been appointed superintendent of census, and E. S. Lacy of Charlotte, Mich., controller of the currency.

Lucilene H. Moseley, inventor of the silk speeder and spinner, and weaver of the first silk cloth in this country, died at Poughkeepsie, N. Y., April 19, aged 89.

Patrick McTamany, a switchman on the Pennsylvania road at Jersey City, N. J., saved a boy from being run over by an engine, April 17, but was killed himself.

The grave of Miles Standish at So. Duxbury, Mass., as noted in an old memorandum lately found, has been examined and a photograph taken of the bones there found.

The Danmark's passengers and crew were taken off by steamer Missouri, 230 left at the Azores and 340 brought to Philadelphia. The Danmark broke her shaft, April 4.

Carloads of oats are being bought up in Chicago and shipped to Dakota where nice swarm about the grain bins. The oats are bought at 50c. to $1 and sold for $3 each.

The ferryboat New-Brunswick, of the Pennsylvania Railroad, was burned just as she was leaving Jersey City, April 17. The passengers were got ashore, but five horses were burned to death.

The cottage and grounds occupied by Edgar A. Poe, at Fordham, N. Y.—1846 to '49—was bought at auction, April 18, by W. F. Gill, for $3,487.50. It will be preserved as a memorial of the poet.

The old Carroll homestead at Knoxville, Md., was burned, April 16. The tract on which it stood was taken up in 1727 by the father of Charles Carroll of Carrolton, and embraced 15,000 acres.

The ship Sterling, from San Francisco to New-York, brought last week 2,367 sacks of lima beans, 2,970 bags mustard seed; 7,393 cases canned salmon and fruit; 3,535 barrels of wine and 168 packages brandy.

H. M. Flagler of New-York has given Dr. George Shelton securities worth $87,000 for professional attendance on his daughter Mrs. Benedict, who died on a yacht off Charleston recently.

Edgar King, 45 years old, a dissipated son of Joseph King, retired whip manufacturer of Westfield, Mass., being refused money, shot his father three times while on a sick bed, set fire to the house, after trying to kill his two aunts, and then shot himself.

A messenger boy dropped in the lobby of the New-York post office a package containing $12,000 in money and certified check, for $19,000, belonging to the branch office of the Merchants' Bank of Canada. A man picked it up and restored it to the bank.

Rear-Admiral William R. Taylor died at Washington, April 15, aged 73. He served in the Mexican war; commanded in the blockade, at Morris Island, and Fort Fisher, during the late war; commanded North Atlantic and South Pacific Squadrons, 1869–73.

A full report, nearly 20,000 words, of the Samoan disaster was published last week, written by John P. Dunning of the Associated Press, who reached Apia the day before the storm, and was himself exposed for 36 hours to the tempest. His narrative is warmly praised by the press of this country and of Europe as a vivid picture of the storm and wreck, the suffering and heroism of the seamen, and the humanity of the Samoans.

The Beet Sugar Company was incorporated at San Francisco, April 16th, with a capital of $5,000,000, with Louis Schloss, A. L. Cutts, F. Ehrmann, Claus Spreckles and John D. Spreckles as directors, the last two holding half of the stock. The object is to erect large sugar refineries at various points on the coast in addition to the large one already established at Watsonville, Cal., in the expectation of refining 50,000 or 60,000 tons of sugar a year.

At bugle signal on the 18th, 500 wagons started from Arkansas City, Kansas, to cross the Cherokee strip for the Oklahoma border and as many more were to move. The soldiers also broke camp and followed. The settlers are mostly of good character. At Fort Smith, Ark., a fight occurred, 18th, between cattlemen and boomers and five men were killed; also 19th, at Purcell, I. T., between boomer roughs and U. S. marshals, 30 prisoners being taken. Additional troops were ordered from Fort Reno.

The preparations for the New York centennial are about completed. About 50,000 troops will be in line. The naval parade will be headed by the Chicago and Boston. Stands for 50,000 persons will be erected in Union Square, those on the south side to be reserved for women and children. The loan exhibit of revolutionary pictures and relics was opened April 18. One item is the suit worn by Washington at his inauguration. It belongs to Mrs. Martha D. Washington of Texas, whose husband's grandfather received it from Washington.

Hundreds of persons, using Ayer's Hair Vigor, certify to its efficacy in restoring to their hair the color and beauty of youth.

For the delicate and aged and all to whom the vital current is impoverished and sluggish, Ayer's Sarsaparilla is the very best tonic. It restores the wasted fluidness, and imparts to the system surprising elasticity and vigor. Price $1. Worth $5 a bottle.

Farm Produce Markets.

Albany Markets—April 22.

FLOUR.—The Argus says: Business has been dull and the market weaker.

	1888. April 20.	1888. April 13.	1887. April 21.
Com. Brands	$4.00@4.20	$4.10@4.40	$3.70@4.10
State Extra	4.20@4.75	4.40@4.90	4.10@4.35
Amb. State & W	5.10@5.40	5.30@5.60	4.40@4.85
G., Ind. & St., L. & Y.	4.30@4.60	5.40@5.60	4.60@4.75
Winter W. Pat.	4.10@4.50	5.25@5.75	5.00@5.30
Minn. "Patents"	4.40@4.90	4.75@5.25	4.40@4.90
Spring W. Pat.	4.60@5.25	4.75@5.10	5.00@5.30

Rye Flour still selling fairly well at $3.25 per bbl. Grahams, $4.10@4.25. Oat Meal in fair demand at $5.50@5.60 per bbl. Corn Meal quiet; fine family, $2.30@2.75 per bbl.

GRAIN.—Corn stronger, with fair demand; No. 2, 41½c.; No. 3 mixed, 40½c. Oats in fair demand and stronger; No. 1 white, 34½@35c.; No. 3 white, 34@34½c. Rye easier at 56@56½c. per 56 lbs.

HAY AND STRAW.—Receipts moderate; demand good. Timothy, best, $20@21.50; medium, $18@19; clover, $16@17; mixed, $15@15; rye straw, best, $18@18.50; oat straw, $8@10. wheat straw, $12.

HOPS.—Fine goods wanted; lower grades slow.

N. Y. State, 1888, choice	28 cents.
N. Y. State, 1888, common to good	25 @27
N. Y. State, 1887, all grades	20 @21
Pacific Coast	24 @30
German	20 @30

Albany Street Market—April 22.

BUTTER.—Good to choice, 19@20c. per lb.

EGGS.—Near-by and new laid, 15@16c per doz; western, 14@15c.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 6@8c.; mutton, hindquarter, 9@10c.; forequarter, 6@8c.; lamb, hindquarter, 10@12c.; forequarter, 6@8c.; veal, hindquarter, 9@10c.; forequarter, 7@8c.

POULTRY.—Fowls, 10@11c.; turkeys, 12@13c.; ducks, 13@15c.

FRUIT.—Apples, $1.50@2.00 per bbl.; Cranberries, $1.75@2 per crate; Strawberries, 20@25c. per box.

VEGETABLES.—Asparagus, 30@35c. per bunch; Beets, $1 per bbl.; carrots, $1; Cabbages, $2@3 per 100; Celery, $1.50 per doz. bunches; Lettuce, $1 per box; Onions, 50@75c. per bbl.; Oyster-plant, $1 per doz.; Parsnips, 75@90; Potatoes, $1@1.50 per bbl.; sweet, $2@3.50; Radishes, 40@50c. per doz.; Rhubarb, $1.50 per doz.; Salsify, $1.50 per bbl.; Squash, $1.50@2.50; Turnips, 60c.

New-York Markets—April 20.

GRAIN—Wheat, No. 1 red		1.00	@ 1.02
Madison, 1888, choice		1.10	@ 1.10
Pea, 1888		1.19	@ 1.19½
COTTON—	Uplands.	N.O.& Gulf	
Ordinary, per lb	—	—	9½
Middlings	10½@ —	—	11
Fair	12½@ —	—	13½
EGGS—State and near-by, per doz		—	18½
Western and Canada		18½@	19½
Duck eggs		20	@ 25
FLOUR—Spring Wheat pat., per bbl		4.80	@ 5.00
Winter		4.10	@ 5.30
So. Penna State and Western		3.80	@ 4.30
No. 1 extra		3.40	@ 4.10
Minnesota clear		3.40	@ 4.00
Straights		4.60	@ 5.00
Rye Flour, superfine		2.80	@ 3.00
Corn Meal		3.40	@ 3.55
FRUIT—Apples, Baldwin, per bbl		1.50	@ 1.75
Russet		1.50	@ 2.00
Cranberries, Jersey, per bbl		7.00	@ 8.00
Grapes, Catawba, per case		1.00	@ 1.25
Oranges, Florida, choice, per box		4.50	@ 5.75
Fair to prime		3.50	@ 4.25
Indian River		4.00	@ 4.00
Strawberries, Fla., per qt		20	@ 30
Charleston		30	@ 50
Walnuts, per bush		60	@ 1.00
Black Walnuts		60	@ 75
Peanuts, per lb		3½@	6
Dried—Apples, sun-dried, per lb		3½@	4½
Evaporated		5½@	6½
Peaches, sun-dried		4	@ 9
Evaporated		8	@ 12
Plums, Southern		4	@ 5
Cherries		12½@	15
Blackberries		4	@ 4½
Raspberries		16½@	17
Huckleberries		10	@ —
GRAIN—Wheat, State white, per bus		92	@ 94
Ungraded spring		90	@ 95½
No. 1 red, winter		—	@ 94
No. 2 red, winter		87½@	87
Corn, No. 2 white		47½@	47½
No. 3, mixed		47@	47
Oats, No. 2, white		34½@	35
No. 3, mixed		32@	32½
Barley		—	@ —
Rye, State and western		51	@ 51
HAY—Timothy, per 100 lbs		80	@ 90
Shipping		70	@ 75
Clover		70	@ 80
Straw, long rye, No. 1		60	@ 65
No. 2		50	@ 55
Oat		40	@ 45
HOPS—N. Y. State, 1888, choice, per lb		20	@ 21
Good to prime		18	@ 19
Med. 1887		6	@ 10
Pacific Coast, 1888, best		20	@ 21
Pacific Coast, 1887		8	@ 9
German		20	@ 40
MAPLE SUGAR, per lb		7	@ 7½
Syrup, per gal		50	@ 60
POULTRY—Live fowls, per lb		11	@ 12½
Turkeys		11	@ 15
Ducks, per pair		60	@ 90
Geese		1.00	@ 1.00
Dressed fowls, per lb		11	@ 12½
Phila. broilers		20	@ 27½
Capons		20	@ 20
Turkeys		12	@ 16
Ducks, per lb		12	@ 16
Geese		8	@ 10
PROVISIONS—Beef hams, per bbl		13.00	@ 15.00
India mess		15.50	@ 16.00
Hogs, dressed, per 100 lbs		6.75	@ 7.00
Lard, per tierce		6½	@ 7½
Pork, new mess, per bbl		12.00	@ 12.75
Short clear		14.00	@ 15.00
Family		13.75	@ 13.75
VEGETABLES—Asparagus, Charleston, per doz. bunch		6.00	@ 9.00
North Carolina		5.00	@ 8.00
Beets, Bermuda, per box		1.50	@ 2.50
Florida, per crate		1.75	@ 2.00
Cabbages, Chas. and Sav., per bbl		1.50	@ 1.50
Florida		1.00	@ 3.00
Celery, N. O., per doz		1.00	@ 1.00
Cucumbers, N. O., per doz		1.00	@ 1.00
Green peas, Fla., per crate		3.00	@ 3.75
Charleston		1.00	@ —
N. O., per box		1.00	@ —
Kale, Baltimore, per bbl		60	@ 75
Leeks, L. I., per 100		2.00	@ 2.00
Lettuce, N. O., per bbl		3.00	@ 5.00
Florida		75	@ 1.75
Charleston		1.00	@ 2.00
Onions, State, yellow, per bbl		1.00	@ 1.00
Orange Co., red		75	@ 1.00
Onions, Conn., white		1.00	@ 2.00
Bermuda, per crate		1.12	@ —
Potatoes, State, per bbl		1.00	@ 1.00
Eastern		1.00	@ —
New-Brunswick		1.00	@ —
Florida, new		5.00	@ 7.00
Bermuda		7.00	@ 8.00
Sweet, Virginia		2.00	@ 4.00
Delaware River		2.00	@ 3.00
Radishes, N. C. & Norfolk, 100 bunch		1.50	@ 1.50
Rhubarb, hot-house, per 100		6.00	@ 7.00
Spinach, Norfolk, per bbl		—	@ 2.00
Squash, L. I., per bbl		—	@ 4.00
String beans, Fla., per crate		1.00	@ 2.00
Tomatoes, Fla., per crate		1.00	@ 4.00
Bermuda		75	@ 1.00

Cattle Markets.

NEW-YORK, April 22.

BEEVES.—Receipts, 11,286 head. This being the last week in Lent, trade has become slow. On Monday values declined 10c. per cwt., this was followed on Wednesday by a weak feeling in prices; Friday being a fast day, trade was dull and light supply. The heads offered ranged from poor to fair; those taken for export ranged from coarse to good. Several well fatted bulls were sent abroad, also 13 fat oxen.

(Per cental, gross.)	This week.	Last week.
Good beeves	$4 80 @ —	$5 35 @ 5 50
Fair	4 60 @ 4 75½	5 00 @ 5 15½
Coarse	4 30 @ 4 40½	4 75 @ 4 85½
Poor	4 00 @ 4 15½	4 50 @ 4 70½
(Per cental, gross.)	This week.	Last week.
Good beeves	$4 35 @ —	$5 15 @ 5 35
Fair	4 10 @ 4 25½	4 90 @ 5 10
Coarse	3 90 @ 4 00	4 60 @ 4 80
Poor	3 60 @ 3 75	4 25 @ 4 50
Oxen	3 75 @ 4 00	4 00 @ 5 00
Dry cows	3 00 @ 3 60	3 75 @ 4 25
Bulls	3 25 @ 3 75	3 50 @ 4 00

MILCH COWS.—Receipts, 168 head. Trade for the week under review has been steady at quotations. Several very poor cows proved unsalable; 32 cows sold at $43@47 per head; one cow with one calf sold at $48 the lot.

VEALS AND CALVES.—Receipts, 1,263 head. The week opened with a steady tone, which was fully sustained on Wednesday, when values recovered 1c. per lb. Friday the tone was very dull, and values declined 1c. per lb. Calves have been scarce. Range of prices: Calves, buttermilk-fed, 8@9c per lb.; calves and lean veals, in mixed lots, 6@6½c.; veals, poor, lean and fair, 5@5c. per lb.

SHEEP AND LAMBS.—Receipts, 21,361 head. Trade on Monday was the fair as to demand, and steady as to values. On Wednesday sheep advanced ½c. per lb. Friday the tone was very dull, and values declined ½c. per lb. Calves have been scarce. Range of prices: Calves, buttermilk-fed, 8@9c per lb.; calves and lean veals, in mixed lots, 6@6½c.; veals, poor, lean and fair, 5@5c. per lb.

SWINE.—Receipts, 18,995 head. The feeling was very dull on Monday last, when 500 State hogs sold in various lots at $5.40@5.60 per cwt.; Wednesday trade was steady; Friday the markets closed with a strong feeling.

BUFFALO, April 20.

BEEVES—(Per cental, gross.)	This week.	Last week.
Extra steers	$4.10@4.40	$4.30@4.45
Best butchers'	3.80@4.00	4.00@4.20
Second quality	3.50@3.60	3.60@3.80
Price to common	2.75@3.40	3.00@3.50
Stockers, light	3.00@3.25	3.10@3.25
Stockers, good to choice	3.75@3.90	3.75@3.85
Bulls	3.25@3.35	3.10@3.25

Receipts, 20 cars head; against 10 cars last week. Buyers from all points held off, and with a liberal supply sellers dropped prices; at the decline there was only a fair trade, and at the closing a number of loads had accumulated in the yards and the feeling was weak. Stockers firm, receipts light, fair demand. Bulls, quiet, except for exporters.

VEALS.—Receipts liberal; lower; choice, $4@4.25.

MILCH COWS.—Offerings light; good demand for choice. Extra, $45@48; good to choice, $35@45; common to fair, $15@30.

SHEEP AND LAMBS.—Receipts, 27,000 head; clipped stock active and firm; wool sheep quiet; firmer feeling at closing for both. Wool-skins, extra, $5.75@6.00; good to choice, $4.50@4.75; common, $3@4; clipped, choice, $4.25@4.60; fair to good, $3.75@4; culls and common, $2@3.75. Lambs quiet, for wools, active for clipped. Choice to extra, $6.50@6.75; fair to good, $6.30@6.40; clipped, best, $5@5.10.

SWINE.—Receipts, 33,000. Active; firmer; mediums, $5@5.10; Yorkers and pigs, $5.10@5.20; roughs and stags, $4.50@4.60.

BOSTON, April 21.

BEEVES, NORTHERN.—Good oxen, dressed, 9c per cwt.; fair to good, 8c. In quality, State, $4.50@5.50. WESTERN, Alive—Extra, $4.50; good to prime, $4.30; light to fair, $4@4.25.

MILCH COWS.—Supply not large; sales at $30@40.

CALVES.—Sales of 1,307 head at 4½@5½c. per lb.

SHEEP AND LAMBS.—In lots at $5@6.80 per head. Spring lambs, 8@9c. per lb.

SWINE.—Western fat hogs, alive, 6@6½c. per lb; country dressed, —@—; pigs, $3.50@5 per head.

Dairy Markets—April 22.

ALBANY.—Choice Butter in good demand; medium grades fair; receipts increasing. State creamery, choice, 24@25c. Western creamery, 22@23c.; State dairy, 20@21c; fair to good, 18@19c; Western dairy, choice, 20c.

Cheese in fair demand; receipts improved. State factory, full cream, 12½c; dairy, good to fancy, 12c.

NEW-YORK.—Butter in better supply, with fair demand. Receipts, 24,031 pkgs. Eastern creamery, fresh, 26c.; Western creamery, fresh, 23@25c.; State dairy, choice, 24@25c.; old butter, best, 19@20c.; Western dairy, 20c.; Western factory, choice, 19@20c.

Cheese quiet. Receipts, 10,691 boxes. Factory, best, 12½@12½c.; good to choice, 12@12½c.; skim-milk cheese, 6@10c.; Ohio flats, 12@13c.

BOSTON.—Western creamery, extra, 25@26c.; extra firsts, 24@25c.; factory, 19@21c.; Vermont, extra, 26@27c.; dairy, choice, 20@21c.; Eastern creamery, good to choice, 24@25c.

Cheese, Northern, choice, 12@12½c.; Western, 10½@10¾c.; sage, 12@13c.

Wool Markets—April 22.

ALBANY.—Inquiry continues; sales 24,000 lbs.

No. 1, Pulled	28@30	Medium Fleece	26@28
Super Pulled	24@26	Fine Fleece	26@28

NEW-YORK.—Ohio X, XX, XXX, 30@32c.; Michigan X, 29@31c.; combing, and delains, 30@32c.; unwashed western, 20@21c.; pulled, 30@34c.; Territory, 24@28c.; scoured, 50c.; Montana, 30c.; Oregon, 19@22c.; unscoured 30c.; Texas, 18@19c.; scoured, 45@47c.; California, 24@30c.; scoured, 50c.

BOSTON.—Sales, 1,423,000 lbs. domestic and foreign; Ohio and Pennsylvania, 30@31c.; Michigan, 29@30c.; combing and delaine, 30@32c.; unwashed, 24@26c.; scoured, 50@52c.; pulled, 30@34c.; Territory, 24@28c.; Texas, 18@19c.; California, 24@30c.; Oregon, 20@22c.; Australian, 50@52c.; English, 30@40c.

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The Fireside.

Recent Publications.

Encyclopædic Dictionary.—This great and extremely useful work—about which very little fuss has been made, and which may not, perhaps, be generally appreciated at its full value—is now complete, the last two volumes having been recently issued by the publishers, Messrs. Cassell & Co., 104 Fourth Ave., New-York. The total number of entries is stated as 160,000, against 120,000 in the Imperial, 118,000 in Webster and 116,000 in Worcester; but the work is much more than a big dictionary and a very good one, for it includes encyclopædic features as well, fully justifying its title by its contents. It is indeed a remarkable collection of an immense mass of useful information, arranged under the direction of excellent authorities, admirably stated, freely illustrated, and printed in an original and very sensible style that greatly facilitates getting at the pith of the matter without loss of time. Whatever other dictionaries a man may possess, he will still find use for this; having this, many persons could get along very comfortably, not only with no other dictionary, but also with no other cyclopædia.

Fiction.—A new story by the popular Mrs. Frances Hodgson Burnett is issued, in extremely pretty style, by Charles Scribner's Sons, 743 Broadway, New-York, and sold in Albany (at $1) by S. R. Gray. The title is "The Pretty Sister of José;" the scene is in Madrid, and the principal characters are Spaniards of the humbler class.

"The Ladies' Gallery," a novel, by Justin McCarthy and Mrs. Campbell-Praed, is published by D. Appleton & Co., 1 Bond St., New-York; 50 cents.

Periodicals.—Harper's Bazar for April 27 appears with an illuminated cover in honor of the Easter season, and has an eight-page supplement beside. This unique journal is constantly increasing in interest and value—making itself more and more a welcome visitor in refined homes. We note particularly in the present issue—beside the usual fashion, society and general matter—a very practical article on the construction of fireplaces and mantels, illustrated with capital engravings.

—— The May Quiver has the following little poem, which seems well worth copying:

A SPRING PICTURE.

Past is the winter drear and cold,
And all the trees burst forth with gems—
Buds purple, red, and brown, and gold,
Upon their leafless stems.

The primrose lifts its starry crown
In woodland ways and sheltered nooks;
And where the tall elms fringe the down,
Caw busily the rooks.

The sheep pass peacefully along,
Cropping the herbage young and sweet;
And wild birds fill the air with wild song,
Majestical the Spring to meet.

Oh! welcome, Springtime, when the earth
Puts on anew her garb of life,
And with glad songs of hope and mirth
The hearts of men are rife.

Oh! may they ne'er by chance forget
The one great Giver of Spring days,
But daily recognize their debt
With loving songs of praise.

—— The Art Amateur for May has two exquisite colored plates—one of apples and their leaves, the other of fern decoration for a coffee-cup and saucer, so drawn as to be readily copied, with delightful effect.

—— An article on ancient and modern artillery, in the April St. Nicholas, has the following description of the battering rams of our ancestors, which seem to have been more mighty contrivances than most people probably think:

They exerted greater power than any gun or cannon invented up to the year 1800. These battering-rams were probably as effective in knocking down a wall or staving in the side of a ship as the best modern cannon, but for making a breach, the guns are far superior. Such was the solidity and thickness of the walls of Jerusalem that, Josephus tells us, it took all of one night for an enormous battering-ram to dislodge four stones!

Vitruvius has left us the description of a ram weighing 480,000 pounds; but probably the most celebrated of all the ancient moving-tower rams was that constructed by Demetrius Poliorcetes at the siege of Rhodes. The base of the tower was seventy-five feet square. The ram itself was an assembly of large square beams resting on wheels in size proportioned to the weight of the structure, and all riveted together with iron. The fellies of the wheels were three feet thick and strengthened with iron plates. From each of the four angles of the tower a large pillar of wood was carried up to a height of 150 feet, and these pillars were inclined toward one another. The tower had three stories, communicating by two staircases each. Three sides of the machine were plated with iron to protect them against fire. In front of each story there were loop-holes, screened by leather curtains, to keep out darts, arrows, &c. Each story was provided with machines for throwing large stones and darts; and in the lower story was the ram itself, thirty fathoms long, and fashioned at the end into an iron beak, or prow. The entire machine was moved forward by 3,500 soldiers.

But it can easily be understood that among so many men some must be more or less exposed to the enemy's darts and arrows; and so, to drive the enemy from the walls and open places, to break the roofs of his houses, and otherwise annoy him, machines were necessary for throwing missiles, from small darts up to huge bowlders.

How to Find Water.

Edg. Country Gentleman—The Report of the Pennsylvania Board of Agriculture contains an article by Prof. Lesley, of some length, in answer to the question—"What directions can a geologist give for finding water?" He describes the stratified rocks of that State, shows their extent and dip, and examining the streams at the surface upon them, traces their depth at different localities, and points out the probability of striking the streams below, as they run over the underground surface. The rule for finding water then becomes a simple one. "Notice the kind of rock at the outcrop of which springs issue, and you can infer that water will be obtained wherever that particular rock is struck by a bore hole or well."

I can not repeat even an outline of the facts which Prof. Leslie, the State geologist, has given in illustration of this subject, in the article above referred to in his fourteen compact pages; they are well worthy of the study of all who desire to find subterranean streams. But I wish very briefly to add my observations and experience to those of M. Walton, p. 276. I have myself used the forked peach twig, and have seen others use it. One of the most successful water-finders was an Englishman who knew how it was performed across the ocean, was a person of fair education, and of unimpeachable honesty and candor. A well had been dry near a farm-house, but little or no water had been found. The owner employed him to examine the ground. He did so with the forked peach twig. Walking slowly backwards and forwards in the manner described by Mr. Walton, the point of the forked twig invariably turned downwards on a certain line. "There is the stream of water!" he exclaimed. "and if you dig there you will find plenty for your well at a depth of twelve feet." The digging of a ditch over twelve feet deep was then commenced, which would turn the newly discovered stream into the dry well already dug.

Other trials were made. An adjoining field was examined, for the purpose of knowing where to dig for supplying cattle. There was one line where the divining rod invariably turned. The examination was repeatedly made, with the same clear and distinct result. The owner and the water-finder being on very good and friendly terms, the former said to the latter: "Now, before commencing the work of digging, we would like, as with Gideon of old, to turn the fleece, and these young men here who are looking on, ask for only one further proof—would you be willing to be *blind-folded*?" "Oh, yes, of course I would—the thing is sure." He accordingly had his face covered with a pocket-handkerchief, and was then led, armed with his divining rod, over the field, expecting as a matter of course that the rod would point down whenever he crossed the previous line of the stream. *But it did not!* The whole matter was then confusion—the line was promiscuously crooked and broken; in fact, there was now no line at all. Was he dishonest? No, not at all. But any one who has ever held the forked stick in the manner described, will observe that although held firmly, the elasticity of the twigs makes it turn very easily, as on pivots, with the slightest movements of the muscles of the hands—a movement which the person holding it may not be aware of. A very little touch of the imagination caused it to turn at the visible line; but when vision was shut off by blind-folding, the unconscious volition did not act. The whole thing proved a flat failure. So with the ditch already described, to feed the dry well. The predicted stream of water was not found. This man had mostly been quite successful in his prognostications, because water could be found at greater or less depth at nearly all places examined. But he now gave it up. He was satisfied that he had been imposed on by his own fancy. He had before remembered all his successes and forgotten his failures.

I observe that Mr. Walton does not inform us whether water was found by digging at the places mentioned for the two crossing streams.

I have heard the advocates of the water-witch explain it by referring it to electricity. But how will a stream half an inch in size affect an uninsulated stick, when there are already whole hogsheads of water in any moist subsoil? Any damp or wet soil has at least one-fourth of its bulk in water, and twenty feet of moist soil has tons of water in it. Electricity requires insulation—where is the insulation of the stream, or of the twig? There are but two difficulties in the way of accepting the twig notion—it is not supported by theory, and facts disprove it. Reader.

Obedience at Home and at School.

The excellent suggestions of Shrex concerning the control of children (p. 288, last volume) remind me of the comments which I hear passed upon his teachers from time to time by a boy somewhat given to the critical study of his elders.

"If I were a teacher," he explained one evening, "I would have very few rules, and then" (with immense energy) "I would *enforce them!* Miss —— has about a dozen new rules every day, and she can't enforce those that she had before."

Another day it is: "I do hate to see a teacher take hold of the boys and try to *make* them mind by actual force. Miss —— does herself just what she beats them for. She gets angry and pushes and pulls and knocks them around. I don't think that's any way to govern boys!"

It is a hard lesson, but a most necessary one for mothers and teachers of troublesome boys, that perfect self-control is the very first essential in governing others. That antagonism which makes obedience a painful discipline is at once aroused by the least display of ill temper on the part of the powers that be. The teacher who is blessed with "a pleasant disposition" should cultivate it as one of the sources of her strength. The primary school teacher affectionately remembered by our young critic was a good instance.

"Miss A. used to make the boys mind, and she never scolded. We could see that she wanted us to learn and to have a good time, and we liked to please her. The very boys who would have been ashamed to make *her* any trouble just do everything they can to vex Miss ——."

With children, as with grown people, the most efficient and comfortable government is that which keeps them in the right track without their being conscious of any compulsion in the matter. A large part of the true discipline of life, alike necessary in the home, the school, or the active work of the world, consists in forming those habits of self-restraint and consideration for others, which will enable us to live and work with others on the best terms. This is really a very large part of all practical education.

Radical thinkers on the subject of education, like Rousseau and Tolstoi, will scarcely admit that obedience in the sense of actual submission of the will should be demanded of children. What we want is to train the will, not to overcome it. The child must learn to accept the actual conditions of his existence, and to adapt himself to them. Unnecessary friction between him and his environment is a mere waste of vitality. It will be found, in daily practice, that the simplest, easiest and quickest methods of government are the best. Kindness, supported by quiet firmness, will usually accomplish the end. It is better to appeal to reason than to appeal to brute force. It is true that arguing with a child, instead of asserting authority, will not answer, but it is worth a good deal of trouble to let children perceive plainly that authority rests upon reason.

One great secret of prompt and willing obedience, lies in keeping a school interested in their work. Idleness is the great instigator of mischief. Disorder and confusion in the school-room are almost always intimately connected with a want of real interest in the studies pursued. Intelligent and inspiring teaching will go far to remedy the difficulty. The teacher must be sure that she is doing her own work thoroughly well, before she holds the scholars too strictly to account for doing theirs ill. To be kept happily at work is the great panacea for many ills.

D. H. R. Goodale.

Domestic Economy.

Spring Breakfast Dishes.

The mornings are still sufficiently chilly to render a hot breakfast dish very welcome; still these dishes require to be of rather lighter nature than during winter, a sort of compromise between the diet of winter and summer. The following dishes will, I think, help to supply this need. The receipts are well tested and reliable; no one need fear to try them.

Fried Sweetbreads.—The day before they are wanted, soak the sweetbreads for two hours in cold water; throw them into boiling water for five minutes, then lay them again in cold water for a few minutes. This is done in order to blanch the sweetbreads and render them firm. When required, cut them in narrow neat slices; dip these in some well-beaten egg, coat thickly with fine bread crumbs, and fry in boiling fat until beautifully browned, and crisp and dry looking. As soon as the slices are removed from the frying pan, roll them lightly in very finely minced parsley which has been seasoned with pepper, salt and pounded mace. Have ready a large, neat-shaped slice of hot, well-buttered toast; place this on a dish covered with a dainty folded napkin, and arrange upon it the fried sweetbreads in transverse rows. Garnish with parsley, and serve as hot as possible, accompanied (if wished for) by a little good brown gravy in a tureen.

Sweetbread with Mushrooms.—When it so happens that a large dish of sweetbreads has been cooked for dinner and a small portion is left over, it may easily be converted into a delicious breakfast dish in the following manner: Cut the remains into small dice and mix them with an equal quantity of mushrooms, roughly chopped; season the mixture rather highly with salt, pepper, pounded mace, minced onion, and chopped parsley; then put it into a saucepan with just sufficient good brown gravy or stock to moisten it nicely, and simmer *gently* for a quarter of an hour. Cut some slices of stale bread, half an inch; stamp these into small neat rounds, fry them a lovely brown in boiling fat, drain well, and arrange them on a hot dish. Pour the sweetbread, &c., over these and serve as hot as possible.

Fish Steaks.—The kinds of fish used for breakfast do not generally include salmon, therefore the fish steaks which I have in my mind just now are slices about an inch thick, cut from the middle, or tail end of any white-fleshed, large, round fish. When the slices are cut throw them into cold water very strongly seasoned with salt and vinegar; let them lie ten minutes, then drain, and dry thoroughly with a soft clean cloth. Sprinkle the fish on both sides with salt, pepper, and finely minced parsley, then soak it in salad oil for five minutes, and boil it on a hot, clean, well-greased gridiron for fifteen minutes, turning it when necessary, as both sides should be equally browned. The fire, of course, must be very clear and hot, or the fish cannot be properly broiled. Serve the steaks tastefully arranged on a hot dish, garnished with small sprigs of parsley, and some slices of fresh lemon, and accompanied by sauce (or not) according to taste.

Grilled Mackerel.—Take as many small, perfectly fresh mackerel as are likely to be required; wash them in cold salt and water (after being emptied) and dry them carefully. Season the fish well with pepper and salt, soak them for a few minutes in salad oil, then grill for ten or twelve minutes over a clear hot fire, turning once during the process. Have ready some good parsley sauce, made with milk; pour a little of this at the bottom of a hot dish, place the mackerel upon it, and pour more sauce over the top. If served very hot, accompanied by nice hot plates, this is one of the most delicious breakfast dishes one can possibly imagine.

Savory Eggs.—For each egg that is to be cooked take a dariole mould, or a deep patty tin, and butter the inside liberally. If six moulds are required, mince four ounces of cooked ham, fat and lean nicely mixed, and mix it with a large tablespoonful of finely chopped parsley, two tablespoonfuls of brown raspings, a tablespoonful of grated lemon rind, and a pleasant seasoning of pepper and salt. Sprinkle the insides of the moulds rather freely with this savory mixture, and break a large fresh egg very carefully into each one. If any of the mixture is left, sprinkle it over the tops

of the eggs, then set the moulds, side by side, in a frying pan containing some boiling water; allow the eggs to remain thus until quite set, then turn each one out, very gently, on to a round of hot buttered toast of corresponding size. Arrange these tastefully on a hot dish covered with a napkin, garnish with little sprigs of fresh parsley, and serve at once.

London, Eng. AUNT CHLOE.

Disposing of House Slops.

ED. COUNTRY GENTLEMAN—Having followed an itinerant profession for fifteen years, I have endeavored to profit by its advantages and disadvantages, and will give my experience with the subject about which Mr. Terry writes, p. 185—the disposing of house slops.

In this locality, few sinks are found in the houses of the common class of people, and when we first came here, my wife and I (being thoroughbred Yankees) did not for a moment entertain the idea that we could get along without one. So I made a portable one 5 by 1¾ feet, five inches deep, out of 1¼-inch pine, with the back 8 inches high. Two legs are screwed to the front side, one being a little shorter than the other so that the sink will drain nicely, and the back is screwed to the house.

An inch hole is bored in the lower back corner through which a piece of lead pipe from three to six inches long is passed. Over the lower end of this a rubber pipe of any desired length is crowded. Any one who is permanently located can just as well have lead pipe the entire length although the rubber is more easily managed.

In some instances I have for a short time been obliged to keep the receptacle in the house under the sink, but of course the proper place for it is where I have generally had it—out of doors.

Landlords are peculiar creatures and one must devise many ways to circumvent them. I have only once been allowed to cut a hole through the side of the house for the pipe to pass out. The sink must therefore be placed before a window, the lower sash raised, a narrow board inserted, and the pipe passed through a hole in this board. If the window be too high, the sink must be raised and a platform made to support the legs, and for those who use the sink to stand upon. This, however, I have been obliged to do but once.

The barrel I use is really a large paint keg securely bound with six iron hoops and holds about ten pailfuls. It stands upon a rudely constructed platform and has a board cover. This is important as it helps very much to retain the warmth in the water which comes from the sink and prevents its freezing in the coldest weather unless it stands all night with water in it; then even, it freezes but little. I have used the same keg for six years, and have always found good use for the water on the garden and lawn, without having a disagreeable sight or smell.

I think Mr. Terry's mode of emptying the barrel good enough, except as he says in deep snow; then if I ever have much trouble in that line I shall make a sled especially for the work.

At one end of the sink of which I have spoken there is a shelf upon which there is another keg near the bottom of which is a faucet extending over the sink. This I fill every morning before leaving home and thus my dear lady has all the advantages of city water without its manifold disadvantages. At the other end of the sink is another board 4 by 8 feet, on which dishes are drained. It is put to a hundred and one other uses—being handy at all times.

I hope to hear from some of your many readers who may suggest a better way of disposing of house slops and of making the wife happy. FELIX HARD PAN.

Rockland County, N. Y.

Eggs and Batter Puddings.

What country housekeeper does not draw a sigh of relief when the hens begin to lay? Of course on a model farm they should lay the most when eggs are dearest, but like the rest of us they forget their responsibilities. But the uses of fresh eggs are numberless, and when the egg basket is running over, cooking becomes easier and more satisfactory. A new laid egg, perfectly cooked in the simplest way, is so perfect a food that one is sometimes tempted to say that any further elaboration is only spoiling it; yet the palate demands "an infinite variety," and the ingenious cook is always seeking to gratify this demand. Judgment, that indispensable requisite, is needed, even in boiling an egg. They vary so much in size that no exact rule can be given anywhere; from two and a half to four minutes actual boiling may be required.

A LENTEN BREAKFAST.—Put over in a small saucepan a pint of water with a teaspoonful of salt. Have ready some fine, light mashed potato. Make a slice of crisp toast, moisten very slightly with boiling water, then pour over it as much sweet cream as it will absorb, and set it in the oven for a few minutes. Break two eggs carefully on a saucer and slip them into the boiling water in the saucepan. Draw the pan a little to one side and let it simmer gently until the whites of the eggs become opaque and somewhat firm. Take up the toast, put some bits of butter over it, and upon that two heaping tablespoonfuls of mashed potatoes, hollowing it gently in the middle to receive the two eggs. Put a few bits of cream around it and serve very hot.

Another mode, taken from the convents, is to boil the eggs hard, remove them from the shell, and cut each in six pieces. Then fry a thinly-shaved onion in a little butter, add milk and a little flour to make a smooth white sauce, season nicely, add the eggs, and when hot, dish them up on buttered toast. If the onion is liked very mild, wash it thoroughly in cold water after shaving, squeezing it hard in the corner of a napkin.

Eggs broken in the pan and stirred quickly until they set, are very good with sausage, ham, bacon, or any warmed up meat.

BATTER FOR PUDDINGS—To be eaten with meat. Four eggs, six tablespoonfuls of flour, and a pint of milk, mixed to a very smooth batter, and seasoned with salt and pepper, will make a generally useful batter for a Yorkshire pudding, baked under roast beef, or for toad-in-the-hole, or any of the various puddings made by baking raw or cooked meat in a batter. A little parsley, chopped onion or sweet herbs may be added for flavoring, and this savory addition is often a great improvement.

REMOVING IN BATTER.—Put a little fat in the frying-pan, and make very hot before putting in the steak; then fry quickly, turning very often so as to keep in all the juice. When cooked on the outside, but still rare, remove the steak, add a little more fat and pour in half the pint of batter; place the steak upon this, and pour over the remainder of the batter. Set it in the oven and bake, or it may be cooked over the fire and turned, but great care is necessary to keep it from burning.

MOCK CUTLETS IN BATTER.—Chop two pounds of veal with a quarter of a pound of ham or bacon, season with salt, pepper and chopped parsley, and make it into little cakes or mock cutlets. An egg may be used to make it adhere, if necessary. Put a little batter in a buttered dish, then arrange the cutlets and cover with the batter. Bake, and serve very hot.

Soyer calls a receipt for fritters "thirty receipts in one," and this one may claim that credit, as almost every kind of meat may be used to advantage in this way. Potatoes or other vegetables may be mixed with the meat; and with apples or other fruit, the same batter makes a good pudding for dessert.

DOROTHY.

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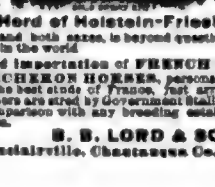

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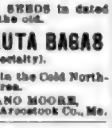

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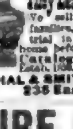

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THE CULTIVATOR AND
Country Gentleman

Albany, May 2, 1889.

Ensilaging the Whole Corn Crop.

Building Silo.

EDS. COUNTRY GENTLEMAN—Do you know of any analysis having been made to ascertain the relative value of the *grain* of corn as it comes from the silo in well preserved ensilage, as compared with corn allowed to ripen and secured in the dry state? It seems clear that if the *full feeding value* of the *grain* is preserved in ensilage, the question of feeding out our corn crops, including both *stalk* and *grain*, in the most economical method that scientific research has yet discovered, is solved; for by cutting all up together the grain is mixed with the fodder, and the extra labor and expense of husking and grinding are avoided, beside affording a succulent food at a season when nature's avenues for furnishing fresh supplies are closed, and when it is consequently greatly relished by our domestic animals. Not that corn even in its best condition supplies a complete food without the addition of more nitrogenous elements; but it is probably the most important factor in the food supply for any one product that is adapted to general cultivation over the greater part of the United States east of the Rocky Mountains, and as such we are naturally interested in ascertaining the most practical and economical method of preserving and feeding the same.

Granting that the silo furnishes this method, another important question is, what is the most economical plan of building the silo? Many seem to advocate building with lumber and tarred paper; but has it been satisfactorily proved that ensilage will keep better in a wooden silo than in one built of stone or brick and smoothly cemented? If *not*, it occurs to me the latter would prove *cheaper* by being much more durable; and in some sections would not cost much more to build. I should be glad to hear the views of some who have had an opportunity of examining and comparing the quality of the ensilage in each style of silo.

It is an enterprise that is just in its infancy in this section. We tried it on a small scale last season by way of experiment, and want to arrange for a larger supply the present year. Have thought of building brick walls the width of a brick in thickness (or about 4 inches) inside of a frame support and cement smoothly on the brick face. A friend recently visited several silos and found that in one with cemented walls the ensilage was in a good state of preservation to the outside, while in those made of wood a considerable quantity was spoiled. I do not understand why it should keep better in the cemented silo than in those with wooden walls if all were air-tight and smooth, unless the conditions to insure success were better complied with in filling in the one case, than in the others; but if it will keep as well in a silo with cemented walls, it appears to me to be *preferable*, on account of its greater durability, and consequent economy. C. L. V.

Forest Hill, Md.

1. The question raised by C. L. V. is very similar to the question asked by E. of Montgomery County, Pa., which is answered on page 312. E. desired an analysis of the whole crop of corn when the ears are fully matured and slightly glazed in order that he might determine whether this degree of ripeness produced ensilage superior to that cut when the corn was in full tassel. V. desires to know whether the whole value of the grain of the corn crop can be preserved and fed from the silo, so that the object of the two questions is substantially the same, and V. will get some light on it by reading the answer to E.

2. The specific point desired to be understood by V.—whether the grain of corn loses materially in digestible nutrients by passing through the silo—may be stated in a general way: That in regard to ensilage corn the heat to which it is subjected in silo causes a slight loss of albuminoids and of carbohydrates other than fat but that the fat is relatively increased, and it may be presumed that the effect upon the grain would be the same. But as the digestibility of ensilage is much greater than of the same material in a dried state, this loss is more than compensated. V. gives the great point in favor of ensilaging the whole crop—the great saving of labor in handling it, and the healthier condition in which it is fed.

3. The material from which to build a silo most economically will depend upon the location and cost of materials. But it may be stated that there is no objection to a brick or a concrete wall, or a stone wall properly cemented upon the inside. In many places a concrete wall costs little, if any, more than a wooden wall, and as V. says has the advantage of great durability. There is no doubt whatever that a concrete silo smoothly plastered up on the inside will keep ensilage as sweet as it is possible to have it, and that when properly put in there is no necessity for any loss whatever. The ensilage will come out alike sweet at top, bottom and sides. But it would hardly be desirable to build a thin brick wall (4 inches thick) inside of a wooden wall, because this must subject it to the want of durability in wood. In most parts of the country where gravel, sand and rough stone are convenient, a concrete wall may be built, including the whole cost, for 10 cents per cubic foot. And this is as cheap as a good wooden silo can be built.

E. W. S.

Osage Hedge Fences.

EDS. COUNTRY GENTLEMAN—Mr. Glidden's broadsider on what he is pleased to call "the hedge fence fraud" nerves me up to re-write an article prepared some time ago and laid aside. The laughable thing about it all is that Mr. Glidden says "new plants cannot be enticed to grow by any stimulating process yet discovered," while Mr. Brown of this State says "there is not a dead plant in the miles of hedge in his neighborhood, although they have been cut back at all seasons of the year." From time to time some of the brethren have rushed into print to tell, in language most forcible, what they know about hedge fences. One would think these writers had just come in from a hand-to-hand combat, after the manner of Don Quixote with the windmills, and, like that unlucky knight, had met with ingloricus defeat. It must be confessed that for a time, after a tussle with an *osage* hedge, the blood is not in proper condition to permit the possessor thereof to discuss the subject from a friendly standpoint.

Fifty-two years ago my father bought this farm. It was fenced with boards or rails. It has a frontage of about 190 rods on the river consisting of first, second and third "bottoms" and the remainder is hill pasture and woodland. Part of the place lying near the river sometimes overflows. Two line fences and two lane fences and a cross fence are needed on this part of the farm. After the famous flood of 1832 it was fondly hoped by the farmers that the tranquil Ohio would be content to keep within bounds. But again in 1847, '53, '60 and '84 they learned the sober lessons of experience. In those years they found the various surface fences on their overflowing lands were sure to take their departure like Jonah's gourd, and they awoke in the morning to discover that the lines between their own and their neighbors' lands were purely imaginary.

On this farm it was decided in 1850 to test osage hedge. One side of the lane leading to the road from the house on the river front was set out to hedge. The plants were raised from seed sown on the farm and taken up and transplanted from the nursery. The seed should be drilled in thickly on rather thin soil, and when set out should be topped, leaving about two inches above the root part. The ground was slightly ridged with the plow, and the plants set six inches apart in a single row. A spade thrust down full length of blade was used in setting, a plant being placed at the outer side of the opening made with the spade, skipping every other spade width in making the openings. The only mistakes made at that time were in not making the ridge higher, and in not putting the plants 4 inches apart, instead of 6 inches. The ridge should be 18 inches high and the plants 4 inches. If I were going to put out a new hedge I should try 3 inches for an experiment. The first hedges put out in this section were set in three rows and 18 inches apart in the row, set on the plan that some build board fences, by "breaking joints." Time proves it was a mistake. The single row with plants set 4 inches apart, with care in selecting only vigorous plants, is the best way. The hedge row should be kept clean for two years, after which it will "hoe its own row."

Our first venture in osage proved so satisfactory that the other side of the lane and soon

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the line and cross fences were replaced with hedge. Then about 240 rods of road fence were set to hedge, in order to get all lands liable to overflow under waterproof fence. The result was that no more repairs were needed. And while in 1864 the most of these fences were under water for three or four days, it required less than one half day to clear them of drift and put them in shape. Had this part of the farm been fenced with artificial fences it would have taken three or four men for two weeks to rebuild them. But we did not stop at high water mark. The permanent fences upon the entire farm have been put in hedge, except a short piece in the woods. Last spring just as our neighbors had got through repairing their old fences, there came a young cyclone that leveled half the artificial fences in this community, and racking the rest of them, while the owners of hedge fences suffered no harm.

Under the laws of Ohio no line fence or road fence (if of hedge) can be allowed to grow *more* than 6 feet high *or over* 6 feet wide. There is no need of trouble in pruning if properly managed. If dwarfed from the start, a man can trim a mile a day, or at most in two days, and keep a fence in decent shape. We usually trim two or three times a year if we care to keep our hedges under control. We sometimes allow pasture fences to grow at will and at some leisure time cut back to 20 inches or 3 feet, when no other work is pressing. If there is any *pushing* done on this farm we want to do it, not have the work *push* us. The use of wire we have not tried. We have just cut back an old hedge to 6 inches above the ground. It will be stock-proof in two years or as soon as the field is reseeded to grass. We see no advantage in the wire. If a hog-proof fence was wanted and our hedges would not hold them, we would cut an old hedge back to 6 inches high leaving a cane standing every 15 feet (say) and put a strip of woven wire 18 inches wide along on the canes left standing. Then when the hedge grew up to 3 feet it would turn the veriest wild rooter of Butler county—if he had a ring in his nose. We keep our best hedges about 36 inches high and about 18 or 20 inches wide. No impoverishment of the soil is noticeable along the hedge row. Wheat and other crops are usually better on the leeward side of these fences. Not the least among the advantages of osage is the complete heading off of the not always trusty tenant. Every farmer knows, that in some mysterious way the *top* rail will disappear. The only fence that will effectually "turn" the tenant is a hedge. He cannot burn it up!

A correspondent some time since wrote that he "would as soon sow Canada thistles as to set out a hedge along cultivated fields where it must be pruned." He evidently never engaged extensively in the Canada thistle business. One man could trim the two or more miles of hedge on this farm with less labor and in less time than he could subdue and keep in subjection a ten-acre lot well set in Canada thistles. It is all very well to talk of building substantial and durable fences, but the scarcity of good material and the "short-lived" character of artificial fences plainly indicate that our reliance must be upon *less* fencing and more hedge. As to the matter of looks the hedge even when neglected will compare favorably with the general average of farm fences, and in the more desirable qualities of durability, cheapness and stability it will outrank all rivals.

Washington Co., Ohio, March 29. ALVIN ADKINS.

Farm Labor in New-Jersey.

EDS. COUNTRY GENTLEMAN—On page 306 you publish a financial exhibit from a farm in Monmouth county, which is doubtless of common interest to Jersey farmers, certainly to the undersigned.

The produce from the place is itemized, which fact renders the result satisfactory to the reader; the expenses are not enumerated, and in the form given less satisfactory. The item of labor seems necessary to obtain practical results from the article. The general complaint among farmers here (although this is perhaps hardly a farming country), is that labor is the chief obstacle in the way of making farming pay, and this seems most reasonable in view of the fact that while $1.50 to $2 per day is not uncommon wages for a laborer, yet at these rates *the proper material for profitable farming* can rarely be found at any price. In other words, while there might be a profit to a farmer in hiring a hand at $3 per day elsewhere—say, for instance, Monmouth County—there is chance of proportionate loss in hiring a hand at $1.50 per day here. It is not so much a question of wages as one of the fitness or ability of the average farm hand in this part of the State. Therefore, we would like to know what the Monmouth County farmer pays his hands, and where he gets them, in order to obtain practical advantage from the article. To the same end, it would be of interest to know what the land is valued at. At present the latter is of practical value, but by giving the details of the expense account it will serve to accomplish the end, which you no doubt intend it to do, and for which your articles are always so highly valued by ROBERTON BROWN.

Morris County, N. J.

This letter being submitted to the gentleman who furnished the statement referred to, he sends us the following reply:—

EDS. COUNTRY GENTLEMAN—It affords me pleasure to give your correspondent the information requested.

As before stated, the farm in question was almost exhausted by over production and no manure. The present owner has purchased his experience, and feels under the circumstances he has not paid dearly for it.

Farm land in this vicinity is valued at $250 per acre, although some farms have been cut up and sold in small parcels for gentlemen's residences for which $500 to $1,400 per acre has been paid.

After many unpleasant experiences in regard to help, the owner sent to Scotland some years ago, to a friend, who forwarded excellent hands that were delighted to receive $16 per month and board. Some of these returned; the rest remained with him and are now receiving the regular pay for that section—$16. At present the overseer receives what is considered a good salary—nearly $1,000 per year, with board and other necessaries for living; monthly men $16 per month and board for entire year. Good extra help can be obtained at all times for $1.50 per day, during haying $2. The crops are cut and housed at once. If your correspondent desires further information, I will be pleased to furnish it. The secrets of our results, I find, are—*understand your business*; *obtain a good overseer*; make your interest his; find a good market, and success is the reward.

Northeastern Colorado.

EDS. COUNTRY GENTLEMAN—I see you have correspondents almost everywhere except in Colorado. Possibly you might like to know how we do things here. We have had no rain to amount to much since last June, until the 7th of this month, and having most of the small grain sown we were glad to see it rain again, enough to bring up the grain. One or two more such rains and we are all right, until irrigating time in June.

We have had "Indian summer" nearly all winter. The curative effect of our climate on consumptives and asthmatics is truly wonderful. It is not a bad place to in live on other accounts. There is no State that has better society or schools, from the common school to the university or agricultural college. Our churches are supplied by the choicest of ministers, and the people are wide awake. Wheat is worth $1 per bush.; corn, 75c. per 100 lbs.; potatoes, 90c.; barley, $1.80; beef on foot, $3 to $3½; cream, at our door, from 18c. in summer to 25c. in winter.

I have been interested in the inquiries and answers about alfalfa. We have been raising it ten or twelve years, and I think we know something about it. How it will succeed in your climate you will know better after trying. It makes the best hay that grows for any kind of live stock. I see some of your correspondents talk about as high as fourteen tons per acre. We are pretty well satisfied with three cuttings of two tons each, though I have cut as high as three and a half tons, but it was allowed to grow too long before cutting. Cows will make yellow butter all winter on this hay, properly cured, and it is superior to any clover. It is not safe to pasture cattle on it.

I notice much said in your paper about "keeping up" farms. I will tell you how we manage. Commencing with new land we raise wheat for eight or ten years without manure of any kind; then seed to alfalfa without manure. Where we have enough water we can raise large crops as long as we choose without deterioration. Plowing after a few crops of alfalfa, we can raise much larger crops of wheat than when the soil was in its virgin state, some times as high as 60 or 70 bushels per acre. Manure does as much good to land here as anywhere; so you see if we feed our hay to cows, for instance, the question of "how to keep the farms up," will solve itself; the only question will be how far up will they get in a few years in spite of us if carried on in the way I speak of.

One of your correspondents says the alfalfa roots penetrate the soil thirty inches; from ten to fifteen feet is the depth they go here, and it does equally well on clay or sandy soil.

Weld County, April 15. L. C. MEAD.

Japan Clover in Virginia.

EDS. COUNTRY GENTLEMAN—I was much interested in reading an article in your issue of March 27, on "Virginia Lambs for Market," and I can fully endorse all the writer has said in regard to the many advantages that Virginia has over the North and Northwest, in a milder climate, and cheaper lands, that are well adapted both to stock raising and agriculture, and which lie within easy reach of the best markets, with transportation both by railroad and steamer.

My friend, Mr. J. S. Fowler, had an extract from a letter of mine to him, in regard to Japan clover (*Lespedeza striata*) and in order that it may not be misleading, I will state what I know about that new and wonderful grass. Some twelve or fifteen years ago, the Rev. Mr. Mott of North Carolina sent several communications to one of the Richmond, Va., daily papers, describing a new grass called Japan clover that had made its appearance and was spreading over the worn-out uncultivated lands in his State, and afforded nutritious grazing for all kinds of live-stock on such lands, thereby much enhancing their value. Its appearance could not be accounted for, except through robins and other birds migrating from the South, which now seems to be the accepted theory, as it has made its appearance on the worn-out, uncultivated lands of Virginia, and is spreading all along the roads.

From what was said of the plant, I was much impressed with its great value, and immediately wrote to the Rev. Mr. Mott, to know if he could furnish me with the seed, and at what price; he wrote me that he would not be able to collect the clean seed, from the closely grazed old fields where it was then growing, if $100 per bushel was paid him, but he stated that the plant was an annual, which bore numerous seeds that dropped in late fall, after it was killed by a succession of heavy frosts, and that it never failed to increase and spread by reseeding itself, which virtually made it a perennial, and he stated that he would scrape me up a bushel of this earth seed, from where the plants that grew thickest, for the sum of $5, and that if that was sowed in the middle of any field, *in time*, it would spread all over the field, though kept as a pasture the year through. A portion of a sixty-acre field was put in oats, and after the oats were harrowed in, this bushel of earth seed was sown around and across a hill, near the middle of the field. From the small number of plants that grew the first year, there could not have been over one pint of seed in that bushel of earth; those plants were killed root and branch in late fall by frosts, but early the next spring, quite a number of young plants came up under each dead plant, and in another year it spread very much, and the third year it commenced leaving that hill, and though the field has been kept as a standing pasture and constantly grazed all through the year, ever since that Japan clover was seeded, it has continued to grow and spread, and more than double its area annually, until the whole field has become more or less covered with a matted sod, and it has spread all through the woods, where the growth was not too thick. That field has now been more than doubled in value for grazing purposes, and will carry more than double the amount of stock it formerly did. The seeds being light (25 lbs. to the bushel) are spread by fall and winter rains after they drop, and by cattle walking over the dead plants, and in their dung when the dead plant is eaten with the seeds on it.

Several other parties in this section purchased seed when I did, and expecting too much *at first*, from such a small quantity of seed, they pronounced it a humbug, and plowed it up after two years, and I never should have known of its great value but for having kept it in standing pasture from the time it was seeded until now. After a field has been kept in pasture for several years it will be greatly improved by a Japan clover sod, and if it is desired to put the field in cultivation, and it is plowed for corn, *after the seeds ripen in the fall* and before they vegetate in the spring (say between Nov. 15 and March 15) the field may be cultivated in corn, and corn land put in wheat, and red clover sowed on the wheat land, and after wheat is cut then kept for a hay crop for one or two years, and the Japan clover will make its appearance among the red clover the first year, and when the red clover fails, if the field is put in pasture again, for one or two years, the Japan clover will cover the field again without reseeding. This was found out here by accident; but if the field is plowed up in the spring, from April 1, when the plants begin to vegetate, up to Sept. 1, when the plant is in blossom, it will be entirely destroyed, and will have to be reseeded.

This plant will double the value of all the worn-out lands in Virginia for grazing purposes, and it would probably mature its seed in Maryland before frost, but it is very doubtful if it would do so in any of the Northern States. A. P. ROWE, *Spottsylvania County, Va.*

Northern Ohio.

EDS. COUNTRY GENTLEMAN—Both in agriculture and horticulture the outlook here is somewhat peculiar and perplexing. The almost total ruin of the cattle-feeding business in the last two years by Chicago dressed beef has left many of the best farmers at sea as to what to do with their surplus feed. Two or three courses seem open, and these are being followed according to the bent of the individuals. The greater portion in the vicinity of cheese factories and railroad milk stations are engaging in dairying, while those farther away are increasing their acreage of meadows, and will try selling hay. The good prices that have prevailed this winter for hay have made this the best crop produced last season. One farmer realized $230 from ten acres of clover, about two-thirds of it being sold at the farm. Here and there a farmer is engaging in the making of gilt-edged butter and the rearing of heifers, there being an increasing demand for cows, as the dairy business enlarges its borders. The bull calves are made into veal, some of them being kept until they weigh 300 lbs. and bring from $12 to $16 per head. As heifers cannot be raised without mothers, butter-making is a necessity in connection.

Whether the milk-producing business can be expanded 20 or 30 per cent. this season without a serious decline in prices, is a question. There is evidently a feeling among city milk dealers that they will have things pretty much their own way this summer. In February I wrote you that a supply of ice would insure the running of a milk car from this county to Pittsburg. A dealer in that city encouraged a prominent and successful milk producer of Kent to work up the matter, holding out the promise of 11 cts. per gallon (8¼ lbs.) the entire year. Ice houses were built and filled and dairymen made arrangements to put their dairies on the best possible footing when it was whispered around that the dealer refused to make contracts at 11 cents, and the whole thing fell through. The milkman who had spent half the winter working up the matter and is an honorable business man, is left in the lurch, and a dozen or twenty dairymen will have ice to sell this summer.

The discouraging aspect of the beef question was indicated by a sale of black cattle that was consummated last week in Tallmadge. Several years ago a careful breeder of horses and cattle bought two imported Aberdeen Angus heifers for $1,000, and a bull reared in New-York State for $300. From these he had a herd of full bloods, as nice specimens of the breed as one could wish to see. With the continually declining beef market, and located in the surf of the dairy sea of Northern Ohio where it beat against the wheat hills of Stark county, the "doddies," which are poor milk producers, did not prove popular, and the gentleman seemed to have an elephant in his barn. Recently, however, he got a chance to get out, and did so, the herd of 21 head, including several calves, bringing as is reported a little less than $3,000.

Turning to market gardening the outlook is not encouraging. Dealers bought their holiday celery at $3 per doz. bunches (25c. per bunch—it used to be 40c.), and cabbages, each large enough to dine 15 persons, for $1 per 100. One man near Akron has 1,000 bushels of

onions now on hand; last week a neighbor of the writer had 1,500 cabbages unsold, and another gardener 3,000. Grocerymen in Akron pay 15c. for potatoes, and buy very sparingly at that. It seems a pity that some of this surplus of onions, cabbages and potatoes cannot go to feed the underfed and starving poor of the great cities instead of rotting in a pile.

The cost of distribution and handling is much greater in proportion when produce is low than when clear up. Potatoes have retailed at 40c. all winter and onions at the same price. When cabbages bring 5c. at wholesale the dealers will sell at 10, and when he pays 5c. he sells at 5. The free delivery system of the grocers make a certain margin on bulky articles necessary and this gives the market gardener who delivers his produce direct to consumers a chance for his life, and is now about the only protection he has from the farmers who dip into the business a year or two and then go out, not having time to retail their vegetables.

At present berries promise a full crop having wintered well, but peaches and sweet cherries are nearly all killed. Only a small portion of the apple orchards bore last year and there should be a large crop, and the outlook for pears is good. New-York State Baldwin apples in Cleveland and other distributing points kept prices down all winter and the prospect is dull for nurserymen as there will be few orchards planted this spring.

L. B. PIERCE.

Northeastern Dakota.

Eds. Country Gentleman—The month of March went out with a cold, raw wind blowing from the north, and surface of the ground frozen. All farm work stopped. April 2d, wind changed to the south, and a heavy snowstorm set in, lasting all day. About six inches fell, disappearing after three days, leaving the roads in a very disagreeable condition. Warm winds prevailed, and the surface of the ground was soon dry again; seeding commenced generally on the 8th, and continued all week. A large part of the farmers are through seeding wheat at this writing; if the weather continues fine for another week, all will be done.

Your eastern farmers would be astonished to see how we rush things here in the West. Some New-England farmers, who are here, seem to get go-ahead on the brain as well as others. Many farmers have broadcast seeders attached to the hind end of a double wagon, and driven by a ratchet wheel fastened to one of the hind wheels. This seeder will seed 60 acres per day. We also use a four-horse harrow, 28 feet wide, which will harrow over 80 acres per day. Farming operations go forward here now with a rapidity that was not thought of twenty years ago. Many farmers in this county have, at this date, from 300 to 400 acres seeded down to wheat. Yet I am of the opinion that it would be safer if farmers would go more into diversified farming, but it seems the lesson we got by the frost last season has not discouraged wheat-raising. Many, however, are putting in large quantities of barley and oats, and from all indications, as far as human judgment can foresee, I believe we are sure of a large crop this season. The ground is moist and the weather favorable, the grain is being put into the ground in fine shape, and our season is five weeks earlier than for ten years past; so that, all things considered, our prospects are cheering at the start.

New-comers, who have arrived here from Canada and the Eastern States, are highly pleased with the country, and are astonished at the progress we have made in so short a time. Twelve years ago, with the exception of the little hamlets of Fargo and Pembina, this valley was one vast plain, with nothing but the red man and the prairie wolf roaming over it; while to-day we have three lines of railway running through the valley, with the city of Fargo and Grand Forks to the south of us; also the city of Grafton, in the centre of Walsh county, and the city of Pembina to the north of us, with numerous other smart towns and villages along the different lines of railways, and should we be favored with a good crop of wheat this season, we shall export at least 60,000,000 bushels of wheat from Northern Dakota.

Red River was clear of ice on the 9th; first steamer of the season passed down on the 12th—the earliest date for the last ten years. Markets in Grafton nil. George Parr.

Walsh County, April 13.

The Manufacture of Starch.

Eds. Country Gentleman—The manufacture of potato starch (of which C. P., page 266, desires information) is as follows: The first operation is the washing of the tubers, which is done in an inclined conical revolving cage, having a large number of interstices through which the dirt is washed by means of a stream of water. The tubers are slowly moved to the lower end of the cage, from which they are discharged into the grater. The grater reduces the tubers to a very fine pulp, so as to tear open the starch cells and liberate the small granules. A simple grater of sheet iron, made like that used for grating horse-radish, may be used for this purpose. The pulp is washed from the grater into filtering tanks, which separate the coarse fibre from the fecula. This is washed into vats, and is stirred by means of rotating rakes into a succession of settling vats, the clear water being finally drawn off, leaving the starch as sediment. This is gathered and dried in kilns on perforated sheets, through which the starch is sifted by means of rakes.

The machinery is quite simple, but as the business is subjected to a close competition, it requires to be effective. It is quite improbable that C. P. could make starch profitably. An effective outfit would cost at least $1,000, and to make it pay should obviously be permanent. The price of starch is so low that only those potatoes grown in certain localities, and having a maximum quantity of starch in them, can be used profitably. The average quantity of starch contained in the best kinds of potatoes varies from 13 per cent. to a little more. It is very rare, however, that the product reaches higher than this. It is quite doubtful if Missouri potatoes could be profitably manufactured into starch, because only those grown in cool northern climates contain starch enough to pay for the working. A press is not used in the process. The vats are large, round tubs, in which the rakes that stir the pulp are revolved by machinery, so that cider apparatus would not be available.

Potatoes are worth at least 25 cents a bushel to feed to stock, and especially to swine. It is most probable that this would be more than could be made out of them in the form of starch, leaving out of the question the difficulties of working up a small quantity, only a few hours' consumption of an average factory, the cost of the apparatus and the indispensable need of a suitable building, and the large quantity of water required.

Agricultural Engineer.

The Peanut.

Eds. Country Gentleman — Noticing the remarks of my friend E. W. S. (p. 212) in reference to the analysis of the refuse of the peanut after the extraction of the oil, I beg to give the following analyses of the nut procured from sources which he probably has not conveniently at hand. First let me say that this nut varies very much in composition with the climate. The African nut is richer in oil than that grown here where the climate is not so hot. The Virginia nut was analyzed by the Agricultural Department at Washington in 1870, with the following result:

	Whole Nut.	Kernel.	Husk.
Water	2.69	2.31	2.81
Nitrogenous and carbonaceous matters	29.38	70.71 (cellulose)	93.69
Oil	16.00	16.00	.....
Ash	2.00	1.77	11.50
	99.96	99.99	99.99

Such an analysis as this should never have been put out, being so unsatisfactory in regard to the albuminoids and carbo-hydrates being lumped together. The proportion of husk is given as 1.16 per cent. of the whole nut, which is a palpable error.

In the Transactions of the Highland and Agricultural Society for 1865 the following analyses of the cake or refuse of the African nut are given:

	Sample 1.	Sample 2.
Water	11.50	10 01
Oil	13.75	6.39
Albuminous matter	36.71	39.06
Ash	5.39	5.75
Fibre (cellulose, starch, &c.)	46.00	45.56
	99.35	100.00
Nitrogen	4.77	6.39

In a little French work (*Les Plantes Oleagineuses*) by Heuzé, the following in regard to the African nut is given: Oil contained 30 to 40 per cent. An analysis made at Marseilles by M. Bonnell gave oil 30 per cent., refuse cake 68 per cent. The Spanish nuts, pressed when fresh, afford 60 per cent. of oil; Italian nuts 50 per cent., and East Indian 37 to 43 per cent. African nuts have afforded 77 per cent. of kernels and 23 per cent. of husks, which may be said to be much more satisfactory than the statement of 1.16 per cent. of husk given by the Agricultural Department; but then the samples used might have had only the inner husk and not the shells. M. Heuzé gives the quantity of nitrogen in the cake as 6.07 per cent.

Considering the ease with which this plant is grown in the South, and its high value, for the leaves, stems, and fruit for feeding, it seems to deserve more notice from scientific as well as practical agriculturists. The bland nature of the American peanut, and its moderate and safe proportion of oil, would go to indicate its high value for a feeding crop for the localities where it can be grown. In the most northerly limits of its culture, it would contain the least oil, and would combine unquestionably the merits of the linseed cake and the bean, without the demerits of either. H. Steward.

Once More the Windmill.

Perhaps Electricity May be Attached.

Eds. Country Gentleman — Many windmills have been put up in this county with somewhat varying results, but as more of them are now sold and used than ever, we may conclude that on the whole they have given satisfaction, and that where a different result has occurred, some error in constructing or erecting has occurred.

I think it is believed by all intelligent farmers that for handling water for farm purposes, the windmill is incomparably the cheapest, best, and most convenient power offered.

The violent windstorms of this region wreck many mills, it is true, but there are working to-day mills that passed through the heavy storm of June, 1885, which extended over nearly the whole county and knocked buildings right and left. Properly put up, I believe a good windmill will safely ride any storm that does not wreck adjacent buildings. I have used both solid and open wheels; the solid wheels are the simplest and, for light pumping, perhaps the best; the open wheels are steadier, and, I think, for heavy pumping or for geared mills to be preferred.

As to A. H. B.'s stricture on the recommendation for high towers, as in our case we erected the tower ourselves, we concluded that the company's advice for a sufficiently high tower was disinterested; accordingly we put up a tower of forty feet. Our neighbor had put up one some time before 25 feet high; his mill has been wrecked three times and is now abandoned, while ours swings as proudly in the breeze as ever. I believe the reason of this is that while our lofty mill is more exposed, being elevated above all obstacles, it gets a steady constant wind, and has every chance to govern itself properly. If you will notice the clouds on a blustery March day, I think you will find that while at the surface the wind may be fitful and gusty, the motion of the clouds is comparatively steady. I take it that the greater the distance from the surface the more constant and regular the air currents, hence the higher a good self-governing wheel is placed, the less liable is it to be exposed to eddies and flaws of wind; while a wheel not elevated above surrounding buildings, groves, &c., is exposed to the swirling gusts caused by the obstacles to the air currents, and it is these flaws of current that damage and wreck the wheel. To illustrate, suppose a wheel headed north to a strong current; if now a lull is succeeded by a violent gust from east or west—conditions not unlikely to occur in the lee of a building—before our wheel can respond to the new current and steer and govern properly, it is caught and wrecked. Those who have worked sail boats on wide, open bodies of water, and on narrow streams lying amidst hills and groves, can appreciate this line of reasoning.

Of course the limit to useful elevation is soon reached, because of the leverage of the wind on the anchorage of the tower. The strain on the anchorage of a tower of 40 feet will be twice as great, with the same air current and wheel, as on a tower of 20 feet, besides which, the larger tower in itself exposes an even greater ratio of increased surface. Our wheel is at least ten feet above any adjacent object, while my neighbor's wheel, half a mile distant, is about on a level with the top of his barn and house, say 100 feet apart, with the wheel midway, and as before stated his wheel has been wrecked three times while ours has not once seriously suffered. I have dwelt at length on this point because I consider it of the utmost importance and because I have found it difficult to make most of my neighbors realize it. The wheel and tower present for consideration different problems. The higher a good self-regulating wheel, the safer for the wheel, and the lower the tower, the safer for the tower. On a proper judgment of the right balance of these two conditions will depend much of the success of the wheel.

Now as to performance. Our well consists of a 2-inch galvanized iron pipe, 240 feet deep; the pipe constitutes the cylinder, the plunger and valves being at the bottom. The water rising 10 feet, pumping is so heavy work that hand-work is impracticable. We first rigged up a contrivance to pump by horse-power; two horses could throw a fair stream, but they required a driver, and time and trouble in hitching up. As a consequence, cattle were often driven to water, and the boys frequently preferred hauling water from the slough, a mile distant. We hesitated some time between getting a steam engine or a windmill. As usual, we had plenty of confusing advice, sometimes one way, and sometimes the other. A steam engine would undoubtedly have been convenient, little exposed to storms, and to be relied on in all conditions of wind and weather, and useful in many other ways. We could have obtained one suitable for our purpose for $150 to $200. The steamer, however, would have required more or less expense and attendance, and in inexperienced hands was certainly to some extent dangerous.

Finally, on the warranty of the manufacturers, we concluded to put in a Duplex 14-feet geared wind engine, at a cost for engine, grinder, &c., of $260. We furnished the tower, mill house, labor, &c., say at about $75 more, and we have been congratulating ourselves ever since. We are able to pump the water, grind the grain, and cut the fodder (with an 11 A Ross cutter) for 20 head of cattle, 18 horses and 40 hogs without any storage room at all. By having a storage tank for water, and a system of elevators and bins so as to allow the grinder to run at night, we could readily care for a much larger amount of stock. I think, with a brisk wind, our machine develops a power of three to four horses, and there are times when it is evident that the machine would carry a much greater load. There are also, of course, periods of calm, when no work can be done, but I do not think there has ever been with us any consecutive 24 hours during which the wheel would not at least run the pump sufficiently to water all our stock with no greater storage than an ordinary 12 feet trough.

We have made a practice of oiling our wind-engine once a week; this is perhaps oftener than absolutely necessary, but our wheel is very little worn. Being blessed with steady nerves, I rather like the job myself, and most of the hired men I have had have been more than willing to "oil her up." The only time we ever feel disposed to shirk this business is in winter, but experience has taught us to wait for a calm, sunshiny day. It is certainly a difficult and dangerous job to oil the wheel in a bitter cold wind, and in this climate we have found quiet, sunny days come often enough. In the summer we often stay on the platform by the half-hour, enjoying the splendid outlook. A light line is permanently attached to the platform, and by fastening to a box at the bottom, containing oil can and grease-box, wrench, nails, &c., we are enabled to climb the tower without having our hands full; and if A. H. B. will consult my wife, I think he will find that she has given up all hope—that is, fear—of becoming "a fascinating widow" through the agency of the windmill.

Our tower is built on the ordinary pattern, the four main posts reaching from the anchorage to the engine, to which they are firmly and directly bolted. The spread of the tower at bottom should be at least one-fourth of the height, and the anchors sunk at least 8 feet. An important part of the outfit is the anchorage. We dug two trenches, 10 feet apart, 12 feet long, 6 deep and 2 wide; these sloped out sufficiently so that at 8 feet depth there was room to outline a base of 12 feet square. Our anchor posts were railroad ties, and were firmly bolted at the bottom to cross-pieces reaching from post to post. The anchors are firmly bolted to the corner posts of the tower, which are 6 by 6 inches, and the braces 2 by 6; these

are heavier timbers than usual, but in our judgment were required by the work and exposure. All windmill manufacturers furnish plans and specifications for towers. The tower is best placed so that the crank pin of the pumping wheel is directly over the pump, although by means of quadrants and wires a pump at a distance from the tower may be operated.

Our wind engine is of the duplex pattern, and is perfectly balanced so that its steering qualities cannot be affected even while doing the heaviest possible work. It governs well, and will readily relieve itself if the wind be too great. It has so happened that it has never been exposed to a very severe storm, although erected two years, but from closely observing it I am satisfied that it will never suffer so long as the tower is able to hold it in place. The tower might be materially strengthened by guy ropes of wire; a tower so braced, 75 feet high, near Morrill in this county, is giving good satisfaction.

Such a mill as ours will do a great variety of work, as pumping, grinding, shelling, cutting and sawing. An enthusiastic neighbor declares it will run the separator, the separator being a 12-horse machine. I should like to experiment on its application to the generation of electricity and the storage of the same in storage batteries; this subject opens a field too vast for full treatment in this article, but let us briefly consider. Here is a circle, 18 feet in diameter, developing a power of 3 to 4 horses or more; the current that moves it is miles in depth, and hundreds, perhaps thousands, of miles in width. Take your pencil and figure up the total energy of the current flowing over a farm of 80 acres, over a section, over a county—the aggregate becomes inconceivable, and the much-talked-of water power of Niagara a mere bagatelle. Suppose we harness some of this power, and save and store it by means of electric dynamos and storage batteries; we have now an energy which we can expend in any form we please; we can run motors or furnish light or heat. My old teacher, Prof. Thompson, has shown how we may weld and forge, and our inventors may be trusted to extend its application wherever required.

The average farmer is apt to look on electricity as something entirely beyond the scope of his operations, as rather above and beyond his investigation, but it may be that the time will come when we shall be able to employ this subtle but universal energy in all our domestic and mechanical operations, and when our farmer finds himself able to boil his coffee, run his machinery and read his paper by cheap electricity, he will need to know a great deal of the mysterious, tremendous force placed at his disposal. There is danger in ignorantly handling dynamos and currents, so there is in the steam boiler, and the danger will no more prevent the use of the one than it did the use of the other.

It is quite practicable under existing conditions of knowledge and invention for any one having taste and means, at no very great expense either, to put in an electric lighting plant and small electric motor for the sewing machine, churn, &c., the whole to run cheaply from a windmill, by means of storage batteries. The chief expense would be the expert labor, and if one has the knowledge and taste to furnish this himself, the remaining expense would be surprisingly light. Detailed estimates and directions may be found in the Scientific American for March 18, 1886.

Plymouth County, Iowa. R. M. R.

The Department Reports.—In the April number of Orchard and Garden, Mr. L. O. Howard, assistant entomologist of the Agricultural Department, states that the department's supply of annual reports is exhausted, except for the year 1887, but that they may be obtained at second-hand book stores in Washington as they are sold to them by members of Congress who have no farming constituency. Why would it not be a good plan to have all the reports distributed by the department on some such plan as the reports of the pomological division are distributed to fruit growers, and thus prevent their being used for private gain or for political purposes as at present? I suppose the present method of distribution was adopted when the agricultural department was established, as the most equitable one that could be devised; but in these days of civil service reform all perquisites of office should be abandoned. J. B. S.

Highlands, N. C.

Seed-Testing in Europe.

EDS. COUNTRY GENTLEMAN—The question treated in a paper by Prof. BYRON D. HALSTED on page 294, is worthy of further discussion, and the following remarks on European seed-testing may be of interest. Prof. Halsted's opinion is, that experiment stations have quite enough to do in other lines of investigation, and cannot enter upon seed-testing so as to protect the farmer against the bad manipulations of the seed dealer. So far as I visited seed stores in the United States, I found their manipulations and their samples to be very good, but such things cannot be judged during a few visits. But even if it is true that no one of the seed dealers intends to cheat, a seed test will be of great use, as it is the only way to ascertain the changing value of seeds of one kind in different years. Such a seed-test gives also information to the seed-dealer himself, which otherwise he must obtain through his own work with a great amount of labor. Such trials for his own use, for instance, are made by Mr. Henderson. Prof. Halsted is not quite right if he means that such a test would not be practicable at an experiment station. Some of the seeds he mentions, for instance, onion, cabbage, &c., the seed test in Europe has not done much with, as these plants are not cultivated here in great fields but in small quantities in gardens, and seeds therefore are sent very rarely to a station. Also in some other cases the stations have to-day no men to give a good decision; a station cannot separate the seeds of the several varieties of Brassica. But there is a great field which can be covered to advantage by such seed-test stations as there are in a great many European countries. The American experiment stations, it is true, seem not to have paid much attention to this question so far. I found in the reports of many such stations some experiments on seeds and germination, but nothing about regular seed testing.

In Europe the seed-test stations are different from the stations which have to test manures. There is one in France at Paris; in Switzerland at Zürich (Dr. Stebler); Germany at Berlin (Prof. Wittmack); Austria at Vienna (Dr. Weinzierl). Taking the Swiss station as an example, it has contracts with a great many seed dealers of this country and also of other countries. The seed dealer sends from his stock samples to the station, which are tested as to purity and vitality. He then sells his seeds and warrants a purity and vitality something lower than found by the station. Every buyer who buys more than 5 kgs. of seeds, can send again samples to be tested without cost to him by the station, and the proof must now show a result near to the first obtained. Take for instance the following data, which I copy from the eleventh report of the seed-test station at Zürich—the figures indicate percentage:

	—Warranted.— Purity.	Vitality.	—Station test.— Purity.	Vitality.
Burgundian hay (*Medicago sativa*)	93.0	90	97.9	99
Red clover (*Trifolium pratense*)	97.3	90	97.5	98
Sainfoin (*Onobrychis sativa*)	93.0	90	97.5	92
Italian rye grass (*Lolium italicum*)	97.3	96	98.7	97
English rye grass (*Lolium perenne*)	93.0	95	98.0	99

The differences by other proofs, which relate to orders filled by seedsmen, who have no contract with seed test stations, are much greater:

	—Warranted.— Purity.	Vitality.	—Found.— Purity.	Vitality.
Red clover	95.0	90	97.1	81
Burgundian hay	93.0	90	97.7	84
Italian rye grass	96.0	90	98.9	84
English rye grass	95.0	95	98.5	84
Fox-tail grass	93.0	75	76.2	40

These figure show that the quality of the seeds sold by firms which have contracts is more nearly approaching the warranted quality; the seed-test stations do therefore in this way a good deal in protection of the farmer, and the work done by this station is not only a seed-testing but also the testing of seed dealers, in the sense meant by Prof. Halsted.

The greatest number of proofs are sent to this station of seeds of sugar beets, and of grasses and clovers. To show the value of such tests of grass and clover seeds when a meadow or a clover grass shall be laid down, let us look at a supposed case. You have to sow a clover grass which shall consist of 40 per cent. of Italian rye grass, 40 per cent. of red clover and 20 per cent. of incarnat clover (*Trifolium incarnatum*). The quantities which should be sown, if these plants are each alone on the field, and if every seed is true and will germinate, are, *pro Aectare* (one acre equals 0.404 ha., one pound Troy equals 0.373 kgs.)—40 kgs., 15 kgs. and 15 kgs. According to the per cents. given above you would have to sow in the mixture, if again every seed is true and every seed germinates—16 kgs., 6 kgs. and 3 kgs. But you surely have not such seeds. You have for instance two samples of the following quality, one good (I) and one with poor seeds, but not of extraordinary bad quality (II).

Sample I.	Purity.	Vitality.	Value.*
Italian rye grass	98.7	97	95.7
Red clover	97.5	90	87.7
Incarnat clover	94	70	65.8
Sample II.	**Purity.**	**Vitality.**	**Value.***
Italian rye grass	80	70	56.00
Red clover	80	64	51.20
Incarnat clover	84	50	42.00

In these two cases you have now to take the following quantities of seeds, according to their value:

	Sample I.	Sample II.
Italian rye grass	17.35 kgs.	26.57 kgs.
Red clover	6.86	11.79
Incarnat clover	4.56	6.56

If a meadow is sown with the poor seeds without knowledge of their quality, the field would be covered very poorly with plants, and only a good seed-test gives the means to protect the farmer against such a case. Prof. Halsted will therefore see that seed-testing can to-day be carried on very well by experiment stations, and is carried on by special seed-test stations in Europe. But also the field of investigation on seeds and germination is not so uncultivated as he states; we have a great deal of work done, and we have knowledge of the best depth and the best width of sowing, the minimum and maximum temperatures of germination, the influence of several substances on the germinating seeds, the duration of vitality of seeds, &c.—all this and other things for seeds of the several principal kinds of cultivated plants. I only name the leading investigators in this line in Europe—Haberlandt, Nobbe, Wollny and Hare.

European agriculturists are, in our days, very eager to learn from American agriculturists. I shall be very glad if I can draw the attention of the latter to a subject which is worthy to be studied in Europe.

Modling, Austria. C. FRUWIRTH.

* The term "value" means always purity multiplied by vitality and divided by 100.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *April 21.*

Light rains and lowery weather extending over four or five days last week, gave us little more than a half inch of precipitation; all told, two and a half inches of rainfall since the middle of February. But what rain there was freshened up grass and vegetation surprisingly and caused cherry, pear and plum trees to burst suddenly into bloom. I must correct a previous report announcing a full apple blossoming. It is quite a light one for these regions and especially on trees that carried a heavy crop last year. Peaches, now going out, and all other common tree fruits, are as pink and white with bloom as I ever saw them, and since the crop of all these was quite light last year, the prospects are good.

Corn planting is now the order of the day, an order pretty sure to be kept in force for two or three weeks, until as large an acreage as was ever seeded in Central Illinois has been committed to the earth. If the drouth continues, there will be difficulty in getting a full stand unless the planting is an inch or two deeper than usual, or the fields are rolled immediately after planting to secure to the seed that moisture necessary for complete germination. The late rains improved the general appearance of oat fields and seemed to be just what was wanted to put the winter wheat in a state so generally excellent as to leave little to be desired.

With the exception of mares, which, in consequence of the prevalence of a mild epizootic distemper or some other unknown cause, are suffering seriously in parturition, the health of the live-stock of the country is quite unusually good. In mares, abortion is reported nearly as common as after the drouth of '87, while fully 10 per cent. of the births are false presentations requiring the assistance of the veterinarian, and with frequent fatal results. Breeders and feeders will soon be apprized of the grave mistake they have made in treating the horse, sire and dam, as they do bullocks and shoats, where the aim is to get the largest amount of weight in the shortest time by a practice of nearly exclusive corn feeding. Stallions are overfed and under-exercised as if they were being fattened for the butcher's block, while mares for the latter six months of their term, are as foolishly pampered. I doubt whether it would be a serious underestimate to say of the hundred mares in foal the first of January, not 75 will have live colts, and colts worth the raising the first of the June coming.

Desertion of Country for Town.

The agricultural situation at the present time presents some features which may be regarded as anomalous and worthy of something more than a mere passing notice. It is this, that while the value of farms and farm land is steadily advancing, and the income from them from rents is as gradually increasing, there is an increasing momentum in the force which is taking the sons and daughters of farmers and the farmers themselves, into the cities and the towns. Perhaps the one feature may be the complement of and explain the other, but not altogether. According to the Chicago Tribune, in 1860 forty per cent. of the population only had gathered into the cities and large towns, but by the last school census it is found to be 50 per cent., with a reasonable probability that the next United States census will show a further loss of the rural population.

In times past and at momentous epochs in the history of states and nations, a similar desertion of the country for the city has occurred,—one at the beginning, or near it, of the decline of the Roman empire, and the other in France in the eighteenth century previous to the breaking out of the French revolution. Whether the present desertion of the country for the cities is preliminary to some great political or social upheaval, as these two memorable ones were, is of course impossible to decide, one way or the other, but it is easy to account for a portion of the movement when one takes into consideration the attractions and seductions of town and city life compared with the country.

In these latter times of town and city improvement, farmers see and feel they are taxed to pay for the luxuries and advantages they are deprived the privileges and enjoyment of. Compared with the country, the city and large town is a new country and another world. If in towns, the mail is delivered free at their doors two or three times a day, the telegraph, the telephone, the express office, and the railroad and street car stations are within five minutes walk; there are electric lights till midnight, and water flowing from hydrants and fountains whenever turned on; there are churches on every street with open doors, and schools in every ward, both inviting and welcoming them and their children; there are cheap and dear amusements every night and frequent entertainments that cost little or nothing. Besides, there are opportunities for social intercourse, chances for speculation, and the moral and political advantages that follow easy intercourse between family and family and man and man. In fine and in short, the towns have all the advantages and seductions of fifty years of Europe, while the country is limited in these to the growth of a cycle of Cathay.

It is noticeable that the contingent contributed to the towns and cities from the country is made up of two separate and distinct classes, if one may use the expression, in a society claiming to be purely democratic. These are the wealthy who own the farms and are able to rent them at rates from $5 per acre per annum for small farms, down to $4 and $3 for large, and the poor who have not means and credit enough to undertake the obligation of paying a heavy rent, with the possibility of a partial failure of crops. Thus we have an example how in farming, thought to be the most democratic of all callings, the rich are getting richer every day and the poor growing poorer by night and day both. The increase of population in towns is beyond the call for occupation in one class and for labor in the other, with the result of a surplus of idlers who gather on the street corners, wait in crowds on the arrival and departure of trains, and when in county seats and the courts are in session, fill the rooms to overflowing.

Meantime, under the pressure of having a big rent to pay, the lessee of the farm has no time for any but that work which will give him the greatest return for his labor, and no inducement for improvements which he has no surety of getting the benefit of a second or third year. Consequently the buildings are neglected and get out of repair, the fences

fail to do their duty, the open ditches fill up and the tile drains clog, the field corners get weedy, cockle burr invades the corn land and cheat the wheat fields, sour dock takes the low spots, and red top and fox-tail drive timothy and blue grass out, while around house and barn the rank odors of jimpson-weed and dog-fennel degrade the healthy atmosphere.

An eminent Frenchman, referring to the desertion of the country for the towns in the eighteenth century, declares that the movement by decreasing the agricultural production did as much, if not more, to impoverish the country, diminish commerce, and lower its legitimate profits, than the burden of excessive taxation imposed on the common people and their lands and income at that time.

I don't know that we have much to fear at present from the wholesale desertion of the farming population. I suppose it is, in some senses, a protest in acts against the inequalities between town and country, and an attempt in a blind way to remove or amend them. At any rate, the phenomena attending this exodus seem to be worth the attention of the so-called governing classes, who, in a great majority of cases, originally set the example of deserting the country, and at the same time are open to the reproach of forgetting and neglecting it. E. P. J.

Inquiries and Answers.

Manure Spreader.—I wish to purchase a manure spreader; want the best on earth; please tell me where to find it? J. M. C. *Hertford, Pa.* [We hear good accounts of the "Emotre," made at Phœnix, N. Y.—see advertisement, p. 319.]

Self-Cleaning Stables.—Will neat, fastidious and successful devotees of winter dairying give a novice their opinion of Stewart's self-cleaning stables? Theory appears to be against them. How about practice? QUINQUA. *Holliston, Mass.* [We think the device gives general satisfaction; should be glad to hear further from those who have used it.]

Rose Slug.—What is best to apply to rose bushes to prevent the destruction of the leaves by the green slug—that which causes the leaves to look as if a fire had passed over them? S. *Clarke County, Va.* [Mix hellebore with water at the rate of an ounce to two gallons, and apply with a syringe or watering pot. Fresh air slaked lime dusted on the foliage is a fairly good remedy.]

Effect of Sawdust.—I am using sawdust just as it comes from the mill for bedding cattle and horses. It is a fine absorbent of the liquid manure and droppings, and renders it in the best possible condition for application to the land where it is spread and plowed under. Can this sawdust injuriously affect the fertilizing properties of the manure? M. *Pulaski County, Va.* [Sawdust from any wood which has no poisonous quality would do no harm, but its value would be greatly increased if cut from dry timber or if allowed to become dry. If green or wet, it would be of little use as an absorbent; but dry sawdust saturated with liquid manure, and especially if old or decayed in addition to being dry, would be a good fertilizer.]

New Grapes.—In answer to the question, "Which of the new grapes are the most promising for growth and good quality," we name the following among those quite recently introduced and strongly recommended: The Moyer, rather small in bunch and berry, will probably prove valuable for its earliness, being ripe at the same time as the Champion, and greatly superior to it in quality. The berries are slightly larger than those of the Delaware, good in flavor, but not of the very highest quality. Its dark red color is attractive in appearance, the vine is hardy, productive, and the variety reliable. Among the new sorts tested on our own grounds, is the Woodcock grape, raised by Wm. Woodcock, of Fulton, N. Y.,—a seedling of the Delaware, with Concord growing in near proximity. The vine appears to be quite hardy, bears strongly, the bunches rather handsome, fully equal in size to the Concord, reddish brown, of good quality with no foxiness, and adhering well on the the bunch. They ripen about the middle of September. This grape appears to possess valuable qualities, and to be worthy of trial. Moore's Diamond is highly commended, but it has not borne on our grounds. But of all the newer varieties, none which we have examined have been equal in high quality to the Mills, raised by Ellwanger & Barry. It is a hybrid between Muscat Hamburg and Creveling, and is scarcely equalled in rich flavor by any grape we have met with outside the hot-house. The larger bunches measure seven inches long, and five inches across the shoulders; the berries are purplish black, adhering well to the foot-stalk, and having the same dark purple as the Creveling on the points of the pedicels. The vine is strong and vigorous, the leaves with a white down below like the Concord. We suppose the inquiry of our correspondent is not intended to embrace such older varieties as Pocklington, Niagara, Prentiss, Duchess, Brighton, Worden, &c., which have been known many years.

Farrow Cows.—Please say whether the word "farrow" applied to cows, means a cow that has never calved or one that has calved and has been afterwards tried and failed to get with calf, or one that continues to give milk without being tried—that is, what is a farrow cow? (1) Is the milk of a farrow cow generally considered wholesome? (2) Is the word "fallow" ever used in the same connection? (3) H. T. *Berrien Springs, Mich.* [1. If a cow, having previously bred, fails to catch for a whole season, she is "farrow," and of course continues to be "farrow" until she breeds again. A cow that has never borne a calf is described not as "farrow," but as "barren." 2. Yes, so far as the mere fact that the cow is farrow is concerned. 3. No.]

Grubs.—I plowed seven acres of new ground about the middle of March (as a rule I turn my sod in the fall) with the intention of planting it in potatoes. I found the grubs in such great numbers I fear they will greatly injure the crop. Would you advise me to plant it in potatoes? Can anything be done to prevent the ravages of the grubs? S. C. B. *West Middlesex, Pa.* [There are many species commonly called grubs, cut-worms, &c., which, if properly known, would require varied treatment for their destruction. It does not appear which are referred to above, and we cannot prescribe a certain remedy. It may require thorough cultivation and stirring of the soil to reduce their numbers. Salt has sometimes been useful, and we would recommend the use of fifty bushels or more of gas-lime to the acre, which may be found beneficial.]

The Best Implements.—I should like to find out the best potato planter; best potato, turnip, beet and corn cultivator; and best potato digger. T. H. *New Carlisle, I. Q.* [Matter for the editors should *never* be written on the back of a business letter—please see COUNTRY GENTLEMAN, p. 180, fourth col., 2d paragraph of first editorial. In answer to our correspondent's inquiries, we would say that the best potato planter is doubtless the Aspinwall, largely advertised in past numbers of the COUNTRY GENTLEMAN, and well suited to large fields which are clean, mellow and well prepared. There are many cultivators sold in different parts of the country, among which we could not properly discriminate—one which may be changed to run at different widths would be important for the different purposes named. There are several potato diggers which have not found their way into general use, and which are sparingly advertised. In the mean time, before all their merits are fully tested and proved, it may be well to use the simpler and cheaper ones. Even a common plow properly adjusted and followed after picking, with a simple harrow or cultivator, has done good service.]

Horse Barn.—Will you kindly give me, through the columns of your paper, a plan for the basement of a barn, with a capacity in basement of from twelve to fourteen horses, with one or two box stalls? The first story above basement I would like for buggies, wagons, and farm machinery, with a harness room and a bed room for hostler; the second story for hay loft, and bins for bran, oats and corn. I am a new subscriber to your paper, which, from so slight an acquaintance, I consider invaluable to the COUNTRY GENTLEMAN as well as the farmer. W. J. P. *Granite Falls, Minn.* [We infer from your inquiry that the required barn is exclusively for horses, which are to occupy the basement. The next story above is to be a carriage room, and the upper or third story for hay. The fourteen horses in the basement would require the building to be about 35 by 40 feet. The two rows of horse stalls, seven each, and the stalls five feet wide, would occupy the 35 feet; and the central alley between these rows of stalls, the passage behind them, and the stalls themselves, would occupy 40 feet. To these dimensions, six feet would be added for the box stalls. The basement, to be dry enough for horses, should be very thoroughly underdrained, with double tile-drain all around under the walls, and a good plank floor. The basement walls should also be kept dry and additionally well drained, according to the plan figured and described on p. 312 of the COUNTRY GENTLEMAN, current volume, fig. 2. The next story above, for vehicles and machines, may be very simply arranged, with outer doors and floor large enough to allow a load of hay to be driven in, which would be unloaded to the upper story with a horse-fork.]

Weather, Crops and Prices.

Meteorology for April 21-27.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30.46	inches.
Lowest	do.	do.	29.27	do.
Mean	do.	do.	29.97	do.
Highest temperature	do.		69°	
Lowest	do.	do.	31°	
Mean	do.	do.	55°	

Five fair days; two cloudy. Three days on which rain fell; total precipitation, 0.42 inch. Prevailing wind, S. E.; maximum velocity, 45 miles per hour, on the 21st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	21st	22d	23d	24th	25th	26th	27th
This year...	58°	41°	46°	59°	66°	69°	69°
Normal.....	47°	46°	46°	51°	50°	51°	50°

Total excess for the week, 39°.

General Review of the Week.

The week has been warmer than usual in all agricultural districts, except at stations on the South Atlantic coast, where the temperature has been about normal. In the central valleys, from the Gulf coast to the lake region and Minnesota, the daily temperatur ranged from 8° to 9° above, and in New-York, Southern New-England, and the upper Missouri valley from 6° to 9° above the average for the week. The seasonal temperature from Jan. 1 to April 27 continues higher than usual, except on the South Atlantic and Gulf coasts, where the average daily temperature has ranged from 1° to 9° below the normal. In the grain regions of the central valleys, and in New-York and New-England, the season is from three days to one week in advance; while in the northwest the seasonal temperature has been unusually high, and especially favorable to farm work, which is from ten to twenty days further advanced than usual.

The rainfall for the week has been below the normal generally throughout the cotton, wheat and corn regions of the Mississippi, Ohio and Missouri valleys, except in Eastern Minnesota and Northern Wisconsin, where large excesses are reported. Very heavy rains occurred during the week on the Atlantic coast from New-York southward to Georgia; an excess of more than one inch occurring over the greater portion of the Middle Atlantic States, and from three to six inches in Maryland, Delaware, Eastern Virginia and Southern New-Jersey. Well-distributed rains also occurred in Florida, Georgia, South Carolina and throughout New-England. The storm which caused unusual rainfall on the Atlantic coast during the latter part of the week continues central this morning near Norfolk, Va., attended by rain throughout the Middle Atlantic States, the upper Ohio valley, the lower lake region and New-England. The seasonal rainfall continues in excess from New-York southward to Florida and over the eastern Rocky mountain slope from the Texas coast northward to Dakota. There is a large deficiency in moisture in the Ohio valley, where the rainfall for the season has been about one-half the usual amount. Over the central portion of the cotton region, and over the greater portion of the winter-wheat region, from 60 to 75 per cent. of the usual amount of rainfall has occurred; while in Missouri and Eastern Iowa there has been about 90 per cent. of the normal rainfall.

In all States west of the Mississippi from the West Gulf northward to Minnesota and Dakota the weather during the week was favorable for all crops and fruit, which are reported in splendid condition, and corn planting is progressing rapidly. The deficiency in rainfall from Kentucky northward to Michigan has retarded the growth of crops, which are greatly in need of rain. The crop conditions in Tennessee continue good, although more rain would improve the general condition. Cool nights and a deficiency in rainfall were unfavorable in the central portion of the cotton region, including Arkansas, Mississippi and Louisiana, although no serious injury has resulted as yet, and cotton and cane are reported in good condition. In the South Atlantic States the weather was favorable, the crop prospects were never better, and the fruit is considered safe from frost. In New-England and the Middle Atlantic States the weather was generally favorable for all crops, although heavy rains and high winds interrupted planting and caused some damage to fruit in New-Jersey.

New-York—*South Onondaga, April 20.*—Last two weeks of March and first two weeks of April dry, sun shining days and frosty nights. Winter wheat does not look as good as it did on the first of April. Last few days hot and dry; clouds up and clears again without rain. It was pleasant work in the sugar bush as we had no very bad weather; sap runs very well; season too dry for good sugar making. A great deal of plowing has been done and next week lots of grain will be drilled. Grass starting very slowly; green in damp places; a good shower would help grass and wheat finely. There is yet danger of frost hurting wheat and grass; if it should come warm rain, that turn of cold, as it often does after an early warm, dry spell in spring. A great many auction sales this spring. Some farmers who were greatly in debt had to give up their farms. If we hear of such cases in Ireland it is a terrible misfortune and the government is greatly to blame. C. W. B.

Vermont—*Middlebury, Addison Co., April 22.*—The spring so far has been very warm and getting quite dry for the time of year; no rain since snow left. Season is about ten days earlier than last year. A gentle rain is much needed to moisten the surface and start feed. Sowing is being rushed as fast as possible, as the land is in fine condition; so much freezing and thawing has rendered it very easy to work. Sugaring season has closed with more being made than for many seasons; syrup selling from 70c.@$1 per gal.; sugar, No. 1, 8@10c. per lb. Seed wheat selling for $1.50 per bush. and very scarce; oats, 40c.; barley, 75c. Hay is generally holding out well, notwithstanding the many prophecies of a shortage. The foreign trade from this station is getting to be quite large; last week a large shipment of Merinoes was made to Australia by Barton & Morrison, Mr. Morrison going with the stock; also a shipment of sheep to Montevideo. This week Messrs. Hammond & Potter and J. A. Wright make a large shipment to Buenos Ayres of horses, matched pairs and trotters, among them the noted trotter J. Q. recently purchased in California, and early next month Mr. E. N. Bissell goes with a shipment of Merinoes and Galloway cattle to the same port. The necessary preparation for such shipments is becoming quite an industry. A. B. C.

Virginia—*Norfolk, April 27.*—During past month we have had much bad weather. More rain during past thirty days than during the entire winter. Soil thoroughly saturated; work somewhat delayed thereby. Grass and grain making a fine growth. Peas and strawberries in full bloom, and promise large yield on land properly drained and cultivated. In fact many berries are half grown, and a few days of warm sunny weather will begin to ripen them rapidly. The great fields of cabbage also look well. Rye and winter oats look well, and clover and timothy, sowed last fall, are also looking very promising. Eggs, 13@15c. per doz.; butter, 25c. per lb.; spring chickens, two months old, selling for 35@45c. per head, and will weigh 1 lb. each; lettuce, 2 heads for 5c.; rhubarb, 10c. per bunch (bunches as small as the conscience of the producer will allow); beef retails from 10@15c. per lb., according to cut; potatoes sell at 4c. per quart. Considerable corn planted. The potato crop is injured by so much rain, and the regular spring's work is retarded. Cattle doing well. The past winter has been very mild. One man has wintered 250 cows without giving them fodder of any kind. These cows provided him with 145 lambs that will very soon be ready for market. The late severe storms on the coast have done much damage to shipping. The damage on land has been slight, but on the water hundreds of small vessels, such as are engaged in the oyster business in winter and running truck in summer, were blown ashore, where many of them now lie, so badly injured as to be unfit for further service. The outlook for our farmers and truckers is not very encouraging; still, when the whole farming field, east, west, north and south, is looked over, we have no ground for complaint. A. J.

Ohio—*Mechanicsburg, Champaign Co., April 25.*—Several fine showers yesterday. We need several inches of rain. It has been a dry spring so far. To-day is cloudy and cool; mercury 50°; wind westerly. I planted four acres of corn yesterday. All kinds of fruit trees loaded with bloom; wheat looks splendid; grass growing fast; forest trees beginning to leave out. Produce about the same as at last report. Eggs, 8c. per doz.; butter, 18c. per lb. E. W.

Kentucky—*Bonnieblossom, Christian Co., April 19.*—Wheat looks well, and unless we have an unusual season from this out, the indications are that there will be the largest crop of this cereal ever grown in this section—the best for wheat in the State. A full crop of corn is planted, which is coming up nicely, the ground being in fine condition. Oats look well, and spring seeding of clover is generally a good catch. Tobacco plant-beds in some sections much injured by the fly. There is a very low market value placed on the '88 crop of tobacco; it does not average over 4½c. per pound when appraised in hogsheads and sold at auction at Clarksville, Tenn. and Hopkinsville, Ky., which is less than the cost of production, and less than half it was charging when the crop was planted. The low price has caused much of the land to be diverted to other crops, that would have been planted in tobacco had it been selling at an average price of former years. This section grows the dark types almost exclusively, and "cures" it by hot fires in closed barns, and from our markets Europe draws a large per cent. of her supplies, while but a small part is used for home consumption. Sheep and hogs are selling well; cattle low; the clover crop is coming on finely; cattle, sheep and hogs were generally turned on it April 1, which is two weeks earlier than usual. Labor is plentiful and cheap, or rather low, for tobacco, the main staple, is so low that farmers make no clear profits with labor at $15 per month (with board), and the share croppers live hard, and have to do with short supplies of cheap clothing, and hardly know a luxury, and yet they get half and only furnish the labor. W. H. H.

Wisconsin—*Janesville, Rock Co., April 24.*—Spring work is well nigh done. There is a full average of cereals of all kinds. The land was in good condition. To-day and yesterday good rain fell; this was needed. Tobacco seems to be the all-absorbing crop—one old farmer tells me he will put in 20 acres. Never in my memory has grass been so fresh and good as this season; pasture is fairly good. Business good; health fair. All the creameries will be in full operation soon—many lost money last year. Wheat, 65@65c. per bu.; rye, 40c.; barley, 45@50c.; corn, 26@27c.; oats, 24@25c.; potatoes, 40c.; hay, $4@8.50 per ton; cattle, $2.40@3.50 per cwt.; hogs, $4.25@4.50; apples, $1.75@2.25 per bbl.; eggs, 10c. per doz.; butter, 18@20c. per lb.; tobacco, 3½c., 4½@5½c. for good wrappers. W. H.

Kansas—*La Cygne, Linn Co., April 22.*—Since last report we have had fine weather for crops, and all vegetation has responded in a way to rejoice the farmers; more rain, or at least more wet days so far in April than for many years, and no severe storms to cause injury. Fruit trees of all kinds, especially peaches, have blossomed very full, and the prospect is favorable for a good crop of fruit. Peaches have been a complete failure for several years past. Farmers are well along with their work, and live stock is doing well. Markets firm, and as a rule, the outlook is favorable for an increase of prosperity just now. Much attention is directed to Oklahoma, and the never-do-wells and speculators are going there. The excitement is beyond one's comprehension, but the man who stays wherever he is, and works half as hard, and submits to one-tenth the privations the boomers will be forced to undergo, will be much better off financially, morally and socially, for beyond a doubt that country is much overrated, and disappointment is sure to be felt in a large proportion of cases. D. S. B.

Horticultural Department.

Thumb Pruning.

Heavy or branch pruning should always be performed when the trees are in a dormant state, unless they are growing too vigorously and some check is to be given. The more feeble the trees are, and the greater the amount of topping, the more serious will be the check on them. For strong growers, a very moderate amount of cutting away after the leaves have expanded, will do but little or no harm. Thumb pruning, or rubbing off supernumerary shoots just as they are starting, or have not grown more than an inch or two, may be adopted without detriment. At the present date, young trees, or those which have been recently transplanted, have generally commenced growth, and the young shoots which have already opened their leaves, may be rubbed off wherever there are likely to be too many or to make too dense and brushy a head. A little labor and some judgment applied now, in giving the heads of the young trees a symmetrical shape, will assist much in securing handsome forms, requiring but little subsequent care.

The pruning and rubbing must be varied with the present shape and natural growth of the tree. An apple tree having usually too dense a growth of shoots, like the Northern Spy, requires more thinning than a tree of looser growth, like the Tompkins King. A tree of spreading growth, like the Rhode Island Greening, should have the central shoots more encouraged than the outside ones, which incline to spread or droop, and which if not properly attended to will bend nearly to the ground when loaded with apples. Orchardists may adopt it as a rule, that when fruit is much diminished in size by crowded limbs and crowded specimens, a positive loss occurs to the tree and to the profits in market; the tree becoming exhausted and the price diminished by the inferior quality of the fruit. Orchards which are kept in a vigorous condition by top-dressing the land, and by not allowing the trees to overbear, are more likely to become annual than biennial bearers when receiving the opposite treatment or neglect.

In bringing young fruit trees into proper shape while young, the amount of pruning which they may require will vary greatly with the kind of trees. Compact or symmetrically growing cherry trees, like the Morello among sour varieties, or the Downer or Black Tartarian of the heart cherry trees, will need but little pruning. The peach, on the contrary, needs a great deal of shortening-in of the branches to prevent their constant lengthening, the tendency to which, if not checked, causes the trees to become too spreading, the branches ultimately resembling long bare poles with tufts of leaves and twigs only at the extremities. Intermediate between cherry and peach trees are apples and pears. Some of these, like the Early Strawberry and the Northern Spy, grow upright and compact, and only need occasionally some interior thinning; while others, like the Roxbury Russet, spread too much, and require bringing into a more rounded form by reducing the outer or drooping limbs. The Baldwin keeps its shape with little care; and so does the Bartlett and Seckel pear. By observing these various peculiarities of growth in the young trees, a handsome, uniform orchard may be secured, instead of one made up of crooked limbs and straggling heads, and a general appearance of neglect.

Thumb-pruning may be profitably applied to the grapevine early in the season, when needless shoots are just starting out, which if cut off after being allowed full growth with broad foliage, would give a serious check to the vine by removal. The same treatment will be proper in pinching off the ends of such shoots as are to remain, to stop their growth, instead of the more detrimental practice of cutting off large portions of the shoots and leaves after they have made a long growth, and which when blindly and freely done have sometimes ruined whole vineyards.

European Nurseries.—F. L. Temple of Somerville, Mass., in his notes on European nurseries, read at the recent meeting at Boston, gave an account of the Transon nursery, at Orleans, France, as a specimen of the vast extent in number of trees and plants raised and sold in countries of cheap and systematic labor. That nursery covers three hundred acres, with beds four feet wide, containing millions of young plants from three inches to three feet high. All our own best trees and shrubs stand there in incredible numbers, and to raise them more than $5,000 is paid annually for the seeds. They are all sold when quite small at extremely low prices. They receive the most perfect cultivation. Lynx-eyed gardeners detect in any of these seedlings any plants of unusual growth, which are taken up and set in test grounds, where possibly some may prove rare acquisitions, but most of them are subsequently thrown away.

Cultivation of Small Fruits.

Labor in Strawberry Raising.

Eds. Country Gentleman—The reason why so few farmers grow a sufficient supply of small fruits can be found in two causes—the purchase of untried novelties and neglect to give proper cultivation. Nearly every farmer I have ever met has at some time bought berry plants and taken care of them while the novelty lasted, and then given them over to the weeds to be run out and disappear. Where there is some one whose business it is to make and keep the garden clean, the cultivation of a small strawberry patch is simply an addition to the work, being no more difficult than the transplanting and hoeing of ordinary vegetables, and really less bothersome than the growing of celery, onions or carrots, as the plants when planted are large and sightly and ready for immediate hoeing. When the size of the plantation is unduly increased so as to require help much beyond the ordinary garden work, then the period of neglect is sure to come, sooner or later, and the strawberry patch becomes a mass of weeds. Whether the runners are clipped or not, there is, after the 4th of July, a constant watchfulness necessary, and a large amount of work to keep them clean. Where a person is situated like Mr. Terry, and makes their cultivation a pastime and amusement, visiting it every day, sometimes several times a day, and jealously watching the appearance of every weed, the labor is not felt nor, I fear, reckoned at its full value.

To the ordinary farmer the period from the 1st of July to the 1st of October is a busy one, and during this period most strawberry patches get the better of their owners, and if the autumn is wet, go into the winter with a goodly sprinkling of dock, sorrel and white clover plants, which improve every bit of open weather to strengthen their position and enlarge their borders. The removal of these and other perennial weeds should be the very first work of spring. If the runners have been allowed to cover the ground, it will be a tedious job, and the owners will, in nine cases out of ten, give it up with the idea of not getting caught so again. This is poor policy, whether viewed as a matter of discipline or profit, for the weeds make a wonderful growth between the opening of spring and the ripening of the fruit, and the fat, unpretending, little tufts of sorrel put forth an energy wonderful to see, and quite discouraging when the results of all this is compared with the luscious berries, half smothered and stunted, and wholly hid underneath.

It is commonly stated as an axiom in strawberry culture that it is cheaper to set a new plantation than to clean out an old one, but I am satisfied that if careful attention is given to them before bearing that the difference in favor of the new plantation is not so marked. The risk of starting a new plantation is considerable, saying nothing about the fact that many varieties do not do their best the first year. In all matted-row culture spring cultivation must be confined to the use of the hoe, and a special lookout must be kept for small tufts of the perennial grasses, such as blue-grass, red top, &c. In rich ground a sickly-looking tuft of red top as big as the finger in March will often cover a foot square by the middle of July. Even in apparently clean plantations plants of white clover and other perennials will be found nestling close under the strawberry plants, lying low and abiding their time. Where considerable weeding is done in spring, and ground laid bare, some sort of mulching will be necessary. Half rotten short straw is the best, or where a power cutter is available, fresh straw cut into four-inch lengths is cleaner and better. If the mulching is deferred until grass is a foot high this can be mowed and applied in a green state, and makes a soft, delightful mulch, but the blossoms and just-setting fruit at this period make it a tedious, careful job. Sawdust is no better than sand, as it adheres to the fruit.

Raspberries and Blackberries.

Turning from the strawberry to its immediate successor we have a fruit that is preeminently adapted to the farmer's use. In a measure self-asserting and under favoring conditions good for a dozen years, the farmer can plant the black-cap raspberry with considerable faith that he can keep it clean and receive an abundant annual reward, of a fruit that has the least waste of any fruit grown. The first work after once established is to take out the old wood, and in snowy and windy latitudes the most advanced cultivators do not take this out until after midwinter. On any mild day in February or March, armed with thick gloves, the old canes can be broken out and laid in the space between the rows to be removed with a pitchfork. In cleaning out weeds and grass from the space, about two feet wide in the row cannot be reached with the cultivator. I have found that taking time by the forelock and doing it just as the frost is partly out is the most profitable way. The ground is soft and the weeds are not nearly so tenacious in their hold upon the soil as when allowed to make some headway in their summer's growth. The same is true of cultivation between the rows, and it is far better to do it at the time of early garden-making than later.

My plan is to clean out with the hoe such weeds as I know cannot be reached by anything else, and then plow with a light plow toward the plants, throwing the earth nearly to the stems. Then I go along the rows with the hoe again, and hoe the mellow soil into the balk between the plants wherever I think it necessary. Two weeks later I go through with a Planet Jr., set wide, and by wearing buckskin gloves, I can stir the soil almost up to the stems. Cultivation is given thereafter as needed until the new growth and rooting of the tips make it impossible. In cultivating, a harness that will allow of the freest swinging and sideways crowding of the cultivator is desirable, and I find such to be a simple collar with hames and trace-chains leading directly to the whiffletree, without back strap. By the way, one of my neighbors uses such harness for plowing. The chains hitch to the hames by hooks, and when quitting work are dropped upon the ground, still attached to the plow. The line is tied upon the hame, and upon reaching the stable the collar, without unbuckling the hames, is reversed and taken off with the bridle, leaving the horse to cool off and eat his dinner unfettered by a mass of sweaty leather.

Where a farmer or other raspberry-grower has an abundance of straw, it is a very nice way to mulch with seven or eight inches deep of straw, renewing each spring and not cultivating at all. A friend of mine, a large farmer, grew an acre in this way for ten years, simply pulling up such weeds as found their way through the straw, which were not many. A neighbor's two girls picked and marketed them for half, and as the berries—great, fat, overgrown Doolittles—sold readily at 10 cents per quart, it proved profitable for both parties. This was in the early days of the Doolittle, and I think that once he sold $30 worth of plants, the tips rooting beneath the rotten straw. Red raspberries of the suckering varieties are quite troublesome as compared with tip-rooting ones, and the only way to deal with them is to treat the surplus suckers as weeds. The rows are generally kept too broad. Six inches is wide enough, as the berries will be enough larger to pay, and the bearing canes will lean out to either side, while the new growth grows erect in the middle, and does not impede picking as when in a hedge 18 or 20 inches wide.

Blackberries, from their aggressive nature, are generally detested by farmers, but they are at the same time a very desirable fruit to have. They thrive almost anywhere, and a very good way to grow them is in little groups not more than six feet across with a clear space of four or five feet all around. Keep the spaces clear with a brush scythe, throw plenty of coarse, strawy manure among the plants in the spring, cut out the old canes and shorten the new ones at the same time, and if the winter is not so severe as to kill peaches the grower will be rewarded with an abundance of fruit from the middle of July until September 1, and thus round out three months of berrying.

Summit County, Ohio. L. B. PIERCE.

The Black Knot.—This disease of the plum tree is easily kept under, if promptly taken in hand on the first day of its appearance on any tree. If neglected, and allowed to spread week after week and month after month, it becomes formidable and incurable, and the whole tree should be at once committed to the burning brush heap. Thorough excision of diseased portions of trees and burning, when first seen, is the effectual remedy. Prof. Panton of Guelph Agricultural College says that little regard is paid in Canada to the law which requires infested trees to be destroyed; and they are scattering millions of spores and spreading the disease to all parts of the province until it has become almost universal, and in every locality the dead trees stand as silent monuments of ignorance and neglect. Washing the wounds made in copperas water has been found a good remedy to prevent its spreading.

Growing Muskmelons.

Eds. Country Gentleman—Of all fruit, the hardest to procure in the New-York market is a good-flavored muskmelon. Pumpkin and melon—close your eyes and you cannot tell the difference between melon and pumpkin; perhaps not one per cent. of the whole population know a melon flavor. Take a rutabaga turnip, freeze it in winter, throw it into water to extract frost; then peel, grind up fish fine, wash with saltpetre to extract turnip flavor, and you have a New-York market muskmelon; they are grand in size and well netted. The market is supplied from the sandy soils of Long Island and New-Jersey, and grown as an alternate crop generally on land that has become manure-sick from vegetable growing.

[Mr. Howatt is too severe. While poor melons are no doubt abundant in New-York market, it is not difficult to get good ones. Not only on private tables, but in restaurants they are served daily through the season.—Eds.]

I know that good melons can be sold, not in open market or by commission, but at first-class hotels, and they will pay well for them. The proper soil to grow them on is a yellow loam, the sod turned down in the fall. Westchester County, N. Y., generally has this soil, and the finest flavored melons I have eaten have been there. Why they so largely grow cucumbers and not muskmelons I cannot understand. Most farmers can grow their own melons, but how few do we see doing so; they, like city people, purchase them. I can only account for this by their aversion to growing anything pertaining to "garden sauce." They will cut down a three-foot tree and term it fun, but sow a vegetable seed or set a plant, they will not. A mechanic's table in the city is better supplied with vegetables than a farmer's. I think I can convince them that there is more money in muskmelon growing than in any other crop, requiring no scientific knowledge, and they need not send the produce to New-York City to sell; all of them are adjacent to village, town or summer hotels and boarding houses, which will gladly purchase.

Plant your corn on above land, 4 feet apart in hills; leave as much of it on either end as you think you can sell or use its produce. If you are an advocate of 4-inch plowing for this crop (corn), at the end for melons sink your plow to the bottom of surface soil, or 12 inches deep. In marking out rows run all the same distance. At the angles of every second row drop a half-forkful of well-rotted manure. Your melon hills (so called) thus are 8 feet apart. Rest this manure down with back of hoe; draw on it a couple of inches of earth; plant your seed, six on each hill; then give them a good hard pressure with your foot—throw all the weight of your body thereon. When finished, the planted hills should be no higher than the natural ground, depending on the marker used; if not deep enough to hold prescribed manure, open the angle with your hoe before dropping. When plants are 3 inches high, draw some loose soil up to bottom of lower leaves. This is all the hilling they want; more, in fact, is injurious. Keep all as near level as possible; when you form a large, round hill, roots run so far to the edge, and the sun then kills them and plant, too. When they are all about 6 inches high and in rough leaf, thin out to three plants; two plants, if well managed, are better. In cultivating your corn and hoeing, it go through the melons just the same. You see there is no extra work about it.

For earlier ones, make a hot bed below or above ground; if below, excavate 2 feet deep any length, 5 feet wide; fill in with long straw manure and leaves; place hemlock boards all round; make a frame of 3-inch strips of pine, 4 feet wide and 6 feet long; on this nail on with tacks U. S. fibre cloth. This completes your sash. This manure should be made up two weeks before putting in your seed to allow the heat to rise. Following is from my journal

of daily operations—dates need not be adhered to, as circumstances and weather may preclude: Get soap or starch boxes, both top and bottom on; rip them in two, making two of one; cut sods with a spade an inch thick; chop these into pieces, as near as you can three to square piece; put these grass down. May 4th to 8th, Hackensack and Montreal musk-melons sown in boxes.

When sown five seed to each grass square, cover one-fourth inch with fine sifted soil, and press all firmly down with bottom of flower-pot or board; place boxes in large frame (they being of one size, you will not lose an inch of space), and heat all concentrated; water not before soil gets dry. A great many seeds are rotted by being watered immediately after sowing, the seed being so dry; when allowed to swell, all such danger is avoided, and no blame laid to seedsmen for selling poor seed. When they show seed-leaf and it fully develops, earth up to them with fine soil as in covering; when they show rough leaf, thin out to three plants, and remove your fibre-cloth frame covering at night.

If your object is extra-early melons, get 5-inch-wide boards of hemlock, or any cheaper material; make twelve-inch frames (boxes, if you like the term), open bottom and top; tack on the top U. S. fibre cloth. By having your boxes of uniform size they will pack better in winter. Grow three melon plants from boxes eight feet square, covered with fibre cloth, box frames 12 by 12. Use a half forkful of rotted manure at each angle. July 1st, thin out to two plants for fruit. The male and female flowers are distinct, and a preponderance of the former always remain. When the plants grow three joints in length, pinch off the tops; this makes each plant throw lateral shoots, and from these are the fruit. Some laterals have nothing but male flowers; cut these off one joint from the main stem. The fruit is easily distinguished at the axis of female flowers; no fruit on male flowers. Leave boxes on night and day until all filled with growth.

I have cut melons from fibre-cloth boxes Aug. 21, and sold wholesale to groceries at $2.60 per dozen, at Newburgh, N. Y. The same men were purchasing New-York City melons at $3 per barrel. To prove what quality will do, I sold at double New-York prices all the season, and could not fill my orders. I managed to make them sell other glutted vegetables.

Four and five-year-old melon seed is best, the plants growing shorter-jointed and more compact. If you cannot get it, sew new seed in your every-day trousers waistband, and wear until sowing time; this ages it.

Ulster County, N. Y. GERALD HOWATT.

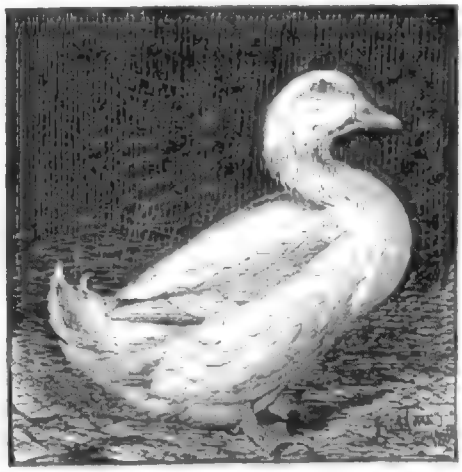
Experiments with Raspberries.

ED. COUNTRY GENTLEMAN—I have just finished trimming a row of Cuthbert raspberry bushes which, partly at Mr. C. Mill's suggestion last year (Sep. 6, page 666), I left untouched until now. There is a decided contrast in appearance between it and the rows pruned according to the method I practice, namely, pinching the new canes before they reach three feet in height and shortening the laterals to nine or ten inches when clearing out the old wood, which is done as soon as it is convenient after the berries have been picked. The autumn-trimmed canes resemble bushes with six or seven short, well-seasoned branches of the size of a lead pencil; the spring-pruned ones are simply bare poles. I have counted the buds on half a dozen canes of each kind of pruning, and the bushy ones average 63 buds, on five to seven laterals to a cane, while those without laterals average eighteen. With the exception of just the tips of a few late-growing, unpinched laterals no injury was done by frost, and as to winter-killing generally I do not think either way of pruning has an advantage, certainly not in this section. The canes on which the buds were counted are marked with tags and I shall weigh or measure the fruit on each to satisfy myself which plan is best. Pinching the canes when young I think has a tendency to produce laterals at the head, making the bushes top-heavy when loaded with fruit and consequently more liable to be blown or beaten down by severe storms, as was the case on July 10th last year; but where properly supported or fastened to a wire, the berries are out of danger of being covered with dirt or grit during heavy rains.

Another experiment I am trying with some Cuthberts I planted in the spring of 1883. The crop of berries from them in 1887 was fair in quantity, but below the average in size; so I determined to plow the bed up, and with this object in view cleared it entirely directly after the fruiting season. Other more important work intervening, the job was not done and the canes grew unmolested, except by the cultivator, all last summer. On examination this spring I find the canes are remarkably large and vigorous; so I have carefully thinned them out and await the result with interest. It seems probable that the rest obtained by the roots through having no canes to nourish in the latter part of 1887 and no fruit to ripen last summer, is the cause of the unusually strong growth of wood now, but it is by no means certain that these six years'-old roots will be able to produce correspondingly fine fruit.

Each succeeding year that I grow the Cuthbert only increases my liking for it and did it ripen ten or twelve days earlier I should consider it the most reliable and profitable red raspberry grown. J. H. C.

Monroe County, N. Y., April 16.



PEKIN DRAKE—*Specially Engraved for the* COUNTRY GENTLEMAN, *from Sketch of a Prize Bird made in England by Ludlow.*

The Poultry-Yard.

The Plain Truth about It.

ED. COUNTRY GENTLEMAN—I do not believe that one poultry keeper, breeder or fancier in fifty makes a cent, and I do believe that more than half of them lose money at the business. I refer to those who make it a business, or part of their business, not to the farmer who keeps a small lot of fowls in the manner farmers generally do. I believe that the facts are just reversed in their cases. Why?

Well, as a rule, most farmers or their wives keep only small lots—from twenty to forty, and small lots of fowls always do better every way. Then few farmers keep full-blooded breeds; their flocks generally consist of cross-bred hens, with all the breeds shuffled together. The consequence is they have a strong, tough, healthy bird, that will produce more eggs than any thoroughbred going. Then again, having but few, they are, in most cases, permitted to roam at large, and can go anywhere they choose. The result is that they are around the barn, barnyard, back doors, sheds and wood piles, where they get a large quantity of just such food as they like and require, and are on new ground every day. (I do not advocate such a course, but am only telling facts.) They have all the room they want to build nests in, and can select any quarters they choose. Being few, they receive an abundance of milk and slops from the kitchen, which is particularly suited to them.

Now in making the statement I did at first, I do so after an experience of many years in raising and caring for large numbers of fowls, and the item of care and labor is carefully taken into consideration, and an amount equal to the value of every moment spent in feeding or caring for the fowl is charged against them. It is this item alone that upsets your apple cart and eats up all the returns which should represent your profit; and it is this very item of costs that is seldom taken into consideration by those fanciers who are crazy on the subject, and whose anxiety to show how wonderfully profitable their hens are leads them to ignore it entirely. "Oh," they say, "I'm in the business. My time is all put into it, and that sum represents the pay for my labor, or the money that I make." Just so. It does represent the *pay* for your labor; but where is the *profit?* Any business that only returns enough money to pay for the labor of running the same is not a profitable business. A man starts a store to sell groceries. His goods costs him just so much. His rent, light, taxes, fuel, interest and insurance so much. Some one must attend to the store. He must have some labor to run it; needs a clerk. So he hires himself instead of another person. Now he must sell his goods at a sufficient price above the value of the goods to pay all the above expenses and his clerk's wages, before he stands even, and then he does not make a cent. He must add still more to the price of the goods for his profit. If he is satisfied to be clerk himself, and a clerk's pay is all he wants, then he is simply getting a small sum for his labor. But why go to all this trouble to do it? Why take so much risk, and load your mind with all the bother and worry of the details of a business, simply to receive a boy's pay, when you could obtain the same or more unattended by the anxiety and worry of having a stock of goods to carry?

No man of judgment does business that way, yet this is exactly what three-quarters of the poultry fanciers are doing to-day. Look in the poultry publications to-day, to say nothing of agricultural papers, and notice the thousand of fanciers who are offering stock and setting eggs for sale, at prices ranging from $1 to $5 per setting. "Who are all these fellows? There must be money in the business or there would not be so many in it," you exclaim. Let me tell you how it happens. There is no money to be made in keeping and running a yacht, yet lots of people have one. Hundreds of people keep dogs, but how many make money with them? It is just so with fancy poultry; thousands and thousands of wealthy people, and people with plenty of means and no occupation, go into keeping and breeding choice live stock and poultry. They do not care a snap of their finger whether it pays or not; they keep them for their own amusement. This would be all right for us poor fellows who are in the business for our bread and butter, if these nabobs would stop right there. But they will not. Having plenty of spare cash, and becoming all carried away with their fowls, they dash into the market with fancy eggs for sale, and the consequence is the trade becomes very much divided, and as a result, few get enough to pay for the time and bother.

If the hundreds of well-to-do wives and daughters were not constantly entering the sphere occupied by the really poor girl, by producing all sorts of fancy work, working on shoes, slippers, hats, &c., to get a little *pin* money, then the poor girl who does all this for bread enough to eat and clothes enough to keep her warm, would not have to work for the sum that barely buys enough to keep her comfortable. And yet these well-to-do ladies could just as well keep out of the labor market. They value their time as nothing—their living, dress, and in fact everything, costs them nothing, and yet they will knit some worsted socks to sell at any price, and by so doing stock the market, and the poor girl that does this for a living is without work, or the price she receives is in proportion to the amount of goods these rich girls and women bring in. The rich girl only wants the money she gets for her work to spend for bon bons, a novel, or something of that kind. The poor girl needs all she can earn to keep her from the poorhouse.

Hence the reason why so few poultry fanciers make any money. Too many such people are in it for fun. Let all this class of people drop the business, and I will guarantee a small fortune to the man who runs the same for a living. The true fancier puts a pile of labor into the feeding and caring for his fowls. The farmer puts none in, so that about all he gets for eggs is profit. Having a small flock his fowls do well without care, but when a man undertakes to keep from 200 to 1,000, he must give extra attention, or sickness will get in and end all. All the money there is to be made in poultry in New-England is to getting eggs for market, and capons.

Of course there are a few persons that have a long standing reputation, and who advertise extensively, that make money, selling eggs for hatching and raising thoroughbred stock, but where there is one that does, there are fifty that do not, and it is no use to dodge the fact. GEORGE Q. DOW. *Rockingham Co., N. H.*

Pekin Ducks.

This variety of duck has only been known in Europe for about a dozen years. At one time it appeared as if it would take the place of all the other varieties, but the "furor" in its favor did not last very long, though there are still many breeders of it, and large classes are to be found at the various shows. It is of Chinese origin, and very hardy, having in this respect done good service by giving a needed stamina to some of the other varieties. It is probably the best layer of all ducks, and where eggs are chiefly sought for it can be recommended, as it will thrive almost anywhere, being a capital forager. With respect to size, it is most deceptive, for the abundance of feather gives it the appearance of a large duck, whereas it is much smaller than the Aylesbury or the Rouen. The flesh also does not compare well in favor with these breeds, being rather dry. In shape it differs from every other variety of duck, being totally devoid of keel, and the carriage almost upright, not unlike the penguin, for the legs are placed far back on the body. The head is short and thick, and the bill strong and stout. Considerable discussion has arisen as to the color of the Pekin, but it is usually accepted that it should be of a light canary yellow tinge, as if the under coat were yellow and the upper white. A pure white Pekin may be found, but the canary yellow is to be preferred. The bill is of a deep orange, the eye black, the legs and feet a bright orange, and small in bone. The tail feathers are larger and stronger than are found on other varieties. For crossing they are very valuable, and, as already stated, as layers they have really no equal.

The following are the general characteristics of the Pekin duck or drake:

Bill—Broad, and of medium length.

Head—Rising from the bill in an arch, as in the call duck.

Neck—Longish, carried very high, and also sometimes slightly curved like a swan's.

Eye—Large.

Body—Deep and full carried, very erect, with the stern almost on the ground.

Back—Long and broad.

Wings—Moderately developed, and carried close to the body.

Tail—Rather long, and carried very upright, the more so the better.

Thighs—Short, stout and wide apart.

Legs—Short.

Plumage—Very abundant and soft.

COLOR: *Bill*—Bright orange, perfectly even, and free from all dark-colored spots.

Legs—Bright orange.

General Plumage—White, shaded with canary color—the under plumage being a deeper shade, getting paler toward the surface, which, with time and exposure, becomes nearly pure white.

H——, England. STEPHEN BEALE.

Clear out the Cocks.—Hens thrive much better without cocks than with them; as soon as the chicks are hatched, and no more are desired, remove all the cocks. One advantage in so doing is that the eggs from hens not with cocks will keep three times as long as will those suitable for hatching, which is very important as the season becomes warmer.

—*Poultry Monthly.*

New Advertisements.

Acme Hay Harvester Co.	*Hay Stacker and Baler.*
Alpine Safe Co.	*Agents Wanted.*
Catting, Walter	*Guernsey Cattle, &c.*
Curtis, V. D	*Jersey Bulls.*
Cox, Spencer W	*Poultry.*
Elm Dale Farm	*Scotch Cattle.*
Earle, Theron	*Angoras for Sale or Ex.*
Frye, John A.	*Holstein Privileges.*
Huber, Olive B.	*Farm for Sale.*
Gilson, H. C.	*Jersey Bull.*
Gunkel, B. J.	*Situation Wanted.*
Greenough, Charles P.	*Ohio Farms.*
Hall,	*Live Fowls Wanted.*
Hubbs, W. L.	*Grade Percherons.*
Jones, W. L.	*Jersey Bull Calf.*
Kellogg & Co., Peter C.	*Trotting Stock.*
McGonigal, J. R.	*Farm for Sale.*
Maule, Wm. Henry	*Business Chem.*
Price & Reed	*Seed Potatoes, &c.*
Roderick	*Hay Mares.*
Sherman & Crouch	*Folding Plant Protector.*
Steele	*Situation Wanted.*
Smalley Mfg. Co.	*Ensilage Machinery.*
St. Louis Expd. Metal Co.	*Seed Planting.*
U. S. Wind Engine Co.	*Wind Mills, Pumps, &c.*
Van Aernam, F.	*Stallion Colt.*

Subscribers' Wants.

S. DOUGLAS CORNELL, *Buffalo, N. Y.* Middle Yorkshire Pigs.

Pamphlets, &c., Received.

BOOMER & BOSCHERT PRESS CO., *Syracuse, N. Y.* Catalogue of Cider-Making Machinery and Appliances; pp. 72, illustrated.

HALL, EDW. P., 220 *Franklin St., New-York.* Circular of North Cape, Midnight Sun and Norwegian Fjords Steamship Companies; pp. 32, with colored maps.

INSTITUTE OF TECHNOLOGY, *Boston, Mass.* Circular of Entrance Examinations.

LITTEL, H. M., *Highland Park, Macedon, N. Y.* Catalogue of 31 High-Bred Trotting Horses.

MORTHORPE & ANNIS, *Rochester, N. Y.* Seed Lists.

OEMICHEN, Miss ELEANOR A., *Farrington House, St. Albans, Eng.* "Observations of Injurious Insects and Common Farm Pests during 1888, with Methods of Prevention and Remedy;" pp. 128, illustrated.

PEER, F. S., *Mt. Morris, Livingston Co., N. Y.* Seventh Annual Catalogue of Squawkie Hill Stock Farm.

STAPLES & CO., H. L., 1103 *Main St., Richmond, Va.* "Virginia—Its Climate, Soil, Productions, Manufacturing Industries, and Mineral Wealth;" pp. 80.

WILLIAMS, M. D., *Middleport, N. Y.* Live-Stock List.

YOUMANS & SONS, T. G., *Walworth, Wayne Co., N. Y.* Tabulated Butter Records of Holstein-Friesian Herd.—see advertisement, p. 102.

Inquiries and Answers.

Wild Onions.—Please tell me how to get rid of wild onions, or how to keep butter from tasting of onions. They are abundant in my pasture. J. C. L. [We know of no way for extirpating wild onions except by rotation of crops or summer fallowing in some of their forms. Plowing and repeated harrowing has been successfully employed. Hoed crops, thoroughly cultivated; and before the seeds ripen, cleaning out by hand the scattered and remaining plants, are found useful. The odor passes off in a few hours from most cows after eating them, and hence morning milk from cows that are excluded from them through the night, is not affected; and turning them into pasture free from onions in the afternoon will usually have the same effect. What is the successful experience of our readers?]

Garlic in Milk.—A prominent dairyman in Delaware county, Pa., says he has a plan for extracting garlic from milk and butter; but refuses to divulge. I write to know if you can throw any light on this subject. D. C. W. B. *Harford County, Md.* [The flavor of garlic, as of all the onion tribe, is derived from a volatile oil which is quickly evaporated by heat. The vapor escapes from the skin of a cow perceptibly to the smell, and will quickly evaporate from the milk if it is heated to 100° or 120°. This is probably the plan of the prominent dairyman. We have removed the odor of garlic and turnips from milk by filtering through clean charcoal, and this may be the plan referred to. Our method of heating milk is by pouring it twice, by a funnel, through a coiled pipe set in a vessel of hot water, heated to 140°, and this is worth while doing with all milk.]

Green Malt and Bran.—Please give feeding value of malt sold by breweries for live-stock. The ingredients used are rice and barley. State value per bushel compared with wheat bran at $16 per ton. S. *Augusta, Ga.* [It is difficult to answer a question concerning the feeding value of malt sold by breweries, because it is sold in so many different degrees of dryness. It is sometimes sold with 45 to 50 per cent. water, at other times 75 per cent. water. When it is denominated green malt with sprouts, it is worth say 50c. per 100 lbs., compared with bran at 90c. per 100 lbs. But if it is what is called brewers' grains, it would be worth only 30c. per 100 lbs. S. wants to know the value per bushel. If the bushel weighs 70 lbs., in the case of green malt it would be worth 35c., and in the case of the brewers' grains 15 to 16c. per bushel. E. W. S.]

Acknowledgments.

Communications for publication have been received during the week ending April 28, from A. G. M.—P. P. Parsons—Subscriber—A. B. C.—A. B.—F. H.—L. H. Morse—Prof. R. W. Stewart (2)—Chas. O. Newton—Elmer B. Carlile—Waldo F. Brown—J. F. Hasse—J. N. Wyne—W. E. Embry—D. S. B.—J. F. G.—Martha—Henry Stewart—Lillian Mayne—A.—A Farmer's Daughter—A Rinker, Jr.—L. Washington—Palmetto—Henry Stewart—R. S. P.—C. O. Newton—Laura A. Beatty.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, May 2, 1889.

Perkins' Farm Accountant—Is now again (and we suppose finally) out of print. We have sold the last copy, and no further issue is expected.

Back Numbers Wanted.—We have two orders to complete sets of the COUNTRY GENTLEMAN from the beginning, and lack the following issues; persons having them, *or the volumes in which they occur*, and willing to sell, will do well to let us know:

1853—Jan. 13 and 20; May 5; June 16 and 23; July 7.

1864—Jan. 28; Sept. 1.

1865—April 6; Aug. 17 and 24; Sept. 7, 14, 21 and 28.

It seems a pity that two sets should be left imperfect for lack of these few issues, and we sincerely trust that readers who may have piles of the paper stored away will be willing to try to assist us to fill the blanks.

Peach Yellows.—A "Preliminary Report" on this subject, by Special Agent ERWIN F. SMITH, is issued at the Department of Agriculture at Washington, making an octavo volume of 254 pages with a number of charts, colored lithographs, and other illustrations. To the large collection of isolated facts bearing on the subject, are given 41 pages of index. The first seventy pages are occupied with references and extracts from a large number of publications, with a history of the introduction of the peach into many different localities in the United States. As in the case of some other formidable diseases and enemies of fruits, the literature of the peach yellows is pronounced "a medley of contradictions—and those who know the least often expressing their opinions with the most confidence." This multitude of witnesses with their profusion of statements, appear to have been carefully examined and sifted, and the following conclusions are drawn:

(1.) That yellows has frequently been confounded with other diseases of the peach, especially in New-Jersey, where the borer and the root aphis are very prevalent.

(2.) The genuine peach yellows appeared in the vicinity of Philadelphia prior to 1791.

(3.) That since 1791 the country has never been entirely free from this disease.

(4.) That it was prevalent on the Atlantic coast long before it appeared in the West.

(5.) That the area of its action has extended northeast, north, and northwest much more rapidly than south.

(6.) That it is now more or less prevalent from Massachusetts to Georgia and westward to Lake Michigan and the Mississippi.

(7.) That the disease spreads from centres, usually appearing first in localities thickly set with orchards.

(8.) That the first cases of yellow in any district are usually, if not always, in young trees imported from infected localities.

(9.) That everywhere it is the same destructive malady.

Some deductions which may be accepted provisionally and with more or less caution are:

(1.) The disease is confined to the United States.

(2.) It is absent from the Gulf States and from those west of the Mississippi.

(3.) There have been great outbreaks of the disease, *e. g.*, 1791, 1806–'07, 1817–'21, 1845–'58, 1874–'78, 1885–'87–'88, followed, apparently, by periods of comparative immunity.

Among conclusions drawn from extensive observations in connection with this disease (which appear to be fully warranted) are:

1. There is no evidence of any marked change in the climate of the United States during the last hundred years for ascribing the disease to climatic conditions. 2. Early frosts have nothing whatever to do with the yellows, nor have severe winters. 3. Excessive rainfall does not cause it, and probably does not influence it. 4. It does not come from soil exhaustion; nor 5, from neglect of pruning; nor 6, from mechanical injury. The writer of this report gives a very distinct and accurate description of the disease, and appears to have come to the same conclusion as the writer of these remarks half a century ago, namely that the disease is propagated by contagion in its different forms.

The contradictory opinions which have prevailed among writers and cultivators, are largely ascribed to mistaking other symptoms for those of the yellows, among which are the work of the borer, of the root aphis, starvation, wet subsoil, &c. For want of a proper discrimination, some cultivators have become needlessly alarmed by supposing their orchards were attacked by this formidable and contagious malady when they were not. The following "digest of symptoms" of the real yellows is given, noted in the order of their appearance:

(1.) Prematurely ripe, red-spotted fruit.

(2.) Development upon the trunk and branches which bear, or have borne, the diseased peaches of secondary or summer shoots, often in great numbers, and always dwarfed and feeble in appearance.

(3.) A very marked tendency of the buds on these secondary shoots to develop the same season, forming sometimes in this way within a few months secondary, tertiary, quartan, and quintan branches.

(4.) The appearance of the disease the next spring in the entire growth of the tree, or at least of the diseased parts—the shoot-axes being shortened and the foliage dwarfed and sickly, of a yellowish or reddish-brown color, and with a greater or less tendency to curl from end to end, and to roll sidewise, so that the lower surface becomes the convex outer surface. Sometimes, however, the disease affects the terminal shoots the same autumn causing the winter buds to develop either before or after the leaves have fallen.

(5.) A slow progress of the disease from limb to limb, so that in one or two years, or at most three years, the whole tree is involved.

(6.) Coordinate with the progress of the disease from part to part, a marked diminution of the vitality of the tree, ending in death.

These are symptoms characteristic of peach yellows, and they seem to me quite as definite as those of any specific disease. If peach yellows, as I have seen it and have defined it, is not a specific disease, due to some constant cause or causes, then neither is glanders or anthrax, or measles or small-pox.

After all, there appears to be but one certain and thorough remedy—removing the diseased trees as soon as the malady appears and burning them. The cure by the application of potash is not sustained. Among the different ones which have been recommended as "peach yellows remedies," are stable manure, house slops, lime, gas lime, wood ashes, potash, ground bone, chloride of potash, saltpetre, bone black, hot lye, fish compost, hot water, fish brine, and several other substances.

This report indicates the great labor performed by Mr. Smith, in the collection of the vast multitude of facts presented. The millions of dollars in losses which this malady has caused in the United States, shows the importance of a wide dissemination of a knowledge of its characteristics and proper treatment, and for this purpose a smaller and condensed account, with fewer costly engravings, might possibly be more generally useful.

Kansas.—The successive reports of the Kansas Board of Agriculture (M. MOHLER, Topeka, secretary) have taken a high position for their completeness and finish, and the sixth biennial report (for 1887-8) is fully equal to any of its predecessors. It is a handsome volume of 800 pages, and among its county returns has a separate colored county map for every one in the state, a complete state map, and a number of colored diagrams showing statistical returns and other illustrations.

From this report we learn that the total combined value of all farm products is $270,000,000, a gain in two years of 4½ per cent., or over eleven millions. The population during the same period has grown from 1,406,000 to 1,518,000, or nearly 8 per cent. The farmers have found in recent years that the sorghum crop is the most reliable and most profitable; during the biennial period, the product, not including that manufactured into sugar, amounts in value to $4,900,000, a gain in two years of 50 per cent. It has been proved that it may be grown and will make a crop in the driest year, and the quality in the dry climate of Western Kansas is superior to that grown in the moister climate further east. The average value per acre has varied from $15 to $18, a small portion of which value is represented in the form of syrup, but the main portion as feed. Horses, cattle, sheep and swine are found to thrive well upon it.

The sorghum sugar and the salt industries, both of which have grown up during this biennial period, promise to expand into such proportions that it is difficult at the present time to place an estimate upon their value. The manufacture of sugar from sorghum, and the report of the operations and success, given in charge to Prof. E. B. Cowgill, occupy 27 pages of the report on this subject. It states that 699,278 pounds of sorghum sugar have been inspected as provided by law, and that the State has paid $13,985 bounty at two cents a pound, embraced in the work of four companies. The favorable results obtained in 1887 at Fort Scott, have been more than repeated at that place in 1888. A factory at Topeka has demonstrated the practicability of the sugar industry at that place; and Conway Springs and Douglass, in the face of adverse circumstances, have shown the industry to be independent of all patented processes and machinery. Prof. Cowgill has no hesitation in saying that the sorghum-sugar industry is now on such a footing as to invite the investment of capital, when such investment is placed under good business management. He states the following conditions for success: 1. The production of good sorghum cane. 2. The selection and proper erection of suitable machinery. 3. The employment of a competent sugar-maker. 4. Such business management as is necessary to success in any considerable undertaking.

The most complete sugar factory with the best modern machinery, all erected and ready for operation and fully warranted, will cost about $75,000, for a 200-ton plant, and about two-thirds for 100 tons.

New-York Legislature.—The Assembly last week passed, and sent to the Governor, the Senate bill appropriating $4,000 for the State Dairymen's Association, which will enable that body to hold a greatly increased number of dairy conferences—much to the profit of the great industry represented. The Assembly also passed the Cottrell dairy school bill (summarized on p. 120), so amended as to provide for only one school, at a cost not exceeding $5,000 per annum; also the Strasburg bill increasing the tare on hops from 8½ to 5 pounds per bale.

The conference committee on the appropriation bill has agreed on the amount fixed by the Senate for the dairy commission—$25,000—which the Assembly had voted to make $100,000.

Coloring Butter.—We said on p. 86, in answer to an inquiry, that it was "in the highest degree unlikely" that dairymen using the excellent butter color advertised by Wells, Richardson & Co. could be in danger of having their product legally classed, on that account, with oleomargarine. It seems that the commissioner of internal revenue has officially settled the question—if there could be any question—as below:

"Messrs. Wells, Richardson & Co. have submitted a sample of butter colored with their improved butter color, and it has been submitted to a very careful analysis, resulting in the discovery of annatto, but not in the finding of any foreign fat, either animal or vegetable. The simple fact having been determined that the sample submitted by Messrs. Wells, Richardson & Co. is butter, it is of course not liable to tax."

Protect Your Hay.—The STIMMS HAY CAP COMPANY of Concord, N. H., send us a sample of their goods advertised on p. 319 (which we judge to be decidedly a valuable invention), and write:

"A hundred of our caps will cover six to eight tons of hay. They pack closely, that number taking up a space of four feet square by six feet high and weighing about 300 pounds. Not necessary to fasten them down; two eyelet holes in each so that when used on grain stringe and pegs can be used to prevent sheaves blowing over. One will cover eight or nine sheaves. They will pay for themselves twice over in a season, merely to keep off the cold dew at night and hot sun during the day. Very valuable for covering piles of potatoes and all kinds of root crops in the field, allowing them to sweat before being housed. A boy ten years old can handle them alone. They should last a lifetime, if properly used."

Vermont Dairying.—The proceedings of the 19th Annual meeting of the Vermont Dairymen's Association, at Burlington last January, are issued in a pamphlet of 134 pages. O. M. TINKHAM, North Pomfret, is president; E. L. BASS, West Randolph, secretary; H. W. VAIL, North Pomfret, treasurer.

Autumn Exhibitions.—Dates have been appointed as below for the State Fairs and other important shows named:

American Institute, New-York	Oct. 2, Nov. 30
Buffalo International, Buffalo	Sept. 4, 13
Colorado, Pueblo	Oct. 1, 5
Dakota North, Grand Forks	Sept. 17, 21
Dakota South, Aberdeen	Sept. 25, 27
Delaware, Dover	Sept. 30, Oct. 5
Georgia, Macon	Oct. 28, Nov. 1
Indiana, Indianapolis	Sept. 23, 28
Iowa, Des Moines	30, Sept. 6
Kansas, Topeka	Sept. 14, 21
Kentucky, Lexington	Aug. 27, 31
Maine, Lewiston	Sept. 10, 13
Massachusetts Horticultural, Boston	Sept. 17, 20
Nebraska, Lincoln	Sept. 9, 13
New-England, Worcester, Mass.	Sept. 4, 6
New-Hampshire Grange, Tilton	Sept. 10, 12
New-York, Albany	Sept. 23, 28
Ontario Provincial, London	Sept. 9, 14
Rhode-Island, Providence	Sept. 26, 27
St. Louis, St. Louis	Oct. 7, 12
South Carolina, Columbia	Nov. 11, 23
Toronto Industrial	Sept. 5, 21
West Virginia, Wheeling	Sept. 9, 13
Wisconsin, Milwaukee	Sept. 16, 20

Farm-Yard Notes and Items.

The advertisement of the sale (at Dexter Park, Chicago, May 15–16) of choice bred Short-Horns from the noted herds of Bow Park, B. C. Rumsey and James Hunter—which appears on our first page—was ordered for last week's issue by telegraph at so late an hour that it was impossible to put a line of comment into the reading columns of that issue. The advertisement tells its own story pretty well, however; and an inspection of the catalogue (a pamphlet of 44 closely printed pages) deepens one's impression of the importance of the event, for the cattle are notably high bred, and among the bull pedigrees especially will be found several that any breeder might be proud to place at the head of his herd. The greater portion of the females are young; in fine healthy condition, and all of breeding age—will either be in calf or have calf at foot.

Messrs. Peter C. Kellogg & Co., New-York, write us, April 27:

The Tenth Annual Jersey Cattle Sale resulted in low prices at the average. A few really good cows brought as much perhaps as they ought to. We give all the prices of $150 and over, that were made in the sale. The heifers sold a little better than in the earlier joint sale. Quite a number of milk farmers bought low priced animals, and it looks more than ever as though for utility purposes, the Jersey cow is going to crowd out all others, in the suburbs of New-York where the quality of Jersey milk has become known, and well-to-do people are much averse to having any other. Several milkmen have assured us of late, that it is very difficult to keep their customers, unless they have Jersey cows or high grades.

The Cup, or rather the Silver Churn, contributed by the Associated Breeders, was won by Mr. A. B. Darling, upon an average of $190 per head. His cattle were all young, the winning animals being heifers and bulls, all descended from Eurotas. Mr. Holly made the presentation speech, and Mr. Appleton received the cup for Mr. Darling, whose modesty inclined him to be absent.

Koffee's Ona 29286, cow, 5 years; sire imp. King Koffee—imp. Ona 7866; G. & H. B. Cromwell, New-Dorp, S. I. $400
Koffee's Tormentor 29440, bull, 3 years; sire Ona's Koffee—imp. Felaina 17066; A. H. Moore, Philadelphia, Pa. 200
Pedro Snowflake 29611, cow, 3 years; sire Young Pedro 34—Alphea May 12676; L. S. Hoadley, New-York City 250
Mrs. Kirkpatrick 29667, cow, 3 years; sire Bingo 2811—Miss Beauty 4668; W. B. Von Richthofen, Denver, Col 250
Maid 4th 6726, cow, 4 years; sire Dartmoore 3175—Maid 1st; G. & H. B. Cromwell 240
Countess Victor 30365, heifer, 1 years; sire Eurotas's Victor Hugo 15697; dam Countess Hanover 9959, Hiram Hitchcock, Hanover N. Y. 340
Fancy Nancy 12778, imp. cow, 9 years; sire imp. Carlo 3510—Nancy; Wm. Crozier, Northport, L. I. 300
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Romeo's Silver Bloss 32696, cow, 2 years; sire, Romeo's Victor 15259—imp. Silver Bute 3240; John W. Howell, New-York City 310
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Virtue's Gem 17071, cow, 7 years; sire, Leonine Mc's Duke 1456—imp. Virtue Last; A. H. Moore, Maria Pedro 19264 cow, 2 years; sire Young Pedro 34 15361—Maria L. 2445; W. F. Williams, New-York City 190
Silken Chateaux 29411, cow, 4 years; sire, Shibboleth 4044 imp. Les Chateaux 31 11538; Washington Wilson, New-York City 210
Plentiful 27855, cow, 4 years; sire, Gulderoy 14 3043—Gloriana K. 13312; Wm. Crozier 180
Gray Victor 2567, bull, 1 year; sire, Eurota's Victor Hugo 15697—imp. Bohinie Beesie 11536; John Tecsevich, Bernardsville, N. J. 170
Queen of Albania 31 13768, heifer, 2 years; sire, Romeo's Victor 15259—imp. Queen of Albania 12568; John Tecsevich 190
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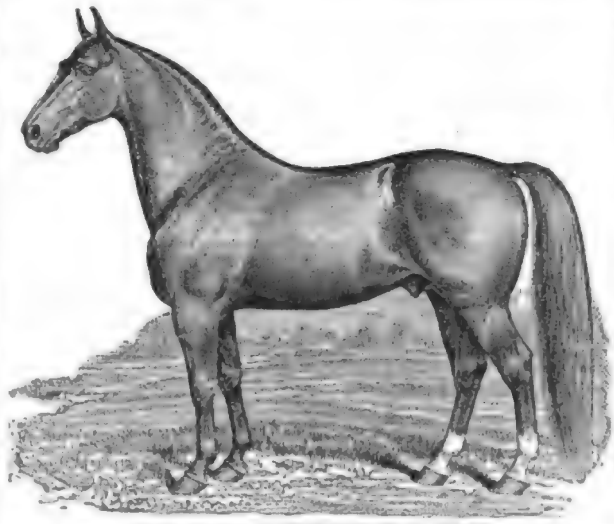
——, bull, 1 year; sire, Eurota's Victor Hugo 15697—imp. Romola Beesie 11534; John Tecsevich, Countess Maude 19629, cow, 4 years; sire, Regal Koffee—imp. Farmer's Maible; Wm. Crozier 170
Koffee's Lucella 30647, cow, 5 years; sire, imp. King Koffee 5622—imp. Lucella 3115; A. H. Moore 240
Miss Hinman 31321, cow, 3 years; Stoke Pogis Hinman 13305—Tina of Ridgewood 26473; A. Mitchell, New-York 180
Abner's Flossie 31581, Heifer, 1 years; sire, Albert Rex 7744—Flossie of Verna 13066; John Tecsevich 130
Jessie Hugo 30388, heifer, 1 years; sire, Eurota's Victor Hugo 15697—Jessiegore 32763; Mrs. B. F. Trow, Apalachin, N. Y. 120

The Holstein breed is constantly and steadily improving its butter record. See change this week in advertisement of Messrs. T. G. Yeomans & Sons, Walworth, N. Y., p. 342. The figures given deserve the consideration of dairymen.

We are pleased to present (after considerable delay in getting it executed just right) a good portrait of a noble horse—St. Arnaud 1519, winner of great prizes in strong rings at several New-York State fairs. He particularly distinguished himself at the show of 1887 at Rochester, carrying off on that occasion not only first premium in his class, but also gold medal offered for best roadster stallion of any age shown with his get; and he was almost equally successful last fall at Elmira. He belongs to Mr. H. M. Little of Highlawn Park, Macedon, N. Y., who exhibited in 14 classes



STANDARD-BRED TROTTING STALLION ST. ARNAUD.

at Elmira and Buffalo in 1888, and won 9 first prizes and 5 seconds, all (except one animal) by the get of this horse. St. Arnaud's record is 2.29¼, but he has a trial heat of 2.25½ after a large season in the stud. He is of high breeding, being a son of Cuyler 100 by Hambletonian 10, dam Emma Arterburn by Mambrino Patchen 58, 2d dam Jennie Johnson by Sweet Owen. His three-year daughter Reina made a record of 2.27¼ third heat last fall. Another three-year daughter, Allie D., has started in four races, won twice, and showed 2.26 on a half-mile track. Grover Cleveland, a young horse by him, made a record last fall of 2.33 in the N. Y. S. H. B. 2.40 class for stallions. A number of his two-year-old get are now showing fast, and seem likely to give him additional reputation.

Messrs. Lyttell & Walters, Secretaries of the Shropshire Sheep-Breeders' Association & Flock-Book Society, College Hill, Shrewsbury, England, ask the Country Gentleman to announce that the above named society offers a silver cup at the Buffalo show for the best Shropshire ram, and 5 of his get, under 2 years old, bred and owned by the exhibitor; also a silver cup at the Indiana State Fair, for best Shropshire ram of any age, 4 ewes 1 year old, or over, and 2 ewe lambs.

Mr. John Thornton sends us an interesting printed history of the Fyfield Oxford Down flock, which he is to sell at auction on the 4th of next July, during the week following the royal show—see advertisement, p. 322. "To young breeders, colonists and foreigners," Mr. Thornton says—and we have no doubt he is right—"this sale affords a very striking opportunity of obtaining some of the very best and highest bred specimens of one of our most useful and profitable breeds of sheep."

Discussions in the Red Polled Cattle Club of America (largely in regard to the management of the office by Secretary Murray) have led to reorganization as an incorporated body, with the following officers: President, Gen. L. F. Ross, Iowa City, Iowa; vice-president, Wm. Steele, Morton, Wis.; secretary, J. McLain Smith, Dayton, O.; corresponding secretary, S. D. L. Jackson, Coltsville, O.; treasurer, S. A. Converse, Cresco, Iowa. Mr. G. F. Tabor of Patterson, N. Y., one of the leading spirits in the reorganization, sends us a circular explaining the reasons that brought it about, and denouncing Mr. Murray's management of affairs while in office.

Messrs. Smiths, Powell & Lamb, Syracuse, N. Y., send us a sheet containing (beside portraits) the full annotated pedigree of their noted Holstein bull Netherland Prince N. H. B. 716, A. R. 8. He has proved a remarkable sire, five of his daughters averaging 20 lbs. 6 1-5 oz. of butter in seven days, and the entire list of twenty of his daughters (of which twelve were two-year-olds, seven three-year-olds, and one four-years-old), averaged 14 lbs. 7 oz. of butter in seven days—the average amount of milk (from the entire list) required to make one pound of butter, being only 17.17 lbs.! It should be noticed that Netherland Princess 4th (whose dam is a full sister to Netherland Prince), has precisely the same blood as her sire. Her record is 21 lbs. 10¾ oz. of butter in seven days, as a two-year-old, and only 13.33 lbs. of milk were required to make one pound of her butter! For quantity, as well as quality of milk, Netherland Prince's daughters make an excellent showing. Nine of them (one four-year old, three three-year-olds, and five two-year-olds), averaged 11,360 lbs. 8½ oz. of milk in a year.

The 26th volume of the American Jersey Cattle Club Herd Register contains pedigrees of bulls 20,001 to 21,000 and cows 49,001 to 51,000, with other valuable matter as usual. The club had 400 members at the closing of this volume, March 25. Mr. Frederic Bronson of Connecticut is president; Dr. H. M. Howe of Rhode-Island, vice-president; John I. Holly of New-York, treasurer; F. W. Wicks, New-York, secretary.

The sale of Jerseys belonging to R. Peters, Jr., at Chester, Pa., April 8—advertised on p. 261—resulted in disposing of 27 head for $1,223.

Mr. P. P. Parsons, Onondaga County, N. Y., writes to the Country Gentleman of a fertile freemartin:

"Two years ago next month one of the best cows I ever owned (grade Short-Horn) gave birth to twins, the get of a Holstein bull. The bull calf was sold to the butcher for veal, and the heifer, which was born first, and the larger by ten pounds, I raised, together with four others, the get of the same bull. She has grown well and developed into a fine animal. She gave birth the 19th of the present month (April) to a bull calf, which weighed 90 lbs., and is doing finely. She has a large udder, prominent milk veins, and so far as I can judge bids fair to excel, in all points, her half sisters of the same age."

Eds. Country Gentleman—My advertisement for a young Short-Horn bull in your invaluable and far-reaching paper brought me a number of answers, many of them describing animals of exceptional merit. The bull finally selected was bred by Messrs. C. Hills & Son of Delaware, O., and traces on the dam's side through Imported Rose of Sharon to J. Brown's red bull (07), and on the sire's side through the Machem cow to Young Wynyard (2859). This young bull, Oxford King 28333, is individually an animal of remarkable merit.

Philadelphia, Pa. A. B. Logan.

Eds. Country Gentleman—I report sale of bull Exile of St. Lambert 23d to W. B. Dinsmore of Staatsburgh, N. Y. This is one of the best bred bulls I ever raised. The dam was a very rich cow and had a record of 20 lbs. 10½ oz. of butter in 7 days, a daughter of the grand old bull Yankee which was imported by Mr. Dinsmore. Mr. Herrick writes me that the bull reached them safely and that they should breed him to their best cows; also report test of daughter of Exile of St. Lambert, Paola Stoke Pogis No. 34091. She was milking from 28 to 29½ lbs. of milk per day and I asked my man to test her for a few days and they found that she was making at the rate of 18 lbs. 13 oz. of butter. I then asked them to make a test for seven days and the result was 19 lb. 6½ oz. of butter. I was away from home at the time and on my return asked them to make a test again for 7 days and as her feed had been somewhat cut down, she was not milking quite as heavy, but made 19 lbs. ¾ oz. We have also recently tested another daughter of Exile, Yuba Stoke Pogis, which made in 7 days 14 lbs. 14¾ oz. This makes four of Exile's daughters that have been tested and none over three years old. P. J. Cogswell.

Eds. Country Gentleman—I have sold my yearling bull out of Daphne of Arcadia 21710 (26 lbs. 12 oz. in seven days) to Mr. H. Bowen of Medina. L. H. Morse. *Newark, N. Y.*

Eds. Country Gentleman—Your able and interesting English correspondent, Mr. Bowick, p. 325, says: "The well known Mr. Jonas Webb's flock of Babraham was the finest and direct descendant of the flock of Mr. John Ellman, who was the father of the breed in its leading Sussex branch." I visited Mr. Webb twice in the summer of 1841, and staid there about two days each time looking over the flock very carefully, as I purchased a ram and several ewes. Our minister, at the English court, Mr. Stevenson was with me, also purchasing several head to stock his farm in Virginia and that of Bishop Meade. Mr. Webb in talking to me about his sheep was rather chary of information as to their breeding, but from the little he said on the subject, I inferred that he chose sheep for the improvement of his flock wherever he could find them among the Downs of a superior quality, and that he inherited at least a part of the originals from his father. He did not speak of Mr. Ellman's, but judging from the appearance of the two stocks, I did not think there was much, if any, of the Ellman blood mingled with that of the Webb. The sheep I saw of the former were not so large, I thought, generally by one fifth, or perhaps more, as the latter, and they were finer and more delicate in their points and of a somewhat different style. I should like to know from Mr. Bowick whether I am correct in my recollections. He can easily ascertain this from Mr. Henry Webb, and it will be interesting information to furnish the Country Gentleman. A. B. Allen.

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The Grazier and Breeder.

Milch Cows and Horses.

Eds. Country Gentleman—I have for a number of years endeavored to prepare a ration that would keep cows up to a uniform flow of milk one year with another during the best years of their life, four to eight years old, but I am no better satisfied with results obtained at this time than I was five or seven years ago. For instance, I have had both heifers and matured cows milk five to six gallons per day for twelve or fourteen weeks after calving, and the next year not be able to get three-fourths of that quantity, though I thought I was giving the animals the very best of feed, and they looked well as to flesh and held out in their milk close up to calving—three or five weeks. Calves would sometimes be large and strong, other times small and weakly. I can think of some particular cows that would produce only half of their capacity for two successive years, and then come back and do as well or better than ever. Is there a ration that I can prepare that will enable such cows to keep up their big flow one year with another? I have had the same disappointment with cows that were only moderate milkers (four gallons per day), and nearly every year have one or more that are off—usually the deepest milkers (1)

I have never confined my cows to any one combination of foods, but furnish a variety at each feeding. My rations usually run about half of each, oat or wheat hay and alfalfa cut fine, one-half inch, wet and mixed with 2 qts. corn meal, gill of new process oil meal, 4 qts. heavy bran; sometimes I use rolled barley in place of corn meal. Feed three times daily with loose alfalfa in ricks for cows to help themselves to between meals. (2)

How can I improve this ration, or rather what of the following list should I select to make an economical ration for producing milk for market, and maintain a good quality of milk as well as quantity: Alfalfa hay, No. 1, $8 per ton; oat hay, No. 1, wild, $7; barley hay, No. 1, $8; wheat hay, No. 1, $8; wheat bran, heavy, $25; wheat bran, light, $18; barley, rolled, $18; barley, ground fine, $21; corn, cracked, $23; corn, ground fine, $25; oil meal, new process, $55; oats, ground fine, $45; barley sprouts, 12½c. per sack of about 40 lbs.; barley malt, (wet and fresh every day, no cost for hauling), 12½c. per 100 lbs.; wheat or barley straw, bright and clean, delivered at $4 per ton; screening made at the brewery, small barley and some oats, $10 per ton—cost for grinding fine, $4 per ton. Wheat and barley straw cannot be had before next August. All of the other foods are to be had at all times at about the prices quoted above the year round. (3)

What of the above list of foods would be best to feed horses working on the farm and doing some road work, also the milk-wagon teams traveling 16 to 20 miles daily? (4)

How much could I save by steaming food for 50 or 100 cows with fuel to run a six-horse power engine at $2.50 a day, crude petroleum for fuel. I can buy corn at $1 per 100 lbs.; barley, 75c. per 100 lbs.; oats, $3 per 100 lbs. Can I afford to grind my grain and use steam to cut feed, and then steam the feed is a question I cannot answer to suit without experimenting. (5) B. C. P. *Los Angeles, Cal.*

1. B. C. P.'s experience with the variability in the yield of the same cow in different years, is like that of all others who have kept the same cows for several years and closely observed their individual yields. It is also true that an animal will fatten upon the same food more rapidly at one time than at another. Milk secretion is very closely connected with the nervous organization of the cow. A change of milkers, with particularly nervous cows, will often change the yield, although the ration is the same. Any nervous excitement in the cow operates on her milk secretion, and especially on the fat or butter content of the milk.

P. neglects one important point in relating his experience, and that is, to tell us the breed of cows he keeps, their weight, &c. The explanation might be clearer if we knew these facts. But there is something so subtle about the animal organization that we cannot always trace particular effects to the cause, and no ration will reach P.'s case fully. P. will probably never be able to have 50 cows, each individually yielding the same quantity of milk for years in succession. But if he takes the average of the 50 cows for several years, under a like system of feeding and management, he will find this average to run nearly the same, year after year. The peculiarities of individual cows are lost in the whole number, keeping the average nearly equal. P. will find that he cannot be too careful in employing men to milk and feed his cows, not to keep one who is inclined to treat them roughly, or who is not uniformly kind and gentle with them.

2. It is a little difficult to understand precisely what P.'s daily ration for his cows is. He speaks of 2 qts. corn meal, 1 gill N. P. linseed meal, 4 qts. heavy bran, and sometimes substituting rolled barley for the corn meal. Then he says "feed three times daily," but he does not say whether he divides this quantity into three parts, or whether this ration is simply a single feed, repeated three times daily. If we assume the former, then the ration is too small; if the latter, it is rather heavy. Let us suppose that he feeds 10 lbs. alfalfa and 3 lbs. oat hay per day, with the grain mentioned; then in an analytical formula, it will show the following digestible nutrients, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
10 lbs. alfalfa hay	0.94	3.85	0.10
3 lbs. oat hay	0.49	3.40	0.19
3 lbs. (3 qts.) corn meal	0.25	1.89	0.14
4 lbs. (4 qts.) heavy wheat bran	0.43	1.84	0.10
Total	2.09	10.98	0.44

It will be seen that this is deficient in albuminoids and carbohydrates for cows yielding a large quantity of milk. But if the grain part of the ration is multiplied by three, then it will show of digestible nutrients: Albuminoids, 3.47; carbohydrates, 17.54; fat, 0.92. This is a heavy ration, probably more than would be necessary. We have omitted the small amount of N. P. linseed meal, as it would not materially change it. We can say for this ration that it is very well balanced, and when fed in proper quantity, should produce a good result in quantity and quality of milk.

3. He asks our advice as to how this ration may be improved, or rather what foods should be selected out of the list he gives to make an economical ration. Here is the greatest chance for improvement, for we perceive that he does not avail himself of the foods which are sold at the lowest price, according to their nutritive value. Barley sprouts, more commonly called "malt sprouts," is rated at about ¾c. per lb., while ground oats is 2 1-5c. per lb., and heavy wheat bran 1 1 5c. per lb. Now as a part of the ration, malt sprouts have a value really equal to either of these feeds. Then fresh wet malt is rated at ¼c. per lb., when it is really worth, if fed in good condition, nearly three times this price.

We will therefore make up a ration composed of alfalfa and oat hay, malt sprouts, fresh malt, corn meal, light wheat bran, finely ground barley. We will give it in analytical formula, so that the digestible nutrients of each will clearly appear:

	Albuminoids.	Carbo-hydrates.	Fat.
12 lbs. alfalfa hay	0.94	3.85	0.10
5 lbs. oat hay	0.49	3.40	0.19
2 lbs. malt sprouts	0.38	1.06	0.03
15 lbs. green malt	0.78	5.55	0.18
2 lbs. fine ground barley	0.24	1.76	0.05
3 lbs. light wheat bran	0.39	1.35	0.09
Total	3.04	15.05	0.54

Nutritive ratio, 1 to 5.7. This is a full daily ration for large cows, and costs only 15½ cents. What he calls "fresh 'malt wet'" is not supposed to be "brewers' grains"; the latter has much more water, and more would be required. P. should always select alfalfa hay instead of oat or wheat hay at the same price. Wheat or barley straw may be fed with alfalfa hay, say 12 lbs. alfalfa and 6 lbs. straw.

It is supposed that P. will cut the hay and straw or other fodder, mix the wet malt with it, and then mix the other feed in and feed the whole in three parts morning, noon and night. Mix in also 2 or 3 oz. of salt for each cow.

4. As his horses upon the farm, and also upon the road, no doubt move mostly on a walk, their food may be less nitrogenous than if subject to fast driving, we will therefore make up their ration of 12 lbs. of short-cut alfalfa hay, 6 lbs. finely ground barley, 3 lbs. finely ground corn meal, 6 lbs. light wheat bran, 1 pt. oil meal. Oats bear too high a price to be fed to working teams.

P. will understand that all these rations we have given are for a day, and may be divided into two or three feeds, as is most convenient.

It is presumed that these horses are from 1,000 to 1,200 lbs. weight, if much heavier; and the work severe, the ration would have to be increased. If their work is moderate then this ration would be sufficient for horses of 1,300 or 1,400 lbs. weight. The hay for the horses should be moistened only just enough to cause the ground feed to stick to it so that both must be eaten together. Some err in making the hay too wet, in which case the horses do not masticate their food so well.

5. I do not think there would be any material advantage in cooking the ration I have advised for his cows. But if his power did not cost too much it would certainly seem to be a paying investment to grind his own grain for so large a stock. But I do not see how it should cost $2.50 per day to supply crude petroleum as fuel to run a 6 horse power engine. To grind most economically would require at least a 10-horse engine, and such an engine could be run here for one-third the sum he mentions, with freight paid upon crude petroleum 150 miles. E. W. S.

A Pennsylvania Barn.

Handling Hay Conveniently.

Eds. Country Gentleman—When I moved to this farm, eleven years ago, I found two barns about 30 by 40 feet each, which was the conventional size of barns in this section when these were built—some fifty years ago. I converted one of them into a sort of workshop, in which there is now a blacksmith's forge and a fair kit of tools for doing farm blacksmithing, and an engine which is used to cut firewood, run feed-mill, corn-sheller, circular saws, grindstone, &c. The other barn is used to store small grain before threshing, corn before husking, and to use temporarily for stock in case of loss by fire of our present large barn.

These barns were not convenient either in location or appointments. I therefore, during the season, planned, and the next season built, the barn we now use. It is 50 by 96 feet on the ground, and three stories high. The top of the roof is 47 feet above the lower floor. Entrance to the second and third stories is at one end only. We have doors at the other end, but from the third floor it is too dizzy a height to think of bridging to the ground.

The land on which the barn is built descends evenly about one foot in ten, which allows us to drive into the second story level with the driveway to the public road. On this floor our horses and carriages are kept. The approach to the third story is effected by bridging from the barn 30 feet to a retaining wall and by a graded roadway from that to level ground, about 100 feet from the barn. The earth to make this elevated roadway, came from leveling the ground on which we set the barn.

The foundation wall of the barn is only one foot high, except at one end where it is 8 feet high and supports the sills for the second story. (By the way, the framework in this barn is somewhat peculiar, no long timbers being used.) Instead of walling up to the earth's surface on the sides the ground is graded gently down to a level several feet away from the barn, and if I were again to build from the start I would retain the bank at the end some distance away and build the whole barn of wood from the bottom.

The third floor is 44 by 96 feet, exclusive of bays, giving ample room to turn a wagon with hay rack without unhitching the team, and affording also room to store horsepower, threshing machine, feed cutter and agricultural implements.

From bay girt to bottom of bay the distance is about 26 feet, and this brings me to the point which suggested this outline of description. On page 32 Mr. Terry says he intends to "tumble the hay off into the bay as long as it is down-hill work." If the hay is to come out of the bay on the same side it went in, it will, I think, be all up-hill work in the winter to get that hay out again. My entire bay is 16x96 feet, and is divided by movable studding into six bays sixteen feet square. For some years we unloaded into these bays in the following manner: Ropes were so fastened together that when laid on the hay rack, two hooks attached to the roping would hook into loops on the bay girt. From these hooks a sort of net work of ropes spread over the rack, terminating with one hook on the opposite side. This net was spread on the rack and the load of hay then built. On arriving at the barn the two hooks were slipped into the loops on the bay girt, while from a windlass and over a pulley attached to a rafter over the bay, a rope extended and was hitched to the outside hook of the net. The man who drove with the load to the barn would make the connections, turn the crank, dump the whole load into the bay and return the ropes to their place in the space of three minutes' time.

The plan looked well on paper. It worked well in summer practice. Parties came some distance to see the novel operation. But alas! when winter came and we had to feed that hay it must come out on the side of the bay which received the first load. All subsequent loads remained on top of that one so far as gravity would permit; those rolling back securely binding the front loads down. To get the hay in winter we must twist forkfuls out of the back side of the bay and travel up a steep slope to get it over the hay in front of it. To obviate this we placed an incline of boards by the bay girt for the load to strike on, which sent it to the rear of the mow, but it was still all twisted up in a way that made it quite inconvenient to handle. We now have an extra hand go with the load to the barn, where the hay is pitched off by hand and mowed back by forkfuls.

As I hire help by the year and expect to find busy work all winter, I feel that the extra time it formerly required to handle the hay in winter cost me more than to pay haying prices in summer to mow back the hay. C. S. Clark.

Crawford County, Pa.

Developing Holstein Heifer.

Eds. Country Gentleman—Please give us a ration for a Holstein heifer that will be two years old (and due to calve) in June, for milk and butter; we wish to test her. Can use cut clover and timothy hay, cornstalks, barley, or wheat straw. Bran, $16 per ton; oil meal, $1.50 per cwt.; cottonseed meal, $1.50—have corn and cob meal. She has been fed a mixture of cut corn fodder and straw, with about 6 qts. of bran and corn and cob meal per day, mixed without particular quantities being weighed out. W. & S. *North Ridge, N. Y.*

W. & S. are not feeding the Holstein heifer quite safely before calving. Heating food such as corn meal is not allowable near the time of calving. The food should be of a cooling nature, intended to develop the muscular or vital system, and to develop a healthy, strong calf. Bran is one of the best foods, but some fodder or straw should be omitted because they contain so little to develop healthy blood. It would be best for the heifer if fed 15 lbs. of cut clover hay, mixed with 6 qts. of good bran, or 10 lbs. of cut clover hay and 6 lbs. of cut corn fodder, or straw, mixed with 7 qts. of bran. It is presumed that this heifer weighs at least 1,000 lbs. This same ration should be fed about two weeks after calving, or till she gets over its effects. Do not be in a hurry to put her on stimulating food to develop the milk secretions. Good grass is too stimulating till she gets over calving. An hour or so per day on scant pasture would be beneficial to cleanse the digestive organs.

2. When ready to put her on a ration to show her capacity for milk and butter, if not on pasture, it may be as follows: 12 lbs. cut clover and timothy hay, 5 lbs. corn and oats ground together, 6 lbs. fine wheat bran, 3 lbs. old process linseed meal, 1 lb. decorticated cottonseed meal. It is an advantage to have as great a variety of food in a ration as may be, as it increases the appetite and improves the milk. This is not a very heavy ration for this large heifer. Its analytical formula it shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
14 lbs. cut clover & timothy	0.89	5.79	0.15
5 lbs. ground corn and oats	0.43	3.30	0.20
6 lbs. fine bran	0.70	2.88	0.15
3 lbs. O. P. linseed meal	0.59	0.64	0.13
1 lb. dec't'd cottons'd meal	0.35	0.33	0.08
Total	2.96	13.74	0.76

Nutritive ratio 1 to 4.8, and although not a heavy ration will be a good ration to show her normal standard.

3. If this heifer is on pasture then she may be fed 2 lbs. corn meal, 3 lbs. fine bran, 1 lb. O. P. linseed meal, mixed with 3 lbs. cut hay. Give one-third in morning and two-thirds at night. And W. & S. must remember that for the first month this will only show her normal standard of milk. It will be no test of what she can do after development. Development, as the term indicates, comes slowly. No sudden change can be produced. And the encouragement is that when a cow becomes permanently developed to a higher standard, she is likely to transmit this to her progeny.

4. We are surprised that W. & S. should quote bran at $16 per ton, when it can be purchased in Buffalo at $13 wholesale, and as they keep a hard they would not pay the highest retail prices. E. W. S.

Horse-Breeding in New-Jersey.

Eds. Country Gentleman—Our spring has opened up much earlier than usual, farmers being at least two weeks in advance of several years past. Oats are sown and corn ground prepared. Wheat looks well and grass is starting nicely, clover having withstood the winter much better than usual. I think a larger acreage of tomatoes will be put out and not so many potatoes. It has been such a difficult matter to dispose of potatoes at any price as to discourage many from growing them.

Our farmers are devoting much attention to the rearing of standard-bred horses just now and we seem to be on the edge of a "boom" in that industry. Already this county has produced such well known performers as Jersey

Bay 2.21¼, Yorktown Belle 2.22, Jerry Almont 2.26¼, Brighton 2.28, Maud 2.29¼, Wineshade 2.30 and many other good ones. Our stallions comprise sons of Dictator, Mambrino, Patchen, Belmont, Mambrino Dudley, Gen. Benton, Messenger Chief and grandsons of Geo. Wilkes, Electioneer, Kentucky Prince and numerous remote relations of Geo. M. Patchen 2.28¼. It will be seen that our horses are largely of Hambletonian and Mambrino Chief descent, but this spring that enterprising, energetic and capable breeder, Clark Pettit Esq., has added to his stud an inbred Blue Bull with Hambletonian, Mambrino Chief, Tom Hal and Tom Rolfe out-crosses; thus combining the blood of five of the greatest trotting and pacing families known, and through his blood-lines almost every animal is a great producer and many of them great performers. This colt is remarkably fine as an individual, and his pedigree should be thoroughly perused to be appreciated. I think he will make the happiest possible "nick" with our brood mares and I venture to predict great things of his influence on our well-bred horses of the future.

I think we have most excellent facilities for the rearing and development of fine horses and I cannot but think that our farmers are doing the wisest thing in giving this branch of industry their earnest attention. A fine horse is always a marketable product for a good cash price which is much more than can be said of most other agricultural productions.

Salem, N. J., April 12. E. H. S.

Brood Mares, Colts and Pigs.

ED. COUNTRY GENTLEMAN—Please tell me relative value of corn shorts fed to mares and colts and pigs, to wheat bran. I can buy wheat bran for $20 per ton, and meal at about $21 per ton, and corn at 50 cents per bushel, in the ear. (1) Is the value of meal alone, fed to pigs, enhanced by mixing it with buttermilk and letting it ferment, increased, or is it better to mix and feed while sweet? (2) Is the cooking of corn meal beneficial to fatten hogs for pork, or is it good to feed raw meal? (3) In feeding wheat bran and corn meal to pigs 3 weeks to 6 months of age, tell me what proportion by weight is best for me to give them to get best results. (4) I raised a pet pig two years ago—fed him buttermilk, as much as he would eat, three times per day, and stirred in meal along, to thicken slops, and after he got to weighing 111 lbs. at 4 months of age, I put, by measure, ¼ bran and ¾ meal. In 30 days he gained 85 lbs., an average of 2 lbs. 10½ oz. per day. He weighed 196 lbs. the day he was 5 months of age, and at 9 months 13 days he went 486 lbs. He had no green feed of any kind. (5) Would be glad to have you advise me fully what to give six pigs, now 8 weeks old, to make best results by January 1st next. They have buttermilk and meal only. Would not 2 lbs. bran and 1 lb. meal added to milk be better? (6) W. S. S. *Calhoun, Ga.*

The relative value of corn to wheat bran for mares, colts or pigs depends upon the age, time of year, purpose for which fed, &c., of the animals. In the first place corn meal is an improper food for young colts or pigs, except in connection with other strongly nitrogeneous and bone-building foods. If brood mares are suckling foals very little corn meal should be fed; not more than 1 lb. of corn meal to 4 lbs. of bran, because the mare must furnish milk to grow the muscles and bones of the foal, and corn meal is quite too poor in phosphate of lime to grow the bones. It is of the highest importance that the foal should have an even development, and that its frame should be expanded in due proportion. Good pasture will improve the mare's ration.

2. If corn meal is to be fed alone with buttermilk it should be fed sweet. Fermentation in this case would only cause a loss of food elements, but it would be much better to feed an equal weight of bran with corn meal in the buttermilk for pigs three months or more old, and to younger pigs, 2 lbs. of bran to 1 lb. of corn meal.

3. Cooking corn meal does increase its digestibility for fattening hogs, but the increase in food value is not sufficient, with only a few hogs, to pay the expense. Yet, in feeding on a large scale, the cost of cooking the corn meal, with a proper apparatus and mixing in a little cut clover hay, will be amply paid for in the result.

4. The answer to this question was partly given under No. 2, but it may here be definitely stated that in feeding pigs, from 3 to 5 months old, without milk, the proportion should be 1 of corn meal to 2 of bran, and from 5 to 7 months old, half bran and half corn meal by weight; from 7 months to slaughtering, one-third bran and two-thirds corn meal.

5. The growth of B.'s pig was quite remarkable; not all pigs would gain as fast on the same feed. He notes the fact that no green feed of any kind was given. It may be remarked, upon this, that the amount of bran which B. fed answered the purpose of green, bulky food, and kept the pig constantly healthy.

6. B.'s suggestion is a good one, that his pigs would do better with 1 lb. of meal and 2 lbs. of bran, mixed with the buttermilk, till they are 2 to 3 months old, and then feed half meal and half bran as long as the buttermilk is continued. E. W. S.

Feeding Young Animals.

ED. COUNTRY GENTLEMAN—I was down at the squire's a day or two ago and found that one of his calves had the scours badly, and I judge from its appearance that it had been in that condition for several days. I have raised scores of calves, and very rarely have a case of scours, and when I do, can almost always see that I am to blame for it. I have found that calves at quite an early age need some coarse food, and every farmer who expects to raise winter calves should provide some pure, sweet, early-cut hay for this purpose; and clover, if well cured, is better than any other. The calf will begin to eat hay by the time it is four weeks old, and there is very little danger of scours when it eats a small quantity of hay regularly, for a little sweet, wholesome hay is a good corrective or regulator of the bowels. The potent cause of bowel trouble is irregularity in feeding. A quart or two too much milk will often cause it, or the feeding of cold milk when it has been accustomed to warm, or feeding at irregular intervals. I have neighbors who will sometimes feed their calves at five o'clock in the morning, and again not till the middle of the forenoon, and the same way at night, and I rarely see them have a thrifty, smooth calf.

I am speaking now of hand-reared calves, for after trying both plans I would much rather raise a calf by hand than to let it suck. I have until this year supposed that it was necessary to let the calves suck, which were intended for veal, but I find that I can make good veal calves by hand-feeding, and the huckster who buys my calves told me lately that he would rather buy a good hand-fed calf than one that had sucked, for he says that in taking them to market, they do not fall off in flesh so badly, and look better and sell better after the trip. As our cows, when fresh, will make a pound of butter each a day, there is a saving of several dollars in making veal by feeding skim-milk. Whether the calf is to be raised, or vealed, I leave it with the mother three days, and since I adopted this rule I have never had any trouble to teach a calf to drink. I formerly took the calf away as soon as it was born, and about one in every three would be very hard to teach to drink, and I have raised calves that would not drink for weeks. I have concluded that it was because they did not get enough of the colostrum (or first-drawn milk) to physic them properly. At any rate the calf left three days with the cow develops a ravenous appetite, and after missing one meal is usually ready to take its milk.

I always feed the calf its mother's milk until it is a week old, or perhaps a few days longer if it does not seem thrifty, and then I begin with skim-milk and old-process oil meal. (The new-process may be as good, but I have never used it). I put a heaping tablespoonful of it in the bottom of a bucket and pour over it nearly a pint of boiling water, and then whirl the bucket until it is thoroughly mixed and thickened up like jelly. I then add the milk heated to as near as possible the temperature of new milk. About five quarts of this, night and morning, will make enough for the first two or three weeks, and then increase the amount gradually. Get the calf to eating something besides milk as soon as you can. Make a small rack and keep a little hay within reach of it, and by the time it is three weeks old begin to feed bran or corn. If the calf is a heifer to be raised, feed bran; but if you intend to veal it, shelled corn is better. Only give a dust of bran or a few kernels of corn at first, and if it is not eaten, clean out the trough and put in fresh. In a few days the calf learns to eat it with relish, and will be ready for its food whenever you give it. I keep a calf intended for veal till it is six weeks old, or more, for as we are getting the butter, it costs very little to keep it. About ten pounds of oil meal will feed a calf until it learns to eat bran, hay and other food, and then it does not need it longer. I have this winter, for the first time, fed carrots to young calves, and am very much pleased with them. I find that a calf four weeks old takes kindly to carrots, and will eat them with great relish. I feed a half-pound carrot, sliced, at a feed at first, and gradually increase until by the time a calf is four months old it will eat nearly a peck a day.

If a calf gets the scours, it should at once be put on a half allowance of new milk, and all other food except hay stopped. I do not mean half new and half skim milk, but instead of six quarts feed only three for a day or two. I have always been able to check the trouble at once if I did this at the start. An experienced feeder will detect the scours by the smell as soon as he steps into the stable. I believe that I can raise a hundred calves without a case of scours, if I can have the exclusive care of them. In winter feeding, I have a separate box-stall for each calf, and bed freely every day with sawdust or corn chaff.

In raising colts, I teach them to eat and have them on full feed of bran and oats before they are weaned, and I can wean them at four months without any loss of flesh. I feed no corn until past two years old, but feed liberally with bran, carrots and oats, and all the corn fodder or clover hay that they will eat, and maintain a steady growth all winter. I weaned a grade Norman Dec. 1st, when it was four months old, and it weighed 350 pounds. In a hundred days I weighed again, and it had gained 110 pounds—weighing, March 10th, 460 pounds. This colt is not fat, and I have little doubt that by corn feeding I could have made him 100 pounds heavier, but he has developed a good bone, and I shall expect a fine growth from him when he goes to pasture and I am counting on his weighing nearly 700 pounds at one year old, and while this is not at all a remarkable weight, it will be quite satisfactory.

There is no department of farm work in which I take so much pleasure as in feeding and caring for stock, and if I can write anything that will be helpful to the young farmer just starting in the business, I shall be very glad to do it. There is neither pleasure nor profit to the owner, nor comfort to the animal, in bad handling and unscientific feeding, and in this as in all farm work the motto should be, "Do everything as well as you know how or can learn how." WALDO F. BROWN.

Butler County, O.

The Dairy Department.

The Ripening of Cream.

ED. COUNTRY GENTLEMAN—In reply to Mr. Henry Stewart (p. 313) I would say that the term "excess of theory" as applied by me had reference to the hypothesis that cream should be ripened by oxygenation and stirring. I made use of the terms "theory" and "theories" simply because the oxygenation and stirring of cream for the purpose of ripening seem to be pretty generally accepted by butter-makers as correct principles in producing the proper condition preparatory to churning. The sense in which they were used by me would show that I believed them to be *false* theories, as I have proved them to be, and that they could not be sustained as correct principles in actual practice.

This much at least I am not only willing but able to sustain in actual every-day work in the creamery where hundreds of gallons of cream are successfully handled daily, and also in the dairy, where the output is comparatively small.

To get at this question of ripening cream in a useful practical manner, we must first learn what ripe cream really means.

It is generally supposed to be cream that has attained a mild degree of acidity and from what I have read of Mr. Stewart's voluminous writings on the subject I should judge that to be his definition of ripe cream.

My ripe cream means something more; it means a complete coagulation of the serum that surrounds the butter globules contained in the cream, produced in the shortest possible space of time, out of contact with the air and without the aid of any acid or other agent foreign to the milk and cream themselves, and also without injury to the aromatic principles of the milk and cream. Mr. Stewart is in very grave error when he says that my lactic ferment, which is the agent I employ, is produced by "atmospheric action"; he has simply jumped at that conclusion, as I believe he has jumped at the conclusion of the effects of "oxidation" and "stirring."

Mr. Stewart's far-fetched explanation of the process of dyeing drygoods is not in the least analogous to the process of ripening cream. On the contrary, the practice of oxidation and stirring and aerating has, in actual work, a very injurious effect on the quality and also on the keeping properties of the butter. It is a well-known fact that oleine and butyrine in cream will absorb oxygen if exposed to the air under favorable circumstances, as butter itself will also do. My assertion can be easily proved or disproved by Mr. S. or any practical butter-maker, provided he is a careful, observant worker, without resort to the mysteries of dyers' establishments.

I make the assertion positively for the reason that I have personally experimented on that line extensively, and have proved this to be the fact thousands of times, and my experience in this matter has lately been confirmed by some of the most careful and experienced creamery proprietors and dairymen in Illinois and Wisconsin.

It is really a consolation to me to learn that Mr. S. agrees with me in at least one thing, viz., that milk may be kept sweet longer by being submerged than by any other process. It encourages me in the hope that at some future day he may extend this idea to the preservation of cream, and I would suggest that he will find that method very much more efficacious than "stirring" or "oxidizing."

Mr. S. goes on to say—"with a small quantity of cream this stirring is even more necessary," &c. This is sound neither in theory nor in practice; it is simply jumping out of the frying-pan into the fire.

Let any dairyman who finds it necessary to keep several skimmings of cream to collect enough for a churning, submerge it until a sufficient quantity is obtained, then ripen it all at once, and my word for it he will surely find a safe, practical, and also profitable solution of the oxidation, aeration, stirring bugbear.

JOHN BOYD.

Has Dairying a Limit?

ED. COUNTRY GENTLEMAN—With the rapidly changed and still changing condition, not only of the times, but the markets also, one can well ask himself if dairying has any limit, and if progressive, what are its leading lines? One of the matters that seem to make a great impression on dairymen, is the power of production of their farms, and how they can be made to carry more stock, to be maintained on yet cheaper rations. One is often hearing nowadays about keeping one cow to the acre—a point of progress which I think can be attained, but of course all such attempts must be made from the side of gradual approach, and not at a bound.

The dairyman who has got a good farm to start with, can perhaps succeed far better than the renter, or the man who has other "irons in the fire" beside dairying. To make a grand success of dairying, one needs to be fully in love with his vocation, and not only an eager student of the best dairy literature extant, but a close observer, and not only see and hear, but be able to seize on salient points and turn such to his advantage. He also wants to make the dairy the chief feature of his industry, and just as far as he carries dairying, carry it on as a specialty, and all other matters secondary.

There are several features that must be adopted if one attempts dairying up to an advance line, and it is in the "territory" along this border line that one finds the successful, profit-making dairymen at present. Dairying as now practiced by the practical teachers of the art, has a few points that we wish to present.

Dairying as a business, to be successful, needs first to be attempted with a dairy cow—not one conspicuous for her beefy qualities, but a small, bony, deep-milking cow, which converts the food she eats into milk that is sold every day, and not into fat that can only be sold *once*, after from six to ten years. The big 1400-pound cow that can at best make only an ounce or two more butter in a day than one of 850 to 900 pounds weight, is carrying at a daily loss this 500 pounds of beef that requires *daily support* and gives nothing in return, and consumes food that could otherwise be saved, at least.

The now accepted fact that a cow is "measured" for her cheese quality by the per cent. of butter fats in her milk makes all this hunting after excessive yields of milk of no account. It is now the quality of milk that tells, as determined by the actual solids it may contain; a point made very clear by the Winthrop creamery in Maine, where the solids in fats of different dairies varied from 1.83 to 2.76 per space, and had the milk itself been tested, pound for pound, the same variation would have occurred. To-day not a great dairyman

in this country but is getting his advance results with a specifically-bred dairy cow, and does not depend on "luck" to put solids in the milk, but on breeding, heredity and feeding; finding out that the quality of a dairy cow is her individualism, influenced by heredity, and not by attempting to make rich milk by feeding rich food, for only in one case in a thousand can this be done, the result being more milk of the same kind.

All this implies raising the heifers needed for the dairy from the cows giving the best milk—not always the most—and bringing in the services of a bull of the dairy type, not a beefer; for the heredity of great milk-giving cannot be benefited by beef and fat-forming, which is a lymphatic temperament, and no amount of argument can make the function of maternity analogous to fat-forming, and ready to be turned in either direction that the animal's owner may deem profitable. When this dairy type of heifers are raised, and fed on foods influencing milk production, and a discarding of large amounts of carbonaceous foods, the controlling direction will be on the dairyman's side of profit, and can be pushed up very close to the "boundary line." It is not yet clear that thoroughbred cows may in the practical dairy go farther in profitable dairying than high grades, but the grading must be done each time with a full-blood sire, and keep the influence on the dairy side, which it is impossible to do with a grade sire with a partially unknown ancestry.

The dairy set right, the food question is a matter of great moment, for however excellent the dairy may be, the food question may put its profitable ownership outside the line of paying returns. To-day the dairyman's strong hold is clover, fodder corn and a silo, and wheaten stuffs to balance the ration. Again, I find that the dairymen who are approaching the "cow per acre" line, are strong advocates and feeders of the best ensilage, and by its use are reducing the keep of the cows in proportion.

It has long been a belief that some form of soiling will need to be "invented," if the extreme possibility of dairying is reached, and up to date, the silo seems to have come nearest to the demand. When an acre of corn of the white Virginia sorts, thinly planted, so as to strongly develop the formation of grain, will, with a fair ration of bran, afford the keep for one year of two cows in full flow of milk, the problem of cheap feed seems solved. From my own experience, ensilage corn can be raised ready for the silo at not over $8 per acre, and put into the silo 25 big loads per acre for $8 more, making the "roughage" ample for two cows one year cost less than *one dollar* per month. This winter I find that 60 lbs. of ensilage per day, and 6 lbs. of bran, is ample feed for a milch cow, and reduced to bushels, the ensilage in the pits costs about three-quarters of a cent per bushel of 40 lbs., loose. So as to cheapness, the actual feed cost of a day's ration falls below eight cents per cow, which is a "pointer" at least toward a cheap but satisfactory ration for milk returns.

I am also rapidly drifting in the direction of abandoning the cheese factory and milk selling or cooperative making for either the cooperative creamery or the exclusive home dairy. The most successful dairymen to-day are those who have secured their best type of dairy cows and refuse longer to pool their products with "Thomas, Richard and Henry," and by a better material help bring the milk of other dairies up to an average before they can begin to share in the profits. These men milk cows enough of their own to make a business of butter making, and from the milk make creamery butter which they send to a butter market, and do not attempt the suicidal policy of exchanging good butter pound for pound for codfish at the cross-roads store. Beyond this they find that sweet skim-milk, fed with shorts and corn meal, makes a hog fatten three times faster than he would on either alone, especially if the milk was fed cold and sour, and the hogs can be made to return the best profits by feeding 90 days, then sending them to the market and supplying their places with a fresh lot of shotes to repeat the operation. The farmer then has two market crops, butter and pork, and if the hogs are cared for as they should be they make a wonderful amount of cheap but effective fertility for the farm.

Lastly, this extreme limit of dairying can only, at present, be approached from the winter side. The demand of the market wills it! Warm stables and cows in them, not warming barnyards, make it possible. The silo solves the problem of cheap and abundant food akin to June pastures. The demand for the market now is nearly three times stronger in the winter than in summer and makes good prices. Dairy product is not "rushed" at any price to the consumer in the winter, because so quickly spoiled by summer heats. The idea of overproduction in winter is a myth. The tastes and wants of the consumer are for a fresh-made article of butter, and, if consulted, would prefer a winter-made full stock cheese. And lastly, there is a butter market in England asking for 300,000,000 pounds annually, if we had it to spare, if of No. 1 quality, that tells that dairying in this country has not reached its limit. J. C. *Western Reserve, O.*

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

HIP AND SHOULDER LAME.—A free-working young mare, was put in young beads to haul a load in wagon, September, 1888; next day was very sore and stiff in left shoulder and hip joint. Was bathed with strong liniment, and turned with colts. Is to-day a little better, both legs very stiff; gives to pressure near the hip joint on top at the cap, also back of shoulder blade at the top; no depressions, but very sore and stiff. A. J. *Martinsburgh, W. Va.* [Apply golden blister to hip joint, but before doing so have her trotted to halter and describe how she travels. Send full but simple descriptions; write on one side of paper only.]

FOOT RENT.—An 8 year-old mare about four weeks before foaling was let stand in wind without blanket, and became very stiff all over, then lame in alternate feet; could hardly go. Foaled all right, and is much better. The colt could not get up at first, but was well developed. Front feet turn up forward and the walks on fetlock joints; have splints bound on her feet. E. S. D. *Camden County, N. J.* [Rub colt's legs from knees to feet twice a day with some of the following liniment: Tincture of opium, 2 oz; spirits of camphor, 6 oz.; alcohol, 1 pint; mix. Colt will come out all right, I think. Mare took cold and had a rheumatic attack as a sequel.]

CRACKS IN FEET.—My mare has what I suppose is greasy heel. From heels of shoes up, even to her fetlocks, are cracks—but not like scratches. The heel of the foot is rough and full of cracks, crossways the hoof, and run into the frog. She appears tender when you press on them, but does not go lame, even on rocks. She was foundered three years ago, but was cured very soon, and I never noticed this until a few days ago. She will drop a colt 17th of June next. W. H. B. *Calhoun, Ga.* [If the animal has thrush you will find treatment for it in back numbers. For the cracks, dry off the sores and apply raw carrots, grated, as poultices for three or four nights; mornings wipe sores off and rub on a little of the following ointment: Powdered resin, 4 dr.; powdered opium, 2 dr.; vaseline, 4 oz.; mix. If you give medicines internally she may abort.]

LAME MULE.—My mule, 8 years old, 1,100 lbs., has been lame for four or five weeks in right fore leg; lameness does not seem to be in the shoulder as she does not drag toe in walking or trotting, and foot seems right. Tendons of leg from ankle to knee joint seem to be a little soft and spongy, but not painful to pressure. Foot and shoulder seem to be right. The mule has been doing ordinary farm work, and has had no strain or other injury to my knowledge. I bought her in city eight or nine months ago where she had been in service two years. Bathed parts in warm water and castile soap, and rubbed with preparation of mustang liniment and tincture of iodine. E. L. G. *Huntsville, Va.* [Wash all the preparations off and get the leg clean. State whether feet are alike; note differences, if any. How is foot or leg rested in stable, or does she stand square? It is folly to adhere to the old notion that an animal must drag the toe if lame in shoulder. I assure you that I have seen hundreds of horses limp from shoulder pain that did not drag the toe, and they would get over a log as well as they could before or after such lameness. Trot mule to halter and see if stride of lame leg is as long as that of the sound one. Give full description of the simple facts.]

TEAT INJURED.—A cow has injured the end of a teat; think it was stepped on by another cow; flesh so bruised that as it begins to heal it closes the opening and can get no milk. A. C. M. *Leyden, N. Y.* [Use a lead probe and smear it with oxide zinc ointment always before inserting.]

FAILURE TO SERVE.—My 4 year-old shire stallion, weight 1,900 pounds, shows a fault in service. He seems ambitious enough, but loses erection before carries has much more than begun, frequently trying three or four times before completing a service. Same fault showed last season. C. H. C. *Chicago.* [You may tell us whether he served all right last and when this was first noticed. In the mean time give 30 drops tincture nux vomica three times a day.]

FAILURE TO BREED.—My sow, two years old the first of last March, will not breed. At one year old she brought a litter of pigs. The following November she was sent fifteen miles in wagon to a boar, and served twice before being sent home. She was in heat again in three weeks, at which time she was sent back again, served four times in twenty-four hours, and returned home. The same results followed in twenty-one days again, and she has been sent four times, all of which seem to be useless. She is in good order and fine health, and the boar is a sure one. W. H. B. *Calhoun, Ga.* [Injectio vaginæ might bring about the desired result; if not, we should consider her hopeless.]

STIFF LEGS.—An 8-year-old mare and 7-year-old gelding, after they are on the road and have been driven about four miles get cold and stiff in legs, sweat a great deal and tremble in the flank, their breasts, shoulders and across their hips swell. Do not work much and get about four quarts oats daily and clover hay. L. S. B. *St. Clair, Mich.* [You must be able to give a great deal more information than this. Are horses all right in stable? How long have you had each? When did you first see this trouble? When does it come on? When do swellings appear? How long do symptoms last? Describe the disease from attack to recovery and state how many times each has shown it.]

DISINFECTING BULL.—I have a valuable bull, one of whose testicles is much smaller and softer than the other; has been serving cows which no bull has been able to get with calf as they had contagious vaginitis. Could he be disinfected so that he could be used safely with a new healthy herd? If so, how? QUE. *Holliston, Mass.* [Wash all the parts in neighborhood of sheath with some of the following, and repeat every two or three days for twelve days: Bichloride of mercury, ¼ oz.; water, 2 gals.; mix. Inject sheath daily with some of the following: Bichloride of mercury, 10 gr.; carbolic acid, 2 dr.; compound tincture of aloes, 4 oz; sufficient quantity of water to make 1 qt.; mix. Try him on one cow when he seems to be all right, and wait a few days to see if she is infected before using him generally.]

IMPERFECT CLEANING—GARGET.—About two months ago an imported cow gave birth to calf prematurely, and did not clean properly, placenta hanging three or four days; was advised to tie a block of wood to it, which I did. She lost that part, and I think small portions on several occasions afterward. Gave medicine found in back number of paper. Turned calf with her, and as got her teats very sore; had to use a milk tube, and have just got teats well enough to milk by hand. Is giving about half a gallon per day of salty milk, green and watery in appearance. Is a very large feeder, and I can scarcely satisfy her appetite; is increasing in flesh, and seems to be in good health. (1) A grade that calved two months ago, milked about two gallons; one morning noticed front quarter of udder swollen, feverish and hard; applied hot water and gave her a general cow drink, and in a day or so she was all right. A week ago she gave milk from one teat that was bloody, but only at that milking. Gives at present about one gallon per day. (2) W. T. S. *Norfolk, Va.* [1. Whole flaxseed steeped, as frequently advised in COUNTRY GENTLEMAN, will be an excellent thing for her. Give 1 oz. powdered nitrate potass. in feed mornings, and ½ oz. chlor. potass. in feed nights, for a week. Do not have her served for two months. There may be difficulty in getting her to breed; if so, use injectio vaginæ. 2. Give two tablespoonfuls of the following in feed three times a day: Powdered black antimony, 6 oz; ground fennel seed, 6 oz.; powdered gentian root, 8 oz; powdered caraway seed, 6 oz.; mix. Give her half a can of general cow drink; repeat in three days.]

MULE LAME.—My mule, 10 years old, went lame in left hind leg six weeks ago; was slightly so last spring and spring before; after pulling him in mud, he came out of stable lame, but got better when warmed up. Removed shoe, worked light, and he recovered. This time he gets worse, keeps heel raised and walks on point of toe; back tendon swelled and very tender—hard nearest hock, soft lower down. Mule in good condition; feed, corn, hay and grass; cistern or running water; warm stable. He got wet the day before he went lame. J. M'C. *Rabbit Hash, Ky.* [Clip hair from both sides and back of leg, then apply a cooling lotion to it three times a day, and as soon as leg is cool apply golden blister. A dose of the following physic will be beneficial: Powdered nitrate of potass., 3 oz.; powdered muriate of ammonia, 3 oz.; tincture of arnica, 2 oz.; tincture of aconite root, 2 oz.; water, 8 pints; mix.]

Record of the Times.

Review of Passing Events.

A Fatal Switch.—The limited express from Chicago, on the Grand Trunk Railway, running at a high rate of speed, left the track at a switch on a grade curve west of Hamilton, Ont., 7 a. m., April 26. The engine plunged into a water tank, smashing it to pieces, and rolling over; a baggage car was pitched clear over it; smoker and first coach telescoped and took fire; 18 persons were killed or burned to death, and ten injured. All but two coaches were burned. Engineer and fireman escaped with slight injuries. Most of the passengers were on their way to the Centennial.

Settling in Oklahoma.—When the first train on the Santa Fe road crossed the border, just after noon of the 23d, loaded with settlers, they found at Guthrie a previous arrival of about 500, who had laid out the town and secured their lots, headed it is said, by United States marshals and deputies. No serious trouble followed, however. Other early seizures were reported at Oklahoma City and elsewhere, and many intending settlers, after a day or two were forced to return: the trains were crowded. The Cherokee outlet is likely to be invaded. General Merritt reports good order at Kingfisher, Guthrie and Purcell, and about 12,000 people in the territory. Another estimate makes 6,000 people at Guthrie, living in tents, and 25,000 in the territory. Food, water and shelter are very scarce. Wells have been sunk without success. The liquor law is strictly enforced. One or two shootings have been reported. B. B. Groom, a large landowner of Northern Texas says one-fifth of Oklahoma is good land, one-fifth medium, the rest worthless. The really rich lands which drew the first boomers are southeast and northwest of the section opened.

The Washington Centennial.—As we go to press the ceremonies are in progress at New-York. President Harrison and party, leaving Washington about 1 A. M. Monday, April 29, breakfast with Gov. Green at Elizabeth, N. J.; go aboard the Dispatch at Elizabethport, and review the naval parade. Reaching Wall street, East River, the President is rowed ashore in barge manned by old sea-captains of the Marine Society, received by committee on States, Gov. Hill and Mayor Grant, and conducted to Equitable building for official reception, followed by public reception at City Hall, and in evening ball at Metropolitan Opera House. Tuesday, 30th—Religious service at St. Paul's, 9 A. M., conducted by Bishop Potter; literary exercises at Sub-Treasury building, Wall St.—prayer by Dr. Storrs, poem by Whittier, oration by Mr. Depew, benediction by Archbishop Corrigan. Parade of 30,000 troops under Gen. Schofield and headed by governors of States, reviewed by President in Madison Square: banquet at opera house, open-air concert, illuminations and fireworks. Wednesday, May 1—Industrial and civic parade under Gen. Butterfield, illustrating settlement and growth of the country.

From Abroad.—Gen. Boulanger left Brussels for England April 24. He dined with Lord Randolph Churchill, 26th.—Mr. Parnell's Irish suit against the London Times has been expunged.—An extensive street car strike has taken place in Vienna, with rioting, and cavalry called out.—The Samoan Conference opened at Berlin, April 29.—A syndicate consisting of the Belgian Société Generale, the Rothschilds

and Bleichroder, has taken the £1,200,000 remaining of the Congo State obligations, and will issue one half of the amount to the public.—The Catholic Congress, in session at Madrid, sent a message to the Pope, proposing to work for restoration of his temporal power, which greatly annoys the government.—An earthquake threw down several houses at Alhama, near Granada, Spain, April 26.—The American pilgrims were received with much ceremony at Nazareth, by the Franciscans.—The Verrugas bridge on the Arova Railroad, Peru, 515 feet long and 260 high, was swept away, April 24, by a cloud-burst; loss $500,000.—The treasure aboard the Trenton, when wrecked at Samoa, has been recovered. The Nipsic will be taken to Auckland by the Alert.—The Weldon extradition bill has been passed by the Canadian legislature. It does not apply to American boodlers now resident in Canada.

Minor Items.

The oat-meal trust has gone to pieces.

Work on the Eleventh Census has begun.

Wisconsin had a blinding snow storm April 26.

The Wild West Show goes to Paris this season.

President Barnard of Columbia College is very ill.

The St. Louis gas trust has sold out for $5,250,000.

An unprecedented catch of seals is reported from St. Johns, N. F.

The protective tariff league movement at Birmingham, Ala., is growing rapidly.

Forests near Millville, N. J., were on fire last week, destroying much cordwood.

Two boys have been held for causing the death of little Tobias Hippar, New-York.

About 140,000,000 feet of logs are on the Penobscot landings in Maine, waiting for rain.

Col. Lamont has been elected secretary of the New-York Loan and Improvement Company.

The million dollar hotel at Rockaway Beach, L. I., has been sold for $20,000, to be taken down.

The Chesapeake dry dock at Newport News, Va., the largest in the country, was opened April 24.

The Harlem, N. Y., Electric Light Company's works were destroyed, April 25, with loss of $125,000.

At a recent sale of Robert Lennox Kennedy's library, New-York, a first folio Shakespere brought $1,400.

Frederick Osgood of Middlefield, Mass., made 5,200 pounds of maple sugar from 1,900 trees this season.

The family cat of Russell Rice, farmer, Scottsburg, Ind., has raised a family of five young squirrels.

The British steamer Cordonilla has brought to Baltimore 1,750 tons of manganese iron from Macri, Turkey.

A new overland train on the Southern Pacific road is to run from San Francisco to New-York in four days, 21 hours.

An explosion of natural gas wrecked the Hotel Landmark at McKeeport, Pa., April 24. Two persons were injured.

A new spool factory at Willimantic, Me., will employ 85 men and 12 horses, and consume 3,500 cords of wood yearly.

California and Florida orange growers are beginning to fear that Mexico is soon to be a powerful rival in their business.

Reuben S. Allen, one of the oldest engineers on the New-York Central railroad, died at Schenectady, N. Y., April 25, aged 66.

The 94th birthday of John E. Lovell, the famous New-Haven schoolmaster, was observed April 22, by a gathering of his pupils.

Sir Julian Pauncefote, the new British minister, arrived in New-York, April 23; also Mr. Joseph Pulitzer, proprietor of the World.

Whitelaw Reid has retired from the editorship of the New-York Tribune to take office abroad. John Hay will probably fill his place.

The Inman Line's new steamer City of Paris reached Queenstown, April 23, in 6 days, 5 hours and 55 minutes—a good run for a new boat.

Chicago is having a woman's directory published. It includes about 50,000 belonging to religious, benevolent and political organizations.

A passing locomotive set fire to the Bates house, Laurel Hill, L. I., 130 years old. Many colonial and revolutionary relics were consumed.

Massachusetts voted against the prohibitory amendment, April 22, by a majority of over 44,000. The Connecticut legislature has voted to submit it.

A case of yellow fever has occurred at Sanford, Ga., and 3 others are looked for by Surgeon-General Hammond, who has conferred with the State health board.

A $10,000,000 mortgage was recently filed in Oswego, N. Y., given by the New-York, Ontario & Western Railroad Company to the Mercantile Trust Company of New-York City.

The yacht Coronet reached New-York, April 25, after a tour of the world, which began March 22, 1888, via California, July 6, Japan, Ceylon, in December, Red Sea, Jan. 30, 1889, Gibraltar, March 18.

The New York assembly has passed the Padgett prison reform bill by a vote of 97 to 30, also the Vedder liquor tax bill. The senate passed the Saxton electoral reform bill, 18 to 11; the excise commission bill, 17 to 14; the rapid transit bill, unanimous.

Gen. George Crook, ex-Gov. Foster of Ohio, and Wm. Warner of Missouri have been appointed Sioux Commissioners, and Dr. Daniel Dorchester superintendent of Indian schools.

The New York Central and Michigan Central railroads will hereafter run no freight trains on Sunday except those needed for perishable and live stock. The Grand Trunk has issued similar orders.

Lightning struck a house in Poundridge, N. Y., in which were Leverda Adams, wife and five children, and Noah Brown, a neighbor, 80 years old. All were prostrated, and the old man and a little girl killed.

A Detroit business firm, at the height of its prosperity, has closed out and retired. The partners have made enough money, they say, and retire to enjoy it while in good health, and to give younger men a chance.

The Masonic fraternity of the State celebrated the discharge of debt on Masonic Hall, New-York, April 26. The original cost was $2,000,000, and debt in 1885, $485,549. Now $80,000 remains to credit of asylum fund.

The "old stone house" at Guilford, Conn., was built in 1639 as a fort against Indians and as a parsonage. It is owned by Mrs. Henry D. Cone of Stockbridge, Mass., whose ancestor Jasper Griffing bought it in 1776.

Judge White of Pittsburg has refused to renew the licenses of hundreds of liquor dealers in the county. Before the Brooks law went into effect there were 68 saloons in the Tenth ward; after May 1 there will be only 93 in the whole city.

The Edison companies have been consolidated under the name of the Edison General Electric company, with capital of $13,000,000. The company is formed by Henry Villard, Thomas A. Edison and associates. A state tax of $15,000 was paid by the company.

Capt. Hamilton Murrell of the Missouri, age 27, who rescued the Denmark's passengers, received a warm reception on his arrival at Philadelphia, April 23. The transfer was effected in a high sea, and yet in perfect safety, by use of landing rafts. A large quantity of freight was thrown over to make room for the 750 persons. A Danish baby born after the transfer was named Atlanta Missouri Linnie. The owners of the Missouri will make no claim for cargo thrown over. A public reception was given Capt. Murrell, subscription of $3,000 and medal, and on going to Baltimore to load he received the freedom of the city and receptions without number. The King of Denmark has sent a decoration.

The value of a remedy should be estimated by its curative properties. According to this standard, Ayer's Sarsaparilla is the best and most economical blood medicine in the market, because the most pure and concentrated. Price $1. Worth $5 a bottle.

For dyspepsia or stomach derangement, no other remedy can be found so pleasant, prompt and effective as Ayer's Cathartic Pills.

CATARRH CURED.

A clergyman, after years of suffering from that loathsome disease, Catarrh, and vainly trying every known remedy, at last found a recipe which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Prof. J. A. Lawrence, 68 Warren St., New-York City, will receive the recipe free of charge. [oct15o-13t

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption; by its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [eow1y

Farm Produce Markets.

Albany Markets—April 29.

FLOUR.—The Argus says: Prices have declined 30 to 35c. per bbl., with fair trade and steady market.

	1889. April 27.	1889. April 29.	1888. April 28.
Com. State	$4 10@4 30	$4 10@4 30	$3 70@4 00
State Extra	4 15@4 35	4 15@4 35	4 00@4 25
Amb. State & W	4 15@4 35	4 15@4 35	4 00@4 25
O., Ind. & So. L. R.V.	4 15@4 35	4 15@4 40	4 00@4 75
Winter W. Pat	5 00@5 60	5 00@5 60	5 00@5 75
Minn. "Bakers"	4 60@4 75	4 10@5 00	4 00@4 60
Sp'g W. Pat., new	4 85@5 00	4 85@5 75	4 25@4 75
Sp'g W. Pat., old	5 00@5 25	5 00@5 75	5 10@5 30

Rye Flour selling fairly well at $3@3 25 per bbl. Graham, $3@3 25. Oat Meal in fair demand at $4.50 @4.75 per bbl. Corn Meal quiet; fine family, $3.50 @3.75 per bbl.

GRAIN.—Corn in good demand and steady; No. 2, 48@48½c.; No. 2 mixed, 48@48c. Oats in better demand; stocks moderate; No. 2 white, 36½@36c.; No. 3 white, 36@36½c. Rye steady at 60@62c. per 60 lbs.

HAY AND STRAW.—Receipts moderate; demand good. Timothy, best, $16@16.50; medium, $13@14; clover, $12@13; mixed, $11@11; rye straw, best, $10@ 11; oat straw, $7@8; wheat straw, $12.

HOPS.—Fine goods in demand; old hops dull.

N. Y. State, 1888, choice	20 @22c.
N. Y. State, 1888, common to good	15 @18
N. Y. State, 1887, all grades	8 @11
Pacific Coast	15 @20
German	10 @20

Albany Street Market—April 29.

BUTTER.—Good to choice, 22@25c. per lb.

EGGS.—Near-by and new laid, 13@15c. per doz Western 10@12c.

FRESH MEATS.—Sheep best, hindquarter, 9@9½c. per lb.; forequarter, 6@6½c; mutton, hindquarter, 9@ 10c forequarter, 7@8c. lamb, hindquarter, 9@10c.; forequarter, 12@c.; veal, hindquarter, 10@10½c.; forequarter, 7@8c.

POULTRY.—Fowls, 10@11c.; turkeys, 12@13c.; ducks, 12@13c.

FRUIT.—Apples, $1.50@2.50 per bbl.; Cranberries, $1.50@1.75 per crate; Strawberries, 15c. per box.

VEGETABLES.—Asparagus, 10@20c. per bunch; Beets, $1 per bbl.; Carrots, $1; Cabbage, 50c.@$1 per bbl.; Cauliflower, 40@60 per doz.; Lettuce, $1 per box; Onions, 30@75c. per bbl.; Oyster plant, 40 per doz; Parsnips, 1.25; Potatoes, $1@1.50 per bbl.; new vet. 50c.; Radishes, 40@50c. per doz.; Rhubarb, $1.20 per doz.; Spinach, $1@1.50 per bbl.; Squash, $1.50@2; Turnips, 75c.

New-York Markets—April 27.

BEANS—Marrow, 1888		1 80	@ 1 90
Medium, 1888, choice		1 70	@ 1 75
Pea, 1888		1 70	@ 1 80
COTTON—	Cents.	N.O.& Gulf	
Ordinary, per lb	9@9	—	@ 10½
Middlings	10@10	—	@ 11¾
Fair	12@12	—	@ 12
EGGS—State and nearby, per doz		12½	@ 13¼
Western and Southern		11½	@ 12
Duck eggs		20	@ 21
Goose eggs		30	@ 35
FLOUR—Spring Wheat pat., per bbl		5 70	@ 5 90
Winter		4 75	@ 5 00
No. 2 extra State and Western		3 60	@ 3 90
No. 1 extra		3 90	@ 4 00
Minnesota clear		3 85	@ 4 00
Straight		4 20	@ 4 60
Rye Flour, superfine		3 25	@ 3 40
Corn Meal		2 65	@ 2 80
FRUIT—Apples, Baldwin, per bbl		1 50	@ 1 75
Russet		2 00	@ 2 50
Spy		2 00	@ 3 00
Cranberries, Jersey, per box		40	@ 1 00
Oranges, Florida, choice, per box		4 00	@ 5 00
Indian River			@
Strawberries, Fla., per qt		20	@ 35
Charleston		15	@ 20
Peanuts, per lb		2½	@ 3½
DRIED—Apples, sun-dried, per lb		2½	@ 3
Evaporated		5½	@ 6
Peaches, sun-dried		4	@ 12
Evaporated		6	@ 13
Plums, Southern		5	@ 6
Cherries		10½	@ 11
Blackberries		4	@ 5
Raspberries		16	@ 17
Huckleberries		8	@ —
GRAIN—Wheat, State white, per bus		80	@ 85
Ungraded spring		80	@ 85
No. 1 red, winter		80	@ 85
No. 2 red, winter		80	@ 80½
Ungr. No. 1 white		80	@ 85
No. 2, mixed		80	@ 80½
Ungr. No. 2, white		80	@ 80½
No. 2, mixed		80	@ 80½
Barley		60	@ 65
Rye, State and western		55	@ 60
HAY—Timothy, per 100 lbs		80	@ 90
Shipping		70	@ 75
Clover		60	@ 65
Straw, long rye, No. 1		60	@ 65
No. 2		50	@ 55
Oat		50	@ 55
HOPS—N. Y. State, 1888, choice, per lb		22	@ 25
Good to prime		18	@ 20
Best, 1887		15	@ 16
Pacific Coast, 1888, best		20	@ 22
Pacific Coast, 1887		15	@ 16
German		20	@ 40
MAPLE SUGAR, per lb		7	@ 7½
Syrup, per gal		50	@ 60
POULTRY—Live fowls, per lb		11	@ 12½
Spring chickens		25	@ 30
Turkeys		11½	@ 14
Ducks, per pair		60	@ 80
Geese		1 10	@ 1 20
Dressed fowls, per lb		11	@ 13
Phila. broilers		22	@ 25
Capons		14	@ 16
Turkeys		12	@ 14
Ducks, per lb		12	@ 14
Geese		9	@ 11
PROVISIONS—Beef hams, per bbl		12 00	@ —
India mess		10 50	@ 11 00
Hams, dressed, per 100 lbs		11	@ 12
Lard, per tierce		6 70	@ 7 00
Pork, new mess, per bbl		13 00	@ 13 50
Short clear		14 00	@ 16 00
Family		13 50	@ 14 00
VEGETABLES—Asparagus, Charleston, per 60z. bunch		4 00	@ 5 00
North Carolina		3 50	@ 5 00
Del. & Md		4 00	@ 5 00
Beets, Bermuda, per box			@ 1 50
Florida, per crate		1 00	@ 1 75
Cabbages, Southern, per bbl		1 00	@ 1 50
L. I., per 100		4 00	@ 5 00
Celery, N. O., per doz			@ —
Cucumbers, N. O., per doz			@ —
Green peas, Bay., per crate		1 00	@ 1 50
Charleston		1 25	@ 1 75
N. O., per box		1 00	@ —
Kale, Baltimore, per bbl			@ —
Lettuce, L. I., per 100		3 00	@ 4 00
Lettuce, N. O., per bbl		2 00	@ 4 00
Norfolk		1 75	@ 3 00
Charleston		1 50	@ 3 00
Onions, State, yellow, per bbl			@ —
Orange Co., red		1 00	@ 1 50
Onions, Conn., white		1 50	@ 1 60
Bermuda, per crate		1 00	@ 1 50
Potatoes, State, per bbl		1 00	@ 1 50
Eastern		1 50	@ 2 00
Florida, new		4 00	@ 5 00
Bermuda		4 00	@ 5 00
Sweet, Virginia		3 00	@ 4 00
Delaware River		2 75	@ 3 00
Radishes, N.C.& Norfolk, 100 bunch		50	@ 1 00
Rhubarb hot-house, per 100		5 00	@ 7 00
Spinach, Norfolk, per bbl			@ —
Squash, L. I., per bbl		1 00	@ 1 50
String beans, Fla., per crate		3 00	@ 4 00
Tomatoes, Fla., per crate		1 00	@ 1 50
Bermuda			@ 1 00

Cattle Markets.

NEW-YORK, April 27.

BEEVES.—Receipts, 12,150 head. The week opened with a dull tone and values unchanged. Wednesday the feeling did not improve and values declined 10 per cent. Friday there was no change, and the markets closed dull but steady. The quality of the beeves offered was from poor to fair, in the aggregate coarse. The beeves reserved for export ranged from coarse to good. The bulls to hand were of inferior quality and a few taken for export, prices not reported.

(Per 100 lbs. net.)	This week.	Last week.
Good beeves	$5 00 @ 5 10¾	$5 00 @ —
Fair	4 90 @ 5 00	5 00 @ 5 07½
Coarse	4 60 @ 4 85	4 80 @ 4 97½
Poor	4 00 @ 4 50	4 50 @ 4 87½
(Per 100 lbs. gross.)	This week.	Last week.
Good beeves	$4 35 @ 4 50	$4 35 @ —
Fair	4 20 @ 4 27½	4 20 @ 4 27½
Coarse	3 90 @ 4 00	3 90 @ 4 00
Poor	3 60 @ 3 75	3 60 @ 3 75
Oxen	3 75 @ 4 00	3 75 @ 4 00
Dry cows	1 50 @ 3 00	3 00 @ 3 00
Bulls	2 25 @ 3 00	2 25 @ 3 25

MILCH COWS.—Receipts, 68 head. The tone of trade has been extremely dull and the quality of the offerings generally so poor as to hinder sales. Eight cows were sold at $35@42.50 per head; 4 cows, with 2 calves, $107 the lot; 22 cows at $40@41 per head.

VEALS AND CALVES.—Receipts, 2,337 head. As the season advances and the quality declines, values descend fully ½c per lb. on every market day. Range of prices: Buttermilk-fed calves sold at 8½c. per lb.; calves and lean veals in mixed lots, 6@6½c.; veals, from lean to fair, 5@6c.

SHEEP AND LAMBS.—Receipts, 6,631 head. The week opened with a moderate supply and a recovery in values of ½c. per lb. This was lost on Wednesday, when on a liberal supply values declined ½c. per lb. Thursday there was no change reported. Friday the markets closed dull at former values, many carcasses being unsold. Range of prices: Woolly sheep, 5@6c. per lb.; shorn sheep, culls included, 3½@c.; woolly lambs, 8@8½c; shorn lambs, 6@6½c; spring lambs, $4@7 per head.

SWINE.—Receipts, 29,534 head. The week opened dull, and values declined at the rate of 1-2c. per day, until Friday, when trade, though dull, was steady; 18 State hogs sold in small lots at $6.30@6.37½ per cwt.; 1 State pigs, $6.35 per cwt.

	BUFFALO, April 26.	
BEEVES—(Per central, gross.)	This week.	Last week.
Extra steers	$4 70@4 80	$4 70@4 80
Best butchers'	4 50@4 60	4 50@4 60
Second quality	4 25@4 40	4 25@4 35
Prime to common	3 75@4 15	3 75@4 00
Stockers, light	2 90@3 75	3 10@3 75
Stockers, good to choice	3 40@3 75	3 75@3 90
Bulls	2 50@3 50	2 50@3 75

Receipts, 11,250 head, against 10,400 last week. Although the supply at the opening was light, it exceeded the demand, and sellers were forced to drop prices to meet buyers' views. Choice beeves were scarce, the only extra offerings—136 head averaging 1,391 lbs.—selling at $4.80 per cwt.; common coarse and medium butchers' plenty. Market closed firm at the decline. Stockers in better demand; quality improved. Bulls steady.

MILCH COWS.—Choice milkers and springers in good request, and higher; common dull. Extra, $40 @45; good to choice, $30@35; common to fair, $18@25.

SHEEP AND LAMBS.—Receipts, 24,600; fairly active and fine opening, but liberal receipts, which accumulated in the yards, broke the market 25c@50c; closing very weak. Choice to extra sheep, $4.75 @5.10; fair to good, $4.25@4.60; clipped good to best, $3.40@4; common to fair, $3@3.50; culls, $1.50@2.50. Lambs dull and easy; wool skins, good to choice, $6@ 6.75; fair to good, $5 to 70 lbs., $4.50@5; clipped good to best, 75 to 85 lbs., $5@5.40; common, $3@4.

SWINE.—Receipts, 34,600 head; supply about equal to demand, all good grades selling at $6.30@6.40 during most of the week, closing strong and higher; medians, $6.25; Yorkers and pigs, $6.30; roughs and stags, $4.50@4.60.

BOSTON, April 27.

BEEVES, NORTHERN.—Good steers, dressed, $8.75 per cwt.; fair to good, $8.50; second quality, $7@ 7.50. WESTERN, ALIVE—Extra, $4.75; good to prime, $4.50; light to fair, $4@4.25.

MILCH COWS.—Supply about 300 at $20@50.

CALVES.—Sales of 1,000 head at 4½@5½c. per lb.

SHEEP AND LAMBS.—In lots at $5@5.25 per head.

SWINE.—Western fat hogs, alive, dressed, per lb.; country dressed, —c.; pigs, $2.50@3.50 per head.

Dairy Markets—April 29.

ALBANY.—Choice Butter in good demand; medium fair; lower grades dull. State creamery, choice, 20@ 21c.; Western creamery, 18@19c.; State dairy, 16@18c.; fair to good, 13@15c.; Western dairy, 12@14c.

Cheese unchanged; receipts better. State factory, full cream, 10½c.; dairy, good to fancy, 10c.

UTICA.—The cheese season opened here last Monday when 1,500 boxes were taken on consignment, against 1,738 at the same time last year, and 1,800 two years ago. Little Falls sold two small lots at 9½c., one at 9¾c. and one at 10c. The total amount disposed of at the Falls was 1,350 boxes, of which all except the above four lots were consigned. This fact shows that the New-York market is not in good shape and that new cheese is not accepted after a style. There is too much old stock still left to make buyers happy, and they will offer no definite prices for the new until the market is better cleared of the old. That is all there is of the situation, and until more confidence is felt in the market the probability is that prices will continue to droop. Colored stock is worth about ½c more than white, the amount of old white being in excess of demands this spring. Factories opened about an usual, beginning March 11, and scattering all along until the present week. The rains of past few days have given the grass a good start after the long spell of dry weather, and the yield of milk will rapidly increase from this time out. Mr. Frank Standing of Richardsville, was elected president of the Utica board for the ensuing season.

NEW-YORK.—Butter in ample supply, and prices lower. Receipts, 31,406 pkgs. Western creamery, fresh, 20c.; Western creamery, fresh, 18@19c.; State dairy, choice, 19@20c.; old butter, best, 18@19c.; Western dairy, 16@18c.; Western factory, choice, 16c.

Cheese quiet. Receipts, 14,397 boxes. Factory, best new, 9½@9¾c.; old, 10@10½c.; skims-milk skims, 7@8c.; Ohio flats, 9½@10c.

BOSTON.—Western creamery, extra, 21@22c.; extra Orvis, 23@24c.; factory, 18@19c.; Vermont, extra, 22c.; dairy, choice, 18@19c. Eastern creamery, good to choice 19@20c.

Cheese, Northern, choice, 10@11c.; Western, 10½ @10½c.

Wool Markets—April 29.

ALBANY.—Demand good; sales 62,000 lbs.

No. 1 Pulled	32@33c.	Medium Fleece	30@32c.
Super Pulled	30@31c.	Fine Fleece	30@32c.

NEW-YORK.—Ohio X & XX, 30c.; Michigan X, 29c. combing, and delaine, 30½c.; western fleece, 30@ 32c.; unwashed western, 19@20c.; pulled, 29@30c.; Territory, 1st, scoured, 40@41c.; 2d, scoured, 36@37c.; 3d, scoured, 34@35c.; Texas, 19@20c.; scoured, 40@41c.; California, 19@20c.; scoured, 36c.; Montevideo, 24@25c.; Eagded, 21c.

BOSTON.—Sales, 1,435,400 lbs. domestic and foreign; Ohio and Pennsylvania, 30@32c.; Michigan, 30c.; combing and delaine, 30@32c.; unwashed, 24@25c.; scoured, 40@42c.; pulled, 30@32c. Territory, 1st, Texas, 38c.; California, 39@40c.; Oregon, 29@30c.; Australian, 42@43c.; foreign carpet, 19@21c.

Dancing at Eighty-Five.

The island of Nantucket is off the track of the modern world. The people and their customs are very unlike those in any other part of the world—the "off-island part," as the Nantucketers are wont to call it.

Old-fashioned customs and habits prevail. They know but little about the new-fangled manners and methods of modern society. They keep to the beaten paths of a century ago, live simple, thrifty, laborious lives, and furnish little business for the doctors.

They thrive financially and physically.

A visitor at an evening gathering on the island, not long since, tells how one lady, aged ninety-one, presided at the piano, and another, aged eighty-five, danced. "And you may take my word for it," adds the visitor, "that the dancing was sure enough dancing, if one may judge from the lady's snapping eyes, nervous speech and decisive character."

Loyalty and climate would seem to have comparatively little effect on health and longevity if people lived simply, as nature dictates, and when ailing built up with nature's simple remedies, like Warner's Log Cabin Sarsaparilla, instead of pulling down the system by using poisonous mineral drugs.

People who hasten to the physician every time they have a headache, or experience any of the minor evidences of nature's sure revolt against disobedience of her laws, will not be found dancing at eighty-five. The mineral poisons of the apothecary lead to early physical decay.

The long-lived, rugged Nantucketers, who enjoy life's pleasures when octogenarians, illustrate what the "off-island" portion of the world may experience if they live by nature's law and use old-fashioned log-cabin remedies of roots and herbs for the ordinary ills that flesh is heir to.

The Fireside.

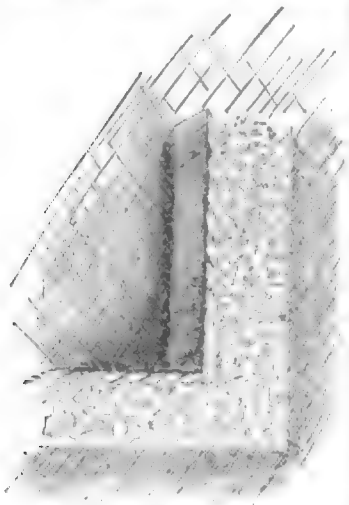
Pictures and Picture-Hanging.

No apartment is complete if its walls are unrelieved by paintings, engravings or even chromos.

A picture must be so exhibited that all its merits are discernible. To thus make prominent the features of a work of art, it must hang from a wall which is not heavily decorated. Any style of picture is most effective when having a plain or tinted wall as a back ground. Moreover, the most expensive wall paper affords but a fleeting pleasure to the eye, while good pictures are a source of constant interest and delight. Money saved on the wall paper will yield a return with compound interest in genuine satisfaction, if expended on art.

Symmetry is always pleasing, and in hanging a picture this is a fundamental principle to be strictly observed. When the pictures are not in pairs or companion pieces, this may be somewhat difficult to do; however, the smaller can usually be symmetrically grouped with reference to the larger which should have a central position.

The light must never be allowed to fall full upon a picture; for that part under the direct glare of the light will be indistinct, and even invisible to the eye. Therefore, the proper inclination of a picture is to be carefully considered. The upper edge must project so that the light will not directly strike any part of its surface. The entire picture will then be clearly



Rope and Frame Covered with Crumpled Tin Foil.

visible from any part of the room. To obtain this inclination the rings in the back of the frame are fastened about midway, or even lower, according to the position of picture and windows.

Frames, too often, are entirely out of keeping with their pictures. A richly decorated wall shows the picture at a disadvantage; likewise, a too elaborate frame does injustice to its picture. Besides, it is the picture and not the frame which is intended to be displayed. Engravings and works in water color should be mounted with a deep, clear margin, and in a narrow, simple frame. On the other hand a painting in oil or a chrome requires a comparatively heavy frame and much broader, but never a margin, for which the broad frame is a substitute. The object in having a margin or something to take its place is to isolate the picture proper. The immediate surroundings of a picture must not be such as to detract from the peculiar beauty of its art.

The most satisfactory method of suspending pictures is by means of molding or frieze, which is to be obtained in the natural woods and gilt. Brass rods are also used for this purpose, but are not so serviceable, being readily affected by gas and moisture. In place of picture molding may be used large, strong nails, with fancy heads which are screwed on. The cord for suspending should be as near the color of the wall as possible. Wire is far superior, being almost invisible and much stronger. It is now quite generally used.

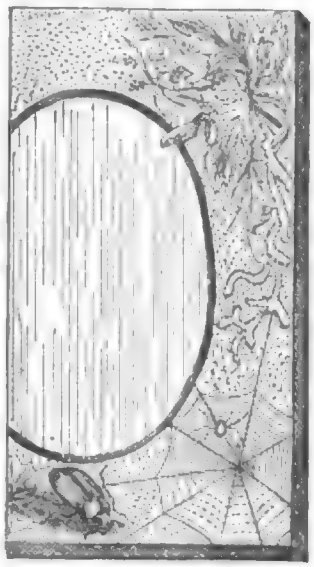
It is of the utmost importance that the back of a painting, or of any picture, be kept free from dust. To accomplish this end, nail or glue a piece of cork at each lower corner of the frame. This does not permit the accumulation of dust.

It is an inexpensive luxury to have all pictures neatly and appropriately framed. Any carpenter can join molding, making a frame of any size. The decoration of these frames is a broad field for originality. It is a capital plan, where possible, to make the design of the frame harmonize with the subject of the sketch which it encloses. Thus, for a marine view, drape the upper and left hand side of the frame with fish-net or fine netted hammock, and on it, at irregular points, fasten star fish or groups of shells. The whole—frame, net and shells—is to be gilded.

For a floral composition, tack a cluster of paper roses in one corner. The roses are easily made of tissue paper, and the stems and leaves for the same are purchased already made.

A very pretty and odd frame is made of rope and tin foil which has been tightly crumpled in the hand. Neatly tack a rope along the inner edge of the frame, and cover both rope and entire surface of frame with crumpled tin foil. In fastening the tin foil, be careful not to smoothen it; the great beauty lies in its peculiar rough surface. When completed, a coat of gilt paint is applied. To procure a surface still rougher, wash with glue, sprinkle thickly with rice, and gild.

A truly artistic frame is made by a combination of these various suggestions and resources. First a rough surface is made by sprinkling



Frame with Gilded Rice, Rope and Grasses.

with rice. On a twig make a spider web of silver tinsel thread, and on it work a spider, with black silk. Fasten this in one corner of the frame, and in the opposite corner arrange a bunch of grasses and everlastings. The grasses may be crystallized by dipping in a hot solution of alum. The frame is further ornamented with a black beetle or bug, contentedly nestling on a bright cluster of oak or rose leaves, dipped in hot wax, which preserves them beautifully.

ANNA HEDRICKS.

A Philanthropist.—Many of the readers of the COUNTRY GENTLEMAN have heard of the Williston Seminary, at East-Hampton, Mass. In a late address by Professor Scelye at one of the meetings of the Massachusetts Board of Agriculture, he gave in substance the following account of Samual Williston, the founder, "a man of commanding intellect, an inflexible will, and the frame of a giant." With rare business ability, he established and developed manufacturing interests. He amassed a large fortune. What did he do with it? *Not a dollar was wasted in coin display*, or in gratifying depraved appetite. First of all, he cared for his native town. He built churches, provided liberally for public worship, advocated and practiced temperance, obeyed and enforced law. But he did not stop here. He was interested in the whole world. He gave freely to home and foreign missions, and proved his interest in all benevolent enterprises by generous contributions. Yet he preferred *permanent* institutions, and his largest benefactions were to colleges and schools. His highest joy was to originate influences which would last through all time, and make each generation wiser and better than the one before it. In this spirit he founded Williston Seminary, and endowed it with a million dollars. It will go on blessing the world when time shall be no longer. The good he did lives after him, his works follow him.

The Rights of Old People.

An article on "Property Rights of Old People" (p. 136) suggests some other rights that are too often ignored. I believe it to be a mistake for a son to marry and take his wife to the old homestead to live; it is best for him to get a new cage, even though it may not be a gilded one, before he finds his mate. There are many points on each side to be considered. The wife and the mother may not be congenial. It is hard for the mother who has had her own way for years to be obliged to consider the ways of the stranger whom her son may bring home, and it is no less hard for the daughter-in-law to conform to the habits of the household into which she may be brought. A friend of mine told me that while living with her mother-in-law her heart was many times at the point of breaking; yet so effectually did she conceal her feelings that the mother-in-law never suspected them. I have no doubt that the mother-in-law suffered in a like degree, and as skillfully concealed it. All this is unnecessary, and should never be allowed to exist.

It is unjust to old people who have brought up a family of children and worked hard for a home, to be deprived of the privilage of spending their old age in peace and quietness. This can not be done with a family of little grandchildren in the house. Of course the little ones entwine themselves around the hearts of the grandparents, and are dearly loved, but there are times when their noise is distressing to the old people. On the other hand, children ought not to be repressed when they are doing nothing wrong. Liveliness is natural and healthful in children, and continual enforced quiet is unwholesome to both mind and body. If the old and the young have their respective homes, the old people can enjoy their due measure of rest and quiet, while the children can romp as much as is healthful for them, neither disturbing the other.

It may be objected that it is the duty of the son to provide financially for his aged parents. In that case it is all right for him to marry if he can support two families; if not, he should give up the idea of marrying until circumstances have changed. If he is financially able to marry, he need not feel obliged to take his wife home to care for the old people. Many a homeless maiden of uncertain years may be found, who for a small compensation would give services preferable to those of an uncongenial daughter-in-law.

I remember a case in which a young man married and took his wife to his mother's home. He was the only living remnant of a large family of children, and it is not surprising that he should believe it impossible to leave his mother, or that the mother should strongly object to being left by her last remaining child, but events that followed proved that a separation would have been productive of less misery to all parties concerned. The mother was not a particularly good housekeeper, never had been, but she enjoyed her own way of living and had the right to arrange the affairs of her household to suit herself. The wife whom her son brought home had been reared by a mother who was a systematic housekeeper, and naturally brought her mother's ways into her new home. There was not one point of congeniality between the two women, except their mutual love for the son and husband. The ill-cooked, irregularly served meals, the general tendency of the household towards untidiness, fretted and galled the temper of the young wife almost beyond endurance. The old lady did her best to make things pleasant for the daughter-in-law, but was conscious of a dismal failure. She mentally resolved, however, never to give up the reins of the household government to her new daughter. But the presence of an unusual, uncongenial element in the house, wore upon the old lady, and in a few weeks she was taken sick. Then the daughter-in-law assumed possession; hired the help necessary to give the house a thorough cleaning; tried to serve the meals regularly—a hard work, as her husband was as tardy as his mother; took as good care of the mother as was possible under the circumstances (really the only remedy needed was the absence of her daughter-in-law); re-arranged everything in the house to suit herself, and when the mother at last recovered sufficiently to walk out of her bedroom, she was scarcely able to recognize her own house. In vain did she try to persuade herself of the goodness of the young wife in accomplishing so much; in vain did she try to make herself recognize all the changes as improvements. She could not rid herself of the idea that no one had a right to move her things—her own things—about without consulting her. At table she saw her best china, which she regarded as almost sacred, used every day. Her house, which for years had been quiet and secluded, was now invaded by the friends and relatives of her son's wife. From being the head of the house, "monarch of all she surveyed," she had become an unrecognized quantity—a nonentity. What woman in feeble health, aged, helpless and (in a sense) alone, could bear up under such troubles, were they real or imaginary? As she brooded over her melancholy thoughts, day after day, her heart seemed breaking; there was nothing to induce her to make an effort to regain her health, and I was not surprised, therefore, to learn that she had died suddenly at the close of a day when she had appeared no worse than usual.

How much better for all parties concerned would it have been for the mother to spend her days in her own house, cared for by some friend who, for a home and a small compensation of money, would have assisted, not controlled the head of the house! The son and his wife could have lived by themselves in their own way, and all parties would have been happy.

I would ask the young man about to marry to consider long before deciding to make his bride an inmate of the old home. I would beg the bride elect to choose two rooms as her future abiding place rather than the home of her husband's parents; and I would also suggest that the old people be wise enough to encourage the young people to begin life in a home of their own, and to discourage all attempts to shelter more than one family under the paternal roof.

I am desperately in earnest on this subject, having seen more than one pair of old people who were rendered uncomfortable and unhappy, and whose lives were evidently shortened by unwisely allowing a foreign element to enter their peaceful homes. LILLIAN MATHR.

Other Views of the "Water-Witch."

In the last paper I gave the opinions of the "water-witches" themselves concerning the practice of their art and their manner of operations, and in this I should like to give the explanations of certain scientists who have considered the subject worthy of their investigation.

Mr. John Fiske, who has spent a great part of his life in studying curious superstitions and in tracing them back to ancient myths, cites this as an illustration of the tenacity with which conceptions descended from prehistoric antiquity have now and then kept their hold upon life. He recognizes the fact that the wand does move, and explains it as belonging to the "not uncommon kind of self-deception which enables wooden tripods to write and tables to tip and hazel-twigs to twist upside down, without the conscious intervention of the performer."

Mr. W. B. Carpenter, in his mental physiology, also admits the activity of the divining-rod, and attributes its movement to a state of "*expectant attention*," which he considers fully competent to induce muscular movement. "For," he says, "the mere act of holding the rod for some time in the required position, and of attending to its indications, is sufficient to produce a tendency to spasmodic contraction in the grasping muscles, notwithstanding a strong effort of the will to the contrary, and when by such contractions the limbs of the fork are made to approximate toward or to separate from each other, the point of the fork will be caused to move upward or downward, according to the position in which it is held. It is obvious," he adds, "that the agency that produces the defection, whatever be its nature, must operate by affecting the holder of the rod, and not by attracting or repelling the rod itself."

Mr. Carpenter goes on to give an interesting account of the results obtained by a "trustworthy person" who took up the inquiry some years ago, and determined to investigate the

whole matter carefully and philosophically for himself. With his divining-rod in his hand, and with his attention closely fixed upon his instrument of research, he walked forth upon his experimental tour, and it was not long before, to his great satisfaction, he observed the point of the fork to be in motion, at the very spot where he knew he was crossing a metallic lode. (This experiment was to test the activity of the divining-rod in pointing out veins of mineral, in the discovery of which it is popularly believed to be quite as potent as in indicating the locality of subterranean streams of water.) This "trustworthy person," proceeding in his walk and holding his fork in the orthodox position, frequently noticed its point in motion, and made a record of the localities in which it occurred. He repeated these trials for several consecutive days, going over some parts of the ground several times; but when he came to compare the results, he found that there was by no means a satisfactory accordance among them, for there were many spots *over* which the rod had moved on one occasion at which it had been obstinately stationary on others, and *vice versa*—so that the constancy of a physical agency seemed altogether wanting. Further, he discovered that over some of the spots where the rod had moved, mineral veins were known to exist, while there were many others in which its indications had been no less positive, the presence of no ore whatever had been detected. On the other hand, the rod had remained motionless at many points where it ought to have moved, if its direction had been affected by any kind of terrestrial emanation. These facts led the experimenter to suspect that the cause existed in himself alone, for the movements took place more frequently where he knew or suspected the existence of mineral veins than in any other situations.

That this state of expectancy has a good deal to do with the movements of the rod, can be proved by blindfolding the person carrying it.

There is a certain field in my vicinity where all the "water witches" in the country unite in declaring that water can be secured by digging at a certain spot. The divining rod never fails to move in the hands of each one at the proper place. But on one occasion, when one of these disciples of the occult art was blindfolded, and having been turned around so as to cause him to lose his bearings, was then led across the spot, the rod in his hands remained stationary. There were other spots over which it moved, apparently at random, but there was no accordance whatever between them, and, as it happened, the rod invariably remained unmoved when passing over the charmed spot where it ought to have been specially active, and where no doubt it would have continued to be, had the "witch" been aware of his locality.

Still we do not believe that the "witches" knowingly deceive themselves or other people; the rod has turned in my hands, I know, and I am bound to believe other people as honest as myself.

Mr. Carpenter's theory of "*expectant attention*" explains its movements very satisfactorily, but it would be futile to expect these ignorant, credulous people to accept it, for with them the superstitions handed down from their fathers are worthy of all acceptation. Not a particle of doubt concerning the influence of some occult agency ever rises either in the mind of the "witch" who "sets" the well, or the workman who comes after him and "sinks" the well. One earnest old well-digger said he had dug after a certain "witch" for years, and had never known his predictions to fail. That assertion, however, is to be taken with a grain of salt, for when all the signs are favorable, water is sometimes secured, and sometimes not. M. WALTON.

THE IOWA CALF CASE.—Judge Lenehan's decision in the latest phase of the interminable Jones county calf case was filed yesterday. He overruled the motion of the defense for a verdict against the plaintiff on the special findings of the jury, and rendered judgment against the defendants for $1,000 and costs, which will amount to $3,500. The only one of seven defendants who was exempted from the judgment was Harold Keller, who died last week. The defense will take the case to the Supreme Court on the claim that the special findings of the jury were to the effect that the defendants were acting under advice of counsel when they had the plaintiff indicted in 1874 for larceny. The four calves that were the origin of this trouble promise to cost over $50,000 when the case is finally settled.

—*Despatch from Waterloo, Iowa.*

HOW THE LAWS ARE MADE.—They are first published separately in sheet form, as "slip laws," as soon as possible after being received by the bureau, and numbered in the order of their receipt. When so published, the slip laws are given to the editor of the laws (a competent person selected from the legal profession by the secretary of state and privately employed for that purpose), who notes marginal references to previous legislation, arranges the acts and resolutions by "chapters," and prepares a suitable index; and under his editorial care, at the end of the session of Congress, they appear again in pamphlet form, as "session laws." Lastly, at the close of a Congress, the laws of each session are gathered by the editor into a single volume and bound, as "Statutes-at-Large." The numerous readings given to the printed "proof," and the careful comparison with the text of the originals, effectually guard against discrepancies. The manner in which the department performs its duty is thoroughly creditable; the manner in which Congress dismisses its own work is, in many instances, absolutely disgraceful. Some of the rolls received at the department are disfigured by erasures, interlineations and blots, by errors in orthography, capitalization and punctuation, and by hieroglyphic mangling, that suggest the "master-piece" of schoolboy art. These and more serious imperfections, once placed upon the parchment roll, are law. However glaring the blunder, however mischievous the distortion or omission, the State department is powerless to add a correcting dot or stroke. Mistakes made by congressional enrolling clerks have undone legislation accomplished by Congress after hours of debate. An item of half a million dollars for public purposes was bodily left out in the enrollment of a recent appropriation act; and the substitution of a comma for a hyphen in transcribing a tariff-measure some years ago caused a loss to the government of thousands of dollars before the error was detected and further loss arrested by the passage of another act.

—*St. Nicholas.*

ATHLETICS IN EDUCATION.—In some institutions of learning it appears to have been noticed that athletic contests have served to diminish the interest of the student body in personal exercises. It is supposed that the interest of the individual student in his own physical culture is in some way diminished by the success of his comrades, who by virtue of their natural parts or long continued training have attained to perfection in the art. Thus, in the report made by a committee of the board of overseers of Harvard College, the ground was taken that competitive athletics had served to lower the physical condition of the students, few taking part in such sports, for the reason that they could not attain distinguished excellence in their work. My own experience as a student and teacher in Harvard College, which extends altogether over a period of thirty years, does not support this judgment. I note in the first place that a poor physical condition is at present a matter of reproach to an individual, and he feels that he has to justify his bad state to his comrades by some kind of plea in extenuation. I notice furthermore that, in teaching geology in the field, set walks which twenty years ago surpassed the pedestrian powers of quite one half my students are now entirely within their abilities. That the reader may not be led to explain this difference by the fact of growing infirmity on my own part, I may say that not only the distances, but the times involved in the journey, are the same now as of old. There can be no question in my mind that the physical condition of the average student at Harvard College is vastly better than it was a score of years ago.—*Atlantic Monthly.*

Domestic Economy.

The Spring Diet.

With the change from the cold weather to the enervating days of spring, the appetite loses its relish for the rich food that was so much enjoyed in the winter. The system both needs and craves a change of diet. We no longer have to combine fuel with our sustenance, so the oily heat-producing food should be replaced by a lighter diet. There is no doubt whatever but that much spring sickness is produced by the hearty winter diet being continued into the warm weather.

Eggs are so abundant and of such superior quality in the spring, they can be used to good advantage. A great variety of palatable dishes can be made from them. A most tempting way to prepare them is to serve poached eggs on delicately browned toast. When the toast is taken from the oven, moisten it with hot water, then butter plentifully. On each slice lay a poached egg. Put a little salt in the water before dropping in the eggs to cook. I use a common milk skimmer for removing poached eggs from the water. By its use they can be taken out whole and be drained free from water.

Another way for cooking eggs: Chip in thin, small pieces a plentiful allowance of dried beef; put half a cupful of butter in the frying pan. When hot drop in the beef, stirring for about two minutes in the butter. Then turn in as many eggs as are desired. Salt and pepper to taste, and stir all together.

In the way of early spring "greens" there is probably no kind so truly beneficial as the dandelion. And coming so early as it does, it gives a most wholesome and much needed dietetic change. The dandelion root is much valued for its medicinal properties, and is often used in tonics. In gathering the plant to cook, a small portion of the root should be cut with the foliage and boiled with it. Clean it by scraping with a knife. When dandelions are young and tender they should not be parboiled, as much of the medicinal value is lost by so doing. As they grow older they become so strongly impregnated with the bitter taste it is necessary to parboil them to make them palatable. When young they will cook in one hour, but they require longer time as they grow larger. Season with salt, pepper and a generous allowance of good sweet butter.

It is an excellent plan to winter a surplus of fowls in order to have some for spring eating. The supply of fresh meats on the farm usually ends with the approach of warm weather, and a constant diet of pickled meats becomes very unpalatable in the spring and summer. An occasional chicken stew, or a baked fowl, breaks the monotony very pleasantly.

A housekeeper I once knew, who was noted for her forethought, always made special provision for the spring diet. A special lot of dried and canned fruit and vegetables were stowed away in some private nook, to serve as dainties for the waning appetites of spring. Her method was a wise one. In the summer and autumn we are supplied with fruit and vegetables. The winter also is abundantly provided for, with the lingering fruit and the quantities of fresh meat; besides the advantage that we are blessed with good appetites during this season. So it is a good plan for every housekeeper to make some special provision for spring, the season of dearth.

NELLIE BURNS.

For Spring Breakfasts.

KIDNEY FRITTERS.—Make a breakfastcupful of nice light frying batter, and stir into it a tablespoonful of finely minced onion, a teaspoonful of mixed herbs and a small pinch of cayenne. Take half a dozen lambs' or sheep's kidneys, remove the skin, and cut each one into three or four slices; season these with a little salt, dip them in the batter—which ought to be thick enough to adhere to the meat—and fry in boiling fat until sufficiently cooked and colored a lovely golden brown. Drain well, and serve piled up tastefully on a hot napkin. If a little powdered parsley is dusted over the top, and a few sprigs of fresh parsley placed round about, this dish is a most attractive one.

HAM TOAST.—Take half a pound of cooked ham, composed of one-third fat; mince it very fine, season it with a pinch of cayenne and powdered mace, and moisten it with the beaten yolks of two eggs and a few spoonfuls of cream. Put the mixture into a small stewpan, allow it to get thoroughly hot without reaching boiling point, then spread it thickly upon small rounds or squares of hot buttered toast. Have ready the yolk of a hard-boiled egg; rub it through a fine sieve, and sprinkle a morsel of this powder on the top of each piece. Arrange the ham toast neatly on a hot dish, garnish with sprigs of fresh parsley, and serve as hot as possible.

BEEF TRIFLES.—Take about a pound of cold roast beef, entirely lean; mince it just as finely as possible; then put it into a basin and mix it with a seasoning of salt and pepper, three ounces of butter (just slightly melted), two tablespoonfuls of very finely-grated horseradish, six tablespoonfuls of fine bread-crumbs and a teaspoonful of minced or bruised onion. Mix these ingredients thoroughly, then moisten well with beaten eggs. Put the mixture into small, well-buttered cups, or dariole moulds; bake in a moderate oven for twenty minutes, then turn out on a hot dish, garnish with sprigs of fresh parsley, and serve with horseradish sauce. AUNT CHLOE. *London, Eng.*

Fecal Wastes—Danger to Health.

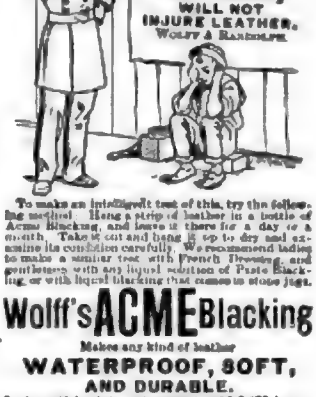
EDS. COUNTRY GENTLEMAN—I have been an interested reader of recent articles in your paper on privy vaults and earth closets. Farmers and others living where there are no sewers should be taught that there is danger in the privy vault, even if it is *hundreds of feet* from the well. There are many well authenticated instances of impurities from vaults contaminating wells nearly a half mile distant. And this is entirely reasonable. The vault must drain somewhere, and the dangerous impurities being in solution will not be removed until the water reaches the surface and comes in contact with the air. Whose well this drainage will reach will depend on the dip of the stratum on which the vault rests. One within 80 feet in one direction may not be affected, while a neighbor living on the next street may have direct connection between his well and the vault.

A physician of this city, who is an eminent authority on sanitary drainage, was visiting at a Michigan farm house a few years ago, where a large family were and always had been perfectly healthy, while on an adjoining farm, with the natural conditions practically the same, typhoid fever seemed to be endemic. The doctor became interested in the matter, and began a thorough search for the cause. There were no privy vaults or cesspools on the place, and the water from the well seemed pure and sweet. This did not satisfy him, however, and he looked about for the nearest cesspool, which he found on the farm where he was staying. He had two barrels of strong brine thrown into it, and in less than three days the water in the neighbor's well was distinctly salt. The well and cesspool were both abandoned, and the fever disappeared. No better advice can be given to those using well water than to beware of the deadly privy vault and cesspool.

Three years ago I built a house in one of the suburbs of Chicago, on a street where there was no sewer. My fear of the privy vault was the same as it now is, and I determined to have a dry closet under the roof of the house. In one corner of the cellar, which is seven feet in the clear, and always perfectly dry, we built a vault, six feet square, the foundation walls forming two sides and a 12 inch brick wall the other two. The inside of this vault is thoroughly cemented, and a flue in the kitchen chimney opens directly into it. This vault has been used as a closet constantly since the house was occupied, the ashes from the kitchen stove being thrown into it each day as they are taken up. A few barrels of ashes from the furnace are always kept in the cellar that an extra supply can be had if needed, but the ashes from one stove have been found sufficient for a family of five. The closet is as free from offensive odors as is any room in the house. There is a large opening in the outside wall, which is fitted with a screened window, and the contents of the vault are shoveled through this opening once a year. Even when being cleaned we have found the vault free of all offense, and there is little trace of anything but ashes to be seen. I have found this dry closet so satisfactory that I would not exchange it for a water closet, which I could now have. Those who do not burn coal will find road dust as good as ashes. W. A. H.

Chicago, April 11.

Salting Hams.—"C. V. C.," p. 310, is troubled to make his hams take salt. I have, for a number of years, used the Michigan barrel salt for both pork and hams, and have no trouble to salt them sufficiently. I make a pickle thus: To 100 lbs. ham, 9 lbs. salt, 4 oz. saltpetre, and 3 lbs. brown sugar. Boil, and skim until clear. When cold, add 4 oz. saleratus—water to cover the meat. I let them lie in the brine six weeks, and when I take them up to smoke, I extract the bone, and if the hams are large, I sprinkle an ounce of salt to each ham, and then tie them together—that is, bind up the cut. The best grade of salt must be used, and to test it, take a handful and give it a good squeeze, then open the hand, and if it falls to pieces, there is no danger—that salt will keep any meat, if used in sufficient quantities. If C. V. C. will call and take dinner with me any time, I will give him ham good enough for President Harrison or Queen Victoria. E. R. *Pond du Lac County, Wis.*



To make an intelligent test of this, try the following method. Heng a strip of leather in a bottle of Acme Blacking, and leave it there for a day or a month. Take it out and hang it up to dry and examine its condition carefully. We recommend ladies to make a similar test with French Dressing, and gentlemen with any liquid solution of Paste Blacking, or with liquid blacking that comes in stone jugs.

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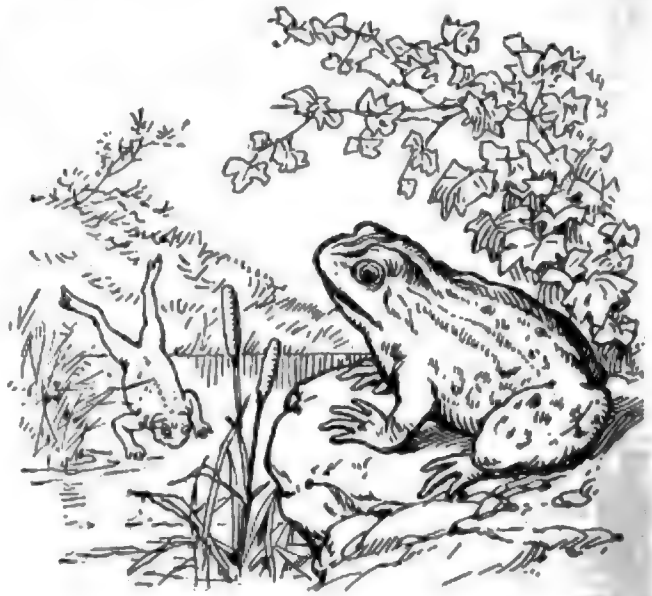

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☞ See Illustrated Note, p. 311. ap13-6t

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The subscribers, being the oldest and most extensive manufacturers in the United States, are prepared to furnish Round, Sole and Horse Shoe Tile, over 6 inches in length, by the cargo or in the smallest quantity, on demand, at prices that they will defy any other parties to undersell them. They will warrant their Tile hard burned, and to fit close at the joints and altogether superior to any made in the United States.
All Tile delivered on board of cars or boat in the city free of charge. Price List sent on application. Also, DRAINING TILE MACHINES for sale of the most improved patterns. For further particulars, address as above.

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Having put in new and improved machinery, we are now making a very superior Round and new style of Sole Tile; in fact, they far excel any offered to the public heretofore, and at greatly reduced prices. Have always taken First Premium wherever exhibited. Also
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For wrapping and covering butter. *Better and cheaper than muslin.* For sample and price ask
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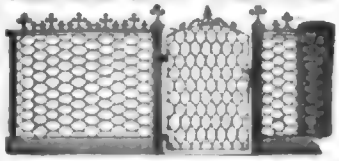

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150,000 FARMERS HAVE USED AND APPROVED THE "ACME"

PULVERIZING HARROW, CLOD CRUSHER AND LEVELER.
Steel Crusher and Leveler. Double Gangs of Adjustable Reversible Coulters. Lumps Crushed, Soil Cut, Lifted and Turned in one operation. No Spike or Spring Teeth to pull up Rubbish. No Wearing Journals. Practically Indestructible.
Sizes 7 to 12 ft. wide. With and Without Sulky.
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FAIR PLAY. Don't Buy a Base Imitation or Inferior Tool. Order a Genuine Double Lever Acme on Trial, to be Returned at my Expense if not Satisfactory. No Pay Asked in Advance.
Illustrated Pamphlet FREE.
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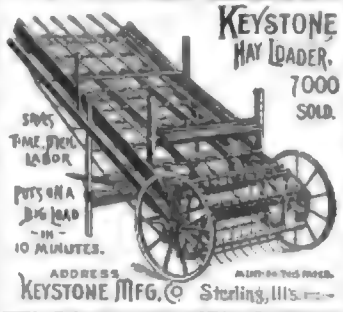

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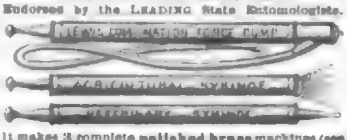
Endorsed by the LEADING State Entomologists.



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Clark's Cutaway Harrow.
10,000 IN USE.
Superseded the plow; no other tool compares with it; no farmer can afford to be without it; entirely new principles. ground made into a perfect seed-bed, has seeding attachment for sowing all kinds of grains. Send for New Descriptive Circular.
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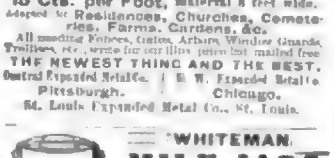

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All meeting Fences, Gates, Arbors, Window Guards, Trellises, etc., wrote for our illus. price list mailed free.
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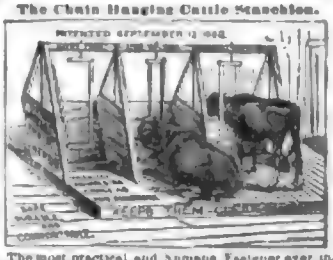

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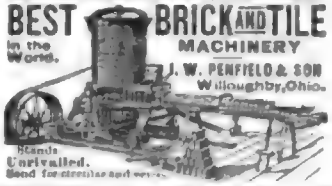

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7 sizes, 10 to 22 feet diameter. Not cheapest made but heavy and strong in construction. These Mills are taking the lead of all Solid Wheels on the market, and are guaranteed the Best of their class.

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We make a very complete line of WIND MILL, HAND AND POWER PUMPS IRON, BRASS AND BRASS LINED CYLINDERS. Our 3 Way Force Pumps have no equal.

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For starting mills Safe and work long away in barn. The use of good Hay Carrier and Fork a few hours before a storm, may save your Hay. Both make these tools complete line of Horse Hay Tools on the market consisting of Aqua Forks, Sweeps, Reversible and Self Dumping Carriers, Harpoons, and Grapples for Forks, Pulleys, Floor Hooks and

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BATAVIA, ILLINOIS, U. S. A.
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PILES. Instant relief. Final cure in 10 days and never returns. No purge, no salve, no suppository. Sufferers will learn of a simple remedy FREE by addressing PUTTLE & CO., 78 Nassau Street, New York City.

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A YOUNG SWEDE, who has passed through a farming and dairy school and practiced butter and cheese-making and farming in Sweden, Denmark and Scotland, wishes a situation. Address SWEDE, 408 W. 23d St., New-York City.

FOR SALE—A choice Stock and Grain Farm; nice climate; good water; healthy; schools, Post-office, &c. Address OLIVE B. FISHER, Box 414, Grand Rapids, Mich.

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Potatoes for Seed.

TRUE STOCK.

SUNRISE, GREEN MOUNTAIN, SUNLIT STAR, EARLY MAINE, STATE OF MAINE, $3 per bbl.

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The Best and Cheapest—$1.50 bush.

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Our customers have the advantage of our many years' experience in breeding and importing; superior quality; large variety and imposing collections; opportunity of comparing different breeds, and low prices, because of our unequaled facilities, extent of business, and low rates of transportation.

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Repays cost price on 40 acres of Hay.
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Pure white in color. Furnishing more nourishment than any other. Crops as high as 45 tons per acre. Grows 12 to 14 feet high, with short joints and a abundance of sweet, juicy fodder.

Five bushels, $5.00; 2 bushels, $3.50; 100 bushels, $12—f. o. b. cars at Philadelphia. No charge for bags.

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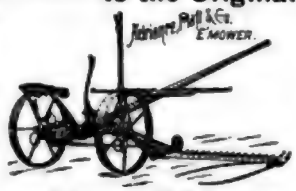
I have made a Consignment of CHOICELY-BRED

HOLSTEIN-FRIESIANS, 9

Including Bull and Heifer Calves sired by Mercedes' Prince, the greatest sire of Butter-Makers in the world, to the Closing-Out Sale of Mr. JOHN BOGUE' Herd, at his Farm, at Marlboro', Mass., Thursday, May 16, 1889, at one o'clock P. M. Catalogue on application. JOHN PEYTON, Marlboro', Mass.
—ORIN H. FORBUSH, Auctioneer, Boston, Mass. my2-3t

The "Adriance" —Is the Original.



Under our original Trade Marks of Buckeye and New Model Buckeye (first applied by us to Mowers), the Machines built at our Works have won a world-wide reputation. To avoid being mulcted and disappointed, see that you get a machine bearing our exclusive Trade Mark,

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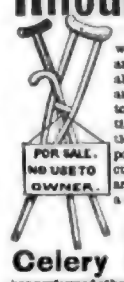
ADRIANCE, PLATT & CO.,
Mowers, Reapers and Binders,
165 Greenwich Street, New-York.
WORKS—POUGHKEEPSIE, N. Y.

Rheumatism



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Paine's Celery Compound

has performed other cures as marvelous as this—copies of letters sent to any address. Pleasant to take, does not disturb but aids digestion, and entirely vegetable, a child can use it. It cures even those whom doctors call incurable. What's the use of suffering with rheumatism?

$1.00. Six for $5.00. Druggists.
WELLS, RICHARDSON & Co., Burlington, Vt.

SLATE PAINT.

Improve and protect your Barns, Fences, &c., with SLATE PAINT. It is durable, ornamental, easily applied, and costs in barrels only

60c. A GALLON.

For Sale.

BEST BLOODED REGISTERED

Guernsey Cattle,
Small Yorkshire Swine,
South-Down Sheep.

Bred from choicest strains and for sale. For terms, &c., apply to WALTER CUTTING, "Meadow Farm," PITTSFIELD, MASS.

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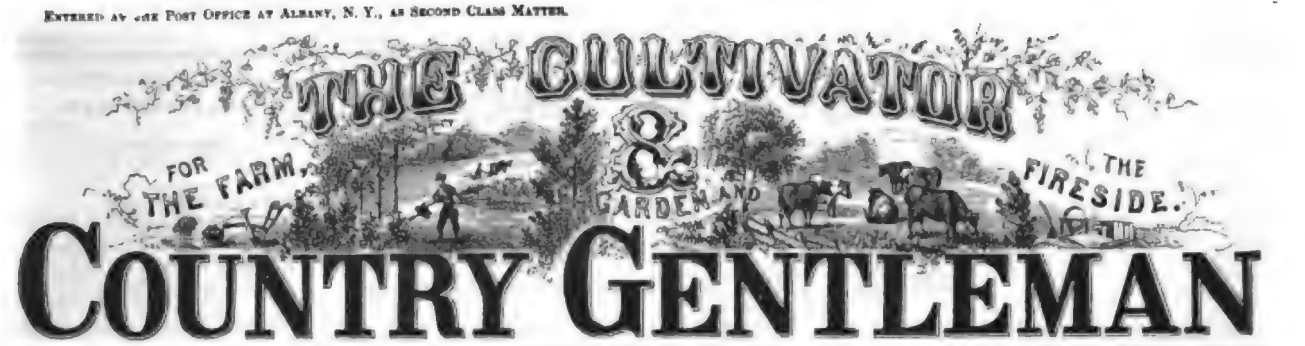

COUNTRY GENTLEMAN

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WANTED—A Young Man to act as Herdsman. Must be a good milker and caretaker: one who does not know everything and will try to learn something. Apply, stating age, wages, references, &c., to FARMER, Millbrook, Dutchess Co., N. Y.

PETER C. KELLOGG & CO. will conduct auction sales of horses, &c., at the American Institute Building, New-York City, during the spring season of 1889, as follows:
TROTTING STOCK, May 8 and 9—Palo Alto Stud Sale.
HOLSTEIN-FRIESIAN CATTLE, May 14 and 15—Combination Sale.
HOLLAND CATTLE, May 15.—Combination Sale.
JERSEY CATTLE, May 21.—Oaklands Herd, V. E. Fuller.
JERSEY CATTLE, May 22.—Joint Sale for John D. Wing, Oakleigh Thorne, Mrs. E. M. Jones and others.
PONIES AND DONKEYS, May 23.—Annual sale.
For Catalogues, address PETER C. KELLOGG & CO., 37 John Street, New-York City.

PETER C. KELLOGG & CO. will hold THE FOURTH ANNUAL
Breeders' Combination Sale
OF
Holstein-Friesian Cattle.
TUESDAY and WEDNESDAY
May 14 & 15, 1889.
On morning each day at 10 o'clock, at the
AMERICAN INSTITUTE BUILDING,
Third Avenue, between 63d and 64th Sts., New-York.
(Office 107 John Street.)

Among other valuable consignments the ESTATE OF C. H. DE LAMATER, Northport, Long-Island, will sell 40 head, including the blood of Billy Boots, Stately, Prince of Wayne 8th, Promoter, Prince of Oppenheim, and other notable sources. The ESTATE OF WM. L. BRESEE, Islip, Long Island, will sell 30 head, including the blood of Netherland Prince, Artis Jacob Wit and other Aaggie sires, &c. Mr. W. S. GURNEY, New-York, will sell 6 head, chiefly of the Aaggie and Mercedes families. Mr. E. A. BARNEY, Upland Farm, Bantam, Conn., all the females of the herd, numbering about 40 head, consisting of daughters of Netherland Prince, Netherland Neptune (full brother to Aaggie 3d), Stentor (son of Mip Van Winkle and Dewaggie), others by Robertus (son of Lancelot), etc.; bred to bulls possessing the blood of Jacob 3d, Hickbill and Netherland Prince. Other promised consignments will be mentioned later.

On May 15, following this sale, several consignments registered in the American Branch of the North Holland Herd Book will be sold.

For Catalogues, ready May 4, address PETER C. KELLOGG & CO., 107 John St., New-York.

EXECUTOR'S SALE of HOLSTEIN-FRIESIAN CATTLE be owning to the Estate of the late C. H. DE LAMATER, Northport, L. I. (Beacon Farm). The Beacon Farm Herd consists of some of the best Bulls in America. Gold Foil 1227 and Stately's Prince of Wayne 1340 are wonderful, grand Bulls, backed with the largest butter and milk records. Gold Foil's dam has a record of 23 lbs. butter in 7 days; dam of Stately's Prince of Wayne, 19 lbs. milk. Nearly all of the mature cows have records of 7 lbs. or more butter per day; the younger animals are of great promise. The Herd has never been subject to feeding, and is in excellent breeding condition. Many of the members of the Herd have some possibilities as Jamaica, 112 lbs., and Sibella, 101 lbs., bought from Beacon Farm.

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FOR SALE—JERSEY BULL, one year old; sire and dam registered; solid color, mahogany with silvery markings; g. d. imported. Price $30. Also CHESHIRE PIGS, from 6 weeks to 5 months. Address J. M. T., Comsewogue, N. Y.

FOR SALE—A. J. C. C. COW, &c., low for cash. Champion of America Cow; St. Lo Belle Bull Calf; two good high grade Jersey Cows—one a 20-qt. cow fresh; one Pony, 12 hands, cart and harness—perfect order; one Team, 7 years old, break horses, 2600 lbs., sound, kind and true. Address, for particulars and prices, J. R. KINGSLAND, Nutley, N. J.

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FOR SALE—An extremely choice lot of BIOTHE HEIFERS (imbred to EUROTAS). Large BUTTER records, close up in pedigrees, and individual excellence guaranteed. Prices very low.
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PETER C. KELLOGG & CO. are instructed by the Owner to Sell at AUCTION,
WEDNESDAY, May 22, 1889,
At 10 o'Clock, at the
American Institute Building,
Third Ave., between 63d and 64th Sts., New-York.
(Office 107 John St.)
Several Consignments of
JERSEY CATTLE
From the Well Known Herds of
Mr. JOHN D. WING, Millbrook, New-York.
Mr. OAKLEIGH THORNE, "Thorndale," Millbrook, New-York.
Mrs. E. H. MOORE, Philadelphia, Pa.
Mrs. ELIZA M. JONES, Brockville, Ont., Canada.
This Sale will occur on the day following that of Mr. V. E. FULLER'S famous Oaklands Herd, on the same premises. Catalogues at the Sale.
PETER C. KELLOGG & CO.,
107 John st., New-York.

IMPORTANT SALE
OF VALUABLE
Short-Horns!
From the Celebrated Herds of
BOW PARK, BRANTFORD, ONT.,
B. C. RUMSEY, Niagara Stock Farm, Buffalo, N. Y.
AND JAMES HUNTER, Alma, Ont.
At Dexter Park, Chicago,
MAY 15 and 16.
The offerings will consist of 80 head, representing a very choice selection of the following families:
Duchess, Oxford, Wild Eyes, Kirklevington, Barrington, Waterloo, Rose Duchess, Mantalini, &c.
Breeders wishing to purchase sires of extra breeding and individual merit, will do well to attend this sale. A number of the females are at for the showring. Catalogues ready April 15, and sent on application to JOHN HOPE, Manager, Bow Park, Brantford, Ont.
Or, W. H. Gibson, Niagara Stock Farm, Buffalo, N. Y.

DISPERSION SALE.
Owing to rapidly increasing business cares, I have decided to offer my entire
HERD OF AYRSHIRES AT AUCTION,
On FRIDAY, May 17, 1889,
At 2 o'clock P. M., at my Farm, on Highland Street, opposite Reed Street, Milton, Mass.
Train leaves Old Colony Station, Boston, at 1.30 o'clock P. M.
The terms of Sale will be liberal, and all cattle will be delivered f. o. b. cars at Milton, if desired. Catalogues can be had from the undersigned, or from W. F. Ba ch's Live Stock Agency, Boston.
GEO. A. FLETCHER, Milton, Mass.
OTIS H. FORNUM, Real Estate, Mass., Auctioneer.

FOR SALE—Two GUERNSEY HEIFERS, 10 and 12 months old, from Jersey strain of blood. Choice ones. WM. H. TAYLOR, Saugatuck, Conn.

GUERNSEY HEIFER QUEEN FERNWOOD 2D, 861 A. C. C.—Handsome as a picture: very rich. Will soon be fresh. $125 f. o. b. S. G. PACKARD, Dover, Del.

FOR SALE—Three choice young JERSEY BULLS, of the strongest butter breeding. Fit to head any herd. F. HERRICK, Crystal Spring Herd, Worcester, Mass.

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PETER C. KELLOGG & CO. are instructed to close out AT AUCTION, the Entire
OAKLANDS HERD
OF
JERSEY CATTLE,
The Property of
MR. VALANCEY E. FULLER
Of Hamilton, Ont., Canada,
TUESDAY, MAY 21, 1889,
At 10 o'Clock, at the
American Institute Building,
Third Avenue, between 63d and 64th Sts., New-York.
(Office 107 John Street.)

The Sale comprises the cream of this famous Herd, including the famous Cow MARY ANN OF ST. LAMBERT, the greatest butter cow in the world, due to calve Dec. 2, 1889. Also the great Cows MERMAID OF ST. LAMBERT and COLUMBINE OF ST. LAMBERT, all tested daughters of Stoke Pogis 3d. Also MARIANNE POGIS, a daughter of Mary Anne of St. Lambert, that in udder development and flow of milk surpasses her famous dam. Also the great Bull CANADA'S JOHN BULL, thrice inbred to Stoke Pogis 3d, and many of his sons and daughters.
Apply for Catalogues to VALANCEY E. FULLER, Hamilton, Ont.
PETER C. KELLOGG & CO., Auctioneers, 107 John St., New-York.

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FOR SALE—My small but select Herd of BROWN SWISS, consisting of 11 Cows from 3 to 11 years old, and the magnificent 3-year-old Bull (Servo 76), also one Bull and two Heifer Calves. All registered in Brown Swiss Herd Book. Would like to sell entire herd to one party. Address A. W. WINDRAM, ap4-6t* 34 Lincoln St., Boston, Mass.

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IN LOTS TO SUIT PURCHASERS,
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FOR SALE—Rioter-Alphea Bull Calf, solid color, fall black points: 3 mos. old. Price, $25. Address W. L. JONES, Latrobe, Pa. myl-2t

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The Best BUTTER COW—DE KOL 2d—with an authenticated record, made in her 4-year-old form, of 24 lbs. 6½ oz. in one day, and 81 lbs. 8 oz. of unsalted butter in seven consecutive days—12.35 lbs. milk to 1 lb. butter.

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Offer to FORREST, Auctioneer,
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The entire herd of this celebrated registered stock, BULLS, COWS, HEIFERS and CALVES, is offered at lower prices than ever before. Also pure-bred Shropshire Ewes and Bucks at little above butcher's prices. Address ROCKLANDS, ap26-4t Gordonsville, Va.

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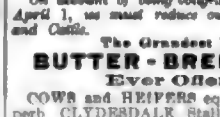

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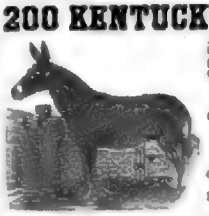

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THE CULTIVATOR AND Country Gentleman

Albany, May 9, 1889.

Some Incidental Farm Profits.

ED. COUNTRY GENTLEMAN—I have so often seen and heard the statement that "the farms of this country do not pay six per cent. on the investment," that I am tired of hearing it. I do not believe there is any truth in the statement, and I propose to tell why I think it a mistake.

In the first place I see fewer business failures among farmers than among any other class, and more men begin without capital, and finally become owners of their farms, and independent business men, than in any other calling. The man who has only his labor to depend on in these days of competition stands a very small chance of becoming the owner of a manufacturing establishment or store, and statistics show that more than three-fourths of those engaged in these callings fail.

I think that most persons who compare the profits of the farm with those of other callings reason from false premises. They contrast the profits of the farm with those of men doing business with several times the amount of capital that the farmer has invested, and invariably with the successful business men, and they overlook entirely many things which are a legitimate part of the profits of the farm, and which should be credited to it. How many farmers are there, think you, in our land who are living on farms valued on the tax duplicate at from $4,000 to $6,000, who have no other source of income than the farm, and who yet are rearing and educating large families, living in the enjoyment of comfort and with many luxuries, and in addition laying up a small sum each year? I believe it is proper to consider all which the farm furnishes to the family as a legitimate part of the profits of the farm, and if the discontented farmer would sell his farm and put the money at interest and try living in town and furnish his family the same comforts which they have on the farm, he would find that it would require a large income to meet family expenses.

For some years past I have been trying to make a just estimate of the amount of what the farm furnishes to my family, and I find that leaving out entirely what I call, my farm is entitled to credits which represent from 6 to 10 per cent. on its value. In the worst years I have passed through—years of drouth and partial failure of crops—I have sold enough from the farm to pay all hired help, taxes, blacksmith bills and other repairs, and in good seasons my sales have paid from 6 to 10 per cent. net, so that I have had clear of all expense the family supplies. I think I can give the reader a better idea of what I mean, to tell in detail what I credit my farm with, rather than to speak in general terms. My farm contains 90 acres, and is valued for taxation at $4,000, but I shall estimate its value at $5,000, and this at 6 per cent. interest would give an income of $300. Now, if I should sell my farm for $5,000 and invest it where it would be perfectly safe, I should have $300 and my own work with which to support my family. If I rented as good a house in a village I must pay at least $12 a month for it—for I have a convenient house with twelve rooms—and this would take $180. Then my family have always been accustomed to the use of a horse and carriage, and as we always keep a horse especially for driving we should not be satisfied without it, and it would cost $1 a week to keep it, or $52 a year. Our breadstuff which the farm now furnishes us would cost an average of $35, and as we kill a beef each fall and several pigs to furnish lard and cured meat for summer, we must give the farm credit for $60 more. Our butter, milk and cream would cost us in town at least $160 if we bought at retail and used as much as we do on the farm, and very nearly as much if we kept two cows and bought their feed, and it would take two to supply us, but we will call this item $1 a week or $52 a year, and as we use eggs and poultry almost every day in the year we will call this item $52, which is without doubt less than we could buy the same amount and quality for. We also grow fruit in great abundance, and have strawberries, raspberries, blackberries, currants and grapes with scarcely a break from June until November, and in addition a full supply of orchard fruit, and certainly $40 is a very moderate estimate of what the farm furnishes in this line. The garden and truck patch also furnish us a constant supply for the table from April when the asparagus and rhubarb are ready to use until frost in the fall, and then the cellar is stored with potatoes, sweet potatoes, squashes, turnips, beets, onions and cabbage, besides other vegetables sufficient for the winter, and I am certainly within bounds when I credit another dollar a week or $52 for these. Bringing these items together I find that they foot up $536, which is a little over 10 per cent. on the valuation of $5,000, or if we take $300 of it, which is what it would bring at 6 per cent., we have left $236, which would pay for a good hired man for a year. If any one objects to the items of house rent and keep of horse, we can drop them both and still have nearly 6 per cent. profit.

Now, why are not the comforts and living which the farm furnishes just as legitimate a part of the profit of the farm as what is sold from it for cash? The farmer's family must live, and if the farm is sold, either he must pay cash for all the items I have enumerated, or else do without them. I know that, taking one year with another, and crediting the farm with what it furnishes, after deducting money paid for hired help (and in this I include my own work), my farm has paid me considerably more than ten per cent. on its value, and in exceptionally good years fully twenty per cent., and even in bad years I have been better off than I should have been with the same amount of money at interest. I know that there are farms managed better than mine, and which pay a better per cent., and I believe that lands valued at $50 per acre can be used for dairy purposes and made to pay a large per cent. on the investment; but it will be done by the use of brains and a system of high farming, and not by the slip-shod, miserable methods which are too common among farmers. The first week in February I traveled several hundred miles, and saw that half the farmers fed their cattle corn fodder in the fields on the ground. This is not the kind of farming which pays. WALDO F. BROWN. *Butler County, O.*

Uncut Ensilage.

ED. COUNTRY GENTLEMAN—Some people have singular notions of economy. Your correspondent F. B. S. (page 106) favors "uncut" ensilage, as he calls it, "because it saves great expense of cutting, with extra hands, power, cutter, carrier, &c.," and then tells us he cuts it eight inches long with an ax. Now, it seems to me that this is the most expensively cut ensilage I ever heard of. But how many "extra hands" it would take me to chop up my 600 tons of ensilage with axes, and then to place it all one way, I will not pretend to calculate. I have never tried uncut ensilage, and never expect to, for the handling and feeding of the real uncut article, even if it keeps well, would cost more than proper cutting in ¾-inch bits. Chopping the corn into 8-inch pieces with an ax, as a matter of economy, is like cutting a field of wheat with a sickle to save the expense of horses and mowing machine.

I would like to know what F. B. S.'s ensilage costs him per ton. My ensilage is cut by steam-power with a 17 Ross cutter, and is done by the regular farm force. We have cut as high as eight tons in an hour in ¾-inch pieces. How many men would be required to cut that much into 8 inch pieces in an hour? I will not hazard a guess. We do not tramp the ensilage with rawhide boots or anything else; just let it heat and settle itself. We do not waste time and labor hauling and piling stone on top of it; two feet of finely-cut straw over all will keep ensilage as well as any other cover. My advice to all who intend to make ensilage is to study thoroughly Mr. Gould's article (pages 104–105). Mr. G. knows what he is writing about, and the only points I am disposed to differ with him about are the use of Virginia corn at the North and using any cover at all on the top of the ensilage except the cut straw. The best corn for ensilage in any locality is the variety which is best there for grain purposes. W. F. MASSEY.
Albemarle County, Va.

Northern Ohio Notes.

Fencing—Ensilage Corn—Dairying.

ED. COUNTRY GENTLEMAN—The fencing of my farm has, by the using up of all rail timber, resolved itself into wire fencing, until something better is invented. In building wire fence, the matter of staples to fasten the wire is an important one, especially as they cost 5 cents per pound, and about one-third of them break in driving into the hard-wood posts, and where they go into chestnut and cedar posts they readily pull out and let loose the wires. Last summer I tried using a 20-penny wire nail, and the problem seems solved. The nail is driven into the post all but about three-fourths of an inch; the wire is then laid on to it, and with two or three under-blows of the hammer, the nail is bent over the wire, making a loop that holds it secure, and it cannot be pulled out by the pushing of cattle and the like. It does not cost more than barb staples, as the nails cost only 3 cents per pound by the keg. If one wants to remove a wire, the nail is readily bent forward by using a sharp-clawed hammer sufficiently to let the wire out of the loop, and if another wire is substituted, the nail, with another blow, is again put in its old position.

Mr. Massey wishes to know why I prefer the Virginia white dent corn—"B. & W."—for ensilage in preference to the best varieties of my own locality. Because it has not been demonstrated to the contrary that a hundred pounds of thinly-planted southern corn, allowed to stand until developed to maturity—i. e., ears denting—is any less nutritious, or possesses any less food value, than 100 pounds of the northern varieties. On the other hand, it will, one year with another, produce 40 per cent. more fodder, and as much grain. The cows say that the B. & W. is best, either green or dry. They will consume the whole of it which they will not do with our field corn. Lastly, in a drouth that will burn and wither northern corn, the white Virginia corn will grow right along and make fully three-fourths of a crop, which in silo economy is a sort of crop insurance that we cannot afford to disregard, at least in Ohio, with our average one year in three a dry one. These are a few of the reasons; others can be furnished if further proof is needed. Other localities may be different.

Eighty cents for 100 pounds of milk at the creameries, and for shipping to Cleveland, makes some long faces among the dairymen, and many a man is ready to say that "dairying does not pay." This early fall in milk makes even the silo dairymen draw a longer breath, though their cows are fed on an "abundant and cheap ration." Of course they do have an advantage, but it is not so conspicuous as to elevate them into monopolists and millionaires. The policy of the railways in Ohio in this city milk trade, is to bring a large territory engaged in the dairy industry—whether near or remote to Cleveland—all on an equality as regards the milk supply of that city. While not being allowed under the law to charge more for a short than a long haul, they adopt the rule of charging no more for a long than a short haul, so milk comes into market all at the same price for carriage, whether the haul is ten or one hundred miles. This enables the city dealers to buy at rates paid by those who run cheese and butter factories; while charging 5 and 6 cents per quart at retail in the city. This seems a wide margin of profit, but I doubt that, taking one season with another, the city milkman is doing better than the well-equipped dairyman who milks good cows, takes good care of them and feeds them a good, cheap, yet well-balanced ration.

Agriculture and Other Industries.

This is profitable, as compared with the "woes" of the onion and potato men about here. Two onion-growers near me have dumped 2,000 bushels of onions in the back lots, for want of buyers. No one would even pay the freight upon them to market and take the onions as a gift. The potato-growers are but little better off. They are offered 10 to 15 cents for potatoes, with an if—" as quick as we

can handle them," which does not now seem likely to be very soon, as there is a hundred bushels of potatoes in the cellars of the farmers, where there is a chance to sell ten. Excellence does not always provide a market for a product. There is now and then the barrier of over-production in the way, that brings the sale of first this, and then that, almost to a standstill, and forces many to stop producing certain lines of produce. Yet, after all these checks and discouragements, the farmers will go right on feeding the world at the same price. The farm industry never has perished from off the face of the earth nor will it ever end in final catastrophe! Each season's contact with the soil gives new life, hope and promise of good things to come. And so farming will ever go on, the base and foundation of all prosperity and progress.

In one day last week the recorder of Wayne county, Ohio, cancelled $27,000 of farm mortgages in excess of new ones entered for record, and, also, in that same county, there is a steady decrease in the total amount of encumbrance on farm property. I seriously doubt if there is an enormous increase in the farmers' actual indebtedness. That farm mortgages have kept pace with city and village encumbrances, is also to be doubted. In Portage county, the records show a balance, a growing one, on the credit side of the mortgage indebtedness, and this is no doubt true all over the State. If in the whole United States farm mortgages have increased, how is it with the increase of farm wealth to balance it? The records show that the greater share of these farm mortgages are not to pay living or running expenses, but are for farm betterment, for security on farms purchased, and the like, a security on real estate transferred to new ownership. If comparison is made with the farm wealth of twenty-five years ago and the mortgages then, it will be seen that the farmer is not owing nearly so much as then, while interest rate has fallen off fully one-third.

When the prosperity of the farmer is contrasted with other industries, it will be seen that his business is about as stable as any of them, and that they can as a rule borrow money to tide over a bad season, or the like, on personal notes, without security, better than any other class. That men have "tied up" their farms to get money to go into city speculation, is not an argument that farming is not paying, if rightly followed. There may be seasons of agricultural depressions and a slight over-production now and then, but on the whole, looking back over the ground since the war, I think it is beyond dispute that the farmers have made healthful and substantial financial progress, and where one farmer has absolutely failed, nineteen business men have gone to the wall. J. C. *Western Reserve, O.*

Road Management in Connecticut.

EDS. COUNTRY GENTLEMAN—I have just been reading MR. JACKMAN'S account of "Public Roads in Pennsylvania." I will tell him how they are managed in two Connecticut towns, Bosrah and Lebanon.

In the first place, the towns keep their roads townwise. At the yearly meetings held in October, from one to two mills tax is set apart for road purposes, and collected with the general tax. Bosrah is a farming and manufacturing town, and the roads are divided up into sections, and sold for the term of three years to the lowest bidders, to be kept in repair, subject to an inspection by a regularly appointed inspector; and if he passes a section of road, it has to be paid for, whether it is in shape or not. The result is that the roads are a failure and almost a nuisance.

In Lebanon, a growing town, the roads are under the general supervision of the selectmen. They hire two good roadmakers, paying them good wages. They divide the town into two sections. Each takes one, hires his teams and men, and as soon as possible in the spring commences work and keeps at work until July 1st; commencing again about the middle of August, and keeps at it until the ground freezes. The result is, the roads are good throughout the town, and grow better from year to year. The roads are well rounded, ditches open and well cleaned water-bars, so you can trot a horse and wagon over them without thinking you are going to be thrown out. This has been continued for five years, and has attracted attention from every one that has occasion to ride over them. The older road-makers are being hired by other towns at better wages than they get at home. I think if the Pennsylvanians will try this plan they will be well satisfied, without going to the complicated machinery of county action with professional engineers. J. B. BLIVEN.

Saving Home Manure.

EDS. COUNTRY GENTLEMAN—Although the subject of manures has been often and ably discussed in your columns, I think more can be said on the subject, especially as pertaining to the making and saving in a good condition. Do we not see farmers in all parts of the country buying large quantities of commercial fertilizers for their different crops, much of which is nearly worthless, while they permit large quantities of the best fertilizing material go to waste or lie idle in their yards and pens year after year, and then grumble at hard times and their inability to get along? Many of these are men of education, and considered to be good practical farmers, and there are such in this section of the country. I have often seen during a rain—and afterward, too, the very essence of the manure in barnyard and hog pens running away toward the streams, when a little care would suffice to save it all, that it might be put upon the land where it would do the most good.

How often do we see a farmer's fowls roosting upon trees, or under sheds upon wagons and implements, where their droppings are wasted and the best of all fertilizers is lost! It seems strange how men who have good common sense, as most farmers have, can let so much of the best and richest fertilizing material go to waste. I have spoken to some of these men and asked them why they did not build houses for their poultry and thus save the droppings, and the answer has always been it does not pay, and they do not think the manure worth anything, or if by chance they do save it, they will mix wood ashes with it, which every thinking man knows will ruin the quality of both.

Why do not farmers try and save all the rich material they can, which is so plentifully to be found upon every place, where it has been accumulating for years, as the washings from the hills and yards to the lowlands, in the fence corners, under and around buildings, etc.? All of this, if composted with yard or stable manure, will be found to be more profitable and economical than spending one's money for those fertilizers from which no profit can be realized. I do not wish to be understood as condemning all commercial fertilizers, as many of them are good and reliable, but I wish to try and have each and every farmer save all of his home material, which is cheaper and better. E. H.

Harford County, Md.

Spring and Fall Plowing.

EDS. COUNTRY GENTLEMAN—On page 194 "An Old Farmer" discusses spring and fall plowing, and his experience corresponds to mine in many points. Different soils and different seasons give such widely different results that no rule can be given which will apply to any considerable part of this country or one which can be relied on to give unvarying returns in any one place. Nearly all agree that fall plowing is destructive to insect life, and yet my experience on various soils, from boyhood up, is that wire worms and often white grubs are always much worse on the fall-plowed land, wire worms especially. In fact I never had or saw any injury from burrowing worms on land which was plowed late in the spring and planted immediately. The crop gets ahead of weeds and escapes injury from the worms which live on the grass roots in the meantime, while on fall-plowed land the crop starts slower and worms attack the tender roots at once.

Again, some soils are positively injured by being plowed in the fall; especially is this true of slate soils and all light or very heavy soils in an open winter, but slate soils are most affected and I would rather give the use of the land for a season than have it plowed in the fall. This has been my experience in several instances in different seasons, and also that of others, but on land intended for spring sowing ordinarily it is better to plow in the fall if the land is clay, or in some seasons a heavy loam, as the crop can be sowed as early and usually earlier than it will be in suitable condition for plowing, for land unless in proper condition for plowing is easily and permanently injured by plowing in the spring; as the season progresses it will grow worse and worse.

So, after all, it must always remain an undecided question even among those who practice it. On heavy lands I would always plow in the fall and take my chances on all land intended for oats, and generally for corn, if I lived as far north as New-York. In a latitude where but little snow falls, and the land is exposed all winter, it is of doubtful expediency, and will not be as successful, beside causing more loss from washing by winter rains—a thing not considered, or even comprehended, by northern people. If they could see the disastrous results of water on the lands of the South, they would not wonder at some things connected with southern farming, and the yield in crops of that section, and be more reconciled to the frost and long winter of the North, which in return enable them to grow grass and preserve the fertility of their farms vastly more than they are aware of, and in fact, directly or indirectly, is the cause of the prosperity of what are sometimes called the colder States and countries of the world. Many a farmer is now looking with longing eyes for a milder climate, and yet these very men never see the ground they stand on, and only look at the green and beautiful view in the distance. D. R. S. *Linn County, Kansas.*

Success and Failure with Silos.

EDS. COUNTRY GENTLEMAN—Your correspondent C., p. 323, has met with some setbacks that others have suffered from, in the spoiling of part of his ensilage. I watched the earliest silos in Eastern Massachusetts, and built one when satisfied that success could be had. I am convinced of their great value, and that this feed is indispensible to successful winter feeding.

There is one cause of loss that the deep pits were responsible for, which was, that the water from surrounding soil at times of melting heavy snow would filter through some crevices. All ensilage was ruined to the depth at which this water accumulated.

The early silos had round corners. The modern silo with square corners almost invariably has from six to ten inches of waste at the angles. This, repeated year after year, shows this space a waste of storage and cause of loss—a percentage of food thrown away.

The introduction of air will spoil the mass as far as it can penetrate; no care is too great to build right at first from the floor to the top.

In my experience the introduction of wilted corn with stalk full of sap, but leaves dry, has invariably resulted in blue mould, even though cut into silos with equal bulk of freshly cut corn. I have found the same layers of spoiled corn at the top of a filling, which lay uncovered several days, and was then buried under freshly cut ensilage. The ferment seems to wilt the top layer until it parts with juice and admits air.

Only with mature corn have I seen really good ensilage. Ripening reduces the fluids in proportion to total weight, and when the kernel is ready to glaze on the ear, the entire stalk is digestible and nourishing. When cut just after the tassel and silk appear, the product of the silo may well justify the epithets, "slosh" and "swill," and it will "smell to heaven," like other rank things.

The old-time directions to pack and tread constantly are outgrown. Put as little labor in the pit as you can, and only try to level the top so that it will sink uniformly. The stuff weighs so enormously that it will press itself. Do not use boards or planks or paper on top, but the cheapest rough hay, straw or marsh hay, four to six inches—covered with sand or loam three to five inches deep—will make a follower that follows every irregularity of surface in settling. Do not be afraid that the "earth will rattle down" and get into the ensilage; it does not. When settled, after three weeks or so, the earth or sand can be taken off as wanted to sprinkle on the freshly cleaned manure gutter in the morning. This will make the air of the stable sweet, instead of rank with ammonia, and save the liquids.

It seems inevitable, with the most careful covering, that some spoiling will be found on the top when opened. This amount is diminished by the dry straw taking the steam and sweat, but is always present. The amount of this loss should be counterbalanced by the little cost of covering, and the fact that the damaged part was really so much weight and settling in settling and preserving what is below.

C. should examine the south wall of his pit where the preservation was perfect, and discover for himself in what its construction excels the north wall. But, in particular, look for leaks from roof or neighboring soil, or some means by which a jet of air got in where the damage was eighteen inches thick. Did it come under the sill?

Success with ensilage is partly in its economy and partly in its adaptability to all live stock, from pigs and hens, and young calves still drinking milk, up to the matrons of the herd.

Economy in filling demands a large cutter, plenty of power, and the most rapid filling consistent with your supply of labor. Get the very best seed and do not spare its cost. Plant ten quarts, or less, per acre of the large varieties. Harrow five days after planting, and keep harrowing. Cultivate with flat, rather than ridging or hilling methods. Get a large growth on a small area, and raise some clover hay to feed with it. J. F. G. *New-York.*

Fraudulent Fertilizers.

EDS. COUNTRY GENTLEMAN—In the last two issues of the your paper, and especially on page 310 of April 18, mention is made of fraudulent fertilizers now on the market, selling at $20, $18 and $31, whose actual analysed value was only $1.12, 17c. and 71c. per ton. Why is it that the names of these fraudulent goods are being withheld from the public? How is the farmer particularly benefited by being told that a great number of the "complete fertilizers" offered on the market are worthless? How is he to know the good from the bad? One may say that such and such companies have the guaranteed analysis printed on their bags or barrels. Well, do not the bogus companies have the same? Another says: "Send your sample and have it analyzed," but that will cost the individual $25 for each separate analysis, and suppose such analysis proves the article a fraud, who is injured most by the deal? The buyer is out $25, while the bogus company has lost only one sale, and can keep on selling to ninety and nine other customers who place confidence in them. Another may say buy only of reliable firms. Does this imply that there are only three or four of the leading companies that are reliable, and $40 and upwards per ton must be paid for a good article?

But to the point. If the farmer bears the heavy burden of the taxes, is it presuming too much to ask that he be protected from out-and-out robbery by properly appropriating a small amount of the money to a thorough analysis of every commercial fertilizer manufactured in the State, and the same furnished free of charge to any person making application for the same?

Virgin soil in this State is fast giving room to worn-out farms, and this commodity, the "commercial fertilizer," is becoming a necessity, and the necessity is being taken advantage of, to the detriment of the toiling husbandman, and with a rich financial harvest to the unscrupulous swindler. A. G. M.

Lewis County, N. Y.

Repelling Rats.

EDS. COUNTRY GENTLEMAN—In answer to inquiry, I would say, build the barn in such a manner that it cannot harbor rats safely from cats and terrier dogs. Most of the barns put up in our country are about as *perfect rat warrens* as can be contrived. The floor of the cellar should be cemented, and its walls made of brick or stone. If a rat does gets down the stairs into it, he is easily caught by a dog, as he can make no hole here to crawl out. Nothing in the upper stories should be piled so close to the sides of the building as to prevent a small dog and a large cat getting between, to catch any vermin nesting there. All grain or meal bins and boxes must be covered with tin, zinc or sheet iron, to prevent rats and mice gnawing through to eat them.

Many rats may be got rid of in the following easy manner: Take four pieces of joist, three feet or more long, and nail boards to these to make a square space inside. Set the lower boards three inches or more above the feet of the joist, so as to leave space for rats to run under them. Scatter corn on the ground in the centre of the pen, a yard or two long and wide; lay down joist at two ends of this, and then cover the corn with boards. Place this

near the barn, and it will make a nice warren for rats; and by tolling them with a few kernels of corn from the barn to the outside of this pen, they will soon make their home under the boards inside. After getting well settled there, sink the foot of each post so deep into the ground as to bring the edge of the lowest board of the pen close to the ground, so that no rat can crawl under it to escape. Now put into the pen one or more dogs, that have been trained to hunt rats; lift up the boards under which they have harbored, and there will be a lively time in catching them.

I have seen twenty or more rats caught in such a pen at a single time. A pair of well-trained dogs will dispose of so many in a few minutes. I had a terrier bitch that would kill as many probably in less than fifteen minutes. She would jump and give a rat a single grip, just back of the head, which instantly broke his neck and laid him out dead. After she had finished, she would return to look them all over, one after another, and if any life seemed to be left, give another grip, which instantly settled the matter. A.

Central Colorado.

Alfalfa—Beet Sugar—Land.

EDS. COUNTRY GENTLEMAN—From interviews with farmers in the hay market here to-day I gathered these views about alfalfa: That in seasons when water is plenty for irrigation they cut three crops,—last year only two cuttings were made; that the first cutting, the growth of which is the most vigorous and stalks coarse, is the best for horses; that the second cutting, being finer and more sour, was most used for cattle. When cured it has a very bright green color, and looks much like Swedish clover. It requires careful handling or the leaves break off. I noticed where it had been baled that most of the leaves were gone.

I cut the following from a Denver paper—Claus Spreckels' views in regard to the future of beet sugar making:

"My own idea is that in a few years we will import no sugar. Not only does the beet grow to perfection in California, but it can as easily be grown here in the central States, and in Kansas particularly. On Saturday last the few remaining shares of the $5,000,000 stock company, of which I own a majority, was subscribed at San Francisco and the new company incorporated, the facilities of which will be ample to supply America with beet sugar. After this first year's trial we shall go at the business on a larger scale. Ten new factories, at a cost of $500,000 each, on the same general plan of the one already in existence, will be built in different parts of California. They will turn out only raw sugar and the product will be sold to refiners."

In this State the country looks bleak and bare. No trees, no shrubs, except a few along the river bank, even the sage brush being small and stunted. Nearly the whole country from Salt Lake City to here appears desolate and discouraging. Settlers were few, and wherever there was a cabin or a tent it was located upon the sandy plain exposed to the full rays of the sun, or the blasts of the sand storm, without a tree for shade or wind-break; yet bits of land were being plowed, and where water could be had for irrigation I was told that fair crops of alfalfa, grain, potatoes and fruit were grown. Most of the land is used for stock-raising, taking from 30 to 50 acres per head to carry stock. To this there are exceptions. An old settler in Oregon told me there was a good deal of land where two hundred acres would not support one head per year, and I have seen long stretches of poorer looking land in this State than I saw in Oregon. C. O. NEWTON.

Arapahoe County, April 26.

Milk near Boston—Clover—Manure.

EDS. COUNTRY GENTLEMAN—I have been reading an article written by T. E. Terry (p. 23), where he says he has been informed that milk sells near Boston for from 1 to 1½c. per lb. I live within 17 miles of Boston, near the city of Salem. Milk sells here at the barn for 4 to 4½c. per quart, and is delivered to customers around the city for 6 to 8c. One farmer rents a farm and pays $1,000 for the use of it, keeps 75 cows, and sells his milk for 7c. per quart; he makes money, and he has not a customer over a mile from his farm. It takes a horse, wagon, man and boy half a day to put it out. The milkman washes the cans and helps milk. He keeps about four men the year round and hires some day help. I know of two men who keep eight or ten cows each, and they have not got over two acres of land, buying nearly all of their hay and all of the grain, and think it profitable. We bought 150 cords of manure last year at $4 per cord. I think we can make it for less money by a great deal.

I hear much said about clover in some of the States, but very little in the New-England States. We cut about 100 tons of hay, and I do not think there is one ton of clover in the whole of it; yet I sow 10 pounds of clover seed to the acre with other seed every spring when I seed down the land. With what experience I have had with land here in Massachusetts, it seems very foolish to try and raise vegetables for market without barnyard manure or some of the commercial fertilizers.

Our farmers here draw out their manure and put it in long heaps in the fields and let it heat and rot, shoveling it over two or three times to make it fine. It seems to me they lose a great deal of the fertilizing qualities of the manure. I have spread on the ground the manure as fast as made and received good results. It seems to me if Mr. Terry's correspondent does not wish to keep cows, he might, after getting off some of his early crops, sow barley and feed it off with sheep hurdled on the ground, and feed oil meal bran and some corn; give them all they will consume each day, moving the hurdles every day so as to have fresh feed. If he does not wish to use his land early in the spring he could sow rye in the fall with the barley, and feed it with sheep in the spring; he will have a great many poor cabbages and their leaves, that sheep like, and he could feed them the same as barley and rye, and in this manner he could fatten two flocks every year and not have them to care for in the summer, when one is busy. I think he could manure his land much sooner and a great deal better than with plowing under green crops and very much easier than with cows. I cannot see how plowing in a green crop is going to put much more fertility into the ground than it takes out in growing the crop. E. S. DAVIS.

Essex County, Mass.

Steam in the Wheat Field.

EDS. COUNTRY GENTLEMAN—"Dollar wheat" is a term familiar in every grain-growing region. When wheat can be sold for a dollar a bushel, the farmer is happy, for then he knows that he will receive a fair reward for his labor. The profit will be none too large under the methods of cultivation generally followed, particularly east of the Mississippi river; but still wheat-growing is fairly profitable, one year with another, if the price does not go much below that figure. Any material lowering of the rates, it is claimed, means a loss to the producer.

What it actually costs to put a bushel of wheat into the market, is a much disputed question. It depends, of course, upon the methods that are followed, the cost of land, labor, machinery, &c. Not being posted upon the minutiæ of the cost of wheat-growing in the Eastern States, I shall confine myself to the facts as developed in California, and the object of this letter will be to call attention to some most remarkable developments that have taken place here during the last half-dozen years.

It may be well, in order to engage the attention of the reader, to state at this point that it has been fully demonstrated in California that wheat can be produced and put on shipboard in San Francisco bay at a total cost of 30 cents a bushel, or half a cent a pound.

How this is done will be fully shown. The claim is a bold one, since not even the cheap ryot labor of India has been able to put wheat into the market for anything that begins to approach this figure. Nevertheless, I have investigated this matter thoroughly, and am able to state that the claim is well founded.

The history of wheat-growing in California is an interesting one. In no other part of the world has the effort to reduce the cost of production been so successful or carried to such an extreme as here, until to-day there is very little in common between the methods followed here and those that obtain in the other great wheat-growing regions of the world. Perhaps this cannot be better illustrated than by giving a description of the methods followed on one of the large wheat ranches in the San Joaquin valley, which I recently visited, and where the cost of wheat production has been brought to the lowest notch that seems possible.

First, let us take the ranch during the seeding season. It consists of between 4,000 and 5,000 acres of nearly level land, of a sandy loam and reddish clay nature. Part of it is what is known here as "hog-wallow;" that is, the surface is uneven and made up entirely of hillocks and hollows, just as if some prehistoric porkers of phenomenal size had used it for wallowing and left the surface as uneven as the ocean in a stiff breeze. Such land is very difficult at first to cultivate, but how it is handled will be shown. Going out into such a field last December, here is the sight I saw: A powerful traction engine was making tripe back and forth. The soil was soft from recent rains, but the two driving wheels of the engine had a surface of *four feet* each, and upon that surface were corrugations of angle iron which kept the wheels from slipping, while a large surface prevented them from sinking into the ground. Extending from the engine to the rear were several chains, to which were attached no less than five gang-plows of four shares each. These gangs were coupled together with chains, and as they went about the field they turned twenty furrows at once without missing an inch of ground. Indeed, it would be impossible to plow more evenly or perfectly with the aid of teams. Just behind the gangs was attached an apparatus for leveling the "hog wallows," and so effective is it that in two seasons' use these hillocks are obliterated. Behind this are the harrows, with seeders attached.

Thus the entire operation of plowing, leveling, sowing and harrowing, is performed at one time. The field needs to be gone over but once. Five men are necessary to operate the machine. First, there is a steersman who has a post in front, and guides the machine with a wheel placed horizontally like that on a brake-rod; there is an engineer and a fireman, who attend to keeping up steam and to seeing that the plows are working all right; another man drives a wagon which supplies the engine with fuel, and still another brings water to the engine. The fuel used is threshed straw from the preceding crop, so that there is no expense on this score. The engine is not stopped for fuel or water, but the wagons are driven alongside, their loads transferred, and the engine keeps right along about its work; neither does it stop when nightfall comes. Two large locomotive headlights are rigged up, one in front and one behind. Another set of hands step on board, and the engine and plows keep right along about their business, stopping for nothing. Hardly an hour out of the 24 is lost during seeding-time.

Nowhere else in the world can such a sight as this be seen. No wheat farmer ever dreamed before of the possibility of plowing night and day! In this way, from 60 to 80 acres of land can be gone over thoroughly in 24 hours. The engine used is of 30-horse power, and weighs 15 tons. The wheels are six feet in diameter and four feet on the surface. The entire outfit for wheat-growing, including plows, leveler, seeder, combined header and thresher, and engine, cost the inventor $7,000.

It is possible, when the soil is in exactly the right condition, to add two more gangs to the five, without reducing the rate of speed of the engine. But if the soil be either too wet or too dry, this cannot be done. So much for the seeding.

The harvesting is hardly less interesting. When the grain has attained maturity, an immense combined header and separator is attached to the side of the engine, and the machine is turned loose in the grain field. This of course requires more hands to operate than does the plow. A swath *forty feet wide* is cut at each round of the field, and from 90 to 115 acres can be harvested each day between sunrise and sunset. In order to make so wide a cut, the sickle-bar has a joint in the centre, so that any unevenness of the surface does not prevent the grain from being cut. The wheat pours from the separator into sacks, which are quickly sewn and thrown off the machine, to be gathered by following teams.

It may be objected that in such harvesting as this there is danger of loss, but that is not so. A series of experiments has demonstrated that a larger quantity of grain will be secured when harvested and threshed at once, than when put into stack and threshed afterward.

The inventor and operator of these machines has kept a careful record for three years of the actual cost of raising wheat and putting it on shipboard. From Visalia to Port Costa, where rail and ship meet, is a distance of some 250 miles by rail. All grain in California is put up in sacks, holding from 100 to 120 lbs. each, and which cost from seven to eight cents each. Taking every expense into consideration—interest on cost of land, labor at good rates, high freight rates, sacks, and every item—for three years the operator of these machines has put his wheat on the wharf at Port Costa for a fraction less than 30 cents a bushel. If wheat is produced at a lower cost than this in any other part of the world, it has never been made public. C. F. W.

San Francisco, Feb. 28.

Stray Thoughts on Farm Economy.

EDS. COUNTRY GENTLEMAN—I sometimes ask a neighbor if he takes an agricultural paper. He says: "No; the writers don't know any more about farming than I do, and most of them do not live on farms." So probably not over half of the farmers take a farm paper. Economy is a good thing if rightly applied, and very much can be said on it; but it is not a very pleasant subject. I have seen one of these farmers hauling out a load of chaff and seed mixed, from his barn, and scattering it over acres of ground. I have noticed the ground the next year, and seen a few places in which grass was growing—also a variety of weeds—and some places with very little grass, if any. Using sparingly of grass seed on a meadow has always proved poor economy. An extra peck of seed sown on a new piece of ground will make a big return.

I have been amused at a farmer's saying that he does not want any more barns, as the rats and flees are always around. He also says that it does not pay to raise corn on over two or three acres in a thousand; he always has plenty of corn. He says: "I have noticed these fellows who raise big fields of corn, always paying blacksmith bills and old debts on hogs. I can raise sheep and buy a farm every year." This man has economy strong. His entire outfit of farming tools would not bring five dollars. He is one of the old-style farmers. We can find extremes on both sides. A happy medium might give satisfaction. To live for the purpose of accumulating money, regardless of comfort and regardless of other ambitions, would seem to divert life's best interests. To know what is going on in the world, to learn of the latest improvements and inventions, the latest fashions in live stock, the best grains and vegetables—these things are our best interests. A neighbor wants the sign right when he does anything. He plants his garden and kills his hogs when the sign is right. He seems to have inherited whimsical notions, and they rule him. I like reason in all things. A. B. *Irwin, O.*

Delaware Notes—Plow Harness.

EDS. COUNTRY GENTLEMAN—This is called the "Garden State," and well deserves the name. In traveling through it one is struck by the number and extent of the orchards and wheat fields. Of the orchards the greater portion are peach. One who has never seen them will be astonished at their extent. We find them of all ages, from the young tree just set to the old orchard of 25 years standing, which in many cases are still producing paying crops. Peaches were in full bloom April 20, and the prospect so far is good for a large yield the present season. Many growers are quite extensively engaged in pear culture. Orchards containing 1,000 to 5,000 trees are quite common. Pears are looking fine and are now in full bloom—a sight to behold.

The acreage of winter wheat is large and uniformly good. I have seen many fields of 40 to 60 acres looking as even and fine as one could ask for. Wheat now stands from six inches to one foot high, and gives promise of an early harvest. Meadows are very promising, and the clover and grass have a good start. Corn planting is actively progressing now, although many prefer to plant the first or second week in May.

The farmer from other sections is generally somewhat surprised at the difference between some things in common use here, and those he has been accustomed to. One of the first of these to draw my attention was the Delaware plow-harness, and I am so pleased with its simplicity, comfort for beasts wearing it, cheapness and general handiness in use that I wonder it has not been generally adopted elsewhere. The hames are entirely of wood, made a little larger than iron-bound hames, and have holes in both ends for the hame cords. Any one handy with tools can make the hames, or they are sold at the stores for about a dollar a pair. The traces are ⅝-inch manilla or other strong rope. One end is passed through a hole

in the hame, where the staple is generally set, and out through another about an inch from it, and a half hitch holds it in place. On the other end of the trace is a loop which is passed over the end of the whiffletree and fits on a notch. The whiffletrees have no irons except a hook in the centre, which is hooked into an eye in each end of the evener when at work. A strip of webbing passes over the back and is tied to traces, both sides. The lines are simply a ¾ inch rope tied to the outside of each horse's bit, with a loop at other end for the hand. The team have a small cord tied from one bit to the other to keep them right distance apart. An ordinary collar and bridle is used. This makes a light, cool, comfortable work-harness, easy to repair, handy to use, needs no oiling, and the whole harness, exclusive of bridles and collar, costs about five dollars for two horses.

Kent County, April 25. E. G. P.

Western New-York.

Weather--Grain--Potatoes--Insects.

Ens. COUNTRY GENTLEMAN—Seven inches of snow on April 1 fooled us all. Sleighs and cutters were out in force, the latter especially, their owners feeling pretty sure it was their last opportunity this season. The precipitation of the previous night and day amounted to eighty-two hundredths of an inch, moisture sadly needed, but quite inadequate to our wants. After a beautiful aurora borealis on the evening of the 7th, fair weather followed for several days. The 10th was ushered in by a stifling hot wind; at 1 P. M. the thermometer reached 85° in the shade, and in the evening May beetles made their appearance, and were so numerous that they several times startled the horse I was driving by flying against its face. At 8 A. M. on the 21st a gale set in from the southwest, and shifted to northwest two hours afterward, subsiding toward night, into a cold, brisk breeze. Clouds of sand, whisked from the knolls recently plowed, filled the air in all directions. On the afternoon of the 24th occurred the first thunder-storm of the season, after which it rained steadily for a few hours. Rain was welcomed again on the 27th and 28th, giving us moisture enough for the present, one inch and eleven-hundredths; any more just now would interfere with immediate planting. The mean temperature for April in 1886 was 43°; in 1887, 37°; in 1888, 36°; this year, 42°.

The temperature of the soil has risen gradually during the month. As far down as six or seven inches it seems quickly and easily acted upon by the atmospheric air. Rain on the 24th and 27th lowered the temperature on April 27, considerably, near the surface, but only slightly below.

Depth.	April 6.	April 13.	April 20.	April 27.
4 in.....	54°	47°	48°	50°
6	47°	44°	47°	49°
9	44°	43°	46°	48°
10	43°	43°	46°	48°
11	43°	43°	46°	54°
Mean temp.	33°	36°	46°	47°

Oats are nearly all sown, and in most places up and growing finely. Wheat made a good growth last fall, and in addition escaped its winter's perils, so that its present magnificent appearance everywhere in this section may well justify farmers in the expectation of a bountiful crop, even if last October's prices are not realized. Rye, too, looks thrifty, bidding us hope that these three cereals will save us from another straw scare next winter.

Of the extent to which potatoes will be planted it is too early to speak, but the early varieties are in good demand. Many of these, however, such as Beauty of Hebron, are planted early for a general crop, with the idea of selling before the market becomes glutted with the late kinds. By this plan the crop also escapes the later attacks of the potato bug which are often the most destructive. Although I have worked over one or two plots of land whereon potatoes were grown last year, I have, contrary to previous experience, found comparatively few specimens of the beetle from Colorado whose memory will ever be linked with Paris green. I wish I could say the same respecting the white grub of the May beetle, and that we could connect its memory with Paris green also. Every day, no matter where we are stirring the soil, we come upon it in some stage of its development. It has gradually spread over my place within the last three years. With the exception of plum and cherry trees I know of nothing on the farm likely to attract it. Last spring about a dozen Cuthbert berry bushes were discovered to be dead. They stood in close proximity to some onion sets at whose roots, as I reported last year, we found fifty larvæ of the May beetle in less than a dozen yards' length. I was at a loss to account for the death of the canes, but recently, on seeing two adjoining bushes were also dying, I burrowed around the roots and under one bush were four, and under the other three, big fellows. The finer fibres on the main and lateral roots were all lacking, evidently having been consumed by these rascals. I shall try, beginning at once and doing it as thoroughly as time will allow me, some of the remedies recommended by Professor Lintner in the valuable bulletin of the New-York State Museum of Natural History, No. 5, November, 1888, which should in the hands of every one troubled with this most dangerous of insect pests. At present it seems almost unassailable by human agencies; in that case we shall have to trust to its natural enemies which, where land is thickly inhabited and highly cultivated, are least likely to be numerous, and just such places, where trees and crops flourish, are the favorite haunts of the *Lachnosterna fusca*.

Wheat is quoted at about the same price as last month, 95c. to $1 per bush. State corn has declined to 45c.; oats remain at 33c. Hay ranges from $15 to $19 per ton, various qualities having been brought to market lately. Good oat or wheat straw will readily bring $13, and rye $2 more. Potatoes and onions, after having stood together at the same price, 25c. most of the winter, have parted company, the former rising to 30c. a bushel, the latter falling to 15c. Butter, 23c. per lb; eggs, 13c. per doz.

Matters in England.

The railroad companies in England have caused a commotion among shippers by an announcement of their intention, under an act passed last year, to issue new rates of charges and a fresh classification of goods. Meetings of farmers, millers, market gardeners, fruit growers and milkmen, besides others, have been held to protest against the increase of maximum rates, and also the proposed classification of certain goods. The British Bee-Keepers' Association complains that the carriage of bee appliances is increased fifty per cent. A leading produce salesman of Manchester, at a meeting, said that the London & Northwestern Co. had increased their maximum rate from six cents per ton per mile to ten cents, and that while Parliament had protected some industries, market gardeners were the worst used class in the country. The president of the National Association of British and Irish Millers has compared the rates existing at the present time with those which were now proposed to be charged, and finds that while for short distances the rates would be materially increased, for longer distances they would be greatly diminished, which would have the effect of driving their trade further away from the mills. Lord Sudeley has taken up the cudgels on behalf of the fruit growers, claiming that the charges for the carriage of fruit have been raised, and that the schedules are very incomplete, there being no provision for carloads or trainloads. He suggests that large consignments to preserving-houses should be carried at special rates, at owner's risk. His lordship has earned great fame as a fruit-grower; and now it is announced that Lord Coventry has decided to build a jam and pickle factory near Pershore, and that arrangements are being entered into for vigorously carrying on the work. The British Dairy Farmers' Association objects to the schedule of charges of all the railway companies for carriage of dairy produce and quickly perishable goods, since they can practically charge anything they like. With such general protests against them, the rates will undoubtedly undergo revision at no distant date.

Seed potatoes of American parentage, in price at least, hold their own in England against native varieties. White Elephants are offered at $1.25 per bush.; Beauty of Hebron $1.60 and American Early Rose at $1.10. Snowflake and Brownell's Beauty are also highly recommended, though little is heard of them here now. Fifteen years ago I planted one pound each of Compton's Surprise, Snowflake and Brownell's Beauty, just then sent out by B. K. Bliss & Sons, which yielded thirty-four, twenty-nine and fifty-one pounds respectively. At the same time half a peck of Early Vermont, also new, produced three and a quarter bushels. Brownell's Beauty is, or was, a very handsome potato, but did not long maintain its reputation as a great bearer. Compton's Surprise and Early Vermont yielded a number of tubers, the majority of them small. Snowflake, of which I have heard little the last few years, was a potato rarely surpassed for appearance, productiveness, and flavor and mealiness when cooked. J. H. C. *Monroe County, May 1.*

More about Japan Clover.

Ens. COUNTRY GENTLEMAN—In your issue of April 18, p. 311, there is an article on Japan clover, by a correspondent from Lancaster county, Va., who has given his views from what he saw of it on the farm of a neighbor, who "sowed it with oats and obtained a fine catch," and "it grew to be about 8 inches high." Now this seems to have been a good growth, after the oats were harvested, but he says: "Animals did not seem to be over fond of it, and as to being valuable for winter grazing, it would compare well with broom-sedge, for when winter came, it was as dead, root and branch," though he adds: "It appears to be starting from the seed again," and that he "should like to hear from those who have had experience."

I sent a communication to the COUNTRY GENTLEMAN before L.'s article appeared, giving my experience with Japan clover in Virginia (which appeared in paper of May 3), but in addition to that, if L. will write to the Commissioner of Agriculture at Washington for "Grasses of the South," on pages from 47 to 50 inclusive, he will find the experience of half a score of farmers, from eight different Southern States, and all are unanimous in regard to the great value of Japan clover for grazing purposes, and more especially on all worn-out soils. Those who are burdened with a surplus of such lands all through the South, will surely find in this clover a silver lining to the dark clouds heretofore surrounding them, when those barren fields become covered with a Japan clover sod, which they will be, though constantly grazed, and thus be more than doubled in value for grazing purposes.

Japan clover was never claimed to be a winter grass. I told my friend, Mr. J. S. Fowler, when here, that the 60 acre well-sodded Japan clover field which he saw was pastured summer and winter, and kept heavily stocked as a standing pasture all through the year, since it was first seeded, with a very small quantity of seed, scattered on a poor hill, about the centre of the field, which produced plants that blossomed about the 1st of September, matured their seed before frost, and were killed "root and branch" in early winter; but they came again, from self-sown seed, in early spring, and with a largely increased area, which was repeated annually, until the whole field became covered with a matted sod, which improved the field very much. When killed by frosts, it is largely eaten by the stock in grazing on the natural grasses that spring up through it in early spring and late fall.

Spottsylvania County, Va., April 30. A. P. ROWE.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *April 30.*

The month is near its close and the prayer for rain is nearly universal in these latitudes. Meantime, for ten days or more, cold, dry and strong winds have been blowing down from the west, northwest, north and northeast, and for some of the time the sky has been half filled with clouds slowly moving over, notwithstanding the strength and freshness of the wind. Light hoar frosts have been visible several mornings, not of sufficient severity to show immediately on vegetation, but the effects of the shock may be felt later on. It will be quite out of the common experience if under these adverse influences, the fruit crop will not be light, in spite of the abundance of bloom on everything but apples.

The temperature of the soil has not risen so high that the evaporation of moisture from the surface is more than that brought up by capillary attraction from below, and the wheat and grass continue green, though making very slow growth; but the oat fields are spotty and with bare places, and cloudy with green, and the outlook for a large crop is quite unpromising. Still I see or seem to see some signs in the heavens that rains, and probably heavy rains are not far off. If atmospheric disturbances, more or less pronounced, have a tendency to precipitate humidity and produce rain, then the cannon and gun-firing, the bell-ringing and whistle blowing, and fire cracketing, nearly universal to-day, is pretty sure to be followed by light showers in many places, and rains that may approach the nature of deluges in not a few. I and my neighbors were treated this morning to an entertainment lasting fifteen minutes, which came off on the wind from a neighboring town, that might have done duty as a short overture to a Wagnerian opera on a gigantic scale, so grand was the mingling of chords and discords. This, I understand is to be repeated twice during the day, and I have therefore, great faith that we, and others too, shall have rain.

The forage in that alfalfa patch is showing the effects of the drouth probably, and the persistently cold dry winds certainly. The herbage is from 6 to 10 inches high and is not yet showing blossom. To afford it company, I sowed yesterday in drills a foot apart, a strip of esparcet or sainfoin, of which I am curious to learn the merits. It has the reputation of being more of a southern plant than alfalfa; loves a thin, poor soil as alfalfa does a deep rich one, and is capable of growing on sandy lands that wash and in a few years making a sward and sustaining it. How far esparcette will justify this reputation for these good qualities, I am desirous of learning from personal observation.

Hundreds who have made the trial, know how difficult it is to succeed with sweet potatoes when grown on the black soil in the traditional methods of hills and ridges. The growth of vines is enormous, but the yield of tubers nothing or next to it. Without stopping to explain why this is so, I am about to try planting in a new way—to set the plants in a dead furrow where there will be less loose vegetable mould and less nitrogen, but more of the phosphates, and that amount of resistance in the soil which hard-ground crops, like onions, round turnips, and sweet potatoes, demand.

R. V. J.

Northwestern Georgia.

Ens. COUNTRY GENTLEMAN—The crops are all about planted, and the work of cultivation begun. Corn is being plowed; wheat, oats, rye and clover look well. The nights are chilly, the days bright and cool, with high northwest winds prevailing, which retard vigorous growth of plants. Warm suns and more moisture would be of great benefit to all young plants, but the ground is in fine condition for cultivation, which enables one to put the crops in in good order. More grain and less cotton is being planted this year, which is a change in favor of the future of our farmers.

We see no mention of the Farmers' Alliance in the COUNTRY GENTLEMAN, so take it for granted that no such organization has been inaugurated north by the farmers. They have been organized all through the South, in every State, and the membership is very large; in Georgia it reaches over 80,000, and it is proving to be of great advantage to the farmers. The Alliance has resolved to put down the bagging trust, and are making arrangements to put up the present crop in cotton bagging in the place of jute. This will consume nearly 400,000 bales of cotton for baling the crop, which will take that much cotton from the market; in short, the planters will consume that much of the cotton crop themselves. They are also establishing warehouses, and, through the Alliance Exchange, are to deal directly with manufacturers in all heavy articles, and do away with the middleman as much as possible. The Alliance is also impressing it on their members to diversify their crops, raise their own food supplies, and place themselves in condition to pay cash for all things they buy.

If this is accomplished, it will bring about a thorough reformation in southern farming and methods, adopted since the war, that have proved so disastrous to our system of farming. Our circumstances then forced us into the system of all-cotton planting, and having to deal on credit, until it became a habit; in fact, our young farmers know no other system. The Alliance has been organized to change a system that has proved so pernicious and disastrous—one that has made the merchants rich, and built up our cities and towns, while it has impoverished the farmers and run down our farms. Annually, our farmers have produced in the one crop, cotton, three hundred millions of dollars, that has all been paid to the merchants for supplies which they should have produced themselves; hence the efforts of the Alliance to bring about a change, and we already see it taking place. There is more grain and grass being grown, more horses raised, more fine cows to be seen, as well as

hogs and poultry. There is also a large increase in fruit culture. The near future is likely to show a marked change in southern farming and in the condition of the farmers.

There is this difference between the Farmers' Alliance and agricultural societies and clubs—the Alliance is an organization for business, while the societies and clubs are more of a social nature, more advisory than mandatory. The Alliance teaches the farmers to think and to cooperate for their mutual benefit. Hitherto we have been looked upon only as hewers of wood and drawers of water, by the opulent classes, who have made their wealth through our earnings, and we have suffered unjust taxation and extortion because we bore our burdens with meekness. It is full time that farmers organized for self-protection—submitting only to just laws and equitable taxation, and demanding of the government the common rights of citizens. JOHN H. DENT.

Floyd County, April 20.

A New-York Silo Visited.

ENS. COUNTRY GENTLEMAN—Having interviewed the owner of a silo, I will give my impressions. On arrival, I first observed that, judging from appearances, the man had no money to waste in building silos for notoriety, but had to economize to get money to build with, and wished to better his condition. A hard farm to work, stony, poorish land, and unpainted outbuildings, were sufficient evidence of a lack of wealth, but the building of a silo, and fine condition of the live stock, led me to expect to find a live, successful man, who could give the practical side of the question, and I was not disappointed.

Much of the theory now in print, by which the conditions of success in silo-building are made doubtful, is disproved, and the way made easy, by his experience. To my first question, "Would you advise one to build a silo?" he answered "No!"

"Why not?" said I.

"If every one had a silo, there would be so much stock kept that it and its products would be valueless."

"O, I see! You want to keep it all to yourself?"

"Yes! From my experience I would build a silo if I had to borrow the money to build it with. I shall double my stock this fall. At this date (March 15) I have not fed a ton of hay to my cattle, and can sell nearly all I cut."

"Did you have any to sell in other years?"

"No; had to scrimp my cattle to get them through."

"Well, a silo don't keep cattle fat alone. Where did the feed come from?"

"From three and a half acres of corn planted in drills, and the oat straw from six acres."

"How much grain did you feed?"

"None, except what was in the ensilage."

"How much stock?"

"Twelve head of cattle were kept from Nov. 7, '88, to March 15, '89." (I found them in fine condition, but giving no milk.)

"How long did you milk them?"

"Until in December. They increased their milk after I commenced feeding ensilage, but my feed was so poor in August and September that they were nearly dry when I began feeding it. One half of the silo will be filled with green clover in June, and I shall feed my cows to keep up the flow of milk this season."

"What did the silo cost?"

"One hundred and twenty five dollars, but I could build another for half that, just as good."

"How?"

"By using cheaper lumber, and one set of matched boards is enough. I do not think so much double boarding, papering, bracing and air-spacing is necessary. Look at this doorway." It was closed by only one thickness of unplaned hemlock, inch boards, placed horizontally across it, and there was not over an inch of mould next to it. "I saw that I did not have corn enough to fill the silo, and so made that partition through the centre. It is only one thickness of matched pine, and one-half of the silo had nothing in it; yet the ensilage neither froze nor moulded."

"Which kept the corn best, wall or boards?"

"Not much difference—if any, in favor of the boards."

The barn has a basement with a wall on one side against a bank. A doorway was cut through this wall in front of the cows, and a cellar dug on the outside of the wall. This was walled up, and the sides and bottom plastered with common mortar up to the level of the surface of the ground. A one-story, ordinary frame building was built on these walls, boarded and battened, with a door near the top, in the end on the upper hillside. It was graded up until the top of a wagon-box was level with the bottom of the door, and the cutter placed on a platform drops the cut corn into the silo. Studding was placed on the wall, and the cross-pieces, of common fencing, nailed to that, every 18 inches, to stiffen it. Inside the cross-pieces it was sheeted with building paper, and then ceiled with matched pine, perpendicularly.

Said he: "I would not bother to plaster walls again, but let the ceiling run down to the bottom."

The corn, after it was glazed, had the best ears broken off from several loads, and stalks then cut by hand and laid in bundles, drawn to silo, team hitched to tread-power, and filled in a layer.

"We (two of us) were working different days for over two weeks filling the silo. I fed off the top slowly, and it was sweet, and every particle has been eaten, to the last basketful."

"No, I did not put much weight on it. I put a layer of cut straw a foot thick, and a layer of plank on the straw to cover the top. Seven nail kegs filled with gravel, and one small load of stone was all the weighting it received."

The silo was 14x30 and 15 feet high. The corn from three and a half acres filled it only a quarter full. A piece of studding was nailed to each side of the doorway, which extends from bottom to top, and the short pieces are taken out, as the contents are fed from the top. No hinged, double door was made; simply short pieces of board dropped into place as the silo filled. One could put in two thicknesses of boards arranged to break joints and put paper between, but it did not seem to be necessary in this case. Mr. B. is very much pleased with his success and already sees, in imagination, droves of cattle, where a few lonely cows once wandered. Meeting one of his neighbors, I said:

"What do you think of Mr. B.'s silo?"

"Do you mean that sort of underground ark where he preserves his fodder?"

"Yes."

"Well, it beats me! I helped make fun of him all the fall, and I had as much corn as he, but my hay is all gone, and he has got all his left. I don't understand it. I'll make less fun of him this fall, and keep my eye on him, *for he has got something there.*"

Apparently Mr. B.'s success is due to corn so planted as to be *well cured* and allowed to mature before cutting, and further success will come from his awakened ideas as to the necessity of *summer feeding*. C. E. CHAPMAN.

Tompkins County, N. Y.

Notes from Utah.

Johnson Grass—Lucern—Fruit—Burros.

ENS. COUNTRY GENTLEMAN—Does any one know the nature and requirements of cesparcet? It is being sold here and extravagantly lauded as doing best on hot dry hills, &c. I have tried Johnson grass and will give my experience. We bought it under the the name of "Arabian millet" and sowed a few acres in the spring of '87. It grew finely the first year, much of it reaching six feet in height. It was allowed to mature seed and what was cut seemed very worthless hay. Probably had it been cut early this might have been different. During the winter it froze pretty hard, the mercury reaching 20° below on several occasions and last spring found it all dead and the roots, which had filled the ground, rotten. It came up again from seed, however, and much of it survived last winter, though it has not started yet and the lucern in adjoining land is fourteen inches high. I doubt its value for northern farmers, and much prefer lucern. In my lucern field, sowed the spring of '87, I did a good deal of digging this spring in getting out and sinking rocks and I found roots 5½ inches in circumference and followed them down and pulled them up to a depth of 8 feet, and they were yet going down and as large as slate pencils where broken off. The soil is a loamy sand, climate very warm and seasons long. It would be nearly impossible to break up this meadow, the roots being so large and tough. I expect to cut it four times this season. It is strange to me that eastern seedsmen should ask such exorbitant prices for lucern seed when it can be had here by the carload for six to eight cents per pound, and freight is four cents per pound to Chicago.

But I doubt much whether eastern soil will come up to ours in the production of lucern. It is the fertile subsoil that makes the enormous yield of hay—that, together with the irrigation. S. F. J. is right in thinking that it needs to be cut as soon as the blossom is well out. He speaks of irrigating his orchard—if he has facilities for irrigating his lucern during the hot weather he should do so. Down one side of my field it has been convenient to allow a stream to flow almost constantly over the lucern for the past few weeks. I feared the plants would suffer, as the nights were cold, but it has shot up far in advance of the rest of the field. There is a sweet and subtle perfume from the meadow even before any blossoms appear. I find it a splendid food for work horses, though not at all the thing for saddle horses. One caution to those about to sow at the East. Wherever the ice forms in the winter in little hollows or overflows of springs the plants will probably all be killed. So beware of such places; also if the cattle tramp the snow too hard on it in winter it may be killed.

There is some peculiarity of this warm, sunny climate that induces early fruiting of trees. For instance, I have peach trees in good bloom that are not waist high. May be I ought to pick off the fruit for the benefit of the tree, but fruit is such a rarity here that I can't bear to pick it all off.

It may amuse some readers who are fighting insect enemies to know that the worst enemy of our orchard is the mischievous *deer*. They visit it at night in spite of fence and scarecrow, and for two years have sadly crippled apple and plum trees.

We have quite a band of little Mexican "burros" or donkeys. I presume they weigh from 500 to 700 pounds. They are increasing very fast, but as they are of no earthly use except for packing, I have been wondering whether we could not cross them with a small stallion and raise a more profitable beast in the shape of the jennet. But I know nothing of jennet breeding, and should be glad to learn from some one who does.

We are constantly having trouble with sore-backed horses, and if Dr. Moore will give us some hints, we shall be very grateful. The sores coming on the sides of the back, which we call kidney sores, trouble us the worst, and seem to be incurable. J. E. WING.

Sanpete Valley Ranche, April 22.

The Ohio State Fair.

Reply to Article on p. 104.

ENS. COUNTRY GENTLEMAN—To give a full history of the reasons for determining the State board to locate permanently, and a detailed statement of its financial condition, would occupy too much space. The receipts, as shown by the books of the board while it had no permanent abiding place, showed that where there was a profit at one place, it was frequently balanced by a loss at another, and in most cases the places that invited the board to select their points for holding a fair, made a financial loss. The State board made no permanent financial success until its first lease of the Franklin county grounds at Columbus. Several very successful fairs were held there. The lease not being satisfactory, and as the board had a surplus fund, they determined to purchase and make a permanent home. They purchased 99¼ acres of land, and at once began to prepare it for fair grounds. Not having funds sufficient, they asked of the General Assembly authority to issue bonds to the amount of $80,000, bearing six per cent. interest, secured upon the land. The prayer was granted, and the bonds were sold at once at a premium. The grounds were improved, buildings erected, and the first fair held in 1886. The financial success of the fairs held on the Franklin county grounds, and on the new grounds, satisfied the board that they could pay the interest on the bonds and place the $5,000 annually in the sinking fund for the payment of the bonds, as was required by the act. These two provisions have been met by the board up to date.

The year 1888 being the centennial of Ohio, there had grown up throughout the State a sentiment in favor of celebrating the first century of her Statehood by a fitting exposition of her progress during that period. The general assembly passed a joint resolution committing the State to such a celebration, and designated the new State fair grounds as the place. They created a board of management, consisting of two members from the Ohio Historical Society, one from the Horticultural Society, five members from the State Board of Agriculture, with the governor of the State as chairman. The State board had grave doubts as to the financial success of the undertaking, but the sentiment throughout the State was so much in its favor, and seemed to increase as the plans developed, that fear gave way, and every effort was made that could aid in making it a grand and befitting celebration of the event. For a year it seemed that beyond a doubt the management's efforts would be successful. But at the end of the first year Cincinnati determined to hold a centennial exposition, raised a guaranty fund of a million dollars, and at once began competition with us. The result was a financial failure for both. The exposition held on our grounds was in all departments a complete success, and one in which every citizen could feel a great pride.

Your correspondent does not give a fair statement of the debt of the State board. The real debt of the State board is the bonds, amounting to $80,000. To aid in making the centennial possible, she raised by an additional loan on her lands, $50,000. This amount most assuredly should be paid off by the State. The State board did not of their own will go into the centennial. Of this $50,000 additional loan, $35,000 is upon the grounds in good substantial buildings, that the board would have placed there whenever they would have had the funds. Your correspondent states that the grounds and improvements would not bring enough to pay the debt. Let us see. The bonds for $80,000 were placed on the 90¼ acres of unimproved land. The able financier, one of the wealthiest bankers in the State, who negotiated the bonds for us, bearing opinions expressed by such critics as your correspondent, offered to the board $80,000 in cash for the land, that they might buy other land, stipulating that the fair remain in the vicinity of Columbus. Your correspondent is fair in the good words of praise he writes as to location, convenience, &c., but is a little off as to shelter. The buildings make large protection from rain and sun. The board has with little exception been complimented upon their grounds by both citizens and strangers.

Urbana, O. WILLIAM S. FOSTER.

Surmises not Proofs.—Our Kansas correspondent who fears that the settlement of Oklahoma will increase rain storms and cyclones, render the winters longer and more severe, and increase the rainfall in Kansas; and who holds this belief as "a theory," is requested to submit it to a series of careful and measured experiments for a term of say 40 years. There are many conflicting opinions on subjects of a similar character, to which those who hold them adhere with much earnestness, but which are founded only on guesswork and partial and limited observation. What we need in connection with all subjects of this character, is long-continued, scientific observation, that a just mean may be finally deduced; and not isolated tests and broken and disjointed items.

Japan Clover.—A correspondent, making inquiry about Japan clover, seems to be under the impression that it is a winter growth. It is strictly a late-summer grass in this latitude, 32°; at this date it is only about two inches high. He says that animals do not seem to be over-fond of it. If he will observe during the summer months he will change his opinion, as they will graze on it in preference to any other growth in the pasture; at least this is so in Louisiana. O. A. F.

De Soto Parish, La., April 23.

Straight Rail Fence.—Will your correspondent B., page 306, describe how the rails are fastened to the posts? Are the posts mortised, and the rails flattened and run through like bars, or are the rails nailed or spiked on the posts? If so, do not the ends of the rails have to be flattened to make them fit properly to the posts? Also what size nails or spikes does he use? S. *Hardy County, W. Va.*

Brewers' Grains.—I notice inquiry of W. B. L. as to where he may obtain dried brewers' grains, and would say that the Pennsylvania Feed and Fertilizer Company, 30th and Thompson streets, Philadelphia, supplies them to me of the very best quality. I find them much superior to bran, producing at least 10 per cent. more milk. J. B. C. *Chester, Pa.*

Feed Cutters.—I wish to ask the readers of the COUNTRY GENTLEMAN if any of them have used the Tornado feed cutter for cutting ensilage, and if so how they like it. It cuts the stalks and splits them at the same time. I intend to buy one for cutting ensilage, and wish to buy a good one. J. W. *Madison County, N. Y.*

Horticultural Department.

Editorial Notes and Comments.

NEW STRAWBERRIES.—We have often had occasion to remark on the difficulty of raising new seedling fruits that were better in any respect than old reliable ones—many thousands not affording a single one of superior value. E. S. Carman of the Rural New-Yorker says that for fifteen years he has planted all the new strawberries he could hear of, and during these years he has raised many new seedlings, "not one of which has shown that it was worthy of introduction." He names three that in the fifteen years have been some improvement over older varieties, of such as have been originated in the country at large—the Sharpless, Cumberland and Bubach.

SUCCESSFUL MARKET GARDENER.—Peter Henderson said in a recent public address that no one should engage in market gardening after passing middle life, nor one who has a feeble constitution, for to be prosecuted successfully the owner must put his own shoulder to the wheel. The most successful market gardener he ever knew was John Riley. Mr. Henderson made him foreman of his market gardens when only twenty-one years of age. In six years he bought the place he had charge of, consisting of eight acres, 2,000 sashes, horses, implements and crops for $31,000. He had saved $3,000 from his wages and boarding the men, which he paid down; and in three more years paid off the mortgage of $18,000. This was in war times, when profits were nearly four times as much as at present, but he would have succeeded under any circumstances. He was strictly methodical, worked eight men summer and winter, always in solid phalanx, leading himself. Although uneducated, no other Jersey market gardener ever made his mark so prominently.

Mr. Henderson added that the capital required to begin market gardening near a large city should not be less than $300 an acre for any thing less than ten acres. The first year barely pays expenses, the $300 being absorbed in horses, wagons, implements, sashes, manures, seeds, &c. More men, he remarked, are stranded, both on the farm and garden, by attempting to cultivate too much than probably from any other cause.

MASSACHUSETTS.—Prizes for 1869, offered by the Massachusetts Horticultural Society, amount to $6,000—$3,000 for plants and flowers, $1,700 for fruits, $1,000 for vegetables, $300 for gardens and greenhouses. Prospective prizes are also offered for objects originated later than 1861. The B. B. Davis fund promises $100 for the best seedling native grape introduced since 1865, to be awarded not earlier than 1890. Seven prizes are offered, ranging from $40 to $60, for the best new fruits of other kinds. Similar premiums are to be given for the seven best new flowers; and fewer for vegetables. The Hunnewell triennial premiums are $80 and $160, for an estate not less than three acres, laid out with most taste, planted best, and kept in best order for three consecutive years. Other special premiums are offered for flowers and flower gardens, as well as for fruits. The competition for prizes is open to any resident of Massachusetts, and to any member of the society outside the State. Robert Manning, Boston, is secretary.

STRAWBERRY MANAGEMENT.—At a meeting of the Elmira Farmers' Club, reported in the Husbandman, O. M. Wixon gave in detail an account of his spring management of strawberry plantations. He raises fine crops of fine berries, sells to the near markets and to one dealer, always has a ready market, and says: "If you have good fruit, there is no danger of the competition from such fruit as is shipped in from a distance." His berries are picked early in the morning, and are on their way to market before ten o'clock. His soil is a rich clay loam. As a mulch to keep the future berries clean, he scatters wheat chaff on the bed when the plants are in full bloom and when there is no dew on them. The strawberries work up through the chaff. A cultivator is run close up to the rows. Weeds are excluded by frequent tillage. The plants are set in spring, and mulched with a mixture of manure and wheat chaff, ten or twelve loads to the acre. Barn manure and wood ashes have produced excellent results. The plants are mulched as soon as the soil is frozen hard in winter. The Sharpless and Crescent are the two best varieties. Such pistillate ones as Windsor Chief, Bubach and Jewell are very productive when planted near the Downing, Sharpless and Wilson. Four successive crops are all that can be profitably raised on the same ground, and two of these will be diminished, but much depends on the treatment.

ORANGES IN FLORIDA.—Benj. P. Ware stated at a Massachusetts Horticultural meeting that the present crop of oranges in Florida is estimated at 3,000,000 boxes, about half the consumption of the whole country; and that there are no less than 400,000 acres now devoted to oranges. Many thousand acres, he remarked, would never produce oranges, for they cannot be successful, as cultivators well know, unless they are well cared for. Nevertheless the future crop will be immense, for not more than one acre in thirty is now in full development. But the crop is so large that the growers are already endeavoring to get a tariff on foreign fruit of a dollar a box.

An Anomaly in Asparagus Culture.

Manuring—Duration of Beds—Shelter.

EDS. COUNTRY GENTLEMAN—A very misleading article concerning asparagus culture is going the rounds of the agricultural press. This article appeared originally in Vick's Monthly Magazine, and is based on alleged facts, said to have been stated at a late meeting of farmers and market gardeners in Boston.

The purpose of the writer of the paper in question is to show that asparagus may be grown without manure, provided the soil is dry, warm and naturally fertile, the bed well protected from winds, and the roots set at a proper distance; and reference is made to two parties near Boston who have grown it in this way for many years.

The substance of this article appeared in the Ploughman more than a year ago. Soon after it came under my notice, I called upon one of the gentleman whose names were given, in order to ascertain the exact truth from his own lips. As no one else has done so, I believe, it seems in order for me to correct, or modify, the statements made in the magazine article.

1. The parties referred to do not "grow asparagus on unmanured soil." The new departure on their part consists in never using barnyard manure, and in never using any kind of fertilizer *after the third or fourth year*. But they do dress the soil liberally with bone, potash, nitrate of soda, &c., till the roots have taken full possession of the ground. All fertilizers applied after this time are an absolute waste, in their view. This is not a mere supposition on their part, or an opinion unsupported by facts. Pointing to a bed of an acre and a half, in full view from the house, the person interviewed said: "That bed is a dozen years old, and it has not received a pound of dressing in nine years at least. The stalks, as you can see, are very large, and the net income from the bed is equal to that received from beds of like size on our neighbor's ground, which are enriched every year." I can bear witness that the land receives no wash from any quarter, and that the soil is light and sandy.

"How were you led to adopt this course?" was asked.

"From observing that the 'grass' on that part of a neighbor's field which received every season a constant wash from the barnyard was in no respect superior to that which grew on other parts of the field."

Now here is a man of high character, and ripe age, acknowledged to be one of the most successful farmers in Eastern Massachusetts, who asserts positively that asparagus on good land needs no manure beyond the third or fourth year. He has verified his own assertion over and over again. What have our bookmakers and agricultural authorities to say to this? With one voice they tell us that "the more manure, the larger dividends." Peter Henderson says, in "How the Farm Pays": "Every fall dress the bed with manure to the depth of two or three inches"—i. e., with from fifty to eighty cords per acre. And there is not a dissenting note in all the books I have been able to consult. One cannot help drawing the inference that these gentlemen are reporting simply what they suppose to be the custom of asparagus growers, and not results obtained after protracted and decisive experiments on their own part.

2. "A bed will last a lifetime, once planted and not abused." Yes, if the lifetime be not more than half a score of years or so. But it will not yield a *profitable* crop for half the lifetime of an ordinary man. A vast deal of nonsense has been written on this point. True, a bed will yield for thirty or perhaps fifty years. But after fifteen years or so, many of the shoots will be small and unsalable at a good price. When this time comes the enterprising grower will kill the roots and start anew.

3. Salt is freely used by the parties referred to, but merely as a weed-destroyer, and not to enrich the soil, as implied in the Monthly.

4. "Shelter from high winds" is given as among the chief requirements. It is supposed that high winds are responsible for the occasional crookedness of the stalks. This is altogether preposterous. Crookedness is caused by the obstructions the shoots meet with, and by the sharp and rapid cooling of the atmosphere. A sheltered situation is desirable, because the soil will warm up a few days earlier than the soil of a more exposed position, and for no other reason. F. W. T.

Middlesex County, Mass.

Greenhouse Heating.

EDS. COUNTRY GENTLEMAN—I have for a long time had an idea that it would be feasible to construct the framework of such simple buildings as greenhouses, of stout piping, connect that piping with a boiler, and so secure a very substantial structure, which would heat itself, so to speak, and I have thought it out to such simplicity, that I have applied to have it patented.

In a lifetime of horticultural reading, and of acquaintance with such eminent heating firms as Hood's, and others, both in London and in this country, I have never had even a hint of the thing. It is, I believe, described in your journal for the first time.

The arrangement for a florist's greenhouse is extremely simple—thus (fig. 1): *A* is a combined ridge and flow-pipe; *B* is a combined rafter and connecting pipe; *C* is a wall and return pipe, leading to boiler. This represents the framework of a lean-to, or the half of a span-roof house. The piping may be bent into any fanciful shape consistent with the flow of heat; either steam or water may be used, and of course stokehole may be dispensed with.

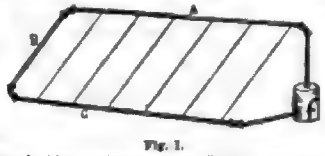


Fig. 1.

A simple sleeve-tie may be used to fasten the piping to anything, anywhere—thus (fig. 2):

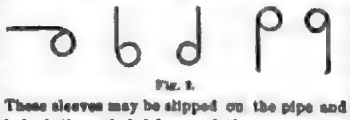


Fig. 2.

These sleeves may be slipped on the pipe and bolted through brick, wood, iron, &c. Any amount of modification may be made, and cheaper and more durable greenhouses are possible. JAMES MACPHERSON.

Mercer County, N. J.

Petunia-Growing from Seed.

Few flowers equal the petunia for a brilliant display, being of the easiest culture and very profuse bloomers from June until frost. They are of especial value in that they do well in almost any situation, on the rockery or in masses on the lawn, exhibiting richness and variety of color. The seeds may be sown in the open border about the first of May, or earlier under shelter if early flowers are desired, sowing the seed in pans of fine sandy soil. When large enough, carefully prick out the plants into fresh soil, and place in the open ground toward the last of May. While they will repay good treatment in the way of soil, and watering through the summer, they also adapt themselves to dry situations, where many other plants would fail.

Some of the seeds of the double varieties will come single, care is required to get them even to germinate, and neither double nor single will always come true to name, but this instead of being an objection is otherwise, when grown in beds and borders, as it adds to the bewildering variety. One of the new single strains is remarkable for its beautiful yellow-throated blossoms, resembling the Salpiglossis. Only after many years' experience have I learned the following: In transplanting from the seed-bed I at first took the dark-green leaved plants which seemed strong and healthy, and left the small ones with yellowish curled leaves, and my plants gave me only common flowers. Then one season having sown but few seeds, all the plants were saved, and those that I would otherwise have thrown away, proved to be the choicest of the strains, with blooms of unsurpassed beauty.

Both the single and double classes show to the greatest advantage in vases or window boxes, nicely adapting themselves to their position by the half-drooping manner of their growth, not being easily spoiled from lack of water, and when once used will never willingly be omitted. Among the numerous names which the catalogues give, the following will be distinct and satisfactory: Countess of Ellesmere, having a white throat; Red Star, fine for bedding, white stripes on a rich purplish-red ground; Superbissima has a tiger-spotted throat, rose and purple petals; Double Lady of the Lake is pure white, very delicate; Hybrida Intus Aurea is the new yellow-throated strain with large flowers; Grandiflora Fringed is also new, showing fringed and frilled edges, very distinct and beautiful, usually true to name; Kermisina comes in crimson.

Niagara County, N. Y. S. E. SUMNER.

A Plea for Permanence.

On the principle that the less the person accused has to say in his own defence the more need he has of a lawyer, it will, perhaps, be acknowledged that a thing so little sought or desired in this land of change as *permanence* of effect should be allowed an advocate.

In gardening, the demand has been so general for novelty and variety that permanence itself will now be as great a novelty as one can find. Besides the strong reaction which has already set in in favor of the hardy perennials will soon bring permanent effects into the height of fashion. How charming to have something permanently new and fashionable! Then the stateliness and dignity which give fine effect to gardening with broad masses of noble perennials (the only permanent floral arrangement), are really attainable by no other means. The showiest use of bedding plants, in which number and gayety of color are the chief factors, looks crude and vulgar in comparison with the more subdued and yet richer masses to be gained by permanent planting.

But supreme excellence of finished appearance is not the chief advantage. Beautiful gardens may be made in many ways, but in no way with so much economy of time and money, and so large a return in lasting satisfaction, as in making a judicious selection of those plants (each possessing both a marked individual beauty and the charm of association) which will survive our winters with reasonable care, and go on increasing and improving, year by year, for an indefinite period. A garden of this kind about a home is a delightful permanent investment. A garden of tender bedding plants is a showy bit of display, which takes its regular slice from the annual expense list.

The claims of sentiment rest almost wholly with the permanent garden. It is the old flowers—the flowers that come up year after year in the same places, and look at us like old friends—that touch the heart. We become fond of them after we have watched, with a keen thrill of pleasure, the red shoots pricking through the wet soil, when spring brings its mysterious assertion of a new life. We find a delight in studying the advancing development of leaf and spray and bud; at last we look for the full glory of the expected flower! With every species it is a little drama. Different flowers become associated with those whom we love; those who are nearest and dearest to us have worn them or have cared for them; they have had a place at times of fullest emotion; they come to belong to us in that deeper sense in which our circumstances and surroundings mingle with our consciousness.

The mixed border, somewhat more ambitiously arranged than in our grandmother's time, with a view to harmony and that art of heightening by juxtaposition which the artistic sense demands, is the newest, and is it not the best thing in gardening? All the favorite flowers may appear in it, each in due proportion, and by skillful arrangement one after another seems to predominate, as its time of blooming arrives. This is really far less difficult than it appears. One may say that such a garden is naturally filled with tulips, hyacinths and daffodils in the spring, with roses in June, with lilies in July, and with chrysan-

themums in October. There is infinitely more variety, and constant interest, as the season passes, than when one depends for summer beauty upon formal beds of geraniums and foliage plants.

It is a slight drawback, looking at the question as an advocate, that perennials do not usually make a large return the first season. The compensating satisfaction is found in the knowledge that they will go on steadily improving for many years. A really grand show of flowers can only be expected from strong, well-established stock. By setting them out in the early fall, so that they become established before the ground freezes, a year is gained. Many of them may be raised with much satisfaction from the seed by the unskilled amateur who has patience to wait for results.

Perhaps it may be counted as a merit that a garden of this kind is formed gradually. This is natural, and almost inevitable. It is a growth and not a piece of mechanical work. Every year adds to its treasures, its pleasures. It has no little educational importance where there is a family of children: it may have both scientific and historical interest at the student's will; it may almost be said to have a moral beauty of its own. Where is the country home that would not be the richer and happier for such a permanent garden? DOROTHY.

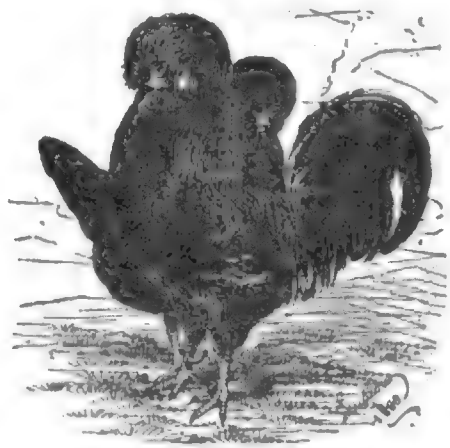
The Walking Fern—*Camptosorus rhizophyllus*, is a curious plant and rare. It is found in several localities in the southern mountains, and at once attracts the observer by its curious manner of growth. It has a leaf at first heart-shaped and fern-like, growing upon a slender stem, but the leaf rapidly narrows and becomes a long, narrow, tapering extension, which bends over and takes root at its extremity, thus making a new plant, and covering the ground by steps, as it were, leaving the leaves looped over. It is one of those plants found in this region which afford pleasant employment to visiting botanists in the pursuit of rare plants. H. S. *Macon County, N. C.*

The Poultry-Yard.

The Crevecœur.

Not every breed adapts itself to varied conditions. As a rule those most difficult to maintain in a different climate, or under different conditions, are the product of extreme care. In poultry, however, there are some varieties which appear to have the capacity of thriving anywhere, and of giving good results even where the change from their original surroundings is greatest. On the other hand we have breeds of poultry which will not stand any such changes, and must be placed where they will be shielded from extremes of either one kind or the other. It is a surprising fact that among the larger breeds of poultry the varieties that are delicate in the sense here indicated, are almost, if not entirely, known as "table" fowls, that is, they are especially known for their edible qualities. The Dorking is one example, the La Flèche is another, and the Crèvecœur is a third. I do not say that these varieties will not thrive away from the districts where they are so largely bred, for that would be entirely untrue, but it is a fact that they must have conditions similar to those to which the breed has been accustomed. This is partially the reason why the Crève has never become as popular in Britain as it deserves. There are always a number of good specimens at the leading shows, but the section of breeders of this variety is very small indeed. That the Crève can be bred in many parts of this country has been abundantly proved over and over again, but there are other places where it could not be kept with any degree of success. In this respect it is like the Dorking, which can bear a great amount of cold, but dampness is fatal to it, and it thrives best on a porous soil.

The Crèvecœur, as its name indicates, is a native of France, where it is chiefly bred in Normandy, and from whence vast numbers are sent to the Paris markets. It is the product of the fine soil which has done so much in producing the splendid apples and exquisite butter for which that department of France is famous. This, added to careful breeding, has produced the grand fowl under review. Some time ago M. Lemoine, the well-known French poultry authority described the breed as follows: The magnificent fowl, that gentleman said, has entirely black plumage. It can attain to a very large size, and it is much esteemed for its white and fine flesh. Its chest is very open, its legs strong and black, and well separated, thus indicating an animal firmly built, especially in the case of the cock, which has a magnificent structure and manner. The hen is of large size, and has the appearance of great weight. The breed derives its origin from Normandy, and it would appear



WELL-BRED ENGLISH CREVECŒURS.

that, originating on a soil which is rich in herbage, it so easily finds ample nourishment that it does not feel the necessity of running far—it has only to lower its head and eat.

The cock has a full-tufted plumage, entirely black, with violet reflections. It is greenish under the neck, and over the throat the feathers are long and erected in a straight line, then falling elegantly back. The crowing of the Crèvecœur cock has a peculiar sound, which differs from that of every other fowl, it being at once recognizable. Its head has also a peculiar aspect. The beak is black, with high and very open nostrils. This bird bears a strong tuft of fine and reversible feathers. Below the beak it is ornamented with a thick cravat and a pointing beard. Lastly, the comb of the cock has two pointed horns at the top, is wide at the base and separating above. The ears are small, blue in color, and are hidden under the beard. The barb feathers are very small; the legs strong, short and black, furnished with long claws, which give a solid base to the structure, and the proud and bold gait of the bird gives it truly an air of haughty superiority.

The hen has a full plumage of a dull black. The head is strong and furnished with a very full crest, high, round and well developed. Beneath the beak it has also a thick cravat; the beard is very prominent, the beak black, and the nostrils large and very open. The feathers of the ears are small and bluish-white, while the beard feathers are small and the crest rudimentary. Later on in life the beard feathers are often white, and this color comes into the crest, but well bred young birds do not show them at first. The legs are strong, short and black. Crèvecœur hens never sit, and they are said to produce about 120 eggs per annum. These eggs are large, weighing about 2½ oz. each, and have pure white shells. They are very amiable in temperament, and quiet. M. Lemoine observes that, whether it be on account of the crest or the form of the nostrils, the Crèvecœur is very sensitive to cold and fogs. Cold is the disease to which they are especially subject. To avoid it, their roosts must be wetted every evening, and they must be kept in the middle of the fowl-house. In addition to corn, the food which suits them best is composed of the paste made of barley flour and oats mixed with creamy milk. It is upon the paste thus made that the inhabitants of the valley of Auge in Normandy fatten the fowls which are so much appreciated and sought after.

The following is the standard of points for Crèves as adopted by the English Poultry Club:

COCK.—Crest large, inclined backwards, so as to show comb. Head erect and steady. Comb even, two-horned, V-shaped, not curved, and free from branches or tynes; moderate size; standing well up against the crest. Eyes full and bright. Deaf ears small, well covered with muffling. Face well muffled. Wattles long and pendulous. Muffling very full and deep. Beak strong and well curved. Neck rather long and graceful; hackle full. Breast broad, full and lengthy. Back broad, long and flat. Body square and large. Wings fairly large, moderately tucked up. Tail very full, and carried moderately high; large sickles. Thighs short, and well covered with feathers. Legs—Shanks short; toes straight and long. Carriage bold and elegant.

HEN.—Crest large, compact and globular. Head well set on, rather large. Comb two-horned, as in cock, but very small and neat. Eye full and bright. Deaf-ears small, well covered with muffling. Muffling very full and deep. Wattles moderate length and rounded. Neck medium length; hackle full. Breast deep, lengthy, prominent and full. Body square and well developed. Neck flat and broad. Wings rather large, and moderately tucked up. Tail broad and full. Thighs stout. Legs short; toes straight. Carriage lively and bold.

COLOR—COCK AND HEN.—Comb bright coral red. Face, wattles and ear-lobe red. Eye bright red. Legs black or slaty blue. Plumage very lustrous greenish-black. No other color admissible except a few white feathers in crest of adult birds.

H—, England. STEPHEN BEALE.

Feeding Young Turkeys.

EDS. COUNTRY GENTLEMAN—I have read with interest the account given on p. 300, by Mrs. Busick, of her method of feeding young turkeys. In many respects I agree with her precisely, but if she will permit me I should like to discuss a few points of difference.

I am surprised, in the first place, that she should leave egg out of their diet entirely. Most persons consider eggs, prepared in some shape or other, as indispensable to their well-being, and as nature has provided the young turkey with a reserve store from the yolk of the egg in its system, upon which it is nourished for the first day or two of its existence, it seems reasonable to suppose that a continuance of like food would be beneficial. The bread moistened with scalded milk is very good, and the curd seasoned with black pepper is excellent; when I have time I always prepare some for my little flock, but I should not dare leave off the egg-custard which is so easily prepared and which makes them grow so fast and keep so healthy. Then, too, eggs get down so low about the time little turkeys are hatched, only five cents a dozen, that they are about the cheapest food we have, taking into account the amount of nourishment they contain.

The second point of difference is, that Mrs. Busick "prefers Plymouth Rock hens for mothers, as they are too lazy to go any distance from the back door." In my eyes, the beauty of rearing turkeys is, that the hens take their broods off in the fields as soon as they are let out out of their coops in the morning, so they are not only no trouble to me, but by subsisting upon insects, their natural food, they grow about twice as fast and are a great deal healthier than when a chicken-hen rears them, and keeps them around the back door, expecting some one to feed them every half hour. I do not think this a good way to rear little chickens. Even my hen-house is out in the orchard, some distance from the dwelling-house, and the hens with their broods are put out in coops under the trees and fed there, so as to keep them as far away as possible. I consider this one of the reasons why my fowls are so healthy, so free from cholera and other diseases, which my neighbors who follow the opposite plan complain of, all around me. Occasionally a very gentle turkey-hen takes a notion to stay in the yard with her brood after I think they are old enough to go to the meadow, but I persevere until she gives it up, and when at length she is persuaded to take a wider range, the rapid growth and improved appearance of the young brood is at once perceptible.

Another disadvantage in rearing turkeys with a chicken-hen is that it is the nature of their foster-mother to wean her young, and this distresses them beyond measure, for young turkeys always follow their mother until fall, when the different flocks get together and go in one drove. When weaned, turkeys are very timid and will not go far from their coop without a leader; so they miss catching the innumerable grasshoppers that are careering over the fields all summer.

When one raises turkeys, the expense of keeping a sufficient number of hens is not counted; let us suppose, then, that I have six to start with in the spring. If they are of different ages, they will begin to lay at different times, but as soon as the first two have finished and show a desire to sit, I permit them to do so, giving them about fifteen eggs each; and placing the rest of the eggs under Plymouth Rocks, because, as Mrs. Busick says, they are such good sitters, but when they hatch I take all the young turkeys away from them and give them to the two turkey hens. It is a good plan to have them come off in pairs; they are quieter and much more manageable; being company for each other prevents their being restless, and then the young turkeys are better taken care of by having two mothers to watch over them. The four next clutches of eggs are managed the same way, leaving only two hens to lay the third time, which are allowed to sit, and go with what turkeys they hatch, for by that time the season will be far advanced, and very late turkeys are not desirable.

Managed in this way, one can easily rear as large a flock as is desirable, and the turkeys living more in accordance with their original habits, will grow rapidly and make larger and finer birds when they arrive at maturity. At the age of four months, I have had hens to weigh 14 pounds, and gobblers 19, and when ten months old they weigh respectively, 17 and 27 pounds, without being fattened either. If any one can do better than that, I am willing to admit that their method is superior to mine; though this seems scarcely a fair test, for I happened to get into a remarkably large and thrifty strain of Bronze.

Then, too, there is a great deal in the locality, which in my case is also especially favorable, the birds having the undisputed range of a square mile, most of the fields being meadows and pasture lands, and broad wheat fields, where after the wheat is cut the turkeys are sometimes accused of gleaning even among the shocks. The large sunny yard where the very young turkeys are kept is upon high ground, and therefore well drained. That is the trouble with many who fail in rearing turkeys; the runs are too shaded and covered with high grass, or the soil is cold, marshy, and damp. Perhaps something of that kind was the cause of "Quinsigamond's" disastrous failure.

A FARMER'S DAUGHTER.

Gapes, p. 330.—In taking little chicks from the nest (turkeys also), by observing closely, you will almost always find on the forward part of crown and throat, tightly matted, vermin which come from the old hen. These deposit eggs at the nostril and around the mouth, so they will be inhaled or in some way get into the windpipe, and then hatch into a red worm, and as they develop prey upon the bird and strangle it to death. One might say, why do incubated chicks raised artificially get the gapes? Because they are allowed to become dirty and filthy, which breeds vermin. There are several remedies for gapes. The best one is not to allow the hen while sitting to become infested, nor while she is caring for chicks. When taking chicks from the nest, grease under throat and crown of head; be sure and get around the edge of beak and under the old hen's wings and near vent, with a mixture of carbolic acid and lard. This preparation must not be strong, or it will kill the bird—just enough to smell the acid. Repeat the application in a week or ten days. After the chicks are large enough to eat whole corn there is no danger. EDWARD M. TYSON.

Montgomery County, Penn.

——Please recommend one teaspoonful of hard wood ashes to one pint of meal at one feeding per day. I have not had any trouble with chickens since I have given that food.

Hartwick, N. Y. M. F.

New Advertisements.

Barnes, W.	*Habertri.*
Bentman & Son, H. O.	*Percheron Stallion.*
Bastable A. N.	*Orchard and Stock Farms.*
Barnes & Co., W. Atlee	*Berkshires and Yorkshires.*
Bardtt, M. L.	*Ashes*
Biddle, F. C.	*Chester White Pigs.*
Butter-Maker	*Situation Wanted.*
Clark, Wm.	*Farm for Sale.*
Cloud Bros.	*English Beagle Hatch.*
Davis, C. W.	*Farm Lands for Sale.*
De Lander, E. C.	*Cattle.*
De Lamater, C. H.	*Executor's Sale Holsteins.*
Ellwanger & Barry	*Stock for Forcing.*
Fletcher, Geo. A.	*Dispersion Sale Ayrshires.*
Farmer	*Herdsman Wanted.*
Hunton, J. R.	*Cotswold Sheep.*
Hewlings's L. F. Co.	*London Purple.*
Hoffman, E. L.	*Berkshire Pigs*
Harder, Minard	*Threshing Machine.*
Herriet, L. F.	*Jersey Bulls*
J. R. Parsons' Wag. Wks.	*Low Down Milk Wagons.*
Kingsland, J. R.	*Jersey Cow, &c*
Kellogg & Co., Peter C.	*Sales of Jersey Cattle.*
Kendall Co., Dr. B. J.	*Nervein Cure*
Lindale Farm	*Help Wanted.*
L. M. T.	*Jersey Bull and Pigs.*
Morehouse & Aands	*Seeds (3 advertisements).*
Pilling & Son, G. P.	*Mulching Tubes.*
Packard, H. O. &c. Co.	*Holstein-Friesian Cows.*
Scudder, Gilbert	*Holstein Bull Calf.*
Taylor, Wm. H.	*Guernsey Heifers.*
Van Anken, Horatio	*Chas. Downing Potatoes.*
Von Kapff, Fred'k	*Sturtevant Separator.*
Vrooman, C. H.	*Tubular Boiler and Engine.*
Williams Brothers	*Farm Machines.*

Pamphlets, &c., Received.

AYLMER, HUGH, *West Dereham Abbey, Stoke-ferry, Norfolk, Eng.* Tenth Catalogue of Short-Horn Cattle, Longwooled Sheep and Berkshire Pigs.

BASTABLE, A. N., 27 W. *North Ave., Baltimore, Md.* Circular of Virginia Farm for Sale—see editorial

DEPEW, CHAUNCEY M., LL. D., *New-York.* Oration at Washington's Inauguration Centennial, April 30.

FLETCHER, GEO. A., *Milton, Mass.* Catalogue of Ayrshires (5 bulls, 40 f males) to be sold May 21, 2 P. M.—see advertisement.

KEYSTONE MFG. CO., *Sterling, Ill.* Catalogue of Agricultural Implements; pp. 36, illustrated. See advertisement, p. 360.

MINER, U. H., *Falls Village, Conn.* Catalogue of 40 Holsteins to be sold, May 8—see advertisement, p. 343.

PARK, ROBERT E., President Young Farmers' Club of the Southern States (42 Second St., *Macon, Ga.* History, Constitution, By-Laws and Annual Addresses; pp. 12.

PARSONS, J. R., *Scottville, N. Y.* Illustrated Circular of Low-Down Milk-Wagons—see advertisement.

SHOEMAKER, J., Sec'y Shire Horse Society, 11 Chandos St., Cavendish Sq., London, Eng. Report of Show, Feb. 19-23; pp. 64, with portraits.

WIMAN, ERASTUS, 61 *Broadway, New-York.* "The Waste of Competition:" pp. 8.

Inquiries and Answers.

Dairy Barn.—Can you give a plan of a barn, to be situated on the south side of a hill? The rise is quite gradual. The barn will be used for cows on a dairy farm, which will keep 40 cows when under better cultivation, and the barn to be large enough for that number, or so built that it can easily be enlarged. It should have five or six horse-stalls, some box-stalls for the cows when calving, or in case of sickness; some calf-pens, and a good arrangement for feeding. (1) Would you advise keeping a number of pigs in the same barn to eat up the milk—if so, how could their pens be best arranged? (2) And would you advise putting the manure in a cellar under the cow stable? (3) I think a cellar could be built very cheaply under the barn. There might be some danger of frost, as the ground is free from sand, and freezes very hard. (4) The barn would run east and west, and we can make a driveway right through it, and can make a number of entrances on the north side. We get the wind pretty freely there, although not as strong on the south side of the hill. A large barn which we have can now be used for threshing and husking, and the new barn will be used entirely for hay, fodder and straw. We shall probably want a good granary in a convenient part of the barn. I wish you would give me the best feeding rations for bulls, both in summer and winter. (5) E. E. E. *Walpole, N. H.* [1. You may adopt the plan represented by fig. 3 on page 312, of the COUNTRY GENTLEMAN for April 18, allowing loads to be driven through it lengthwise, the whole of the basement being occupied with cattle-stalls and calf-pens, instead of only on one side; and the floor above wholly devoted to hay-bays, horse-stalls and box-stalls. 2. It would be better to have separate pig-pens, according to some of the plans given in RURAL AFFAIRS, vol. VII, p. 30. 3 The common preference is to wheel out the manure each time of cleaning the stalls, into a special manure heap, which may be protected from washing by rains by a roof over the whole, thus forming an open shed; or if litter is used abundantly, the coarse or strong manure will hold the rain which falls and prevent washing, or the manure may be drawn to the fields and spread as fast as manufactured. 4. The basement walls, built as represented by fig. 3 of page 312 of the COUNTRY GENTLEMAN, would be warmer than without this protection and drainage; and if the outer walls afford security from cold winds and cloud currents, the warmth of the animals will prevent freezing, as the large, warm surface of 40 cattle, which would be more than 400 square feet, would give out as much heat as a large stove heated to redness with 20 square feet. If it is desired to arrange the barn so that it may be increased in size, it would not be advisable to adopt the plan of driving lengthwise through it, but to enter it at the upper side. Additions might then be made by simply adding to the ends, there being no embankments thereto interfere. The many minor but essential details may be learned from the illustrated article on pages 129 to 144 of vol. III of RURAL AFFAIRS; and pages 299 to 338 of vol. VIII.]

New Potatoes.—What are the most desirable of the newer potatoes to be raised for seed for next season; of whom may they be purchased? H. M'C. *Lincoln University, Pa.* [It would be quite out of the question to select satisfactorily from the many hundred varieties which are now raised by seedsmen, at experiment stations, and by individuals who give special attention to the subject. The best way would be for you to address the different seedsmen who have advertised during the several past weeks in the COUNTRY GENTLEMAN, requesting their catalogues of potatoes, and their selection of some of the best new varieties, which are old enough to be had at moderate prices. You may thus obtain a select number, which you can at once test on your own ground, and thus find which are best adapted to your peculiar soil and locality. It would be well always to bear in mind that varieties highly recommended for one place may be second rate at another, and hence the importance of testing the different kinds.]

Securing Earth Banks.—Will you inform me of the best vines, shrubs or grass to plant on a clay bank sloping at an angle of about 45°, and about 20 feet high, to keep it from wearing away, as it has begun to do? There are some fair-sized pines near the edge of the bank which I am desirous of saving. I suppose I could terrace it and fill in, but do not like the looks of it, and would prefer to get something growing there which would prevent its washing, if possible. W. C. W. [Any of the strong-growing trees and shrubs whose roots are abundant, would serve to accomplish the desired purpose, among which some of the larger willows would doubtless answer well, as for instance the white willow (an introduced tree), and the heart-leafed willow, a common native. Other species would do. All the willows which are propagated are easily raised by cuttings, and the ground may be easily covered with them. Any trees which sucker freely would be likely to be most efficient. One reason why the bank washes is that it is too steep. Civil engineers allow a foot and a half horizontal to one foot rise, and with most soils with this degree of slope they will sustain themselves.]

Wall Moved by Frost.—My barn is 36 by 62, resting on 9-foot wall on two sides, and 9-foot posts on the other two sides. A driveway embankment has pressed against and moved the wall ten inches out of line. I can see that it is leaning a little more inwards every year. What can I do? Can I spring it back with jack screws? If I can get it back, I will build stone abutments against it. C. W. B. *Onondaga County, N. Y.* [The first thing to do is to prevent the wall from being further pushed out of place by the freezing and thawing of the embankment, in the way figured and described on page 312 of the COUNTRY GENTLEMAN for April 18, by removing a vertical stratum of earth, to be filled in at the proper time with broken stone or coarse gravel. You can judge best on the ground whether to rebuild the wall or to attempt to replace it. We have seen the wall of a barn cellar which had been pushed several inches out of place restored to its position by the use of jack screws, and large iron rods anchored to the opposite side of the barn to hold it as it was gradually moved back. The iron rods were an inch or more in diameter, and were secured at both ends by screws cut on the rods and passing through heavy iron plates six inches in diameter. These plates rested against strong timbers placed against the walls. Sloping timbers on the outside rested endwise against these wall timbers, and on them were placed the screws. The lower ends of these sloping timbers rested at right angles against a heavy stick of timber partly buried and beaten in the earth. Every quarter inch movement of the wall thus gained was held by screwing up the plates on the rod. A part of the wall was too much broken, and was rebuilt. The iron rods remain in their places, and the walls are now secured from any future thrusting of the frost. Perhaps by some modification of this arrangement you may succeed, but doubtless you may have to build a portion new.]

Serradilla and Rape.—Please give me information regarding the culture and characteristics of the forage crops serradilla and rape. J. *Silver, N. Y.* [Serradilla (*Ornithopus sativus*) has been strongly recommended for growing on light sandy barrens, producing an abundant crop of heavy fodder, but we are not aware of its being cultivated to any extent in this country. It is a leguminous annual, grows about three feet high, and was introduced from Portugal nearly a century ago. Rape (*Brassica napus*) belonging to the turnip family, raised for its seed, is less cultivated than formerly; may be sown in drills, harvested by reaping, and dried and threshed like flax, yielding from ten to fifteen bushels to the acre. The seeds yield about two gallons of oil to the bushel. It must be sown on clean and not on weedy land.]

Sweet Ensilage, p. 332.—In reply to the gentleman from Kentucky, who lost his ensilage, let me say that I cut my corn just as it had glazed, the lower leaves were beginning to turn. I filled as fast as I could, only stopping at night. The ensilage was only trodden about the edges and was covered with cut straw for a foot or two and not weighted except by boards, and a load of seasoned wood. The corn was only put in when perfectly dry. The result was, very sweet, nice ensilage, to the very top. No waste at all, either at edge of silo or at top next to straw. A. J. COOK.
Michigan Ag'l College.

Potato Boxes.—Will Mr. T. B. Terry give the dimensions of his potato boxes? L. C. M'P. *Hanover Centre, N. H.* [They are 13 by 16 and 13 inches deep, all inside measurements. The ends are ⅞ in. thick and sides and bottoms ¾ in. There are hand holes in the ends, or rather finger holes. If rounded up in the least they will hold more than a bushel. If filled carelessly, stroke measure, so that one box sitting on another will not rest on the potatoes at all, on the average they will hold as near a bushel as I care to get. I have weighed many loads that came within 15 to 20 pounds on 50 boxes, and these few pounds were over, always, as I like to have it. T. B. TERRY.]

Holsteins on Pasture.—The excellent results of Prof. Stewart's ration for milch cows, given in the COUNTRY GENTLEMAN for Dec. 6, 1888, leads me to request a ration in connection with pasture. Have a fine field of rye which is ready for pasture now, and my regular pasture lots will have made sufficient growth within the next ten days. I have in grain, corn, bran, cottonseed meal, and linseed meal. In roughage, blue-grass hay, timothy, orchard grass, and feed and fodder, dry and sweet. The hay is of the varieties named, but not mixed. Since I got out of rye and oats, about a month ago, I have been feeding as follows: 7 lbs. fodder, 7 lbs. mixed meadow hay, 8 lbs. corn meal, 5 lbs. bran, 3 lbs. cottonseed meal, 1 lb. linseed meal. This ration was prepared as directed by Prof. Stewart, and fed in three feeds, as before. E. G. G. *Clifton, Va.* [H. G. G. will find the following a good addition: 6 lbs. cut mixed hay, 3 lbs. corn meal, 3 lbs. bran, 1 lb. decorticated cottonseed meal, 1 lb. linseed meal. The cut hay will be well moistened, and the corn meal, bran, cottonseed and linseed meal mixed with it. This is a day's ration, to be given one third in the morning and two thirds at night. That G. may see the amount of digestible nutrients in this ration, given on pasture, the following formula is given, in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
6 lbs. cut mixed hay	0.33	2.46	0.06
3 lbs. corn meal	0.30	1.89	0.14
3 lbs. bran	0.36	1.32	0.09
1 lb. decorticated cottonseed meal	0.35	0.20	0.08
1 lb. linseed meal	0.26	0.27	0.08
Total	1.64	6.64	0.40

Nutritive ratio, 1 to 5. This is well adapted to help out pasture, but if G.'s pasture is very deficient, it may be well to add another pound of bran. It will not be necessary to feed more hay, for this is quite sufficient to give bulk in the stomach, and cause a complete digestion of the food. E. W. S.]

Acknowledgments.

Communications for publication have been received during the week ending May 6, from Peter C. Kellogg & Co.—Marcus Field—J. R. Hilton—Stephen Beale (2)—E. M. Tryon—Rev. J. D. Dietrich—W. S. —A. F. K.—Jerry Weedon—T. B. Terry—R. L. E.—G. A. Frierson—D. H. Odell—C. S. Clark—G. E. Ellis —C. R. Chapman—Jas. B. Cotton—Geo. Cleaton—Virginia S. Patterson—Prof. Stewart (4)—J. R. Wing —W. C. Norton—John H. Dent—A. P. Rowe—C. H. F.—Wm. Bradford—J. H. C.—J. W. Holcombe (please send write on both sides of the paper)—C. E. M. —W. D. Pyles—Dr. Horne—P. Perrine—S. B. Strong —A. J. Cook (2)—B. A. A.—Waldo F. Brown—Mrs. E. M. Jones—Jacob Engle—Clarence Ramsden—M. H. Field—Stephen Beale.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, May 9, 1889.

Perkins' Farm Accountant—Is now again (and we suppose finally) out of print. We have sold the last copy, and no further issue is expected.

Back Numbers Wanted.—We have two orders to complete sets of the COUNTRY GENTLEMAN from the beginning, and lack the following issues; persons having them, *or the volumes in which they occur*, and willing to sell, will do well to let us know:

1853—Jan. 13 and 20; May 5; June 16 and 23; July 7.

1854—Jan. 26; Sept. 1.

1865—April 6; Aug. 17 and 24; Sept. 7, 14, 21 and 28.

It seems a pity that two sets should be left imperfect for lack of these few issues, and we sincerely trust that readers who may have piles of the paper stored away will be willing to try to assist us to fill the blanks.

Farms for Sale.—A number of readers wish us to put them in communication with "B.," who asked on p. 320 for advice about selecting a farm. This it is impossible for us to do, as the address was not preserved—the proper way to sell farms is to advertise. Should this meet the eye of "B.," or any one else who may be thinking of settling in Virginia, we would call his attention to the advertisements of Messrs. A. N. Bastable and C. T. Boddecht, pages 328 and 330. We believe the places offered by these gentlemen present unusual attractions, and may be bought at low prices.

Iowa.—The Annual Report of the Iowa State Agricultural Society for 1888, received from J. R. SHAFFER of Des Moines, the secretary, reports 104 county and district organizations, with statements of their proceedings, the aggregate membership of which is 40,548; the receipts of their fairs $195,989; and the amount paid in premiums $121,000. Among the general reports for the State, the natural increase of horses is put down at 240,000, three-fourths of which are the product of unregistered sires, while an improvement is gradually going on. But few diseases have existed among horses, and the business of raising them for shipment out of the State has assumed large proportions, with an advancement towards a heavier breed and higher prices. Iowa stands third in numbers, exceeding at present over a million, worth $74,000,000. The State has 45,000 mules worth $4,000,000. Five leading railways carried east last year 34,000 horses. A great improvement has been made in the character of the cattle, the Short Horns maintaining the pre eminence, followed by the Herefords, Polled Angus and Jerseys. The report states that "not over thirty years ago cattle were turned out in the spring lank, thin and unsightly, the product of the common herd, and early in the fall the steer would bring $10, which would buy eight acres of land. To day a $30 steer, after eating fifty bushels of corn at 30 cents a bushel, and living on $10 a ton hay, will hardly buy an acre of land."

Iowa leads all other States in the number of hogs, having over four million. But sheep are too rapidly disappearing, and dogs, their enemies, are denounced. The animal of which there is a vast surplus is the English sparrow. It is asserted that the destruction of crops by the Rocky Mountain locust is not worthy of mention in comparison with the disaster wrought by the sparrow. The various destruc-

tive insects are met and destroyed; the sparrow increases in all localities and in all weathers, but there appears to be as yet no efficient wholesale remedy.

The corn crop of Iowa is reported at 183 million bushels, a larger amount than in any other State; Illinois and Missouri coming next, but each deficient in 40 millions; while Iowa is more than double the product in either Indiana, Kansas, Texas, Tennessee or Ohio.

The destruction in the State by the chinch bug in 1887 was estimated at least $30,000,000. The genuine army worm, although present every year, has caused less destruction. Other noxious insects are cut worms, destroying corn on sod ground, of which no estimate is furnished, but it is obvious from the local reports that their ravages have amounted to millions. More than half the counties speak of "wire worms, green worms, red ants, grub worms, stock borers, strawberry worms," and some others. The attention of entomologists is invited to an examination of their habits, determining their names and to the means for their destruction.

Academy Grounds.—We gave on page 311 a plan for laying out and planting the grounds for a small country school, and now present a bird's eye view of the plan for the grounds of a larger and more advanced institution, where more ample means are at the control of the managers. In addition to the ornamental effect of the groups and masses of trees, valuable lessons may be imparted by giving to the selection of the trees something of the scientific character of an arboretum. Many of the kinds may be selected from the borders of neighboring forests, and additional ones from such nurseries as have become overstocked with ornamentals, and which may be had at a low price. For instance, a dozen or more species of the oak, planted in one of the natural groups, could be used to give to the students a knowledge of the more common and valuable species, and the distinctive characters pointed out to them would be as useful in after life, as to know how to reduce a quadratic equation in algebra. Another natural grouping might contain the maples, and another the poplars, and so forth. The grounds near the building might be planted with hardy shrubs, the branches of which would not be tall enough to improperly shade and obscure the light of the windows. The elliptical bed on the right, protected by trees from cold winds, could be occupied with more tender shrubs, which need some protection. The grounds occupying not more than an acre or two, might be kept in the condition of a neat lawn and landscape garden by the use of the hand lawn mower, at little cost.

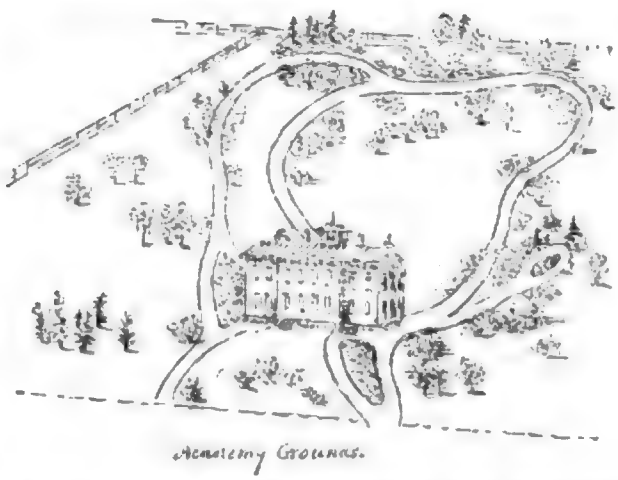
If more pains were taken to give all the public and private institutions of learning in the country, these characteristics, young persons might be easily taught the valuable lessons of knowing more of our forest trees and hardy shrubs than many older persons, and the taste for landscape planting cultivated and fostered in a true practical way.

Poisonous Meat.—A strong argument for the bill now pending in the New-York Legislature requiring the inspection alive within the State of all animals intended for human food, appears to be furnished by the discovery at Buffalo last week of a lot of western cattle afflicted with the loathsome disease known as lump-jaw. Their virulently poisonous flesh would probably have shown no sign of danger, had the beasts been slaughtered at Chicago.

The Newtown Pippin.—Mr. W. Robinson, the genial editor of the London Garden and author of several valuable works on horticultural subjects, writes as follows to the Garden and Forest, New-York, with reference to a statement that American apples are inferior in quality to those raised in England:

A man writes confidently about what he knows, and here I find many people judge a fruit more by its appearance than its flavor; but let at least one who puts flavor first say that an American Newtown Pippin is the best apple in the world.

If your people can only grow enough of it, and grow it well, the rest of the world will have to be very active, indeed, to beat you in apples. They have first to raise a kind to equal it. We have good apples here, and there are good apples in France (though not quite equal to ours, I think). But there is nothing with the splendid high flavor and lasting quality of the Newtown Pippin. I am writing this on the 6th of March, and there are Newtown Pippins here in London, still, after their long voyage and long keeping, of high quality. Our own eating apples have disappeared long ago. There may be a few often favorites, in private collections, but in Covent Garden one sees nothing of them. I often wonder when reading your excellent rural journals that I do not find anything about the Newtown, and, so far as I have been able to judge, Americans generally do not value it fairly. They tell me they have better apples, but better would be too good for this poor world.



Academy Grounds.

Insect Foes.—The book called "Our Insect Foes and How to Destroy them," which is given by Mr. P. C. Lewis of Catskill to every buyer of one of his very valuable spraying pumps,—see advertisement, p. 380—is a 16mo. of 68 pages, freely illustrated, and seems to give sound advice, briefly and clearly expressed. We think it is well worth studying.

Missouri.—The State Horticultural Society will meet at Brookfield, June 4-6. Rates will be given on the railroads, entertainment provided free, and premiums given on flowers and berries, especially strawberries. L. A. Goodman, Westport, Secretary.

Plant Protectors.—Messrs. Sherman & Crouch, Sidney, N. Y., send us one of the cloth plant protectors advertised by them on p. 379. It seems to us an excellent device, fully justifying all the claims they make for it, and particularly worthy of the attention of enterprising gardeners. We hope they will be sold by the thousand.

Reliable Seeds.—We have the following note from a well-known and we believe entirely trustworthy firm, Messrs. Morehouse & Annis of Rochester:

"Enclosed we hand you another batch of ads. for next issue. We had so many valuable returns from those of two weeks ago that we are induced to follow them."

Chemung County.—The Chemung County Agricultural Society will hold a fair at Elmira, June 18-21. G. B. Smith, Horseheads, N. Y., secretary.

A Good Boiler.—After I purchased Crescent Farm, I found I must have a steam generator for heating water and cooking food. I have a large herd of cows and a retail milk business; therefore, require a great deal of hot water for cleaning cans, &c. I had seen many but none met my views as being adapted to all purposes for which I needed one. But thanks to the Country Gentleman, by my keeping a close watch on the advertising columns, at length there appeared a cut of Gould & Austin's steam generator. As soon as I saw it I saw it was what I wanted, and immediately ordered one, and it has fulfilled my most sanguine expectations. It is very simple; a boy ten years old can manage it successfully. I often feel thankful that I am a reader of the Country Gentleman, which abounds with so many good things and information for the farmer, or perhaps I would never have known that there was an Austin steam generator.

Passaic Bridge, N. J. J. N. W.

Johnson Grass.—I send sample of Johnson grass, thinking perhaps it may be a curiosity to your portion of our country at this early date. This is the grass which causes so much dread to southern farmers who cultivate rich land. On poor land it is not troublesome, as it will only grow very rapidly on such land when highly manured. This sample is from the latter class of soil, and from one acre last year we cut seven tons of hay in three cuttings. I have planted the seed of this grass in September, and cut a dense mass of hay as high as this sample before frost. I think it makes a better class of hay when it grows less luxuriantly than this. It is the easiest grass to cure into hay that I am acquainted with, and when cut just at first signs of bloom, makes hay which horses eat as readily as any other in the world, I believe. G. A. Frierson.

De Soto Parish, La.

The specimen is a curiosity indeed, being 68 inches long, with a diameter of a third of an inch near the ground.—Eds.

Alfalfa—Johnson Grass.—In several of your last issues, subscribers are interested in alfalfa. I have a small piece of land in alfalfa that I sowed with oats and covered with a common harrow; it has stood the winter well and is now 10 inches high and doing well. But like Gerald Howatt, I would advise good treatment in order to get a stand. That it is valuable I am sure, for my Jersey cow will leave clover or blue-grass for it. The Johnson grass is of no value here; it stood two winters, but died the third. W. D. P. *Camp Spring, Md.*

Farm-Yard Notes and Items.

Messrs. Peter C. Kellogg & Co., write to the Country Gentleman from New-York, April 30, as below:

We have reason to believe that our Holstein-Friesian cattle sale of May 14 and 15 will be well worthy of the attention of admirers of the great milking breed. Two herds (belonging to estates) which were organized by costly selections from leading American milking families, purchased from prominent herds, will be closed out entire, while a third smaller herd of imported cows headed by an American bull of Mr. Huidekoper's breeding, which has recently been added to the catalogue, will also be sold. Over 130 head of Holstein-Friesians, besides quite a number of Hollands, will afford buyers opportunity to make selections from an ample supply, whether they want them singly or in carload lots.

The American Jersey Cattle Club (F. W. Wicks, secretary, 1 Broadway, New-York,) has issued the first volume of its "Butter Tests of Registered Jersey Cows," continuing Maj. Campbell Brown's records begun in the Country Gentleman in 1882 and afterwards published in book form. The present work gives some 200 tests, the best being that of Mr. D. F. Appleton's Cornwall Maid 19094 (by Ramapo out of Lady Cornwall)—29 lbs. 11 oz.—as reported in the Country Gentleman of Aug. 18, 1887, p. 644. These tests, and their indices, however, fill not much more than half of the 126 octavo pages of the book; the remainder is occupied by Prof. Alvord's essay, "Differences in Dairy Products," and a compilation of "Facts about Jersey Cattle." The price of the work is $1, and every Jersey breeder needs it.

The Ninth Volume of the American Hereford Record has entries 32,500 to 35,500, and is adorned with a number of full-page portraits. The association has now 417 members. G. W. Henry of Chicago is president; C. R. Thomas, Independence, Mo., secretary; Chas. Gudgell, treasurer; G. N. Bissell, D. Henning, N. W. Leonard, T. C. Pouting and J. R. Price, directors.

Dishorning cattle has been declared illegal in England, by the Court of Queen's Bench. The practice, it seems had been in operation in Norfolk some thirty years, but was discontinued till three or four years ago, when it was revived. It is permitted by law, we believe, in Scotland and in Ireland.

Eds. Country Gentleman—In issue of May 2, you have made several mistakes. I was the purchaser at the late Tenth Annual Jersey Breeders' Sale of Koffee's Ona, Fancy Nancy, and Silver Snap 2d, while you name the Messrs. Cromwell and Mr. Crozier as their present owners. Frederick Lorber. *New-York.*

We published the official list of sales, exactly as drawn up by the Messrs. Kellogg.—Eds.

Eds. Country Gentleman—I report test of Jersey cow Ramapo's Pride 35497, 4 years 10 months, April 10-17—Milk, 235 lbs.; butter, 14 lbs. 4 oz., salted ounce to pound, and weighed when ready for market; no special preparation. She was sold for $250 at the combination sale, and Mr. A. H. Moore, her buyer, has a bargain. She was bred after Mr. T. S. Cooper's plan—got by Ramapo 4579, out of Pride of Franklin 25408, a cow strong in the blood of Noble 901. A direct out cross worked well in her case. W. C. Morton. *Adamsville, Pa.*

A combination sale of thoroughbred yearlings, from the Woodburn, Runnymede and Coldstream studs, took place at Lexington, Ky., April 30. Eighty-four animals sold for $60,930; an average of $725. Those sold for $1,000 and over were:

COLTS.

Bay, by Billet—Jessamine, Dwyer Bros., Brooklyn, N. Y.	$4700
Bay, by Hindoo—Mercedes, Dwyer Bros.	2300
Bay, by Hindoo—Emma Hanly, Dwyer Bros.	2300
Chestnut, by Hindoo—Morgan Girl, Roche & McClelland.	1900
Bay, by Billet—Destruction, Dwyer Bros.	1700
Bay, by Billet—Pl. Ireland Bros., Paris, Ky.	1400
Bay, by Billet—Francesca, R. W. Walden, Middebury, Md.	1000
Bay, by Green Rush—Brambalona, H. Woodford, Paris, Ky.	1000
Bay, by Billet—Lady of the Lake, Ireland Bros.	1000

FILLIES.

Bay, by Billet—Vega, John Hannigan Millvale, Ky.	2000
Black, by Hindoo—Emma Hanly, Dwyer Bros.	1800
Bay, by Longfellow—Sea Shell, Dwyer Bros.	1700
Bay, by Billet—Lady Mutley, Ireland Bros.	1510
Chestnut, by Hindoo—Red and Blue, H. Rocke, St. Louis, Mo.	1500
Brown, by Hindoo—Bourbon Belle, Dwyer Bros.	1400
Black, by Hindoo—Uproar, Jno. T. Donovan, St. Louis, Mo.	1300
Chestnut, by Falsetto—Lady Stockwell, Geo. L. Long, Louisville, Ky.	1100
Brown, by Longfellow—Indemnity, W. H. Letcher, Richmond, Ky.	1100
Brown, by Billet—Juanita, J. H. Ross, Liberty, Mo.	1025
Black, by Billet—Vienna, Steele & Bedford, Paris, Ky.	1000

Mr. Luther Adams, Storm Lake, Iowa, held a sale of Scotch-bred Short-Horns at Dexter Park, Chicago, April 25, with the following result:

17 Bulls, average	$288—Total		$4,896
48 Cows, do.	284 do.		13,640
65 Animals, average	280—Total		$18,536

A combination sale of Aberdeen Angus cattle, at Dexter Park, Chicago, April 23-24, resulted as below:

G. & J. GRARY.			
21 Bulls, average	$276—Total		$4,020
44 Cows, do.	291 do.		12,800
65 Animals, average	288—Total		$16,820
GEO. HENDRIE.			
7 Bulls, average	$84—Total		$588
12 Cows, do.	143 do.		1,715
19 Animals, average	121—Total		$2,303
COUNTS MAJORIBANKS.			
2 Bulls, average	$413—Total		$825
5 Cows, do.	133 do.		1,065
11 Animals, average	197 do.		$1,890

Autumn Exhibitions.—Dates have been appointed as below for the State Fairs and other important shows named:

American Institute, New-York	Oct 2, Nov. 30
Buffalo International, Buffalo	Sept. 3, 13
Colorado, Pueblo	Oct. 2, 9
Connecticut, Meriden	Sept. 17, 20
Dakota North, Grand Forks	Sept. 17, 21
Dakota South, Aberdeen	Sept. 25, 27
Delaware, Dover	Sept. 30, Oct. 5
Georgia, Macon	Oct. 23, Nov. 1
Illinois, Peoria	Sept 23, 27
Indiana, Indianapolis	Sept. 23, 28
Iowa, Des Moines	Aug. 30, Sept. 6
Kansas, Topeka	Sept. 16, 21
Kentucky, Lexington	Aug. 27, 31
Maine, Lewiston	Sept. 10, 13
Maryland, Pimlico	Sept. 9 14
Massachusetts Horticultural, Boston	Sept. 17, 20
Nebraska, Lincoln	Sept. 9, 13
New England, Worcester, Mass.	Sept. 3, 6
New-Hampshire Grange, Tilton	Sept. 10, 12
New-Jersey, Waverley	Sept. 19, 20
New-York, Albany	Sept. 13, 18
Ohio, Columbus	Sept. 2, 6
Ontario Provincial, London	Sept. 9, 14
Rhode Island, Providence	Sept. 25, 27
St. Louis, St. Louis	Oct. 7, 12
South Carolina, Columbia	Nov. 11, 15
Toronto Industrial	Sept. 9, 21
West Virginia, Wheeling	Sept. 9, 13
Wisconsin, Milwaukee	Sept. 16, 20

The Grazier and Breeder.

Explanations that Do Not Explain.

EDS. COUNTRY GENTLEMAN—On p. 272, in answer to the question "How is hay improved by cooking?" Prof. STEWART says that cooking the clover hay partly brings it back to its succulent state as grass, and the pig can therefore more easily digest it, &c. Is that true?

Possibly some method of moistening the hay might be practiced by which the dried grass could be made to absorb nearly the same amount of moisture that was evaporated from it in the process of curing and thus make it more easily masticated, but even that would not necessarily improve its digestibility. If my reading of the COUNTRY GENTLEMAN has not been amiss, it has been therein demonstrated within the past few years that corn meal (which F. W. S quotes as greatly improved by cooking) is actually rendered less nutritious by being cooked.

Now, whatever may be the effect of cooking upon corn meal or potatoes, the practice, according to any definition of the word, as applied to hay is simply absurd. We may take from it some of its nutritive constituents, but we surely can add nothing to it by subjecting it to that operation.

It is an easy matter by cooking to extract all of the nutrition, leaving nothing but woody fibre, and possibly by continuing the operation long enough that might be reduced to pulp, a useful substance in the manufacture of paper, but as unnutritious and as indigestible as sawdust or iron filings. Such teaching by scientific men is largely responsible for the want of faith in scientific agriculture on the part of practical farmers. I once heard an individual described by an acquaintance as "a man who knows a great deal, but unfortunately a good deal that he knows isn't so." The description would apply to some writers on agricultural topics. M. L. W. *Great Barrington, Mass.*

Explanations Useless on Some Minds.

On page 272 W. asked, "Is hay improved by cooking?" The question arose in relation to feeding pigs. And to get down to the point, I asked: "Does W. believe that succulent grass is no more easily digested by the pig than the same grass cured into hay?" Presuming that his answer would be favorable to succulent grass, I said: "Cooking the clover hay partly brings it back to its succulent state as grass, and the pig can, therefore, more easily digest it with its other food." Now, if succulent grass is more easily digested by the pig than hay, and if cooking partly brings back the hay to its succulent condition, then must it not be admitted that hay is improved by cooking, for the pig? Even if it is only "more easily masticated" as W. admits, it is then certainly improved, for without this softening the pig would not eat it. As I said: "It was recommended principally to give bulk to the contents of the stomach, and thus to improve the digestibility of the other food." But W. quite overlooks all these points, which answered his question, "Is hay improved by cooking?" and flies off on a tangent, beyond the points under discussion, giving no reason, but declaring, "the practice, as applied to hay, is simply absurd." Then returning, he says: "It is an easy matter by cooking to extract all the nutrition, leaving only woody fibre." Yes, but that is not the kind of cooking we are discussing. Cooked food is supposed to be fed with the liquid in which it is cooked, which would contain all the digestible elements in solution.

But it does not seem to have occurred to W. that in this last statement he quite upsets his previous assertion. If it be true that it is "easy by cooking to extract all the nutrition, leaving only woody fibre"—then cooking can dissolve out the nutritious substances from hay, and of course must render these substances more digestible. It is well proved that hay tea is so nutritious that calves will make excellent growth upon it alone. This is what is claimed for cooking—that it renders the nutrients of the hay more easily digested—not that it adds nutritive substance. The writer never made such a claim, and W. has no occasion to dispute it. On page 272 we asked if W. believed succulent grass no more digestible to the pig than the same grass cured into hay. This was an important point, which he avoids. For if grass is more digestible to the pig than hay—then cooking, so far as it softens it and renders its nutrients soluble, must improve it. We know that a few agricultural teachers deny that grass is more digestible than well cured hay, but great practical facts entirely overthrow this theory. Pigs grow thriftly upon grass alone, millions of cattle are fattened upon grass yearly, millions of cows produce profitable yields of milk upon grass, but who attempts to grow a pig, fatten cattle, or produce paying yields of milk upon hay alone?

W. evidently classes himself with the "practical farmers," but has he not made a mistake, and adopted instead the view of a few theoretical teachers who base their views upon a few small digestion experiments as against the universal practice of the practical farmers of the world?

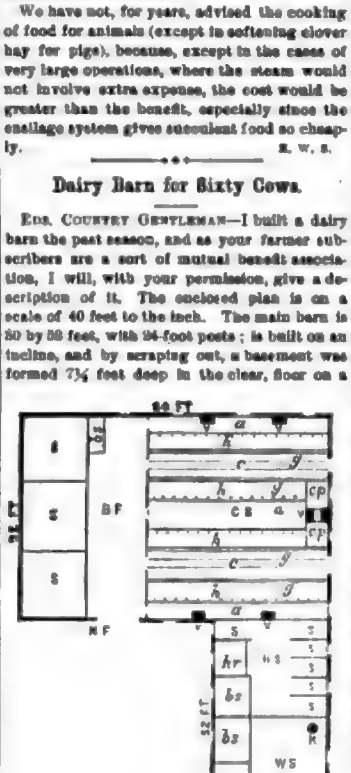
W. quite mistakes the evidence which he supposes has been published in the COUNTRY GENTLEMAN, to show that corn meal is actually rendered "less nutritious by cooking." We shall be obliged to him for pointing out this evidence. The half-way experiment in the artificial digestion of cooked and uncooked albuminoids of corn meal, at the New-York Experiment Station, seemed to show that this element was less digestible after cooking, but left out of the account all the other nutritive constituents.

Those who believe that starchy food is rendered less digestible by cooking should show the sincerity of their belief by eating it uncooked. This would certainly be convincing to themselves, and perhaps assist in gaining converts to their views.

We have not, for years, advised the cooking of food for animals (except in softening clover hay for pigs), because, except in the cases of very large operations, where the steam would not involve extra expense, the cost would be greater than the benefit, especially since the ensilage system gives succulent food so cheaply. E. W. S.

Dairy Barn for Sixty Cows.

EDS. COUNTRY GENTLEMAN—I built a dairy barn the past season, and as your former subscribers are a sort of mutual benefit association, I will, with your permission, give a description of it. The enclosed plan is on a scale of 40 feet to the inch. The main barn is 80 by 50 feet, with 24-foot posts; is built on an incline, and by scraping out, a basement was formed 7½ feet deep in the clear, floor on a



DAIRY BARN.—S S S, Silos; B F, Barn Floor; C B, Cow Stable; H B, Horse Stable; W S, Wagon shed; M F, Manure Floor.

level with the ground at back of barn, while top of basement wall on the front side is 1½ feet above the ground; the walls are 2 feet thick, laid in water lime. Three silos occupy 16 feet across east end, are 14½ by 18½ inside, and 31½ feet deep. Their walls are of stone, the same height as basement; then of 9 inch boards, 1½ thick, laid flat, one on the other, with hot coal tar between every course, and well nailed; the partitions of the same, care being taken to break joints. It will be seen that the walls of silo take the place of two bents, the plates lying directly on silo walls. The silos are plastered inside with cement mortar; openings, four in each, 2½ by 3 feet on side next barn floor, from which ensilage is thrown out. Capacity, 400 tons; enough to winter 60 cows.

Next to silos is barn floor 32 by 16 feet, with basement stairs (*b s*) in corner; next the floor is cow stable, on same level, 32 by 43; is designed for four lines of stanchions running lengthwise of barn, and will hold sixty cows—the outside rows standing with heads to wall, the inside ones heads together. The feeding alleys (*a*) open on floor, and are of sufficient width to run a truck through with box of ensilage (when we get one rigged).

The outside feeding alleys are 3 feet in the clear; the centre alley is 6 feet in clear between mangers. Mangers 2 feet 2 inches; these are made in sections, of such length as will accommodate four cows, and these sections subdivided so that each cow has one to herself. Stanchions are of the common stationary kind. The platforms (*h*) on which cows stand are 4 feet 8 inches (that is 2 inches too wide for ordinary-sized cows); gutters (*g*) 10 inches wide and 6 deep; space between gutters (*c*) 3 feet. To dispose of the manure, the planks next the gutters are hinged to the plank or planks forming centre of platform; then, on the under edge of those next the gutters, are spiked strips of plank of such width that when in position they will rest on the sleepers, forming one side of the gutter. It will be seen that when this plank is raised up, it removes one side of the gutter, and leaves an opening of the width of this plank into the basement. With a shovel, or a scraper attached to the handle at an angle, the manure can be readily shoved into basement. Stable is ceiled with inch spruce, planed and matched, with building paper between that and siding.

On the west end of stable, in centre alley, is a ventilator (*v*) with a partition in it, extending above the floor over the cows, and the whole boarded with inch matched spruce, connecting with ventilator in roof, 46 feet above stable floor. The right-hand half opens into basement, the left-hand half into stable, and is used also for hay chutes. Either side of this ventilator is a calf pen (*c p*), which can be used as lying-in rooms for the cows. The ventilators in side alleys (*v*) extend from floor over stable up to plate, connecting with lattice under the eaves. These are to be 2½ by 8½ feet, to be used for hay chutes as well as ventilators. I was aware that many good barns were poorly ventilated; have tried to overcome this, and think my plan will accomplish it.

The basement under the stable is used for manure, and is designed also as a place for hens; the pigs are already there. The basement where the manure drops is paved with stone laid in cement, and when completed will be like a cistern, and hold everything that passes the animal.

The loft over stable is used for hay and grain, and has a capacity for 140 tons. There being no beams connecting purlin posts, the space between them, 36 feet in width, in centre of barn, is unobstructed; the design contemplates the erection of "tracks" for hay-carrier by which a load can be put in at once.

The L in plan is horse stable and wagon shed. Stable, 30 by 24 feet, with five single stalls (*s*) on one side, and double stalls and harness room on the other. The wagon shed is 30 by 23 when complete, and will have two box stalls 10 by 15 feet.

Water is brought from spring in iron pipe just inside of wall of wagon shed, horse stable and wall of basement on west end to southwest corner of barn, then through the wall to trough under shed to be built. Water now runs into kettle in corner of wagon shed (*k*), and through side of shed into trough. T's are put in water pipe under each manger, so that pipes may be attached and water brought up into troughs under mangers if deemed advisable.

For filling silos we use No. 18 Smalley cutter, with 24-foot carriers; corn is cut in ½ inch lengths, and put in over top of silo at the rate of seven to eight tons per hour. We are so unfortunate as to have a creamery in possession, so we used the 20 horse power engine employed in that for driving ensilage cutter, using 115 feet of tumbling-rods to make connections. The uses to which this power may be applied are threshing, unloading hay, elevating grain and feed to granary, which will be located over south end of floor on level with hay loft. Barn is covered with pine planed and matched, and painted two coats. Total cost of all $2,500.

One necessary part of a good barn is not yet built—the granary. Twelve feet of the rear end of barn floor is to be overlaid with timbers of the same height of the hay-loft over cow-stable; on these, floor will be laid, and bins erected, about 4 feet in width by 8 or 9 in depth and 11 feet high, with an alley in rear of bins, from which they may be entered by doors near the floor. Chutes in the centre of bottom of each bin, with slides, will admit of the grain being drawn into box or bag, as may be desired. To get grain in, we think we can use the same carrier that we do in filling silos, and our power is so readily attached that we think it will to use it when we can save labor by so doing. We have thought of using engine for unloading hay and grain, as we are steamed up every week day for six or seven months; it could be done with very little additional expense. A bin in loft over horse-stable, with chutes entering stable below, is the scheme for convenience in feeding the horses.

At near the close of first winter's use of barn and silos, I can say that my expectations are well met, and believe that good barns will make better farmers, and farming a better paying business. I already feel the inspiration that comes from a good barn, and intend to farm it better than ever before.

A word as to ensilage. We had 18 acres and about 15 tons to the acre, a very light crop; but then three or four counties in this part of the State were terribly dry, and hay was not more than one-third of a crop. Cattle eat ensilage greedily, and do well on it; have some fresh cows that do as well as on pasture. We raised the Leaming corn, and like it; those who have it for sale would do well to make it known. C. C. VROOMAN. *Jefferson Co., N. Y.*

Running a Kansas Farm.

EDS. COUNTRY GENTLEMAN—While in Kansas I bought a farm of 240 acres, with a 200-acre pasture on it, and should like Prof. Stewart's opinion of a plan I have to utilize the pasture. I thought of buying about forty two or three-year-old heifers here in Illinois, let the calves run with the cows until grass begins to fail in the fall, then wean calves and feed unground oats and bran to cows and calves until toward the next spring, when change to corn. Feed calves and cows corn with grass so long as grass is fresh, when calves will be about 18 or 20 months old, then sell cows and calves for beef. Can buy oats for 20c. per bushel, and bran and shorts for $10 to $12 per ton. Will calves raise unground oats with the cud? Oil cake not available. Would heifers be likely not to do well, not being acclimated? E. W. *Rockland, Ill.*

E. W. seems to make no provision for fodder to be given with oats and bran next winter. Does he suppose that there will be grass in the winter obtainable by the cattle enough to form a cud? If there is no fodder to form a cud, he can hardly expect that unground oats will be raised and remasticated with the cud. Had he stated the price he will have to pay for these two or three-year-old heifers to drop calves, and the cost of transporting them from Illinois to his Kansas farm, there would be a basis on which to calculate the probable cost of the forty cows and their calves a year from next fall.

It must occur to E. W. that the growth or increase in value must nearly all come from the value of the calves at 18 months old. That is, a cow and her calf must be kept from the spring of 1889 to the fall of 1890, or 18 months, for the value of the calf. This might be allowable if the cow and calf could be kept and thrive the whole time upon the pasture alone, but it would require at least 14 lbs. per day of oats and bran, if fed in the open air, to winter each of these cows, or 2500 lbs., say, of oats and bran per head; and it would take 1000 lbs. to winter, in good condition, each calf; or it would take for both cow and calf 4,500 lbs., and this at $12 per ton would cost $25 80.

Now, to feed the cows and calves, or 80 head, upon 200 acres of pasture, the second summer, so that they may be in good condition to be sold as beef in the fall, would require at least 10 lbs. of corn per head on pasture, or 3600 lbs. for the cow and her calf, and this, at $10 per ton, would be $18 for corn through the summer for cow and calf. This would make the purchased food for cow and calf during the 12 months $43 80. Therefore, these figures show that each 18 months'-old calf must sell for at least $43 as it leaves the pasture, in order to pay the simple expense of purchased food, and E. W. must then sell each cow for enough to pay her original cost, and to give him compensation for his pasture for two seasons, besides compensation for labor in looking after them. This scheme, therefore, does not appear to offer any reasonable expectation that it would pay E. W. anything for the use of his 200 acres of pasture, or interest on his investment in the farm.

Do not think there would be any trouble in acclimating the Illinois heifers.

S. E. W. does not say what he intends doing with the other 40 acres of land; perhaps he will devote it to a corn crop to furnish grain and fodder for winter. His plan would be somewhat improved by this modification: Sell the 40 heifers in the fall after weaning their calves. Begin to feed the cows on pasture, at midsummer, oats and bran in small quantity, increasing it so that these young cows would be fat in November, and would sell at a fair price, without the extra expense of keeping them another year. Keep the calves over, and sell them, as proposed, the next fall. The

second spring bring on 30 more heifers to drop and raise their calves—feeding these young cows so as to sell them in the fall, as before, and keeping the calves over; the third spring bringing on 40 young cows, raising their calves, selling dams in the fall, as before, &c. This is a mere suggestion—not warranted to come out extra fat. E. W. S.

Cooking and Digesting Food.

Eds. Country Gentleman — I have been looking over the remarks of Profs. Stewart and Cook, and some of the reports of the experiment stations east and west, and it strikes me that the matter of digesting food requires more investigation. It appears to be involved in fog. Some of the experiments at the stations were largely controlled or varied by outside circumstances, such as warm weather at one time, cold at another; sometimes the cooked food was partly frozen, and the animals were shivering in the cold, which would make quite a difference in the effect of the feeding. And yet these reported results are very often quoted and repeated to show that cooking does harm. Then again, the time and exercise required to masticate and grind up whole grains, may give it a superiority over watery pudding that is gulped down by swallowing rapidly, which is not giving the latter a fair chance.

It strikes me that the artificial apparatus for digesting food, and deciding in this way on its value, is liable to serious mistakes. An animal which enjoys its food, would be likely to be more benefited by it than the animal which loathes it, but the artificial digester would not point out this difference. How does the human system work differently from that of animals? Does man do better on well cooked bread than on dough? I mention a case. I myself ate a dinner ten miles from my home, and badly-baked wheat bread formed a part of it. Although I was in perfect health, this bread digested badly, and on my way home I became so dizzy from this bad digestion that I came near falling out of the buggy which I was driving. Would the digesting apparatus show that half-cooked wheat was better than raw dough, and that well-baked bread was more indigestible than unbaked? Would it show the degree of benefit to different and varying animals? Do not some animals grow faster and larger on the same food than others? Among the many things which control growth, are heat and cold, cleanliness and filth, breed, gentle treatment, shelter, &c. Some of these are omitted in most of the experiments which I have seen reported. Inquirer.

The Beef Trust.

Eds. Country Gentleman—I have read the article on "the dressed-beef traffic" by Col. Curtis, with interest. The subject is of great importance, both to producer and consumer, and should be discussed, until a practical remedy is adopted that will put an end to the present unsatisfactory state of affairs.

If the beef trust is the cause of the low price of cattle, we should know it. If there are other causes, we should recognize them, or our efforts for relief will be futile. If I understand Col. Curtis correctly, the butchers in New-York dare not buy live cattle of farmers, a state of things that does not exist in Virginia. We can sell our cattle to whom we please, but unfortunately can get but a small price. The butchers who buy them, however, are doing remarkably well. They denounce the cattle trust, it is true, but the retail price of beef does not diminish. The sufferers are the farmers.

Our system of pushing railways into the far West, carrying cattle at low rates, and virtually giving the land to the grazier, has something to do with the low price the eastern farmer receives. Wheat is low; in fact, everything that is not too bulky or perishable for the railroads to carry, is low. But the consumer does not get the benefit. I have the authority of Chicago papers for the statement that bread is retailed in London cheaper than in the former city, and my English papers show me that beef and mutton are retailed to the consumer cheaper in English towns than in the city of New-York.

I saw a statement the other day that the farmers of Fauquier and London counties in this State are about to erect a market in Washington for the sale of their products. This is a step in the right direction, bringing together producer and consumer, and I hope your correspondents in those counties will give us the particulars.

I confess I have not been able to devise a scheme whereby the farmer and consumer may divide the profit that goes at present to the middleman, but do not believe that the cattle trust is responsible for the low prices prevailing in Virginia. Refrigerated beef is sold in Richmond, and makes no difference to the farmer. We get a miserable price now; we got no more for some time before its introduction. A glance at the Richmond papers will show cattle quoted no higher than in Chicago. If the quotations are to be depended on, the Richmond butchers can buy their beef as cheaply as can the cattle trust, and save transportation. George Clendon.

Louisa County, Va.

The American Trotter.

The following interesting reminiscences and prophecies are from a talk with a New-York Herald interviewer by one of our best authorities, Mr. Peter C. Kellogg:

I can assure you there is plenty of trotting stock throughout the country that rates as standard and which is intrinsically very good indeed, and from which sensational results will in time develop, and if put up at auction in the way that General Tracy's horses or those in the California sale, were sold would not bring sensational prices. Animals that in the future will prove to be as good as the high priced ones sold in the recent sales are expected to be, would slip through at merely nominal prices. The science of breeding trotters is generally considered to consist chiefly in repeating, by the use of good individuals, the blood formulas that have produced the greatest number of trotters in the 2.30 list, with a preference for those which are most frequently capable of reaching the faster portions of the list. Therefore the trotting on the public tracks sets the fashion of breeding. If the progeny of a certain stallion or mare forge ahead in the trotting records, there is at once a proportionate scramble for his or her blood. It often happens that a first class sire or dam, for want of opportunity, fails to make his or her real merit manifest. They sink into oblivion and their progeny sell at nominal prices until some fortuitous opportunity on the track discloses their merits, and at once their blood is sought by breeders. A case in point is the stallion Victor Bismarck, whose progeny came out strong in the records last year, and the scramble for them at the spring sales in Kentucky brought out the most spirited bidding that was seen there. This horse was bred by Mr. Beckman at Stony Ford, who gave him no special chance, his full brother Idol having failed after an excellent trial. Bismarck drifted off to Kentucky, where he finally made a hit, and at once the public bethought themselves that he was bred of the same blood-cross as Electioneer, and very like George Wilkes, and that it was no great wonder he should be a success. Now they cannot get enough of him. Other prizes just as good are waiting in the breeding field, but the philosopher's stone, the oracle's talisman and the magician's divining rod are all needed to pick them out in advance. Almost invariably when found, they prove to be merely overlooked strands of an old recognized strain, with a philosophical reason in their breeding for being successful.

It is not true that all well-bred trotting stock is selling sensationally high in the open market at the present time. Public attention has been caught by the high prices that certain especially favored strains have been selling for. These particular strains will quite likely sell off in prices as they increase in numbers. But other strains necessary to effect blood-crosses that experience shows to be productive of numerous trotters, will come up in price as these recede. The great point which breeders seek to accomplish is to keep up with the fashion and continually have stock to sell that is in demand at high prices. Some of the bolder and more enterprising attempt to force the fashion by developing and putting forward on the tracks a line of blood in whose superior merit they have faith. Among breeders who have been singularly successful in this respect are Gov. Stanford and Mr. L. J. Rose, of California, both of whom have put forward their stock upon the public tracks until they have succeeded in placing it in the height of success and fashion. But this is a great undertaking and most breeders try to float with the general current, selecting such strains as they conceive possess the merit and stand in the line of opportunity for remaining the most permanently successful.

Horses of this character are to a large extent luxuries. As long as the business of the country is prosperous, fast trotting horses are not the kind of luxury that will be thrown aside. The American people like the trotting horse, and if they can afford him they will have him. And while times are good there will be a great deal of latitude given to the indulgence of preferences in regard to blood, speed, &c. This country has a great number of wealthy citizens, and they like to beat each other down the road, and as long as times are good dollars are not going to stop them from trying. I don't mean by this that all the colts that are bred for trotters are going to sell at auction at an average like those of Secretary Tracy's. While his were being disposed of in New York a sale was progressing in Kentucky in which less fashionable stock went very low, so it will be nothing new if we see plenty of lower prices in the future as we have in the past. But there will continue to be a class of colts that will sell as Secretary Tracy's did, as long as the general business prosperity of the country remains as good as it now is. When times of general depression come, horses feel it quickly, because they are an extravagant luxury, and when an owner realizes that it is advisable to curtail expenses he generally sees no way in which he can lop off so great an item at one swoop as to send his horses to auction, discharge his grooms and close his stable.

High prices for trotters are no new thing. I have watched the progress of this subject ever since special values began to be conceded to trotting blood. When times have been good, trotting stock has been in brisk demand; when seasons of depression came, it experienced a stagnation. Not that prices for the very best specimens were much reduced, but simply that fewer sales took place. The lower grades, upon a forced market, of course went down in price. The best, rather than to sacrifice, were carried over.

Mr. David Bonner gave the Herald a reminiscence of Ryadyk's Hambletonian, whom he sought in looking up the blood of Abdallah. David and I are about of an age. We both began to study the subject of breeding trotters as boys. I began to seek the blood of Abdallah and to breed it before he or I ever heard of his son, Ryadyk's Hambletonian; but I also sought the latter when he was still obscure, and standing at a low fee. I at once became very intimate with his owner, the late William M. Ryadyk, and notwithstanding his reputation for being inhospitable, had many a pleasant visit at his house, and never failed to be urged to remain longer. It was there I first got acquainted with David, though I had met him once before on the old Hartford half-mile track. We have been good friends ever since. I bred to Hambletonian while his fee advanced by stages from $35 the season to $500, and I now own a son of his, fifteen years old, for which the service cost me the latter sum.

During Hambletonian's prominence the country was under the influence of a great expansion of currency. Extravagance in everything prevailed, and trotting stock boomed. The foundation of the Stony Ford Stud was laid in these days, and was largely based on the blood of Hambletonian, secured at large outlay, but worth its cost. Hambletonian was the first horse that really made the people feel that in breeding for trotting purposes it was absolutely necessary to have his blood or be left behind in the strife, and in looking back now it is plain that it was a fact, too. There were men who saw the same superiority in his sire, Abdallah, but it was only the few—not the many. Perhaps no one more vividly attested their faith in him by their acts than Simeon D. Hoagland, the old-time trainer and driver, and and bosom friend of Hiram Woodruff. He handled great numbers of horses, and having a fancy for inquiring about their pedigrees, he was struck with the great number by Abdallah that trotted fast. He knew more about the Abdallahs of Long Island than almost any other man, and has promised to give me some historical notes on the subject if I ever get time to have a visit with him. One day word was brought to Mr. Hoagland that his ideal, the now historical Abdallah, lay dead on the beach, some dozen miles away, where he had been turned out to die. Harnessing his horse, he drove straight to the place, and secured the tail of the old horse, which for many years hung above the mantel in his hotel. I always coveted of him that memento of Abdallah, because I felt that next to himself probably no man ever had Abdallah on the brain any worse than I did. He gave it, however, to Mr. John H. Saults of the Parkville Stud, and it is in good and appreciative hands.

Old Dr. Dixon, veterinary surgeon, who died many years ago, also got the Abdallah fever badly. He bought several of Abdallah's daughters and sent them up to Theodoroga, N. Y., and bred them to Ethan Allen, the trotting wonder of that day. The results made a great impression on Joel W. Holcomb, one of the owners of Ethan Allen. He went to Orange county, N. Y., and got other Abdallah mares to breed to Ethan Allen, from one of which Daniel Lambert sprang. I got my first knowledge of the Abdallahs from Holcomb, who described them to me in reply to my inquiry whether he knew of any stallion that had produced a large number of trotters. "Yes, one and only one. Abdallah got a whole family of trotters." That was the starting point of my creed. Abdallah was the greatest of his day, and his line has been the greatest ever since. Most breeders believe that it is the great horse of a great family that makes the great sire. That is why Bell Boy and Mascott brought such sensational prices. They filled the bill more completely than any, save a very few, that are in existence.

The Horses We Want.—From present prospects, there is little doubt that in a few years the United States will have the finest horses in the world. In breeding for the future market, it will be well to study little matters as well as those of more importance. Color is a secondary consideration, but if bay, black or chestnut horses are chosen by the general buyers before greys, duns or oddly-marked animals, it would make a difference if the foundation stock were of the fashionable shades, and it is a great objection to have white legs and bald faces. The white marks on saddle horse, carriage horse or heavy draft horse, will be an eye-sore to buyers of the horses which are now about to be bred, and why not avoid them? These remarks are not intended to apply to fast trotting and other sporting horses, though it is a fact that nobody would prefer white hair on any horse's legs. The coming horse should have the size of the largest Cleveland Bays, the style and pluck of the thoroughbred, and be of a good bright fashionable color, with sound wind and limb; and with the magnificent specimens now in this country, a breeder should be able to establish him. C. C.

The Dairy Department.

Delivering Milk.

Eds. Country Gentleman—Please suggest best mode of retailing milk over a town by wagon. If by bottles or jars, which are the best? I am using faucet cans. M'D. W.

Charlotte, N. C.

The method of delivering milk depends upon the price that can be obtained and the class of customers. At least 10 cents a quart is required to make delivery in bottles profitable, not so much on account of the cost of the bottles but the loss of them and the trouble of keeping them clean, all of which will fall upon the dealer as the purchasers will not take the small pains requisite. The Warren bottle which has an air-tight cover and a spring clasp is mostly used for this purpose, and if the purchasers of the milk would rinse out the bottles as soon as they are emptied, and fill them with cold water and close the stoppers, there would be a great advantage in the use of them. My experience has been that this cannot be depended upon.

Failing this method, the common mode of delivery by measure from the faucet-cans will be found the best. But there will always be some customers who will be willing to pay extra for the use of the bottles, which are very convenient for the customers as well as for the dealers. The bottles may be filled when the milk is cooled, and kept in a cold-water tank until the time for delivery, when they may be packed in boxes having cells or divisions (one for each bottle), and holding 36 quarts. The boxes have close covers, and in hot weather some broken ice may be packed around the bottles, by which the milk is kept cold until delivered. There is a very nice milk jar called the Crystal jar, which is cylindrical, and has a cover that screws on and a very convenient handle for lifting, but the handle is somewhat in the way of close packing. If open boxes are used, these handled jars might be found desirable. E. S.

Economy of Ice in Dairying.

Eds. Country Gentleman—I am shipping cream to Washington, a distance of 26 miles, and have a tank to keep my milk in supplied by water from a pump, and as ice is scarce and I have to use a large quantity to keep the water at a temperature of 45°, I would be obliged if you would answer the following questions: Will it require more ice to keep the water at 45° if the cans are crowded in the tank that contains 24 cans of 5 gals each, when six are skimmed morning and night and replaced by six more, that are cooled by water from the pump, before being set in the tank, or would it require less ice if the cans had double the room in the tank? The cans are not filled with milk, and the milk is below the water line, though not submerged. When one milking is put in the tank there are three milkings already in the tank cold and as soon as a milking is put in, more ice is added to keep the temperature at about 45°. Will the cans already cold help to keep down the temperature? or if there were a larger body of cold water and fewer cans in the tank, would it require less ice? The tank has a lid not air-tight, and the space between the top of the cans and the lid is about eight inches; if the space was less would it be better?

Leesburg, Va. Agricola.

The consumption of ice is the same under all these conditions, excepting that at the start, the waste of the ice will be a little larger when the quantity of water in the tank is larger, as this excess of water must be reduced in temperature at the start, and there will be some absorption of heat by the larger quantity of water which must be overcome by an expenditure of ice. After this surplus of water has been once cooled by the consumption of a certain quantity of ice it must be kept at the low temperature desired by the continual further use of ice; hence the more water kept in the tank, the more ice will be used.

Where ice is dear, there are several ways in which it may be economized. Every moment that elapses, there is a continual effort being made to equalize the temperature of adjacent bodies and the cold tank is thus always absorbing heat not only from the milk put in it, but also from the air outside of it. Hence, it is an economy of ice to have the cover air-tight and to have as little air space over the milk as possible; also to have the cover and sides of the tank as thick as possible or to have them double with a non-conducting substance between the inside and outside of the cover and walls of the tank, and further it may be worth considering how greater cold may be produced by the use of freezing mixtures of cheap substances. For instance, by mixing salt with the

ice a temperature of 40° below zero may be produced, and a very little ice will be needed. When ice costs one cent per pound and salt can be bought for $6 per ton it is readily perceived how ice may be saved by the use of the salt. In the case mentioned a very little broken ice mixed with salt in a tank reduced in size as much as possible, so as to hold only the pails placed close together, and so arranged as to have the cold liquid thus produced, pour slowly around the pails into as small a quantity of water as could be used to envelop them, would cool considerably more milk than the ice alone, and the cost would be reduced very much. In fact it would be quite easy to actually freeze the cream solid in this way before starting it on its journey to the city, if desired, or to keep it quite cool on the way; or to cool the milk in the tank, preparatory to the skimming, very rapidly, or to cool more milk with a less consumption of ice. This use of freezing mixtures, of which there are several that may be made of practical use, from cheap materials, suggests itself as being of much value in a summer dairy where ice is scarce and dear. HENRY STEWART.

The Veterinarian.

Experience with Milk Fever.

EDS. COUNTRY GENTLEMAN—In March, 1874, I lost two very good cows with milk fever. Before losing the first I had never seen a case of milk fever, and do not recollect having read anything regarding it. Both those cows were in good condition, and went to the trough and drank cold water after calving. One lived 24 hours, the other about 18 hours after I discovered they were sick.

After that I read with much interest everything I saw regarding the cause and cure of milk fever. Among others was an article by Geo. Waring in the American Agriculturist. He said there was no cure for milk fever, but there was a preventive, a starvation remedy I think he called it. No grain whatever for at least a month before calving, and coarse fodder, hay or cornstalks the only provender. After calving, give them all the warm water they will drink, and then absolutely nothing for 24 hours (I write from memory only). I adopted this plan in treatment of my cows, and did not have another case of milk fever in 14 years.

Last year I had a fine grade Jersey, which was turned out to grass about one week before calving. She calved in the field, and was out a short time in a light rain before she was discovered and brought in. The next morning she had milk fever and died before night. I then made up my mind that if I had another cow taken with milk fever, I would kill her and put her out of her misery, and not wait for her to die, as I felt pretty well convinced there was no use of treating a case of milk fever. I had used aconite in regulation doses, and various other remedies, and always with the same result—the cows died.

The 16th of last March a grade Jersey dropped a calf, and the morning of the 17th, when I went to the stable, she had milk fever and could not get up. I was undecided whether to get my gun or give her aconite. My father said he would try the aconite, and as I had read in the COUNTRY GENTLEMAN the past year of several men who claimed to have cured milk fever by giving very large doses of aconite, I gave the cow one ounce at a dose, and the cow got every drop of it. I then gave her one pound of salts. In a few minutes after taking the aconite, the cow lay in a stupor for four or five hours, when she began to throw her head and groan. In six hours from the time I gave her the ounce of aconite, I gave her one third of an ounce, and in six hours repeated this dose; then in nine hours I gave her one-third of an ounce more, and a pound of salts. Nothing had yet passed her bowels, but she was better and began to notice things. It was now the 18th, and she had been sick more than 24 hours. Eight hours after the last dose of aconite I began giving her 25 drops of Humphrey's specific (A. A. Berniders) every two hours, until I had given four or five doses, then ceased giving medicine. At 2 o'clock P. M. on the 19th she got up, drank some warm water, and ate a thin bran mash. She was very weak for several days, but had a good appetite, and was soon all right again. She showed no bad effects from her fever or medicine.

My cows are always in high condition, which I suppose predisposes them to milk fever. Hereafter I shall not only follow Geo. Waring's advice, but also that of one of the correspondents of the COUNTRY GENTLEMAN, and give a pound of salts four or five days previous to calving. A. RINKER, JR.

Luzerne County, Pa.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

FAILURE TO BREED.—A heifer that has had one calf, last Christmas a year, has been served several times, apparently satisfactorily, but does not become pregnant; is in fine condition and milking well. What can be done to get her with calf? SUBSCRIBER. *Camden County, N. J.* [Use Moore Bros.' injectio vaginæ.]

ITCHING HEAD.—A young mare is affected with great itching in top of head, and after getting warm shakes it almost incessantly, drooping the left ear; glands seem somewhat swollen, eyes watery, appetite good. M. B. *Fallston, Md.* [Give a dose of physic; give ½ oz. Fowler's solution in feed three times a day. See that her teeth are in good order. Apply crude petroleum to head, and wash off in a few hours. Repeat it in four days.]

LUMP ON LEG—SORE BREAST.—A three-year-old colt was kicked two months ago on the hind leg nearly where a curb comes. It was a running sore for two or three weeks and when it healed it left a hard bunch. What will remove it? (1) I would also ask what can I do for horses with galled breasts, as we have ninety acres of land to sow and the horses are now sore? If you recommend golden blister and gall powder, please state where they can be procured? (2) H. C. O. *Dexter, N. Y.* [1. Apply golden blister. 2. Gall powder.]

OUT OF CONDITION.—My horse has been falling off steadily in flesh; bowels are very loose. His food is good home-cured fodder and corn. I do not know how to feed him so as to make his bowels act properly. Within the past week he has had a swelling in the throat, and discharge from the nose; eats very little. T. H. R. *Trenton, S. C.* [Have his teeth examined. Blister his throat. Give him ½ dr. of quinine, and 1 oz. powdered gentian, mixed with a gill of hot water; then add a pint of old ale. Do this night and morning for three days. It may be necessary to write again in a few days. Feed ground oats and hay. Keep horse quiet for a week.]

SWELLING ON ANKLE, p. 247.—The mare is not improving very fast, although some better; am now using second bottle. Cannot spare her at present to blister, as I am full of business. What would you recommend? H. R. H. *Middle Falls, N. Y.* [Rub a little tincture of cantharis on one day, other preparation the next, and so on. If leg gets scabby, stop, and apply lard two days, then wash, and in two days grease again, and so on until scabs are gone, and use liniments as before. You must not expect to reduce this much under six weeks. It has taken you six months to get to the stage where you wish advice; so we prophesy it will require time to undo the results of delay.]

BRAIN AFFECTED.—A ten-year-old horse has had a slight twitching under the throat for some time. Was sold to another person a month ago, who drove him every day, when he began to show the present symptoms: When starting off he drives all right, but after getting warmed up, drives on one line; the farther he goes the worse. If lines are slack will walk right into the fence. Froths at the mouth considerably; standing still he draws his nose to one side and shows his teeth. In stable will press his nose against side of stall and hold it there for a moment as though in pain. The twitchings of muscles seem to run from nose to hips; are about half a minute to a minute apart. Have been worse since he has been worked than they were before. Appetite good; feels apparently good. Is a free driver, and when sold was supposed to be all right. H. *Modena, N. Y.* [The horse has a brain affection, and unless relieved will be worthless; he is now dangerous to drive, as he is not accountable for anything he may do. Give horse a dose of physic; have his teeth seen to, that he may properly masticate his food and mix it with saliva. Give him 35 drops of tincture of nux vomica every four hours during the day for a week. Mix in feed a tablespoonful of powdered charcoal three times a day. Apply golden blister to back of head and between ears and on forehead.]

PUFF ON KNEE.—A mare three years old has had a puff on right fore knee about two months, caused possibly by a bruise. Is soft, not very large, and seems more a thickness of skin than anything else. J. W. W. *Bardstown, Ky.* [Apply a little golden blister, and repeat in four weeks. It hardly need lay the horse up. You can report in a few weeks, and refer to this page, &c., if you think further advice is necessary.]

SWOLLEN SHEATH.—My colt's sheath and scrotum are swollen to the greatest possible extent, and I know of nothing to cause it. He looks like a castrated colt suffering from a recent operation. Colt is one year old, a stallion trotting bred. Has not been wounded or hurt in any way. Within the last few days there has been a gathering of pus in the membranes lining the scrotum, which was the first place to break and discharge, other places breaking subsequently. The mucus membrane of the gums is abraded, and looks like a canker sore in the mouth of a human being. There is no appearance of hernia, and the penis and testicles appear sound. S. W. H. *Eatonton, Ga.* [Give a pint of raw linseed oil; put ½ oz. powdered chlorate of potass in drink daily; give 2 dr. powdered sulphate of iron in feed twice a day; exercise him twice a day; inject and bathe sores night and morning with following lotion: Powdered nitrate of potass., 2 dr.; tincture opium, 2 oz.; chloride of zinc., 1 dr.; water, 1 qt.; mix.]

LAME SHOULDER.—My driving horse, used for over a year only to draw a buggy, was worked before the lister three weeks ago today, and came home with a lame left shoulder; horsemen call it sweeney. When he walks, the point of shoulder near the breast seems to slip out to the left at right angles to length of body, while the top of shoulder seems to fall in towards other shoulder. The sore seems to be at top of shoulder, and there is a shrinkage from top to bottom, and about half the distance back on the shoulder. R. C. S. *Stafford, Kans.* [Insert a seton from point of shoulder to the top. It may be taken out in five days. The seton channels and contiguous parts must be pressed upwards and downwards daily to get out all the pus; then the shoulder must be washed. In two weeks apply golden blister to the entire shoulder. The horse should be walked daily or twice a day after the first three days. It is highly probable that the animal will recover. Report in four weeks. It is an exceedingly bad case, and will take from four to eight weeks to show definite results.]

ECZEMA, p. 287.—The mare is not in foal, but I intend to have her served this season. Eruption was not affected by gestation or lactation. Three years ago I gave arsenic in mixed feed thrice daily for a few weeks without any apparent benefit. A few weeks ago I used mercurial ointment locally, which seemed to allay the itching somewhat, if it accomplished nothing more. The skin on the affected parts seems thick and dry, and the hair is almost entirely gone. At times the itching is exceedingly troublesome. I am a practicing physician, but profess no knowledge of veterinary medicine. J. H. *Arcadia, N. C.* [Give the mare a ball, as follows: Powdered Barbadoes aloes, 7 dr.; powdered gentian, 2 dr.; syrup, sufficient quantity; mix. Dress the itching parts of skin with some of the following, and wash off in three days; repeat in a week, and again in same time: Mercurial ointment, 1 oz.; fish oil, 3 oz.; sulphur, 2 lbs.; crude petroleum or whale oil, 3 qts.; mix. Other treatment will be necessary in about three weeks. Write a report, and mention previous pages.]

Castration, p. 307.—As we are going into the business of breeding colts, and as we live, like a great many southern planters, very isolated from neighbors, and there are no veterinary surgeons to reach, we should like to gain all the information possible about this subject, in order that we can perform the operation in the most intelligent manner when the occasion arises. I will, therefore, be pleased to be informed what books and what apparatus are required, and where they may be obtained. We have Dadd's book, but he does not mention the ecraseur. C. A. F. *De Soto Parish, La.* [Send $3 to Wm. R. Jenkins, veterinary publisher, 850 Sixth Ave., New-York, for Dr. Liautard's work entitled "Animal Castration."]

Film on Eye, p. 334.—If J. L. M. will notice his stable, he will see that his mare has stood where no light could reach the left eye. The eye has become weakened, and finally sightless, because deprived of the light that is necessary to maintain health and strength. I have had three horses that stood successively in the same stall, each two years. At the end of this term each of these horses was blind in the right eye, the symptoms intervening being exactly like the symptoms described by J. L. M. I consulted the best veterinary authority within my reach, and was told that the trouble was ophthalmia, and that very little could be done. After the third horse became blind, I made a critical examination of the stable and its surroundings. A little investigation convinced me that if our horses could talk, they might teach us a little "horse sense."

North Collins, N. Y. D. H. C.

Disease in Hogs.—The Report of the Iowa Agricultural Society gives the following practical rules, furnished by Dr. Billings of Nebraska, for the prevention or treatment of "hog cholera:" 1. Keep sick and well ones apart; don't have a well animal where a sick one has been; 2. Don't fail to examine the separated ones twice a day, and remove any diseased ones; 3. Don't allow the same person to take care of sick and well ones; 4. Keep dogs, hens and men away from both; 5. Don't put well swine in a pen or on land where the disease has been for less than three years previously, unless thoroughly cleansed, plowed or dug up several times, and exposed to air an entire summer season; 6. Bear in mind that pens, sheds, straw stacks and accumulated litter are dangerous where swine plague has prevailed; 7. Don't water hogs at running streams; 8. Don't place pens or yards so that they can drain into running streams; 9. Don't omit to keep all such places dry by draining; 10. Don't bury dead hogs when you can burn them; 11. Don't buy or sell sick hogs; 12. Don't visit your neighbor's hogs when sick, nor allow him to visit yours, and remember that carefulness will be better than all medicines.

Record of the Times.

Review of Passing Events.

Deaths.—Frederick A. P. Barnard, LL.D., president of Columbia College, at New York, April 28, aged 80. A graduate of Yale, he was a professor in the universities of Alabama and Mississippi before the war, becoming president of the latter in 1856. Coming North he was for a time connected with the coast survey and in 1864 was elected president of Columbia. He was author of various scientific and educational books, received degrees from five colleges, and was president of several scientific societies.—Carl Rosa, musical director, at Paris, April 30, aged 36. He came to this country in 1866 with the Bateman company, married Parepa in 1867 who died in 1874. Rosa continued to produce English and Italian opera until his death.—William H. Barnum, chairman of the Democratic National Committee, at Lyme Rock, Conn., April 30, aged 71. He was in Congress, 1866 to 1879.—Robert W. Weir, at New-York, May 1, aged 78. Was professor of drawing at West Point for 42 years and one of the early American historical painters.—George B. Pelham, a well-known New-York architect died suddenly at the 33d street station of the Sixth avenue elevated road, May 2. He designed the Potter and other large buildings and was official architect of the Park Department.

Centennial Notes.—Cool, cloudy weather and excellent management made the three days' celebration in New-York a great success in the leading features. The naval parade embraced 500 vessels and covered 20 miles of water; the military 50,000, men and was six hours in passing; the civic about 100,000, and nine hours. It is estimated that one million persons witnessed them. President Harrison was received at the City Hall by school girls, who strewed flowers before him; at the Sub-Treasury building he made a short speech; at the Madison Square stand he made room

for Gen. Abram Dally, a veteran of 1812, aged 93, who had been refused a place in the parade. Twenty-two governors were in line with their State troops. The marching of 4,000 public-school boys was much admired. The 5,000 volunteer firemen included Friendship company from Alexandria, Va., of which Washington was once a member. Organized labor was represented by 14,000 men. Bishop Potter's sermon at St. Paul's was an outspoken rebuke of modern political methods. The ball was badly managed and much disorder occurred. Mayor Grant presided at the banquet of 900 guests; Gov. Hill made address of welcome, followed by ex-Presidents Cleveland and Hayes, Gov. Lee of Virginia, Chief Justice Fuller, President Harrison, Gen. Sherman, C. W. Elliot, and J. R. Lowell. The fireworks at ten points, and the open air concert under Theodore Thomas, were excellent. Good order prevailed, and few accidents occurred. One or two floats were wrecked, and a coach load of German artists upset.—April 30 was observed generally in towns and cities, by religious and other exercises. In Chicago, misdirected fireworks caused a panic in a great crowd, and many persons were injured.

From Abroad.—Mr. Parnell gave evidence before the commission, April 30–May 3. He declared that he had conducted the Irish agitation constitutionally.—Four Irish M. P.'s were sentenced by the Tipperary courts to four months' imprisonment for violation of the crimes act.—A farewell banquet was given to Consul-General Waller in London, May 3d, on his retirement from office.—Owing to the improved health of the King of Holland the Dutch Parliament has restored him to power.—The Suez canal returns show that of the ships passing through the canal 78 0 per cent. are British.—The two Haytien armies are still watching each other near Port au Prince, and it seems likely that two republics will be established. On the water the gunboats of the two parties keep warily out of the way of each other.—The American ship Richard P. Buck, from Philadelphia to San Francisco, was found to be on fire, April 28, and was beached at Bermuda, where she burned to the water's edge. Loss on vessel and cargo about $500,000.—Maximilian Baron Washington, the present head of one branch of the Washington family, is 60 years old, and lives in his castle of Poels in Styria, his wife being the Duchess Frederica of Oldenburg. He resembles his American ancestor, and is proud of his lineage.

Minor Items.

W. D. Howells is to return to Boston to live.

No more yellow fever has developed at Sanford, Fla.

Fugue, a $20,000 trotting mare, died in Chicago, May 2.

Icebergs are beginning to be encountered by ocean steamers.

White Cape demolished a liquor store at Rawson, Ohio, April 30.

Postmaster Van Cott took charge of the New York office, May 1.

The Ohio Society in New-York gave a dinner to Ex-President Hayes, May 1.

It is proposed to erect a permanent Centennial arch in Washington Square, New-York.

The St. Paul street car strike has ended, the men going back to work at reduced wages.

The White House oak blown down a few days ago, was planted by Martha Washington.

The Hartford (Conn.) Courant reprints from its files some account of the inauguration of 1789.

About 2,346,000 fares were taken on the New-York elevated roads during the three centennial days.

The New-York State Sunday School Association will hold its annual convention in Albany, June 11–13.

A handsome monument in memory of ex-President Arthur is being erected in the Albany Rural Cemetery.

Sir Julian Pauncefote, the new British minister, was presented to the President, May 3, by Secretary Blaine.

The 19th annual conference of the Y. M. C. A., of the United States and Canada, was held at Orange, N. J., last week.

A general strike of the building trades in Pittsburg, for advance of 25 cents per day, affecting 5,000 workmen, was begun, May 1.

Remains of the mound builders have been discovered near Floyd, Iowa, a circular mound, 30 feet in diameter, having been opened and five skeletons found.

The five-masted schooner Gov. Ames, the largest schooner afloat, sailed from Portland, Me., for Buenos Ayres, April 30, with 1,866,000 feet of spruce and pine lumber.

Nearly 800 farmers from the border counties of Virginia and North Carolina met at Danville, Va., May 1, and organized the Border Farmers' Alliance. It is a secret order.

A cyclone struck Warsaw, N. C., May 2, destroying church, seminary and other buildings. Hail fell eight inches deep, and hundreds of acres of strawberries were ruined.

The first dinner of the Spanish-American Commercial Union was given in New York, May 1, Secretary Noble, Minister Preston of Hayti, Warner Miller and others speaking.

Capt. Murrell and his officers turned over their share of the Philadelphia testimonial fund to the Denmark passengers. At Baltimore they had public receptions, banquet, and silver pitcher; the grand lodge of Maryland presented a gold medal to Capt. M., who sailed for England, May 3.

Five tons of dynamite exploded, May 2, at Odell & sons, Westchester Co., N. Y., near aqueduct shaft No. 16; factory, storage house and several dwellings were wrecked but no lives lost.

May 3 was observed as Arbor Day by the public schools through the State of New-York; in the cities by addresses, recitations and votes on shade trees, and in the country towns by the planting of trees, also.

The Southern Society of New-York celebrated the opening of its new club house, May 2, with a dinner and speeches by President Jno. C. Calhoun, Mr. Morton, Mr. Depew, Governor Gordon of Georgia, and the governors of Delaware, North and South Carolina and Kentucky.

After several attempts to hold an election at Guthrie, Oklahoma, by counting and forming in line, a council of seven elected D. P. Dyer of Kansas City mayor, who proceeded to run the gamblers out. The laying out of streets is interfering with claims. Surveyors and lawyers are making money. Fifty buildings have been put up. W. V. Heranecourt, artist for Harper's Weekly, fell dead before his tent, April 27. Since the 27th, 800 wagons, with 3,000 persons went north through Cherokee strip, where soldiers are on guard. Not much farming yet done.

The southern cotton manufacturers met at Augusta, Ga., May 1, and organized the Southern Manufacturers' Association. Representatives of the Georgia Farmers' Alliance and South Carolina Grangers were present to confer on the bagging question and a resolution was adopted that the mills in the organization pay 10 cents per hundred more for cotton covered with cotton or other light bagging instead of jute. The Lane mill of New Orleans and the West Point (Ga.) Manufacturing Company have contracted to furnish the Georgia Alliance 4,000,000 yards of cotton bagging.

This Planting machine received the highest award over all the Centennial Planters, and has Gold Medals given by the New York State Agricultural Society, and has been tested in actual culture, and illustrated and described in that great work "Appleton's Cyclopædia of Applied Mechanics." Catalogue and full description sent free. Address, RICHARD HALLETT, Cold Spring, Cayuga Co., N. Y.

Also straw-preserving Reaper-thresher, Clover-huller, Fodder-shredders, Feed-mills, Fanning-mills and Saw-machines; all of the best in market.

The Fearless Reaper-thresher saves the most cereal and best Peavers built for the running of Kendall's cutters and Cottam-glass, and for general farm and plantation use.

Rheumatism is caused by an acid in the blood; therefore, external treatment affords no permanent relief. To eliminate the poison and make a thorough cure of the disease, nothing else is so efficient as Ayer's Sarsaparilla. Give it a trial. Price $1—worth $5 a bottle.

Failing hair may be prevented, brushy hair made soft, and a renewed growth of the hair stimulated by the use of Ayer's Hair Vigor.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. [mch6,29

Farm Produce Markets.

Albany Markets—May 6

FLOUR.—The Argus says: Business moderate, with no increased demand.

	1888. May 4.	1889. April 27.	1889. May 4.
Com. State	$4 10@4 50	$4 10@4 60	$4 70@4 90
State Extra	4 70@5 10	4 60@5 10	4 60@5 25
Amb. State & W	5 00@5 25	5 00@5 75	4 85@5 75
Co. Ind. & Hd. L. Wr.	5 00@5 75	5 00@5 50	4 90@5 75
Winter W. Patents	5 50@6 00	5 50@6 00	5 40@5 90
Minn. "Bakers"	4 90@5 75	4 00@4 75	4 00@4 60
Spg W. Pat., new	4 75@5 10	4 75@5 10	4 75@5 10
Spg W Pat., old	4 50@5 75	5 00@5 75	5 00@5 75

Rye Flour still better at $4@4.25 per bbl. Graham, $3@$4.50. Oat Meal in fair demand at $5.50@$6 per bbl. Corn Meal quiet; fine family, $2.75@$3 per bbl.

GRAIN.—Corn lower, with good trade; No. 2, 56½@56¾c. No. 3 mixed, 55½@56c. Oats dull; inquiry light. No. 1 white, 39½@40c. No. 2 white, 39@39½c. Rye low-er, with fair business, at 55@56c. per 56 lbs.

HAY AND STRAW.—Supply moderate; demand fair. Timothy, best, $16@18.50; medium, $14@15; clover, $12@13; mixed, $12@13. Rye straw, best, $8@10 per 1½ cwt.; oat straw, $6@10; wheat straw, $12.

HOPS.—Market firm; stocks very small.

N. Y. State, 1888, choice	19	@20c.
N. Y. State, 1888, common to good	15	@18
N. Y. State, 1887, all grades	9	@11
Pacific Coast	14	@20
German	36	@40

Albany Street Market—May 6

BUTTER.—Good to choice, 18@20c. per lb.

EGGS.—Near-by and new laid, 12@13c per doz. Western 11@12c.

FRESH MEATS.—Steer beef, hindquarter, 8@10c per lb.; forequarter, 6@7c. mutton, hindquarter, 9@10c. forequarter, 6@7c. lamb, hindquarter, 9@10c.; forequarter, 7@8c. veal, hindquarter, 9@10c. forequarter, 7@8c.

POULTRY.—Fowls, 10@12c. chickens, 15c.; turkeys, 18@19c. ducks, 12@15c.

FRUIT.—Apples, $1.50@2.50 per bbl.; Cranberries, $1.00@1.75 per crate; Strawberries, 20@25c. per box.

VEGETABLES.—Asparagus, 15@25c. per bunch; Beets, $1 per bbl.; Carrots, $1; Cabbage, 3c.@$1 per bbl.; Cauliflower, $1@1 per doz.; Lettuce, $1 per box; Onions, 75@125c. per bbl.; Oyster-plant, $1 per doz.; Parsnips, 125; Potatoes, $1@1.50 per 3½ bus.; Rhubarb, 1@2c. per doz.; Spinach, 60@75 per bbl.; Squash, $1.50@2 per bbl.; Turnips, 75c.

New-York Markets—May 4.

BEANS—Marrow, 1888	1 75	@	1 80
Medium, 1888, choice	1 70	@	1 72½
Pea, 1888	—	@	1 70
COTTON—	Uplands.	N. O.	Quot'ns
Ordinary, per lb	—	@	9¾c.
Middlings	11½	@	11¾
Fair	13	@	13½
EGGS—State and near-by, per doz	13	@	13½
Western and Southern	12½	@	12¾
Duck eggs	20	@	30
Goose eggs	30	@	35
FLOUR—Spring Wheat sat., per bbl.	5 35	@	5 70
Winter	5 10	@	5 65
No. 2 extra State and Western	3 90	@	4 25
No. 1 extra	4 60	@	4 75
Minnesota clear	3 75	@	4 00
Straight	4 80	@	5 00
Rye Flour, superfine	3 90	@	3 00
Corn Meal	2 70	@	2 85
FRUIT—Apples, Baldwin, per bbl	1 25	@	3 75
Russet	1 75	@	2 00
Pea	2 00	@	3 00
Cranberries, Jersey, per box	1 00	@	1 10
Oranges, Florida, choice, per box	4 00	@	5 00
Indian River	—	@	6 00
Strawberries, Fla., per qt	15	@	25
Charleston	10	@	25
South Carolina	10	@	20
Peanuts, per lb	2½@3	@	6
Dates—Apricots, sun-dried, per lb	3@3½	@	3½
Evaporated	5@6	@	8
Peaches, sun-dried	4	@	5½
Evaporated	6	@	12
Plums, Southern	5	@	—
Cherries	12@13	@	16
Blackberries	6	@	—
Raspberries	15	@	17
Huckleberries	10	@	—
GRAIN—Wheat, State white, per bus	91	@	92
Ungraded spring	82	@	90
No. 1 red, winter	—	@	90
No. 2 red, winter	86	@	86¾
Corn, No. 2 white	45	@	46
No. 2, mixed	43½	@	44
Oats, No. 2, white	34	@	36½
No. 2, mixed	30	@	32
Barley	58	@	65
Rye, State and western	60	@	66
HAY—Timothy, per 100 lbs	75	@	85
Shipping	60	@	65
Clover	60	@	65
Straw, long rye, No. 1	70	@	75
No. 2	55	@	60
Oat	50	@	60
HOPS—N. Y. State, 1888, choice, per lb	22	@	23
Good to prime	19	@	21
Best, 1887	6	@	10
Pacific Coast, 1888, best	20	@	22
Pacific Coast, 1887	6	@	9
German	35	@	45
MAPLE SUGAR, per lb	7	@	7¾
Syrup, per gal	60	@	70
POULTRY—Live fowls, per lb	10	@	11
Spring chickens	22	@	30
Turkeys	11	@	12
Ducks, per pair	60	@	70
Geese	1 12	@	1 75
Dressed fowls, per lb	10	@	11
Philadelphia broilers	27	@	33
Capons	18	@	25
Turkeys	13	@	16
Ducks, per lb	13	@	16
Geese	8	@	10
PROVISIONS—Beef hams, per bbl	15 00	@	—
India mess	15 00	@	15 50
Hogs, dressed, per 100 lbs	4 50	@	5 00
Lard, per tierce	6 65	@	7 00
Pork, new mess, per bbl	12 00	@	13 25
Short clear	14 00	@	15 00
Family	13 25	@	14 00
VEGETABLES—Asparagus, Charleston, per doz. bunch	1 00	@	4 00
Greater Bay	1 25	@	1 75
Del. & Md.	1 00	@	2 00
Beets, Bermuda, per bbl	1 50	@	1 90
Florida, per crate	1 00	@	1 75
Cabbages, Southern, per bbl. crate	2 25	@	3 00
L. I. per 200	4 00	@	5 00
Carrots, N. C., per doz	—	@	35
Cucumbers, N. C., per doz	—	@	25
Florida, per 100	1 00	@	1 50
Green peas, Sav., per crate	25	@	75
Charleston	25	@	1 00
N. C., per bu crate	1 00	@	1 50
Kale, Hastings, per bbl	50	@	75
Leeks, L. I., per 100	2 00	@	3 00
Lettuce, N. O., per bbl	2 00	@	4 00
Norfolk	75	@	1 00
Charleston	1 00	@	3 00
Onions, Bermuda Co., red, per bbl	4	@	6
Conn. white	1 00	@	1 50
Bermuda, per crate	—	@	—
Potatoes, State, per bbl	1 00	@	1 50
Eastern	1 50	@	2 00
Florida, new	2 00	@	3 00
Bermuda	6 00	@	7 00
Sweet, Vineland	3 00	@	4 50
Delaware	2 50	@	3 50
Radishes, N. C. & Norfolk, Hothouse	50	@	60
Rhubarb, hothouse, per 100	5 00	@	7 00
Spinach, Carolina, per bbl	1	@	50
Squash, L. I., per bbl	—	@	75
Stone beans, Fla., sat., per crate	50	@	1 50
N. C., per large box	25	@	60
Tomatoes, Fla., per crate	1 00	@	1 50
Bermuda	75	@	1 25

Cattle Markets.

NEW-YORK, May 4.

BEEVES.—Receipts, 11,120 head. Trade opened on Monday last with a dull feeling but improved and closed strong. Wednesday heads of inferior quality advanced 10 per cent. Shares of fair quality were unchanged and steady. Friday the markets opened firm. Some of the lands reserved for export were disbursed grade steers of the Hereford blood, and were, though coarse in form, of much more lenient as fatted beeves.

[Per central, cwt.]	This week.			Last week.		
Good beeves	$5 00	@	—	$5 10	@	5 25
Fair	4 60	@	4 90	4 80	@	5 00
Coarse	4 30	@	4 50	4 30	@	4 70
Poor	3 90	@	4 20	3 90	@	4 20
[Per central, gross.]	This week.			Last week.		
Good beeves	$4 75	@	—	$4 90	@	5 00
Fair	4 30	@	4 70	4 40	@	4 80
Coarse	4 05	@	4 25	4 20	@	4 40
Poor	3 65	@	3 90	3 80	@	4 00
Oxen	4 00	@	4 30	4 15	@	4 40
Dry cows	2 00	@	4 00	2 00	@	4 00
Bulls	3 00	@	3 50	3 15	@	3 40

MILCH COWS.—Receipts, 60 head. The centennial parades severely checked trade in milch cows. Values were reported as nominal at $35@45 per head.

VEALS AND CALVES.—Receipts, 1,611 head. The annual visitation of the suffering calves has commenced. They are heavy and valued at the sum of 5c. per market day. The unlucky ones at once find trade is hindered. The veals to-day are as miserable. Range of prices: Veals, buttermilk-fed, 6@6½c. per lb.; corn-and-hay veals, 5½@6c.; grass veals from lean to fair, 3½@5½c.

SHEEP AND LAMBS.—Receipts, 12,860 head. The week opened with a steady tone in sheep, and receipts of 10c. per lb. in lambs. Wednesday sheep were unchanged and lambs again advanced ½c. per lb. Thursday trade was very dull. Friday the markets closed steady at former rates. Range of prices: Woolly sheep, 4@4½c. per lb.; shorn sheep, $3.50@4.80 per cwt.; woolly lambs, 5½@6c. per lb.; shorn lambs, 4@5c.; shorn culls, 3½@4c.; woolly ewes and rams, 3½c.; spring lambs, $5@6 per head.

SWINE.—Receipts, 24,920 head. The tone has been very quiet and values have been scarcely sustained;

141 Ohio hogs, 218@227 lbs., $4.10@4.25 per cwt.; 31 State hogs, 376@403 lbs., $3.90@3.95 per cwt.

BUFFALO, May 4.

BEEVES (Per central, gross.) This week. Last week.

Extra steers	$4 75	@	4 90	$4 75	@	4 90
Best butchers	4 50	@	4 65	4 50	@	4 60
Second-quality	4 25	@	4 40	4 25	@	4 40
Poor to common	3 90	@	4 10	3 90	@	4 00
Stockers, light	3 10	@	3 25	3 10	@	3 25
Stockers, good to choice	3 75	@	3 90	3 75	@	3 90
Bulls	3 00	@	3 75	3 00	@	3 75

Receipts 16,400 against 11,800 last week. Heavy and export cattle were in better supply, and the demand being only sufficient to take the offerings the advance was a shade. Light fat and good butchers' were active, and everything sold on arrival. Supply of common mixed rather than last week, and with a good demand the yards were easily cleared at the advance noted. Receipts of stockers light, demand fair. Bulls quiet.

MILCH COWS.—Light supply and demand; extra, $45@50; good to choice, $35@45; common to fair, $20@30.

VEAL CALVES.—Receipts heavy; light demand; market weak; good to choice, $4@$4.25.

SHEEP AND LAMBS.—Receipts 24,200; active, strong and higher early in week, closing dull and easy. Wool sheep, choice 110 to 115 lbs., $5.25@5.40; fair to good, 70 to 80 lbs., $4.25@4.50; culls, $3@3.75; clipped, 70 to 100 lbs., $4@4.50; common to fair, $3@3.75. Lambs woolly, choice to extra, $6.50@6.80; fair to good, 60 to 70 lbs., $5@6.40; common, $3.75@5; clipped, 35 to 45 lbs., $3@3.40; fair to good, 40 to 55 lbs., $4.10@4.60.

SWINE.—Receipts 17,800; steady demand; yards cleared each day; closing 5c. lower than opening; Yorkers, 4.60@4.80; mediums, $5; light and heavy, mixed, $4.90.

BOSTON, May 4.

BEEVES, NORTHERN.—Good oxen, dressed, 8½@9 per cwt.; fair to good, 8@8½; second quality, 6@6.75. WESTERN, Alive—Extra, $4.75; good to prime, $4.30; light to fair, $4@4.25.

MILCH COWS.—In request at $45@55.

CALVES.—Sales of 2,230 at $1.50@3 per head.

SHEEP AND LAMBS.—In lots at 4½@5c. per head.

SWINE.—Western fat hogs alive, 14,000, (6½@6c. per lb; country dressed, —@— pgs, 7½@7½ per head.

Dairy Markets—May 6.

ALBANY.—Choice butter in better supply and easier. State creamery, choice, 24@25c.; Western creamery, 23@24c.; State dairy, 22c. fair to good, 20@22c.; Western dairy, choice 20c.

Cheese lower; receipts better. State factory, full cream, fine dairy, good to fancy, 10c.

UTICA.—Contrary to expectations, there were a few hundred cheese sold here last Monday at a fixed price, and dairymen, particularly those who sell their milk on the basis of the Utica market, were much gratified at the result. Sales were 350 boxes at 9½c., 250 boxes at 9¾c., and 300 boxes at 9c., besides 2,000 boxes consigned, making a total of 2,900 boxes, about 2,300 one year ago, and 1,700 two years ago. This renders it evident that the make has not been excessive this spring, notwithstanding the early season, still there is a month's make of fodder cheese to be marketed before any grass stock can be had. The weather of the past week has been excellent for pastures and meadows, and stock are now being turned out, although of course the grass is still very watery. The holidays in New-York the first part of the week put a stop to business entirely, but when it was resumed there was more demand than at any previous time this spring, and although the arrivals of new cheeses were large, the top price was advanced ½c. to 9c. Stock was fairly cleared up, and the outlook for the coming week is encouraging.

NEW-YORK.—Butter in large supply; trade interrupted by centennial. Receipts, 25,700 pkgs. Eastern creamery, fresh, 22@23c.; Western creamery, fresh, 18@21c.; State dairy choice, 21@22c.; old better, best, 17@18c.; Western dairy, 16@17c.; Western factory, choice, 16@17c.

Cheese quiet. Receipts, 12,300 boxes. Factory, best new, 9½@9¾c.; old, 9@9½c.; night-milk skims, 6@8c.; Ohio flats, 9@9½.

BOSTON.—Western creamery, extra, 23@24c.; extra firsts, 21@22c.; factory, fancy, 21@22c.; Vermont, extra, 23c.; fairy, choice, 20@21c.; Eastern creamery, good to choice, 20@21c.

Wool Markets—May 6.

ALBANY.—Better inquiry; sales 25,000 lbs.

No. 1, Pulled	32@34	Medium Fleece	31@32
Super Pulled	30@32	Fine Fleece	30@31

NEW-YORK.—Ohio XXXX, 30@31c.; Michigan X, 29@30c.; combing and delaine, 30@31c.; Western fleece, 30@31c.; unwashed western, 23@26c.; pulled, 30@32c.; Territory, 32c.; scoured 53c.; Montana, 25c.; Oregon, 22@24c.; do scoured, 47@48c.; Valparaiso, Texas, 19@21c.; scoured, 42@43c.; California, 19@24c.; scoured, 50c.

BOSTON.—Sales, 1,462,700 lbs. domestic and foreign: Ohio and Pennsylvania, 32c.; Michigan, 29@30c.; combing and delaine, 29@30c.; unwashed, 26@27c.; scoured, 60@65c. pulled, 36@40c.; Territory, 31@32c.; Texas, 19c.; California, 19@24c.; Oregon, 19@20c.; Australian, 38@40c.; Montevideo, 29@33c.

A BOON *to Housewives.*

The farmer and working man who have been out in the mud all day can wash their hands cleanbeen out in the mud all day can wash their hands clean and soft in a minute by using this Soft, Polished and Dry, if dressed with

Wolff's ACME Blacking

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WATERPROOF. Ladies, try it, and insist that your husband and sons use it. Once a user for Gents' Shoes and ones a great favorite for Ladies'.

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The Fireside.

Recent Publications.

Financial Law.—An important work for large investors, and perhaps equally so for many large borrowers, is that entitled "THE LAW OF MUNICIPAL BONDS, including a Digest of Statutory Laws relating to their Issue, and Laws governing the Investment of Corporate and Trust Funds by Savings Banks, Insurance Companies, Guardians, Executors, and other Corporations and Trustees," by J. A. BUNNAMS of the Chicago Bar. The book has 342 octavo pages, handsomely printed on fine laid paper, and neatly bound. It is published by Messrs. S. A. KEAN & CO., bankers, 100 Washington St., Chicago; price not stated.

Fiction.—That pleasing and popular historian, JAMES ANTHONY FROUDE, makes now his début as a novelist as well, presenting to an interested public an Irish romance of the last century, called "THE TWO CHIEFS OF DUNBOY." It seems to be a highly dramatic work, and no doubt embodies careful studies in little known passages of veritable history. Messrs. Charles Scribner's Sons, 743 Broadway, New York, are the American publishers, and S. H. Gray sells it in Albany. The price—436 duodecimo pages, attractively printed and bound—is $1 50.

A novel called "THE REPROACH OF ANNESLEY," by MAXWELL GRAY (author of that remarkable book, "The Silence of Dean Maitland,") is issued—in paper covers, 50c.—by Messrs. D. Appleton & Co., 1 Bond St., New-York.

From J. S. Ogilvie, 57 Rose St., we have "Ivan the Serf," by Sylvanus Cobb, Jr.; "Izma, or Sunshine and Shadow," by M. Ozella Shields; and "That Dutchman," by Julian E. Ralph.

Periodicals.—Our great American illustrated weekly, by which of course we mean Harper's, does honor to the Washington inauguration centennial by devoting to that subject a large share of its issue of May 4—this issue including an eight-page historical supplement as well as a tinted cover. It is a particularly beautiful number all through.

An address to the American people on the constitutionality of the drafts of 1864, prepared by President Lincoln at that time but not issued, appears in the May Century for the first time. We imagine very few people have ever even known of the existence of this most interesting paper. The same number has also a series of profusely illustrated articles on Samoa.

The Magazine of Art has a paper descriptive of the modus operandi of painting theatrical scenery—an interesting subject, entertainingly handled, and illustrated with a number of particularly fine engravings.

It is not yet a year since Scribner's Magazine began the publication of its remarkable railway series; and the publishers now announce that in the June number they will begin an equally noticeable series of popular articles on the practical applications of electricity, which it is believed will add a host of new readers to the magazine, repeating the success of the railway articles.

In an obscure corner of New Mexico the rigors of lenten piety present a phase more severe than anything elsewhere probably in the world. Near the village of San Mateo in the dwindled relic of a set of fanatics known as "Los Hermanos Penitentes" (The Penitent Brothers), whose austere practices have long since been condemned by the Catholic church. They are simple Mexicans whose ordinary pursuits are forsaken during Lent for daily religious processions in which they stagger beneath the weight of enormous crosses, or flagellate themselves with the stinging buck horn cactus, winding their agonizing way under the lead of a dismal fife to an extemporized Calvary where, on Good Friday, one of their number is crucified. They are seclusive fanatics, hiding their austerities from the world, but an enterprising writer has studied and photographed their eccentric penances, and his article, accompanying illustrations for the first time made public, appears in the May Cosmopolitan.

The Atlantic Monthly has an article on a topic that one would hardly expect to appear just there—the American trotting horse. The author, Mr. H. C. Merwin, writes with grace and force, and we are tempted to copy his peroration:

In the course of this brief survey it must have occurred to the reader that there is one respect in which all the most distinguished trotters have resembled each other, and that is in their nervous energy, in high spirit and courage. That latest fame which the Washington Hollow horseman detected in the eye of Flora Temple came out afterward in the resolute bursts of speed with which she finished her fastest miles. Dexter was represented as being "chock full of fire and devilry," and capable of jumping like a cat. Hiram Woodruff, as we have seen, spoke of his "wicked head." Goldsmith Maid had a strong will of her own, and the excitement which she betrayed on the eve of a race showed how fine was her organization. "She would stand quietly enough," says her driver, "while being hitched to the sulky"—although she had previously been kicking and plunging in her stall—"but she would shake and tremble until I have heard her feet make the same noise against the hard ground that a person's teeth will when the body is suddenly chilled; that is, her feet actually chattered on the ground. The instant I would get into the sulky all this would pass away, and she would start in a walk for the track as sober as any old horse you ever saw." Rarus was so nervous that he never could have been driven with safety on the road, and his courage was of the finest temper. St. Julien was exceedingly high strung, and in hands less patient and discreet than those of his trainer might never have been subdued to the purposes of racing. Jay-Eye-See, though I know less of his personal history, is notorious for the pluck that he showed on the last quarters of his hard miles; and Maud S. is the most spirited, the most determined, and at the same time the gentlest of animals. It does not seem unreasonable to trace the fineness of nerve and the strength of will displayed by these horses to the thoroughbred blood which runs in their veins.

Whatever its origin, this "do or die" quality, as sporting-men term it, goes far to redeem the trotting track from those degrading associations with which, one must admit, it is almost always connected. Man may take a lesson from the horse, as well as from the dog, in courage, in resolution, in discipline. It is a noble spirit that animates the exhausted trotter, who, obedient to the rein and voice of the jockey, expends his last reserve of force on the home stretch, and staggers under the wire a winner by a head.

Out and About in France.

The Frenchman is a long-suffering animal; he bears philosophically a condition compared to which Issachar's double burden was a fleabite. It is true that every now and then the beast shakes itself (we call it a revolution) and the load gets shifted a little from one galled spot to another that may be sounder. But there the load rests all the same, whether in a social, political, religious or military aspect—or rather in all these combined. The Pas de Calais (as they call it) on the one side, and the Alps on the other, are nothing to the wider division which separates Gaul from England or from Switzerland in all these aspects. Of course Paris is not France; it is only a show place which happens to be the nation's capital. To know French life, you must go to the smaller country towns, and to the remoter departments. You will then wonder not that revolutions have been so many, but that they have been so few.

Take the judicial aspect of civil life, its costs, and its methods of development. I used to think that the Code Napoleon was possessor of all the virtues of administrative detail, but find myself more than mistaken. What science borrowed from the Inquisition is embodied in the idea of the examining judge? He sits in camera, deals with every case as if the defendant were already condemned, questions him in a subtle manner, which captures the unwary; and in fact "gets up" the case for his brother of the administrative side, to whose tender mercies the unfortunate next falls. He always takes it for granted that the person before him is in the wrong, and being plentifully supplied with materials from the creatures that do his bidding—the police—nothing is easier than to twist this system into an engine for annoying or strangling a political opponent. The weight of the bench is not balanced, as with us, by the acknowledged prestige of the bar. Hence if an able advocate is brought from Paris to protect any prominent case, ten to one but greater wrong accrues; or the unlucky defendant has the case sent back to the examining magistrate for further instructions; or he may be, in a dozen other ways, tossed from pillar to post, till he becomes weary of the strife. Thus the life is crushed out, and the free breathing of the people is choked all round. Government pulls the wires, and the magistrate who would not respond to pressure or to a significant nod would soon find himself transferred to a less congenial sphere. For, though appointed for life, a judge will be removed about and harnessed to the very death, if he ventures to think for himself, or to give an interpretation of the law that bears adversely on the ruling powers.

Then the multiplicity of judicial posts—ill paid though they be—is something beyond our conception. In the quiet town of Pau (under 30,000 inhabitants), where I have just had the opportunity of looking more closely into some aspects of French life, you have a prefect, and a whole host of important nobodies following in his train. These are the State functionaries, and after them come the representatives of municipal action; but their hold is worth nothing, for not even a new street can be named without the wires being pulled from the metropolis. As the officers on the State side are all government patronage, it is essential that the holders should fall into the proper routine of leading strings. Anything less likely to inspire confidence can hardly be conceived, and hence the uncomplaining subject just shrugs his shoulders and moves on.

In the church there is a similar development of centralizing force, but in this case the mainspring has a different centre—please note that. The country clergy, an easy-going and not undeserving set of men, who have but a moderate £80 a year—partly from the State, partly from the department—have to do explicitly what their bishops order; to bless or curse as the ecclesiastical superiors command. The bishops in their turn are under the heel of "the congregation," practically the Jesuits, at Rome. Hence one looks with interest to the development of vitality which is showing among the Old Catholics; it will either assert itself, or else be scotched out as previous efforts at independence have been. Of the Reformed French church I am bound to speak well; but out-side bodies have hardly a foot-hold save in Paris, and a few of the great cities. Taking Pau as representative of other health resorts, we have two Episcopal churches, as against three some twenty years ago. Neither of these was well attended, though in one of them an official assured me there were 26 services a week; as many as four persons being present at the less popular times. The Presbyterians had one church holding 200, and it was very fairly attended indeed, both at its Sunday and its Wednesday services. But of aggressive action in Christian life, as we understand it, there appeared to be hardly any among the Catholic or the Protestant bodies. Although the clergy of the former are chiefly from the humbler walks of life, they are all well educated and of gentlemanly bearing. The Jesuits deserve credit for the moulding of them; their schools and colleges being admirably worked. Would that religious awakening might come on France; then life would open out in other respects as well.

If we look at the army, there, if anywhere, you would expect to find a system developed of the most thorough and wearing character. But life and drill at the great barracks at Pau appeared to be such as would lead to immediate insubordination in any regiment at home. I have a little acquaintance with our English depots from doing some temperance work in their midst, and my sympathies are warm towards the soldiers everywhere. It is drill, drill, drill, varied with school and other training or routine from morning to night. Then the next to no pay and the crushing out of external life (not a newspaper allowed in barracks) leads to a discontent which will be next to apathy if there should be active duty, or result in mutiny against the officers when a spark sets the conditions ablaze. Above all, the short service and easy methods of dealing with the rich makes such a contrast as excites envy and discontent to the last degree. It is true the frivolities of a country fair were arranged for the barrack ground for Sunday afternoon, but there was not much in that after all. Napoleon's boast about the marshal's baton is a myth; favoritism, jobbery and class interests rest on the whole. Countless methods of finding nominal employment for such a vast mass of idle men have to be devised; one of the most childish being the stationing of sentries at the railway station, a thing which rests on a par with the examining of every country woman's market-basket by the Octroi officers at each entrance to a local market town.

The mental, moral and social resources of France would soon grow if fair play were given her. But there can never be fair play while the ruling power is always in the hands of the minority, the office-holding section. It seems to be about the same whether empire, monarchy or republic, only that the latter has encouraged some elements which I hope will one day waken up into national aspirations. Education is making some headway, but free-thinking indifference chills every healthy outgrowth. Undoubtedly there are devout people, even as I saw them among the stupid vagaries of Lourdes, but an earnest, deep-seated Christian feeling has no general existence. The big towns, containing less than one-third of the population, is the sole present custodian of life and thought; the remaining two-thirds being, as before stated, the burden-bearers to the small numbers. Our national life was as far developed in the days of the Stuarts as it is among the bulk of the French people to-day; let us not grudge the light-heartedness which a kind Providence has blessed them with, for assuredly it is needed to make life worth living in their midst. T. BOWICK. *London, Eng., March 31.*

Women as Son Worshippers.

I hope none of my readers will imagine that I have made a mistake in the spelling of my heading—that I wish to be understood as writing of women as worshippers of the orb of day. I am writing of those women who have been weak enough to spoil their boys by foolish training, and unwise enough to adore the results of their foolishness.

My attention was first most forcibly called to a case in point, some years ago, and since then I have frequently observed a repetition of it. At the time referred to I was boarding for the summer at a farmhouse in the Catskill Mountains, with a family consisting of a farmer, his wife, two children—a son and daughter, both grown—and the hired man. There was no woman servant, the entire housework being done by the wife and daughter—a bright, intelligent girl, who had no interested a family boarding there years previous to my sojourn, that they had persuaded the parents to send her to school in New-York. So earnestly did she study, that at the end of two years she competed for and won a position as teacher in one of the ward schools of the city.

As soon as school closed each year, she went home, worn and tired, but instead of lolling around, she donned suitable garments, and not merely assisted, but did the greatest part of the housework. Perhaps the change of work was good for her; her mother thought so, and I will not venture to suggest that a little more rest would have been beneficial. The young lady always seemed to work cheerfully, and the mother as cheerfully encouraged her to do it; indeed, it seemed to be taken as a matter of course that Mary should bear the heavy end of the load.

That weak, foolish mother never tired of telling me of her son—her "beautiful boy," as she called him, who was "in business" in New-York, and would soon come home. The "dear boy" must have suffered so in the city; she was glad that he was so soon to have a rest. If the boarders projected any little excursions, she would suggest postponing them until John should come; he would enjoy them so much, and be needed the change. She said nothing about a change for Mary; her services were too valuable, and besides she was not supposed to need any change, except from school teaching to housework, and the reverse.

August came, and with it came John—a beautiful boy in face and form, but as great a tyrant as ever swayed a sceptre. During the two weeks of his vacation, his mother thought of no one else, and talked of nothing else. Not once was he known to think of any one except himself. Mary's labors were greatly increased; indeed, the whole system of the household was overturned. He rose at any time, and the choicest morsels were cooked for his breakfast. (Mary rose at five o'clock, and did an immense amount of work before preparing breakfast for the family.) Instead of putting on his farming clothes and going into the field to help his father, John arrayed himself in his finest suit and lounged in the hammock, while Mary sweltered in the kitchen washing or ironing his collars and cuffs. His whole conduct reflected the weakness of his mother. During the two weeks of his stay my blood was boiling with indignation, and I have never had the courage to go there since, lest I should fail to repress the inclination to free my mind on the subject of women who worship their sons to the great detriment of the boys and with injustice toward the girls.

This happened at a farmhouse; since then I have witnessed injustice of the same character in an exaggerated form in a cottage by the sea. In company with friends I spent a plea-

ant summer at the cottage in a little seaport village. A widow with her two daughters occupied the house and eked out their scanty means by taking summer boarders. They were pleasant people, and were so exceedingly kind to me during a few days' illness which overtook me there, that I felt a desire to go back to them for a month during the winter. I had some work to do which necessitated a quiet place, and Mrs. Stone's secluded house suggested itself to my mind. Having made the necessary arrangements, I received a cordial welcome from the mother and daughter when I alighted at their cottage at the close of a cold winter day. I was unprepared to meet three stalwart men whom Mrs. Stone introduced as her sons. I had heard their mother speak of her sons as fishermen, but the fact of their being at home during the winter had not occurred to me.

I learned in a few hours that Jennie had secured the winter school in the district, and that Eliza was busily employed at dressmaking—going out by the day.

"And the boys," said I, "what do they do in the winter?"

"Why, nothing," said the mother, looking at me in surprise. "The dear boys work hard all summer and they must have some recreation."

"Do the girls work all the year round and the boys only half the time, Mrs. Stone?" I could not refrain from asking.

"Yes; but the work is very different; life on the water is full of hardships, and the best nose cannot be followed in winter."

It did not require more than two or three days of observation to reveal the workings of the house. The two girls rose early, made the fires, cooked the breakfast, then made their street toilets and hurried to their respective tasks, which began at 8 and 9 A. M. Mrs. Stone rose in time for breakfast, then did the work left undone by the girls. At ten, or half past, or eleven, the boys appeared, dragging themselves along, almost too lazy to eat the food their mother had carefully prepared for them. She stood over them, anticipating their every want—almost putting the food into their mouths, seeming perfectly happy with the privilege of looking at them. After breakfast they lighted their pipes, and seating themselves around the stove in the easiest chairs that the cottage afforded, smoked and looked wise. In the entire month spent there I did not see one of them in the act of reading. They pondered—upon what, I have many times wondered. Mrs. Stone came in and looked at them occasionally to see that they were perfectly comfortable. If by mistake one of them had taken an ordinary chair, she drew up an easy one and insisted upon his being made comfortable; having satisfied herself on that point she retired to the kitchen in a state of ecstacy. After a while they moved around in their slow, I had almost said "lazy," fashion (are seamen always slow in their movements?) and went leisurely down to the village store, where they spent the greater part of the day spinning yarns (as I was afterwards informed)

As the girls did not return until night, Mrs. Stone brought to my room a lunch, and we dined at five. The boys returned at that hour and seated themselves as guests at the table, leaving their mother to carve while Jennie served everything. After dinner the boys leisurely lighted their pipes and meditated amid clouds of smoke, while Jennie did the work, then brought out her Latin books and seated herself for an hour of study. Eliza, who returned later, took her sewing—a dress for herself, her mother or her sister. In the course of the evening the fire needed replenishing, the mother or the sisters brought the coal. I have seen those three able-bodied, empty-headed men gaze with the utmost complacency at one of those three women as she lifted a heavy hod of coal.

One morning I went down as usual to breakfast. Jennie informed me that her mother had been sick all night, and she (Jennie) had been broken of rest in caring for her. Jennie had not only assisted Eliza to get breakfast, but, as there had been a heavy fall of snow during the night, had shoveled the snow from the front stoop and a path to the gate.

"Why did you not call the boys?" I asked.

"Mother made me promise not to call them," said Jennie. "She is worrying now about their breakfast, and wishes me to stay from school to care for them."

"Don't stay from school," said I. "I shall be only too glad to repay your mother's kindness to me by caring for her. As for the boys, they will be taken care of." I mentally resolved that they should be taught to take care of themselves.

Jennie and Eliza went to their respective tasks, and I went into the sick room. The patient was in a state of mind regarding the dear boys. I assured her that they would be taken care of, and gradually soothed her to sleep. When the first boy appeared, he found the table just as we had left it. I informed him of the state of affairs, and also told him that I would take care of the mother if he and his brothers would manage the housekeeping. He seemed willing to do what he could, and to my astonishment cooked as good a breakfast as any one could wish. (I afterwards learned that he had served in the capacity of cook on a vessel.) He informed the others of the situation, and they, seeming to understand that I would do none of the housework, washed the dishes, replenished fires, filled lamps, cooked the dinner, and did everything that was necessary to be done. I soon discovered that the boys were not at fault; that the whole censure must rest upon their weak, sentimental mother, whom I kept in her room for three or four days, until she had had a good rest and her sons had been pretty well trained. I praised the efforts of the boys, and impressed upon them the fact that their mother was far from strong, and that her health, perhaps her life, depended on freedom from work, and they expressed their willingness to go on with the work as they had begun.

But with the first days of recovered strength, that foolish mother insisted upon putting her dear boys back into their rocking-chairs, pipes in hand, and took up her onerous duties with that happy smile upon her face which their presence always induced. I afterwards learned that the girls' wages, together with the money received from boarders, was the only source of income for the family. The mother would not take one cent from those hard-worked (?) boys.

Mothers, do not be afraid of overworking your sons. If hard work and deprivations will develop character and refinement in girls, why should they not have the same effect on boys? I hope to live long enough to see matters of this kind more equitably adjusted.

LILLIAN MAYNE.

Domestic Economy.

How to Clean House.

After reading "A Chat about House Cleaning" (p. 317), it occurred to me that the way one farmer's wife cleans house might be of use to some tired sister; there is no patent on the plan if you like to follow it. Having been taught from my youth up that order is Heaven's first law, I have reduced my house-cleaning to a system, and so much of its terrors are done away with.

Beginning with the sewing-room closet, I clean and put it in order for the summer's sewing; then each article of clothing for the coming season is examined, needed repairs noted, and garments placed in neat piles in work-closet; memorandum made of new garments needed; worn-out ones thrown among the rags; those too good for such a fate, but not available for family use, folded away in a box marked "Missions." In this way I go through bedding and table linen, marking and carrying off to the closet all sheets that need turning; sorting out pillow slips and towels whose days of usefulness as such are past; weak spots in table-cloths looked after, and worn-out ones laid by to be cut into bread and cake cloths. Looking after cup-towels and dish-cloths, I find it a good plan to keep a supply of the last-mentioned on hand, for I cannot wash my dishes on any kind of a rag, any more than I can polish my windows and lamp-chimneys on my apron.

Piece-bags and baskets next claim attention, and then we are ready for the rags; we don't like them but they must be disposed of, so we get a good grip on our courage and goahead. Carpet rags must first be sorted out and cut, every thing suitable for scrub cloths or paint rags put in their own especial bag, and then what a relief to bundle the rest in a bag ready for the junk man! Even though he gives but half a cent a pound and cheats in the weight, it is something for the mission box, and we ought to give the other half cent for the satisfaction of having the house rid of the rags. I once heard a woman say she wouldn't bother to get the rags ready for the junk man, he gave so little for them; it might be interesting to know what she did with them.

When gathering for the next Monday's wash get all toilet mats and covers (I make scarfs of butcher's linen, outline a pretty design, finish with drawn work and fringe); they are easily laundried, are serviceable, and add much to the dainty appearance of the wash stand. All articles likely to be needed should be gathered up, as there will be no place for wash day in the next week.

Of course, you sweep the garret first, set to rights, and wash windows; that is all that is necessary—life is too short to spend any part of it in scrubbing garret floors. Next give clothes presses, bureaus and closets attention—these with the making of pies and cake for the next week's use will fill up the second week.

On Monday you are ready for the tearing-up process, the services of a stout Bridget having been previously engaged. Once a year is often enough to take up carpets in rooms that are seldom used—and, by the way, clean all except the rag carpets yourself; lay them on the grass, unless brussels; then hang on fence and give a vigorous sweeping on both sides, and they will be just as clean, and in much better condition, than if John and the hired man had shaken, pounded and ripped them, as men usually do, because they do not like to clean carpets.

By following this plan, you will be surprised to see how quickly and thoroughly you can go through the house, leaving Saturday (unless the house is very large, when it would be better to engage more help) for the replenishing of the larder and the gathering up of loose ends; and you smile broadly when John remarks, as he stretches out his slippered feet to the cheerful blaze of the wood fire: "How is it, my dear, that you always manage to get through cleaning in one week?"

And now the cellar. Do not attempt it until you have a bright, warm day, and the men can help; dampness and heavy lifting are the friends of neuralgia. Do not leave a box, barrel or board unturned; be thorough, and use whitewash brush freely. But do not, either in house or cellar, do unnecessary work. "Cleanliness is next to godliness," but do not be a slave to cleanliness. MARTHA.

Monmouth County, N. J.

Putting Away Winter Clothes.

It is easy for those who possess ample storeroom to put away unseasonable apparel. But for the class who occupy houses where all conveniences are conspicuous by their absence, it is more difficult to accomplish this in a satisfactory manner, and places must first be provided.

It is never wise to take the great chamber closet and the drawers of the dressing-case to store articles not in use. If you do, you may find yourself in the unpleasant predicament of the little girl, who was found crying bitterly because she would be late at the party, and when questioned, said: "My dess is in the spare room, and the minister is taking a baf."

If the house has a garret or unused room, sufficient storage places can easily be provided. Fig. 1 shows a home-made moth and

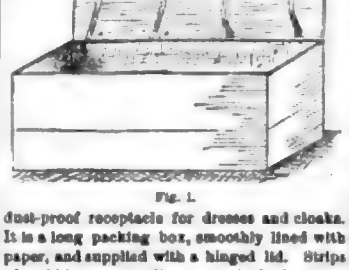

Fig. 1.

dust-proof receptacle for dresses and cloaks. It is a long packing box, smoothly lined with paper, and supplied with a hinged lid. Strips of webbing or muslin are tacked along the back twelve inches apart. Opposite each strap a small hook is screwed into the front of the box on which the other end of the strap is to be slipped. The dotted lines show the height at which the straps are fastened. This makes a tray on which a dress or cloak can be laid.

The lid has four straps of the webbing or muslin. One end of the strap is tacked on the lid; the other slips over a small brass-headed nail. The lid can be laid back, the dress laid smoothly in place and the straps fastened. In putting articles in the box, space must be left for the dress on the lid.

By packing in this way, dresses and cloaks will come out fresh and unwrinkled, and minus the peculiar stretched appearance they have when left hanging one over another on closet hooks.

A very ingenious woman, the wife of an army officer, who was spending the summer at one time in even smaller quarters than usual, and whose only place of storage was a small, unfinished attic, procured a number of barrels. After carefully driving in all projecting nails, she papered the inside with old newspapers, making the paste yellow with copperas to prevent mice and rats gnawing the paper off. The lids of the barrels were carefully fastened together

Fig. 2.

by nailing strips of lath across. The under side was papered the same as the inside of the barrels. Strong tapes were then tacked on in the manner shown by fig. 2. To these were pinned with strong safety pins her children's winter dresses. In some cases several articles were fastened to one strap. Sometimes one garment was pinned to two straps in order to keep it in shape.

For the cloaks she had a number of stretchers made of strong wire, bent into the shape of fig. 3. These she slipped into the shoulders of the cloak, which was then fastened around them. The

Fig. 3.

Fig. 4.

tape was put through the circle in the top of the stretcher and pinned up on itself. She also had stretchers cut in the shape of fig. 4, out of thin boards, and a hole bored near the top. These she used in the same manner.

After the lids, with their loads of small garments, were placed on the barrels, strips of paper were pasted over the edges of the lid and barrel, making all moth proof, as moths will not eat through paper. The lids of the packing boxes were fastened down in the same way.

The winter underwear and hosiery should be put in a barrel prepared in this way, except the tapes on the lid. All articles should be mended, if mending is necessary.

When the family is large and the clothes to be put away belong to different persons, a list giving the names of every article in it, and to whom they belong, should be pasted on each box or barrel. Another plan is to number each box and barrel, and write the list of their contents in a note book, referring to each box and barrel by number. This is the most convenient plan, for the book can be consulted more easily than the lists.

Before packing away, all garments should be exposed to the sun and air for a day, and well shaken to remove the dust. Furs should be treated in the same manner. If moths are plentiful, small woolen articles that may be needed during the summer may be placed in paper bags, such as are used for putting groceries in, and the bags pasted up. They will be perfectly safe from both moth and dust on an ordinary closet shelf.

MRS. BUSYHAND.

Potted Shad.—Clean the shad, cut off the head and tail, split it into halves, remove the backbone carefully, without wasting the flesh. Now cut the fish into small slices, sprinkle each slice with salt and pepper, pack them in earthen jars, with a very slight sprinkling of cloves and mace between each layer. Mix two parts vinegar and one part water together, and add just enough to each jar to cover the fish. The roe may be sliced and put on top. The tops of the jars must be tied over tightly with muslin. Cover this with thick paste, made from flour and water. Stand jars in a baking-pan, partly filled with boiling water, and bake in a moderate oven for two hours. When done, remove the cloth and paste, drain off any liquor that may have exuded, pour over sufficient melted butter to thoroughly cover, and form a crust about a quarter of an inch thick. Stand away to cool. When cold, cover tightly with tissue paper, brush the paper over lightly with water and stand aside to dry. This will keep, if placed in a dry, dark, cold closet, for at least a month.—*Table Talk.*

Baked Eggs.—Butter a pie-plate and break into it eggs in number required; sprinkle with salt and pepper and dot with bits of butter; set in a hot oven and bake till the whites are set. Or, put in the dish two spoonfuls of nice gravy, let it get bubbling hot and drop in the eggs, season and bake as before. Or, put in two or three spoonfuls of cream or milk instead of the gravy. Or, the tops of the eggs in any of these ways may be sprinkled with bread-crumbs dotted with bits of butter before baking. Serve in the plate on which they were baked. Or, the eggs may be broken by twos into individual dishes baked in any of the ways mentioned, and served individually. Or, toast half a dozen slices of bread, moisten and butter them, and lay in a dripping-pan; break an egg on each slice. Have ready a cupful of chicken or other gravy, or of white sauce, pour over the toast and egg, and bake until set. Remove to a hot platter with a pan-cake turner.—*Good Housekeeping.*

Weather, Crops and Prices.

Meteorology for April 28–May 4.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			.....	30.05 inches.
Lowest	do.	do.	.....	29 87 do.
Mean	do.	do.	.....	29 96 do.
Highest temperature	do.	do.	.....	78°
Lowest	do.	do.	.....	36°
Mean	do.	do.	.....	59°

One c'ear day; five fair; one cloudy. Three days on which rain fell; total precipitation, 0.16 inch. Prevailing wind, W.; maximum velocity, 20 miles per hour, on the 31.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	28th	29th	30th	1st	2d	3d	4th
Day.....	36°	50°	41°	49°	49°	44°	50°
This year...	54°	50°	49°	49°	50°	56°	59°
Normal.....	54°	50°	49°	49°	50°	56°	59°

Total deficiency for the week, 21°.

The Month of April at Albany.

According to the reports of Sergeant Sims of the Signal Service, April this year was remarkable as including less rainfall than any preceding April since the establishment of the station in 1874. The highest temperature was 80°, on the 19th and 21st; lowest, 30°, on 5th and 17th. Warmest days, 19th and 20th—mean of each, 64°; coldest, 1st—mean, 34°. Prevailing winds, N. W. and W.; highest velocity, 45 miles per hour, S. E., on 21st. Clear days, 4; fair, 17; cloudy, 9. Rain on ten days. Mean temperature and total precipitation for last ten Aprils as below:

1889—Mean Temperature,	48°	Precipitation,	1.35	inch.
1888	do.	44°	do.	1.95 "
1887	do.	43°	do.	2.49 "
1886	do.	50°	do.	3.57 "
1885	do.	45°	do.	2.39 "
1884	do.	49°	do.	3.09 "
1883	do.	47°	do.	2.65 "
1882	do.	47°	do.	1.27 "
1881	do.	47°	do.	1.34 "
1880	do.	50°	do.	2.45 "

General Review of the Week.

The week ending May 4 was decidedly cooler than usual in all sections except New-England and Northern Michigan. Over the wheat regions of the Central valleys and the Northwest, and over the greater portion of the cotton region, the daily temperature ranged from 8° to 6° below the normal, while in the upper Ohio valley and in Central Texas it was from 6° to 8° lower than usual. The general cool weather during the week has largely reduced the seasonal excess of temperature previously reported, but the season continues from seven to fourteen days earlier than usual in the extreme Northwest, and slightly in advance throughout the Northern States, Virginia, Kentucky, Arkansas and Northern Texas, while it is slightly retarded in the East Gulf and South Atlantic States. Light frosts occurred on the first of the week in the Northwest, and later over the central valleys, and are reported this morning in Virginia, North Carolina, Tennessee and Northern Georgia.

The rainfall for the week has been generally below the normal, although large excesses are reported in Virginia, Northern New-England, Western New-York, Northern Michigan, Southern Alabama and Central Texas. Although the rainfall was deficient, well-distributed showers occurred throughout New-England, the Middle and Southern States. Very little rain occurred in Ohio, Indiana, Central and Southern Illinois, and there was a total absence of rain in Iowa, Southern Minnesota and Dakota, Northern Nebraska and western portions of Wisconsin. There was an excess of rainfall in Oregon and Washington Territory, and generous showers occurred in Northern California, which doubtless improved the crop conditions in that section. The seasonal rainfall continues in excess on the Atlantic coast south of New-York, and from the Texas coast northward to Dakota. There is a large deficiency in rainfall in the Ohio valley, where crops are greatly in need of rain, and over the entire region from Mississippi northward to Michigan, including Tennessee, Kentucky, Ohio, Indiana and portions of Illinois, where less than 70 per cent. of the seasonal rainfall has occurred. There is a large seasonal deficiency in Southeast New-England and Northwest Dakota, where about one half the seasonal rainfall is reported. In all other sections over three-fourths of the seasonal rainfall, well distributed as to time, has been attended by most favorable crop conditions.

The cool weather during the week retarded growth and was generally unfavorable to crops in the northwest, and some damage is reported to fruit and gardens from frost in that section and in the Central valleys. Cold, cloudy weather and little rain in Michigan, Ohio and Indiana caused the crops to advance but little, and the absence of moisture in Indiana and Ohio has placed the crops in those States in a critical condition. In Kentucky, Tennessee and Arkansas the timely rains, although less than the normal amount, benefitted crops. Tobacco prospects are reported as poor, and the growth of cotton slow. The cool weather doubtless affected the cotton crop unfavorably from Texas eastward to South Carolina, but the rains over this region during the week will doubtless benefit the conditions of the crop if followed by warm, clear weather, which will probably prevail in that section the first part of the coming week. In New-England and the middle Atlantic States the weather was generally favorable, and the season is about ten days in advance with excellent prospect. In New-Jersey heavy rains caused some damage to fruit and gardens in low grounds.

New-York—*Forestville, Chautauqua Co., April 30.*—April has been a fine month for farm work. The weather has been moderately warm, clear and sunny, with only seven stormy days. The oat crop is nearly all in, being about two weeks earlier than usual. Owing to the general failure of meadow and pasture land, caused by the two preceding dry seasons, the acreage of oats will be the largest ever known in this section. Corn planting has just begun, the acreage of which will be larger than common. The use of commercial fertilizer has increased rapidly here for the last two years. Three years ago it was only new and then a farmer would use it in any shape; now it is hard to find a man that does not use it in some form. The maple sugar season has been a fine one; more and better sugar has been made than usual. Prices received for syrup have ranged from 65c.@$1 per gal., according to quality; sugar, 7@10c. per lb.; butter, 20@25c.; eggs, 10c. per doz.; hay, $9@11 per ton. C. H. P.

Setauket, Suffolk Co., May 2.—April was particularly remarkable for the fact that no frost visited us. We had nine rainy days, giving us 3.55 inches of rain; 10 cloudy, 10 fair and 10 clear. Highest barometer, 23d, 30.47; lowest, 27th., 29.39; mean, 29.98. Highest temperature, 26th, 73°; lowest, 2d, 35°; mean, 48°. S. R. C.

Sharon Centre, Schoharie County, May 2.—Cold, wet and dreary; raining almost every day since the morning of April 20, and most ground is too wet to work upon. For about two weeks previous to the 20th we had warm weather and a good start at spring's work was made; some sowing of oats and peas was done and they started nicely, but are standing still now. Grass is looking well, also winter grain; I hear no complaints but that hops are starting well. There are a few hops sold here at about 20c. per lb.; potatoes, 25@30c. per bush.; butter, 20c. per lb.; eggs, 12c. per doz. *May 3.*—The mountains are white with snow this morning. J. S.

New-Hampshire—*Hampton Falls, Rockingham Co., April 30.*—We have had a remarkable winter, with little cold and severe weather, or snow. The spring has been early, affording excellent opportunity for work—an unusual amount of which was left over from last fall—and it has been well improved. An April so favorable has been seldom known. Much plowing and seeding has been done. Farm help scarce, and the price fully up to last year. Those who kept their apples until spring failed to realize much for them. Beef cattle are low in price, and slow of sale. We received 22c. per can of 8½ qts. for milk, this month, taken at the door. Grass is looking uncommonly well for the season. Fruit trees show signs of a good bloom. W. B.

Virginia—*Birdsnest, Northampton Co., April 30.*—This month will be long remembered for its enormous rainfall, 11.95 inches, being equaled only by that of August, 1875, which was just the same. The mean annual rainfall is 44.32 inches. So far, this year there has 20.10 inches fallen, being 6.45 inches in excess 1888 for the same time. That year we had a drouth; no rain having fallen in September and October, and only 1.95 inches in August and 0.90 inch in November, the year's rainfall being 37.10 inches. Maximum of thermometer, 71°; minimum, 30°; mean, 60°; rainfall, 11.95 inches. There were four thunder storms and a slight frost on the 23d; water lying in ponds in the fields and roads. About half of the early potatoes have rotted in the ground. C. S. M.

West Virginia—*Bunker Hill, Berkeley Co., April 29.*—We are having a great deal of wet weather, ground being too wet to plow, and farmers much behind with preparations for corn. Wheat looks fine; grass growing nicely; oats have come up well, and are making a good start, but very few sown in this section. Some farmers have planted a little corn. Live stock not yet turned out to pasture, but feed with many is running close. Old wheat mostly sold. Corn selling at 38@40c. per bu. for yellow, and pure white at about 43c. Times seem to be good, and money at the banks abundant. Land has been selling low by reason of the low prices of grain. Hogs are very healthy, and the demand for pigs and shoats unusually good. E. L. H.

Ohio—*Mechanicsburg, Champaign Co., May 4.*—Past ten days cool and dry; no rain since April 24; seven cloudy days three fair; mercury has been 30°, 62° and 68°. Wind during ten days north and northwest, not growing weather by any means. Streams low; no flood as usual this spring. Hard on young trees set this spring. Clover seed that was sown has not amounted to much. To-day is fair, mercury, 72°, wind northwest; appearances of a general rain, which is much needed. Many farmers are done planting corn; corn planted April 24, is sprouted, but not yet up on account of the cool weather. Fruit not yet killed; wheat doing well for such dry weather. I believe if early corn planting, so it will have a start before the washing rains come, which we nearly always have in May. Butter, 18c. per lb.; eggs, 9c. per doz. S. W.

Illinois—*Springfield, May 4.*—The first few days and nights in May have been cold enough to make us wonder if part of March may not have been misplaced. Corn being planted this season in the dust rather than (so often the case) in the mud. At least one half of the planting is done, and some already up just enough to be nipped by the recent frosts. Farmers are again venturing largely in hog raising. There has been so little lost of late from diseases that men are encouraged to try hogs once more. F. T.

Champaign County, May 4.—We have the fourth hoar frost this morning for May. The first was not very killing, the second severe enough to cut early corn to the ground, and the third and fourth moderate. The barometer reached 30.35 and is rising, and no signs of rain. R. F. J.

Wisconsin—*Janesville, Rock Co., May 1.*—The weather is decidedly cold. I have not known such a low temperature during my 38 years' residence here. I have know one or two days as cold, but never so continuously cold as now. With all this, we have not had the usual late frosts. Everything looks healthy and promising. Grass I have never known as forward. Tobacco beds, I hear, are doing quite well, and are numerous. One creamery has begun business, and I do not know of one liable to discontinue. I hear of no intention of broomcorn or sorghum being planted. Tobacco is the all absorbing theme. Wheat, 70@80c. per bu.; barley, 40@50c.; rye, 45c., lowest in 25 years; corn, 36@38c.; oats, 24c.; potatoes, 25c.; onions are nearly worthless; apples, $1.75@2 per bbl.; hay, $15@7 50 per ton; butter, 18@20c. per lb.; eggs, 10c. per doz.; cattle, $2.40@3 50 per cwt.; hogs, $4.40; coal, in trust, $5 50 per ton; tobacco, 8½c., 3½c., 5½@11½c. per lb.; cattle off to day. W. H.

Fond du Lac County, May 1.—The northwest wind got the better of the sun, and has given us a slight freeze. Ice formed yesterday and this morning; the sun rises and sets resembling a round, smooth ball of heated iron; no dew, no rain, and there is every appearance of a drouth. Dandelions are in bloom, which never was the case in this latitude so early. Blackberry bushes have been uncovered, staked and wired up, and to all probability the frost of the two past mornings has damaged the fruit somewhat. Barley that is out of the ground is killed down, probably not so much below the surface but that it will steal out and survive the check. Some corn has been planted, but most of the farmers think the seed is safer in the granary than in the ground. A larger breadth of barley has been sown than usual, and less corn will be planted. Cattle were turned to grass April 25, on many farms, which is usually not the case until May 10. The cold, dry weather keeps the grass back, so that hay and ground feed are still needed. Farmers are taking more pains to get better grades of live stock of all kinds. Five and ten dollar studs are being exchanged for $15 and $20 ones. In sheep there is but little chance for improvement. Our sheep shearing at Ripon last year beat all former records of any State, and some say of the world. This year fleeces were a little lighter, probably caused by the warm, open winter. Prices are still down. Barley is not wanted at any price; oats, 25c. per bu.; corn, 30c. E. S.

Dakota—*Hope, Griggs Co., April 30.*—The spring is early. Cattle have got their living for three weeks. Some wheat sown in March looks green. Wheat seeding nearly over, and a large increase in acreage. The prospect for a good and large crop is fine. T. S.

Transfers of Thoroughbred Cattle.

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Oliah M, E C Needham, C H A Batchelder		
Pioneer of Chenango, J Knowles, H D Hay		
Queen's Monarch, A M Carr, A Weeks		
Royal Jeweller, J S Ferry, F S Beesley		
Rosa, L P Morton, G W Shaw		
Ruby of Norway, H Marshall, J Griffin		
Squire of Upton, F M Kilting, A A Shartle		
Tamar, J L Cowles, E W Tillotson		
Tiptoe Rose, M N Peck, J B Cole		
Whitley, N E Fairbank, J P Harlow		
Windsor, C M Beach, H S Hayden		
Young Tamar, J L Cowles, E W Tillotson		
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Lit Moore, L W Moore, S F Williams		
Lizzie's Rabbi Poris, J W Dana, G T Warner		
Marbury, D W Voyles, C W Brubeck		
Nawasca Cowboy of St L, M P Dewey, H Stone		
Prince Signal 2d, J Reed, W McCurdy		
Rosemont Ray, P Y Brown, A Ilsworth		
Signal's Champion, E Y Hill, H C Evans		
Susie's Stone Poris, E Austen, J T Hoopes		
Uncle Sam Poris, H J Gilbert, H H Green		
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Sauer's Lassie, J Arbuckle, G W Green		
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Dale Bristol, C C Fuller, J J Baldwin		
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Belle F, T L Sturtevant, G A Fletcher		
Alice Hamilton, Hamilton Woolen Co, A Hall		
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Bee Hamilton, A Hall, L W Curtis		
Belle of Southbridge 3d, C W Hill, L W Curtis		
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Jane Buttercup, Carrie Lynn and Duncan, H M Carrons, R H Coon		
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Brimsma 3d, A W Brown, E C Brill		
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Charlie 3d, P P Sharpless, Mrs M Young		
Cottonwood Rose, R Wilson, W A Pratt		
Dina T, J Gemmill, W McKay		
Dulcevalo, G M Shattuck, G M Dayton		
Easter Maid, S Durgin, T French		
Easter Maid 2d, S Durgin, T Prescott		
Eulinta, O C Futterbaugh, J L Futterbaugh		
Idalwaise Jessie, O C Futterbaugh, D M Futterbaugh		
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Elgin Maid 7th, Estate of S Weaver, D Mac		
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Hilda of Portage, W O Jackson, G W Forth		
Hilverda's Wietske 6th, G M Shattuck, G M Dayton		
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Zephyr 3d, Estate of R Wilcox, N V Sholes

Iowa City, Iowa. T. B. WALSH, Secy.

Origin of "Uncle Sam."

Speculation has recently arisen regarding the origin of the term "Uncle Sam" as applied to the United States government.

In the war of 1812, between this country and Great Britain, Elbert Anderson of New-York purchased in Troy, N. Y., a large amount of pork for the American army.

It was inspected by Samuel Wilson, who was popularly known as "Uncle Sam." The barrels of pork were marked: "E. A.—U. S." the lettering being done by a facetious employee of Mr. Wilson.

When asked by fellow-workmen the meaning of the mark (for the letters U. S., for United States, were then almost entirely new to them), said "he did not know, unless it meant Elbert Anderson and Uncle Sam," alluding to Uncle Sam Wilson.

The joke took among the workmen, and passed current, and "Uncle Sam" himself being present, was occasionally rallied on the increasing extent of his possessions. Soon the incident appeared in print, and the joke gained favor rapidly, till it penetrated and was recognized in every part of the country, and, says John Frost, the Boston historian, will no doubt continue so while the United States remains a nation.

It is now firmly imbedded in the Mosaic of our language, like "Tippecanoe," "Log Cabin," and other words but expressive phrases, which refer to important events in the history of the Republic. Both "Tippecanoe" and "Log Cabin" have taken on renewed force and vitality since their adoption by Hon. H. H. Warner, of Safe Cure fame, in the naming of two of his great standard remedies, the principal one known as Warner's Log Cabin Sarsaparilla. They are based upon formulæ so successfully used by our ancestors in the cure of the common ailments to which their arduous labors rendered them liable in the good old Log Cabin days.

The name of Warner's Safe Cure, likewise, will be held in high esteem, as familiar as a household word, while it continues to cure the worst forms of Kidney Disease, which the medical profession confesses itself unable to do.

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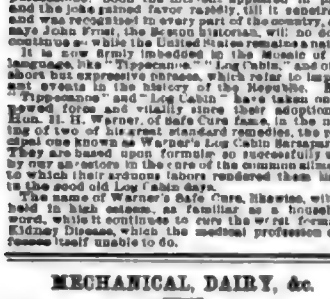

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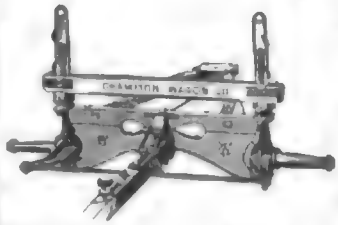

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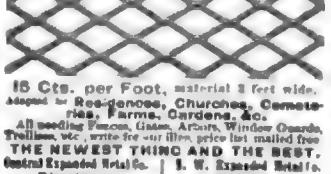

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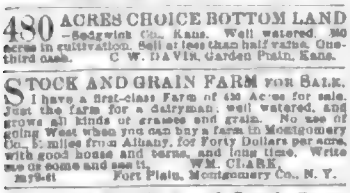

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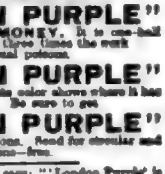

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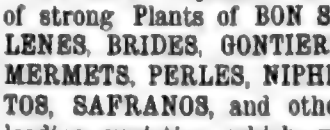

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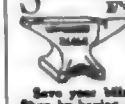

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Is absolutely pure and it is soluble.

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THE CULTIVATOR & COUNTRY GENTLEMAN

FOR THE FARM, GARDEN AND THE FIRESIDE.

Combined Papers, Fifty-Ninth Year. | ALBANY, N. Y., MAY 16, 1889. | Country Gentleman, VOL. LIV—No. 1804.

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THE COUNTRY GENTLEMAN is issued Weekly and is designed to include, not in name but in fact, every department of Agriculture, Stock-Raising, Horticulture and Domestic Economy. Subscriptions may commence with any month.

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For Table of Contents, see Page 301.

New Advertisements.

PETER C. KELLOGG & CO. are instructed to close out AT AUCTION, the Entire

OAKLANDS HERD
OF
JERSEY CATTLE,
The Property of
MR. VALANCEY E. FULLER
of Hamilton, Ont., Canada,
TUESDAY, MAY 21, 1889,
At 10 o'Clock, at the
American Institute Building,
Third Avenue, between 63d and 64th Sts., New-York.
(Office 167 John Street.)

This Sale comprises the cream of this famous Herd, including the Famous Cow MARY ANNE OF ST. LAMBERT, the greatest butter cow in the world, doing it every year. Also the great Cows MELISA IV. of ST. HERBERT and LILLIMINE OF ST. LAMBERT, choicest daughters of Stoke Pogis 2d. Also MAJAVEL Pogis 2d, daughter of Mary Anne of St. Lambert, that is elder development and Bow of Oakdale, sire of Calamus dam. Also the great Bull ANADOR JOHN BULL, thrice bred to Stoke Pogis 2d, and many of his sons and daughters. Address for Catalogues to VALANCEY E. FULLER, Hamilton, Ont.
PETER C. KELLOGG & CO., Auctioneers,
167 John St., New-York.

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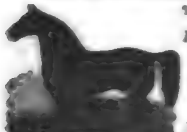

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English Draft Horses,
Standard Bred Trotters,
Cleveland Bays & French Coachers,
Saddlers & Carriage Horses,
Iceland and Shetland Ponies,
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Our customers have the advantage of our many years' experience in breeding and importing; superior quality; large variety and immense collections; opportunity of comparing different breeds, and low prices, because Our unrivaled facilities, extent of business, and low rates of transportation.

No other establishment in the world offers such advantages to the purchaser.

PRICES LOW! TERMS EASY!
Visitors welcome. Correspondence solicited. Circulars free.
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BERKSHIRE PIGS, and SOWS in farrow. Breeding stock all recorded. Address E. L. GUFFAN, Bunker Hill, W. Va.

Tennessee Series of Sales.

REGISTERED JERSEYS.

About One Hundred and Seventy-Five Head.

On TUESDAY, May 28th, 1889,

at MAURY JERSEY FARM, Columbia, Tenn., W. J. Webster, President of that Company and also BIG SPRING JERSEY HERD, R. H. Hathaway and A. W. Harris sell JERSEYS. This offering of Jerseys includes no diseased, diseased or blemished animals, and no aborter, and is a draft from these herds under charge of W. J. Webster, and also drafts from the herds of Mr. Hathaway and Mr. Harris. None of the gentlemen engaged in this Sale are traders, but breeders, who make this their usual Annual Sale. Every animal catalogued will be sold without reserve or by-bid. It includes the blood of LANDSEER'S FANCY through her three sons, Fancy's Harry, Landseer's Pride and Fancy's Landseer, and through her grandson, Ida's Last Keeper, son of Tormentor's Pearl—all of these being represented by sons and daughters—and of TORMENTOR, LORD HARRY, TOP SAWYER, DUCHESS OF BLOOMFIELD, ETHELBERT, BEESWAX, DIANA'S STOKE POGIS, CONAN, TOLTEC, TORMENTOR, Jr., and in fact all the prominent Tennessee strains, many daughters of tested cows by standard sires, and two tested cows, and others included that will be tried before the Sale, among them a daughter of Fancy's Harry, two years old, solid yellow fawn, one of the most beautiful and promising young cows to be seen—HYERMA 2D, out of Myrtha, by Sir. Jos., daughter of Top Sawyer.

On WEDNESDAY, May 29th, 1889,

at EWELL FARM, Spring Hill, Tenn., Maj. Campbell Brown and W. C. Campbell sell JERSEYS, TROTTING and PACING HORSES and PONIES. Some Colts, the get of BROWN HAL 13S, BARON WILKES 13S, WEDGEWOOD 2D, HERBERT (sire of Emma, 2:26), TENNESSEE WILKES and others. The Jerseys include the blood of TORMENTOR, IDA'S STOKE POGIS 2D, SIONALDA, LORD HARRY, DUCHESS OF BLOOMFIELD, CONAN, MARY JANE OF BELLEWOOD, and of the noted Tennessee strains, part color y daughters of IDA'S STOKE POGIS, TORMENTOR (son of Tormentor and Mary Jane of Bellerose), SOUTHERN PRINCE (son of Oxford Kate), and ODELIO (son of Odelie Sales and Ida's Stoke Pogis) and are a clean, unblemished lot. No diseased, unsound or blemished animals, and no aborter included, but are a draft from the herds of these well known breeders, placed in this their usual annual sale. Every animal catalogued will be sold without reserve or by-bid.

On THURSDAY, May 30th, 1889,

at WEST SIDE PARK, Nashville, Tenn., Dr. Wm. Morrow & Son, Jordon Stokes, Speer & Taylor, John M. Thompson and others sell JERSEYS. This offering includes no unsound or blemished animal, and no aborter, and is an annual draft from the herds of the above named gentlemen, who are Regular Breeders, not Dealers or Traders. Every animal catalogued will be sold without reserve or by-bid. It includes the blood of LANDSEER'S FANCY, through her sons, Fancy's Harry and Fancy's Landseer, and grandsons Ethelbert Harry, and Fancy's Harry 2d, and blood of her grandson, Rex's Harry, and of TORMENTOR, LORD HARRY, TOP SAWYER, DUCHESS OF BLOOMFIELD, ETHELBERT, ETHELBERT 2D, DIANA'S STOKE POGIS, TOLTEC, and in fact all the prominent Tennessee strains, and many daughters of tested cows by standard sires, among them a daughter of FANCY'S HARRY and THAMES GIRL, Miss Ilsa, and many others.

(THE ABOVE THREE DAYS' SALES are by the TENNESSEE JERSEY BREEDERS.

For Catalogues, address J. L. MORROW, Nashville, Tenn., CAMPBELL BROWN, Spring Hill, Tenn., and W. J. WEBSTER, Columbia, Tenn.

On FRIDAY, May 31st, 1889,

SOUTHERN KENTUCKY AND TENNESSEE JERSEY BREEDERS

Sell at UNION STOCK YARDS, Nashville, Tenn.,

A CHOICE LOT OF JERSEYS. This offering includes no diseased, unsound, blemished or aborting animal, and is an annual draft from this association of gentlemen, who are Regular Breeders, not Dealers or Traders. Every animal catalogued will be sold without reserve or by-bid. The contributors to this Sale are Geo. T. Gentry, Hopkinsville, Ky.; S. Garth, Trenton, Ky.; H. H. Dranes, Clarksville, Tenn.; S. W. Taliaferro, Guthrie, Ky.; J. A. Fisher, Nashville Tenn.; F. H. Dudley, Nashville, Tenn.; C. W. Cunningham, Shelbyville, Tenn.; G. A. Woods, Shelbyville, Tenn. The offering includes all the most noted strains of blood, such as TORMENTOR through Dudley's Torment 2d, Garth's Rioter, and the blood of LANDSEER'S FANCY through Ida's Landseer; SIGNAL, CHAMPION OF AMERICA, LORD HARRY, CONAN and DUCHESS OF BLOOMFIELD, and many other noted strains.

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PETER C. KELLOGG & CO. are instructed by the Owner to Sell at AUCTION,

WEDNESDAY, May 22, 1889,

At 10 o'Clock, at the
American Institute Building,
Third Ave., between 63d and 64th Sts., New-York.
(Office 167 John St.)

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JERSEY CATTLE
From the Well Known Herds of
Mr. H. J. PURMIT, Millbrook, New-York.
Mr. OAKLEIGH THORNE, "Thorndale," Millbrook, New-York.
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Mr. E. L. SWAN, Jr., Oyster Bay, L. I.
This Sale will occur on the day following that of Mr. V. E. Fuller's famous Oaklands Herd, on the same premises. Cats. ready at the Sale
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OAKLAWN FARM.

3,000 PERCHERON
FRENCH COACH HORSES,
IMPORTED
STOCK ON HAND:
300 STALLIONS
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150 COLTS
superior individuals, with choice pedigrees.
200 IMPORTED BROOD MARES
due to foal to Brilliant, the most famous living sire.
ALL STOCK SOLD FULLY GUARANTEED.
Best Quality. Prices Reasonable. Terms Easy. Don't Buy without inspecting this Greatest and Most Successful Breeding Establishment of America
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About 80 pure-bred animals on hand. Prices reasonable; terms easy. Horses guaranteed breeders. Large cr lugue and history of the breed free by mail. Address SAVAGE & FARNUM, Detroit, Mich.

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WITH SURFACE SKIMMER.
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At 10 o'Clock, at the
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(Office 167 John St.)

Several consignments of Shetlands from the farms of Breeders. Also Ponies and other Pony Stock, suitable for Children and for Ladies' use.

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FOR SALE—A very fine Black PERCHERON 3-year-old Stallion, ¼ blood.
my9-2t H. C. BECKMAN & SON, Brunswick, Ind.

AT AUCTION.
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Under instructions from THOS. T. TURNER, Esq., of Normandy, Mo., will sell by Public Auction, at their Mammoth Repository, Broadway and Chouteau Ave., St. Louis, Mo., on MONDAY, June 3d, at 12 o'clock, by HARRY ASHMAN, Auctioneer, the well-known Stud of

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Numbering in all about **60 Head**, purchased and bred by Mr. Turner from the best strains and blood of the present day, many of which cannot be duplicated. Particulars as to ages, qualities and pedigrees will be found in Catalogues, ready May 1st.

From the fact that Mr. Turner has made the matter of the proper selection of his stock a study for years, and no expense or trouble spared, this Sale offers an opportunity seldom if ever to be met with, and every animal will be sold absolutely to the highest bidder, as Mr. Turner, through other business engagements, cannot devote any further time or attention to his stock farm.

Special Notice.—This being the date of the Annual Meeting of the St. Louis Jockey Club, the Missouri Horse Exchange will hold a large Combination Sale of Horses, lasting 10 days—June 3, 4, 5, 6, 7, 8, 10, 11, 12 and 13. Entries for Stock Sale must be made by May 1st, so that Catalogues can be prepared and mailed. Entries received after May 1st will be published in supplementary Catalogues. [ap18-mh-20

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BEST BLOODED REGISTERED
Guernsey Cattle,
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South-Down Sheep.

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A. J. C. C.
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JOHN BULL'S STOKE POGIS 18433—Sire Canada's John Bull 8283 (his dam 24 lbs. 10 oz.) Dam Rioter's Beth 1457 (her dam 16 lbs. 4 oz. milk on winter feed). Teased five times to Stoke Pogis III, eight times to Victor Hugo; 95 5-16 blood Mary Anne of St. Lambert.

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HEADED BY
Bomba's Son 8372.

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Headed by the following sires, which are for use only in our own herd:

Stoke Pogis 3rd 3887—Sire of 6 young cows tested from 14 lbs. 14 oz. to 20 lbs. 12 oz. Has the only living brother of Stoke Pogis 3d, sire of 17 cows averaging over 16 lbs. at one per week. He is almost full brother to Marjorie 4th, which we gavein one year 16 lbs. milk, which, from tests of 151 days' work as 7 lbs. butter for the months of January, the fifth month after calving) probably yielded over 40 lbs. of butter.

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where we have the duplicates in breeding in the herd. Children's PONIES and pure-bred ANGORA GOATS for sale at reasonable prices. Write for what you want. No general catalogue. Address
MILLER & HILLEY, Proprietors,
Franklin, Venango Co., Penn.

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Of the highest breeding and most popular strains. We carry a large stock of young, vigorous STALLIONS and MARES at all seasons, imported young and matured on our farms, thus fully acclimated, and sure breeders. Prices low and terms easy.

150 HOLSTEIN-FRIESIANS at exceptionally low prices. Grand opportunity to secure Foundation Stock at Low Figures. Send for Illustrated Descriptive Pamphlet, and mention this paper.
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I OFFER FOR SALE VERY LOW, to close, ten (10) choice-bred young JERSEY COWS, Commodie, Alphea, St. Mawer and Richter strains, registered. All in best condition; part fresh, and sure to come in soon. No catalogue. Particulars on application. D. J. GARTH, Scarsdale, N. Y.

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My proximity to New-York City gives me facilities for direct transportation by the Southern steamers. Young Cows, Yearlings with calf, Yearling Bulls, and Spring Calves. Prime stock. *No fancy prices.* I mean business. G. W. THOMPSON, Shelton, N. J.
(Mention this paper.)

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Why the MAPLECROFT HERD Ranks Among the Best in the World:

Because it contains the Best MILK BULL in the World—PIETERJE DE KOL 2d, NETHERLAND whose dam gave 20,318 lbs. 8 oz. in one year, and whose sire's dam has the greatest 3-year-old record for one year—19,501 lbs. 2 oz.

The Best BUTTER Cow—DE KOL 2D—with an authenticated record, made in her 4-year-old form, of 5 lbs. 6¾ oz. in one day, and 33 lbs. 6 oz. of unsalted butter in seven consecutive days—12.86 lbs. milk to 1 lb. butter.

The Greatest BUTTER BULL in the World—DE KOL 2D'S NETHERLAND, out of DE KOL 2d, and sired by Netherland Alban, whose sister has the best 3-year-old butter record—21 lbs. 14¾ oz. in seven days, and 105 lbs. 14 oz. in 30 days.

The Herd is also rich in the blood of Harrington, Netherland Prince, Aaggie, Artis, Koomgin van Pietsland, Oscar, Billy Boelyn and Hoonstra.
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150 Head of the finest of Imported and Home-Bred Animals for Sale. Can spare Less a Specialty. HERCEDES PRINCE, the great sire of butter-producing heifers, stands at the head of the herd. Correspondence solicited.
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Best Milk and Butter Records in America.

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Catalogues and records furnished.
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THE CULTIVATOR
AND
Country Gentleman

Albany, May 16, 1889.

An Experiment in Fall Plowing.

EDS. COUNTRY GENTLEMAN—I have read with much interest the articles in your paper on fall plowing, and have come to the conclusion that there are so many things to be taken into consideration, in the way of soils, wet and dry seasons, &c., that no rule can be laid down by which the same results can be obtained in all cases. However, I am perfectly satisfied that for me, on my soil, fall plowing is not the thing.

For the last few years I have been anxious to plow my barley ground in the fall, especially when it was clover sod, but owing to the pressure of other and more important fall work was never ble to do so until the fall of 1887. The field to be plowed was clover sod, sown with eight quarts of mammoth clover to the acre on winter wheat in April, 1886. The catch was a good one, and we took off forty-three big loads of hay, estimated by all who helped to handle it to be at least forty tons, in July, 1887.

The field was not pastured after cutting, and the aftermath had grown till it would cut a ton or more to the acre, and as we had hay enough to carry our live stock through the winter, I decided to turn the clover under. Our large corn crop kept us busy, so we did not get at the plowing as soon as I wished, but the 26th of November found the corn all cribbed and stalks secured in good order. The plows were brought out, and on the 27th the teams were started around the twelve-acre field turning under the clover for what I believed would be the largest crop of barley I had ever raised. It was a bright clear day and we made the most of it. The 28th dawned cold and grew colder all day so that it began to freeze toward night, and the next morning the ground was frozen so hard as to put an end to any further plowing. I now decided to measure the plowed ground and experiment with my first fall plowing. After carefully measuring, the plowed piece was found to contain five acres and two rods.

As soon as we could plow in the spring we finished the rest of the field. And here I wish to say that my experience does not agree with that of J. H. C. (p. 903, 1888,) where he says: "Irrespective of the saving of time, the advantage of being able to work the land so much earlier * * is very great." We were able to finish plowing the field before the fall-plowed could be worked at all, and when we began to harrow, that plowed first in spring was in better condition to work than the fall plowed; besides, we found it much more work to get the fall-plowed in condition for seeding. The whole field was sown the same day with six-rowed barley drilled in two bushels to the acre.

I had regretted many times that I did not get the whole field plowed the fall before, and expected to see a decidedly better crop on the fall plowing. After seeding, the pressure of other work was so great I hardly had time to think of the barley field till harvest time.

When the time came for cutting, I started the reaper around the field "same as plowed" and cut just what was fall-plowed on Saturday morning, leaving the rest of the field till Monday, so that we would have no trouble in drawing to keep it separate. As soon as I began cutting I noticed the barley was lighter than I ever had raised and it continued to run light till I reached the spring plowing. One could walk through the field in any direction and tell within a furrow or two where the spring plowing began, by the heavier barley. I had resolved to continue the experiment to the end, so the barley was drawn and kept separate, and on threshing, that grown on the fall plowing yielded 18¼ bushels per acre, while that grown on the spring plowing gave 34 bushels per acre or nearly double. Nearly all the field is a strong loam with a heavy subsoil. On one side there is about one-half acre of clay and even there I could see no difference in favor of the fall plowing.

I am inclined to think that if J. H. C. had spread his manure in fall and winter where he plowed in spring, then put his boughten manure on his fall plowing in April, he would have seen as much difference in favor of the spring plowing as he now does in favor of his fall plowing, as in that case, I think the difference was more in the time the manure was applied than in the plowing. J. D.

Wayne County, N. Y.

Alfalfa at the Far West.

EDS. COUNTRY GENTLEMAN—Recent inquiries in your paper about alfalfa lead me to relate what I have learned about it in California, Oregon and Utah where I have seen it growing. It requires a deep, moist soil, and on such grows well without irrigation, but is mostly grown here by irrigation. Under a judicious application of water it will produce, I was told, about nine tons per year to the acre, and is best if cut once each month for nine months beginning in May; farther north it does not require to be cut as often, yielding two to three tons to each cutting. When a field is once seeded it will continue to grow for twenty or more years, with no diminishing of crop. I was told, and the story was said to be true, that a field on a Mexican ranche was known to have been cut for one hundred years continuously.

Its roots grow to great length and are often found to extend directly down twelve to fifteen feet. I saw roots over ten feet in length in a railroad cutting. In these dry, warm States it cures quickly, retaining its full green color. For feeding purposes it is mostly used for cattle and farm horses. It is not liked for driving, coach or livery horses, they preferring barley or oats cut early and dried—indeed, these furnish nearly all the hay that is used in California. Timothy will not grow there, it being too dry, but in Western Oregon I saw it of fine quality and color, and near the foot-hills about this city it does well, although alfalfa is more largely grown. CHARLES O. NEWTON.

Salt Lake County, Utah, April 13.

Large versus Small Farms.

EDS. COUNTRY GENTLEMAN—The communication by Mr. C. S. RICE, p. 903, 1888, speaks disparagingly of large farms:

"The small farm worked by its owner is far more commendable and republican in character than the large landed estate where the laboring man is excluded from the home of the proprietor, and regarded as of character and habits fit only for degraded associations. * * It is not best for one man to work more land than can be well tilled by his own labor and that of one or two hired men. With this number, and suitable female help, the mistress will be no more burdened than where no help is employed.

"The solution of what Mr. Stewart terms a 'most serious question that presents itself for immediate and radical reform,' will not be satisfactorily reached through the large farm and tenant-houses, whose occupants are regarded by the proprietor and his family as of low character and filthy habits. Improvement lies in the direction of small, well tilled farms, where the tobacco habit is not allowed even in the proprietor; hired help well paid and well treated, and wages graded not entirely by the amount of labor performed, but with some respect to the intelligence and correct habits of the man."

The above quotation from an able and entertaining writer represents a popular—nay, almost universal sentiment. I think, however, that not consideration enough is given to the fact that expensive, heavy, and somewhat complicated machinery has already made its appearance on the farm, and much more is on the way. Inventors are busy. The corn crop will be harvested, stalks and leaves shredded and stored, all by machinery, and even barn chores will be performed by the aid of automatic contrivances to a considerable extent. Already horses are carried by machinery, and a patent has been applied for on a device for cleaning stables. It is a great mistake to suppose that with the universal use of the mower, automatic binder and thresher, the triumph of farm machinery has reached its climax. The tendency is towards greater capitalization of farming, more expensive plants of farm machinery and buildings, and of course larger farms. The quotation I have made from Mr. Rice's pen could have been written years ago, adapted to the matter of weaving cloth or to the making of shoes, when those arts were carried on in cottages, and it was proposed to transfer them to factories. The reasoning would have been as apt and forcible then in regard to those handicrafts as in regard to farming now at the dawn of the time when machinery, having been employed to produce nearly all textile, wooden and metallic goods, is about to be employed more fully than heretofore in the production of food.

Dawson County, Neb. H. H. STODDARD.

Nitrogen from the Air.

SHALL FARMERS CONTINUE TO PURCHASE THE NITROGEN NECESSARY FOR THEIR CROPS, OR SHALL THEY UTILIZE THE ELEMENTARY ATMOSPHERIC SUPPLY?

EDS. COUNTRY GENTLEMAN—As we all know, nitrogen is indispensable to vegetation. When we desire to replenish this all-important plant-food element in the soil, we go into the open market and purchase it in some form, and pay a very high price therefor. And yet it is a fact, known to all of us, that the atmospheric air contains about 80 per cent. of nitrogen; but this abundance of this so important plant-food element has remained unutilized, because we have been distinctly told that plants cannot absorb or assimilate this elementary nitrogen, and so we have been purchasing it in some form assimilable by the plants.

But if the elementary nitrogen of the atmospheric air is directly unassimilable by the plants, there are many circumstances which convince the observer that there exists some method by which the vegetation is benefited by it in an indirect manner. So, for instance, we know that most, and probably all, plants contain more nitrogen than the soil upon which they were grown, and most especially is this the case with all fungi; trees contain in their leaves and fruit much more nitrogen than can be found in the ground where their roots are spread; if a piece of land, covered with grass or any other kind of vegetation, is covered with a board, or in any other way, we shall find that, in a short time the soil under the cover contains a great deal more nitrogen than the adjoining soil that has not been covered; if we examine the turf or loam of a forest, we find that the surface, to a depth of from two to four inches, contains considerable nitrogen, while the subsoil will be almost free from it; if we plow under a green crop, we shall find that the soil, a short time afterward, contains more nitrogen than the combined amounts of the soil originally and the green crop plowed under; and all this in spite of the fact, so repeatedly demonstrated by experiments, that nitrogen in every form is liable to loss by leaching through the soil and being carried away with the water.

Now, where does this nitrogen come from? From the atmosphere; and the manner in which this takes place we shall endeavor to make clear beyond the possibility of a doubt.

It is a well settled fact that decaying organic matter absorbs the elementary atmospheric nitrogen with great eagerness. This process of decaying is also conducive to the production of a certain kind of bacterium, by the influence of which this elementary nitrogen is converted into nitrates, which process is called nitrification.

Now, let us examine how this is proved by the circumstances above mentioned.

First I stated that the leaves of trees contain more nitrogen than the sub-soil where their roots are spread; then I also stated that the turf or loam or humus of a forest contains much more nitrogen than the subsoil. The ground in a forest is covered with dry leaves and branches, the older of which are constantly decaying, thus representing a powerful factory for the production of nitrogen all the time; the humus absorbs and holds what it can of these nitrates, the rest being washed down with the rain water and, on their way, strike the widely spread feed rootlets of the trees, which in their turn eagerly absorb and convey them to the trunk, branches and leaves of the trees. Were the ground not penetrated by these rootlets, ready to absorb the nitrates, they would be carried lower down and lost to vegetation.

This teaches us a valuable lesson, inasmuch as it clearly demonstrates the necessity of always having an abundance of rootlets in the ground, ready to absorb the nitrates as soon as a rainfall shall dissolve them. It also raises the question whether the farmer really requires a

any benefit from the nitrogen contained in the commercial fertilizers and for which he has paid such a high price. The present mode of application consists of incorporating them with the soil at the same time as the seed is planted. Now the manufacturers of commercial fertilizers all claim that one of the principal advantages of these preparations over farmyard manure, consists in the fact that the plant-food elements contained in them exists in a readily soluble and by the plants assimilable form; while these food elements, as present in the farmyard manure, require considerable manipulation in the underground laboratory of our fields, before the plants can utilize them. Should therefore a rain happen to come before the seed had germinated and developed a plant with enough rootlets to absorb the dissolved nitrates, they will inevitably be carried down by the water and lost to vegetation. Where the nitrogen in commercial fertilizers is derived from animal refuse, the solubility is less rapid and the liability to loss by leaching correspondingly lessened; but the moment this nitrogen becomes soluble in water and thus available as plant-food, it is as liable to leaching as any other form of nitrogen. This would point to a change in the mode of application, in so far, as to suggest that nitrogenous fertilizers should only be applied after the ground is well supplied with feed rootlets ready to absorb the nitrogen.

A piece of land, covered with some kind of vegetation, was put under immediate cover and it was found that the amount of nitrogen had increased. The cause of this lay in the fact that the vegetation so covered withers and commences to decay; this process is conducive to the absorption of atmospheric elementary nitrogen and its conversion into nitrates, thus enriching the soil with this valuable plant-food element. The same process is also the cause of the increased amount of nitrogen in a soil where a green crop has been plowed under.

But the representatives of the pulse or clover family furnish the most striking evidence of the utilization of elementary atmospheric nitrogen. These species contain the largest percentage of nitrogen of any plants known, and yet experience and analysis have demonstrated the fact that they are powerful restorers of fertility upon the same soil wherefrom they have drawn so much nutriment. Although this appears to be an anomaly, the explanation is clear. The clovers are always planted with some grain crop, the stubble of which furnishes material for decay and the consequent manufacture of nitrates at a time when the rootlets of the clover are ready to absorb this nitrogen and serve the plant with it. From this source the clover obtains its large amount of nitrogen from a nominally nitrogen-poor soil. When the clover is harvested a large number of leaves remain on the ground, which, together with the clover stubble, in their turn decay and furnish the nitrates for the next crop, and when the clover field finally is plowed up for the reception of some other crop, the many and thick roots of the clover commence to decay and so furnish the nitrates for the succeeding crop. It has been suggested that the clover roots penetrate so deep in the ground that they are able to bring up nitrogen from there; but this theory is by no means tenable, as it is and remains a fact that light, sandy soil, with a sandy subsoil entirely destitute of nitrogen, still produces excellent crops of clover as well as of alfalfa and other species, and in many instances clover species are raised on light soil solely for the purpose of improving the same.

I do not doubt that the powerful laboratory constantly at work within every plant is able to absorb some elementary atmospheric nitrogen directly, and the foregoing circumstances, together with many others, seem to point in a most decided way to the fact that the principal amount of nitrogen is produced in the ground through the decay of organic matter, and so brought to the plant by the roots.

This conversion of elementary nitrogen into nitrates also explains the lasting qualities of stable or farm yard manure. As the litter and other admixtures decay in the soil more nitrogen is produced there, and the more decaying matter the manure contains the longer and the greater will be the conversion of elementary nitrogen into nitrates.

Right here it will be in place to refer to another well known and universally recognized circumstance with reference to the continued use of commercial fertilizers. The soil on any field that has been supplied with these fertilizers for a few years in succession, without having received any barnyard manure or had any green crop plowed under, will be found to have assumed a very compact form, or, as is generally said, commence to bake. Why is this? Simply because the activity of the soil is constantly at work to produce nitrates from the decomposing organic matter therein, and when crop after crop is taken therefrom without an adequate supply of organic matter liable to combustion, the result is inevitably a soil so poor in organic matter or active humus that it becomes a matter of great difficulty to cultivate it, and the raising of crops with any reasonable certainty becomes more and more problematical.

On the other hand, a field continuously supplied with barnyard manure increases in fertility, becomes each year easier to cultivate, and the humus will be found to accumulate in spite of the heavy crops harvested therefrom each year.

The conclusion of the above is equally simple as it is valuable. It demonstrates unmistakably that farmers need purchase no nitrogenous fertilizers, but simply allow the soil to make its own supply of nitrates by supplying it with a sufficient quantity of organic matter that shall decay there. A liberal admixture of litter, either in the shape of dry leaves or in some other form, to our stable manure, will produce a constant supply of nitrogen in the soil. The turf or humus from our forests is also admirably adapted thereto.

Through the well-known courtesy and ever-ready willingness to promote all agricultural interests, of Prof. Chas. A. Goessmann of Amherst, I have had some of this forest turf or humus analyzed, and his return shows:

	Per cent.
Moisture at 100° C.	51.21
Organic matter	44.51
Mineral constituents	3.68
Calcium oxide	0.20
Magnesium oxide	0.08
Phosphoric acid	0.09
Potassium oxide	0.08
Nitrogen	1.06
Insoluble matter	3.09

The subsoil immediately following this humus contains, according to the same authority:

	Per cent.
Moisture at 100° C.	19.969
Organic matter	0.104
Mineral matter	80.896
Oxides of iron and alumina	0.088
Calcium oxide	0.088
Magnesium oxide	0.091
Phosphoric acid	0.096
Potassium oxide	0.106
Nitrogen	0.035
Insoluble siliceous matter	79.699

In explanation of the seemingly small amount of nitrogen in the humus or turf, or only 1.06 per cent., I will say that, as the intention was to ascertain the constituents of the soil proper, all fungi, insects and parts of insects were carefully removed from the sample sent for analysis. But had the fungi, with their mycelium and the animal debris, been allowed to remain, the result would have been very different, inasmuch as these contain large amounts of nitrogen.

I have also had some dry oak leaves analyzed, and give below the result:

	Per cent.
Moisture at 100° C.	9.671
Organic matter	88.209
Mineral matter	6.840
Oxide of iron	0.027
Calcium oxide	0.549
Magnesium oxide	0.267
Phosphoric acid	0.249
Potassium oxide	0.089
Nitrogen	0.980
Soluble silica	0.013
Insoluble siliceous matter	4.826

As is well known, lime is of very little merit as a direct fertilizer, but its indirect benefit is great, inasmuch as it hastens decomposition in the soil, thus promoting absorption of elementary nitrogen, and also assisting in the formation of new and more soluble combinations with elements already in the ground. This combustion is also a constant source for the formation of carbonic acid. The carbonic acid thus unceasingly produced in the ground fulfills a function of the greatest importance, and may with justice be called the principal agent of solution, capable of supplying the plants with their mineral ailment.

With regard to the most advantageous mode of applying forest turf or humus, I consider it a good plan to mix it with the stable manure, where it will act as a good absorbent of all liquid matter that otherwise may be wholly or in part lost, and then spread on the ground, after having been thoroughly incorporated with the manure. Another method is to collect the humus in large heaps, scatter a little lime between each one foot-thick layer of humus, and then leave the heap to undergo a slow combustion for some months before being spread on the ground. This method seems to possess certain advantages, inasmuch as the admixture of lime, besides hastening decomposition, would neutralize the organic acids contained in the humus, and make it a very valuable manure in itself. If finely ground South Carolina rock or apatite be added, as a source of phosphoric acid, and kainit in some form as supplying potash, that heap of humus with these additional components would represent a much more valuable and longer-lasting manure, at a much cheaper price than any complete fertilizer ever manufactured.

A convincing proof of the fact that if the soil is provided with some decaying organic matter, it only requires a supply of phosphoric acid and potash to produce good crops, exists in the circumstance so well known and so thoroughly recognized, namely, that unleached wood ashes constitute the surest and most lasting fertilizer for a grass field. Here you have the ground covered with dry grass the whole winter; next spring this commences to decay, thus producing nitrates for the grass roots to feed upon; the ashes providing the phosphoric acid and potash, the result is a bountiful crop year after year.

In conclusion I will say that, although the foregoing may appear as a new idea that has to be accepted and acted upon with great caution, it really is nothing of the kind. There is actually not a single new thing or discovery contained in the above. I have simply sought to bring together old facts, generally known and commonly recognized, to prove the correctness of a natural law that has existed as long as vegetation, although we, in the hurry of every-day strife, have neglected to recognize fully its value and influence upon agriculture. But once pointed out, I feel sure that the immense benefit accruing from a systematic utilization of the elementary atmospheric nitrogen for the growing of crops, will be eagerly embraced by farmers. U. H. Hillman.

Tile-Draining in Virginia.

Eds. Country Gentleman—Draining land by blind or covered ditches is very little resorted to in this part of Virginia, and if done at all, only in a very primitive way, by laying two poles parallel and 3 or 4 inches apart in the bottom of the ditch, and then on these two another one is laid, so covering the opening. We were questioned by nearly every passer-by, while engaged in unloading a car of clay tile at a siding near the farm, as to what they were and the use we intended to put them to. After stating to them how they were to be laid in the ditch, with their ends close together, the next inquiry would almost invariably be, how is the water to get in? Of the few farmers who had knowledge of them, not one knew that they could be procured so near home, and they seemed glad to learn that they could be bought in Norfolk and be delivered by our new railroad at such reasonable prices right at their siding. I have not a doubt but that this pioneer car of tile will be the means of introducing many more into this section.

But great pains and not a little skill are required to lay tile properly in this level land. No amateur should attempt it at all, and those accustomed to doing this work in sections where there is no trouble to obtain ample fall, will here need something more than the unaided eye to get proper grade. There are also many lands of a sandy nature which wash badly, and it would be foolish to tile them. We were fortunate in our purchase in so far as having a good clay subsoil to lay our tile in, and one that will retain in a large measure the enriching substances we propose to apply.

Several open ditches, of considerable size and length, we have had cleaned out, and in the soil removed from them we have abundant recompense for the labor done, as it is very rich, much of it being vegetable matter of pure leaf mould, the accumulations of 25 or 30 years, which have been blown from the forest through which these ditches run for some distance.

In our work of ditching we received great assistance from a tool purchased last summer, but which I had never seen at work. It is only designed to loosen up the hard clay subsoil found in ditches, the loosened soil then to be thrown out by hand. We plowed out first with common plow as deep as possible—say one foot—then hitching two good mules to this odd-looking tool, with its three legs and duck-shaped feet, with a mule on each side of the ditch, a man to drive and one to hold and guide the tool, we passed up and down the ditch, loosening the tough clay fully six inches every trip; then removing this loose soil easily with the shovel, we proceeded again. We dug as much ditch in two hours as it would have taken the two men engaged two days to dig with pick and shovel, and I am satisfied that, with men enough to throw out the earth as fast as loosened up by the team and tool, one could make ditch at the rate of a mile a day.

In laying the tile I found another simple little tool very valuable, which any one can make who has a good chisel and an old long-handled, round-pointed shovel. Cut the shovel blade down to a width of 4 inches; then, on some concave surface, bend it by pounding until it conforms as near as may be to the same circle as the tile to be laid, be it either 3, 4 or 5 inches. Sharpen it on a grindstone, and cut the bottom of the ditch out with it, walking backwards, and you have a groove in which the round tile will lie nicely. J. S. P.

Hoover, Va.

Forest Removal and Floods.

Eds. Country Gentleman—During the continuance of the great flood in the Ohio river, which occurred in the month of February, 1884, and which caused such suffering and destruction of property, the Tribune and other daily papers of New-York city declared that it was produced by the denudation of forests along the Alleghany and Monongahela rivers and their tributaries. Even Harper's Weekly, usually careful and exact in its statements, fell into the same error, and said: "Let us hope that next year the *wilful destruction* of our forests will not combine with such uncontrollable causes as early freezing weather, unusual abundance of snow, and continued thaws accompanied with rain, to produce a recurrence of these disasters that so appeal to the sympathies of all." That great flood was produced by the same causes which have produced some of the highest floods in the rivers of our country—early freezing weather which freezes up the ground and closes the pores of the earth so that no water can soak into it, then a heavy fall of snow, which before the frost is out of the ground is "rained off" or melted with great rapidity by a warm rain, sometimes a hard rain, and the great volume of water rushes off into the streams. Had every tree remained that stood on the head waters of the Ohio river before the French built Fort Duquesne, that great flood would have happened all the same, and would have stood 71 feet and ⅞ of an inch above low water mark at Cincinnati as it did Feb. 14, 1884.

The highest flood ever known in the Susquehanna river, which happened in March, 1865, was produced by the same causes that made the flood in the Ohio. The ground was frozen solid even in the woods under the leaves; there was a large body of snow on the ground which several thawing days had softened into "slush" and started the water to running; then came a warm rain that melted it all off in one night. Had the country been an unbroken wilderness from the Chesapeake Bay to Lake Erie, it would not have prevented that great flood or left its high water mark one-tenth of an inch lower.

It sometimes happens, though not often, that owing to the covering of leaves in the woods the ground does not get frozen there before snow falls, and then, protected by a blanket of snow, it does not freeze at all till the snow goes off; but such seasons are rare, and the amount of water the ground is able to absorb is limited, and bears but a small proportion to the vast quantity that is made by a deep snow melted off by rain.

There was a great ice flood in the Susquehanna on the 15th of March, 1784, which is thus described by Col. John Franklin, one of the ablest leaders of the Connecticut party in the Wyoming valley, and a very reliable man. He says: "The uncommon rain, and large quantities of snow on the mountains, together with the amazing quantity of ice in the river, occasioned by the uncommon inclemency of the winter season, swelled the streams to an unusual height—ten, and in many places twenty, feet higher than ever it had been known since the settlement of the country." What made it worse was, that the ice gorge in the valley and the flood came upon them in the

night. He states that upwards of 150 houses, with their contents, together with the greater part of their horses, cattle and other effects of these unfortunate families, were swept away by the raging torrent and lost forever.

Some great floods have been caused by rain without the assistance of melted snow. One of the greatest in the Susquehanna, of which we have any account, and which was not much, if any, less than that of 1865, happened Oct. 6, 1786, and was called the "punkin flood," because large numbers of pumpkins were seen floating down the river. It is described by Col. John Franklin as follows:

"The rain on the 5th of October, which fell in about 24 hours, raised the river about six feet, and in the narrows, 10 feet deeper than ever known. The small streams became mighty rivers, the mills are mostly swept off, and one-half of all kinds of food for man and beast is forever lost. The greatest part of the rain fell in the afternoon and evening of the 5th. The Susquehanna river that was fordable at 4 o'clock in the afternoon, was over the face of the earth from mountain to mountain at 6 o'clock on the morning of the 6th."

The "punkin flood" could not have been caused by "the wilful destruction of our forests," for the forests had not been destroyed. The whole country drained by the river and its tributaries was a dense wilderness of woods, except some narrow clearings along the banks. It is folly to talk about the destruction of the forests being the cause of the great floods. When a tremendous rain falls there must be a tremendous flood, forest or no forest; the impediment which they say is offered by leaves, logs, and rotten wood, amounts to nothing, and the quantity of water that will soak into the ground in the woods, is no greater than in cleared land, and not so great as on plowed fields.

The highest flood ever known in the Wyalusing creek, and which took off every bridge on the stream, was caused by a thunder shower, or as some people said, a "cloud-burst" in the latter part of summer. The water, as described by an eye witness, did not fall in drops, but in *solid sheets*, about after sheet as fast as you could count. The area covered by the rain-cloud was estimated to be not much over nine square miles and was near the head of the creek, not a drop of rain falling at the mouth. Near the centre of the storm the water ran down a hillside of moderate slope, (where there was no depression in the field to gather the water together), to such a depth and with such force as to float away bodily about ten rods of crooked rail fence, which had been built along the side of the field near the foot of the hill, and carried it a distance of four or five rods, where it lodged against some trees. The water came into the farm house which stood near by to such a height that the inmates had to flee to the chamber for safety.

It is unreasonable to suppose that this flood would not have happened just the same if the country had never been cleared. If it be said that such a fearful rain-cloud never would have gathered in a forest, the answer is that we do not know. We do know that forests are full of gullies where there are no running streams, which would seem to prove that there had been terrible rains sometime to tear out those gullies, notwithstanding the impediment offered by the roots of the trees.

There was a great flood in the Sugar Run creek in July, 1850, before much of the woods had been cleared from the back country through which it runs. The rain that caused it was quite general, as the river rose as much as 12 feet above low-water mark; but no doubt the heaviest fall of water was along the Sugar Run, which before the rain had fairly ceased, covered all the flats along it from hill to hill to the depth of 6 to 8 feet of swift-running water, tearing up great trees with their roots and transporting them together with logs, brush and large boulder-stones on to the fields at its mouth.

There has since been another flood in the same creek which came June 17, 1870, and was about the same height of the one which came 20 years before it. There was a moderate shower about 5 o'clock P. M. of the 16th, then about 2 o'clock A. M. of the 17th there came a terrible thunder shower which lasted with scarcely any intermission for three hours, raining most of the time with such violence and such large drops that it sounded like hail stones on the house roofs. It was a local rain, not extending over a district more than five or six miles square. The river which was low at the time did not rise any, and the creek like—a great mad, muddy river—conquered it, rushing directly across it with a swift current to the farther shore before it turned down stream. The river, which was perfectly clear, was dammed up 6 or 7 feet by the great volume of water from the creek dashing across it.

It is my opinion that the editors of the papers referred to adopted the views of the Hon. G. P. Marsh and some European writers without sufficient investigation, and that the facts which they state do not warrant their conclusions.

Sugar Run, Pa. J. W. I.

The Spooner Bill.

National or State Institutes?

EDS. COUNTRY GENTLEMAN—The so called Spooner bill for the establishment of a series of national farmers' institutes, under the fostering care of the new Secretary of Agriculture, is a measure that should not be either lightly passed over as a scheme, or too harshly criticised on the other hand. It is a matter that should be thoughtfully considered by every farmer, and his views should, in some way, be brought to bear, pro or con, in the next Congress. The bill at present is crude and is more in the nature of a "feeler," than what its author really intends, I apprehend.

That its object is good is evident, and the creation of a department of agriculture, the agricultural colleges and experiment stations, are in full harmony and line with this bill. The National Institutes are an attempt to yet farther popularize this new method of agricultural education by bringing instruction for the masses to their very doors—in fact becoming a traveling college for those who cannot put themselves as students within the four walls of what already exist as educational helps. It not only means this, but national legislation within the past ten years is fast recognizing and handsomely rewarding the fact that agricultural progress is the true method of building up national greatness and prosperity; and this bill I happen to know, is an honest effort to further this very idea.

That the bill is too liberal in its appropriation, I do not dispute. That it has too many officers and clerks is apparent; that it needs a half million dollars to hold 400 institutes, is out of keeping with the work to be done. While a half million is insignificant as compared with other governmental expenditures that never return a red cent, or any other color of benefit, it would be unwise to place some $13,000 at any one's disposal for the holding of one institute. It is in this that the suspicion comes in. Not that the superintendent should or always would exhaust the half million in holding 400 institutes, but he could do so, and so give the farmers a large opportunity to criticise. Although they suffer all sorts of governmental extravagance, yet, when an appropriation is made for *them*, they are the first to cry out, and be exceedingly economical.

The experience of the superintendent of Wisconsin Institutes is, that a two days' institute can be run successfully on a $135 basis, or about that, including all expenses, near and remote, and this with a trained corps of not less than six and eight men, and with them one or more such men of national repute as Prof. Henry, A. J. Cook, Roberts, Robertson, Alvord, Terry, Chamberlain, Morrow, Goff, Babcock, Brown, Manly Miles, &c.—never less than one or two of these gentlemen—the whole making a corps of workers that would bring no discredit to a national institute. In my opinion $150,000 would be ample for 400 national institutes. It does not need an army of assistant superintendents, clerks, &c. If Mr. Morrison in Wisconsin—and his institutes are not only of State and national, but world-wide recognition for excellence—can hold 90 per year, all expenses from every source included, for $12,000, and needs no help, save two assistants for the twenty weeks of actual institute holding, it would appear that a very small force could lay out the work for this national movement until active operations in the field commenced, when one of the corps men could act as conductor, and the expense be reasonable.

As to making places for "talkers" and "no-account" farmers as teachers and lecturers, there is this to say—that a wise superintendent would not employ or tolerate them. With such a great number of wholly competent men like those named above, and a host of others quite as well known, men eminent in their lines and specialties, to choose from, there need be very little danger of making places for incompetents. The farmer, while suspicious of "superior wisdom," is yet quick to recognize and applaud real instruction, and after seven years' knowledge of institute work I have never known the farmers who have listened to such men as Profs. Henry, Cook, and others of like prominence, treat with levity or any disrespect, their lectures, but on the other hand, have heard them question them by the hour, and admit that they had been greatly benefited. The most important question is, I think, how to make 400 or 800 institutes reach the ten million farmers of this country? To hold them in the large central cities, is to bar out those for whom they are intended. Those who need very little of institutes can attend anywhere, but it is the farmer who can only leave home "between chores," who needs this helpful education. The institutes must go to the country and the small local towns in clear. Where shall the ten that would be Ohio's share be held?

That it would be of great value to have the agricultural teachers of national fame meet the average farmer, and talk to him face to face, and let him understand and know that they each work with the same soils, grains, and same sources of fertility and with cattle and implements alike, that it is in methods, and systems that they differ, and there make clear the real difference between "book" and "practical" farming, the gulf that now separates the two would be more speedily bridged over, and the expenditure, if wise, would be amply repaid in this alone.

Shall these institutes be national, or shall each State board of some creation have each a specified fund for institutes, and they be conducted by State control? Who shall have control of the funds, and how directed? No one disputes that Wisconsin, with special superintendency, has given us the most noble and most influential institute yet founded. Can the national hold institutes in a State aloof from the institutes already organized, as in New York, Ohio, Wisconsin, &c., and not jeopardize the whole? Shall the Secretary of Agriculture furnish speakers on special topics, and assign them to form part of the working force of the State corps of workers? Where State institutes now exist it would seem unwise to hold separate meetings. On the whole, it would seem that while national assistance and institutes are to be desired, even prayed for, yet there must be some form of cooperation, in part at least, where institutes are now held. Could Mr. Bonham, our superintendent of Ohio institutes, have Secretary Rusk assign him two able speakers for each of his institutes, then with his state help and local assistance he could hold 75, which would meet the masses, and reach them as well, by carrying the institutes into the heart of the agricultural districts, and more good could be done than by the government holding ten separate institutes. The expense would be nominal as compared with the present Spooner "prospectus." Then we would popularize the movement by giving the State and national efforts a local tendency, which recognizes the people by asking them to take part and be part of a great national educational movement, and it must by the very nature of things become popular. In States where no institutes are held, the national institute would request help, and would no doubt pave the way to the organization of the State institute, when cooperation could be adopted as in other States.

It would be unwise for the government to place aid in the hands of this or that society exclusively, for them to disburse as an institute fund, as such a course would estrange all other societies and organizations, and the fund would be in the way of doing far less good, than if only national meetings were held. It must not be so placed that any one can say, "This is ours," or "mine," to deal or dole out, but so fixed that each and all can say, "It is for *our* benefit." To this extent I hold that it would be wise, however the outcome of the bill may be, for the Secretary of Agriculture to have the controlling power as to the disposition of the fund, whether in holding separate, or conjoined institutes, so that it shall be spent in promoting agriculture and the farmer's vocation, and not used as State "ways and means" which bring no results.

I indorse the principle that actuates the Spooner bill, if modified and adjusted more to the farmer's benefit, and far less to the salaried army it now names. If made directly distributive to the masses, so that they shall know and feel that the government intends and does endeavor to reach them to better their condition, make the fields more productive, and the homes better, the bill will be a grand feature, the benefits of which cannot be fully estimated. J. S. *Western Reserve, Ohio.*

Windmills on Streams.

EDS. COUNTRY GENTLEMAN—No further evidence seems needed as to the efficiency of windmills for pumping purposes. I will, however, contribute to the discussion a suggestion as to a source of water supply which I think is quite generally overlooked.

There are thousands of farms and homes in this state with streams of permanent water within fifty rods or less of the buildings, and from which a pipe could be laid, below the frost line, cheaper than a well could be made, of sufficient capacity to be a reliable water supply for all purposes. In piping from a windmill pump, it is quite easy to supply house, stables and all buildings needing it, with water at the same time, and any one who has enjoyed an arrangement of this kind for a short time, would not be likely to relinquish it for many times its cost.

As illustrating what can be done in this way, I will mention that the Whitney House, a hotel at Norwood in this county, has been supplied with water for many years, from the Racket river, through some half or three-fourth mile of pipe by an Adams mill, put in by William Gould & Son of Watertown, N. Y. The cyclone which destroyed part of the village and the railroad bridge at this point in 1865 blew down the tower and smashed the wheel, but it was at once replaced, and has never, so far as I have heard, failed to do its work well, delivering water in a cistern in the upper part of the hotel, from whence it is distributed by gravitation.

The same parties put in a mill for me in the fall of 1867, on the bank of the St. Lawrence river, which lifts water 60 feet through about 35 rods of one-inch pipe, and supplies dwelling house, one stable and an out-door tank for cattle. Ignorance as to the requirements in laying pipe, caused a failure for a few days from frost the first winter, and considerable trouble. Aside from this mishap, the working has been very satisfactory, so much so as to be a subject of constant commendation from all who have anything to do with it. The coming summer I expect to make it furnish water for garden purposes. W. S.

St. Lawrence County, N. Y.

From Southern Minnesota.

EDS. COUNTRY GENTLEMAN—The past month has been unusually dry in this section. We had one good rain about ten days ago, the only one for four weeks past. Consequently the meadows and pastures are not what they would have been, although excellent for the time of year, and the cattle are all turned out. Spring grain was mostly sown two weeks ago, and some are already beginning to plant corn, despite the fact that the mercury ran down to from 28° to 30° during several nights last week.

The condition of winter grain generally is good. The ruling prices on grain, seeds and mill stuffs at Winona are: No. 1 wheat, 77c. per bush.; No. 2 wheat, 72c.; corn, 30 to 35c.; oats, 18 to 20c.; barley, 25 to 28c.; rye, 50c.; flaxseed, $1.30; timothy seed, $1; clover seed, $3.50; corn meal, $20 per ton; bran, $13. In a trip from New York State to Minnesota a short time ago one of the most striking noticeable differences between eastern and western farming was the waste of straw and corn fodder in the West, from Ohio to Minnesota.

Herds of thin, consumptive-looking cows are seen wandering through the stalk fields and in the pastures just beginning to look green. Manure, instead of being spread broadcast on the land so as to be washed into the ground by the rains and made at once available for the crop, is in most cases drawn out and spread in small piles to be handled over again after much of its richness has been soaked into the ground where the pile was made. I noticed that some farmers who had evidently learned that the proper place for manure was on the surface, would stop the plow when one of these small heaps was reached, and spread it over the freshly plowed ground.

In traveling from Buffalo into Ohio, riding along the shore of Lake Erie and through Northwestern Pennsylvania, one may see a beautiful country, and hundreds of acres of thrifty-looking grapes and apples. In Ohio

much of the land seen from the track was a stiff clay, some so wet and heavy as to be apparently unfit for cultivation. Log cabins become common sights soon after leaving Cleveland, and are nearly always accompanied by neat frame or brick houses, testifying to the growing wealth of the inhabitants. The rail fence is almost the universal one in this section. Winter grain seems to be little raised here, probably on account of the land being so wet.

After leaving Chicago we pass through another flat and wet, but very fertile-looking region, and soon reach the fine rolling lands of Wisconsin. Almost every farmer has a windmill or two, and most of them have good buildings, although occasionally a reaper, self-binder or horse-rake is seen standing in the field, perhaps for a weather indicator, and still many of the cows look as if they had passed a pleasant (?) and profitable (?) winter in the shelter of one of the barbed-wire fences, so common here, and nourished by the dainty bits gathered from the straw stack and by wading around in the snow among the standing corn stalks.

The people and towns all look thrifty, enterprising and new; quite different from the East. Even the cemeteries have an attractive and inviting appearance. There is seldom a rock to be seen in the southeastern part of the State, but as we go west the country becomes more hilly, and we go through deep cuts and tunnels in the yellowish sandstone. Apple orchards are seldom seen in this State. Woods are plenty, but the trees look short and stunted, as if the winter blizzards were too much for them. These are a few of the things noticed in a thousand-mile trip across the country by an eastern farmer from a car window. C. B. STROUD. *Winona County, May 6.*

Our Illinois Correspondence.

CHAMPAIGN COUNTY, May 7.

Succeeding the four hoar-frosts beginning with the month, we have had three days of strong south and southwest winds, with a rise in the temperature to 87° yesterday and probability of a higher figure to-day. After two or three hoar-frosts, usually rains, but none now so far, near or remote. The fields are getting as dry as midsummer, and the towns are as dusty as they are sometimes in October. Just the amount of damage from drouth to the crops it would be hard to estimate, because two or three inches of rain falling within a week or ten days would go far to repair it. The successive frosts combined with the drouth have reduced the yield of strawberries to a minimum, while no doubt other small fruits were badly damaged by these shocks, and cold dry north winds between them. Where advanced far enough, the grape blooms were killed outright, and it remains to be seen whether those undeveloped have been vitally injured. In a month more of dry weather, the average pasture will be eaten to the ground, and should no rain, or not much, fall in May, the hay crop will come near a failure. Oats are suffering badly and I think the average farmer would pay a premium equal to a third of the crop for a surety of an average two-thirds. It is yet too early to say much of the corn crop, or how full or empty the tree-fruit set is to be, or whether the winter wheat now looking fairly well, will satisfy or disappoint previous expectations.

The last three days have been tornado-like weather with a single feature only wanting—that is, a humid atmosphere—strong south and southwest winds, falling barometer, rising temperature, and vegetation pushing with great vigor and rapidity—all these forces producing, generating, or developing that surplus sum of electricity in the atmosphere, never absent from these terrible phenomena. Meantime, the skies have been comparatively clear of clouds, and so little humidity in the air that a glass holding ice-water, and standing in the open air but shielded from the wind, is scarcely clouded by the condensation of humidity. Therefore, the cause for the mistake in the weather reports, which predicted "severe local storms for Illinois." When these strong hot winds reach the region of the upper lakes and a cool and humid atmosphere, there are likely to be heavy rains and storms of great severity, if not tornadoes.

Whether the present dry spell is to be prolonged into the summer it is impossible to do more than conjecture it may be so. Those who say taking off the surplus water from an extensive area of nearly level country has little or no influence either for or against drouth, bring forward in support of their views, the summer drouth of 1856, in which almost no rain fell from the middle of March to Aug. 16, while on the other hand, those who hold an opposite opinion, refer to the comparatively narrow area of the drouth of 1887, and ask whether if a vast plain is reduced to the condition of a Sahara, in the article of surface water and moisture, a Sahara summer and winter climate is not likely to follow?

As for the future, if we here in this part of Central Illinois get no rain previously, we shall be pretty certain to the second week in July; because for four years in succession, heavy rains, winds and thunder storms have visited all or portions of this county on the 8th and 9th of July. The storms of 1887 were confined to the north portion of the county, but those of '85, '86 and '88 embraced its entire area. S. F. J.

A Dry Time in Southern Ohio.

EDS. COUNTRY GENTLEMAN—The calendar says this is May-day, but ice formed in our water troughs this morning, and if there had been moisture the frost would have been severe enough to do much damage, but the weather has become so dry that little if any dew forms, and so plants are too dry to freeze. I have never seen it as dry at this season as it now is. We have had two light showers, about one-fourth inch each in sixty days. About once a week the wind goes to the south, and it will cloud up with good indications of rain, and then the wind veers to the northwest and we have three or four days of cold, windy weather. Many farmers are not able to plant, as it is impossible to get their land in order, and most of those who have planted spent more labor in getting the land mellow than would in an ordinary year cultivate the crop. While there has been no severe weather or hard frost, on the other hand there has been no growing weather, for even if there had been moisture, there cannot be much growth with east winds, clouds, and a temperature hovering around 40°. Ten years ago, May was as dry as April has been this year, and corn planting stopped until the very last of the month when heavy rains fell. The weather department seems to be all at sea, and unless there is an improvement in their predictions they are of no value whatever to farmers. The flags are displayed where I can see them every day, and for six months past there have been about two failures to one true prediction, and I feel sure that an intelligent observer in this locality could have made predictions that would have been oftener verified.

That class of farmers who are always behind with their work are to be pitied now, or rather their horses are, for they are toiling to get their land plowed with fearful odds against them, and should the weather turn hot without rain, it will be impossible for the horses to work. Several men in my locality are trying to break sod and stubble fields, and one day's work will wear their teams more than a week's would have done in March; and there has been no excuse for this, as for two months there has not been a day lost by rain. I think that all the grass and clover seed sown since March 15th is lost, but I find a fair stand of clover on my fields which were sown March 8th, for at that time the land was moist, and we had sharp freezes at night, followed by bright sunshine and sloppy thaws for two or three days, which covered the seed well. Although it is so dry that I cannot understand how the young plants live, I find them still fresh. My rule for many years has been to sow timothy when I do the wheat, and clover on frozen land, on a clear, bright morning from Feb. 25th to March 10th, and with perhaps one exception I have had a good stand, and believe it to be the safest time to sow. If our dry weather ends soon, very little damage will have been done, for there is plenty of time for corn-planting; wheat and clover have endured the drouth wonderfully, and blue-grass recovers from drouth very quickly; but we have very nearly reached the point beyond which we cannot go without severe loss.

The weather in this locality has been peculiar for nearly two years. It was about one month later than this that the drouth of 1887 began, and there has been a shortage of rain ever since with the exception of a month last fall when we were nearly drowned out. It began raining Oct. 11, and rained nearly every day for just one month, and I have little doubt that the surplus which fell in that month, if distributed through a summer, would make good crops. In January last a friend sent me from Kansas a pamphlet published by some man in Topeka, who claims, as Vennor and Tice did, to be able to foretell the weather. Unlike them he did not prophesy in an ambiguous and general way, but had a separate table for each State of the Union, and his predictions for Ohio were that this drouth would begin just as it has, and continue through the entire summer, the next three months giving us less than one inch of rain. The friend who sent the book to me had great faith in the predictions of this man, as he claimed to have verified them for some years past. I cannot help recalling this, as I find the last month has been just as laid down in the table for Ohio, and yet I do not believe that any man has discovered the laws that govern the weather so as to be able to tell beforehand what it will be in any given locality, and I very much doubt if the science of meteorology ever will be so understood as to enable one to predict with certainty the weather changes. There is comfort in the promise that "seed time and harvest, summer and winter, day and night, shall not fail." It is also true that it is the *poor* farmers who suffer most even from drouth, for land in good condition makes a strong plant that is able to resist all enemies better than the weak plant which grows on a thin soil. The farmers of this locality, whose wheat was fertilized, have a growth which shades the land, and if rain comes within a week or two will have a full crop, and those who were done plowing by April 15, got their land fine and mellow, and have planted their corn in good shape, but the thin, spindling, starved wheat-plants are not growing, and the baked clods the farmers are now turning up cannot be pulverized until heavy soaking rains fall, while a shower that gives a half inch of rain will moisten the mellow field. While good farming always gives the best results, it counts especially in these off-years.

Butler County, O. WALDO F. BROWN.

Corn-Planting in Illinois.

EDS. COUNTRY GENTLEMAN—Corn lands that were fall-plowed, or spring-plowed early, and fitted before the long spring drouth had so hardened the soil that it turned up cloddy, were in fine condition for planting, and the task of fitting was an easy one. Land plowed during the last two weeks require much labor with the harrow, roller and plank drag. If not thus treated, much seed will not germinate until copious rains come, and the stand will be uneven, and perhaps poor. The rain of April 12 was taken advantage of by some, to immense advantage, by harrowing all ground previously plowed, which (though the rain was a light one) readily pulverized into the finest tilth. In fields thus treated, and planted immediately afterward, though it has ever since been cold and frosty of nights, scarcely a grain has failed to germinate, and is now just pricking through, presenting an appearance that delights the heart of the corn-grower, since an even and perfect stand at this season is a crop half made. I know there are many who condemn early planting, and who during a cold rain in May are ready to congratulate themselves that their seed is "better out of the ground than in," but I have found that on our heat-absorbing black soil, which is usually warmer than the air at this season, there is little risk in putting good seed into the ground during the latter days of April or first days of May.

This year those who planted early will have an excellent opportunity for getting the start of the weeds, as the fine tilth allows the free use of the harrow both before and after the corn is up, which in a dry time makes the process of heading off the young weeds very simple. With the soil compacted by heavy rains after planting, and followed by cold, wet weather, the case is very different. The harrow then does little good, and no time should be lost in starting the cultivator as soon as the rows are plainly visible, and working as closely as possible to the corn. Light covering does little or no injury at this period. This is the critical time upon which half the chances of a crop depend. A clean job the first time over is very important. If this is not secured then it will not be obtained afterward.

Shallow surface cultivation is well, and when the soil is in its present condition is both practicable and preferable, and the harrow, Tower cultivator, gopher and other tools that merely stir or skim the surface may be relied upon exclusively—provided, of course, that the ground was properly plowed and pulverized before planting. The Tower cultivator, which acts like the Acme harrow, and the gopher which with long flat blades skims the surface like a hoe, are both good tools when the ground is dry, in fine tilth and free from strongly-rooted weeds, but on our soil they will not scour if the ground is not dry, and become inefficient by clogging, and if the weeds are very thick and strong they will not answer. In this case we have to lay aside our ideas of shallow culture, and fall back upon the common straddle-row cultivator, which, taking a strong hold of the ground, always scours and does good work in all cases, but must be allowed to run three or four inches deep. With this tool exclusively, we have grown very good crops of corn, and it has not been shown that any better can be grown with shallow culture—theory to the contrary notwithstanding. If used exclusively, however, the inside shovels should be raised the last two times over, so as not to sever the roots close to the corn.

In crossing, the shallow-working tools work better, since then there are little ridges and furrows to cross which hold the blades better to their work, and cause them to run deeper, and except in wet seasons the gopher is an admirable tool to alternate with the cultivator in crossing and "laying by." It must, however, be kept very bright and sharp, or it will clog and run over the strong weeds and grass.

On the average Illinois farm, the problem is how to raise the largest crop of corn with the smallest outlay of labor. As corn is cheap, its production must be cheap also. It is not my object to tell the amateur how to grow a maximum crop on one or two acres regardless of expense. If I serve the interests of my brother farmers, I must endeavor to tell them how they may increase their crops without increasing cost of production—how a man on 30 acres, or two men on 100 acres, may raise the largest crops with the labor at their command. I would first emphasize the importance of good seed. Though this may always be had by proper care and forethought, it is not always done, and many failures result from it.

I would not advise the purchase of costly or new-style implements, though some of these may be good adjuncts to the old-time tried tools, but to use the old ones to the best possible advantage, and especially to take advantage of every opportunity which the season or circumstances offer. Let the plowing, planting and cultivating all be pushed with energy and thoroughness. If the soil is wet and unfit to work, the work must of course be delayed, but when in good order let no time be lost. In plowing dry ground, let the harrow follow immediately, before the clods become harder by drying. The plank drag is cheaper and more serviceable than the roller, and is invaluable in fining cloddy ground. The smoothing harrow, heavily weighted, is also good. If a light rain falls when a field is dry and cloddy, the timely use of the harrow will readily change it into a fine seed bed. Harrow soon after planting, to head off squirrels and mice and discourage the starting of weeds, and again after the corn is fairly up, and by all means start the cultivator early and make a clean job the first time over. If a wet spell interrupts cultivation, use the hoe to take out bare, smart weed, &c. Cultivate four times; five are better, and when done with the horse go through again with the hoe, and cut out all weeds that have escaped the cultivator. I have no doubt that stirring the surface with some one horse implement, after the corn is too large for the use of two horses, would be beneficial; but as at this season haying and harvest claim attention, it is hardly worth while to consider it. Besides, the man who has "stood by" his corn faithfully up to the first of July, feels by that time that it may and ought to stand alone thenceforward, and it usually does. C.

Rantoul, Ill., May 7.

Southern Oat Crops.—Mr. Henry Stewart, p. 324, says that 22 bush. of 30 lbs. per bush. per acre, is perhaps the highest yield secured by the best farmers in the Southern States. Mr. Stewart is mistaken. We have sold of a single crop, from a field of 40 acres, 2,400 bush. of oats of 32 lbs. per bush., and I know of no good farmer in this section of Virginia who considers 50 bush. of oats per acre an extraordinary yield.

Fauquier Co., Va. LAWRENCE WASHINGTON.

A Summer Fair.—The Hancock County Agricultural Association of Indiana will hold its Fourth Annual Fair, Aug. 20-26, at Greenfield. CHARLES DOWNING, *Secretary.*

Inquiries and Answers.

The Cooley System.—Can good results be obtained by Cooley creamers with running water at 60°, by giving 24 hours time to raise the cream? H. F. S. *Harrisons, Fa.* [Yes. Running water at 50°, provided there is a good stream, will usually do as good work as standing water several degrees colder. The running water seems to carry off the heat faster, and therefore gives better results.]

Mares and Clover.—Horsemen here say that mares cannot be got with foal while feeding on green clover. Is there any truth in the statement? VIRGINIA. [No. Clover is a strongly nitrogenous food, and such food is favorable to breeding. If mares, that had been kept upon dry food all winter, were put at once upon very succulent clover, and it produced a relaxed state of bowels, while this looseness continued they would not be likely to breed. We have in mind a case where three brood mares were effectually served while on green clover pasture, and another case where mares were served when soiled upon green clover cut before blossom. We often prescribe clover hay and bran as a good ration preparatory to breeding. E. W. S.]

Hard to Tell.—Where can we get fixtures for large wooden roller with plaster sower on rear and grass-seed sower on front? It was bought about twenty years ago, but no one can tell where it came from, and there is no mark upon it by which it can be told. If any one can give any information he will greatly oblige S.

Two Clovers.—Enclosed find sample of grass or clover that I find on pasture field. I first noticed it last spring. It grows very thick and looks like young clover. I have never noticed any bloom on it. Please give name and tell whether you think it has any value for grazing. I. H. A. *Lynchburg, Va.* [Specimens of two species of plants are contained in the packet, both of which are too young for satisfactory determination, but so far as they go, the one with smaller leaves appears to be the "low hop clover," *Trifolium procumbens*. This has a yellow flower and is sometimes called "yellow clover." It furnishes a moderate amount of pasturage, but is not generally regarded as of much value. The other, with longer and more silky leaflets, is apparently the "rabbit-foot" or "stone clover," *Trifolium arvense*. Should these plants blossom, I should be glad to see flowering specimens. C. H. P.]

Developing Ration on Pasture.—I bought, March 7th, a five-year-old high-grade Jersey cow, for family use; was very poorly wintered; due to come in last of month; still giving milk; had no grain past year. I began feeding one pint of wheat middlings twice a day, and gradually increased to two quarts. Did not succeed in drying her entirely. Calved March 21 nicely, but flow of milk did not increase—about one quart twice a day for several days; then began to increase, until now she gives 19 lbs. per day. Am feeding per day, 5 lbs. wheat bran and 5 lbs. corn meal, with all the long hay she will eat. Her milk is quite rich. Last summer she made 18 lbs. butter on pasture alone in seven days. This summer she will be in pasture daytime and in stable nights. Please give ration for her to make butter and fair flow of milk. (1) About how much increase of butter may I expect with the increased ration over last summer? (2) Weight of cow, 950 lbs. Can obtain corn meal at $16 per ton; wheat middlings, $14; wheat bran, $14; oil meal, $27; oats, $30; potatoes, 15c. per bush. I want what is best for cow and that will make most butter. H. C. V. *Belmont, N. Y.* [1. H. C. V. will find a ration for his cow on pasture, on p. 322, in answer to M., and also on p. 333, in answer to T. B. Let him read these carefully. He will see that this food should be given with moistened cut hay, and that the grain food should not be fed alone, if he wishes to produce the best result and promote the health of his cow. In the two answers referred to, he will find particular instructions as to the mode of mixing his rations. But as V. wishes particularly to develop his cow, we will give him for that purpose the following ration: 8 lbs. cut hay, 5 lbs. corn meal, 3 lbs. fine bran and 2 lbs. oil meal. Let this corn meal, bran and oil meal be thoroughly mixed together before mixing with the cut hay. This is rather a large ration to give on pasture, but it is probable that his cow will be able to properly digest and assimilate it. He might give a few quarts of mashed raw potatoes, as long as the potatoes are in a proper condition for feeding, but not more than two or three quarts per day. 2. If this cow actually made 12 lbs. per week on pasture last year, and if she is in all other respects in equal condition this year, under this extra feeding she should produce 3 or 4 lbs. more of butter per week. At all events, her ration will be a great improvement. But V. must remember that many of these so-called tests are often very inaccurate. E. W. S.]

Record of the Times.

Weather, Crops and Prices.

Meteorology for May 6-12.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.10	inches.
Lowest do.	do.	.....	29.62	do.
Mean do.	do.	.....	29.87	do.
Highest temperature	do.	.....	92°	
Lowest do.	do.	.....	49°	
Mean do.	do.	.....	73°	

Four clear days; three fair. One day on which rain fell; total precipitation, 0.03 inch. Prevailing wind, S.; maximum velocity, 26 miles per hour, on the 10th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	6th	7th	8th	9th	10th	11th	12th
Day.....	66°	72°	82°	90°	102°	111°	122°
This year...	64°	69°	71°	73°	79°	64°	69°
Normal.....	58°	59°	57°	59°	59°	59°	57°

Total excess for the week, 35°.

General Review of the Week.

The week ending May 11 was unusually warm throughout the Northern States, the average daily temperature ranging from 9° to 15° above the normal, while in the Southern States the temperature was seasonable, being slightly cooler than usual along the Gulf and South Atlantic coast. The season from January 1 to May 11 is about one week in advance in New-England, New-York, Pennsylvania, and the central valleys, and it is from ten to twenty days early in the Northwest, while in the Southern States the thermal conditions are about normal.

The weather for the week has been marked by an entire absence of rain throughout the Southern States and the Ohio valley, this area of no rain being larger than that of any other week since the issue of the weather-crop bulletin. The drouth conditions in the Ohio valley have become more threatening, leaving the growing crops in that section in a critical condition, if not permanently injured. Light showers occurred over New England and the Middle Atlantic States, and generous rains, although usually less than the normal for the week, are reported from Wisconsin, Minnesota, Dakota, Iowa, Nebraska, Kansas and Northwest Missouri, which doubtless improved the crop conditions in those sections. Excessive rains are also reported from the Pacific coast from Los Angeles northward to Oregon, the heaviest rainfall, ranging from one to three inches, occurring over the wheat regions of that coast, where the seasonal rainfall previously ranged from one-third to one half the usual amount. The dry week has still further reduced the seasonal deficiency in rainfall throughout the Ohio valley, where the precipitation has been less than 40 per cent. of the normal. There has been an excess of rainfall for the season along the Atlantic coast south of New-England, and from Texas northward to Dakota. There is a slight deficiency in moisture in the east and west portions of the cotton region, and a large deficiency in the seasonal rainfall from Mississippi and Alabama north ward to Michigan.

The weather during the week generally throughout the Southern States and Central valleys has been unfavorable to the crops, owing to the deficiency of rain. This has been especially the case in the Ohio valley, where the total absence of rain, combined with unusually high temperature, has augmented the drouth conditions previously reported, and some damage has resulted to wheat, oats and tobacco along the Ohio river. It is probable that this section will be visited by rains to-day, which may in a measure prevent extensive injury. Reports from the cotton belt indicate that the entire section is in need of rain, and owing to cool nights it has been found necessary to replant cotton in some sections. Warm weather and numerous showers in New-England and Middle Atlantic States proved favorable to all crops, the growth of which was unusually rapid, and although the crops are in excellent condition, more rain would be beneficial. In the Northwest the general effect of the week was to improve the crop conditions. This statement applies to Minnesota, Dakota, Iowa, Nebraska, Kansas, Northwestern Missouri, and portions of Northern Illinois. Some replanting in this section will be necessary, owing to the high winds which uncovered and scattered seeds. The weather was favorable for corn planting throughout the corn belt, Dakota reporting an unusually large acreage, and planting well advanced. The conditions of the fruit crop is encouraging in all sections, New-England and the Middle Atlantic States reporting the fruit crop as excellent, while in Tennessee and Alabama fruit has been slightly injured by light frost.

Agricultural Department May Report.

The condition of winter wheat has advanced from 94 to 96; of rye, from 94 to 96. The general average of winter barley is 97; of spring pasture, 97; of mowing lands, 98. The winter wheat of the Ohio valley, while maintaining its April position, has had a scant supply of moisture and fears of future decline of condition are entertained. On the Atlantic slope, the recent heavy rains have obviated the effects of previous deficiency. The plant is generally green and flourishing, but has not tillered well in localities inclining to dryness. High condition is reported in the South, though rust has appeared upon the wheat blades in some fields. The percentages of condition of States of principal production are: Ohio 90, Michigan 92, Indiana 95, Illinois 98, Missouri 98, Kansas 96, Texas 98, New York and Pennsylvania averaged 96, Maryland and Virginia 98. Chinch bugs are reported in Missouri and Kansas and in some instances elsewhere without indications of serious injury.

Spring plowing is much further advanced than on May 1 of last year. The percentage of plowing in preparing the seed bed and planting spring crops, not inclusive of after-cultivation, which had already been done, is 84 per cent., leaving one-sixth to be done in May and June, mainly in northern latitudes. Last year the percentage was 75. The average of a series of recent years has been about seventy-seven. This season is, therefore, unusually early. In some cases correspondents speak of delays from heavy rains, from replanting, and other causes preventing still further advancement.

New-York—*Union Springs, Cayuga Co., May 8.*—The spring in Western New-York and in the lake country has been remarkably favorable for the work of farmers, gardeners and nurserymen. nearly all the days for several weeks being fair and pleasant. The weather to-day is like that of midsummer, the thermometer at 82°. The orchards present a profusion of bloom—the pear trees are a mass of white clouds of blossoms, and promise fill the fruit that they can carry. A part of the fruit buds of the peach were killed by the cold weather of winter, several degrees below zero, but there are quite enough on most of the trees for a sufficient crop if no drawback occurs. The early peaches—the Amsden, Waterloo, Alexander, Briggs, &c., are most abundant, and are full of blossoms. Among ornamental shrubs, the Japan quince and Missouri currant are in full bloom. The catkins of the weeping birch measure four inches long, and the trees are full of the music and hum of bees. Oak leaves are an inch long, indicating, according to the old rule, that it is time to plant corn. T.

Elm Valley, Allegany Co., May 3.—Sugar season has been the best in years; nearly double the usual quantity made. Cheese factories making cheese a little later than usual, hay cheese not giving as good satisfaction as grass. Some grain has been sown. Weather very wet; roads bad. Eggs, 10c. per doz.; butter, 22@25c. per lb.; potatoes, 15c. per bu.—large quantities fed to live stock. W. C. T.

Geneva, Ontario Co., May 10.—Farmers busy, and weather very hot for the last four or five days, but we had such heavy rains on the last Saturday and Sunday of April that many could not get on their land for a week, which put them back in seeding. Fruit prospects are good, as peaches, plums, cherries and pears are in full blossom. Pasture is good, so that all live stock are out to grass. Some lots of wheat look well on drained land; on low land badly killed. Produce cheap; potatoes 15@18c. per bushel. J. W.

Sharon Centre, Schoharie Co., May 9.—Very warm, a marvelous contrast with the ice and snow of only a week ago. Spring sowing generally done. Since Monday the swallow, oriole and bobolink have come, together with the bumble-bee, mosquito, &c., which are old and quite sure signs that it is time to plant the corn. Plum and pear trees become white with blossoms in a few hours as if by magic, and all other trees and vegetation grow wonderfully fast. I understand many hops are planted this spring. J. S.

Maine—*West Madison, Somerset Co., May 7.*—Spring is about two weeks earlier than the average of years. Trees are now leaving out, and fields and pastures are getting green. Farmers are busy sowing grain, though the acreage will not be increased from former years. A large breadth of sweet corn will be planted this spring for the corn factories. Sweet corn is now considered more profitable than field corn by farmers who live within reach of factories. Fruit trees came through the winter in good shape, though it is too early to predict how full they will blossom. There has been but little rain this spring and the ground in many places needs it. There are frequent indications of rain, but it clears off with a wind each time. Apples, 30@40c. per bush.; butter, 18c. per lb.; beans, C. H. $3 per bush.; potatoes, 40c.; eggs, 10c. per doz.; round hogs, 6c. per lb. T. D. S.

Nova Scotia—*Port Williams, Kings Co., May 8.*—The season is about three weeks earlier than usual here, and farmers are busy putting in grain. We have peas up in the garden, and early potatoes planted a week ago. Beautiful growing weather the last two or three days, and trees now coming into leaf. A. T. A. G.

Ohio—*Mechanicsburg, Champaign Co., May 9.*—Hot (98°) and dry; wind southwest; two weeks to day since rain. Many wells and cisterns dry. Fruit trees set this spring will die. They say we have not had over two inches of rain since Christmas. If the drouth keeps on, hay will be short, wheat will be apt to head short, and oats will not amount to much. 11th.—Yesterday mercury 98°; to-day 89°, 7 A. M.; no rain. Butter, 16c. per lb.; eggs, 10c. per doz. S. W.

Michigan—*Mason, Ingham Co., May 9.*—A good spring for doing farm work, but we need rain. Winter wheat promises an average crop. Good showing for an oat crop. Corn planting just commenced. A. P. W.

Burton, Genesee Co., May 12.—An exceedingly early spring as well as dry. Oats all in and some early sown pieces cover the ground. Corn going in fast; acreage will be very large. Small fruits promise large crops except strawberries, which are drying up. Live stock of all kinds have come through winter, and are on grass looking well. Sheep shearing light this season. There seems to be a great boom in draft horses, and farmers are taking advantage of it by breeding grade Percherons and Clydes. The Cleveland Bays don't take, as they fail to reproduce themselves. Beef cattle fed during the past winter lost their owners money, 2-year-olds selling at 3c. per lb. Now, when you meet the man who has been grading his herd with a Short-Horn bull he says there is no money in it, and must try the dairy business. A bill before our Legislature restricting the Chicago dressed-beef traffic has passed the lower house, and will probably pass the Senate; it requires all cattle to be inspected in towns and cities of 3,000. Of course this does not affect the local butchers, and the farmer who kills for his own use. This will put new life in the beef-cattle rearing, and will not cost the consumers at the retailers one cent more a pound. The binder-twine trust has caused considerable talk, but now jute and manilla mixed twine can be bought for 15c. G. M'D.

Indiana—*Greencastle, Putnam Co., May 9.*—There is quite a difference of opinion among fruit-growers, as to the outcome of the recent series of frosts. Many contend that the fruit bloom was almost entirely ruined, others that the damage is trifling. The apple, pear, cherry, peach and plum were loaded with blossoms, and the prospect of an immense crop was flattering; that the frost killed some of the germs, there is no doubt, but my opinion is, that there is an abundance of them uninjured. Much harm was done grapes and early vegetables. Crops are now suffering greatly from drouth. There has been a less amount of rainfall this spring than for many years. There will be no oats, little grass and short wheat. T. C. O.

Illinois—*Vandalia, Fayette Co., May 6.*—Still no rain; everything is suffering badly, and unless we get it soon we shall have a short crop of wheat, oats and hay. The corn that is planted lies in the ground, mostly not even sprouted. Early gardens are all dried up; no signs of a change at present. S. A.

Champaign County, May 10.—South winds; heat and drouth continues; pastures very short; oats, where carelessly put in, are drying up; corn deep planted is germinating well; shallow planting fails to appear. Stock and well water are getting short, and the outlook for hay is a very poor one. Barometer 30.10; thermometer, 69°. S. F. B.

Wisconsin—*Janesville, Rock Co., May 7.*—Vegetation of all kinds is doing exceedingly well—never better. We are now having a rather needed rain—a good thunder shower tapering off to a gentle rain. One slight frost during the week. Yesterday and to-day are at summer heat. Last night the glass showed fresh 32° on the north side of my house. Tobacco is abundant, and promising. There are more beds than usual this year. Pasturage is quite good. The bloom of cherry trees promises an abundant crop; also apple trees, especially Siberians. Grapes are budding out fine, and quite healthy. Business good; general health fair. Wheat, 75@80c. per bush.; barley, 45@50c.; rye, 40c.; corn, 35@38c.; oats, 24@25c.; hay, $4.75@7.50 per ton. Potatoes a drug in the market, also onions. Butter, 16@20c. per lb.; eggs, 10c. per doz.; cattle, $2.40@2.90 per cwt.; hogs, $4.25@4.30. Horses much sought for. Tobacco, 5¾, 5¾, 5½@11½c. for good wrappers. Coal, $6.50 per ton. W. K.

Missouri—*Kansas City, Jackson Co., May 7.*—May comes in bright, full of sunshine and flowers, but the winds are chilly and uncomfortable, especially at evening. April was lovely, showers and sunshine, only the showers preponderated. Heavy thunder showers would come up on short notice, sometimes doing great damage. Some fine gardens are to be seen, and lovely shade trees are scattered all over the city. Fruit trees blossomed freely and there is promise of abundance of peaches, plums and cherries, if hail and early frosts do not come to injure them. Several creameries are in operation in the suburbs and very nice butter is for sale everywhere. Early vegetables are plenty and cheap; lettuce and radishes giving room for asparagus and strawberries. Fresh meats of all kinds are very cheap—three pounds of steak for a quarter; three dozen eggs for the same. Potatoes, 40@50c. per bush.; chickens and turkeys are for sale in all the markets, as well as fresh fish of all kinds. A. H. B.

Horticultural Department.

Pennsylvania Fruit Culture.

The recently issued Report of the State Horticultural Association of Pennsylvania contains among other valuable matter the proceedings of the twenty-ninth annual meeting held last year at Lebanon, and eighteen pages of the Fruit List so arranged as to give the names of the most desirable varieties in every county in the State, and the degree of popularity and value is designated by numbers varying from one to five, as well as their fitness for the table or for market. Among the examples of successful cultivation, one-fourth of an acre in Chester county is reported, from which the owner sold $250 worth of strawberries in one season, the varieties being chiefly Crescent fertilized with Sharpless in every sixth row. Another owner in the same county obtained a thousand bushels or more of apples from a ten-acre orchard, preserved in cold storage until good prices came; and it also possessed the advantage of protection by Norway spruce screens on the north, east, and south, and woods on the west, the screens being forty feet high. A peach orchard in Juniata county of 1,100 trees produced 6,000 crates in nine years. Another orchard of twelve hundred trees gave in the ninth year $1,600 worth of fruit. Success with these, and in other instances, appears to have been owing to two causes,—the selection of locality specially adapted to fruit growing, and special attention in culture and management. A description is given by Col. McFarland of a fruit house with cold storage, which appears to have been quite successful. The house is 56x60 feet, the basement one entire room for storage, 10 feet high, and the next room above is divided into two apartments, the whole capacity 66,000 cubic feet. The machinery, pipes, ammonia tank for producing cold, boiler, pump and fittings, cost about $7,000. The expense of running 94 hours is about $3.50. Such a house would of course be adapted only to large establishments, and the report does not say that any profits have as yet been made. The report states generally that lemons were kept from June till September, in perfect condition, and that berries and other fruits kept from one to six months.

Many other interesting topics were discussed at this meeting of the association, which appears to have been quite a successful one. CALVIN COOPER, Bird-in-Hand, is president; E. B. Engle, Waynesboro, secretary.

Western Fruits.

The transactions of the Wisconsin Horticultural Society (for a copy of which we are indebted to B. S. HOXIE of Evansville, Secretary), afford some interesting and valuable facts in relation to fruit culture in the northwestern States.

Apples.—Seven varieties are named for that ungenial region, namely, Oldenburg, Wealthy, Fameuse, Tallman Sweet, Wolf River, McMahan's White and Yellow Transparent.

Currants.—The Red Dutch, White Grape and Victoria are well adopted to that region, and Prof. Henry said he would rather plant ten acres of currants in Wisconsin than ten acres of peaches or apricots in the State of California.

Ashes for Strawberries.—President J. M. Smith said he put on wood ashes, and his strawberries averaged 250 bushels to the acre—applying about 75 bushels an acre. The crops were well manured and cultivated, and in the face of drouth and rains, and other adverse conditions, the berries brought him over $500 an acre. But the average yield with others was not half that sum.

Value of Cultivation.—Prof. Henry said that in California the great remedy for drouth, where they are nearly without rain for several months, was surface cultivation. He asked a man who had a 600-acre orchard, "How often do you cultivate that orchard?" He said, "I don't know." I said, "Ten times?" He answered he did not know. I asked, "Twenty times?" He answered, "Perhaps; as soon as the teams go through one way they go through the other, and that is kept up during the season with all sorts of implements." He has 32 men working. They thus get along without water, and their trees grow right along.

Drainage.—Prof. Henry said that the pipes should be put down four feet, and the soil becomes mellow the whole depth down; that land will hold all the water it needs, and all that the pipes carry away is excess.

Evergreens.—In the order named for general planting, are white pine, Norway spruce, red or Norway pine, white spruce, arbor vitæ, balsam fir, Austrian pine, Scotch pine.

Timber Trees.—White ash, black cherry, black walnut, hickory, butternut, white oak, European larch, American larch.

Applying Manure.—Luther Witt remarked that the best farmers in Wisconsin carry out and spread manure in winter, and the result is good crops. Every farmer who has adopted this course has not been troubled with poor returns.

Bees and Grapes.—As in other places, the members differed. Mr. Mould asserted that he had seen the bees saw right across a bunch and open the grapes. Mr. Kellogg replied that this shows that you can prove any thing at these conventions.

Laying Down Grapes.—A. L. Hatch said that all grape vines should be laid down for winter in that climate. Good pliable stems should be given to them. They should be from three to five feet long from the roots to the commencement of the branches. Such stems or trunks will enable the grower to handle his vines easily in prostrating them. For supports he uses only white oak stakes, not trellis. But in future years he will probably find that for the finest crops they must have more space and a wider run.

Stirring the Soil.—A. Anderson attaches much value to cultivation in times of drouth. In the drouth of June, July and August in 1866, he went through with the cultivator every three days from the first of May till the last of August, and he found that the more he stirred the surface the more moisture it drew. No rain fell for sixty days, but the berries filled out, and were pronounced the best in that region.

Pæonies and their Culture.

EDS. COUNTRY GENTLEMAN—The pæony, an early bloomer, distinguished for its gorgeous flowers, is divided into two distinct groups—the herbaceous and the tree pæonies, both of which are desirable in our gardens. The color and form of the flowers compare favorably with the rose as to beauty, and the rhododendrons do not rank ahead of them in general attractiveness. The fact that the plants, even after the blooming season, continue handsome and neat in foliage, allows of their being grown in conspicuous groups on the lawn with the best of effect. Pæonies are plants of easy culture, delighting in a deeply-dug soil, which has plenty of well-rotted manure worked into it; and each spring the earth about the plants needs to be well stirred and fertilized to enable them to produce the rich foliage and bloom that distinguish them; also see that they are planted where water will not stand about the roots during winter. Their perfect hardiness in all parts of our country, vigorous, healthy growth, and freedom from disease and insects are strong points for consideration by those who wish beautifying material of good and lasting quality for lawn and garden. In planting out, pæonies are usually the most satisfactory where used as single specimens or clumps of any number of plants, on the lawn.

The herbaceous pæony, a perennial, having fleshy tuberous roots like those of a dahlia, and also with annual stems, usually grows to a height of two or three feet, with much-divided leaves. The double-flowered are the more desirable, although the single ones are not to be despised, both coming in white, yellow and all the reds, but a blue pæony has yet to be grown. It is easily propagated by dividing the roots in the fall or early in the spring. The tree pæony may also be increased by division, but the more general plan is to layer them or else to graft on roots of such common sorts as increase rapidly. Both classes are impatient of frequent transplantings and divisions, but when necessary, disturb the main plant as little as possible.

The tree pæony, noted for its shrubby habit, with half-woody permanent stems, forms vigorous, stiff-growing plants, often attaining a height of six to eight feet, and producing as early as the first week in May an abundance of varied-colored flowers, which are frequently nine inches in diameter. The buds, from their being produced on the young shoots early in the spring, thus often having no leaf protection, are liable to be harmed by late spring frosts, unless protected by straw or evergreen branches. The new stems require a thorough ripening and therefore a sunny, dryish situation is desirable for their well doing. Both classes of the pæony are hardy, but the tree kind is slightly less so than the other, so that it is well to mulch the roots each winter, and even with the other class, no harm is done if so treated.

As to varieties, there is a long list of new and improved sorts to choose from, some being remarkably fine, and among them the following are very desirable: *Tenuifolia*, *Festiva maxima*, *Edulis*, *Humei*, *Louis Van Houtte*, *Rubra triumphans*, *Carnea striata* and *Victoria tricolor*. Of tree pæonies: *Blanche Noisette*, *Rui des Cerises*, *Externa*, *Pride of Hong Kong* and *Zenobia*.

Niagara County, N. Y. E. E. SUMMEY.

Garden Strawberries—New Sorts.

EDS. COUNTRY GENTLEMAN—Almost everybody that has a piece of ground large enough to turn around on, should have a strawberry bed, the size being governed by the extent of the land. Such culture of the strawberry is known as garden culture, and in all writings and descriptions of the fruit is so distinguished from the more extended field culture practiced by market-gardeners, farmers and others who cultivate the strawberry for market, and have the fruit growing by the acre.

In small gardens and enclosures the cultivation is usually performed entirely by hand labor, as it is impracticable to use a horse and cultivator where so much of the ground is utilized for plants, and many such gardens are too small to make the necessary turns with a team. Such strawberry beds and grounds, as a usual thing, receive a great deal of attention, and the soil is generally made exceedingly rich. In fact, all the cultivation and attention given such beds is very different from that which can be afforded in the field; or, I might say, it is field culture greatly intensified, with the team left out.

I explain all this more particularly to call attention to the fact that certain varieties of strawberries flourish under the garden treatment which would fail in field culture. Certain kinds were evidently intended to receive indulgent and careful cultivation, requiring an abundance of food of the richest quality and the most faithful nursing, in order to produce the choicest specimens of their fruit and cause them to "show up" for all they are worth. Such strawberries, if placed in the field, only to receive such attention as one can afford to give his market fruit, would make a sad appearance and a very unsatisfactory return. They would be condemned at once as useless for that purpose, and forever discarded, as they should be, for field culture.

But it is just such varieties that are particularly desirable for the garden, and when one is cultivating a little patch for home eating, he should select such kinds, as they possess just the qualifications that his rich little garden and his ten-minutes-at-a-time culture will bring out to perfection. The strongest inducement, however, to cultivate such strawberries, comes from the fact that they are almost always the choicest and finest fruit, generally possess the most delicious flavor and large size, and with such treatment are good yielders. To obtain the best results they should be kept strictly within limits, and allowed to make but few if any plants or runners, thus confining all the energy and growth to the parent stock, and developing all its resources. Many of the varieties suitable for such culture are very free from the disposition to make runners, and seem to have been originated especially for this purpose, but are undesirable for field culture.

Out of eighty varieties that I fruited last season, including many new kinds, quite a large proportion of them are suitable only for the garden, and only a very small proportion of the same would adapt themselves to general field culture. There is still another "proportion" that are good for nothing except to try the patience of us fellows who are straining every effort to test all the new kinds, and are ambitious to have every kind, new and old, growing on our lands. I say "straining every effort," and I mean all that the sentence implies, for surely the horticulturists and propagators of new varieties of strawberries in this country are taxing all the efforts of the grower who desires to try them all. I added to my long list last season no less than twenty-two kinds. This spring the boys have gone to work, and announced, in clarion notes and with beating of drums, that they have each and all at last produced *the* strawberry *par excellence*; and now I have got to add each and all of them to my stock, for I do not want to miss *the* one. I think that I found it two or three years ago, and shall confidently await the development of this spring's addition to see if my favorite has got to take a back seat. I do not believe it will; still this is an age of progression, and it is only a question of time before something better in its line will be produced. Go ahead, you horticultural promoters of new strawberries; you are doing good work, and cannot be too highly rewarded for your efforts. We will try to keep up with you, or follow a little way behind—buy all your new sorts, test them thoroughly, act as a sort of windmill for you all, sifting out the "good, bad and indifferent," and letting the chaff go the winds. Pass them right along, but please do not offer a berry that is really not an improvement on anything, even if it has taken five years to produce it. Spare our efforts in this direction. GEORGE Q. DOW.

Rockingham County, N. H.

A Woman's Garden.

There is one common exception to that division of labor which gives to woman all the tasks involved in keeping the house, and to man all the out-door work which the family life demands. Almost every woman who has any vital interest in a country home likes to dabble a little in the good brown earth when spring comes. A few flowers give the natural occasion. She mingles a good deal of real, earnest work with that pleasing diversion upon which the masculine mind looks, sometimes with condescending toleration, sometimes with open scorn. Where there is actual favor and sympathy, she gets all the help she can ask or desire—if other work is not too pressing. Where she has to depend wholly upon her own efforts, ingenuity is sometimes better than strength, and many little contrivances and helps will come in play in getting effective results; for however healthful and pleasant the occupation may be in itself, gardening as mere exercise is not satisfactory. We all want good results—success in the garden. It is that, and that only, which will silence and possibly convince even the scorners. Easy ways of getting good effects, that have been tried and proved successful in one woman's garden, may be adopted or modified to suit the wants of other women. Is not that the great secret of our favorite rural journal-sharing experience?

If one begins early enough, a great deal may be done with seeds. Nothing is easier than to start a sufficient quantity of plants for several large beds in the house. A few shallow boxes, filled with light, friable earth, three or four panes of glass and an old cane-seated chair, with the required seeds, will comprise the necessary outfit. Water freely with warm water, strew the seed, not too thickly, cover with a very thin sifting of dry soil, press gently with the hand, cover with a pane of glass to retain the moisture, and set the box in a chair over the dining-room register. A little watching may be required, that the bottom heat applied in this simple manner is not excessive; but with no more than ordinary care, the seed will germinate very quickly, and even seeds considered difficult to manage may be induced to grow in this way.

You may be laughed at a little for your bulky in-door gardening, but this is a case in which the old proverb holds good: "Let them laugh who win." Even if these clumsy boxes are a little "in the way," the seeds sprout so quickly, and as it seems, so vigorously, that one who loves her flowers is more than repaid for the temporary inconvenience. Sometimes in three days the whole boxful of small seedlings will be nicely up, ready to be removed to the window, when you substitute a relay. Pansies, asters, the fashionable single dahlias, summer carnations—almost what one will, may be started in this way, with perfect success. Hundreds of plants may be raised without difficulty, if one has facilities for giving them care to keep them growing until the ground will permit setting out in the garden. Some of the more exacting will do best if pricked off singly in small pots after they have made the second pair of leaves, but by thinning out, if required, asters and the like may be left in the boxes and will make excellent plants for general use. Often a sunny window in an unused bedroom may be utilized to keep them growing until they can bear the transition to the open air.

Hoops covered with paper are exceedingly useful for covering seeds sown later in the open ground. Sun and wind that dry and harden the surface, are often the cause of failure with small seeds. A slight protection

will very frequently make the difference between a gratifying success and an annoying failure, with its loss of time, money and trouble. There is a great pleasure in watching seedlings that do actually come up and grow, and no flowers give more pleasure than those produced by the plants that one has grown under one's own eye from an insignificant paper of seeds. But the chances of failure are discouraging, unless we avail ourselves of every means of security for germination. Warmth and moisture are the two essentials, and of these we must make sure. Half the secret of success in cultivating flowers for one's own enjoyment lies in knowing the difference between conditions essential to the healthful development of the plant, and those which are a matter of mere taste and choice. We must supply actual requisites, however limited our resources may be, but there are a great many non-essentials, to which we may be serenely indifferent.

Many fine perennials, the source of limitless satisfaction for many years to come, may be started in this simple way. It is an excellent plan to study early the catalogues and manuals so freely offered, many of which afford so little valuable information, and select at leisure the seeds desired for these easy experiments in gardening. DOROTHY.

Trees Set in Autumn.—The practice will always continue of transplanting fruit and other trees in both autumn and spring, and each time has its advantages. Those which were set last autumn require a little special attention. The time since they were set has enabled the soil in which the roots were packed to become solid and compact, and the surface settles into a hard crust. To cause the tree to grow freely, this crust should be broken and the ground made mellow. This treatment will operate like mulching and prevent the roots from becoming dry. If the hard crust is allowed to remain unbroken, there is danger of the tree perishing from drouth—a disaster which not unfrequently takes place. But with a mellow surface the soil remains moist and the growth unchecked. The stirring of the soil should be repeated often enough to prevent all growth of grass and weeds, and to give the true, for several feet on each side, a soil like a clean garden bed.

Harrows in Orchards.—Plows and harrows used in orchards should be of the kind which pulverize and mellow the surface, but do not tear up the roots. Among those which have been invented during the last twenty or thirty years, and which do not disturb roots, are the old Shares' harrow, the various disc harrows, the excellent Acme, and the smoothing harrow. There are other efficient harrows, which will not do for orchards, because they tear up soil and roots, among which are the many spring-tooth harrows, all vertical-tooth harrows, and those set with cultivator teeth. A good surface harrow, to keep the orchard mellow and clean, is a great benefit—especially if employed to grind up top-dressings of manure.

The Naturalist.

Remarkable Display of Eel-Worms.

EDS. COUNTRY GENTLEMAN—I was notified a few days ago of a remarkable appearance in a small stream flowing from some springs near the Empire spring at Saratoga. For some weeks past, as stated to me, families in the vicinity had had their attention called to a red coloring bordering the stream, which could be seen at about four o'clock of each day. Upon dipping up quickly some of the water, it was found to be filled with small red worms of various sizes. When disturbed in the stream, they at once disappeared. In my inability to refer the phenomenon as described to any form of life known to me, but thinking that it might possibly be caused by the larvæ of some insect, I readily accepted the kind offer of my informant, Mr. E. J. Huling of Saratoga, to guide me to the locality where the display was to be seen.

The stream was one that could be covered at a leap, and over its muddy bottom ran from some stagnant water above, for a distance of perhaps ten rods, a shallow body of clear water. On either side was a broad margin of fine mud, cracking in the sun, which had been left bare by the recent receding of the water. Arriving at the place before four o'clock, Mr. Huling was able to point out some small gatherings of the worms in scattered shallow places. These soon became more numerous, and extended for the following half hour, when nearly the whole extent of the running stream was fringed on each side with a crimson-red belt of from three to six inches in breadth, with separate gatherings in the more shallow places in the stream. As we were watching this peculiar and interesting display, a train of cars passed over a culvert beneath which the stream ran, when, as if by magic, the red belts and spots vanished from sight. The vibration of the ground had alarmed the worms, and they at once drew themselves into the mud. When after a short interval, they commenced to reappear, a stamp upon the the ground would instantly send them into the mud again, for a space as far as the vibration extended. So susceptible were they to the least alarm that simply touching the surface of the water above them would send them away out of sight.

In the absence of the lady who during the last few weeks had been observing these creatures and had first drawn attention to them, I could get no verification of the statement that they were to be seen only at about 4 o'clock of each day. Such a peculiarity would indeed be strange, and would lend additional interest to these "4 o'clock vermicules," as they have been designated by a Saratoga paper.

Failing to secure any specimens by dipping from the water, their disappearance being so sudden, I gathered some of the mud into which they buried, and on my return placed it in a glass dish with a couple of inches of water over it. The following day the vessel was swarming with myriads of the little worms when their nature was at once disclosed. They are eel worms, belonging to what are known scientifically as the *Anguillulæ*. As seen in the water they are slender forms, broader toward the head, where they are of about the diameter of a fine cambric needle and tapering regularly to the hair-like tail which usually rests upon the soil when in about three-fourths of an inch of water with the head near the surface. Their bodies are transparent and are traversed by a red serpentine line which presumably is the alimentary canal. It is this slender vessel which in the aggregated mass of the worms imparts to it its crimson color. What myriads of the worms are required to produce this effect, and what a prodigality of animal life may and does exist, which rarely, if ever, is brought to our observation! When taken from the water and placed on a slide, the worm contracts into a short body nearly cylindrical, and measuring from about one-eighth to one-third of an inch in length.

As these forms are out of my line of study, and with none of the literature relating to them at my command, I can say but little of them. I had hoped at least to be able to give the name of the species, but upon sending examples to a gentleman who stands among the highest of our authorities upon the Annelides (worms), I was informed that although he had seen them at different times, he had never given them special study.

They are similar in size, appearance and motion to the "vinegar eels," that may be known to many, although, for some reason, I have no recollection of seeing them since my childhood. Perhaps they belong only to stale and bad vinegar, where the crusts may have been left long unused and the liquid exposed to the air. Another form occurs in sour paste, and is the *Anguillula glutinis*. Still another species is recognized in Europe as *Anguillula fluviatilis*, "as formed in rain-water, in wet moss and damp earth." Possibly the Saratoga form may be identical with this. It is related of this species that it is so tenacious of life that although dried until it becomes brittle, it may quickly be restored to activity by moistening it with water.

Others of the *Anguillulæ* are pests of the agriculturist, infesting and at times seriously damaging some of his crops. Some of these have recently engaged the attention of the able entomologist of the Royal Agricultural Society of Great Britain, Miss Eleanor A. Ormerod, who has given us her observations thereon in her study of "Clover-Sickness Caused by Eel-worms." They are also supposed to be the cause of what is known in England as "tulip root" in oats, and in addition to attack various kinds of bulbs and grasses, common meadow and field crops, as corn, &c.

Another minute species has recently been sent to me as infesting the mushrooms of the beds of Mr. Chas. A. Dana, at Dosoris, Long Island, and seriously interfering with their use for the table.

I will endeavor to learn more of this recent addition to Saratoga life, and if matter of interest in its life-history and habits is developed, I will gladly present it to your readers.

Albany, May 7. J. A. LINTNER.

The Poultry-Yard.

Cooked and Uncooked Food.

The opinions of poultry keepers in regard to the merits of cooked and uncooked foods vary very greatly. One advises that all grain shall be boiled, from the fact that cooked food being so much easier to digest, the fowls obtain a greater amount of nutriment at the cost of less labor in digestion, and from the great increase of bulk the fowls are sooner satisfied and are not liable to overfatten.

The noted French chemist, M. Reaumur, who has investigated the various results to be derived from dry, and from uncooked foods, has made some very interesting and valuable data, some of which I should like to give for the benefit of those persons who may not happen to have seen them. He boiled six kinds of grain, and found that the increase of bulk in each sort, boiled to bursting, was the following:

Four pints of oats filled 7 pint measures; four pints of barley, 10 pint measures; four pints of buckwheat, 14 pint measures; four pints of maize (corn), 15 pint measures; four pints of wheat little more than 10 pint measures; four pints of rye, 11 pint measures. M. Reaumur also states that the greater number of fowls preferred the boiled grain to the raw, though there were many of them that chose the dry grain on certain days. When the weather is damp and rainy, it is best to give them dry uncooked grain, for a continuance of such weather has a tendency to produce scours, and their food should tend to counteract it. During warm weather soft food should be fed a few hours after it is cooked; if allowed to stand for any length of time it ferments and will cause diseases akin to cholera. Damaged grain also produces the same effect.

By disregarding these rules, or by feeding one kind of soft food too continuously, to the exclusion of raw grain entirely, some poultry keepers have gotten their flocks into an unhealthy condition, and concluding that soft food is the cause of it, decide to discard its use altogether. Either extreme is to be avoided. It is a bad plan to lay down strict undeviating rules about many things; in feeding fowls one must be governed to a great degree by the state of the weather and its temperature.

In cold weather, a good warm breakfast of boiled grain, or equal parts of wheat bran and corn meal cooked in sweet milk and seasoned with a pinch of salt, is very much relished by the hens, and according to my experience has proved anything but unwholesome. Again when the rain is pouring down and everything is wet and sloppy, a pailful of dry grain seems to touch the hungry spot exactly, and I am always in favor of giving my charges just what they want whenever it is practicable.

If it could be so arranged, fowls of different ages should be fed differently, for in some breeds, as the Plymouth Rock for instance, if a hen over two years old gets very fat she refuses to lay an egg, while pullets of one year may be rolling in fat yet will lay daily. Growing fowls should have a larger allowance of food, both of albuminoids and carbohydrates, for while they cannot grow without the former, it is impossible for them to keep fat without the latter; and we despise are very exacting; we insist that they shall keep on growing yet always be in good order for eating whenever we get hungry.

There is another thing which poultry keepers would do well to take into consideration—that though they may feed their flocks very liberally, the food which is thrown them is only a small portion of their daily living. If you notice fowls closely, you will see that they are eating grass all day long, except when the snow is on the ground or their range is restricted to a small yard, and when this is the case they actually suffer for something to take its place. It is said that the first crop of clover hay, cut short and scalded, comes nearer filling the place of green grass than any other fodder, and being very rich in carbon it is very nutritious. In fact one man declares that a pound of clover hay, which is worth only one cent, cut to half-inch lengths, scalded, and sprinkled with bran, will furnish better food for hens than all the mixtures of grain that can be given. I should not suppose, however, that this could be made to take the place of grain entirely, but when fowls are so situated as to be unable to procure fodder for themselves, no doubt good results would be obtained by decreasing the quantity of grain, and adding a daily ration of the fodder. Feeding fowls in this way would lessen the expense of their keeping very greatly, and it seems to me that it would pay one who keeps many fowls to lay up a store of suitable clover hay for their winter use. The clover to be used for this purpose should be cut before it is too ripe—say when one-third of the heads show a matured appearance—and if practicable, the hay should be cured in the shade, so as to preserve its freshness and greenness as much as possible. A FARMER'S DAUGHTER.

Shipping Eggs by Sea.

Live Fowls Go much Better.

EDS. COUNTRY GENTLEMAN—Noting the inquiry in your April 11th issue (p. 289) regarding the shipment of bronze turkey eggs to New South Wales, permit me to tender your correspondent, and any other of your readers who are interested, some facts regarding the shipment of eggs across the Pacific. This much to be desired achievement has never yet been accomplished, and the reason why the eggs will not hatch is still a mystery.

A member of the Japanese Tree Importing Company of San Francisco, who makes yearly trips to Japan and China, says that he has repeatedly brought eggs of the pretty little Japanese Bantams over to California, but has never succeeded in hatching a chick. His idea is that the length of the voyage, and the ceaseless motion of the ship, produces a kind of friction between the contents of the egg and the egg-shell that finally destroys the germ. However, this is only guess-work, and probably of no value in determining why the eggs do not hatch.

Several attempts have been made by the manager of the California Cackler to ship eggs from San Francisco to Australia and New-Zealand, for hatching purposes, at the request of prominent fanciers in those countries. Several settings were given for this purpose by California fanciers, and sent to the editor of the Rural Australian, who is an ardent fancier, and was anxious to test the matter for his own satisfaction. One lot of eggs was packed in a basket, swung amidships, and turned over each day, with the object in view of taking away as much of the motion of the steamship as possible, and by turning them over to prevent any "settling" of the egg. None of the eggs hatched. Other shipments have been sent with the same result, but I understand that further experiments will be tried.

The shipment of live fowls has been successfully accomplished in many cases; in fact, almost every steamer carries American fowls to fanciers in Australia, New-Zealand, the Fiji Islands, and even to India. Bronze turkeys have found their way across in good condition, and have created quite an excitement, as they are more than twice as large as the best turkeys formerly raised there. One wealthy owner of a large estate in New-Zealand contemplates the importation of a lot of American bronze turkeys to stock some fine woodland, and when they have become established, and are breeding freely, he will enjoy the luxurious sport of bagging a 40 lb. gobbler occasionally. The exportation of American-bred fowls is destined to become an important item in America's trade with other nations. The purely American breeds, such as Plymouth Rocks, Dominiques, Wyandottes, &c., are received with favor everywhere they go, and they deserve it, as they are truly fowls in which utility goes hand in hand with beauty and fancy points. P. PERRIER. *Alameda County, Cal.*

Geese—Langshans.—Will some one who has had experience, tell us how to raise geese? What is a good kind? How many eggs is a sitting? What to feed the little ones? Where can Black Langshan chickens or eggs be obtained? J. R. M. *Pomona, Kan.* [Pending the receipt of answers from readers, which we shall be pleased to have, we may remark that Beale's excellent poultry-book ($1.50) gives valuable advice on the raising of geese. Several articles from the pen of the same writer, describing the principal breeds—each illustrated with a portrait engraved especially for the COUNTRY GENTLEMAN from sketch of a fine bird—are shortly to appear in these columns. For Langshans, see p. 302, fourth col., third advertisement. If any other reader has them for sale, he can of course make it known.]

New Advertisements.

Alexander, W. A.	*Duroc-Jerseys.*
Brown, A. T.	*Jersey Heifers.*
Burnham, A. C.	*Jersey Cows.*
Beecham, Thos.	*Beecham's Pills.*
Cash	*St Lambert Bull Wanted.*
Crosier, S. G.	*Berkshires.*
Clarkson, E. L.	*Jersey Bull Calf.*
Cole, R.	*Situation Wanted.*
Dyt, R. P.	*Holstein Cows.*
Davis, C. W.	*Choice Bottom Land.*
Dodge, R. J.	*Holstein Bull.*
Ely, L. D.	*Jersey Bulls.*
Fallon, John	*Jersey Cattle.*
Gallagher, P. D.	*Land for Sale.*
Hemingway's L. F. Co.	*Linoleum Purple.*
Kellogg & Co., Peter C.	*Peas and Donkey Sale.*
Lincoln Co., Wm. H.	*Channel Gas Overmary.*
M'Carty, P.	*Jerseys.*
Mechanical, J. R.	*Farm for Sale.*
Maule, Wm. Henry	*Plants.*
Morrow, J. L., and others	*Sales of Jerseys.*
Peck, H. T.	*Chestnut Mares.*
Rhoes, Wm. J.	*Young Man Wanted.*
Stevens, F. C.	*Holstein-Friesians.*
Scott, Walter	*Belonging Cow Manchion.*
The Richardson Mfg. Co.	*Buckeye Mower.*
Timpson, Lawrence	*Berkshires.*
Tyler, W. A.	*Vine and Plant Sprinkler.*
The Geneseo Salt Co.	*Pure Salt.*
X. Y.	*Situation Wanted.*

Subscribers' Wants.

EDGAR DOOLITTLE, Onaquaga, Broome Co., N. Y. Japanese Buckwheat for seed.

Pamphlets, &c., Received.

ARMIANCE, PLATT & Co., 165 *Greenwich St., New-York.* "A Few Facts on Trade Marks." With illustrations.

ALLEN, R. C., President Board of Trade, *Augusta, Me.* Annual Report; pp. 66. Illustrated.

BURRS, HENRY P., Sec'y Hackney Horse Society, *Norwich, Eng.* Report of Fifth London Show; pp. 66, with portraits.

GOESSMANN, Dr. C. A., Director State Experiment Station, *Amherst, Mass.* Sixth Annual Report of Board of Control; pp. 264. Illustrated.

FILLING & SON, GEO. F., 117 S. 11th St., *Philadelphia, Pa.* Illustrated Circular of excellent Veterinary Instruments—see advertisement, p. 388.

TUCKER, W. G., *Elm Valley, Allegany Co., N. Y.* Catalogue of Ayrshires.

Inquiries and Answers.

Capacity of Silo.—Under my barn is a cellar 14 by 26 feet, and 8 feet deep. Will this make me a good silo? I think it is all right, only I fear 8 feet will not be deep enough to secure sufficient pressure of ensilage itself. I can remove floor overhead and tramp it full. Will it require a floor laid underneath the ensilage or let it rest on the ground? How long will this full last 12 cows? How many acres of corn ought to fill it? J. R. P. *Eastville, N. Y.*

[With the dimensions mentioned, the silo will hold nearly or about 3,000 cubic feet, if it is quite filled after settling. To fill it completely, you will require a board crib about three feet more, to hold the contents for settling full. When settled solid, it will hold about 50 tons; and allowing 1¼ cubic feet a day for each cow you will have 100 daily feedings which divided among the twelve cows will last them about five months, with a correspondingly less amount for any portion rotted, or for any lack of filling. It would be better to have a higher or deeper silo, so as to press more ensilage below; but eight feet will answer well, if the contents are well covered, secured from air, and with a proper degree of weight to preserve the top layer. The bottom may be earth or cement, provided there is perfect drainage and no water can enter at the sides or bottom. Two or three acres of good fodder corn will fill it—but with rich soil and good cultivation two acres or even less may answer.]

Dead Bark on Plum Trees.—A large proportion of the plum trees in our plum orchard are dying; the bark turns dark on one side and breaks open, and the wood dies on that side, the whole tree soon following. Is there any remedy? M. W. M. *Springer, N. M.*

[The exterior of the bark on the trunk is frozen in winter, or else injured by the action of cold, and this, when followed by the sun's rays when the weather becomes warmer, produces the result described. The remedy is to shade the trunk from the sun in spring, or sooner, by placing a board against the tree, or two nailed together so as to include the tree in the angle on its south side; or it may be shaded with straw, evergreen branches, or in any other way. Where small evergreens are abundant, one may be planted on the south side of each tree.]

Prices of Milk, p. 380.—I give the dividends of two cheese and butter factories, being about the average of fifty or more factories located within a radius of twenty-five miles of Wellington, the best dairy region in America. The figures represent the amount paid to dairymen for delivered milk. The custom almost universal in this vicinity is to make both butter and cheese from the same milk; the amount of skimming is optional with the owner of the factory. He claims to be governed by the prospective price of the two articles in regard to the amount of skimming to be done. The price paid for making and selling is 1.75c., in many factories 1.8c. for each pound of cheese, and 4c. per pound for butter—the patron to deliver his milk and draw the cheese and butter from the factory to Wellington. The price paid for making is excessive, but as the factories are all "in a combine," there is at present no remedy. The factories run but eight months in the year, commencing April 1, and close Nov. 30. I copy from statements furnished by factory owners to patrons—figures authentic: April, 95 to 97c.; May, 65 to 66c.; June, 59c.; July, 55 to 58c.; August, 68c.; September, 90 to 96c.; October, $1.16 to $1.17; November, $1.45 to $1.57. W. F. C. *Wellington, O.*

Centrifuge Wanted.—Why do people neglect to advertise? I want a centrifugal creamer and cannot ascertain the manufacturer's address. Will you enlighten me? M. H. F. [This machine is, or was, supplied by the De Laval Separator Co., 221 Dock St., Philadelphia.]

Butter Prints.—Do you know of a machine that cuts and prints butter in pound pats or rolls? W. H. H. [It can perhaps be obtained of the Vermont Farm Machine Co., Bellows Falls, or the Moseley & Stoddard Mfg. Co., Rutland, Vt.]

Freemartins Again.—Will you inform me whether a twin calf (its mate being a bull) will breed? I am told that some will and some will not, and that some experienced stockmen can tell whether a particular one will breed or not. C. D. P. *North Glenford, Ont.* [See pages 80 and 107; also, for one of the rare exceptions, page 231.]

Veterinary.—What is the best book on the diseases, &c., of horses, cattle and swine? G. H. [Law's; $3; order through this office.]

Cooking Food.—I see that Prof. A. J. Cook (p. 333) makes some comments on my answer to M. L. W., p. 272, supposing that he was referred to as the Prof. Cook there mentioned. But his comments prove conclusively that he was not the one referred to. With one who holds the opinions expressed by Prof. A. J. Cook, I can have no controversy. For I said in the answer referred to: "I have often stated that for ruminating animals, except in special cases, the cost of cooking was more than the advantages derived." This certainly shows that in a broad way, we agree, for he says, that "while food may be made slightly more digestible, the improvement does not warrant the expense." Our views are, therefore, not far apart. The statement which I tried to controvert, was the absolute one, that, "no food was made any more digestible or nutritious by cooking." This dogmatic statement, of course, could not have been made by Prof. A. J. Cook, but as I since learn was made by Prof. W. W. Cooke. My friend A. J. C. takes quite too practical a view of the great question of feeding animals to have made such a sweeping statement. But I should like to have his opinion upon the particular point, discussed in that answer to M. L. W., as to whether cooking is not beneficial in the case of certain foods for pigs: such as raw potatoes for fattening them—or clover hay to mix with the concentrated food to give bulk and porousness in the stomach? Or, without raising the question as to the necessity of this bulky food for the pig—if clover hay is to be fed, will not cooking render it more easily masticated and digested by the pig? And allow me to say that the professor does not seem to have given quite due consideration to the reasons for the custom of cooking food. Is it probable that it arose without due consideration of the facts showing its benefit, and that it is one of the perhaps mere indulgences of civilization? as he seems to intimate. If so, why does the savage, equally with civilized man, cook his food? The savage cooks his meat and vegetables when he can. It appears much more reasonable to suppose that all extensive customs of mankind have grown up on a rational basis. Take one as a sample. Long before chemistry showed its propriety, the custom of cooking beans with fat pork was established. Our ancestors did not make the mistake of cooking nitrogenous beans with nitrogenous beef. They hit upon a proper balance of constituents without the aid of chemistry. And they also adapted their food to the natural digestive capacity of the human stomach—by cooking it. S. W. S.

Acknowledgments.

Communications for publication have been received during the week ending May 13, from Wm. H. Bonner—Prof. C. H. Peck—Subscriber—A Farmer's Daughter [2]—John Gould [3]—C. H. Rumsey—F. D. Curtis—W. F. C.—Prof. J. A. Lintner—John C. Sperley—C. B. Strong—M. M. Frissolle—A Farmer's Sister—H. A. Van Fredenberg—Prof. E. W. Stewart [3]—Col. F. D. Curtis—Dr. Wm. Horne—Mrs. Sharpless [3]—L. B. Pierce—Rose Autumn—G.—John M. Stahl—Judith Sunshine—S. H. R.—Lily Lee—Waldo F. Brown—Q.—E. H. Dudley—G. E.—A. Jaffers—Henry Stewart [2]—R.—Quincy McBride.

°.° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°.° We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, May 16, 1889.

Jersey Men in Council.—Between 40 and 50 breeders assembled at Hardman Hall, New-York, May 7, on the invitation of the American Jersey Cattle Club advertised on p. 331. Acting President Dr. Howe called the meeting to order in a few well chosen words, stating that free conference was desired; and on motion of Maj. Alvord, Mr. F. J. Cogswell of Rochester was called to the chair.

Business was promptly opened by Mr. J. C. Sibley, who offered a resolution declaring it the opinion of the breeders that any change in the fees now charged for registering imported animals would be unwise. This brought up Mr. Le Vesconte, who stated the case of his valuable importation that he cannot afford to register at present figures—see p. 91. His cause was warmly espoused by Mr. W. J. Webster, who thinks we have not near enough Jerseys in the country, and would do everything possible to favor importation, especially as frequent infusions of new blood are desirable; as to importing only the very best, you can't always tell about that till you get them here.

Mr. Edw. Austen did not believe in reducing fees; has seen very poor imported animals, riff raff that should be kept out. Thinks incestuous breeding on the island has injured the constitutions of the animals thus bred, and we can get far better outcrosses here.

Mr. Le Vesconte replied that excellence of imported stock could be secured by proper regulations better than by high fees; thinks the American market under-stocked so far as really first-class cattle are concerned.

Mr. Chas. Miller thought American breeders have fully as good cows to sell as has anybody in Jersey.

Dr. Howe favored reduction. In former years, high auction prices prompted unscrupulous and ignorant dealers to import haphazard, which injured the breed, and had to be checked by a high tariff. This danger is past; present prices are now too low to import largely for sale and make money. Disbelieves in any danger from incestuous breeding on the island. Would like the influence on the American market of renewed importations, testifying to real enduring faith in the breed.

Mr. A. P. Foster said that at the West the difference between the value of registered Jerseys and others is not near enough to pay the present fees—which of course favors the dissemination of unregistered animals.

Mr. J. C. Sibley thought the tariff should have been raised two years earlier than it was. Has had bad success with high-priced imported animals. Any breeder can get plenty of the best fresh blood, in this country. They breed haphazard on the island anyhow.

Mr. D. F. Appleton had had much more favorable experience with imported animals; thinks Mr. Le Vesconte has good reason to complain.

The resolution condemning any change in the fees was lost—ayes 11, noes 16.

Maj. Alvord said the club should be careful about meddling much in the Jersey business in general; its business is to register animals, and fees should be as low as can be afforded, without much regard to other questions—would like to see fees on imported animals of either sex reduced to $10.

Mr. Webster and Mr. G. W. Farlee thought $25 a safer figure to name—the club would leave the tariff as it is, rather than come down to $10.

A resolution favoring $10 fee was lost (11 to 24), and one favoring $25 adopted (23 to 3).

Mr. G. B. Williams started a discussion on coloring butter, and finally secured the passage (15 to 3) of a resolution to the effect that coloring is adulteration and should be discouraged by all buttermakers as detrimental to the dairy interest.

Mr. Webster introduced a resolution, which was adopted (11 to 8) recommending that the American Jersey Cattle Club should offer a prize of say $200 for the heifer under three years that shall make the largest clear profit on her butter for seven days—butter to be valued at one uniform price, and cow to be charged, also at uniform prices, with the value of her feed. "It is not the big tests," said Mr. Webster, "but the *lack* of tests and rivalry, that injures our business."

—— The annual meeting of the club was held the next day, May 8, and was attended by 36 members in person and 175 by proxy.

In the absence of President Brosnan, his duties were performed by Dr. Howe.

The president's report reviewed the financial affairs of the club and noted its satisfactory condition, there being a gain of nearly $3,000 in cash and invested funds during the year. The club has gained fourteen members by election and lost ten by death. The report made recommendations as to the caveat of names, which led to action on this subject later.

The treasurer's report was presented in print; synopsis follows:

RECEIPTS.

Balance last year	$[illegible]
Membership	1,400
Herd Registers sold	1,084
Entry fees	28,715
Transfer Fees	1,081
Testing Cows	200
Interest and Sundries	700
	$36,930

PAYMENTS.

Directors' Meetings	$1,[illegible]
Testing Cows	1,450
Rent	2,000
Printing and Sundries	3,264
Printing and binding vols. 21, 22, 23, 27	3,410
Investigations	649
Salaries and Office Expenses	10,000
	22,643
Cash now on hand	$5,287

ASSETS.

Cash and invested funds	$30,287
Property—Books, Furniture, &c.	13,487
	$43,774

Due to patrons, $1,[illegible].

After consideration of each subject, and some very animated discussions, the meeting took action as follows:

1. The officers were directed to vacate all claims for names for future use, filed prior to May 1, 1888, unless renewed before August, 1889, and to formulate rules by which such caveats shall hereafter be limited to two years, unless renewed by the persons to whom first granted, before the expiration of that period.

2. The meeting recommended to the directors, by a substantially unanimous vote, the reduction of registration fees on imported animals, to $25 per head for both sexes. (This was a compromise between the advocates of a still greater reduction and those who opposed any change. The former were most numerous at the meeting, but a few high-rate men held proxies controlling action, and this was the only concession they would make.)

3. A resolution was passed declaring that Jersey breeders in the several States should see that this breed is properly represented at any comparative tests of dairy breeds that may be conducted at State Agricultural Experiment Stations.

4. The sum of $1,000 was appropriated, to be applied at the discretion of the directors, for special prizes for Jerseys at a few leading fairs in the country during the present year.

5. Mr. Webster of Tennessee presented a plan for better contests, modeled after the famous "futurity stakes" of the horsemen, and as indicated by his resolution adopted at the general meeting of breeders the day before. This was referred to the directors to report on at the next annual meeting.

The following officers were chosen for the coming year:

President—FRANKLIN BROSNAN of Connecticut.

Treasurer—John I. Holly of New-Jersey.

Directors—Charles E. Hill of Colorado, Estes A. Sibley and George Cromwell of New-York, and Edward Austen of Maryland.

Inspectors of Election—Messrs. Pennington of New-Jersey, Dean of Michigan, and Von Kapff of Maryland.

There was an active canvass over some of the directors, but the matter was soon settled, for the whole number of votes cast was 195, and of these the chairman of the nominating committee cast 91 on proxies, and one other person acting with him held 12. These two, casting a clear majority of all the votes, made the balloting a mere matter of form, and the action of other members was really superfluous.

—— At a meeting of the board of directors, held immediately after the annual meeting of the club, Dr. H. M. Howe was reelected vice-president, Mr. F. W. Wicks secretary, and routine business transacted, but nothing of general interest.

Agricultural Legislation.—The bill appropriating $4,000 for the New-York Dairymen's Association, and the bill changing the tare on hops from 3½ to 5 lb. per bale, became law last week. The Assembly passed and sent

to the Governor the McNaughton bill for cooperative live-stock insurance companies, printed on p. 182.

Laying Out Farm Grounds.—The accompanying bird's-eye view of the grounds which immediately surround the farmer's home, represent an improvement which may be made on many places, and which already exists and is often seen. Viewed from the public highway, the straight farm road passes directly to the farm buildings in the rear, so that loads of farm produce, hay, grain and manure may not come into immediate contact of the dwelling and its neat and ornamental surroundings. A carriage or buggy may be driven to the house by the curved side-track. On the left is a foot-path entrance from the public road. A half-acre or more is planted with ornamental trees and shrubs, the smaller ones near the house, the larger more remote. The grass or lawn is readily kept shorn into a neat green carpet with the hand lawn-mower. On the right is the apple orchard, cultivated for some years while young with hoed crops, and afterwards seeded to grass and made into a sheep pasture, and kept rich by an annual or biennial autumn top-dressing of manure. On the left is the vegetable and small-fruit garden are ranged in lines so that all, or nearly all the work of keeping it clean and in good productive condition is done at little cost by horse labor. These lines consist of rows of currant bushes, raspberries, gooseberries, and dwarf fruit trees, placed at suitable distances for the intervening spaces to be occupied with strawberries, garden vegetables, and smaller crops generally, planted in drills to admit the passage of the horse and narrow cultivator or one-horse harrow in dressing the crops.

This plan is intended for farms of moderate extent, and for farmers of moderate means; the only portion which is strictly ornamental being the half-acre or more in front of and immediately surrounding the dwelling; the orchard on the right affording a heavy yield of fruit, and the garden on the left kept dressed with horse-power at a cost less than a tenth of the value of its products in strawberries, currants, raspberries, and the many vegetables which may be raised in it. Asparagus, instead of being planted in beds, if placed in single lines like the rows of currants, will yield much finer crops and larger stalks by thus having abundant room, than if crowded into the narrow space usually allowed in beds.

Obituary.—We regret to chronicle the death of a well known Holstein breeder—Mr. GEORGE W. THOMPSON of Stelton, N. J. The New-Brunswick Fredonian says:

Mr. Thompson was a progressive farmer, thoroughly honest in his dealings and public-spirited in all that related to the agricultural interests of the State. He was one of the organizers of what was formerly the Middlesex Farmers' Club, was prominently identified with the Granger movement, and a member of the present Middlesex County Agricultural Society. He represented the advanced scientific as well as the most intelligent farmers, always taking a prominent interest in State and national legislation affecting the farmers' interests throughout the country. Mr. Thompson was also prominently connected with the church, a member of the old Stelton Society, and his life was an example of the sterling and unyielding principles which go to make true character and faithful discipleship. He leaves a family residing at his farm near Stelton.

The Hudson River Fruit Crop.—The Kingston Freeman publishes the following:

From reports received by mail and by telegraph from the fruit-growing sections along the Hudson valley, there is every reason for believing that the year 1889 will be the most prolific on record. For two weeks there has been a wealth of blossoms on every hand. Generally speaking the season is from five to ten days ahead of last year.

If one-third of the peach buds that have blossomed mature, the yield will be in excess of any previous year. Last year the blizzard killed the buds in many localities. The peach-growers say that the year and a half's rest the trees have had will cause the prospective fruit to be more juicy and finer in fiber than since 1886, when a somewhat similar blight produced that result. Many new trees have been set out recently.

All classes of raspberry bushes promise great things. Two varieties excepted, the bushes never showed greater vitality than at present. Every indication points to a large and exceptionally fine crop of this fruit. The raspberry acreage during the past three years has been largely increased. Here and there attempts are being made to revive the culture of the North River Antwerp, noted for its beautiful color, aroma and fine, silky texture. During the 40 years or so that the Antwerp was successfully grown for 60 miles along the west bank of the Hudson river, between Cornwall and Catskill, many men have amassed competences. Why the fruit "ran out," except in one or two sections where vigorous patches can still be found, has never been satisfactorily explained. There is no question that the Antwerp is the finest of all the raspberries. During the past 10 years three-fourths of the berries sold in New-York city for Antwerps were hybrid productions. Several new berries, in some respects resembling the Antwerp, will be marketed two months hence.

The grape crop for a distance of 70 miles along the west bank of the Hudson and extending from one to twelve miles inland and to a less extent on the east bank, promises to be enormous, exceeding that of any previous year by at least 10,000 tons. During the coming fall hundreds of acres of new Concord vines will come in bearing for the first time. Everywhere the vines are growing luxuriantly. The indications are that the transportation facilities by boat and by rail will be taxed to the utmost, and already growers are making preparations to make wine in large quantities. Nearly nine-tenths of the entire yield will be Concords. This variety of fruit grows to perfection along the Hudson valley, the climate and soil seeming to be peculiarly adapted for its successful propagation.

Contrary to general expectation the apple crop will be fully up to the average, the trees having blossomed heavily. Pears give promise of yielding a rich harvest. Plums, apricots and currants are all growing finely. Strawberries wintered well, and the copious rains during the past few days of April did much toward increasing fall yields of the early varieties. Other small fruits are in vigorous condition. In its entirety the outlook for a bounteous fruit harvest was never brighter.

Farmer's House and Grounds.

Farm-Yard Notes and Items.

EDS. COUNTRY GENTLEMAN—The dispersion of Mr. V. B. FULLER'S noted Oaklands herd of Jerseys at auction, in New-York next week, is doubtless the most notable event of the year in the Jersey interest. In reaction against the great excitement in Jerseys a few years ago, and the demoralization in consequence of the failure of the inadequate testing system to retain public confidence, the Jersey interest is now undergoing a state of apathy almost without parallel. It is unreasonable to suppose that a breed that is so great a favorite, and has stood the practical test of years so well, will remain long in its present state of inaction. A better system of breeding has prevailed during the past ten years than ever before, as far as relates to the efforts of the more intelligent owners. Of course the excitement has also caused a poor class of cattle to be multiplied, by people who had less judgment; but the information that has been accumulated and disseminated regarding the producing qualities of individual animals and families, has made it possible for breeders to carry out their operations more understandingly than formerly. The money that has been spent and the thought devoted to the subject, have not been wasted. The cattle have been improved, and the intrinsic value is there, ready to re-assert its claims to public attention once more under favorable auspices. Mr. Fuller's efforts in the field have been most effective. His development of the magnificent powers of the one cow Mary Anne of St. Lambert, has had an effect that is almost immeasurable; but when to that is added a whole family whose merits his efforts have disclosed to the public, and whose blood he has been so instrumental in multiplying, his work deserves special commendation. We hope to see a large attendance of breeders at his sale.

PETER C. KELLOGG & CO.

An auction sale of trotting-bred horses from Senator LELAND STANFORD'S Palo Alto Stock Farm in California, was held at New-York, May 8-9, under the direction of Messrs. Peter C. Kellogg & Co., and was attended by about 500 persons identified with the trotting interests of the United States. Most of the horses had been suffering from a distemper, and many coughed while exhibited, which no doubt affected the bidding somewhat; under the circumstances, the average price obtained seems to be a good one. The nine-year-old stallion Elector, the property of O. H. Hickock, San Francisco, was purchased by Messrs. Miller & Sibley, Franklin, Pa., for $2,200. The 75 Palo Alto trotters sold for a total of $77,295, an average of $1,030.60. The best prices paid and the buyers were as follow:

Conductor, gr. c., 1887, by Electioneer—Sontag. E. Frank Coe, New-York	$4125
Bay filly, 1887, by Electioneer—Frolic. Wm. Simpson, N. Y.	2200
Bay filly, 1888, by Woe-Nanetta. C. Smith, Brooklyn, N. Y.	2750
Colt, b. c., 1888 by Electioneer—Cecil. A. J. Post, Syracuse, N. Y.	2400
Bay filly, 1887, by Electioneer—Cora. E. T. Steele, Philadelphia, Pa.	2000
Bay filly, 1887, by Electioneer—Lizzie H. E. T. Steele.	1200
Ivy R., b. f., 1887, by Electioneer—Ivy. Miller & Sibley, Franklin, Pa.	2100
Bay filly, 1888, by Piedmont—Oats. E. T. Bedford, New-York	2100
Chelton, br. f., 1887, by Electioneer—Chestnut. M. A. Dougherty, New-York	2000
Brown filly, 1888, by Electricity—Fatima. W. H. Powell, Springboro, Pa.	2000
Prussian General, b. c., 1888, by Electioneer—Prussian Maid, jos. Gavan, Chester, N. Y.	1625
Bay filly, 1888, by Woe—Theora. H. J. Beaudet, New-York	2000
Brighton, b. c., 1888, by Electioneer—Bright Eyes. Uhlein Bros., Milwaukee, Wis.	1600
Brown colt, 1887, by Woolsey—Amiel. J. G. Devin, Lee, Mass.	1600
Dora D., b. f. 1887, by Electioneer—Dora. G. W. Bailey, New-York	1475
Whipster, b. c., 1888, by Whips—Maybird, L. F. Herrick, Worcester, Mass.	1400
Alva, b. m., 1884, by Electioneer—Alvaretta. Robert Steele, Philadelphia, Pa.	1300
Brown colt, 1888, by Electricity—Cecilia. Uhlein Bros.	1300
Bay filly, 1887, by Woolsey—Alvinza. E. T. Steele, Wooing, ch. f., 1887, by Woolsey—Wilhelmina. C. D. Rly, Clyde, N. Y.	1300
Bay filly, 1888, by Piedmont—Extra. D. B. Herrington, Poughkeepsie, N. Y.	1200
Bay filly, 1887, by Whips—Urania. J. H. Shults, Parkville, L. I.	1100
Discount, b. c., 1888, by Nephew—Odette. Miller & Sibley	1100
Bay colt, 1888, by Piedmont—Piney. W. W. Seaman, Westbury, L. I	1100
Lochmer, b. c., 1888, by Electioneer—Mamie C. Dr. F. C. Fowler, Mendon, Conn.	1075
Collector, b. c., 1887, by Piedmont—Minchief. W. N. Peck, Brooklyn, N. Y.	1075
Bay filly, 1887, by Whips—Millie. W. H. Linen, Rochester, N. Y.	1000
Lleia, br. f., 1887, by Electioneer—Lady Collins. Miller & Sibley	1000
Badeo, blk. f., 1887, by Clay—Barbara Maid. Nathan Straus, New-York	1000
Bay filly, 1887, by Electioneer—Fatima. J. T. Richardson, Providence, R. I.	1000
Chestnut filly, 1888, by Piedmont—Prima Donna. N. Bryans	900
Brown colt, 1888, by Electioneer—Barbara Maid. J. Gavan	875
Bay colt, 1888, by Piedmont—Lodema. M. Fitzgerald, Troy, N. Y.	850
Bay filly, 1888, by Fallie—Mohawk Maid. J. W. Daly, Mt. Kisco, N. Y.	850
Roan colt, 1888, by Geo. Benton—Daisy D. J. H. Shults.	850
Bay filly, 1888, by Clay—Adelaide. R. Steele	850
Bay filly, 1887, by Woolsey—Cassandre, H. R. C Watson, West Farms, N. Y.	825
Bay filly, 1888, by Fallie—Fatima. J. W. Daly.	800
Chestnut colt, 1888, by Piedmont—Daisy D., Uhlein Bros.	800

A correspondent who was present writes us as below:

The attendance was not large, but everybody took a live interest in the progress of the sale. It was freely remarked before the sale opened that the owner had not included in the catalogue any animal calculated to bring a highly sensational price upon the combined reputations of sire and dam. Of the few colts by Electioneer, only one was out of a celebrated dam, and that one (a 2-year old colt out of the dam of Sally Benton) being a grey and and blemished, was of course at a disadvantage. Yet before the auctioneer's hammer fell, $4,125 had been bid for him. The sixteen Electioneers averaged $1,622, exclusive of Elector (record 2.21) consigned by Mr. O. A. Hickok, that sold for $2,200.

The balance of the 75 head that were sold were all the progeny of untried sires that Gov. Stanford is bringing forward in his breeding operations. They were of excellent blood lines, but not from tried dams. They were selected with due regard to making a favorable impression for their sires, and were a really handsome and attractive lot. Each family with its average is separately given in the sale list which I forward to you. They sold remarkably well as the average of $1,030.60 in the entire sale indicates.

Some of the stallions went apparently low. The 3 year-old colt Coin, at $2,500, was cheap; for while his dam has not yet distinguished herself, his blood lines are good, and he is a fine, level-made horse, with a good turn of speed. Mr. Sibley, who bought Elector, said: "Two months ago I would have had to pay three to five thousand dollars more for him, because then fifty other breeders would have been after him. But then it would have been worth that much more to have had him at that time, and the same applies to the colt Coin. Whoever buys a stallion now, buys for next year." Mr. Kellogg looked up for me the average of the Palo Alto sale of 1886. This one beats it by $158 per head; and in the sale of 1886, three-quarters of the horses were by Electioneer too, while in this sale he had but sixteen.

It will be seen by his new advertisement this week, that Mr. F. C. STEVENS, proprietor of the noted Maplewood Holstein herd at Attica, N. Y.,—a herd that is a great credit to the State—offers special reduced prices for May and June. The Echo, Jewel, Castine, Rhoda, Neko and Abbekerk families are largely represented in the herd, which now includes 200 animals—85 cows, 4 to 7 years; 35 heifers, 2 and 3 years; 28 yearling heifers; 40 heifer calves; 4 bulls, 2 years old; 12 yearling bulls, and 26 bull calves of 1889. Persons in want of the very finest Holsteins, for the show ring, or to improve their stock, have an opportunity of securing them here, at exceedingly moderate figures.

The Chicago Fat Stock Show will open Nov. 19 and close Nov. 21. W. C. GARRARD, Springfield, Ill., secretary.

EDS. COUNTRY GENTLEMAN—I sold six-year Percheron stallion, advertised May 2, to Montana parties by wire, May 4. Quick work!

Jonesville, N. Y. W. L. HURRS.

Mr. G. K. FOSTER, Burlington, Vt., recently visited Great Meadow Farm, Comstocks, N. Y., and purchased two extremely choice bred animals—Wild Cherry, bay mare, foaled 1881, by Triton (full brother to Trinket, record 2.14), dam Pulcheria by Harold (sire of Maud S., record 2.08¾), due to foal this month by Meander, 2.26¾; and Carmencita by Chelton, out of Wild Cherry. Chelton is by Princeps, and out of Eaglewood by Belmont; second dam Woodbine—dam of Woodford Mambrino, 2.21¾, and Wedgewood, 2.19. Every animal for four generations back each way in this filly's pedigree is standard.

Mr. U. H. MINER'S Holstein sale, at Falls Village, Conn., May 8, (see advertisement, p. 394,) resulted as below:

16 Cows	average, $173	Total		$2,760
15 2-year Heifers	do.	103	do.	1,550
7 1-year Heifers	do.	91	do.	650
6 Heifer Calves	do.	53	do.	320
6 Bull Calves	do.	14	do.	81
1 Yearling Bull	do.	..	do.	70
1 2-year Bull	do.	..	do.	120
46 Animals	average, $107	Total		$4,950

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The Grazier and Breeder.

Rearing Mules.

Eds. Country Gentleman—The average mule may be aptly compared with what is generally called the dangerous class of humanity. As the hand of the rowdy and hoodlum is against every other man and always ready to strike, so the heels of the mule are always prepared for action and at times do serious execution. But as want of training or actually vicious training is the cause in one case, so it is in the other, and the supposed natural cussedness of both these classes of vicious animals is beyond question due to a wrong bent given to them in their rearing.

The mule is really a most serviceable animal, and as a draft beast has some qualities which render him preferable to horses for heavy work. But horses are usually trained by persons of greater intelligence than those who handle mules, the latter generally beginning the education of the long eared colts with a vigorous application of the "black snake," and consequently while horses exhibit more docility, as a rule, mules are made vicious, and the native stubbornness of the ass is heightened by the greater intelligence of the dam. It is quite possible to rear docile mules. It is quite easy to make them affectionate and of a gentle kindly disposition. No doubt the training of a jenny is easier than that of a jack, but a jack mule may be trained rightly just as easily as he may be spoiled.

There need be no difference between the training of horse or mule colts. Kindness is effective in either case, but some tact and judgment are required for the effective application of kindness. There is a difference in the disposition of animals. Some are suspicious and averse to familiarity needed for good training, some will submit to be handled with evident pleasure, and some will resent every touch either of the hand or the brush. But the most suspicious animal is readily disarmed by gentleness and gradual approaches. I have been spending a few years in a mule-breeding locality and have been rearing both horse and mule colts. The management of mules was not familiar to me at first, but always believing that the mule was amenable to good training I have been practicing with a pair of colts now three years old, one of which was very wayward and naturally obstinate at first, but is now as gentle as a pet horse colt. There are a few points in the management which require consideration, but these are precisely the same as those needed in the training of any other domesticated animal. The first is to disarm all fear and suspicion; the second is to evoke some affection by constant kindness; the third to establish kindness of disposition and obedience by gradual steps; the fourth never to punish, but when force is needed to control the animal, to use it gently and in such a way as to make it effective without any failure.

Some animals are approached without any serious effort to escape or resist, and once a young mule is secured by a firm rope halter passing through the mouth, so that it cannot get loose or break the rope, it is only a matter of a few minutes to conquer it. It may be necessary with a stubborn animal to first drive it into a narrow stall, with a door in the rear to close it in, and not wide enough for it to turn around in, and then secure it by the halter. This should be done as soon as it is weaned, and when one can easily overpower it if it resists. But if the colt has been reared at home, this is quite easy to be done by putting a strong leather strap around the neck, with a ring on it, and fastening a rope halter with a snap hook on it, and then tying the colt in the stable near its dam. If the education is begun when the colt is a month old, there will be no trouble ever afterwards. But to let colts—of any kind—run wild and commit all sorts of faults until they are three years old, is the most serious blunder, and gives endless trouble in unlearning a very bad training.

When a mule colt has been once safely tied anything can be done with it. If it should kick and resist attempts to handle it, its legs should be secured by ropes, and it should be thrown, and whatever was wished should then be done, and the animal released. But this lesson should be thoroughly given. A jack colt was kept tied and down for an hour until he permitted his hoofs to be rasped, his tail trimmed, his body handled, brushed, and stroked all over, and when he was let loose he was given some cut apples and bran, and did not resist in the least a repetition of the brushing, and he has not made any attempt to resist since. By gradual approaches a mare mule has never made any resistance, and both the animals will now feed from the hand; come at call, and are in every way as docile as the quietest horse in the stable. Neither of these animals has ever kicked or made an attempt to do so; and has never been whipped. The favorite—alleged—pastime of the mule has never been acquired, and never will be under this kind of training. This of course requires constant supervision of hired men as well as personal attention, but I am convinced from considerable experience during five years past that under a sensible and judicious training begun before the colts are three months old, mules may be trained to equal docility with horses, and will be found superior to horses for all the hardest kinds of work, requiring steadiness, endurance, staunchness, and dogged persistence of effort without discouragement. All this, accompanied by their more vigorous digestion, greater robustness, stouter build, greater strength, and freedom from blemishes and diseases, give to mules a very high value for farm work and heavy draft, especially in those localities where roads are steep, rough, and generally heavy and bad.

Macon County, N. C. H. STEWART.

Ensilage and Grain—Hay Separate.

Eds. Country Gentleman—I see that Prof. Stewart in all his rations where hay is fed to cattle, advocates cutting hay and mixing with ensilage, cornstalks or other coarse fodder instead of putting the meal used with the cut cornstalks, ensilage, &c., and giving hay by itself, without expense of cutting. Is not hay a balanced ration by itself? If so, why can not the cornstalks or ensilage be fed with and balanced by the meal given, making a ration to be given half morning and evening and hay at noon? My barn is so planned that I cannot cut my hay without a good deal of extra labor. Barn runs north and south; barn floor is in top of barn, running the whole length on west side, with feed-room directly under barn floor. I draw my feed on barn floor and let it drop through trap doors down in feed room. On east side of barn floor and feed room are my hay mows and silo—silo next to barn door. I drive my corn up beside silo, and cutter stands directly over silo. Man on load hands corn to man that tends cutter. It is cut and drops down in silo. The rest of barn on east side of floor is the hay mow. I drive up close to side of mow with hay; wagon is it stands on floor brings top of hay shelvings (which are flat) just even with top of mow, so all the hay drops down instead of being pitched up as in old style barns. So you see, to cut my hay I would have to pitch all my hay up on barn floor, which would be rather up hill work, especially when you scared the bottom of an 18 foot mow.

I should like to give my cows in milk, the coming winter, 50 pounds of ensilage, with wheat bran and cottonseed meal to make a balanced ration, to be made into two messes, fed morning and evening, with all the hay they will eat at noon. Please tell me how much of each, bran and cottonseed meal, I shall have to mix with ensilage, which will be corn suitable when cut to stout up to husk, which as I understand is in the best condition for ensilage purposes. My cattle are in basement under all except silo, which runs down on a level with my cattle floor. W. H. B.

Oxford Depot, N. Y.

1. W. H. B.'s case is peculiar. We usually recommend mixing all the coarse fodder together, and then adding the grain ration to this, because the food when given in that form is best digested. But as B. proposes to feed 50 pounds of ensilage per day to each cow, this will be an ample amount of coarse fodder to mix the grain part of the ration with, and therefore B. may properly feed uncut hay at noon. It often happens that some clover is fed and when this is the case, we regard clover as improving the ensilage ration by mixing them together, especially where the ensilage is given in as small a ration as 25 or 30 pounds. It is presumed that B.'s cows are good size and will be in full milk. This ration may be made up as follows: 50 lbs. corn ensilage, 3 lbs. wheat bran, 2 lbs. decorticated cottonseed meal. He should be careful to know that his cottonseed meal is fully decorticated, i. e., without any shuck. This ration, stated in analytical formula, shows the following digestible nutrients in pounds:

	Albuminoids.	Carbohydrates.	Fat.
50 lbs. corn ensilage.....	0.60	6.00	0.30
3 lbs. wheat bran.....	0.36	1.68	0.09
2 lbs. dec'd cotton'd meal.	0.70	0.85	0.13
Total.....	1.66	10.13	0.52

Nutritive ratio 1 to 5—well balanced. It will be seen that this is too small a ration to be fed alone, but as B. will feed hay at noon, let us suppose the noon feed will be 6 lbs. of uncut hay; this, added to the other part of the ration, would give of digestible nutrients 2.53 albuminoids, 12.67 carbohydrates, and 0.60 fat. This would make a fair ration for 1,000-lb. cows in full milk.

B. does not state how he gets his ensilage from the silo, but from its position he might take it from an opening on a level with his cow stable floor. If he lifts it out at the top upon the upper barn floor, it must be as laborious as to take his hay up on same floor.

2. His ensilage corn should not be allowed to mature beyond ear in early dough state, so that the stalks will be succulent when cut into silo. The grain will have its full value as ensilage at this stage.

3. He should lay in his bran during summer when it can be bought lowest. Can now be bought by the car at $12 per ton or less.

H. W. S.

Spring Care of Sheep.

Wool Loss—Early Shearing—Ensilage.

Eds. Country Gentleman—If the average woolen manufacturer would allow his humanity to rise above his selfishness it would be a boon to the farmer and a profound blessing to the sheep. The inquiring reader asks, how is this? Manufacturers of woolen fabrics have established an arbitrary law of their own, the product of greed, that all wool unwashed shall be purchased with one-third of its weight deducted. In other words they make the claim of dirt a basis for taking from the wool grower one third of his wool. If there were really this difference it would not be such a one-sided and unjust deal, but the facts are they apply it to all wool, coarse or fine, very dirty or very clean.

For two years I have submitted to this grab for the sake of the sheep, and I suppose I shall do it again this year for the sheep have been shorn without washing. I know that the shrinkage on my coarse and medium wools was not one-half that it was on the Merino, and I know that it was not more than 5 per cent. as compared to the condition it would have been in if the sheep had been allowed to run till about June 1, and been creek-washed. Here was a robbery of 28½ per cent., the difference between the amount of wool taken from me without any pay for it and the amount of actual loss, or what I should have allowed.

When sheep are sheared early, the last of March or in April, the wool does not become so dirty as when they go to pasture before shearing. The benefits to sheep are so great by shearing them early that I shall keep on, notwithstanding the demand for one-third of my wool. A number of farmers in this section have become convinced of the benefits of early shearing, and have adopted my plan of shearing the first of April. By so doing the sheep get rid of the ticks, and there is less loss of wool from shedding, being smeared with dung, and other causes. The most important consideration is the fact that the sheep will thrive much better. Before my sheep were shorn this season they were growing thinner every day, and after their fleeces were taken off they immediately began to gain. One reason for this change was they got rid of the ticks. They also had better appetites. Sheep feel the loss of their coats for a few days, and during this time, if the weather is cold, they should be shut in a warm stable where the wind cannot blow on them. They do not require any artificial heat, as the close stable or sheep-house will keep the heat in sufficiently to prevent them from taking any cold. We have never had a sheep sick on account of early shearing. They must be kept out of the wind and out of the wet. They will bunch up together if it is very cold, and keep each other warm. Our sheep are now (May 5) out to pasture, and have been several days. They have an inclosed shed, open only to the south, in which they sleep. For some days, when they were first turned out, in a field where there was no shed, they were brought home at night. It is a great advantage to shear sheep before the lambs are born, as the young things can find the teat so much better, and the ewes will give more milk. They must not be sheared by a rough man, when shorn before lambing. They require gentle handling.

The fact was determined last winter, at Kirby Homestead, that ewes will do well on ensilage as a part food. None of our ewes were troubled with inflamed udders which is often the case when fed only on dry foods and fed liberally. They all had a good flow of milk, which demonstrates the importance of succulent food for ewes as well as for cows when plenty of milk is required. As our sheep pasture is to be permanent, we shall endeavor to make it so by feeding bran and oil meal to the sheep in the field, and in this way maintain its fertility. Feeding racks are placed in the field, and once a day the sheep are fed. This practice will keep the sheep growing and help the lambs wonderfully, besides preventing looseness of the bowels. It will also enrich the land. The fences have been made especially to keep the sheep, and with appropriate faith the whole land has been set with apple trees, to furnish, in the near future, additional food. I like permanency. It saves care and cost. The little trouble of taking a measure of food to the field daily is a pleasant chore, and also enables one to see the stock and observe their condition. Where the grass may be thin, fresh seed has been sown. With a lay-out like ours, a few sheep can be kept, affording profit and bringing to the table wholesome meat at little cost. F. D. Curtis.

Kirby Homestead, N. Y.

Uncut Ensilage.

How Handled on a New-York Farm.

My silo was filled with uncut corn August 27, just before the hard frost. Some of it was small, some large, stalks laid one way as far as possible and kept even. As soon as filled it was covered with inch hemlock boards two thicknesses, and about ten tons of stone laid on top. It was opened in December last and found to be in excellent condition. The first 3 feet on top where the smallest and greenest corn was put was quite acid, but from there to the bottom of the silo, the ensilage was in the very best condition, which shows conclusively that the more mature the corn the sweeter the ensilage will be and the better food it will make.

My silo is about 16 feet square and 26 feet deep. After settling down, there was 12 feet of solid corn. I cut about 3 feet in width the whole length of the silo with a broad-ax, into pieces from one to two inches in length; it takes about half an hour each day to cut enough for my stock—eleven cows and six large calves. The smaller it is cut the cleaner they will eat it. I mix according to Stewart's ration, with one exception—I have some straw cut and mixed with the hay. Stewart's ration is 60 lbs. corn ensilage, 3 lbs. hay, 2 lbs. linseed meal and 4 lbs. of bran.

Cows were in fair condition and gave some milk when I commenced to feed the ensilage ration, which I mix in layers—6 bushels ensilage, with ¾ bushel of bran, and 2 quarts of old process oil meal, then 6 bushels of cut hay and straw, moistened, then more bran and oil meal, etc., until I have 20 bushels of ensilage and 12 bushels of hay, which make two feeds, afternoon and morning, as I mix the feed every morning after feeding the stock. I have tried both feeding dry and wetting the hay, but get best results when the hay is wet, as bran and oil meal stick to it so that stock have to eat the whole mass to get the grain. I feed about 6 A. M., giving each cow 3 bushels of the mixture which is all they will eat; then at 3 in the afternoon I feed again, giving the same amount of ration.

The cows commenced to gain in milk at once, and in two weeks time gave almost double what they were giving when first put in the stable. They have been in their stalls fastened with chains, almost three months; have been giving milk all the time and gaining in flesh, and some of them are fat enough to butcher. I do not let my cows out doors at all, but give them all they can eat and drink, as I can keep them cheaper that way than by letting them out doors to shiver in the old-fashion way.

The only thing I needed was something to steam feed for hogs and heat water for cows to increase the flow of milk, and in your columns I found the long-wanted heater, which is now on the road, and if it does what is represented I shall be ready for spring, having enough ensilage to last until the first of June. With a heater I can get almost if not as much milk as in summer time.

There is no ensilage wasted; if any is left from the cows, bran is sprinkled over it, and the hogs eat it all. Silos have come to stay; many will be built in this section the coming spring. It is not necessary to go to any great expense to build a silo unless a person wishes to, as any building that is strong enough to stand the pressure, boarded and made air-tight, will do, and those who have not got a cutter can put the corn in whole, although if the silos are large it will pay to buy a cutter, as after that is once paid for the cost of

putting ensilage in the silo is the same. The carrier saves man's labor, and the time will soon come when those who own steam threshers or horse-power, will have cutters to fill silos, and make that a business as well.

Madison County, N. Y., Feb. 1. H. CLAY ACKLEY.

Notes from Ontario.

Milk Yield--Rations--Correction.

EDS. COUNTRY GENTLEMAN—You see that I was obliged to telegraph you to stop my advertisement, as stock was sold. Comment is needless, as the fact speaks for itself. I have some more extra choice stock to advertise with you, directly these spring sales are over.

So great is the demand for choice bulls, especially sons of Rioter's Pride, that, in a herd of 45 head, I have but one bull for sale, except a calf dropped two days ago, and he goes, I believe, to fill a previous order. I think his dam is going to be a remarkable cow. This is her first calf, and her udder was so large and handsome that we had to milk her before she came in, and also to give her salts—Dr. Lindsley to the contrary. Yesterday, although cleanly milked out at bedtime the previous night, and fed only a little dry hay and three "white drinks" during the day, and still feeling effects of the salts, this heifer gave 25 lbs. of milk, and she shows a large increase over that to-day.

My cattle never looked better. I have 47 just now, and not one sick or ailing in the lot. My ensilage is not yet all used, but as pastures are not fit to turn cattle on, even during the day, it comes in useful. I do not know what Prof. Stewart would think of the ration my good milkers have been getting the past three months—1 bush. ensilage, 4 qts. ground oats and 4 qts. wheat bran. This is thoroughly mixed together and divided into two feeds, one given at night and one in the morning. Beside this, each cow gets nearly half a bushel of roots at noon, and also during the day two very small feeds of dry hay, about 8 to 10 lbs. in all. If a cow is newly calved, and is milking as high as 40 lbs. per day, she gets a very little more of the ensilage mixed with the oats and bran, so that she eats then, in all, 5 qts. oats and 5 qts. bran a day. But, as a rule, they get just as stated. Cows that are four months with calf get only one-half of that feed, so that they eat daily—½ bush. ensilage, 2 qts. ground oats and 2 qts. wheat bran; but they have as much roots as the other cows, and as much or a little more hay. Yearlings, &c., get—¼ bush. ensilage, 1 qt. ground oats and 1 qt. bran. This is also divided into two feeds, and they get about a peck of roots each and what dry hay they need.

I do not know if I am feeding to the best advantage or not. It is almost impossible to tell what my cows are capable of, as we use enough milk and cream in our household to supply an ordinary village; we give largely to charities, school feasts, &c. The new milk I supply to a dear friend near by, and the allowance sent in daily for my servants' use foots up over 1,000 quarts a year. We feed, as I know, far too much to our young calves, but I believe in raising them well. Last, but not least, many people come to the dairy for cream, and one confectioner in particular, so that I have sometimes sold 200 quarts of pure cream in one month, besides some milk sold and all the milk, as before stated, used in my friend's family, my own family, my kitchen, to feed young calves, and given to charities. Add to this the constant sales from a herd and frequent coming in of heifers on first calves, and it will be seen that one would have to do a deal of estimating to get at the actual product of butter per cow. Of course, the actual income from my dairy shows in my books, and I wish all breeders were as thoroughly satisfied as I am.

I made a mistake in a previous article in claiming those tested daughters for Combination, brother of Rioter's Pride, for they belong to Combination, a son of Polonius, and the similarity of names gave rise to my mistake. I now hasten to correct it for these splendid cattle need no misstatements to bolster them up; they have enough merit of their own to stand upon without usurping that of other families. My statement was taken from the Bulletin, and it was very stupid of me. The first one to draw my attention to it was Mr. Sherman himself, who has charge of Rioter's Combination, and who wishes nothing claimed for him that is not due. Mr. Newbold also set me right, and to both these gentlemen I offer my hearty thanks. MRS. E. M. JONES.

Brantville, Ont.

The Dairy Department.

Butter Ration—Green Rye.

EDS. COUNTRY GENTLEMAN—Please give ration for butter, including green rye of which I have abundance, with clover hay, oats and pea hay, fodder of field corn and cob meal. The above I have raised. I purchase wheat bran, $19 per ton; corn bran, $17.50; cotton-seed meal, $1.30 per 100 lbs; linseed, $1 40. I prefer to feed rye without cutting, since it would require to be cut day by day by hand. I have been feeding for upwards of two months one-half corn fodder cut less than ¼ inch, one-quarter clover hay, one-quarter Hungarian, and oats and pea hay, in fully the proportion directed by *Prof. Stewart*, p. 966, Dec. 27, excepting that I have made corn fodder a part of the ration, which Prof. Stewart had overlooked apparently, but which I considered a necessity to have used up in cold weather and to have it disposed of.

Please give quantity of parsnips to be fed to each cow per day.

May cottonseed meal be always safely fed until within two months of time of calving?

At NOV. 1, from three cows then in milk, I made but 12 lbs. of butter per week; previous to Dec. 27 it had increased to 22 lbs. per week from the same cows and on the same ration I had been feeding. I tested about one month since, by churning separately the cream of each of those three cows. It had declined to 16 lbs. Was this decrease to have been expected on account of the cows being further removed from time of calving, or may it have been caused to some extent by using in the feed so large a proportion of corn fodder? The quantity of each other ingredient was fully that advised by Prof. Stewart. H. MC.

Lincoln University, Pa.

H. McC. wishes a ration with green rye, clover, oats and pea hay, fodder of field corn—and also with cob meal. All these except clover hay are poor in albuminoids, and if the corn fodder is used, it makes it very difficult to balance it without too much oil meal. Then he prefers to feed the green rye uncut, in which case his grain food must all be mixed with the cut hay, which may be safely done. But if it were all mixed with the green rye, the ration would be more palatable and better relished by his cows and, probably, better digested.

He speaks of the ration which he has been feeding the past winter, and says he modified the ration given last December, only by feeding one-half corn fodder, but this would make a large difference in the balance of the ration. The ration advised was: 10 lbs. clover hay, 4 lbs. Hungarian hay, 15 lbs. pulped beets or 13 lbs. boiled potatoes, 4 lbs. corn meal or 6 lbs. cob meal, 6 lbs. wheat bran, 1 lb. cotton-seed meal.

Now if we place the ration, which he actually fed, in analytical formula, it shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
7 lbs. field corn fodder.....	0.12	2.80	0.05
2½ lbs. clover hay.....	0.36	1.23	0.04
2½ lbs. Hungarian hay.....	0.21	1.05	0.02
12 lbs. boiled potatoes.....	0.36	2.52	0.03
4 lbs. cob meal.....	0.40	3.36	0.25
6 lbs. wheat bran.....	0.70	2.76	0.15
1 lb. cottonseed meal	0.35	0.23	0.06
Total.....	2.22	14.00	0.60

This has a nutritive ratio of 1 to 7—too wide, as a steady ration for milk. It is not quite as good as the ration which he was feeding up to the last of December. This test of his three cows, which, under the other ration, increased to 22 lbs. per week, and five months afterward fell to 16 lbs. per week, might have been expected. First, because of the distance from calving, and second, because the proportion of albuminoids was too small to keep up the full butter yield for so long a time.

He may make up the following ration while he has green rye: 30 lbs. green rye, 4 lbs. clover hay, 4 lbs. pea and oat hay, 15 lbs. pulped parsnips, 3 lbs. cob meal, 6 lbs. wheat bran and 1 lb. cottonseed meal. This in analytical formula shows the following digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
30 lbs. green rye.....	0.96	2.46	0.09
4 lbs. clover hay.....	0.36	1.09	0.04
4 lbs. pea and oat hay.....	0.34	1.60	0.03
15 lbs. parsnips.....	0.24	1.95	0.03
3 lbs. cob meal.....	0.30	1.89	0.11
6 lbs. wheat bran.....	0.70	2.76	0.15
1 lb. cottonseed meal.....	0.35	0.23	0.06
Total.....	2.97	12.01	0.51

This has a nutritive ratio of 1 to 5.3, and the elements are all so digestible that it should prove a successful ration for the production of cream and butter. He may cut his green rye several times if he cuts it before heading out. It has sometimes been pastured through the summer and then matures a crop the next year. In pasturing, the head never forms.

It will probably be safe to feed so small an amount as 1 lb. of cottonseed meal up to two months before calving, but not a greater quantity. The more nervous the cows the greater the risk. E. W. S.

Cold-Storage.

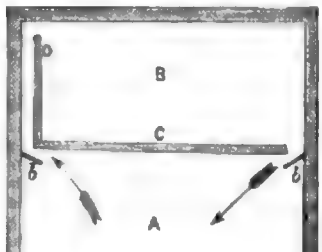
EDS. COUNTRY GENTLEMAN—By reading the remarks of H. S., page 833, I am reminded that within the past few months I have seen in various agricultural journals what seems to me defective or at best incomplete instructions for erecting refrigerator buildings. The vulnerable point in those plans is the placing the metal ice floor in direct contact with the air of the storage room, causing condensation, drip and a damp room.

I have a refrigerator building in which dust may at any time be swept from the floor. I do not claim that dirt on the floor is especially a recommendation for the building, but if the dirt must be there I much prefer dust to mud. Before building my refrigerator I visited several cold-storage rooms. In some of them I could see the metal ceiling shedding tears over the imperfect construction. The water-soaked joist seemed to be rotting away, while the air in the storage-room was damp and odorous.

Of the various plans which came to my notice, I selected what, with some modification of my own, seemed best adapted to my wants; and as I believe there is now no patent on the plan, I send you a draft of its essential features.

The point aimed at is to prevent condensation in the storage-room by completely isolating the ice-chamber above, so that we may conduct the warm, moist and foul air away from the storage-room and dash it upon a large body of ice, which will condense the foul moisture, contract the volume of air, and permit the heavy, dry, cold air to tumble down into the storage-room, where it will displace and force above the ice a quantity of moist, warm air, to be condensed as before, thus keeping up a constant current of air, which will pick up any moisture in the room and conduct it to the ice to be condensed.

The cut is a sectional view of the storage-room (*A*) and ice-chamber (*B*). The building,



or complete room, must be surrounded by non-conducting space beneath the floor and over the ceiling, as well as at the side and end walls; then on the joist which H. S. would cover with zinc, lay an air-tight wood floor (*C*) from end to end of the building, but let it lack one foot or less of coming to the wall at either side, and let the floor incline to one side about one inch in ten feet to secure proper drainage.

On this floor place strips two or three inches high directly over the joist, put cross strips between these strips to form pockets of dead air. On this lay another tight floor; on the more elevated edge or side of the floor erect a double wall (*D*) (with confined air between) to within one or two feet of the ceiling of the building, and extending from end to end of building. Cover the floor and a few inches of the walls around it with a well-soldered tin floor, and immediately paint it. At the lower edge of the floor, where the cold air tumbles off, place eave-spouting to carry drainage to a conducting-pipe which may pass through the wall to the outside of building and terminate near the bottom of some vessel that will bring the overflow of water above the end of pipe, and thus form an air trap. At either side of storage room hinge boards, (*b b*,) wide enough to close up the inlet and outlet of air. The ingress of cold air can thus be adjusted to hold the temperature of the room at any desired degree. The additional cost of building the ice-chamber floor, as here suggested, seems a small item when we consider that it will change the damp, still air of the old-style room to a dry and circulating atmosphere. C. S. CLARK.

Crawford County, Pa.

Cottonseed Meal.—An associated press despatch from Washington says:

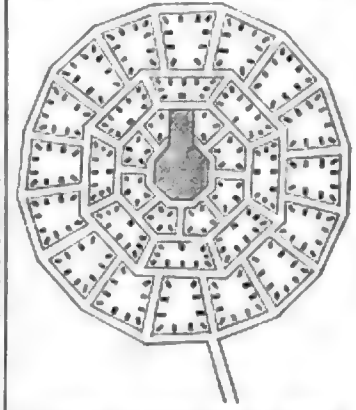
The Agricultural Department has been making an analysis of butter from cows fed on cottonseed meal, which produces unlooked-for results. The analysis showed, first, a low percentage of volatile acids; second, a phenomenally high melting point; third, a strong persistence of the reducing agent. The first point is of importance as showing that mixing cottonseed with the feed of cows in the South will tend to raise the melting point of butter, thus rendering it more suitable for consumption in hot climates. Prof. Wiley says: From an analytical point of view the results are of great importance, since they show that a butter derived from a cow fed on cottonseed meal might be condemned as adulterated when judged by the amount of volatile acids present.

The Apiary.

An Antipodean Establishment.

The Queenslander, published at Brisbane, Australia, has an article describing the Æstival apiary, property of Mr. Alexas Walker of Redland, which may interest American bee-keepers, and we make an extract below, reproducing in smaller size the large diagram accompanying it:

In all there are 180 colonies, but a considerable number of these are nuclei—that is, small colonies of two or three frames of young bees and larva taken from a strong colony and allotted a pure Italian queen; the sale of such nuclei and queens is a specialty Mr. Walker goes in for more than the production of honey. Now the trouble of the queen rearer is that, when there are many hives in the apiary, the virgin queen, who on the third or fourth day of her existence flies abroad on her bridal tour, may not sufficiently note which hive she has left, and upon return may enter the wrong one, with the certain consequence of being stung to death. Mr. Walker's observations showed him that it is the angle the face of the hive presents that is the chief point impressed upon the bee when marking which is its own home. "You may," he told me, "move a colony a few feet to either side, or backwards or forwards, and the outlying bees will not be puzzled to recognize their home; but only turn the face of the hive a quarter turn round, say from facing north to north east, then the out flying bees will be for a time completely nonplussed." He, therefore, designed his apiary on such a plan that not one hive fronts exactly the same point of the compass as another. It will be seen that a central start is



ÆSTIVAL APIARY.—*Honey house to outer edge of inner circle of hives, 10 ft.; thence to outer edge of middle circle, 15 ft.; thence to outer edge of the outside circle, 20 ft.*

made with an octagon honey-house. Then surrounding this are eight trapezoidal flower-beds raised one foot above the level of the walks that divide them and that surround them. These eight central divisions Mr. Walker distinguishes by marking the first eight letters of the Hebrew alphabet on them, and each contains one strong colony and four queen-rearing nuclei. A walk surrounds this inner circle, this nursery of royalty, and then there is a second circle of eight larger subdivisions. In each of these, ten hives are placed, and a study of the plan will show that no two of these face exactly the same point of the compass. The entrance to the hive is in every case inwards towards the flower-bed, thus allowing all manipulations to be carried on from behind the hive, and yet the operator not to be standing in front of an adjoining hive, for nothing irritates bees more than a person moving about in front of their hives. This second series of subdivisions is distinguished by letters

of the Roman alphabet, B, C, D, E, F, G, H, I, and they represent eight colonies of bees. A walk surrounds these. An outer circle of sixteen subdivisions, each containing ten hives, is marked on the plan, but Mr. Walker has not yet occupied these allotments. The total number of tenements this bee village will contain is therefore 280, and this is quite enough for any one locality, for the range a bee can fly over seldom exceeds three miles, and honey often gets very scarce on such a limited area. When bees are impelled to fly further to search for honey the losses that occur on the journey are very great. It is better therefore for a bee-keeper to divide his apiaries than to have too many colonies at one place.

Each of Mr. Walker's hives is placed on a neatly-cemented floor raised 2 inches above the ground. This floor is made to do duty as bottom-board, and the entrance ¥ is shaped in it just as in the bottom-board of the Langstroth. There are advantages in this cementing, for no weeds grow, it is damp proof, clean, and does not rot, neither can white ants eat it.

The evening that I visited Æstival Mr. Walker had just mastered one of those extraordinary circumstances which now and again surprise the bee-keeper. The day had been close and hot, especially the early morning; in fact it was last Friday week the first day after the first rains. Whether this close heat had anything to do with what occurred I don't know, but I mention it as possible. However, a swarming fever spread through the apiary, and Mr. Walker, as one hive after another poured out its living stream, thought the whole apiary was in the throes of revolution. Finally they settled in one gigantic mass. Aided only by Mrs. Walker, the owner of Æstival subdivided this mass until he had picked out no less than twenty-four queens; then, choosing the five best, he allotted the commoners among them. Mr. Walker is one of those bee-keepers who disdain gloves and a veil, but he did not go and have his portrait taken that night. "Next morning," he writes me, "I found one other queen at the same place, with a cluster of about a dozen bees round her; there, therefore, must have been no less than twenty-five swarms issued the day you visited me. Of course a great number of the bees that came out went back to their old hives when they missed their queens, which I had captured. I expected a frightful slaughter among the mixed hives next morning, but there was very little indeed—chiefly caused, I believe, by the great care I took that none of the lots had *two* queens with them to start the fighting. I had a similar experience last year with seven swarms (my stock then being between fifty and sixty), and in putting them up I happened to leave two queens in one lot. Next morning it was quite a case of the Kilkenny cats, as very little more than the two tails were left, in the shape of one queen with a very small company of bees—more than four times the number of bees in the hive being piled up dead in front; they must have been very busy all night."

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

TUMOR ON JAW, pp. 54, 167.—Thinking you would be glad to know the outcome of treatment, I will say that tumor is cured, and cow in splendid condition. H. W. *Adrian, Mich.*

HARD MILKER.—What is best treatment for cow hard to milk, that will not injure her? W. H. M. *St. John, N. B.* [You might try lead probes—keeping them in for some hours prior to milking at night. Always smear them with extract belladonna, and insert with care.]

COCKED ANKLE.—A mare, six years old, has what is called cocked ankle. Noticed the tendency last fall, and hoped that turning her out through the winter might cure her, but it has not. The ankle is near hind one. W. T. S. *Warren, Ohio.* [Shoes twice as thick at heels as at toes should be used. This can be accomplished with flat shoes or calks. Then blister the sides and back of legs from fetlock to bottom of knees. Rub six or eight weeks repeat. The mare should have ten days' rest each time.]

LAME LEG.—A 4 year-old mare, partly broken to draw single and double; never driven over 7½ miles and return, double, and with light load, has become lame. Had foot carefully examined, shoes removed, and mare turned out to pasture. No sign of trouble about leg or foot; doesn't flinch anywhere; stands squarely on four feet; limps scarcely any in walking, but very badly when trotting; seems to be afraid to reach out with the damaged leg—the left. W. H. C. *Hayne, Va.* [Does horse rest left leg over in stable? If so, describe position. Does she start sound and come in lame after a few miles' drive, or, vice versa, or is she just as lame at start as at finish? Has she splint or ring bone? Compare feet and notice if there is any difference between them, and if so, state it. Is there a corn in that foot? Trot her to halter and note length of stride of both fore-legs; does she swing the lame leg out any? These questions are to draw out facts, if possible. Some of them have very little bearing in themselves.]

OPHTHALMIA.—A mare, four years old, had a cloudiness appear in both eyes last December. One eye cleared up in a short time, but the right had a keratitis follow in a few days. In the centre of opacity blood vessels could be distinctly traced. It cleared up in about two weeks, leaving that eye smaller than the left. This same inflammation has returned three times since, and lasted about the same length of time. Horse is in fine order. W. L. W. *Harmony Grove, Ga.* [You will find in the index references to many cases of this sort under the headings constitutional ophthalmia, specific ophthalmia, &c.]

OUT OF CONDITION.—A cow (thoroughbred, imported) calved last October all right, and milked well for some time, but for the past three months has had no appetite. Looks thin and dull; does not shed her hair and bloats. Have had advice and prescriptions, but she seems no better. S. P. T. W. *Roslyn, L. I.* [Give her a general cow drink and half one every three or four days until several such doses are used. Give one of the powders below twice a day in a pint of flaxseed tea, or in equal parts of molasses and water; Sulphate of quinine, 3 dr.; powdered capsicum, 3 dr.; powdered carbonate of ammonia, 2 oz.; powdered gentian, 6 oz.; mix. Make eight powders.]

SUDDEN BLINDNESS.—A horse, eleven years old, employed in nursery work, was recently taken suddenly blind, his right eye being found swollen one morning, and eyeball covered with white film. Nothing unusual had been noticed the previous day. Horse is in fine condition, and apparently in good health. Have stopped the horse from work, and bathed eye with weak salt and water. There is a slight discharge. Will blindness affect other eye, and other horses occupying same stable? A. H. *Geneva, N. Y.* [Give the horse a physic ball, and with a camel's hair pencil put some of the following lotion in the eye twice a day; open the lids with thumb and finger to do so: Fluid extract of belladonna, 1 dr.; fluid extract of opium, 1 dr.; water, 1 oz.; mix. Keep horse in dark stall. Do not use him for a week, and feed mashes and hay.]

THOROUGHPIN.—A five-year-old mare, about 1,450 lbs., due to foal in a few days, strained left hind leg about six weeks ago, resulting in thoroughpin. A week ago applied blister from morning till next day noon, when leg from hock down was swollen and much inflamed. Lard was then applied, and mare worked moderately several days. Swelling below hock went down to normal condition when mare was worked, but increased at hock, and is harder than before. Other hind leg seems somewhat puffed on each side, and looks like another thoroughpin. Mare seems somewhat feverish internally, and her digestion not good, as considerable whole oats are passed with excrement. A veterinarian said that her grinders needed flooding, the outside surface having sharp projections. I have little faith in rasping teeth of a five-year-old horse. Please do not prescribe six months' pasture, for it is next to impossible to furnish it. F. J. V. *Burlington, Wis.* [Where did you get the idea of my prescribing six months' pasture? It is not in history. It would not be extraordinary for a five year-old to need attention as to its teeth. If mare's teeth are sharp and ragged, they should be operated on by a proper person. It was a great mistake to blister the hock when mare was just about due to foal, and it was wrong to blister and put mare at work. No wonder the parts are worse and the mare feverish. Simply bathe the hocks with some of the following lotion, and wait until foal is so that it can be kept away from her, before any strong remedies are used: Powdered muriate ammonia, 4 oz.; powdered nitrate potass., 4 oz.; tincture arnica, 4 oz.; tincture aconite root, 2 oz; water, 2 qts.; mix. Write again later on.]

See Advertisement of the
FEARLESS
THRESHING-MACHINE.
In the last number of this paper and for the best
ENSILAGE-CUTTERS,
send to the old and reliable Empire Agricultural Works, over 30 years under the same management, Minard Harder, Proprietor, Cobleskill, N. Y., for fully illustrated, descriptive and free Catalogue, showing "why ensilage pays."

Record of the Times.

Review of Passing Events.

A Mighty Wind.—The midsummer heat of last week (80° to 90°) was suddenly ended May 10 by a fearful whirlwind of dust in New-York, (like that in Albany, April 21) followed by heavy rains. Many buildings, trees, poles, &c., were knocked down, and ferry-boats blown out of their course. In Fair Haven, Ct., ten men were injured in a wrecked building. Great destruction occurred in Eastern Pennsylvania. At Williamsport, Barnum & Bailey's circus tents were laid flat, and several employés were hurt. At Philadelphia, buildings were unroofed and shipping set adrift. At Point of Rocks, Md., thirty workmen were blown from a bridge. At the West heavy rains fell.

Arbor Day.—The first celebration of the new holiday in this State seems to have been conducted with much spirit and interest, especially in the country towns, where the "chief men," lay and clerical, helped to make it a success. Full programme of songs, recitations and speeches were carried out, with the planting of trees and flower beds. Votes on the "State tree" favored the elm, oak and maple; one little girl at Geneva voted for the cherry because Washington cut it down. A Geneva school dedicated a cut-leaved birch to George Washington and a Japanese ivy to Martha Washington; another, a white oak. The village improvement society planted two elms at Mile Point, dedicated to Washington and John Bright. At Naples, elms to Washington, Hamilton, Madison, Adams and Jay; at Fonda, elms to Longfellow, Bryant, Whittier and leading teachers; at Ithaca, an ivy to a deceased teacher; at Port Gibson, an elm to a deceased scholar; at Union Springs, a Governor Wood cherry, and a small hatchet. At Boston, Mass., the governor and mayor each planted an oak at the Martin School, and the 17 teachers each a Norway maple for their classes; also 21 pansy beds.

Deaths.—Gen. W. S. Harney, the oldest officer in the U. S. army, at Orlando, Fla., May 9, aged 89. He distinguished himself in the Black Hawk, Florida and Mexican wars; subdued the Indians of the Northwest; while in command in Oregon took possession of the Island of San Juan, then claimed by England (1859); was recalled and placed in command of the Department of the West; was retired in 1863.—Count Dmitri Tolstoi, Russian minister of the interior, at St. Petersburg, May 7, aged 69. He had charge of the police system, press censorship, imprisonments and exiles; was vigorous in his discipline and punishments, and more hated than the Czar by the radicals, yet treated the poorest peasant with great courtesy. His most noted act was the introduction of the classical system in Russian education as a check upon radical tendencies in schools and universities; it resulted, however, in the increase of secret societies. He was a relative of Count Leo Tolstoi, the novelist.—David G. Croly, a well known New-York journalist, May 6, aged 60. He was at one time managing editor of the Herald, and subsequently of the Graphic; wrote several books on the Positivist movement, and was the husband of "Jenny June," the fashion writer.—Father Damien, known as the "leper priest of Molokai," died at Kalawa, Hawaii, April 10, of the disease which he had contracted during his 16 years' labors among the lepers.

From Abroad.—In the cross-examination of Mr. Parnell, he admitted that his statement in 1881, that secret societies had ceased to exist in Ireland, was not entirely true, though they had greatly decreased under the influence of the national league. Archbishop Walsh testified that in his diocese the league had diminished crime and secret societies, and his priests had joined it with his full approval.—A fund has been started in London for Capt. Murrell of the Missouri.—London's new hospital for women was opened by the Princess of Wales, May 7.—The centennial of the meeting of the French States-General was held at Versailles, May 5, President Carnot speaking. The Paris exposition was opened on the 6th; the daily attendance has averaged 71,000.—The Czar of Russia will soon be crowned King of Poland.—Advices from Samoa to April 30 report everything quiet. The Boston was to convey 450 of the shipwrecked sailors to San Francisco; the Nipsic had been fitted with a new rudder, and was to start for Auckland. Herr Strubel, the new German consul, had arrived.—While the American whaler Sea Fox was exchanging gunpowder for wood and water at Equimea, west coast of Africa, about March 1, an explosion occurred, killing 5 men, including Capt. Holmes and Senor Pina with whom he was trading.

Miner Items.

A Scotch-Irish congress opened at Columbia, Tenn., May 8.

The Bank of New-York is the only centennial bank of that city.

Reports of forest fires in Upper Michigan have been much exaggerated.

The American Meat Company has re-organized, with Warner Miller as president.

The Johns Hopkins hospital at Baltimore, embracing 17 buildings, was opened, May 7.

A Kalamazoo, Mich., street car was struck by a switch-engine, May 8, killing six women.

A fire at Paris, Ky., May 7, burned 13 blooded horses worth $50,000, belonging to Col. Moore.

James D. Fish, ex-president of the Manx Bank, New York, was released from Auburn prison, May 11.

A cyclone swept Fargo, Dakota, May 6, uprooting buildings and prostrating wires and the electric-light tower.

The new suspension bridge at Niagara Falls, replacing the one blown away last winter, was opened for use, May 7.

The State of New York has bought three Westinghouse alternating dynamos for electrical executions in its prisons.

The Pennsylvania Railroad will increase its capital stock $6,000,000 for track construction, making total of $118,000,000.

Miss Katherine Drexel of Philadelphia, who inherited $6,000,000 from her father, has entered a convent in Pittsburg.

The gold medal for fine marching in the centennial civic parade, New-York, was awarded to the boys of the public schools.

Armour & Co. of Chicago have opened a dressed-meat establishment in Geneva, N. Y. It sends out about 35 cattle per week.

The trial of Hawes at Birmingham, Ala., for murder of his wife and daughter, resulted in conviction of murder in the first degree.

A Louisiana paper, speaking of the rush to Oklahoma, says that Louisiana has 20,000,000 acres of good land waiting for settlement.

A tornado in Pratt county, Kansas, May 7, wrecked houses, barns and fences, killing one man and severely injuring 13 other persons.

United States officials in Oklahoma have been called on by the government to explain charges of corrupt dealing with public lands.

The new cruiser Charleston made her trial trip from San Francisco to Santa Barbara last week, developing a speed of over 14 knots an hour.

The cost of removing wires and poles in New-York city was nearly $11,000, and a bill is before the legislature to collect it of the companies.

A train transporting the material of Libby Prison from Richmond to Chicago was wrecked, May 6, near Maysville, Ky., by the breaking of an axle.

The Albany Journal has been offered stock in the Niagara Falls power company if it would advocate the bill recently before the legislature.

The dwelling of W. B. Bowne, West Chester, N. Y., built in 1730, was burned, May 7, his mother, two children and two servants perishing in the flames.

An elevator, with three men, was cut loose at Providence, R. I., May 7, to test the arrangement, fell 65 feet, and one man was killed, the others seriously injured.

Mrs. J. N. Kellogg, wife of the attorney-General of Missouri, has been made assistant attorney-general. She was admitted to practice in the supreme court eight years ago.

An empty car was pushed into the shaft of the Kaska William colliery near Middleport, Pa., May 9, and fell upon an ascending cage containing ten miners who were all killed.

The Chinese minister has given the Smithsonian Institution a jade ring 10 inches in diameter, 3,500 years old, used by officials in the Han dynasty in addressing the throne.

The electric sugar swindlers have pleaded guilty to part of the counts and will shortly be tried. The refining company, formed in 1884, with capital of $1,000,000, has been dissolved.

A protest against the location of the new Binghamton, N. Y., post office, signed by 4,000 women, has been presented to the President. The site is inconvenient, unsafe and repulsive.

The new Inman steamer, City of Paris reached New-York, May 8, in 5 days, 22 hours, 7 minutes—the shortest run yet made. The Cunarder Etruria in June last made a run of 6 days, 1 hour, 55 minutes.

Three Bald-Knobbers were hung at Ozark, Mo., May 10, the rope breaking the first time. They belonged to a gang of regulators, like the White Caps, numbering over [illegible], and killed two men in 1887.

Among the notable Centennial events, outside of New-York, were, a service at Christ Church, Alexandria, Va., where Washington worshiped; a reception in Chicago to Dr. F. S. Smith, who wrote a new stanza for "Americ

ce," on the occasion; a fine parade in St Louis; and one in San Francisco in which 28 sailors from the wrecked war-ship Vandalia marched.

A boiler explosion in the basement of the Spooner Paper-box Company, New-York, May 9, killed a laborer, Daniel Clupka. The 800 girls employed were marched out in good order by the superintendent.

A meeting of Federal and Confederate officers took place at Chattanooga, Tenn, May 6, to locate line of the battle Chickamauga, with intention of securing the entire field of 13 square miles for a national park.

The first public meeting of the Ramabai Association (formed to improve the condition of the 1,000,000 child-widows of India) was held in St. Bartholomew's church, New-York, May 6, and addressed by Rev. E. E. Hale of Boston.

Ex-President Cleveland's Washington stable outfit was sold at auction last week. The "seal-browns," costing over $600 each, brought $141 each; the brougham, costing $1200, sold for $450; the landau, $1400, brought $650; the victoria, $1000, brought $495.

Frank W. Palmer of Chicago has been appointed public printer; Theodore Roosevelt of New-York and Hugh S. Thompson of South Carolina, civil-service commissioners; Arthur L. Thomas of Utah, governor of Utah; Frank Loveland of New-York City, pension agent.

The New-York Assembly has passed the amended high license bill, 67 to 49; the ballot reform bill, 69 to 34. The Senate passed the Fassett prison bill, 32 to 9, and the anti-bucketshop bill, 19 to 8. Gov. Hill vetoed the New-York police and park commission bills, signed the police justices bill, and sent a message urging the legislature to pass the rapid-transit bill. The ceiling investigating committee's report was presented, May 9. It proves a conspiracy between Smith, Sullivan and Andrews; censures controller Wemple and the ceiling commission for carelessness; recommends proceedings to recover the $120,000 due the State, and removal of Supt. Andrews.

Special Announcement.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to Dr B. J. KENDALL Co., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as his phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time.

Beecham's Pills act like magic on a weak stomach

Ayer's Pills are pleasant, safe, and sure, and excel all other pills in healing and curative qualities. Best for family use.

Dyspepsia causes depraved blood, which, in time, affects every organ and function of the body. As a remedy for these troubles, nothing can supersede Ayer's Sarsaparilla. It vitalizes the blood, strengthens the stomach, and corrects all disorders of the liver and kidneys.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M.C., 181 Pearl St., N. Y. [Feb. 28]

Farm Produce Markets.

Albany Markets—May 13.

FLOUR.—The Argus says: Not a satisfactory business the past week: demand moderate.

	1888. May 11.	1889. May 4.	1889. May 13.
Com. Brands	$4.00@4.50	$4.00@4.50	$4.00@4.00
State Extra	4.10@4.30	4.10@4.30	4.00@4.25
Amb. State & W.	4.00@4.25	4.00@4.25	4.00@4.75
Amb. Ind. & St. Ext.	4.00@4.25	4.00@4.25	4.00@4.60
Winter X Ext.	3.90@4.00	4.00@4.25	4.00@4.60
Minn. "Bakers"	4.00@4.75	4.00@4.75	4.00@4.75
Sp'g W. Ext., new	4.25@4.50	4.25@4.50	4.10@4.35
Sp'g W. Ext., old	4.50@4.75	4.50@4.75	4.10@5.35

Rye Flour is still selling freely at $3@3.25 per bbl. Graham, $4.00@4.25. Corn Meal in fair demand at $2.50 per bbl. Corn Meal continues quiet; fine family, $2.75@3 per bbl.

GRAIN.—Corn in fair demand: No. 2, 46@46c; No. 2 mixed, 45@45c. Oats unchanged: No. 2 white, 34@34c.; No. 3 white, 33@33c. Rye steady, with free offerings, at 58@59c per 56 lbs.

HAY AND STRAW.—Supply moderate; demand fair. Timothy, best, $13@13.50; medium, $12@12; clover, $9@11; mixed, $10@10; rye straw, best, $15@15; oat straw, $8@8; wheat straw, $8.

HOPS.—Market firm, with fair movement.

N. Y. State, 1888, choice	18 @20c.
N. Y. State, 1888, common to good	14 @16
N. Y. State, 1887, all grades	7 @11
Pacific Coast	16 @20
Germans	16 @20

Albany Street Market—May 13.

BUTTER.—Good to choice, 19@20c. per lb.

EGGS.—Near-by and new laid, 14@16c. per doz. Western, 14@15c.

FRESH MEATS.—Steer beef, hindquarter, 8@10c per lb.; forequarter, 4@6c.; mutton, hindquarter, 8@10c; forequarter, 6@8c.; lamb, hindquarter, 10@12c.; forequarter, 7@8c.; veal, hindquarter, 10@11c.; forequarter, 7@8c.

POULTRY.—Fowls, 10@11c.; chickens, 12@13c.; turkeys, 12@13c.; ducks, 12@14c.

FRUIT.—Apples, $2@3 per bbl.; Cranberries, $1.75 per crate; Strawberries, 12@15c. per box.

VEGETABLES.—Asparagus, 8c. per bunch; Beets, new, $1.50 per crate; Cabbage, new, $2.50 per crate; Cauliflower, $1@3 per doz.; Green Peas, $2.50 per crate; Lettuce, 5c. per box; Onions, new, $1 per crate; Oyster-plant, $1 per doz.; Parsnips, $1.25; Potatoes, $1@1.50 per bbl.; new, $2@3; Radishes, 10@15c. per doz.; Rhubarb, 10@20 per doz.; Spinach, $1.25 per bbl.; Squash, $2.50 per crate; Turnips, 75c.

New-York Markets—May 11.

BEANS—Marrow, 1888	1.70 @	1.75
Medium, 1888, choice	1.70 @	1.75
Pea, 1888	@	1.70
COTTON—	Cylands.	Mids. Gulf.
Ordinary, per lb	10@ —	9@
Middlings	11 @ —	11@
Fair	12@ —	12@
EGGS—State and near-by, per doz	14 @	14@
Western and Southern	13@	13@
FLOUR—Spring Wheat pat., per bbl	4.25 @	4.75
Winter	3.10 @	4.00
No. 2 extra State and Western	3.60 @	4.25
No. 1 extra	3.90 @	4.25
Minnesota clear	3.75 @	4.50
Straight	4.00 @	4.75
Rye flour, superfine	3.00 @	3.30
Corn Meal	2.70 @	2.80
FRUIT—Apples, Baldwin, per bbl	2.50 @	3.00
Russet	2.75 @	3.00
Sour	3.00 @	3.50
Oranges, Florida, choice, per box	4.00 @	5.00
Messina	3.00 @	4.00
Strawberries, Charleston, per qt	@	30
North Carolina	@	30
Tennessee	@	30
Peanuts, per lb	@	3@
Dried Apples, sun-dried, per lb	@	3@
Evaporated	@	6@
Peaches, sun-dried	@	3@
Evaporated	@	6@
Plums, Southern	@	—
Cherries	@	10@
Blackberries	@	8
Raspberries	@	12
Huckleberries	@	—
GRAIN—Wheat, State white, per bus	@	80
Ungraded spring	@	—
No. 1 red, winter	@	84@
No. 2 red, winter	@	84@
Corn, No. 1, white	@	54@
No. 1, mixed	@	54@
Oats, No. 1, white	@	34@
No. 1, mixed	@	34@
Barley	@	65
Rye, State and western	@	57
HAY—Timothy, per 100 lbs	@	80
Shipping	@	75
Clover	@	80
Straw, long rye, No. 1	@	80
No. 2	@	70
Oat	@	50
HOPS—N. Y. State, 1888, choice, per lb	@	—
Good to prime	@	20@
Best, 1887	@	16
Pacific Coast, 1888, best	@	20
Pacific Coast, 1887	@	16
Common	@	12
MAPLE SUGAR, per lb	7 @	7@
Syrup, per gal	65 @	70
POULTRY—Live fowls, per lb	10@	11
Spring chickens	@	20
Turkeys	@	12
Ducks, per pair	@	60
Geese	@	1.00
Dressed fowls, per lb	10@	12
Phila. spring	@	18
Balt. & West. broilers	@	18
Turkeys	@	12
Ducks, per lb	@	12
Geese	@	8
PROVISIONS—Beef hams, per bbl	13.00 @	13.00
India mess	13.00 @	13.00
Hogs, dressed, per 100 lbs	6.25 @	6.75
Lard, per tierce	6.70 @	7.00
Pork, new mess, per bbl	14.50 @	15.00
Short clear	15.00 @	16.00
Family	@	14.00
VEGETABLES—Asparagus, Charleston, per doz. bunch	1.25 @	1.50
Oyster Bay	1.25 @	1.75
Beets, Bermuda, per box	1.00 @	1.25
Florida, per crate	1.50 @	2.00
Cabbages, Fla. & N.C., per bbl crate	1.00 @	2.75
Norfolk	.75 @	1.25
Celery, N. O., per doz	@	50
Cucumbers, N. O., per doz	@	75
Florida	1.00 @	3.00
Green peas, Bay, per crate	@	2.00
Charleston	1.00 @	1.50
N. C., per bu. crate	@	1.50
Kale, Baltimore, per bbl	@	75
Lettuce, Norfolk, per bbl	1.00 @	1.50
Charleston	1.00 @	3.00
Onions, Orange Co., red, per bbl	@	3.00
Conn. white	@	1.00
N. O., new	@	1.50
Peppers, per crate	.75 @	1.00
Potatoes, State, per bbl	1.00 @	1.50
Eastern	1.00 @	2.00
Florida, new	4.00 @	6.00
New Orleans	1.00 @	2.00
Tomatoes, Florida	2.00 @	7.00
Sweet Potatoes	2.50 @	4.50
Delaware River	@	—
Radishes, N. C. & Norfolk, per bbl	.60 @	.75
Rhubarb, hot-house, per 100	5.00 @	7.00
Spinach, Norfolk, per bbl	.75 @	.85
String beans, Fla. wax, per crate	1.00 @	1.50
Savannah	1.75 @	2.00
Tomatoes, Fla., per crate	1.00 @	2.50
Bermuda	@	.75

Cattle Markets.

NEW-YORK, May 11.

BEEVES.—Receipts, 12,250 head. The week opened with a better tone and a strong feeling in values, both of which were fully sustained on the following Wednesday, when the herds offered were quickly disposed of. Friday the markets closed with a weak feeling. Quality of the beeves sold, poor to fair. Quality of the beeves taken for export, coarse to good; fully fatted bulls have been scarce and were in active demand.

[For carcass wt.]	This week.	Last week.
Good beeves	$5 00 @ ——	$5 00 @ ——
Fair	4 75 @ 5 00	4 50 @ 4 75
Coarse	4 00 @ 4 75	4 00 @ 4 50
Poor	3 50 @ 3 90	3 50 @ 3 90
[For carcass, gross.]	This week.	Last week.
Good beeves	$6 75 @ ——	$6 75 @ ——
Fair	6 25 @ 6 50	6 25 @ 6 75
Coarse	5 50 @ 6 00	5 50 @ 6 00
Poor	4 50 @ 5 00	4 50 @ 5 00
Oxen	3 75 @ 4 00	4 00 @ 4 50
Dry cows	1 00 @ 3 00	3 00 @ 4 00
Bulls	3 25 @ 3 75	3 00 @ 3 50

MILCH COWS.—Receipts, 87 head. The week opened with a very dull feeling and no fresh arrivals. Trade has improved on Wednesday, when 15 cows were sold at $35@45 per head. Friday future-hoating cows were offered at $38 per head—$18 was bidden.

VEALS AND CALVES.—Receipts, 4,215 head. On Monday last prices advanced ½c. per lb., and again on Wednesday there was a further recovery of ½c. per lb. Friday the markets closed steady. The quality of the calves to hand is desirable; they took famished. Range of prices: Calves, buttermilks, fed, 7½@8½c. per lb.; lean veals, 6@6½c.; veals of fair quality, 5@6c.; veals and calves in mixed lots, 3@5c.

SHEEP AND LAMBS.—Receipts, 17,750 head. The week opened with a recovery of ½c. per lb., followed on Wednesday by a steady tone in sheep and a further advance of ½c. per lb. in lambs. Thursday the tone was steady. Friday the markets closed weak. Range of prices: Shorn sheep, 4@5c. per lb.; culls, $4.25@4.75 per cwt.; woolly sheep, $5.50@5.85; woolly ewes, 5@5½c. per lb.; woolly lambs, 6@7½c.; shorn lambs, 5@6c.; spring lambs, 9@10c. Quality very poor to good.

SWINE.—Receipts, 24,637 head. The general tone has been steady, without any activity until Friday, when under the influence of the sudden heat of the weather the markets weakened: 19 hogs, 177 to 180 lbs., sold at 6½c. per lb.

BUFFALO, May 11.

BEEVES.—[Per cental, gross.] This week. Last week.

Extra steers	$4 25@4 40	$4 25@4 40
Good butchers'	3 90@4 15	3 90@4 15
Second quality	3 60@3 80	3 60@3 80
Poor to common	3 00@3 50	3 00@3 50
Stockers, light	3 00@3 25	3 00@3 25
Stockers, good to choice	3 60@3 75	3 60@3 75
Bulls	2 75@3 25	2 75@3 25

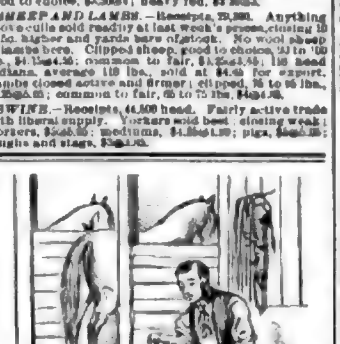
Receipts 19,300 head against 10,350 last week. Export cattle were dull and weak, while light fat steers and common to poor butchers' stock was strong, owing to the light supply and good demand; closing firm for butchers' grades. Light receipts of stockers but sufficient for demand. Bulls steady for choice; trade light; common dull.

MILCH COWS.—Good demand; light supply; market firm at $40@45 for extra; good to choice, $35@40; common to fair, $20@30.

VEAL CALVES.—Receipts light; inquiry fair; good to choice, $5.30@6; heavy fed, $3 50@4.

SHEEP AND LAMBS.—Receipts, 29,200. Anything above culls sold readily at last week's prices, closing 10@15c. higher and yards bare of stock. No wool sheep or lambs here. Clipped sheep, good to choice, 90 to 100 lbs., $4.15@4.35; common to fair, $3.85@4.05; 110 head Indiana, average 118 lbs., sold at $4.45 for export. Lambs closed active and firmer; clipped, 70 to 95 lbs., $5.25@5.40; common to fair, 60 to 75 lbs., $4@5.10.

SWINE.—Receipts, 44,800 head. Fairly active trade with liberal supply. Yorkers sold best, closing weak: Yorkers, $5.65@5.80; mediums, $5.45@5.60; pigs, $5.60@5.65; roughs and stags, $4@4.60.



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For Bilious and Nervous Disorders, such as Wind and Pain in the Stomach, Sick Headache, Giddiness, Fulness, and Swelling after Meals, Dizziness and Drowsiness, Cold Chills, Flushings of Heat, Loss of Appetite, Shortness of Breath, Costiveness, Scurvy, Blotches on the Skin, Disturbed Sleep, Frightful Dreams, and all Nervous and Trembling Sensations, &c. THE FIRST DOSE WILL GIVE RELIEF IN TWENTY MINUTES. This is no fiction. Every sufferer is earnestly invited to try one Box of these Pills, and *they will be acknowledged to be a Wonderful Medicine.*—"Worth a guinea a box."—BEECHAM'S PILLS, taken as directed, will quickly *restore females* to complete health. For a

WEAK STOMACH; IMPAIRED DIGESTION; DISORDERED LIVER;

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Dairy Markets—May 13.

ALBANY.—Marked decline in all grades of Butter. State creamery, choice, 20@21c.; Western creamery, 18@19c.; state dairy, 16@18c.; fair to good, 13@15c.; Western dairy, choice, 16@18c.

Cheese in moderate demand. State factory, full cream, 10c.; fairly, good to fancy, 9c.

UTICA.—Cheese took an unexpected turn last Monday, and advanced ½c. This was the more remarkable because it is as yet nothing but fodder stock. Sales were 1,650 boxes, at 9@9½c., with running price at 9½c.; also 1,100 boxes unsampled, making a total of 2,750 boxes, against 4,200 one year ago, and 4,317 two years ago. Little Falls also disposed of 1,150 boxes, at 10@9½c., bulk going at 9½c. No one attempts to artificially fully such a boom as this, but it is evident that the market both in this country and abroad was bare of stock, and the demand was started by the fact. During the week prices in New-York have advanced to 10c., and all the desirable stock has been taken. But it was natural that such an improvement should cause some green stock to be forwarded, in order to take advantage of prices; and this naturally damped the ardor of buyers just a little. However, it is believed that the present rates will last for a week or two longer, if hot weather and large receipts do not upset the calculations of buyers.

Butter is a badly demoralized commodity. Sales at Utica were 85 packages creamery at 18c., and in pkgs. do. at 16c., the latter to local dealers. At the rate in pkgs dairy went at 15@16c., and in pkgs. creamery at 16c. In New-York the market for fancy 19@20 and Penn. brands is off to 18c for top, and state creamery sells at same price. Stocks are accumulating and the weather is very hot.

NEW-YORK.—Butter lower in all grades. Receipts, —— pkgs. Western creamery, fresh, 18c.; Western creamery, fresh, 17@18c.; state dairy, choice, 17@c.; old butter, best, 16@16c.; Western dairy, 14@15c.; Western factory, choice, 14@15c.

Cheese firm. Receipts, 17,310 boxes. Factory, best new, 9½@9¾c.; old, 9@9½c.; skim-milk skims, 3½ @3½c.; Ohio flats, 9@9½c.

BOSTON.—Western creamery, extra, 19@20c.; extra firsts, 17@18c.; factory, 16@17c.; Vermont, extra, 19@20c.; dairy, choice, 16@17c.; Western creamery, good to choice, 17@18c.

Wool Markets—May 13.

ALBANY.—Market quiet; sales 31,000 lbs.

No. 1, Pulled	29@30	Medium Fleece	28@29
Super Pulled	31@32	Fine Fleece	30@31

NEW-YORK.—Ohio X & XX, 30@31c.; Michigan X, 30@31c.; combing and delaine, 32@34c.; western fleece, 30@32c.; unwashed western, 22@25c.; pulled, 30@34c.; Virginia, 31@32c.; Territory, 30c.; scoured, 45@50c.; Montana, 38c.; Oregon, 32@33c.; do. scoured, 45@50c.; Texas, 24@25c.; scoured, 40c.; California, 25@28c.; scoured, 50c.

BOSTON.—Sales, 2,134,200 lbs. domestic and foreign: Ohio and Pennsylvania, 30@32c.; Michigan, 30@31c.; combing and delaine, 32@34c.; unwashed, 22@26c.; pulled, 30@34c.; Territory, 30c.; scoured, 45@50c.; Texas, 24@25c.; California, 25@28c.; Oregon, 32@33c.; Australian, 32@34c.; English, 32@34c.

Medical Monopoly Not Wanted.

Boston Daily Globe, Feb. 7th, '89.

"In the Legislature of Massachusetts a bill is now pending whose object is to prohibit, under penalty of one and to prisonment, the practice of "medicine, surgery or midwifery" by any other than the "regular" physicians. The attempt to pass such a bill has been made before, but it failed. It is a measure which ought not to pass, because it invades the personal liberty of the citizen; not the personal liberty of the "irregular" physician only, but of the patient.

"Only yesterday Dr. Holt, in a paper read before the Massachusetts Medico-Legal Society, as organization of "regular" physicians, complained of the impudence of his professional brethren, as shown in the cases of one Rob mson, poisoning cases.

"This crime," said the doctor, "one of the greatest in our medical history, would never have been discovered but for the suspicions aroused outside the profession." And he called attention to the fact that in five of the poisoning cases the coroner physician certified the cause of death to be pneumonia, typhoid fever, meningitis, bowel disease and bright's disease, respectively.

"This shows how far the 'regular' physicians are from being infallible.

"It would seem to be more in accordance with justice and common sense were they to perfect their own knowledge before they appeal to law to prohibit others from healing.

"Not long ago a Globe reporter called upon ten 'regular' physicians on the same day, and described his symptoms in exactly the same language to each. The ten physicians informed him that he was suffering from ten different diseases, and gave him ten different prescriptions, each utterly inconsistent with the others.

"The implied claim that there is any certainty in 'regular' medicine as at present practised, is absurd. All medical practice, outside of the simplest complaints, is more or less guess-work and experiment, whether regular or irregular.

"When Garfield was shot, five of the most famous regular physicians in the country spent three months probing for the bullet in the region of the left hip, and after his death it was found under his right shoulder-blade.' We have but a word to add, which is that the above is the doctrine Messrs. H. H. Warner & Co., proprietors of Warner's safe Cure, have found it for and around the kidneys, the seat of pain. We know of scores of cases, and so does the reader, where doctors have treated the wrong disease. They say advanced Kidney Disease cannot be cured, yet thousands of cases have been cured with Warner's safe Cure after doctors have declared the hopeless. Admit that the majority of them will not use it, although they know they could thereby save many valuable lives, because, forsooth, it is against their fossilized code. Cut upon such bigotry. Every method to prolong life should be obtained, and the regular medical profession should be the first to welcome it instead of encompassing themselves in self-conceit and bigotry, doctoring symptoms instead of disease, and sending their patients to the cemetery, pe mitted with groans, or on the death certificate that they died from typhoid fever, meningitis, pneumonia, or some other equally foreign cause.

LONG ISLAND LIVE STOCK FAIR ASSOCIATION (Limited).

situated ¼ mile south of Long Island R. R. station at Huntington. Member of National Trotting Association, comprising over 100 cities, beautifully situated, with a mile track 60 feet wide, which is pronounced by judges to be one of the fastest in the country. Grand Stand will accommodate 1,500 people; large dining hall, club house with capacity for 75; 112 box stalls and 25 single stalls; 200 cattle sheds, sheep and pig pens, &c. Grand Exhibition Building, 200 feet in length. There is an excellent carriage road which is open at all times, encircling and within view of the entire mile track. Summer Exhibition of Agricultural Implements, &c., June 11 and 12, at which $1,000 will be offered for trotting prizes, and cups for best buggy horses and best single and double teams and other events. Grand Autumn Fair, Sept. 10, 11 and 12, during which Grand Special Stake Races will be trotted. $4,000 premiums for live-stock, horses, &c. J. VAN SCHAICK, Pres't.,
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SEEDS.

Clover, Timothy and Alsike.

Write to S. B. HEAD, Toledo, Ohio, for prices. [mh]

The Fireside.

A Lesson for Laggards.

You think of taking a journey some day:
You have talked it over for years and years;
Yet somehow or other you make delay,
Until further and further away appears
The beautiful goal; and I tell you now
To bind yourself by a solemn vow
To cross the Rubicon. Pluck up heart!
For you'll never get there unless you start!

There looms before you from day to day
A task that you dread to undertake;
So it hangs like a cloud upon your way
Through which the sunshine can never break.
And I tell you now that the better plan
Is to do the work as quick as you can;
Over your fears a victory win.
For you'll never get through if you don't begin!

With the bravest and boldest hope abreast,
Nor through love of indolence lose your place,
For in each endeavor to do your best
You raise the hopes of the human race.
Be not content in grovel below,
But rise to your duties with faith aglow:
Let your aims be high: and strive to excel;
For he who does better, must first do well!

The heart that gives way to its doubts and fears,
That idly dreams when there's work to do;
Will find itself, before many years,
Beggared and bankrupt through and through.
There are journeys to take, and tasks to be done,
From early morning till set of sun,
And triumphs to win, as none can deny,
And you'll never succeed unless you try!

—*Josephine Pollard, in N. Y. Ledger.*

Comfortable People.

Do you know any? Are they few or scarce among us? What are comfortable people? If I questioned what are uncomfortable people everybody would have an answer ready. But the few of a kind we are looking for—do you know them? Why are they so few? Said a friend one day: "My grandmother was such a comfortable soul! You loved to be where she was. We children would always do anything for her and always knew where to find 'quarter' in any disaster. And the fun of it was, if two of us quarreled, we brought up together always at grandmother's door. She never seemed to have an ache or pain, never asked for your sympathy because she was old, and yet we always gave it, were always bringing bits of comfort to her. Big boys and little girls, mother and father, all of us loved to be where she was. She used to say: 'My day is past, dearie; I'm not of much account'; but always she said it with such a happy smile, as if it were all a happiness just the same simply to be with us. She was a comfortable old lady, and we missed her sadly for many a long day."

There is a comfortable mother we wot of, where the children come in from school with a jolly little laugh as she opens wide the door in welcome. There is something about her that comes down to the little ones and is in sympathy with them always. There is a cake (not over rich) on the shelf just to save butter and crumbs, when school is out, that they may divide and digest after their own fashion. Somehow there is never any "strapping." It's—"Johnny, mamma said not to, and you know how good she is to me." Or it is—"I'm going in to ask mamma. She'll have time to help me." And after a while it is—"Let's go in and help mamma." Longing to be with somebody who loves them; longing to be where they are not in the way—why? Because mamma isn't nervous; hasn't got a headache; doesn't think children such a bother; isn't running the sewing machine and can't be hindered; or in other words is a *comfortable* woman.

Here comes "our John." Oh, he is just the best fellow in the world. If it rains to-day he doesn't growl, but guesses it will be clear to-morrow, and in any case he doesn't believe it will make much difference to the clerk of the weather whether he is pleased or not. He doesn't sit down and want you to "keep still," or wonder "what on earth you do so much trotting about for." He doesn't sit down and with one eye on the paper and one on you, wonder what you are going to do next? He doesn't take up all the room in the kitchen with his long legs and his boots, and wonder what you want to "putter round the stove so much for." Not he. He is a "comfortable" fellow and keeps out of your way. He goes "a mending" and you don't know he is in the house so far as annoyance to you is concerned. Or he comes in with a joke or something new for you to think about. Maybe he gives you a "lift" on some "big job" you've been thinking about a good while. In fact he makes you wish there were more rainy days than there are, because he is a comfortable fellow.

How many of us have comfortable children? Yet why should they not be? Don't uncomfortable people make children uncomfortable? "Mamma," says my boy, "Somehow that woman makes me feel uncomfortable when she's here; she seems so snappy all the time. I want to say just what she says to see if it won't hurt something or somebody. I want to pull the cat's tail or kick the dog." So do you not think her own children want to kick something too?

Good people, cultivate comfort, the comfort that has time to live, to be happy, to be cheerful, to make people wish to be where you are, because you are not eternally fretting and fuming about what you can't help. If you can help things, why don't you; but if you cannot, why be uncomfortable about them? Is it your duty to "borrow trouble," to magnify every ache or pain, by talking about it? Stop a moment and read a thought or two of somebody's from a paper and so get a thought outside of yourself. There are lots of "good times" and fun in the world, a great deal more than would balance the misery, and though you may not be "in 'em," they are good to think about. Think of somebody whose troubles are infinitely worse than yours and you have no idea how much more fortunate you will think you are. Just in proportion to your personal comfort will the comfort around you be increased, and if each and all would endeavor to be comfortable we should all be a great deal happier. E. S. TITUS.

Afterthoughts of the Centennial.

Did you see the innumerable personal and household properties of Washington on sale in New-York during the late celebration? Take for instance the small matter of umbrellas! If those exhibited and on sale were all sold, we shall never again view, in its accompanying simplicity, the rustic's green cotton umbrella. Whoever purchased one which belonged to George Washington (?) would not run any risk of using it himself, and as for lending it——! We must say a last, if not a fond, farewell to proverbial "bulging" umbrellas of the past century, for there are none left in the country except those owned by Washington. Some one remarked that he had never heard of so extensive a collection being kept at Mt. Vernon. This, however, is nothing surprising, or any proof of his not having owned so many. A commonplace and quite ordinary man will tell you every time that he has more umbrellas away from home than he ever expects, or dares hope, to see collected there. It is most fortunate for relic seekers that Washington did not originate the style of labeling his umbrellas after the fashion of, "Stolen from ——;" the only way a man keeps one nowadays. If you and I die renowned, I trust that the receipts of the sale of our (now lost) umbrellas will go to aid some worthy object. It may not be an unwise suggestion that distinguished people make some such provision in their wills.

Then the *chairs* Washington owned—and sat in! Why, if that man had made it a business, at ten hours a day, simply to sit down in chairs, he could not have sat in them all. At most it would have been possible only to pass through life simply bending his knees a trifle as he marched along this continuous line. Then, too, the people who exhibited some of the chairs upon which he was supposed to have once sat down, must have had feeble knowledge of his proportions. Their ideas of his weight were weaker than the chairs themselves—which would never have borne up the weight of his shoe. Washington was great, in every sense of the word!

It appears a mild crime, however, to reproduce these trophies *ad infinitum*, in comparison with the contemptible tricks of people who have obtained possession of articles owned by his relatives. After Washington's death, Lady Washington gave a suit of her husband's clothes to Robert Lewis, who was a favorite nephew—a son of Washington's sister Betty. There was a coat, knee-breeches and waistcoat of black uncut velvet. They were worn by him after the death of his mother. This suit was willingly exhibited by the Lewis family to friends of theirs, who in turn brought their friends—and among others often foreigners who always viewed these relics of greatness with admiration and awe. Among these there came one day a party of French sight-seers. They expressed themselves as being deeply interested in anything pertaining to the man who, besides being such a hero, was a warm and personal friend of their own Lafayette. They handled the clothes with utmost reverence and with many thanks for the honor of seeing and touching them, took their departure. Some time after this an American traveling in France, saw in a large palace there a piece of black cloth set very finely in a massive gold frame and labeled "A fragment of Gen. Washington's coat." This was reported to the owner of the coat who found then for the first time that a piece had been cut out with a very sharp instrument from the lower corner of one of the shirts. Another descendant, a niece who owned two plain gold shoe buckles, suffered from worse theft. Some admiring spectator carefully replaced the folded paper in which they were wrapped, in the box and left that (very considerately!) but carried away the buckles. The former owner takes some satisfaction in thinking that the thief must do his rejoicing in a moderately sort of a quiet way—as otherwise the buckles would be called for.

How much better for Washington's countrymen to strive to obtain some attribute of his character and great nature than to pay great prices for straight-backed chairs of doubtful origin! My great grandfather, a surgeon in the Revolution, left his descendants relics of Washington, but I would point out to our boys first — before any of these—the volume in the library that tells the history of this wonderful life, grandly lived, his beautiful character, so complete, and say to them: "Prize and contemplate this history most." B. A. A.

Terryville, Ct.

"Old Maids and their Place."

Having been greatly interested in papers on this subject, recently published in the COUNTRY GENTLEMAN, I venture to contribute an opinion on the subject. It seems to me that the old maid owes a duty to herself as well as to everybody else, and that is, to make herself an independent woman—a thinker and worker, with the privilege and determination of carrying her own pocket-book. If she has been trained to a life of independence in her early days, so much the better; if not, let her waste no time in qualifying herself to earn money in one of the many avenues now open to women who wish to support themselves.

Above all things let her not decide to become a member of a brother's or sister's household. I once heard a married lady say of her unmarried sisters: "Oh! they fill up the breaches," as if that were their only mission in life. At that time she was enjoying all the privileges possible to a half-invalid mother of year-old twins, and her maiden sister was indeed "filling up the breaches" by wearing herself out in the service of the babes and their mother.

An old maid is not an unenviable being during the lifetime of parents who love her and whose hapiness depends upon her ministrations, but when they are taken from her—ah! then does the problem of life seem to her difficult to solve. The home where she has spent the strongest energies of her life belongs, legally, no more to her than to any one of the large family of brothers and sisters who have long ago left it to make homes and fame and fortune for themselves. Not one of them has so many possessions but that he wishes to add to his treasures, a share of the old homestead, which is consequently sold and divided. No one thinks or cares for the associations that cluster round the only home that the old maid has ever known. No one seems to realize that it is like severing her heart-strings to tear her from the scenes that have become part of her life. The brothers and sisters talk her over, and one of them, as a great favor, consents to invite her to his home.

It is to be hoped that long and earnest reasoning with herself will induce her to decline the invitation, even had she ever thought favorably of it. With her share of the homestead money, she might better set up a little home for herself; it may consist of two rooms only, but they will be her own, and here she may be social or solitary at will. No uncongenial sister-in-law need here make her life a burden; no ill-bred children need here twit her of a life of dependence.

I once knew a spoiled, fretful, selfish boy of six who said one morning at the breakfast table, in the presence of a maiden aunt: "I wish I could ever sit down at the table without sitting opposite an old maid." The child was not to blame; he had probably heard some older member of the family say it. But the "old maid," as he called her, ought not to have been there. She was an able-bodied woman, perfectly capable of earning her own living. Her sister-in law was not a congenial companion; the children were not trained to regard their aunt with respect; the brother spent nearly all his time at the office devising means to meet the expenses of his large family, and there was no reason in the world why she should not earn money for herself. One of the happiest old maids I ever knew had her life so filled with good deeds that she had no opportunity to grow "sour"—a state supposed to be peculiar to single women. She was well educated, taught and wrote successfully for many years, took care of her father and mother in their declining years, and when the inevitable breaking up occurred, set up her modest little home, notwithstanding many really sincere invitations to make her home with brothers or sisters. Then, having wearied of teaching, she began the life of a nurse; for many years she had cared for her parents in sickness as well as in health, and it was at the solicitation of the family doctor, who had noticed her rare skill in the care of the sick, that she entered upon this new vocation, and having entered it, she found no lack of employment. Occasionally, when worn in mind and body, she fled to her precious little home for a few days of rest. Her fame soon spread beyond the precincts of her native village, and she was induced to spend the winters in a neighboring city, where increased remuneration and many presents from her patrons enabled her to lay aside something for a rainy day. When I last saw her she had given up her duties as nurse, except during the winter. Her summers were spent in her cosy country home, where, pen in hand, she earned enough to satisfy her moderate wants.

Nor did she lead a selfish, solitary life; her modest home was the scene of many a social gathering. Her kindness of heart always asserted itself, and always attracted friends. I have sometimes thought that her nature was softened by constant contact with suffering. Surely efforts to relieve suffering must have a hallowing effect upon any nature.

The terms "sour," "crabbed," "prim," "stiff" and "angular," are usually accepted as peculiar to old maids. Within stone's throw of the place where I am writing, there are four married women who have all these qualities combined. An old maid need not have any of these qualities if her hands, head and heart are happily employed.

The old maid's "place" is in some lucrative employment that will enable her to maintain a home of her own. LILLIAN MATHE.

THE ALASKAN ALPS.—Though by no means the highest mountain in the world, by actual measurement, Mt. St. Elias probably appears as large as, if not larger than, any other, for it is plainly visible from the sea throughout its entire height of eighteen or nineteen thousand feet, though situated from forty to fifty miles inland. The Swiss mountains, which are all under sixteen thousand feet, are generally seen from elevations varying from four to eight thousand feet, while in the Himalayas the plane of observation is considerably higher. It is certainly true that, with the possible exception of Mt. Wrangel, about which little is known, Mt. St. Elias presents the greatest snow climb of all the mountains in the world, on account of the low point to which the line of perpetual snow descends in these northerly regions. Beside St. Elias such mountains as Cook and Vancouver sink into insignificance. —*Scribner.*

CONGRESS AND THE PRESIDENT.—In theory, it may be true that, as the making and enforcement of laws is the great function of government, the power that executes the laws should be in perfect harmony with the power that makes them and be directly under its control—the executive being thus simply the arm of the legislature, acting promptly and implicitly in obedience to its supreme will. This idea, though to-day observed in the workings of other governments, was not accepted by our forefathers. In lodging the executive power in the hands of one person, the constitution aimed to secure energy and precision in the execution of the laws; but in establishing the presidency as an independent branch of the government, removed as far as possible from the meddlesome influence of Congress, and endowing it with important special powers, it suggested to many timid folk a vision of royalty in its most frightful shape. Nor were these thoughts quieted by events that followed in the history of the government. Indeed, our third president has given it as his opinion that Washington himself believed the republic would end in something like a monarchy, and that in adopting his stately levees and other pompous ceremonies he sought, in a measure, to prepare the people gradually for the change

that seemed possible, in order that it might come with less shock to the public mind. This remarkable statement we need not take without proof. Whatever may have been Washington's secret fears, certain it is that his devotion to the republic shielded it from such a fate; and had some of his successors in office, or their advisers, been nearly as wise and as true to the spirit of the constitution, they would have avoided acts which served to strengthen, rather than subdue, the popular distrust.—*St. Nicholas.*

A CHILD'S LOVE OF NATURE.—There are many pieces of sheer good fortune for children of luck in this world; it is well to have been born rich or handsome, or to have the talents which command the prizes of life. But it is perhaps no less happy and supreme a gift to have been born a child of the universe; to have known in early childhood brooks, mountains and sea; to have felt the companionship of the sky, and in listening to its thunder to have heard deep calling unto deep. There is often an incommunicable and half-unconscious sense of these things in the heart of a child, wholly apart from any training or habit of observation. It is a seed which any soil will quicken; the commonest landscape will be food for it as fine as the Alps. In fact, there is sometimes with the child as with the artist a sort of instinctive selection of the humbler phase. Among the memories of a journey through Switzerland in my childhood, that of a woodland bank at Rosenlani, covered with moss and with tiny pink flowers, remains to me as having afforded at least as keen a pleasure as the glacier itself, and the image of Mont Blanc had no power to efface the delights of the "spring lot." The power upon us of a scene or thought lies partly in the extent of our intimacy with it.—*Atlantic Monthly.*

Domestic Economy.

Various Custards.

Now that eggs are abundant and domestic fruit almost out of season the daily dessert will depend largely upon milk, eggs and farinaceous preparations. No simple dessert is more agreeable and nutritious than a well-made custard, which is at once easy and economical, and therefore well suited for a frequent appearance upon the family table. But simple as it is, a plain baked custard is very easily spoiled, and needs care and attention to bring it to perfection. An egg is the very type of a perfect food, but it must be handled gently in cooking as well as in other ways. An excess of heat makes it hard, tasteless and indigestible. In baking a custard the oven should be only moderately heated, and after the first few minutes it must be closely watched, so as to take it out precisely at the right moment, for a very few minutes neglect will destroy all its delicacy. The experienced eye will see at a glance when the custard is "set," after which further baking will only convert the delicate, melting custard into a coarse "curd and whey."

For a plain custard use four eggs to a quart of milk, with four tablespoonfuls of sugar, larger or smaller as the custard is liked more or less sweet. Beat the eggs thoroughly and take out the bit of stringy, gelatinous substance attached to each, add the sugar and stir, then a little of the milk, stirring until the sugar is entirely dissolved. Mix very thoroughly, flavor to taste or grate a little nutmeg over and bake. The same proportions will serve for boiled custard. Put the milk over in a double boiler, add the sugar and eggs just before it comes to the boiling point, and stir gently and patiently until it thickens. A finer boiled custard is made by using six eggs and reserving three of whites. Beat these to a stiff froth and drop into the hot milk to scald it for a minute. Take it off and lay in the dish in which the custard is to be served. Then make the custard as before and pour over. A little extra cream in the milk improves the custard; whipped cream is also sometimes added to a rich boiled custard, mixing it in when partially cooled.

Coffee custard, a very rich and delicious compound, is made by using a pint of milk, half a pint of rich cream and half a pint of very strong coffee as the basis of the custard, instead of a quart of milk. Chocolate custard is made in the same way, taking great care that the chocolate is very thoroughly dissolved, so that no dark specks will appear in the mixture. The best and easiest way to do this is to break up the chocolate in small pieces, add a very little water, and set it over boiling water for a few minutes until it becomes a thick paste. Stir this into boiling milk and you have a rich chocolate, either for drinking or as the basis of a custard. Of course the quantity of chocolate used will depend much upon taste; some like chocolate thick enough to support a spoon standing up in it, others prefer it as an actual liquid. For a custard or cake it is best to use enough to give a rich color.

Cocoanut custard is made by adding a small cup of desiccated cocoanut to a quart of milk and letting it soak for an hour before adding the eggs. It is improved by using five eggs and reserving the whites of three for frosting.

Orange and lemon custards may be made by first making a syrup, boiling half a cupful of sugar with a very little water, then adding the grated rind and juice of a lemon, or an orange. Let it boil up and strain it. Use this syrup in place of sugar, adding it last, and baking immediately. Something in the way of variety may be done by choosing new flavors. Orange flavor is very nice in a delicate custard, also bitter almond.

Almond custard is sufficiently elegant for the most formal occasion. Put over a quart of milk (half cream is better) in a double boiler; when near boiling, stir in the yolks of six eggs with the whites of two, a small cupful of sugar and half a pound of almonds, blanched and pounded to a paste, with four tablespoonfuls of rose-water. Stir carefully until the custard thickens, then remove it from the fire and set to cool. When almost cold, stir thoroughly and pour into cups. Use the reserved whites of eggs in making a meringue, flavor with bitter almond, and put a little heap on each cup. Chocolate and coffee custard are very nice served in the same way.

DOROTHY.

Summer Soups.

A light, delicate, nourishing soup is one of the most palatable forms of nourishment in hot weather. On account of the great variety of vegetables it is particularly easy to make nice soups in hot weather. In a choleric article which I lately read in a household magazine, a farmer's wife declared that she for one had no time for making fancy dishes, or serving course dinners, and indeed I do not wonder that weary women whose working hours begin before sunrise, and do not end until hours after that orb has gone to bed, should writhe under much of the advice that is showered upon them. Still, there is no class of housekeepers who do as much work in the cooking line as the prosperous farmer's wife. Pastry and cake are found on their tables not only daily, but often three times a day. Both are good in their place, but all the cake and pie in the world will not supply the needs of the system that an occasional good soup will do. Nothing is easier to make than soup. I would rather make a different soup every day, than cake or pie once a week. An abundance of good soup, with fresh vegetables in season, and a simple dessert, mayhap only of fresh fruit, will supply fuel for the hardest day's work in mid-summer.

But who wants a hot greasy soup in summer? asks some enemy of reform. No one, I reply, wants a *greasy* soup at any season, but try this for instance without any ingredient which could give it even a semblance of greasiness.

VEGETABLE SOUP.—The French call this soup *maigre*. Wash a small cupful of rice, and one each of dice of carrots and turnips; cover with three quarts of cold water; add a tablespoonful of salt, a saltspoonful of pepper, a sprig of thyme, another of majoram, or a pinch of mixed herbs. Bring to a boil and simmer two hours; sprinkle in a tablespoonful each of minced parsley and young celery tops; boil five minutes and serve. A plate of thin slices of bread dried in the oven is a nice accompaniment. This may be changed in flavor by the addition of onion and cabbage, and again by frying the vegetables and rice in an ounce of butter until yellow. The rice may be omitted, and vegetables only used, or a pint of hot milk may be added at the last.

SOUP PRINTANIER.—Is most delicious through the hot months. This requires stock or broth. The bones of a roast forequarter of lamb, simmered for hours the day before, will give no trouble beyond putting them into a pot with cold water and seasonings, and letting them simmer slowly on the back of the range. Heat two quarts of any kind of stock to boiling, and add two tablespoonfuls each of dice of carrot, white and yellow turnips, cabbage and string beans finely shredded, one tablespoonful of minced onion, and one of parsley. Or you may add to each quart of broth a cupful of cold cooked vegetables—green peas, asparagus cut in half-inch lengths, tiny radishes cut small, beans of any kind, or stewed tomatoes. Any or all of these will go to make up a soup delicate and appetizing.

Or you may add to a quart of stock one of boiled green peas; simmer for fifteen minutes, and press through a sieve with a potato masher. Return to the fire, and stir in a tablespoonful (level) of butter, and a heaping tablespoonful of flour rubbed together. This will prevent settling. It will be of the consistency of cream, and of a delicate green color. Butter a couple of slices of bread, cut them in little squares and let them dry and toast in the oven. Put these in the tureen, and pour the soup over. The bones of a roast of veal, or of a veal chop with a very small ham bone or a quarter of a pound of unsmoked pork will make a stock suitable for combining with lima beans, cauliflower, tomatoes or asparagus. With any vegetables except tomatoes a cup of hot milk is an addition if the soup is made without meat.

The principal objection to soup in many families is caused by the fact that all the bones and trimmings of meat are fed to the dogs, who for the most are worthless, and a source of annoyance to the farmer. If you have a valuable dog, one who will not chase the chickens, kill the sheep, or destroy the tender vegetables by floundering over the garden before they are fairly out of the ground, supplement his thin mush of oatmeal or Indian meal with dogs' meat from the butcher, but do not feed him what can be utilized in making delicious dishes for your own table.

PALMETTO.

Small Savories.

LOBSTER IN THE SHELL.—Take half a medium-sized, fresh lobster; pick out all the meat, and cut it into small dice. Put into a small saucepan a quarter of a pint of stock, a dessertspoonful of white roux, a liberal seasoning of salt, cayenne and mace, and bring to a boil. Draw the pan on one side, skim carefully, and add the chopped lobster. Simmer very gently for ten minutes, then turn the mixture into the shell, which has been well scrubbed and made hot. Place the shell on a neatly folded napkin laid over a very hot dish; sprinkle the surface of the meat with fine, brown raspings, garnish round about with sprigs of fresh, green parsley, and serve. If a larger dish is required, a whole lobster may be used instead of a half, and the other ingredients increased accordingly.

BUTTERED LOBSTER.—Pick the meat from a nice freshly-boiled lobster of medium size—they are always the finest in flavor—and mince it very finely; put it into a saucepan with two ounces of fresh butter, four tablespoonfuls of stock, or water in which has been smoothly mixed a dessertspoonful of flour, a tablespoonful of vinegar, a teaspoonful of made mustard, half a teaspoonful of salt, and a pinch of cayenne. Stir the mixture over the fire until quite hot, but it must not, on any account, boil; then pour it on a hot dish, the bottom of which has previously been covered with neat little squares of hot, well-buttered toast.

COLD LOBSTER WITH PIQUANT SAUCE.—When the lobster has been boiled and allowed to get cold, carefully pick out the meat and divide it in pieces about half an inch square. Pile these up neatly in the centre of a dish and pour over them a delightful sauce made as follows: Put the yolks of three hard boiled eggs into a basin, add a teaspoonful of raw mustard, half a teaspoonful of salt, and a few grains of cayenne pepper; beat these ingredients to a smooth paste, then add, very gradually, beating briskly between every addition, four tablespoonfuls of finest salad oil, and three of vinegar. The sauce when finished ought to be of the consistency of thick cream. Pour it over the lobster, garnish with fresh parsley, and serve.

SMALL SAVORY MOULDS.—Mince very finely half a pound of rather under-cooked beef, mutton, veal or ham, and put it into a basin with four ounces of bread crumbs, an ounce of butter broken in small pieces, a tablespoonful of finely chopped parsley, a teaspoonful of herb powder (see COUNTRY GENTLEMAN for Aug. 16, 1888) a pleasant seasoning of salt and cayenne pepper, and a small quantity of grated lemon rind. Mix these ingredients thoroughly and moisten them with two well beaten eggs and a little rich brown gravy. Stir the mixture well and put it into some small well-greased moulds. Bake in a moderate oven for half an hour, then turn out on to a hot dish; stick a tiny sprig of parsley in the top of each mould, garnish round about with more parsley and serve with a little gravy in a tureen if desired. The above seasonings can be varied to almost any extent according to the kind of meat which is being used. Those mentioned are quite suitable for veal or ham, but for mutton or beef it is better to omit the lemon rind and parsley, and substitute for them a little finely minced onion.

VEAL AND HAM CONES.—Take six ounces of veal, freed from skin, bone and gristle, and four ounces of ham. Mince them together very finely, and put them into a basin with a sufficient seasoning of cayenne, mixed mustard, grated lemon rind, and nutmeg; add two ounces of bread which have been soaked in milk and squeezed dry, a teaspoonful of minced parsley, and sufficient good stock—made from the veal bones—to moisten the whole. Mix thoroughly, then form the paste into neat little cone-shaped pieces; brush these over with beaten egg, coat thickly with fine bread crumbs, then fry in a frying basket with plenty of hot fat to entirely cover the cones. If a frying-basket is not forthcoming, the cones may be placed on a baking tin and baked for about fifteen minutes in a brisk oven. Serve on a hot dish, nicely arranged, and with a little brown gravy poured round the base.

STUFFED POTATOES.—Wash thoroughly, clean and bake in their skins half a dozen large, well-shaped potatoes; when cooked sufficiently, cut a small piece off the end of each with a sharp knife. Scoop out the insides, leaving the outer shells about a quarter of an inch thick, taking great care that in doing so the skins are not injured in any way. Put the potato pulp into a basin, beat it quite smooth, and mix it with four tablespoonfuls of finely minced ham, two ounces of fresh butter, a tablespoonful of onion chopped as fine as possible, a pinch of cayenne, a little salt, if necessary, and two well-beaten eggs. Fill the skins with this mixture, forcing them out to their original shape and size; fasten on the lids with a morsel of egg white, rub the potatoes all over with butter, and put them in the oven for a few minutes until quite hot through, then serve on a prettily folded napkin, garnished with sprigs of fresh green parsley. A little good brown gravy may accompany this dish if desired.

FILLETS OF FISH ON TOAST.—Take a nice plump flat-fish or small white-fish, clean it thoroughly and divide it into four neat fillets; lay these flat on the table and sprinkle each fillet with salt, pepper, fine bread crumbs and finely chopped parsley; place a small bit of butter in the middle and roll the fillets up tightly, securing them if necessary with a fine small skewer. Lay the fillets side by side in a greased baking-tin with two tablespoonfuls of water, and cover them very closely with a sheet of buttered paper. Bake in a well heated oven for half an hour, then remove the fish on to a hot dish; remove the skewers and brush each fillet over with hot butter, sprinkle it with parsley which has been finely minced and dried, and place it on a small neat square of hot, well-buttered toast. Serve very hot, tastefully arranged on a pretty dish paper, and garnished with sprigs of parsley. This forms just as dainty-looking and appetizing a dish as one can well imagine or wish to see.

CAVIARE SANDWICHES.—Make some caviare butter in the following manner: Put a dozen or more boned anchovies into a basin, pound them to a smooth paste and add while pounding caviarne, lemon juice, a very little salt and a few drops of salad oil. Store this paste in jars, keep it closely covered, and it will remain good for almost any length of time. Housewives would do well to keep a little of this delicacy always by them, it often comes in so handy when we want a nice little dish in a hurry. To make the sandwiches, cut some thin slices of bread from a rather stale loaf; stamp these out in rounds with a cutter, or divide them into neat squares, and butter the bread very thinly. Put the pieces together in twos with a thin layer of the caviare butter between. Sprinkle over the top of each sandwich a little powdered parsley and hard boiled yolk of egg which has been rubbed through a sieve. Arrange the sandwiches neatly on a daintily folded napkin, and garnish round about with sprigs of fresh parsley.

AUNT CULOM.

London, Eng.

The last receipt seems to us very strangely misnamed, there being no caviare in the sandwiches. Why not call them what they are?—ED.

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Achilles Muller, Wrandt Bros & Co, N S Gregory		
Altsen Promoter's Netherland, D B Whipple, A & G Rice		
Arnold Boelyn, H Huidekoper, W A Swarts		
Baronet, J R Clark, J C Doust		
Bellevue Earl, Bauman & Knox, J M Rixey		
Bismark of Portage, W D Jackson, Miller & Nelson		
Blackmoor II, J M Curtis, W T Seal		
Blue Mountain Champion, S I Lisle, J A Hammer		
Bragle Swart's Prince, M E Moore, D S Sale		
Brooke's Duke, S A & L Hoxie, G Jackson		
Chatty Lad, J L Henderson, J J Walker		
Christina's Mahomet, J G Ray, E K Ray		
Cleopha 3d, Milliman Bros, Hibbins Bros		
Cleveland Veto, N S Dudley, H Dudley		
Combination Netherland, H B Whipple, G S Wood		
Count of Maple Hill, M E Moore, D S Sale		
Dalmatia Boy, G L Wells, W Smith		
Deerkje's Eaton, E E Marsh, M Clayton		
Dub, J J Walker, G Jacob		
Duke of Claremont, C B Perry, J F Telford & Co		
Duke of Vaiand, T S Witton, J S Witton		
Duke of Wardsburn, G C Fisk, H M Kidder		
Durfee Prince, C F Sweezey, C O Durfee		
Ekhelind Lad, A W Barry, Mercer & Knox		
Fauntleroy, N S Dudley, H Dudley		
Fenna's Prince of Genoe, H A Brown, E T Bedell		
Franklin Cornell, C E Wells, L P Babcock		
General Grant 2d, C Pratt, H C Abbott		
General Grant 3d, C Pratt, E Bonney		
Georgie 3d's Royal, T O Youmans & Sons, F U Meissner		
Gilt Empire, C W Horr, R Cary		
Good Fell Beacon, J N Robins, E Vernam		
Goodrich Golligher, J C Dunn, S Goodrich		
Gori Pel's Consolation, H H Moore, D S Sale		
Hanover Prince, C D Perry, W D Miner & Sons		
Henry Watterson, N S Dudley, H Dudley		
Houmain, T S Stephens, J Beauman		
Hubbard's Black, G L Wells, S N Bennett		
Humbertons, W Mesimer, S Kensly		
Jerico, O Edmonds, A W Terry		
Jewel 3d's Daisy Netherland, D B Whipple, A & G Rice		
Jo Haven, C W Horr, J M Clark		
Klaskie Payne's Fearnaught, L H Payne, H W Cheney		
Koenraad 3d, B L Nutt, E Eastmood		
Kornelia's Nell Boy, L H Payne, M E Moore		
Lady Bird's De Kreve Hendrik, H Huidekoper, W A Swarts		
Lee Rooker, H D Carter, F B Field		
Lottery's Prize, C D Perry, J W Townsend		
Magna Charta's Netherland Duke, Taylor Bros, M B Dale		
Maj'r Swarts, N W I & B Asso, Wilcox & Liggett		
Marechal Neil, W W Miller, T W Botkin		
Marie 3d's Prince Mercedes, J Hunslington, J Corrigan		
Marlborough and Martin Choice, N S Dudley, H Dudley		
Maryke's Rollo, L H Payne, M E Moore		
Mile of Portage, W O Jackson, E Waits		
Mookho 2d, E F Brewster, H M Cotton		
Netherland Horace 3d, H D Whitacre, J Gledfelty		
Nicola's Mahomet, J G Ray, Brown & Metcalf		
Nimrop's Koningin, H B Whipple, W E Hughes		
Nisseyana Prince, C F Sweezey, J D Van Vranken		
Nymph's Netherland Convoy, N S Dudley, H Dudley		
Oaktia 3d Prince, H C Britt, M Rockingham		
Oaktia's Champion, T O Youmans & Sons, J B Kendig		
Orphan Lad, J Burton, S Arbuthnot		
Peace Maker, E L Schoemerhorn, F O Barnard		
Philadelphia Nahob, S T Pratt, H Bauman		
Prairie Bird's Prince, H A Brown, E K Case		
Pride of Savannah, I Westbrook, M A Fowler		
Prince Alfred Von Reste, D L Nutt, W Snyder		
Prince Joseph of Portage, H F W Bremer, O A Bowen		
Prince Lewis, C B Perry, W D Miner & Sons		
Prince of Trenton, E L Schoemerhorn, A Bullock		
Princess Mercedes' Carl, Alexander & Phant		
Shadeland Pedro, Heston & Rathbone, B E Jarrett		
Siebeta's Netherland, J Aills, J M Severy & Co		
Tecumseh, N S Dudley, H Dudley		
The Moor, A D Mosher & Co, A F Clark		
Tina 3d's Milton, B Worden, G S Fay		
Triana's Mercedes Prince, H A Brown, M Bonnstetter		
Victor of Maple Hill, L H Payne, M E Moore		
Vireo, A Loughrey, G H Fleetham		
Volendam Boy, G L Wells, W W B Markham		
Wandering Jew, N S Dudley, H Dudley		
W C C H Exo, W M Case		
William Leigh, N S Dudley, H Dudley		
Yokey Pride, J L Strickland, W E Hughes		
Zadaz, J Mewhinney, H Stickney		
Angele Optima, Taylor Bros, W H Stewart		
Angora Rosa Dorcas, Taylor Bros, F B Knowles		
Alan De Vries 3d, L H Payne, M E Moore		
Alfie Lee, N S Carlisle, Bush & Moore		
Altas Heart, C D Butler, M H Moore		
Amelia Rose, N S Dudley, H Dudley		
Amy of Portage, W O Jackson, E Waits		
Astarte 4th, N W I & B Asso, Wilcox & Liggett		
August Lily, N S Dudley, H Dudley		
Baptista 3d, W A Pratt, N Howard		
Beauty of Portage, W O Jackson, E Waits		
Belle Delightful, M S Bronson, M E Moore		
Belle of Orange, Brandt Bros & Co, N S Gregory		
Belle of Westminster, I Smith, Vermont Asylum		
Berdine 4th, E E Marsh, M Clayton		
Bet a Bet, I H Butterfield, A W Butterfield		
Blondine and Blondine's Princess Aaggie, Taylor Bros, W H Stewart		
Bluff City Belle 2d, C D Perry, W D Miner & Sons		
Bluff City Belle 3d, C D Perry, J W Townsend		
Bonnie Jeannie, A Edmunds, J M Martin		
Brenda, S & H Hoxie, W MacVeagh		
Bug Eyes, A Edmunds, J M Martin		
Butter Belle, E E Morse, P M Harwood		
Catalina, H Huidekoper, M P Miller		
Catrina 4th's Aaggie, A W Brown, C D Van Deboe		
China 3d, H Huidekoper, E F Miller		
Cornelli Hooker 4th, N W I & B Asso, Wilcox & Liggett		
Cousin Penele, J L Taylor & Son, Bush & Moore		
Crescent 3d, Taylor Bros, F B Knowles		
Daan 7th's Lady, N W I & B Asso, Wilcox & Liggett		
Daffy Down Dilly, W T Wilson, G S Stone & Fowler		
Daisy Cook 3d, D H Taylor, Bush & Moore		
Daisy Jane 3d, J Urquhart, The Kirby Carpenter Co		
Daisy Teral, J B Whipple, A & G Rice		
De Boer's Riobtje 2d, Bauman & Knox, J M Rixey		
De Goede Reste 2d, J S Buchanan, A Berger		
Deederike, R L Nott, E Eastmood		
Diane 3d, N W I & B Asso, Wilcox & Liggett		
Dixie 6th, N W I & B Asso, E Rasmussen		
Dona Kobina 3d, W A Haserott, M E Moore		
Dora Upperdecker, S J Edmunds, J M Martin		
Dora Wheeler, N S Dudley, H Dudley		
Duchess de Koster 3d, J M Curtis, W T Seal		
Duchess of Schenewig, Brandt Bros & Co, N S Gregory		
Duchess of Yalaska, T S Witton, J S Witton		
Duty, E E Morse, P M Harwood		
Edith Gray 3d, N W I & B Asso, Wilcox & Liggett		
Electa 3d, O V S B Asso, O S B J Hunkley		
Elgin, Bauman & Knox, F H Chalmers		
Elspie, A Edmunds, J M Martin		
Emily Bess, Hanson & Rathbone, S V Peet		
Enfield Queen, C D Perry, J W Townsend		
Etta Haven, G L Haviland, F S Phelps		
Eutarpe 4th, Brandt Bros & Co, N S Gregory		
Euphemia 3d, H Huidekoper, E F Miller		
Evaleen 3d, J L Taylor & Sons, Bush & Moore		
Fanny Hunterville, Brandt Bros & Co, N S Gregory		
Fay of Portage and German Queen of Portage, W O Jackson, E Waits		
Graycroft Meadow Lily, J M Curtis, W T Seal		
Hecate 3d, E Huidekoper, W A Swarts		
Helpelje, N W I & B Asso, Wilcox & Liggett		
Helena's Violet 3d and Helena's Violet Mercedes, D H Taylor, Bush & Moore		
Holland Maid 2d, L H Payne, M E Moore		
Ida, J Urquhart, The Kirby Carpenter Co		
Ipinema, S & H Hoxie, W MacVeagh		
Jabranella, H Huidekoper, E F Miller		
Jandirka 3d, Bauman & Knox, F H Chalmers		
Jessie, S & L Hoxie, W MacVeagh		
Jouwkje 3d, N W I & B Asso, J W Hollinshead		
Jucunda 8d, Brandt Bros & Co, N S Gregory		
Junie 3d, N W I & B Asso, Wilcox & Liggett		
Kaan's Aaltje 3d, Bauman & Knox, J M Rixey		
Kwadyk, W A Pratt, M S Robinson		
Lady Bingham, B G Packard, F Bingham		
Lady Campbell, J Urquhart, The Kirby Carpenter Co		
Lady Elgin, C D Perry, J George		
Lady Horn, H Horn, Bush & Moore		
Lady Mabel, D H Taylor, Bush & Moore		
Lady Wiersma 3d, N W I & B Asso, Wilcox & Liggett		
Lawrence Beauty, J L Taylor & Son, Bush & Moore		
Lell, H Horn, Bush & Moore		
Lulu Huntsville, Brandt Bros & Co, N S Gregory		
Lunette 2d, L Hoxie, W MacVeagh		
Maid of Asburn, L H Payne, M E Moore		
Maid of Chemung, Brandt Bros & Co, N S Gregory		
Maid of Claremont and Maid of Hanover, C D Perry, W D Miner & Sons		
Maid of Hanover 2d, C D Perry, J W Townsend		
Maid of Netherland, D S Whipple, A & G Rice		
Marigolette Mercedes, J Urquhart, The Kirby Carpenter Co		
Marietje, E Huidekoper, E F Miller		
Mary Anthony, N S Dudley, H Dudley		
Mattie B, Bauman & Knox, J M Rixey		
Maud's Mary 2d and Prince of Portage, W O Jackson, E Waits		
Mila, I Coles, I S Reed		
Miss Edith M, A Edmunds, J M Martin		
Mula, S Huidekoper, E F Miller		
Nebula 2d, W E Borwin, W H Higgs & Bro		
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Nig Bilbao and Nuisparel, M S & L Hoxie, W MacVeagh		
Norma of Portage, W O Jackson, E Waits		
Norma Wayne, Bauman & Knox, Bush & Moore		
Otelia, J N Buchanan, A Berger		
Patience of Portage, W O Jackson, J W Nelson		
Peonie 4th and Pride of Big Flats, Brandt Bros & Co, N S Gregory		
Prince of Telak's Koutelje 3d, F H Burts, W H Haynes		
Princess Orange 16th and Ronsala, Brandt Bros & Co, N S Gregory		
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Rosendaal 2d, C D Perry, J W Townsend		
Rosedale 3d, C D Perry, H Farnsworth		
Royal Maid, J Urquhart, The Kirby Carpenter Co		
Shandon Bell, W T Wing & Bro, Stone & Fowler		
Shandon Bell 2d, Brandt Bros & Co, N S Gregory		
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Speed Heog 3d, L H Payne, M E Moore		
Stantje's Queen, E E Marsh, M H Allen		
Titmouse, H Dudley, W Beall		
Tjalling 3d's Queen, Bauman & Knox, F H Chalmers		
Trientje Reste, N W I & B Asso, Wilcox & Liggett		
Tulip 3d, C D Perry, H L Pratt		
Tulip 3d, C D Perry, J W Townsend		
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Varenakran, N W I & B Asso, Wilcox & Liggett		
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Vesta Night, J Urquhart, The Kirby Carpenter Co		
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Violet Silk, H Huidekoper, W A Swarts		
Wartena 3d, T S Witton, J S Witton		
Waterloo 3d, Dudley, W Beall		
Withcope 2d, Bauman & Knox, J M Rixey		
Witsworth, N W I & B Asso, Wilcox & Liggett		
Wittenorn, S & L Hoxie, W MacVeagh		
Yauhannah, H Dudley, W Beall		
Yountje Alice, E E Marsh, M Clayton		
Zarayda, N S Carlisle, Bush & Moore		

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Cedar Rim of Brushy, S L Sarnap, Z C Collier		
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Circe of St Lambert, H P Carll, D Carll & Son		
Clear Grit Miller, A G Miller, G Bonney		
Darrington Victor Hugo, A B Darling, N Robinson		
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Elsie's son, E Worth, J W Mercer		
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Florizel, Boyd, J H Beveridge		
Golden Coast of Sunnyside, S M Farnham, G Compton		
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Homewood, T Mott, C A Smith		
Jessie's Victor Hugo, H Wade, H & E C Ayrt		
Kathy's Stoke Pogis, Matthews & Hines, Matthews & Hines		
King Bonnacon, E S Sutton, B King		
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Little Harry, W E Matthews, Matthews & Humes		
Longfest, Mrs A N Martin, The Marquis of Bath		
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Loyd Lisle, W C Stevenson, Taylor & Vernam		
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Marsh Lion, C S Pomeroy, J J Slate		
Matchless, W Huidekoper, S A Hilliard, J G Fisk		
Meditator, G S Atkinson, C M Jamieson		
Olga's son, W W Miller, H Bassett		
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Signalda's Torment, Matthews & Hines, Matthews & Hines		
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St Lambert of Mocky Run, S S Jackson, C T Meloy		
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Thasbe's Forte, L B Durham, J S Jones		
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Agnes Rosebud, C Hasenpflug, G I Seney		
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Albert's Pogis, J B Bussell, Mrs E Vernam		
Albert's Pogis, H S Russell, G I Seney		
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Alphea Bell, W Simpson, G I Seney		
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Alphea's Pogis, W C Randle, W Carpenter, Jr		
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Annie Lee, J S Rogers, W H Peters		
Arango 3d, Ashtabula Stock Farm, J F Lucas		
Arietta Ray, J S Rogers, R F Holly		
Arrogance, C C Barton, C E Barnett		
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Aurea Mischief, L Lane, L Z Doll		
Baroness Lambert, J N Robins, C H Smith		
Baron's Pogis, F F Hams, C W Russell		
Baron's Jewel, F J Prentice, J W Howell		
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Belton Wayne, J N Rogers, R F Holly		
Bequest, W Simpson, G I Seney		
Bessie Pogis of Newton, C C Barton, A B Putney		
Bettie Long, J B Smith, J G Smither		
Blossom of Maryville, Sibley & Holmwood, C Rosenstein		
Blue Dress, S P & W Carpenter, Jr, W Carpenter, Jr		
Boomlet, C P Bailey, C W Heed		
Brace of the Oaks, E Darmuy, Miss E T Mistorn		
Brie's Celeste, W Dunphy, C H Butler		
Brie's Enchantress, A G Atkins, G I Seney		
Brie's Eva, A G Atkins, W A Cottrell		
Brie's Lady Lowndes and Brieseon, A G Atkins, G I Seney		
Brie's Ransom, A G Atkins, W A Cottrell		
Brimata 3d, C A Youmans, J Tompkins		
Brownie Lee, W W Darrah, W Crozier		
Bunker's Lily, T R Proctor, W Bayne		
Burnella, W Dunphy, C H Butler		
Buster, W Simpson, G I Seney		
Butterfly Queen, W W Darrah, J W Biddle		
Cana Pogis, W Anderson & W Ross, trustees, C A Penney		
Candid, W Simpson, G I Seney		
Caroline R, S Tappen, F H Day		
Carrie Baird, F J Prentice, W Crozier		
Carrie Boggs, W W Darrah, Miss E T Mistorn		
Carrie Lee, G B Hutchinson, N Robinson		
Cassandra of Alma, A G Good est, T O Harris		
Canon Rex's Fay, S Tappen, R Bodee		
Celebrity, Richardson Bros & Co, J M Ives		
Cella of Tupton, F G Lyon, H F Rushing		
Champion's Chloe, J O Couch, Green Mountain Stock Farm Co		
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Countess Rex, H S Russell, N Robinson		
Copia Castle, O M Thatcher, E A Pope		
Copyright, J N Robins, G I Seney		
Cordinaise 3d, J O Couch, Green Mountain Stock Farm Co		
Cornelia of Thorlow, K Peters, Jr, S M Nivin		
Countess Mabel, W A & A F Mullin, A H Moore		
Countess Rex 2d, H S Russell, G I Seney		
Covenia, K S Brown, S H Hegenstead		
Creammaide, N Robins, G I Seney		
Creamlike 4th, J Dunphy, C H Butler		
Creamlike Aspen, E Everett, H H Henley		
Daisy Cheshire, H Bean, E A Potter		
Daisy Lambert, C H Hutchinson, N Robinson		
Dartington's Daisy, A F Mosher, C W Reynolds		
Decoy, W S Lincoln, A H Moore		
Diana of Greenwood, O F Fuller, H S Durand		
Dido 4th, W W Darrah, W Beadle		
Dido of Arligass, E H Wilkins, C A Smith		
Doddie of the Meadows, E Howett, H H Henley		
Dolly of Leper, J Steele & Bros, A Pennybacker		
Dorothy Pogis, N Robins, W A Cottrell		
Dream Away, A H Moore, S Kirkpatrick		
Duchess Emilia, A F Gardner, G I Seney		
Duke's Minnie, F J Prentice, Miss E T Mistorn		
Duke's Princess, A H Moore, H H Henley		
Easter Joy, J V Teetzel, Trustee, T Axworthy		
Echo 4d, W H Peters, J J Bush		
Edna Pogis, C C Barton, A B Putney		
Elma of Ashtabula, Ashtabula Stock Farm, J C Watson		
Elsie Porter, C Deming, H N Porter		
Elsa H, N Robins, J W Howell		
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Estelle, Richardson Bros, J M Mistorn		
Enid Girl, C H Christy, J W Howell		
Esther Maura, F C Havemeyer, J W Howell		
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Fancy Rex Brainerd, H S Durand, Hopkins & Son		
Farmer's Model, W A & A F Mullin, Mrs A F Baker		
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First, W simpson, J W Howell		
Flash, H Dudley, C H Smith		
Fleety, W Simpson, G I Seney		
Flora Lingar, A F Gardner, H Bodee		
Forest Beauty, L Alexander, Jr, H S Young		
Forty Wines 3d, A G Atkins, J Hughes		
Freako's Lass, C H Christy, J H Starin		
Georgie O'Neal, S L Whitton, R M Harris		
Germania, C C Barton, A B Putney		
Gilia, W C Norton, Agt, N Robinson		
Gipsy of Fair Oaks, A H Moore, H C Knight		
Gola, C C Peacock, Mrs J F Bush		
Godetia, Mrs J M Pope, F L Davis		
Golden Touch, C L Tuttle, M N Eno		
Golden Touch 2d, E Soden, G I Seney		
Gracchella, W Simpson, G I Seney		
Gray Iris, F C Havemeyer, C McDermott		
Gussie Challenge, J D Dietrich, J H Mallack, Jr		
Happy Thought, Miller & Holmwood Bros, J J Slone		
Harriet Cupp, N Robins, Mrs K L Gilbert		
Hattie J, J H Smith, A Le Gory		
Haughty, W Simpson, J H Hall		
Hazel Rex, A H Moore, D Ingalls		
Helena Chapman, A H Moore, H V Mattison		
Helen R, G S Hutchinson, J W Howell		
Hemlower, C C Tauppen, W Dunphy, C H Butler		
Honeysuckle N, N Griffith, C N & W A Griffith		
Ida Monmouth, H E Kline, T R Proctor		
Ida Power, W H Gruter, O B Buckenthall		
Idella 4th, C C Barton, A B Putney		
Idlewild starr 3d, H S Durand, G W Hopkins & Son		
Ivory of Hamilton, A P Gardner, J A Pulver		
Jane of Maple Cliff, W Sims, J F Melton		
Jean Lafargue of H H F, A H Moore, H H Hanson		
Jewel of Milford, F S Cox, J N Melton		
Josephine Ludovica, M Hickey, W Miles		
Josephine Pogis, F C Barton, A B Putney		
Joyance, W Simpson, Miss E T Mistorn		
Joyful, W Simpson, G I Seney		
Julia's Last, W Plams, C W Russell		
Juliette of Briarcliff, J Stillman, G I Seney		
June Honeysuckle, A B Darling, N Robinson		
Khedive's Perfection, Moulton Bros, Green Mountain Stock Farm Co		
King's Pride, H S Russell, N Robinson		
Kitty of Briarcliff, J Stillman, G I Seney		
Kobee's Countess, J N Robins, C H Smith		
Kobee's Goldie, A L & C Davis, H S Durand		
Kobee's Lucille, S M Burnham, F Looser		
Kobee's Nina, S M Burnham, F Looser		
Kobula, R Hoe, G I Seney		
Lactina 2d, C H Christy, C H Smith		
Lady Bingo, J Stillman, Mrs R Vernam		
Lady Claybe, J S Hartman, H F Holmes		
Lady Gail, T Scott, J Ulver		
Lady Hamilton, A H Moore, H H Pigott		
Lady in Calico, A H Moore, C Lafferty		
Lady Linden, J M Latimer, H H McMaster		
Lady of St Clements, J M Latimer, H H Bell		
Lady Simeon, W B Van Nichthofen, O H Hanawalt		
L Alcee, J Stillman, A H Moore		
Lassie L, W S Lincoln, C H Smith		
Lass Hollow, J Hollgh, F L Davis		
L D's Heinel, W S Lincoln, S Fraticon		
Leclair's Marjoram, J V Teetzel, Trustee, W Rolph		
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Lena's Dido, T Mott, T Wheeler		
Leonella Pogis, M Looman, Miss E T Mistorn		
Leonie Oscar, C C Tucker, N Hall		
Lerna Lisle, J Stillman, Mrs R Vernam		
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Lily Darlington, A B Darling, C Rosenstein		
Lingar's Agnes, G S Hutchinson, G I Seney		
Lingar's Paradise, G S Hutchinson, J H Starin		
Lilian Pogis, W Dunphy, C H Butler		
Lotta of Briarcliff, J Stillman, A Godliest		
Love Letter 2d, J C McPherson, S D Jackson		
Lucrezia Pride, C W Reynolds, W A & A Griffith		
Lucy Richmond, W S Norton, Agent, J W Howell		
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Lulick, Hoe, W Honeysuckle		
Lunabella 3d, A P Gardner, Mrs R Vernam		
Lycia McClain, Mrs H J Biddle, F C Biddle		
Mabel Maura, F C Havemeyer, J H Starin		
Madeline Rex, C C Barton, A B Putney		
Madulina H, W H Hayden, H G Westlake		
Magdine, J N Robins, C H Smith		
Maggie Bliss, D H Brandsell, M E Branch-McDall		
Magnolia of Tupton, F G Lyon, H F Rushing		
Maid of Randolph 3d, H S Russell, G I Seney		
Maid of Shelburne, J T Fiske, L Trosdell		
Maiola Rex, F S Cox, N Hall		
Marie Louise of Tupton, F G Lyon, HIF Rushing		
Martha of Hamilton, A P Gardner, G I Seney		
Maud Lawrence, R E McClain, J W Russell		
Maud S of Orange, A G Atkins, G I Seney		
Mercury's Grandchild, H Bowen, J Whittleton		
Minnie Darlington, A B Darling, H Seney		
Minnie of Hamilton, A P Gardner, G I Seney		
Miss Francine, A B Darling, N Robinson		
Miss Hugo Cash, C N Griffith, C N & W A Griffith		
Miss Margal, F C Havemeyer, G I Seney		
Miss Rhea Pogis, A W Crow, C W Sherman		
Miss Trail, Beech Grove Farms, J C Farr		
Mistletoe of Riverside, J Goold, S Burbank		
Mona of Prospect, Sibley & Holmwood Bros, C H Smith		
Morbella, W W Darrah, J W Howell		
Moss Rose Perfection, W S Lincoln, W Crozier		
Mostar of Glenwood, O F Fuller, H S Durand		
Mrs Harmon, J W Robins, F S Day		
Mrs Kulckerbocker, J Stillman, W B von Richthofen		
My Alpha's Beauty and My Alpha's Victory, Mc-Gregor Bros, T F McGregor, Jr		
My Queen, F T Watson, New Hamerscan		
Myrtle's Perfection, C M Christie, W Crozier		
Nannie of Marion, F G Lyon, K H Harmon		
Nellie's Prize, S Bodee, J W Howell		
Nela of Milford, F S Cox, J N Melton		
New Moon 2d, T Morford, L J Lewis		
Nymphae of St Francis, R Bodee, G I Seney		
Oakland's Bright Eyes, G S Hutchinson, W B von Richthofen		
Oleta Rex, L B McCabe, J Hanon		
Olive of Milford, F S Cox, J N Melton		
Olive's Fancy, J H Smith, A Le Gory		
Ormsmore's Rilletta, J H Buster, K A Potter		
Pansetina Pogis, F C Barlee, J W Howell		
Paris 8, Heiser, J T Cherry		
Pauline's Signal Pogis, Mrs K M Burick, J Swindler		
Pedro's Rosie B, S Tappen, J A Pulver		
Plentiful, J J Robins, W Crozier		
Pretty Pearl 2d and Pride Eaton, J N Robins, C H Smith		
Pride of Bloomfield, F S Cox, J N Melton		
Pride's Delight, M J Paulding, J Wetzel		
Princess Helene, F J Prentice, A H Moore		
Princess Hesse 2d, W H Norton, Agt, A H Moore		
Primus 3d, R Hoe, H H Henley		
Prue of Briarcliff, J Stillman, N Robinson		
Quality Cut, S Hoe, L B Robinson		
Queenie Lingar, G S Hutchinson, J A Pulver		
Queen Jumpet, G S Hutchinson, J H Starin		
Queen Mildred, N Robins, G I Seney		
Queen of Athens, F B Baldwin, Mrs E L Gilbert		
Queen of Alhaza 2d, H S Baldwin, G I Seney		
Queen of Indiana, A W King, C W Sherman		
Queen of Tenlaw, C T Cheet, D W McClintock		
Quin, H Penn, K A Potter		
Ramapo's Pride, W H Norton, Agt, A H Moore		
Ramapo's Satisfie, J Stillman, G I Seney		
Rambler of St L's Lele, G S Hutchinson, F B Baldwin		
Ramona's Princess, A G Atkins, W W Darrah		
Rebington Pogis, J Irvine, J Gasbourn		
Rex Aiken, Rex Blanche, Rex Mary and Rex's Sally, L B McCabe, J Hanon		
Rinter Lingar's Belle, S Tappan, C Rosenstein		
Rioter Regina, A H Moore, S Kirkpatrick		
Rioter's Demine, G L & A C Davis, H S Durand		
Riverside Sutteroe, S S Hartman, H C Thompson		
Romeo's Silver Soap, F B Baldwin, J W Howell		
Rose D, W S Lincoln, G I Seney		
Rosella of Glenwood, O F Fuller, H S Durand		
Rose Ribell, W Dunphy, C H Butler		
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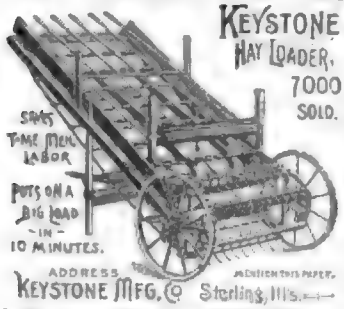

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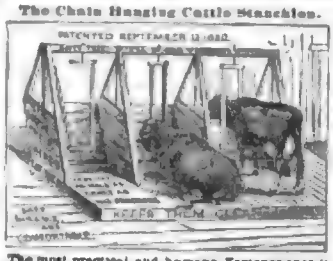

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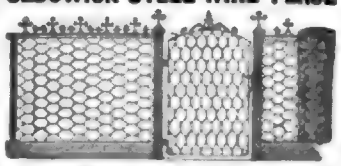

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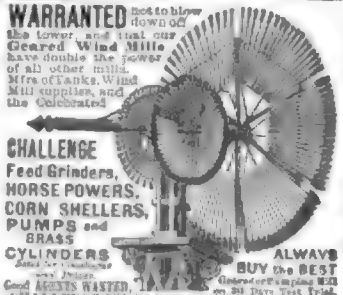

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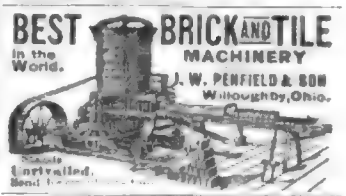

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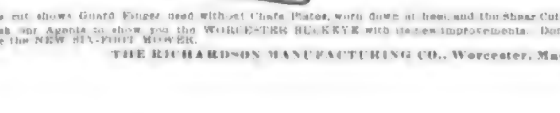

This cut shows Guard Finger used without Guard Plates, with down in front, and the Shear Cut lost.

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FOR THE FARM, THE GARDEN AND THE FIRESIDE.

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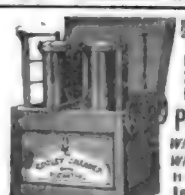

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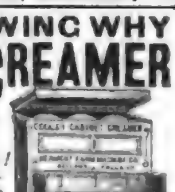

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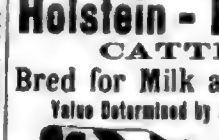

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THE CULTIVATOR
AND
Country Gentleman

Albany, May 23, 1889.

English Notes by T. Bowick.

"Sweet is the breath of morn * * pleasant the sun
When first on the delightful land he spreads
His orient beams."

I think it must have been spring time that Milton had in view, for there is no land where the joys of early summer are more enjoyed than in the old country. The genial warmth of the season is now more welcome than the heats of summer or the sultry days of autumn. The nightingale, the cuckoo and the swallow have all been reported within the metropolitan radius, and never have I seen the grass more rich or verdant than in the immediate suburbs. The road coaches to half a score of places, such as Guilford, St. Albans, Hertford, Windsor or Brighton, are a pretty sight, as they start from the White Horse Cellars, Piccadilly, every morning between ten and eleven. Farming prospects, also, are good, and keep abundant. Should we have no late frosts, it will be the best fruit year there has been for a long time. Kent and Sussex form a good criterion as to the rest of the country, and each one whom I have met down there is in a hopeful mood.

To a greater extent than I ever remember, the price of wheat has ceased to govern the price of bread—flour being now the greater factor in settling the cost of the 4-pound loaf to the householder. In 1840 we imported only a million and a half cwts. of flour, while last year sent us eleven times as much. During that period the quantity of foreign wheat only increased six times as much, though the sources of supply are more varied than in the case of flour. A parliamentary return, just issued, shows that the price of the 4-pound loaf is about two cents for each $2.50 charged for a quarter of wheat. This refers to the poor-law Unions, and it is noticeable that in every year since 1867, bread has been dearer in Birmingham than anywhere else, while Manchester has kept at about the foot of the list. It goes without saying, however, that the wide range in the price of flour has much to do with the different quotations for bread. For instance, one day last week the quotations in Mark Lane ranged from $4.50 to $9.50 for 280 pounds of flour, and the baker who uses the latter article must necessarily charge more than his competitors using the former. It is generally accepted that the weight taken from the wheat by the removal of the offal is added to the flour in water in making the bread; so that the loaves made from a quarter of wheat should weigh the same as that quarter, and also that *the offal should pay the miller*. There is no doubt about it, our market for the staff of life is very much in the hands of the foreign producer.

The late Sir Robert Loder's sale of first-class pure-bred Short-Horn cattle comes off in Buckinghamshire, on the 15th inst. Nowhere has Bates blood a more powerful stronghold than among these animals—about $50,000 having been expended on three cows alone, with which to lay its foundation. The Duchesses, the Red Roses, the Winsomes, the Wild Eyes and the Gwynnes have all contributed, with the Knightleys, to lay a foundation of the strongest character. There is not any doubt that Mr. Thornton will send many representatives across the Atlantic.

The supply of beef from America (North and South) is a trade of vast importance, and it is wonderful how one trade gets interlaced with another. We have, as you know, been exercising our minds greatly how to stop the importation of bounty-fed sugar; at present, every man or woman who buys a pound of foreign sugar gets a present of over a penny with it. Now we are bringing in a bill to prevent foreign countries paying us for the privilege of selling to us that article below its cost. But then the Argentine Republic also gives a bounty to its farmers upon the quantity of beef they export, and the question naturally arises, are we to prohibit their supplies in like manner? Sauce for the goose ought also to be sauce for the gander.

Competition assumes a serious aspect all round. Our nurserymen do not greatly bless the rose-culturists of France, the wholesale florists of the Riviera, or the bulb farmers of Holland. But the Germans now think that they can show us a thing or two, and a Berlin firm has just selected a site on the Firth of Clyde for erecting a large range of glass-houses. I do not know that we have much from Germany at present, except the iris and lily of the valley, which find their way extensively into the hands of the flower girls of our London streets. At any rate, neither the agriculturist nor the horticulturist intend to be beaten on their own ground. The former in particular has cause to bless Sir John Bennett Lawes, who has just completed the arrangements for bequeathing to rural science the sum of $500,000, together with 50 acres of land and the laboratory at Rothamstead. This was spoken of some years since, but owing to the death (Sir John told me at the time) of one of his most intimate friends, who would have been a trustee for its administration, the project was not completed. The income of the fund is to be handed over to a committee of nine persons, including the owner of the estate for the time being. *London, May 1, 1889.*

A Pennsylvania Silo.

EDS. COUNTRY GENTLEMAN—After reading the article in your paper of April 25, entitled "A Kentucky Silo," I felt inclined to add my experience for three successive years in filling a silo with corn always between the milk and the glaze. The first year the corn was probably frozen, but it made good ensilage, kept well, and cattle liked it. Under the cover of boards and tar paper, three or four inches of it was spoiled, and also in the corners the whole way down, and 12 to 15 inches on the sides. This annoyed me, as I think that if the great bulk of ensilage can be kept, it ought all to remain good if we can learn how to manage it. The third year I set out to have it so.

As to corn, I find that best which is best adapted to your climate, and will make the best and biggest stalk, and set an ear or two. I have tried three different kinds, and find all good if the ensilage keeps. I weighted heavily with stone. While filling we keep step to the tune of "tramp, tramp the ensilage is keeping," and "all hands in the ensilage pit" when we stop to oil or fix up. I keep two men in all the time when the cutting is going on. I have heretofore cut ½-inch, but think I will cut ¼-inch when I fill again. It takes two days to fill my silo, using No. 14 Baldwin cutter. The silo holds 45 tons, and I plant just 1¼ acre of corn to do it. This last year I was careful in everything to keep it, if possible, so that when I wanted to raise the cover I could put in the fork and give it to the cows instead of to the manure pile. And to my great joy, I did it, corners and sides, as well as under cover down to the bottom, was food safe and sound for butter and milk.

Some writer in the COUNTRY GENTLEMAN, whose name I do not recall, said that in filling the silo not to keep it quite level or higher at the sides, but higher in the middle, and then weight by laying the stones only at the sides and the end of the boards forming the cover, and a single row of stones up through the middle of the silo. This suggestion was worth the price of the COUNTRY GENTLEMAN for ten years. I tried it; it took less stone, and consequently less work.

But my silo being a small one, and depending on it for feed, I wanted to keep the corners and sides as well as that under the cover. The thought occurred while pounding down clay in a horse stall, why would not this tamper be the very thing for the corners and sides of the ensilage pit when filling? I at once sawed 18 inches off of a 6 by 6 yellow pine sill and put a handle 3 feet long in the end, and I had a tool with which I could drive the ensilage into a paste, if needed; corners and sides were in splendid condition when taking out for feed.

"C.," in his article, has failed to mention two things which many persons do not take thought about.

First, after taking off the top "it was as fresh and green as when first cut" but did he take off the whole of the cover at once and then strip at least 8 inches of ensilage every day off of the whole surface? If not, I am sure his ensilage would fail. Again, I am sure his ensilage was hot at the end of the six weeks, or some part of it was. As soon as ensilage gets air, when it is warm, the heat goes down and through, not up; the surface ensilage may look all right, but if you put a fork down 6 or 7 inches it will be bad. I know this only too well by experience with careless hired men, who want to know everything best. The truth is—and every one who has had any experience with ensilage will bear witness—that ensilage is not like hay that we can take a few forkfuls of to-day and then in a week or month. Ensilage ought to be taken out clean in the silo, not left to lie in loose heaps or forkfuls over the surface. When once opened, it has to be used or taken out every day, or every other day, or at least in three or four days. When it is cool, it will keep longer and better.

It seems to me that the ensilage was sound and good in C.'s silo, but was spoiled after he uncovered it and warm when he opened it, and that it was not taken out often enough, and the deeper down he went the worse it got after longer delay. When it begins to spoil it spoils very fast. But again, all ensilage men must admit that when their ensilage is perfectly good and sweet, there will be now and then through it a lump of ensilage caked together, which when broken open is blue-black mould, sometimes the size of your hand. I never saw in print anything about this spoiled cake among the ensilage, but it is my opinion that it is the black fungus-growth on corn so very plenty in wet seasons, and that it is the cause of those small flakes of spoiled ensilage.

After the first day's cutting I went into the pit the next morning and took off my shoes and stockings, to try the temperature over the whole surface. It had been well tramped and tamped the day and evening before, and I found the temperature remarkably uniform. We cut about one hour the second day, and then broke down, and did not cut again from Wednesday until the following Monday. But every day we used to tramp and tamp the sides and corners, and better ensilage I never saw or used.

Let C. try it again, and let it heat up to about 126° before covering. Then do not touch it for less than 60 days; then take it off in sections. Do not raise all the covering at one time, unless you can go over the whole surface every day and take off about three to four inches; if any of it gets to heating, take it out till you get ahead of the heat, and once you accomplish that, you will have all you want in good ensilage. J. D. D. *Flourtown, Pa.*

The Buckwheat Crop.

EDS. COUNTRY GENTLEMAN—The buckwheat crop is destined to take the lead in a few years in the Middle and Eastern States as the best paying crop on the farm. It is one quickly grown, making it of vast worth in smothering weeds, &c., natural to unimproved land, also the work of putting in the crop comes at a time when most farmers have leisure, and if sown early it will be fit for the cradle before the corn ripens, and may be left in the field until nearly all other fall work is done.

Years ago it was a crop which depended largely on home consumption, but of late the cities are taking a large share, and the mighty West with its fast increasing population is eager to take our surplus in payment for those products which the eastern farmer can buy cheaper than he can raise. The deep soils of the West are not good for buckwheat, but the thin soils or hardpan lands of the Middle and Eastern States, if well cultivated, usually produce excellent crops.

There is only one drawback to the culture of this crop, frosts excepted. The stubble is mostly sown to oats, and the buckwheat that grows and ripens with the crop—although it makes heavier feed, worth more on the farm than clear oats—will not sell readily in the market, and never at full price. This may be averted by sowing from 4 to 6 bushels of rye per acre, at the time the buckwheat is sown. The rye will spread [illegible] and instead of being a [illegible] to the buckwheat, will keep the [illegible] the time the crop is [illegible]

by usually securing a better fill. As the difference in weight of the grain is but little, they could be mixed and sown at the same time. If the rye made too stout a growth it might be partially fed off after the buckwheat was harvested. By this mode one can generally get a good crop of rye, at cost only of seed and harvesting. Some of the best crops I have ever known were raised in this way.

Tioga County, N. Y., May 11. J. H. ANDRE.

Irrigation by Horse Power.

Eds. Country Gentleman—I visited yesterday a little irrigation plant which I will describe for your readers. It consists of a single-action force pump costing $7.50, worked by a little sweep power such as is built and used for drag sawing, which cost $12. Whether it was new or second-hand at this price I neglected to inquire. The pump was placed over an inexhaustible well or spring (the water standing near the top of ground), and forced water through a 2-inch pipe 111 rods to the house, where it was 8 feet above the water level of the spring. The pipe was laid in the ground below frost, and once in 50 feet had a hydrant or upright pipe protruding from the ground 3 feet. These pipes had places for attaching inch-hose, of which the man had 150 feet, also 3 rods of iron pipe which he could use besides, so he was enabled to reach about 1½ acres of garden—a beautiful level bench or plateau of sandy loam. With one horse attached to the power he can force through the pipe, he says, a barrel of water in 4 minutes, or 15 barrels per hour. To irrigate an acre an inch deep would require 850 barrels of water, and this would take 56⅔ hours' labor, or 5⅔ days' of 10 hours. Allowing $1.50 per day for a man, and an equal sum for horse and boy to drive, the cost of labor would be $17. However, some time would be wasted in moving hose and resting, or changing the horse, so at least another day's work should be added, bringing the cost up to $20 for one thorough irrigation. It is the opinion of competent experimenters that an inch of water will last three or four weeks when applied to strawberries or similar crops, or long enough to bring a crop through any ordinary dry spell.

Last season was not one in this latitude that made irrigation necessary, so the experiment has not been tried with this outfit; but the owner has used it to soak a plot of ground after setting strawberry plants this spring, with excellent results, not losing a plant, every one starting at once into vigorous growth. The well or spring was dug three feet through sand when a bed of impervious blue clay, 4 feet thick, was struck, though which a 3 inch hole was bored, when the water gushed up in a steady stream. A box or frame of plank 3 by 12 feet was sunk to the clay, and it stands level full all the time. It is but a few feet from the bank of a reservoir that supplies the village of Kent, O., with water, and the water stands at the same level, so that water from the reservoir could have been used if the man had not preferred to do otherwise. Leaving out of the account the cost of well, which in this case could have been dispensed with, the total cost account stands about as follows: Machinery $30; hose and nozzle, $10; iron pipe, $30; labor, $15; total, $75.

Such an outfit could be used along the banks of rivers, canals and lakes in many places, and I think would pay. In large plantations, where four or more horses are kept, a larger power and pump could be used, and the watering of an acre completed in a single day or night. It would take such crops as early vegetables, cauliflowers, celery and strawberries entirely out of danger from drouth. If it will pay to water celery and cabbages by hand, as is done by German gardeners along Mill Creek in Cincinnati, or on the Ohio below Pittsburg, it will certainly pay to do it in the method described.

The man who owns the outfit spoken of lost more than $100 by drouth on an acre of berries two years ago, and another man in the same village estimated his shrinkage on three acres of Gregg raspberries the same year at 30 bushels per acre. In the early seventies I lost nearly an acre of fine-looking strawberries from a protracted drouth, and berries were worth that year $4 per bushel. In 1877 I had a patch of 295 rods of strawberries, from which I picked nearly 900 bushels of berries, and netted over $900. On the 26th of May the leaves rolled, and everything bid fair to dry up, but timely heavy rains falling on the next two days, the plants revived, and I picked a fine crop. It was so dry that ground fitted for tomatoes showed no moisture for four inches deep, and had it not been for the rain, there would have been very few strawberries in Northern Ohio, and the price would have been at least $1 per bushel higher than it was. In this case the man who could have irrigated would have made a handsome sum.

While on this subject I may say that there are many places where irrigation can be practised without pumping. In my own township a large stream of water, the drainage of a coal-bank, runs out at such a height that every drop could be used for irrigation, and the soil is of excellent character. The neighborhood might not be a favorable place for fruit growing, but objections that might obtain against this, would not count against vegetable gardening. At present the water only helps to make a swamp near by a little more swampy. In Union, Champaign, Logan, and other counties in the State, are flowing wells, which might easily be used for irrigation. One in Champaign that I visited, four years ago, flowed 44 gallons per minute, and the large stream that ran to waste could have been conducted over many acres of land. L. B. PIERCE.

Summit County, O.

Arranging Farms for Convenience.

Eds. Country Gentleman—Probably more than half the farms in the United States, especially those outside of the Prairie States, have come to their present figure regarding the plan of the fields more through the limitations of present necessity than from actual design. One field was added to another here and there as the clearings were made, with a rough guess as to its area, and to the position of the fencing as to its bearings toward the points of the compass. So now you will hear most farmers say, there are about so many acres in this or that field, but will not vouch for its accuracy. After the boundaries of fields are once established, it is almost impossible to convince the owner that the plan is faulty and needs remodeling to be more convenient, and to save time in working, and in the distance which is made necessary in order to reach them.

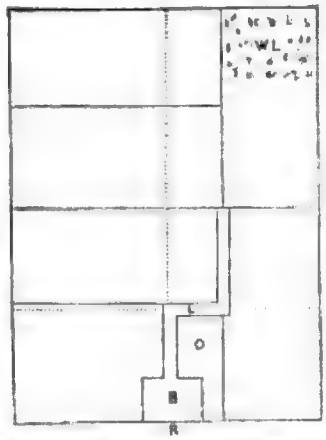
There always comes a time in the history of every farm when some of the fences must be removed, and then is the proper occasion for drawing out on paper a map or design, and expending upon it some study, in order to make the fields accessible at the nearest point from the buildings. If the farm is wide enough, the lane should divide the farm in the centre, with fields abutting on it at their ends. If the buildings are not in the centre of the farm (and they frequently are not), then the lane from them should make a right angle when the first field is reached, and make the centre before turning again.

On four farms with which I am familiar, the buildings are not in the centre, but the lane started from them and ran obliquely toward the centre at the rear end, making irregular-shaped fields on either side. Two of these farms have changed hands; the lanes being taken up and placed parallel with the dividing lines. The other two still irritate their owners year after year by the short rows of corn and wedge-shaped lands in plowing. In all such cases much of the ground has to be gone over twice to finish up short rows, or to plow on a pointed land. It is quite difficult also to survey your starting point when you desire to begin in the middle to plow such a field.

Now that machinery has come so largely into use for harvesting crops, and for working the ground with facility, these angular-shaped fields must go, and some uniformity should be considered in making the change.

My fields on the home farm are 40 by 60 rods where practicable, and all of them are longer than they are wide. To illustrate from an example, on a farm that recently came into my possession: The fields were practically the same as when it was cleared, thirty years ago. The farm lies 120 rods on the road and 160 rods back, with the buildings in the centre, next the road. A lane runs back half way across, with fields 60 rods long or wide each side. They are nearly square. This I deem objectionable. I shall move the centre fence 20 rods east, and make three fields at the rear end of the farm, on the west side, 40 by 80 rods. The one next the road will contain the buildings and orchard, which will be fenced in. On the east side will be two fields 40 by 80, running the other way. The lane will run as it does until the first field back is reached, when it will turn east 20 rods, then north 40 rods, where it will end. The last field can be reached through one or the other of the two fields, as the case may be.

The diagram below gives an outline of the farm as it will appear when all the changes are made. The dotted lines indicate the old position of the fences as they have stood nearly a quarter of a century. Some of the fences



B, Buildings; L, Lane; O, Orchard; R, Road; W L, Wood Lot.

are grown up to shrubs, that can be best subdued when let into the inside of a field, and by the change a level cultivated surface is found for the fence, that cannot, except by the grossest neglect, again become foul. Where the old fences have stood, nature has all this time been mixing and storing up fertilizers into a compound that will discount any of the special fertilizers offered by the trade, and will help, by the extra crop grown, to compensate for the expense of the change.

These changes may not all be made the first year. They cannot well be on any farm, for the crops on the ground often interfere; but it is something well done when the plan is once decided upon, and the first move is made toward the desired end. The measuring should be accurate, so that the sides and ends of the fields shall be exactly parallel. Then, if ordinary skill is used, furrows and swaths and rows of corn will march along side by side, and exactly fill the space with a given number. Then there is no elastic area which shall shrink with the harvest and expand at the seeding. There are so many advantages in uniform fields that a change to them pays, if only the education to exactness is engendered by it.

Van Buren County, Mich. A. C. GLIDDEN.

Maple Sugar-Bush Questions.

Eds. Country Gentleman—I am very glad to respond to J. G.'s inquiries (p. 306) as I am sure that if he and the other wide-awake syrup producers of Northern Ohio once adopt the two-spout system they will be very slow to relinquish it. "Will the two spouts give more sap?" Yes—nearly if not quite double the amount obtained from one. It can not be that the hole for the spout absorbs all the sap in the immediate space surrounding the spout; for were that true we should get no more sap, while in fact we do get very nearly or quite twice as much with two spouts as with one. The second spout will be about four inches, more or less, from the one that holds the bucket—that is, if we use the Post spout, and I have no use for any other spout that I have seen or tried. I shall use hereafter two Post spouts to each bucket, and shall also use the cover, laying this on the second spout, which of course is just above the edge of the bucket. We did so this year, and had no trouble in keeping the covers in place.

I am sorry to say I have some wooden buckets. They came to me with the bush, and are sound and good, so the principle of economy taught me by my good parents would not suffer me to throw them away. I find no trouble in using these. I bore a ⅝-inch hole close to the upper edge of the bucket and drive in a wire staple. These have served my purpose admirably, and permit the use of covers with no inconvenience.

Why does J. G. nail the cleat on the covers? My covers are simply squares of inch pine, one foot each way. The paint is certainly as cheap as the cleat, and preserves the cover. Again, they are lighter, and as mine have not warped at all, I think I should prefer the paint to the cleat.

My friend asks about the pop-corn flavor, and if I think the tin evaporators produce it. I have used the tin evaporators for years, and I have never heard the first murmur against my syrup. I could sell three times as much as I can produce, with no effort. If the pop-corn of Northern Ohio has the flavor of my syrup, I should suppose there would be an unlimited market for this article. No, I do not think the tin evaporator has anything to do with any peculiar flavor; I feel sure that it does not. I should rather look to some peculiarity of season to explain the undesirable flavor. The syrup in Northern Ohio in 1886 was very dark. I think the season and management was the cause. I should not expect as fine syrup with a slow dribbling flow of sap as with one that drove the entire work in the bush with a rush.

The one thing which remains to be solved in the practical work of the sugar-bush, is the prevention of fermentation. The sour sap reduces the cane sugar and makes second or third quality syrup. Not only the flavor but the color is injured. Wash buckets in warm water as we may, keep ice in the store tank, and take every pains, and yet, late in the season, we are likely to have some unsalable syrup. Who knows how to prevent this? In my book on the sugar-bush I spoke of "buddy" sap, and stated the opinion of Vermonters that there was no such thing. I am now sure that there is buddy sap and syrup in Michigan. Such syrup can be told both by smell and taste. A. J. COOK.

About Farming in Central Virginia.

Eds. Country Gentleman—I have been very much pleased and instructed by many articles written by Mr. Waldo F. Brown, and was prompted to write this by the perusal of his "Some incidental farm profits" (p. 363), and the remembrance of the account of what he saw a few years ago in his ride from Ohio to the seashore. I quite agree with him that farmers do not place a proper estimate on the privileges, enjoyments and comforts afforded by the farm. If they did the boys would be less inclined to leave the farm and its freedom and pleasures to go to the city or town to be somebody's hired boy. But I want especially to tell Mr. Brown that the next time he rides over the Chesapeake & Ohio he should get off the cars at many of the stations, and ascertain for himself how little he saw of what there is in full view of them. In that ride (I write from memory) he reported that he did not see as much forage from Charleston to Hampton as there was on his fifty-acre farm in Ohio.

There is a farm in this county, from every field of which the cars can be seen, that produced sixty tons of clover and timothy hay, and forty odd bushels of clover seed that same year. From another county on the line of same road, considered one of the best in the State, it is estimated that ten times as much baled hay is shipped now as was produced twenty-five years ago. To show, too, how little importance we should attach to observations made from car windows, and also to show how well some farms pay, I give the following statement prepared by the owner, which is strictly correct. This farm is in full view of a prominent station on the road over which Mr. Brown passed twice that year (I think 1885). It is a statement of products sold from Nov. 1, 1887, to Sept. 1, 1888, from 65 acres farming and pasture land, that was out to the common sixteen years ago and sold for $5 per acre—in cultivation as follows:

Corn	10 acres
Wheat	10 do.
Tobacco	7½ do.
Garden and truck patches	2 do.
Orchard	2½ do.

Twenty-eight acres in all—balance in pasture and mowing land.

SALES.	
1. Apples, about	$45 00
2. Sweet potatoes, about	15 00
3. Irish do. do.	5 00
4. Black-eyed peas do.	5 00
5. One calf and two veals	20 00
6. Seven packages tobacco	294 10
7. 155 bush. wheat	148 80
8. 324½ bush. corn	77 20
9. Six hams, 96 lbs., at 17c.	16 32
Total	$616 32

Items 1, 2, 3 and 4 were from memory (no doubt correct, or nearly so), others from sales accounts of the commission merchant. Besides these items there were turkeys, butter, milk, vegetables and bacon sold, or

given away, of which no account was kept. I think Mr. Brown has told us how many there are in his family. The writer knows the family on the above farm, and it is much larger, on an average, than Mr. Brown's, but to put the cost at same as Mr. Brown's $523, added to $900, makes $1,423, on a farm that cost not over $3,000, buildings included. On this farm is kept every luxury that Mr. Brown mentions, including the carriage and horse, the latter never used on the farm. Will Mr. Brown please give the items of same period on his farm? In my next I will give you a statement from another farm of 125 acres, even better than the above, but this latter farm was not in view of the road on which Mr. Brown traveled. W. A. B.

Lewis County, Va.

Individual Over-Production Good.

EDS. COUNTRY GENTLEMAN—Mr. Pierce says (p. 924, 1889), that a year ago he ventured to hint in your paper, the opinion that universal high farming might result in over-production; and one of your correspondents took grave exceptions thereto. If he means me, he does not understand the ground I take. I would take no exceptions to an opinion that universal high farming, coming on suddenly, would result in serious over-production. But what I tried to say was that every one will not go into high farming, and the few who do will, as a rule, greatly benefit themselves.

Now what are we to gather from the tone of Mr. P.'s letter as the advice he would give your young readers? It certainly would be discouraging to high farming. But pray tell me what better off would a man be, individually, if he followed Mr. P. and raised a small crop? Take the case of his neighbor who raised nearly three hundred bushels of potatoes per acre. Would he be any better off if he had only half as many? Mr. P. says: "If he had been able to grow over 600 bushels per acre, as one of your correspondents reported that he did, he would have had two elephants on his hands instead of one." Mr. P. would have him, then, grow only a small crop per acre and have no elephant!

Now let us look at the facts in this young man's case, as Mr. P. has given them. He says: "Yesterday an Akron firm told me they could not ship potatoes and pay more than 23 cents." Of course that means the young man could sell at 23 cents in Akron, which is near by, or could at that date. Mr. P. admits that the crop was raised much cheaper than it could be in a small way. If, now, he was in the business, he would know that such a crop raised in such a way could be sold at 23 cents and pay in the neighborhood of 100 per cent. profit. Is not that enough? Does the young man want the world? Should he expect high prices when there is a great crop? But this is the particular point: Would he be any better off if he had not tried hard and had only half as many per acre? Could not he laugh at overproduction all the more if he had 600 bushels per acre (two elephants) to sell at 23 cents a bushel?

Now, it has hurt that young man having so many potatoes grown in this locality this season. If every one else had kept out he could have doubtless got 40 cents; but it hasn't hurt him as much as it would if he hadn't done some really high farming. I would like to ask Mr. P. if that young man could not have contracted his crop at 30 cents about two months ago? Unless I greatly mistake, a buyer went from my farm to see this very young man. He was anxious to buy at the above figures. He offered my neighbor, Thompson, 30 cents for his crop as he passed by. If he did not go to this very man, it was well known all around that he was contracting at the above figure. The young man (or old one) should have taken it; 300 bushels per acre and 30 cents a bushel is good enough. Unless I know right where I could certainly do better, I would never let such an offer pass by in such a season.

But I have been green enough to do it. It was bitter experience that made me get a contract in my pocket almost as soon as potatoes began to move in car lots. (In spite of the "forty days' rain," you can tell friend Pierce that mine were all marketed in good shape, long ago, and the money is in the bank. It was a terrible fall, but specialists are not the ones that get caught.) Years ago, in such a season of plenty, I sold a few hundred bushels at 40 cents. There were few in the business then, in this part of Ohio, and all friends told me to hold on to them and I would surely get 50. So I filled the cellar, even to taking up a carpet in a room above and cutting a hole in the floor, so I could fill it to overflowing. I did sell one load to a poor farmer, in the winter, for 50 cents, but the lot did not average me 15 cents. I boiled hundreds of bushels and fed out and sold dressed pork the next fall for 5 cents. I always felt that I was rightly served. I had a great crop and wasn't satisfied with a good round price. Since that time a fair offer has never been refused when it was possible to attend to it. Once in a while the price goes up some after we sell. Last fall we sold at about 70 cents, and they were worth considerably more in the spring.

But this should never trouble one. He has done well, perhaps making 100 per cent. profit; let others have a chance to make something too. But when one refuses a good offer and gets bit, he cannot respect himself at all, for some time afterwards. He feels that he tried to be a hog and got the pay that such deserve.

Now, it seems to your correspondent, that if Mr. Pierce had left that little "kick" at high farming out of his otherwise interesting letter, and simply told how well that young neighbor of his had succeeded, and perhaps pointed out that he had not pursued just the wisest course as a salesman, which is really half the battle, he would have done more good. It is better to encourage young men, surely, than to discourage.

Just to show Mr. P. that specialists are men of push and do not "get left" in such a fall as the past has been, I want to quote from a letter just at hand from the Humphry Bros. of Huron county, Ohio. They write me that they dug 100 acres with a Hoover digger this past season, but had trouble with its breaking. The cost of repairs was not so much as the time lost when time was so valuable. They say the coming potato digger must put the potatoes, cleaned and sorted, into bushel boxes (they use boxes like mine) on the ground, and not break. They pit their potatoes. The boxes are emptied into a Kemp manure spreader, and this is then taken to the pile, and the load, about 40 bushels, rolled out in a moment without any handling. When potatoes are pitted, this way of handling can hardly be improved on. Let me tell you just what they did in one day of nine hours. They dug five acres, and put in the pits a little over 1,300 bushels. There were six men and five boys at work. Of course the digger did not give out that day. What chance does the mixed farmer, with his acre or two of potatoes and average crop (half an "elephant"), stand against such men?

There are plenty of farmers in Ohio, who, this year, have handled their potato crop without loss and made a large profit. They are men of energy and push. It would take more than "forty days' rain" to circumvent them. I take it you want to hear how such successful men do.

Strawberries were so high last summer that I fear friend Pierce did not eat enough to clear up his digestion nicely for the season; or has he got too many onions and cabbages on hand? If so, he is all right, provided he raised three times as many per acre as the average grower, and had them a little nicer than the ordinary market stock. Let us try and get this idea into his head. He will thank us in the end although he may "kick" a little during the operation. T. B. TERRY.

Summit County, O., Dec. 24, 1888.

[The above letter has been crowded out a long time by the pressure of other matter, but is of too much interest not to see the light—even at this late day.—ED.]

Failures with Ensilage.

EDS. COUNTRY GENTLEMAN—It seems that "C." of Jefferson county, Ky. (p. 838), has had poor results from his wooden silo, and he is not the only one that wishes he had built something better than a wooden silo. My business takes me over the Western Reserve about half of the year, and I have made it a point to visit nearly all the different silos that have been built for the last seven or eight years. I wanted all the information I could get by closely questioning their owners to find out the failures as well as successes, as I intended to build a silo for myself. If C. will put strips of wood ¾ by 2 inches every 16 inches, lath and plaster his silo on the sides, and then put a good cement floor 1½ or 2 inches thick on the bottom, being careful to make a tight joint where the side and bottom come together, he will have an air-tight silo, which he has not got now. In filling again, if he will put a good man in the pit and keep the ensilage level all the time, and the corners and sides well trampled down, and if the corners are square, give the man in the pit a 4 by 4 scantling 4 feet long, with one-half rounded down to an inch and a half for a handle, so that he can pack the ensilage in the corners as much as it gets packed in the middle, C. will not be troubled with mouldy ensilage in the corners and along the sides. In every wooden silo that I have examined, there has been more or less spoiled at sides and corners, varying from 6 to 20 inches. I also found in silos built of concrete walls, or frame buildings plastered inside and the bottom cemented, that the ensilage was good clear out to the corners. I found one, with sides plastered and earth for a floor, where enough air came in through the earth to spoil considerable along the outside.

A wooden silo may do in Wisconsin, but it does not fill the bill in Ohio, and I think would be almost worthless in Kentucky. In Wisconsin I have seen a large quarter of beef hung up outside of a house in the fall, and hang there until used up by a small family. The air is different there, and we must accept these differences and act accordingly.

If C. will get a report of the Silo Convention, published in the National Stockman of March 21, '89, on pages 906-7, he will find a few things that may help him in his troubles. In the early days of silos the tendency was to build too expensive pits, and now the reaction has come, and carried some few so far on the other side, that they are recommending silos so cheap as to be almost worthless. After a while, people will adopt a happy medium between the extremes, and build a substantial building that will last as long as a barn or house. I have known several who built wooden silos several years ago to abandon them after two or three years' of partial failure, and build either stone, concrete, or frame and plastered walls with cement floors. G. E. RICE.

Trumbull County, O.

The Growth of Green Fodders.

The following interesting statements on this subject are from the pen of THOMAS SHAW, Professor of Agriculture in the Ontario Agricultural College at Guelph:

The attention of the farmers of the Dominion has never been sufficiently drawn to the great advantages that flow from the growth of an abundant supply of green food for the stock of the farm. In this climate of short and oftentimes dry summers and of stern winters, which forever forbid the successful growth of permanent pastures of the European order and on the European plan, it will doubtless prove in the future the great resource of the farmer who is bent upon sustaining the fertility of his land through that best of all sources, stock-keeping. Some of its advantages are:

1. It effects a saving in land to the extent of enabling the farmer with but 50 acres to raise more beef, mutton, milk, butter or cheese, than the one with 100 acres who pays no attention to the growth of green fodders.

2. It effects a great saving in fences, one of the largest items of outlay on a farm.

3. It secures a marked saving in food, and of animal muscle, in their not having to search for it.

4. It increases the quantity and quality of the manure to the extent of at least one-half of all that is made during the pasturing season.

5. Its effects upon the health and condition of the animals are beneficial, since the supply of food is uniform and sufficient, and they are free from annoyance, worry and exposure.

6. It greatly increases the quantity and quality of the milk, butter and beef product.

7. It very much enhances, in the aggregate, the fertility of the soil.

8. It largely obviates the necessity of summer fallowing, through its antagonism to weed growth.

9. It would prove a boon to the cotter, whose one cow must needs pasture on the highway.

10. In conjunction with the silo it provides green food for the stock all the year, hence *every farmer in the Province silos to his own best interests will grow a greater or smaller proportion of green fodders every year.*

The only objections that can be urged against it are:

1. That lack of exercise will impair the health of the stock—an objection that will be answered in a succeeding bulletin.

2. The extra labor involved, which, however, is abundantly compensated by the increased returns.

The following are some of the principal soiling crops best adapted to Ontario conditions:

1. Winter rye, best sown early in September; two bushels to the acre; cut before the blossom appears, and fed, if practicable, in conjunction with red clover.

2. Red clover, yielding two cuttings per year, and cut until the time of blossoming.

3. Orchard grass, which may be grown with clover and cut at same periods.

4. Lucern, yielding two or more cuttings a year, and, when brought safely through the first winter, yields a bountiful crop for years. It is best adapted to well drained rich loams, inclining to a sandy texture. It is not relished by the stock so highly as clover.

5. Timothy and mammoth clover make an excellent green food, the combination being complementary to each other in their constituents, and ripening at the same time.

6. Alsike clover and timothy grown together answer equally well. By commencing to cut when the first blossoms appear, this crop may be fed for three or four weeks.

7. Oats and peas, oats and vetches or tares, or oats, peas and vetches come next, sown mixed, at the rate of say 1½ bushel oats, ½ bushel peas and ½ bushel vetches to the acre, and at successive intervals of say 10 days apart. They make the best ration when the grain is in the milk, but feeding may commence when they first head out.

8. Common millet, Hungarian grass and Italian millet are all useful as green fodders. They may be sown from May 1st to July 1st, ½ to 1 bushel of seed to the acre, and should be cut before or in early blossom for soiling.

9. Corn is the most valuable of all green crops for soiling purposes. It should be planted in drills for summer soiling at the rate of from ½ to 1 bushel of seed to the acre, from May 24th to June 10th. It may be sown with the grain drill, from 30 to 36 inches apart, and suitable harrowing after planting and thorough cultivating are of much importance. Feeding may commence when the corn is formed in the ear.

10. Rape is valuable for fattening sheep and cattle, and may be sown in drills profitably on land handled in the first part of the season as a summer-fallow on the same plan and with the same after management as in turnip culture; it is eaten on the land.

A bulletin will follow shortly on the methods of feeding green fodders.

The Old Question—Does Farming Pay?

EDS. COUNTRY GENTLEMAN—This question may appear like a thrice-told tale, but the sale, some time since, of a farm in my neighborhood to a thorough business man, and the rapid manner in which it is being transformed from its run-down, slip-shod condition has led me to ask: "Will Mr. H.'s purchase be a paying investment to him as a farmer?" I answer "Yes," because in his farming operations he is showing the same tact, energy and systematic business habits which have made him a wealthy, prominent business man who began with nothing.

It seems to me that few comprehend the wide range of essentials which are absolutely necessary for the make-up of a fully equipped farmer—I mean for the man who proposes to and does reach the topmost round of success. He must be a sort of *sub mensa* within himself. In the multiplicity of matters brought before him, in order to act advisedly, he is compelled to have some knowledge of chemistry, botany, entomology, plant physiology, civil engineering, machinery, &c., a good knowledge of human nature, and executive and administrative capacity. He must "carry his farm in his head and before his eyes" at all times, and form plans months in advance, and be possessed of energy and system. A man possessing these qualifications, and capable of practically applying them, will be successful as a farmer, or in any other vocation that he may undertake.

The reader may think I take somewhat visionary views of the requisites necessary for a successful farmer, but let any one analyse them carefully and see how few men are *successful* as such unless they do possess them, and that, too, to a large extent, and how very few "get along" at all unless they have, to some

degree, a practical knowledge of nearly all that I have recited. Is it at all surprising, then that no larger number of men succeed as farmers than in trade—about 10 in 100? It only astonishes me that there should be so many. Yet if we look dispassionately we must recognize the fact that farming must pay, and pay well in the long run, or so many would not engage in it as an occupation. The average farmer makes up his accounts—if he makes up any at all—and credits his farm with the net proceeds of his sales, or what ready money he gets from it. But should we not add to it the money saved by living on a farm, as compared with the money saved by not living (with the same comforts) in a city—say, cost of house-rent, fuel, milk, cream, butter, eggs, vegetables, poultry, fruit, use of horses, &c., for his family, and then let the grand total be compared with the percentage of return on his capital with that of the man engaged in legitimate business (not speculative), and from a somewhat extended experience and careful observation I am quite sure the farmer's annual balance sheet, as a general rule, will show the advantage. In these close, competitive times, the merchant looks for his profit in the volume of his business (bringing much anxiety and great risks from which the farmer is largely exempt) than in the largeness of the per cent. returned on his capital, which is turned many times during the year, and the farmer must act accordingly with successive crops.

For these reasons, I incline to think that while the average farmer (like the average business man) should not go to farming for the mere accumulation of money in a short time, farming does pay, and pays well.

Baltimore County, Md. J. R. M.

Straight Rail-Fence.

Eds. Country Gentleman—On p. 267 S. asks for my method of building straight rail-fence. It is evident from his letter that he has confounded this style of fence with the post-and-rail fence, a much more expensive fence, and no better except in point of appearance, and which is now seldom seen. In this section we build straight rail-fence by setting the posts not less than two feet in the ground and not quite ten feet apart (rails are uniformly ten feet six inches long). We then place a second and smaller post beside it, either in the ordinary way, or by sharpening it and driving until it is firm; then wire both posts together, both at top and bottom. By using an extra strand of wire at bottom you can rest the bottom rail on the wire and save "chunking." The smallest-sized galvanized fencing wire, or a smaller and cheaper wire, will answer. I use the wire made for baling hay, simply as I happened to have it on hand, and it is convenient to handle. A pair of pliers or pinchers is necessary for twisting the ends of the wire. The posts are placed far enough apart to allow the rails to be placed between them.

In fence-making I cut the rail timber the right length, then take a team, with chain, and drag the cuts along the line of the proposed fence and make the rails where they are needed, saving loading and unloading the rails, and then you can drag the cuts where it would not be possible to drive a wagon. There are several kinds of timber suitable for posts, that are not of much use for anything else, such as sassafras, mulberry, &c.; they make better and more durable posts than oak. My experience is that posts made when the sap is down is much more lasting than when made at any other time. A straight rail-fence, six rails high, is equal in height to an eight-rail crooked fence, from the fact that the rails lie upon the edge in the former and flat upon the latter. The legislature of our State recognizes this fact, and a six-rail straight fence is legal, whereas a crooked rail-fence must be eight rails high. S. *Brazil, Ind., May* 10.

Eds. Country Gentleman—For the benefit of your West-Virginia correspondent, p. 267, I describe a straight-rail fence, of which I have recently built about half a mile. It is made of split chestnut posts, 7½ feet long and not less than 8 inches on the face. These posts are holed for five rails. The holes are placed as follows: The bottom one is near the ground line, the second four inches above the first, the third six inches above this, the fourth eight inches and the fifth ten inches—that is, there are these spaces between the different rails, which with the five rails and three or four inches on the ground line makes the fence five feet high. The posts are set two feet deep, as solidly as possible. One fence that I saw in Pennsylvania, 25 years ago, had the post-holes filled with small stones, well rammed, which enabled the posts to dry out quickly after rain, and that fence, set 40 years before, as I was informed by the former owner of the farm, was perfectly sound. The frost will not heave posts set in this manner. The rails are 10 feet long, and are flattened at the ends to a wedge point, so that they can be placed side by side in the holes and forced up tightly, requiring no nails to hold them.

The manner of setting this fence is as follows: The first post is set, and the hole for the second is dug in the right place. The second post is put in the hole, and the rails fitted in one by one, beginning at the bottom. The post is then straightened up, and with the rails is pushed up until the rails are quite tight in the holes. The next post is then set and the rails driven tight in the holes as before, and so on, leaving the fence quite firm and solid—each post being carefully set in line and thoroughly rammed. The fence cannot be loosened in any place after having been well set, but is all joined together firmly and is very substantial. The rails should be straight, and if timber is scarce, 5 or 6-inch planks, 1¼ inches thick, may be used instead of them.

The holes are made in this way: A pattern is first made of a piece of board, 5 feet long, with the holes cut as desired for the fence. The posts are marked by this pattern. Holes are bored with a 2-inch auger at the top and bottom of the mortise, and the wood is cut out with a 2-inch "post-ax" made for the purpose. This is a very useful tool about a farm for other uses than making fences.

The cost of my fence was as follows for each panel of 10 feet—for labor only, the timber being on the ground: Five rails, 4c.; one post, 1c.; boring and mortising posts, 5c.; setting, 4c. Total, 14c., or about 23c. per rod.

H. Stewart.

The New Weather Bureau at Cornell.

An Ithaca correspondent of the New-York Times gives a detailed account of the organization at Cornell University of the "State Meteorological Bureau and Weather Service," under the act recently passed making an appropriation for the purpose, as noticed in this paper of April 25th, page 320. The names of weather observers scattered throughout the State (whom we understand to be also the present acting correspondents of the United States Signal Service Bureau) are given below:

Albany County—Signal Service Observer, Albany.
Allegany—John P. Slocum, Wilson Academy, Angelica; Jesse D. Rodgers, Nile.
Broome—W. J. Barnette, Nineveh.
Cayuga—Robert Warwick, Fleming.
Cattaraugus—Charles E. Whitney, Humphrey.
Chemung—Gantty Brothers, Elmira.
Chinton—James E. Pinkney, Plattsburg.
Delaware—D. C. Sharp, South Kortright.
Erie—Signal Service Observer, Buffalo; W. P. Hunt, Eden.
Franklin—J. H. Miller, Saranac Lake.
Genesee—Prof. F. M. Comstock, Leroy.
Greene—Dr. W. M. Wilson, Tannersville.
Herkimer—G. A. Trowbridge, Illion.
Lewis—R. Sanford Miller, Constableville; Chas. P. Fenton, Number Four.
Monroe—Signal Service Observer, Rochester.
New-York—Signal Service Observer, New-York; Dr. Draper, Central Park.
Niagara—H. C. Spaulding, Hess Road Station; J. W. Thurber, Somerset; W. D. Lovell, Pendleton Centre; F. B. Clark, Newfane.
Oneida—T. Birt, Utica.
Ontario—Mrs. N. S. Yates, Geneva.
Oswego—Signal Service Observer, Oswego; C. B. Bartlette, Vermillion.
Otsego—G. Pomeroy Keese, Cooperstown.
Putnam—R. B. Arden, Garrison; Thomas Manning, Carmel.
St. Lawrence—Prof. Henry Priest, St. Lawrence University, Canton; Joseph Graves, Waddington; G. W. F. Smith, Potsdam; C. A. Wooster, North Hammond.
Schoharie—F. X. Straub, Middleburg.
Schuyler—O. F. Corwin, Wedgewood.
Steuben—M. C. Cutler, Savona; Prof. F. S. Place, Alfred University, Alfred Centre; James E. Wilson, South Canisteo.
Suffolk—Selah B. Strong, Setauket.
Tioga—T. P. Yates, Factoryville.
Tompkins—Engineering Department, Cornell University, Ithaca; W. H. Jaffers, near Trumansburg.
Ulster—H. A. Stone, Rondout.
Warren—De Witt C. Jenkins, Queensbury.
Washington—W. W. Hance, Salem.
Wayne—Dr. M. A. Veeder, Lyons; D. L. Cummings, Palmyra.
Westchester—Prof. O. R. Willis, White Plains.
Yates—George R. Young, Penn Yan.

In addition to the weather observers the following Crop Correspondents are enrolled in the service:

Allegany County—Dr. Cutler, Bolivar.
Broome—Z. O. Spendley, Chenango Forks; M. R. Hulce, Deposit.
Cattaraugus—Horace Hart, Little Valley; M. W. Wagner, Limestone.
Cayuga—E. T. Brown, Aurora.
Chautauqua—W. S. Biardsel, Cherry Creek; Frederick W. Hyde, Jamestown; Edwin Ripley, Sherman; Alfred Clark, Dunkirk.
Chemung—Dr. H. M. Darling, Pine City.
Chenango—A. C. Hyde, Afton; J. R. Davis, Oxford.
Clinton—W. H. Robinson, West Chazy; George H. Carroll, Au Sable Forks; J. H. Packliner, Lyon Mountain.
Columbia—M. Parker Williams, Hudson.
Cortland—Ransom M. Lovell, Marathon.
Delaware—W. R. Beckley, Stamford.
Duchess—Thomas Haskett, Rhinecliff; H. C. Townsend, Wappinger Falls.
Erie—H. C. Wilder, Akron; W. P. Hunt, Eden Centre.
Essex—E. T. Edgerly, Minerville.
Franklin—J. H. Miller, Saranac Lake.
Genesee—N. Bogue, Batavia.
Herkimer—G. A. Trowbridge, Ilion; F. D. Mather, Newport.
Jefferson—M. R. Smith, Red Wood; F. D. Bagerel, Sterlingville; A. C. Cooley, Adams Centre.
Lewis—J. T. Kinsley, Natural Bridge; Charles S. Rice, Lowville.
Livingston—S. F. Gould, Avon.
Madison—F. H. Gates, Chittenango.
Monroe—William T. Stone, Charlotte; J. J. McVean, Scottsville; F. B. Cary, Hamlin.
Montgomery—Peter F. Nellis, St. Johnsville.
Niagara—William Carr, Suspension Bridge; W. D. Lovell, Pendleton Centre; H. C. Spaulding, Hess Road Station.
Oneida—Michael Kew, Boonville; H. F. Winchester, West Camden.
Onondaga—William Tibbets, Apulia.
Ontario—F. R. Emory, Geneva.
Orleans—C. H. Sum, Lyndonville.
Oswego—E. B. Bartlett, Vermillion; Nabel Haggard, Sand Bank.
Otsego—G. Pomeroy Keese, Cooperstown.
Putnam—A. A. Akin, Patterson.
Queens—J. O. Donnell, Jamaica.
Rensselaer—G. B. Baninger, Schodack Depot.
Rockland—R. A. Taylor, Haverstraw.
St. Lawrence—B. A. Whitney, Lawrenceville; C. A. Hadegas, De Kalb Junction; Peter R Muller, Lisbon Centre.
Saratoga—B. S. Robinson, Greenfield Centre; Nathaniel Mann, Ballston.
Schenectady—Addison Wilber, Quaker-street.
Schoharie—F. X. Straub, Middleburg.
Schuyler—O. F. Corwin, Wedgewood.
Steuben—James E. Wilson, South Canisteo; Asa Adams, Blood's Depot; Asa Jewett, Corning; T. M. Younglove, Hammondsport; N. E Caston, Greenwood.
Suffolk—C. W. Kiebrich, Holbrook; R. Jefferson, Peconic.
Sullivan—Luther Webster, Liberty.
Tioga—G. E. Purple, Newark Valley; J. R. Chedsey, Candor; C. F. Lowman, Nichols.
Tompkins—W. Jaffers, near Trumansburg; C. A. Stant, McLean.
Warren—De Witt C. Jenkins, Queensbury; Miss A. Morehouse, Wevertown.
Washington—W. W. Hance, Salem; H. Tabor, Easton; P. B. Ingalsbe, Fort Edward.
Wayne—D. L. Cummings, Palmyra; Elmer R. Backovell, Lock Berlin.
Wyoming—Horner Clough, Arcade; James G. Shepard, Attica.
Yates—George R. Young, Penn Yan; Amos Smith, Starkey.

The Season and Crops in Delaware.

Eds. Country Gentleman—The usual annual report of the failure of the Delaware peach crop has already appeared and been extensively copied by the press. Such reports have appeared regularly for years past and almost as regularly has the peninsula sent her millions of baskets of the luscious fruit to the eager consumers.

Unless something now entirely unforeseen happens to injure the growing crop, the season of '89 will give an average crop of good quality. The weather has been favorable for fruit thus far excepting a severe eastern wind and rain storm on April 25th, 26th and 27th, when the pear trees were in full bloom. I am inclined to think that this severe rain storm washed the pollen off and prevented fertilization to some extent, for although the bloom was profuse pears have set a light crop on the average. The same storm injured peaches in some localities, but not enough, I think, to prevent a fair crop. Peach basket factories are running full blast and arrangements are being perfected to distribute the crop by fast express freight wherever there is an opening.

The growing crop on this peninsula has been variously estimated at from two to five million baskets—but it is yet too early to place any reliance on crop estimates.

Delaware has been blessed with plenty of rainfall thus far, and all crops are making fine growth. Winter wheat stands two to three feet high, and some fields are already heading. Meadows look finely; many pieces of clover are over a foot high. Corn planting is completed, and many early planted fields are about ready to cultivate.

At this writing (May 14th) a glorious shower has been falling for over an hour, and still continues.

May 16.—A twenty mile drive to day through Central Delaware shows very rapid improvement in vegetation since the showers of the 14th inst. Corn is nearly all up and presents a generally even stand. I saw several fields of wheat nicely headed out and standing 3½ to 4 feet high. S. G. P. *Kent County.*

Our Illinois Correspondence.

Champaign County, *May* 15.

The heavy rains of last week on the west side of the State were quite light on the east side, and were beneficial, rather because of the three lowery days associated with them, than the less than a fourth of an inch that fell. We are having a repetition to-day of light showers, which amount to little more than drizzles, but are no doubt good rains west. The east side will probably get its due proportion of precipitation when its territory has been invaded by the laps one shower makes over another in moving over the country. Notwithstanding the hot winds and the unusual heat for the time of year, the rains were accompanied with very little thunder and lightning, and for the want of that *rapport*—due to drouth probably—between the electric states of the earth and the clouds and atmosphere, associated with these phenomena.

Of true cyclones Illinois has heard nothing the current spring, though sudden gusts of wind have done some damage in various places. The great bodies of cumuli clouds so common a feature a whole or even half a generation ago during the warm season, have not invaded the sky and massed and marshaled their forces in the afternoon and evening, and perhaps we shall get neither heavy rains nor all shaking thunder, nor terrible cyclones, until they appear on and above the horizon and take possession up to the zenith.

Besides oats and grass in pastures and meadows, and strawberries and small fruits, the drouth has done little damage to date; but that feature of the season which reduces the hay crop one half and cuts down pastures as much more, is a heavy blow to a farming region where the chief crops are corn, hay and grass. H. F. J.

Grasshoppers in Minnesota.

Burying the young alive before they are hatched.

Accounts from St. Paul, under date of May 14th, say that Prof. Otto Lugger of the State Experimental Station had returned from Perham, Otter Tail County, which he made the seat of the war he is waging on the grasshoppers. He has been for some weeks going over the fields in Perham, Battle Lake, Frazee City, and Otter Tail, examining the ground and condemning such as he found infested with the larvæ of the locusts. A large force of men are at work under his direction, and when they quit work Saturday they had plowed under about four thousand acres of soil, which was thickly sown with these eggs. The eggs are about twice as large as a pin head, and the hoppers when first they hatch are lively little black fellows about half as large as a small grain of wheat. In plowing the soil the object is not to destroy the eggs, but to get them so deeply in the earth that when they hatch the young hoppers will find themselves buried alive, and will die before they see daylight.

Before the soil is broken the eggs lie in little cells like holes, dug by the hopper that lays them, to the depth of one-half, three quarters, or sometimes an inch. The cells are oval shaped, and have an opening direct to the air and sunshine, through which the young hopper comes, ready to begin his career of hopping. Dry weather for a few days will help his growth wonderfully, and put him in shape to get his own living at the expense of the thrifty farmers who live in his own and the adjoining townships. Prof. Lugger said that the high winds which scattered the earth in all directions as it was broken, was also a good thing for the hoppers. The wind and dust in some parts of the district where the work had been in progress were blinding, and the eggs had been scattered far and wide. The hatching season had just begun, and the first ones to put in an appearance in the fields were noticed three days ago. The season will last for about two weeks longer, and whatever was done in the way of plowing would have to be done within that time.

"The critical time will come during the next fourteen days," said the professor. "I cannot tell just how effective the work will be, owing to the drouth and the winds, but if we could have a good soaking rain it would be just what we want." Prof. Lugger said that it would cause a considerable hardship to plow up so much of the land where crops had been put in.

From a Veteran Advertiser.—The inquiry, "Why do people neglect to advertise?" is made by a subscriber in your issue of May 16th. The very intelligent class who habitually read your admirable paper cannot lay this sin to our charge. We commenced to advertise in the Country Gentleman some thirty years ago (when the Cultivator was your

monthly terms, if our memory is not at fault), and have kept it up ever since. Although we have gained a multitude of friends among your readers, who know us experimentally by our works, and our machines, under our old trade-mark of Buckeye, have become so pleasantly familiar to the users of mowers and reapers, we continue to hold a place in your advertising columns, the value of which such an extended experience has taught us to appreciate. With the wish that you may continue to make your paper as attractive and valuable to the farmer and stock-raiser as you have in the past, ADRIANCE, PLATT & CO.

New-York City.

Weather, Crops and Prices.

Meteorology for May 13-19.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30.33	inches.
Lowest	do.	do.	..... 29.72	do.
Mean	do.	do.	..... 29.96	do.
Highest temperature	do.		..... 90°	
Lowest	do.	do.	..... 34°	
Mean	do.	do.	..... 65°	

Four fair days; three cloudy. Two days on which rain fell; total precipitation, 0.39 inch. Prevailing wind, S.; maximum velocity, 30 miles per hour, on the 17th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day.....	13th	14th	15th	16th	17th	18th	19th
This year...	69°	66°	64°	68°	74°	76°	78°
Normal.....	57°	58°	58°	57°	60°	60°	62°

Total excess for the week, 73°.

General Review of the Week.

The week has been warmer than usual in all agricultural districts east of the Mississippi and from Iowa southward to Texas. It has also been warmer than usual on the Pacific coast, but in the extreme Northwest, including Minnesota, Dakota, Nebraska, Colorado and Montana, abnormally low temperatures have prevailed, attended by snows, and in some cases freezing weather. In Dakota the average daily temperature ranged from 6° to 9° below the normal, while in the Northern States, east of the Mississippi, the daily excess of temperature ranged from 6° to 12°. The thermal conditions for the season continue in excess, except over the southern portion of the cotton region, where the seasonal temperature has been slightly below the normal. The season is about one week in advance in New England, New-York and Pennsylvania, in upper Mississippi and lower Missouri valleys, and on the North Pacific coast, and is from one to two weeks in advance in Dakota and Northwest Minnesota.

There has been an excess of rainfall during the week generally throughout the upper lake region, the upper Mississippi and Missouri valleys, where the excess ranged from one to three inches. More than the usual amount of rain is also reported from Virginia, Maryland, Western Pennsylvania, Eastern Massachusetts, Eastern Ohio and Southern Indiana, and well-distributed showers occurred over Tennessee, Kentucky, Arkansas, and northern portions of Louisiana and Texas. Excessive rains are also reported on the Pacific coast north of San Francisco, while no rain occurred over the southern portion of the cotton region, extending from Southern Texas to Eastern Georgia. The rainfall for the season continues in excess along the middle and south Atlantic coast, and from Southern Texas northward to Dakota. The rainfall during the past week over the wheat region of the central valleys was timely, and doubtless improved the crop conditions, which, at the close of last week, were in a critical state, owing to the absence of moisture. The showers which occurred in Tennessee and northern portions of Alabama, Georgia and North Carolina afforded some relief to crops in that section, which are still greatly in need of rain. The large rainfalls over the wheat regions of the Pacific coast increased the seasonal percentage of precipitation in Northern California from 35 to 72 per cent., while in Washington Territory and Oregon about 6 per cent. of the annual rainfall occurred during the week.

The weather during the week was favorable for growing crops in all sections, except in the South Atlantic and East Gulf States, where hot, dry weather and the absence of rain were unfavorable for cotton and have doubtless caused some damage to small grains in South Carolina, Georgia, Alabama, and southern portions of Louisiana and Mississippi. Throughout the wheat regions of the central valleys and the Northwest recent rains greatly improved the crop conditions, and also lessened the chances of injury from chinch bugs and cutworms, which were rapidly increasing in some sections. The cold weather and snows in the Northwest have doubtless affected the crops favorably in that section. In Texas the weather was favorable for wheat, which is now being harvested, but oats were somewhat injured by drouth all other crops were improved. The rains which occurred in the early part of the week in Kentucky and Tennessee, although not sufficient, greatly benefited all crops, but it is probable these rains did not occur sufficiently early to make a full crop of oats and tobacco. Generally throughout New England, the Middle Atlantic States, and States north of the Ohio River, the week was especially favorable and all crops are making satisfactory progress, except in portions of Indiana, where the drouth continues, but there is a prospect, however, of rain in that section within the next forty-eight hours. These rains will probably extend southward over the greater portion of the cotton region, where they are much needed. Slight damage resulted from hail in some sections of Tennessee and Iowa.

Connecticut—*Mystic Bridge, New-London Co., May* 18.—We are having fine spring weather with but little rain; grass is growing well. Cattle looking unusually well; at present, indications of a good crop; farmers are getting well along with spring work and planting. Owing to our mild winter hay is plenty and selling for $15@18 per ton, which is cheaper than it has been for several years. F. S. P.

New-York—*Canton, St. Lawrence Co., May* 14.—Seeding is nearly finished, almost two weeks earlier than usual in this latitude. The spring has been unusually fine and favorable in every respect. The grass crop promises to be the best for years. Cows are getting a full feed without other ration, something unusual so early in the season. Dairies are considerably smaller than last year—I should say about one-fourth, owing to the short hay crop last year, and that means just so much less butter and cheese for the season. If this is general in all dairying districts it means better prices for these products this fall. Fruit trees are not blooming much. Markets dull for everything the farmer has to sell. L. T.

New-Jersey—*Franklin, Essex Co., May* 11.—The April rainfall here was nearly double the average. Thus far May has been rather dry; a spell of excessively hot weather closed on Friday with one of the most terrific gales ever seen in this part of New-Jersey. If this month continues dry our hay crop may be short, but if so we shall not reap the benefit of high prices, for the railroads bring baled hay from the west and keep prices down. Within a few days a carload of prairie hay has been sold in our village. The farmer must sell in competition with the cheapest labor in the world, and then be forced by trusts, tariffs and combines to buy in the dearest markets. J. H.

Ohio—*Mechanicsburg, Champaign Co., May* 15.—On the 11th and 12th we had several showers, which came none too soon, for the crops needed it. Cut worms are numerous on sod ground. I believe nothing is gained by planting corn too early. Corn planted May 4 is doing better than that planted April 24, and corn planted May 7 will be as good as that planted April 24. If planted too early, and the ground keeps cool, some of it is sure to rot, and cut worms are sure to work on it more than that planted later. Weather cloudy; mercury 68°; wind south; indications for more rain, which is needed. Hay will likely to be a short crop. S. W.

Westerville, Franklin Co., May 18.—Hay is selling at barn at $12@14 per ton; hogs, $4.80; cattle, $3@3½ per cwt. Wool buyers have not started out, but talk about 30c. The apple crop promises to be about one-third of last year's yield, the drouth and cold winds having caused the falling off of the fruit. Butter will made is the most profitable product of the farm; price is 20@30c. per lb. Corn is slow in coming up. Cisterns empty and no indications of rain. No disease among hogs or other live stock. Poultry-raising for profit is gaining favor, and this is a good season for it. S. W. P.

Indiana—*Rockville, Parke Co., May* 17.—This county is not very jubilant over her prospects for crops of any kind. On upland generally wheat is very poor. On well manured and well cared for lands wheat is good, also on bottom lands. Oats are a very doubtful crop at present. Grass very short; corn is making a good stand and so are potatoes, and with fair rains will make a good crop. Fruit was badly damaged by our May frosts. I fear all except berries will be extremely short. Our farmers are slow to learn that crops cannot be raised now, with the same culture and care as they were when lands were fresh, and so long as they do not see this their bank account will show figures on the wrong side. S. C. S.

Illinois—*Vandalia, Fayette Co., May* 13.—Cloudy and cool; have had a delightful rainfall of 1½ inches since the 11th, the first since April 14. Wheat is heading out, and the prospects are for a tolerably fair crop after all; oat crop will be short, and the corn crop of course will mainly depend upon the weather, as a larger percentage will be planted this spring than usual. Produce of all kinds a drug on the market; cattle, sheep, hogs and poultry at ruinous prices. S. A.

Wisconsin—*Janesville, Rock Co., May* 14.—The spring weather is most delightful—cool and refreshing. We have not had the heat of last week, nor the cold, but a medium; three light rains, one just now; a thunder shower of moderate pretensions. Never have I known all things grow so luxuriantly as now. If our conditions should continue we surely may expect an abundant crop of all things. Tobacco beds are a little yellow. It is not quite warm enough for them; still there has not been the usual trouble in covering and uncovering from frost as is general each season. Wheat, 80@74c. per bu.; barley, 44@47c.; rye, 40c.; corn, 36@37c.; oats, 28c.; hay, $4@7.50 per ton; butter, 16@18c. per lb. eggs, 10c. per doz.; cattle, $2.50@3.50 per cwt.; hogs, $4.25@4.40. Business good; health fair. Tobacco as last quoted; slower if anything. W. H.

The Fancier.

The Dandie Dinmont Terrier.

Probably no breed of dog has been the innocent cause of more prolonged and bitter controversy than this game little terrier. Every reader of Scott's "Guy Mannering" will remember the splendid description given of the

DANDIE DINMONT—*Specially engraved for the* COUNTRY GENTLEMAN *from sketch of a Prize Dog, made in England.*

stout Liddisdale farmer, Dandie Dinmont, and his grand little pepper-and-mustard terriers. These terriers, however, were, according to Sir Edward Landseer's painting of Sir Walter Scott's Dandies, very different from the present day Dandie, but no good can be derived from going over the old ground as to the purity of the breed. The history of this dog is, however, of the greatest interest, and according to Mr. Steel, who writes in the "Dogs of Scotland," the first authentic record of the existence of this favorite terrier shows it to have been in the hands of the famous "Piper Allan," who, when at home, resided in the village of Holystone, six miles from Rothbury, and in the wildest portion of Upper Coquetdale. Allan is reputed to have kept what in those days was the large kennel of eight or ten terriers, principally used in otter hunting, to which they had been specially trained, and in which they were unusually proficient. The breed remained, it is supposed, in all its purity in the hands of his descendants for several generations, though history is silent on the subject, until Mr. Francis Sommer, now the oldest living breeder of Dandies, purchased "Old Pepper" from the grandson of old Piper. It would appear, however, that animals of the breed had passed into other hands, by whom they were kept in a pure state and fostered with the utmost care.

The publication of Sir Walter Scott's Guy Mannering, in 1814, reveals the breed in its presumed original condition, and used for precisely the same purposes it served in Allan's time, only that, in place of otters, foxes formed the game. Though Dandie Dinmont was stated by Scott to be the representative of a class rather than an individual, the descriptions resembled so much the appearance, habits, and amusements of Mr. James Davidson, Hinlee, a Reed-Water pastoral farmer, that he was at once singled out as the Dandie Dinmont of the tale. His terriers, all of which were named "pepper" and "mustard," with diminutives and other variations prefixed, in a short time received his somewhat uncouth byname, and before long these game little dogs, which for a hundred years had been without a distinctive appellation, were known far and near as Dandie Dinmont terriers. The flattering notice taken of their prowess and endurance by Scott attracted the attention of dog-fanciers everywhere in the United Kingdom, and the breed at once sprung into extensive popularity, the unwonted demand straining the resources of owners, and giving an immense stimulus to the energies and efforts of breeders. While the Dandie Dinmont became a universal favorite throughout the length and breadth of the land, it was nowhere more prized than on the borders.

Mr. Davidson died in 1860, and his celebrated kennel was dispersed. Though it is known who obtained dogs from him as gifts, there is no record as to what became of those remaining at his death, but it is believed, and not without good reason, that some passed into the possession of the Tulfers of Blindburn, in Coquet Water, his more distant relatives, the Charltons of Brandenlaws, at the head of Oxnam Water, and the Davidsons of Swinnie, while terriers of the purest lineage have been for about half a century at least, in the hands of the Elliots of Hyndhope, at the head of Kale Water, and the Robsons of Byrness, and the Dodds of Catcleugh, at the head of Reed Water. The stalwart family of Telfers is now extinct in the male line, but the Dandies are still prized possessions in the other families mentioned. The Kyles of Braidlee were also staunch supporters.

A most interesting and exhaustive work on Dandie Dinmonts was published by Douglass of Edinburgh in 1885. This was written by Mr. Charles Cook, and in it is given all information respecting the breed that could possibly be gathered. In addition to the value of its text there are portraits of several famous dogs, drawn and etched by Mr. W. Heil, A. R. S. A. The head of the Dandie is large and heavy looking, in proportion to its size, and the skull is broad between the ears, which should be set on low; they are almond shape, pendulous, and close to the head, and are slightly feathered; the head very gradually tapers to the muzzle, which is long, deep, and powerful; the nose is large, well-formed, black, and well spread over the muzzle, which should be thinly covered with short, hard hair. A noticeable feature is the soft, silky hair, which covers the head and which is of a lighter color than that on the other parts of the body. Although soft and silky this hair must not be curled, and it should be slightly wavy. The jaws are very powerful with strong, level teeth—over-shot or under-shot are very objectionable; the eyes are brown, large, and very expressive, and of great intelligence; the body is very long, with a good chest, well let down between the fore-legs; neck very muscular; back slightly arched, and the ribs round; the fore-legs are very short, thick and straight, set wide apart, with great muscular development; the ankles are turned slightly inward, which gives the dog an appearance of being somewhat bow-legged—the leg bones must, however, be perfectly straight; the feet are broad, well framed, standing firm and well under the chest; the hind legs are longer than the fore, are well bent at the hocks; the thigh-muscles well developed; the feet rather smaller, and toes shorter; there is little or no feather on the legs. The tail should not be set on too low; it is thick at the root, and continuing so for three or four inches, then tapers to a fine point; it is carried gaily, but should not be curled over the back. The coat of the Dandie is regarded as most important. The hair, about two inches long, should be what is termed "piley," that is, about two-thirds hard and one-third soft or linty, giving it a crisp feeling to the hand. As it nears the under part of the body and legs the hair is both softer and lighter—that on the head we have already described. The color of the Dandie Dinmont is either mustard or pepper or their mixtures; the height is eight to twelve inches; weight about twenty pounds for dogs and sixteen pounds for bitches. The general appearance of the Dandie is that of a rough-coated, thick-set, low, flexible-bodied dog, full of strength, determination and activity.

STEPHEN HEALD.

Horticultural Department.

Editorial Notes and Comments.

CULTIVATING STRAWBERRIES.—There are many details of management adopted by different cultivators, but there are two points which should not be overlooked by those who employ field culture, and keep the rows clean by passing the horse-cultivator. One of these is, to pass a cultivator often enough to keep the crust of the soil well broken and pulverized. Merely keeping the ground clean will not give the best results, if it is allowed to become hard and crusted. In connection with this requirement, and a part of it, keep the narrow matted rows not over six inches wide, by running the cultivator close up to them. If allowed to spread and become a foot or two in width, the middle portion will not be benefited by the cultivation, and its crowded masses will show the plants smaller, sickly, and bearing smaller berries. The other point which we have alluded to, is *manure*. The ground may be rich before the plants are set out; but good top-dressing afterwards, which will become well intermixed with the top soil by working it, will make a great difference in the vigor and productiveness of the plants, and in the size and richness of the berries. After the plants are set out the cultivation should be confined to the surface, so as not to break the roots, or should not be more than two or three inches deep at the utmost.

MIXED MANURE.—The experiments at stations and by individuals continue to confirm the old opinion that barn manure is more universally useful and efficient under all circumstances than any of the special fertilizers. In rating its value by analysis, the carbonaceous matter which it contains is not commonly taken into account, but its abundant presence is one reason why it is so generally beneficial to all soils. It operates in several ways, among them in the mechanical condition given to land, and in promoting the absorption of moisture and essential ingredients of fertilizers. It greatly assists in improving the texture of many soils. With these qualities, it is well to mix with yard manure various other substances. Inquiry is often made for the best way to apply bone-dust, plaster, marl, air-slaked lime, superphosphate, &c. In most cases the easiest way is to mix them through heaps of manure, in their alternating layers; and if there is plenty of the manure, and the quantity of the other ingredients is small, the more perfect the intermixture can be made. The thinner and more numerous the layers, the more perfectly they will be diffused through the manure, and the less labor will be required in working over the pile of manure.

SETTING YOUNG TREES.—We have often endeavored in years past to point out the advantages of transplanting young trees or those of moderate or small size, instead of such as were overgrown and which had roots cut short and mutilated, and not able to support the heavy tops. The smaller trees are more easily dug, better roots are secured for them, they may be better packed for conveyance, they cost less on the railroad, they more quickly replace any loss of roots, and they make handsomer and more vigorous bearing trees, generally in less time than the overgrown ones from the nursery. The editor of "Purdy's Evaporator" says that after nearly forty years' experience in growing and planting trees, and setting on his own place over three thousand apple trees of various ages and sizes, the youngest set are today the best and healthiest trees.

GREAT BERRY CROP.—A well-known strawberry culturist publishes in his trade catalogue an account of the great productiveness of a new variety, which bore nine pints of berries at one picking, from a row 16 feet long and 6 inches wide—only 8 square feet. At the same rate he would obtain 750 bushels an acre, besides a portion which visitors had taken. Another nurseryman advertises the same berry with large pictures, large letters, exclamation points, and the words "wonderful, at 1,000 bushels to the acre!" This reminds one of the great cabbage crop once reported from a single very large head, occupying a foot square, at which rate, multiplied by the square feet in an acre, an immense crop was obtained. The above rows of strawberries must have had at least two or three feet between them for the roots to extend themselves, and the above mentioned quantity claimed, should be reduced to one-fourth. The extravagant advertising which has become so common with some nurserymen, who wish to sell their over-stock of plants, should be interpreted by intelligent purchasers as a serious drawback on the value of the lauded varieties, for those which possess real merit do not need the words "prolific," "pride," "wonderful," "superb," "mammoth," "jumbo," and "glory."

FRUIT-TREE PEDDLERS.—A writer in the Elmira Husbandman notices the unfair and indiscriminate denunciation bestowed on nursery agents and fruit tree peddlers, mostly by writers who have taken a very superficial view of the subject. There are genuine dealers and unprincipled imposters in nearly all kinds of business. We have always taken the ground that the existence of a counterfeit does not prove that the bank is worthless. On the contrary there are no counterfeits on a worthless bank. The writer above referred to says that newspapers all over the country "are emptying their vials of wrath" on the tree agents; and then enumerating the various modes adopted by them, asks, "why not condemn every merchant because a few rascals among them mix sand with sugar, and others make butter out of lard." Many a deserving young man has gained a foot-hold in life by spending his vacation canvassing rural districts in the interest of some nursery. But they labor under two disadvantages: It requires years for the trees to bear, and to show purchasers that they have been dealing with honest men; and many purchasers never inform themselves on the value and characteristics of the best fruits, and in this way invite imposters to take the place of honest men and drive them out.

Starch in Plant Cuttings.

EDS. COUNTRY GENTLEMAN—During last winter the writer made an investigation of the behavior of starch in the cuttings of twigs of several widely different plants. Thus, two rose cuttings were taken from a moist sand bed in the greenhouse. The first was the lower one of five from the same cane, and had not started to grow; the second was the middle one of the five, and had a large callus formed at its lower cut surface, while a new side branch extended two inches from the cutting, and bore three well-developed compound leaves. In other words, in the two cuttings taken from the same cane, one was still dormant, while the other had undergone considerable growth, stimulated by the warmth and moisture of the bed of sand. In the first, when the test for starch was applied, there was a quick response. This test consists in dipping sections of the cutting, made with a sharp knife, into a weak solution of iodine, which may be obtained of any apothecary for a few cents. The iodine turns starch of a beautiful dark blue. This starch was present in the medullary rays—that is, the thin plates of "silver grain," as they are called in such wood as the maple, oak, &c. In other words, in the rose in question the whole of the starch was contained in the wood zone, and in that zone it abounded in the radiatory layers of cells which extend from the pith to the cambium. No starch was found in the pith or the bark. In the other cutting, which had began to grow, there was no starch to be found in any part.

Following the consideration of the starch, tests were made for other carbo-hydrates, as they are termed—that is, starch-like substances in their chemical composition, but differing from starch in being soluble in water, and therefore dissolved in the cell sap of the plant. In the first there was very little indication of sugars, while the second showed an abundance of grape sugar (or dextrine), especially in the fine cells of the pith. The conclusion is easy to reach, namely, that the starch of the rose-cutting, under the peculiar stimulus of growth, or the conditions favorable for growth, changes over into the form of soluble starch, or in other words, into one or more of the sugar groups.

Cuttings of an early-flowering shrub, known as the forsythia, were examined in the same manner as those of the rose, except that one cutting was taken from a cold-storage box instead of using a dormant one from the sand, which it was impossible to find. Only a small amount of starch was found in the resting cutting, and that was located in the medullary rays and outer three or four layers of pith cells. A similar examination of a cutting which had developed a side shoot two inches long showed only a trace of starch.

A further examination of twigs revealed the fact that the starch is first withdrawn from the pith if any is in it. Following this, it is used from the wood, and last of all, it passes out of the thick-walled cells which lie at the base of each lateral bud. BYRON D. HALSTED.

Rutgers College, N. J.

How we Beautified the Farm.

There is a great deal said and written now-a-days about "home decoration." A great deal of advice, and very good advice too, most of it, is given through the press on the subject of making home attractive—the inside of the home. This is all very well as far as it goes, but with farmers and their families it does not go far enough. In a city house one's home lies within four walls; in a village there is a lot of greater or smaller dimensions to be beautified, but farmers must improve the whole plat, generally a large one, on which their house stands, and in some degree the whole frontage of their property must be looked after, with a view to neatness at least.

I am the daughter of a farmer, in fact I come of generations of farmers; I am the wife of a farmer, and although one of my young giants is running a western newspaper, and the other is fighting his way through the Columbia School of Mines, there is every indication that my daughters will marry farmers, and that little Jock will tread in his father's footsteps.

It is a strange thing, but the two great essentials of attractiveness which are conspicuous by their absence about the dooryards of many farm-houses, are just the two things which may be had almost for the asking—grass and shade. I know of no more dismal sight than a sparsely painted farm house, without the sheltering shade of a small tree, and with bare earth where luxuriant grass should abound, or a "lawn" whose proudest boast is plantain, with an occasional tuft of quack-grass and dandelion.

Fifteen years ago, when "the boys" were respectively eight and ten years old, we bought what is now the "old homestead," but what was then a new house of four rooms standing in one of the fields of our two-hundred-acre farm. Fortunately it stood a long way back from the then lonely road, but still the site was literally a "field." Corn had been grown up to the very door step as was shown by the stubble. There was no fence or other dividing line to indicate my much coveted garden. Planed lumber was scarce and high, skilled labor equally so, but there was plenty of woodland on the farm, and among this a knoll covered with beautiful cedars.

John, bless his honest old heart, thought only of getting the farm under cultivation as soon as possible, and indeed there are many lives where æstheticism must give way to necessity. My first petition was that a deep furrow might be drawn around the house and as much land as John was willing to give up to our future "grounds," not including a kitchen garden. Land was not much of an object, (at least we had plenty of it), and a plot of two acres was assigned for this purpose. We were two years in fencing this, which we did with a beautiful rustic cedar fence in front, and on the sides as far back as the house with an ordinary rail fence. John says I was the moving spirit of this enterprise. I do not know whether or not spirits drive nails, but I do know that I drove many a one into that cedar fence. John helped when farm work was slack, and the boys, who were always great, sturdy fellows, worked with a will at all times.

Meantime we were busy at landscape gardening for the grounds. We instituted sundry family "Arbor days." Each birthday was celebrated by the planting of a tree. Strangely enough all our birthdays fell in April and May, except that of little Jock, who was a Christmas present. It was kept, however, in April. As soon as the children were old enough to have a choice they chose for themselves beech, maple, oak, cherry or evergreen, but the work of planting was done by the two older boys, and a great delight it was to them. Young forest trees, seven or eight feet high, were scattered with a generous hand over the two acres. Eight trees a year were planted in this way until two of our number went to dwell in that city where planting and reaping are unknown. Since then, on these two sacred birthdays, trees have been planted on the lonely hillside where our loved ones lay. In course of time the boys went out in the world, so that Arbor day is no longer observed by John and I, who are growing old, or by the girls who are soon to make nests for themselves, but it was in this way that the stately line of elms grew up, which almost overarch the road in front of the house. Large specimens of this tree may be transplanted with safety if care is taken to secure as many of the fibrous roots as possible. These must be spread out in large holes, deep and wide, and filled in with good and well prepared soil.

The rail fence has been supplanted by a beautiful hedge of beeches. These were grown from the seed, and make a very useful hedge as the tree bears pruning and the branches readily intertwine.

Every tree is fraught with tender recollections. The two tall maples, whose graceful heads are nodding in at my window, were planted by Dick and Teddie, one on my birthday and the other on Baby Beth's. They are of different varieties, however, for October turns mine into scarlet splendor, while Baby Beth's is like the sheen of her golden hair. Only two other trees here belong to Beth, the rest are up on the hillside.

These three evergreens speak especially to us of little Paul. He wanted trees that would not "die" in winter. Dear little fellow; he has gone where there is no dying, where the tree of life grows on the border of the beautiful river.

That graceful group of white birches—a small grove in fact, belongs to Helen, who is tall and graceful, and pleasant to look upon, like her favorite tree.

The four-roomed house has grown with the trees, and as we did not plant these close enough to exclude air and sunlight, it is not lost sight of in the foliage. John says we own 50 per cent. of the increased value of our farm to our "Family Arbor Day."

I would like to say to farmer's wives and daughters that this is a matter for their jurisdiction. If your husbands and fathers do not look after beautifying the grounds, do you see what you can accomplish with energy and skill. Flower beds take more time than you can perhaps spare, but a lawn once sowed will remain a lawn forever with mowing and mulching, and a tree that once takes root will be a joy forever. If you want a bit of color, plant nasturtiums where there is a bit of soil about tree trunks or fence posts, and you will quickly be rewarded with their riotous, tropical beauty.

New-Jersey, May 11, 1893. A FARMER'S WIFE.

The Trucking Season at Norfolk.

EDS. COUNTRY GENTLEMAN—May 1st generally sees small, scattering shipments of strawberries going north from this point. This year our season is fully two weeks late.

The berry crop now on hand is very large indeed, and prices are sure to rule low. At 8 and 10 cents per quart there is more money in berries than almost any other fruit or vegetable crop. The price at the beginning of the season rules well up—say from 30 to 40 cents per quart. This price, however, rapidly declines to 20, 15, 10 cents, and late in the season thousands of quarts sell in New York below cost of picking and freight. This is the largest berry centre in the United States. During the height of the season the teams that bring in the berries from the surrounding country, in a single day, put in one continuous string, as closely as possible, one behind the other, would reach fully two miles in length. This is a royal procession, and brings much money into the country.

At the same time an equal or larger amount of berries come by little sloops, schooners, &c., from all the hundreds and thousands of farms on the salt arms of the sea in this vicinity. The crop averages several million quarts each year. A fair-sized patch of berries is 10 to 15 acres; some have less than this, while others run as high as 100 acres. A few years ago we stood upon the farm of one man here who had over 300 acres in berries, and who on one day employed 1,700 pickers (big and little), and shipped in one day 84,000 quarts—the largest (one-man) shipment on record. The same man in one day shipped 130,000 bunches of radishes. But these large areas do not pay as well in proportion as the smaller ones.

Peas are coming rapidly on; also cabbages. Berries, peas and cabbages will all go north together. This section now resembles a great ant heap that has just been disturbed. Colored laborers are going and coming in all directions. This section draws upon the interior—through the months of May and June—heavily for laborers; and the whole face of the country is fairly alive with at least 30,000 laborers, within a circle drawn around this city, the radius of which is, say 10 miles.

The trucking season has not been profitable

so far in 1889. We were talking with one of our farmers yesterday who is making from 60 to 65 lbs. of butter each week, and selling the same at 30 cents per pound, and the demand exceeds his supply. *He* is on the right road to prosperity. A lady friend of ours, also—at our request—stated in writing that, beginning May 1, 1888, with 100 hens, she had sold up to May 1, 1889—eggs, $265.66; chickens, $60; value of droppings, $25; had increased her flock by 50 hens worth $30, and had on hand 150 spring chicks worth $15; the entire feed bill for the year was $90.95, leaving a net income of $304.73 from 100 hens in one year. This beats market gardening or general farming, and simply shows what care and management will do. A. JAYNES. *Norfolk, Va., May 10.*

Apple-Tree Irrigation.

Last year, not far from this date, I gave an account of the beginning of some experiments in irrigation of apple trees, to confirm or refute a hypothesis of my own, that nothing beyond a sufficient supply of moisture and proper plant food, was necessary for the health, vigor and fruitfulness of the apple and the pear on the black-soil prairies of Illinois. The trees under direct experiment were two Perry Russets, one Vandevere, one Snow, one Cooper, and one Autumn Swaar, with half benefits conferred on one Rhode Island Greening and one Keswick Codlin. The earth under each tree was kept in clean cultivation, water was copiously supplied all the summer and fall season, and potash and phosphate fertilizers applied liberally after the year's wood-growth had been completed. The Cooper made no crop, 1888 being the off year for it, and as for the Russets, they failed to produce fruit, as they had done every year since planting in 1865. The others were fairly well laden with sound, high colored apples. It was soon evident the treatment begun early in May, 1888, had little or no material influence on the crop for that year, whether for good or bad. This year, the Russets for the first time have blossomed full and if the fruit sets and hangs on, they will produce a heavy crop. The Vandevere, Snow, Cooper and Codlin, less than a week ago, were a mass of bloom and promised equally well. I attribute the bloom on the Russets to the high feeding they have had the benefit of, and if they make a crop, will credit it to the same cause. This variety is so remarkable for the excessive development of twig and foliage as for barrenness, and I account for the latter feature that under average circumstances there is no more than enough moisture and plant food in the soil to support leaf and twig growth, and therefore no excess to develop fruit—and hence barrenness. Whether with the heavy bloom the trees will succeed in making a light or large crop, remains to be seen. Except in the case of the Cooper, 1889 is the off-year; cold winds and hoar-frosts prevailed during the season of bloom and for the last three days the setting fruit has been threshed by hot south winds. All these circumstances are against a crop. Still, I feel reasonably certain the careful cultivation and the high feeding will prove a success. And further, I believe that with cultivation, moisture and the proper fertilizers, individual trees and entire orchards as well, may be brought into a healthy, vigorous and fruitful state.

And still further, my hypothesis in respect to the apple carries me far enough to say that I believe it can be shown by experiment that eastern apples reputed to be tender in the West, like the Baldwin, Roxbury Russet, Rhode Island Greening and others, if fed, watered and cultivated, will resist the intensities of our western winters equal to the so-called "iron clads," and to take one step further still, I believe it can be demonstrated that the fruit from these will be relieved from the reproach of being not winter but fall varieties, whenever there is a sufficiency of plant food and moisture in the after part of the season to achieve complete maturity.

And now for what many will call an absurd and sensational statement, and opposed to all or nearly all previous experience and the teachings and examples of the fathers, for centuries. For the average black-prairie soil and the yellow loams of the timbered sections, where the land has been some years in cultivation and if tiled or naturally well drained, the successful orchard of the future will be grown from young trees *set in the earth not less than two feet below the crown.* I have in mind more than one or two examples where young trees and those of some age have had the soil around and over them covered to the depth of two feet or more, with the expectation the treatment would ruin them, found to be all the more healthy and vigorous for it. I am aware that in seasons of many and heavy rains there would be danger of stagnant water accumulating around the roots, and possibly the death of the young trees, especially if care were not taken to pack the earth about them at the time of setting, but the liability to loss would be slight compared to the destruction following prolonged drouth and intense summer heat, when the crown is set flush with the surface according to the law laid down in the books that "the young tree should be set at a little less depth than it stood in the nursery."

We have radically changed conditions of soil and climate, and we must change and accomodate ourselves to them in our practices, whether in fruit-growing or grain-raising. The practice of planting corn in the bottom of the furrow and throwing the earth to it in course of after-cultivation, known as "listing;" the setting of sweet potato plants in dead furrows, instead of on the top of ridges; and to go abroad for further examples, the almost universal custom of planting all seeds deep in Turkey and Persia and other arid regions of western Asia—these facts will assist western fruit-growers to accept the proposed new departure in orchard planting, after the proposition has gone through the usual stages of detraction following the shock and astonishment that all new ideas give rise to in the mind of the average man. E. F. J.

A Good List of Roses.

The following excellent list of roses for out-door planting, prepared for *Garden and Forest*, by W. H. Talpin, will furnish many fine specimens through much of the season, and endure the winters with a moderate protection:

Alfred Colomb.—A bright crimson descendant of General Jacqueminot; very fragrant and most desirable in every way.

Anna de Diesbach.—Yielding large flowers of a pleasing shade of carmine.

Eugenie Verdier.—Silvery-pink in color, large and of beautiful form. An improvement on Victor Verdier.

Fisher Holmes.—Deep crimson, and of good form. Considered by many growers an improvement on General Jacqueminot.

General Jacqueminot.—Too well-known to need description, and still growing in popularity.

John Hopper.—A free grower and profuse bearer of bright, rose-colored flowers.

Maria Baumann.—Carmine-crimson, a lovely shade of color, and also of fine form. Very fragrant, and altogether a charming rose.

Among Tea Roses, Bon Silene, Souvenir d'un Ami and Maria Van Houtte are about the most satisfactory for out-door culture.

The best known Bengal variety, Souvenir de la Malmaison, though old, still retains a place in the front rank of popular sorts.

In the foregoing list, pure white varieties have been omitted, and this deficiency may be met by the addition of Madame Plantier (Hybrid China), for early flowering, and the Hybrid Noisette, Coquette des Blanches, for later blooms, the latter being a very useful variety for summer flowers.

A few Polyantha Roses will also prove a pleasing feature among out-door Roses, with their abundant miniature blossoms.

Mignonette, with flowers of a delicate, light rose color, and Paquerette, pure white, are two of the best of this section. If a representative of the Hybrid Teas is desired, La France is decidedly the most satisfactory, but like most of its class, and also the pure Teas, it needs some protection in severe winters, at least if planted in an exposed position.

Trees for Severe Climates.—For the cold North I must think very low heads, almost or quite from the ground, far best for pear, cultivated European plum, all sorts of cultivated cherry and other trees not full ironclad. Whatever tends to make trees hardy in our severe winters must be considered of prime importance. Season getting dry, making a fat soil, and thorough mulch the most beautiful plant or garden adjuncts. Cherry and apple trees largely in flower, I think at least two weeks earlier than the average. Apples, I think, generally blooming only moderately well; many trees not as full as expected. F. K. PHOENIX.

Walworth County, Wis., May 6.

The Entomologist.

Preserving Insect Specimens.

EDS. COUNTRY GENTLEMAN—Please inform me through your valuable paper how to kill insects without disfiguring them. Also, where can I get pins expressly for holding insects in case, and will camphor keep out other insects? C. S. C. *Mount Joy, Pa.*

[*Answer by Prof. J. A. LINTNER.*]

Nearly all collectors use at the present time, for killing such insects as they desire to preserve in fine condition, "the cyanide bottle." The bottle should be a wide-necked ground-stopple one (if such can be obtained) of a size proportioned to the insects to be killed in it—say from one inch to two inches in diameter. Some pieces of cyanide of potassium, to be purchased at druggists, are dropped in the bottom, over which must be poured plaster of Paris mixed with water to a thick, paste-like consistency, and jarred into a level surface. The plaster sets at once, and after the bottle has been left open for a short time to give out its moisture, it is ready for use. It kills the insects by the hydrocyanic acid gas which is evolved, and as this is quite poisonous, care should be taken not to breathe it. A bottle thus prepared, and properly used, should last for at least a year.

Entomological pins can be obtained of W. E. Saunders, 240 Central Ave., London, Ontario, of Nos. 00 to 5 in packages of 500 each at $1 or $1.25 per 1,000. As manufacturers of insect pins differ in their numbers, a sample of size had better be requested before ordering. Three different sizes will usually suffice. Gum camphor will usually keep away anthrenus and other insect pests of collections, but the cases should be kept as tight as possible. Many of our entomologists, instead of camphor, are using napthaline cones, one of which is placed by its pin in each insect case. They may be ordered of Blake & Co., 35 North Seventh St., Philadelphia, Pa., at $1 per hundred.

Cut-Worms.—These depredators in gardens and in corn fields may be surely destroyed by watching for the scattered plants which they have recently cut off, digging down and finding and killing them. From many years' experience we find this mode effectual and much less expensive than many persons suppose, provided it is gone about thoroughly and continued till the destroyers are destroyed. But entomologists have adopted a shorter and easier, but rather more expensive way. As soon in the season as their presence is seen by their depredations, take a load of freshly cut grass, and soak this grass with water in which Paris green or London purple has been well mixed in the right proportion. Scatter this poisoned grass over the patch or field at evening, applied at the rate of a pound to 150 gallons of water. The cut-worms will eat the fresh grass, and that will be the end of them.

The Poultry-Yard.

Hatching and Raising the Chicks.

EDS. COUNTRY GENTLEMAN—I never saw a spring more favorable to the growth of young chicks. The farmers complained bitterly of the dry weather, said none of their crops were doing anything at all, but we women, who had charge of the poultry-yard, could not sympathize with them one bit. We were congratulating ourselves continually on what lovely weather it was for the little chickens. They just did not die at all, but kept so healthy and grew so rapidly that we could almost see a difference from one day to the next. The first that were put out have already covered themselves with feathers, and seem in a fair way to escape the gapes and all other diseases that prey upon them so sadly when the weather is bad.

I was especially charmed with this state of things, because I had determined to raise the family supply of chickens in the spring, so as not to bother with them during summer, when the weather in Kentucky is entirely too hot to render such work a delight.

Early in the season I enlisted the services of Flora, a smart little colored girl, as my helper. I impressed it upon her that the welfare of every fowl was of the most momentous importance, and that, in order to keep them healthy, it was necessary to do for them certain things at certain times in the most thorough and business-like manner. She became interested at once, and whenever she was with me tried to do exactly as I directed, and almost always when out of my sight too, especially if she thought I should come out directly to see about it.

One afternoon was devoted to cleaning up the chicken-yard—had a whole troop of little darkeys at work at that; some swept, others raked, and the small fry took up the trash in baskets and carried it off, and put it for a mulch around some young fruit trees. The hen-house was also put in good order, nests were made, and we were ready to begin operations.

Fortunately the hens were ready too. They were plump, stately Plymouth Rocks, very serious-minded and thoroughly reliable as brooders; so after the first of March, every one that showed a desire to sit was permitted to do so, until the number amounted to 25. We marked eggs by the wholesale, giving to each hen about 14, with the day it was to hatch plainly written upon its shell in good black ink.

Every evening at feeding-time each hen was taken carefully from her nest and put out of doors, in sight of food and drink. A dust bath was also provided and conveniently placed, but the hens were generally too impatient to get back to their precious eggs, to pay any attention to it. At last the chicks began to hatch, and as soon as there were 13 or 14 in number, a hen was taken off with them and put in a box containing a few inches of straw—the box being placed where I could look into it now and then, to see whether the old hen was going to mother them.

Before I got the Plymouth Rocks, I used to have a good deal of trouble persuading the hens to take chickens, but now the trouble is all the other way; every hen wants all she sees, and to prevent the most covetous from stealing more than her share, I try to keep them separate for several days. Sometimes, however, they do that in spite of me, and of two hens that have been given 14 each, I find one with 26 and the other with 6. Separating them again does little good; the most aggressive still retains the lion's share.

A number of eggs were broken in the nests, for the hens that were sitting had no protection against the laying hens; but a fair percentage of them were hatched, and now we boast of 18 hens busily clucking about over the yard and orchard with pretty broods of chicks, averaging about 12 each.

What a time we had getting enough coops for them! There were a few good ones left from last year, half a dozen very old ones, in the last stages of dilapidation that could be tacked together so as to last a little while, while the last broods of chicks had to make out with old goods-boxes picked up here and there about the place. The shape of a coop does not matter very much, the necessary qualifications being that it shall turn water, be capable of sufficient ventilation, yet close enough to confine the young chicks, and that it shall have a loose floor one or two inches from the ground so the water cannot stand under it.

One of the most important things in the successful management of young chicks, and one that is not nearly enough insisted upon, is that the mother hen should not be permitted to overtax the strength of her little ones during the first week of their existence. She is naturally very hungry after the long period of her incubation, and unless restrained will scarcely pause a moment in her search for food.

Of course both herself and her brood should be liberally fed, but her appetite demands a great variety of things in the shape of insects, growing plants and the like, that you cannot supply, and if permitted she will drag her little ones around in pursuit of them until one-half or three-fourths of the chicks perish. To prevent this, I do not let the hen out of the coop at all until the chicks are three or four days old, and then for the first time only for a run of a few hours, the time for staying out being gradually increased as the chicks grow older and stronger; until they are a month or six weeks old, however, they should be protected from morning dews and sudden showers. They will protest with all the vehemence in their natures against this, and fairly yell with impatience, but that is better than to have them choking to death with the gapes.

When chicks are about three days old, each one should be greased with pure lard; rub a little bit on the top of its head, under its throat and beneath its wings. The mother hen should also be treated in the same way, with the addition of a plentiful anointing of her breast and thighs. This is best done at night, as the grease will then have time to do its work in destroying the parasites before it can be rubbed off.

Always choose bright warm weather for this work, else the chicks will suffer from cold next day. When the weather is very inclement postpone the greasing for a few days; again when the chicks are about two weeks old another anointing would be very advantageous. I did intend to say something about feeding the chickens, but that will have to wait until another time.

A FARMER'S DAUGHTER.

Logan Co., Ky., May, 1889.

New Advertisements.

Appeal	Texas Land.
Bentley, W. W.	Public Sale of Short-Horns.
Bronson, W. O.	Cheshires.
Christie, Alex.	Short-Horn Bulls.
Coffin, E. W.	Milk Aerator.
Connaughty, W. L.	Holstein-Friesians.
Cooper, T. S.	Curly Coarse Wanted.
Clark, Wm.	Stock Wanted.
Calder, Geo.	Jersey Red Only.
Cassell, Capt. W. H.	Death-Dreams.
E. T. L.	Holsteins for Sale or Rent.
Freeman & Button	Pigs and Poultry.
"Gardener"	Help Wanted.
Harder, Minard	Threshing Machines, &c.
Hale, Edw. P.	Cod Liver Oil for Stock.
Horne, Dr. Wm.	Abortion Preventive.
Johnson, Henry B.	Seed Buckwheat.
Miller, Calvin	Cutter & Carrier Wanted.
Moore Bros	Quil Powder.
Maple Farm	Ponies.
P. O. Box 138	Farm for Sale or Rent.
Sprague, C. W.	Jersey Cows.
Schneely, M. M.	Berkshire Pigs, &c.
Smiths, Powell & Lamb	Holstein-Friesian Cattle.
Smith, Thos. A	Farm for Sale.
Seermary Jersey Club	Butter Tests.
Talbott, Geo. M	Shropshire Sheep.
The G. H. Grimes Mfg. Co.	Gorham Evaporator.
Vt. Farm Machine Co	Cider Grinder.
Wright, Hiram	Farmer Wanted.
Wholesale	Head Manager Wanted.
Woolley, Chas. M	Hay Mows.

Subscribers' Wants.

HECHSHITE, care COUNTRY GENTLEMAN. Two Bloodhound Pups. Southerners please respond.

JACOB WORTMAN, *Ithaca, N. Y.* Bolton or Bolton Gray Mare for selling.

GEO. B. MCGILL, *South Farmington, N. S.* Best and cheapest Stone Mill.

Pamphlets, &c., Received.

CURRIER, CHAS. G., M. D., *New-York.* "The efficacy of filters and other means employed to purify drinking water;" pp. 42.

GARRETT, C. C., *College Station, Texas.* First Annual Report of the Texas Agricultural Experiment Station; pp. 70.

HARRIS, J. C., *Voorhees, Pa.* Illustrated descriptive circular of high class fowls.

POOLE, T. W., *Carondelet St., New-Orleans, La.* "Some late words about Louisiana;" pp. 16.

STEVENS, CHAS., *Napanee, Ont.* Catalogue of Canada unleached hardwood ashes; pp. 23.

TRAVER, GEORGE W., *Tacoma, W. T.* "Tacoma and vicinity;" pp. 31, with full page colored plates.

WEBSTER, WM. J., *Columbia, Tenn.* Catalogue of Tennessee Breeders' Sale of Jerseys to be held May 28-30.

Inquiries and Answers.

Kainit.—Will you please inform a regular subscriber to your paper how much *actual potash*, sulphate of potash or kainit contains? It is represented to contain from 23 to 26 per cent. sulphate of potash. I have heard it stated it only contained 7 to 8 per cent of *actual potash*. What is kainit worth per ton as plant food aside from the potash it contains? S. *Harford Co., Md.* [Ten samples of kainit collected in New-Jersey in 1887 by the agents of the Experiment Station, and analysed at the Experiment Station laboratory, gave an average of 12.6 per cent. of sulphate of potash, and the composition was quite constant, none of the samples varying much from this average. This per cent. of sulphate of potash represents an average of 12.8 per cent. of actual potash. Aside from this potash kainit is worth practically nothing for plant food.]

Tile Machines.—Please let me know in your next issue about the price of a tile machine and where they can be had. There is plenty of work in this community for the right sort of man with a tile machine. Plenty clay and fuel and cheap labor. Will guarantee enough work to pay any party to move his plant among us. Any quantity of ditching to be done, but tile is too dear for us to handle. A. S. *Poolesville, Md.* [Messrs. Jackson Bros., or W. M. Bender & Co., of Albany, whose advertisements have appeared every alternate week in this paper for many years, can either of them furnish the desired information.]

Sheep Sorrel.—The plant sent by F. B. S., Steiner's Wharf, Md., is *Rumex acetosella*, commonly known as "sheep sorrel" or "field sorrel." The plant is dioecious and consequently varies somewhat in appearance. The specimens sent bear staminate flowers. The species has been brought here from Europe, and has become thoroughly naturalized, and is often a troublesome weed, spreading by its subterranean rootstocks as well as by its seeds, and being very persistent when it has become fully established. C. H. P.

Irrigation.—Can any of the readers of the COUNTRY GENTLEMAN inform me whether or not a farm of 160 acres can be successfully watered by pump with steam power, the water to be elevated sixty feet? Can the water be pumped into a reservoir on the highest point and turned on the land when needed? Where and for what price can I obtain a book treating the subject? S. H. *Boston, Ky.* [The case depends upon circumstances, the probability being in favor of the affirmative, if the supply of water and fuel is abundant. A reservoir would be required in all probability. Stewart's Irrigation for the Farm, Garden and Orchard, will give you full information. If any special features exist in the case that are not referred to in the book, an inquiry sent will be cheerfully replied to. (The book costs $1.50 at this office.) AGRICULTURAL ENGINEER.]

Mandaria Ducks, p. 330.—Will Mr. Beale give us further hints regarding habits of these birds, mode of caring for them, where to be obtained and cost? He will confer a favor, I think, on many readers of the COUNTRY GENTLEMAN. F. B. F. *Mystic Bridge, Conn.*

Hay Fork.—I have built a barn, and want a hay fork for unloading hay in the barn. It has a capacity of about twenty tons. Will you please recommend me to some reliable firm where I could get one of moderate price? J. P. *Falmouth, Va.* [Address United States Wind Engine & Pump Co., Batavia, Ill.]

Yellow Wood Sorrel.—I enclose a plant that I found growing in land plowed a month ago for tobacco. Please tell me what it is, and whether it has any value. W. A. B. M. *Louisa C. H., Va.* [The plant is "yellow wood sorrel," *Oxalis stricta*. This species usually grows in fields, cultivated ground, and open places. It is of no economic importance. The specimens sent are smaller and more hairy than the usual forms. Botanists now consider this plant to be only a variety of *Oxalis corniculata*, from which it differs by the absence of stipules. C. H. P.]

Boxing Corn Fodder.—It is a practice in this section to "top and blade" corn, cure the fodder in bunches and stack it. It is often damaged greatly by rains and bad weather, and by next spring or summer it is weather-beaten and a poor substitute for provender. I wish to ask the opinion of some one as to packing this fodder in air-tight boxes in the field, say the second day after cut, or when well wilted. I have a notion of trying the experiment of building a box of cheap lumber, slatted or tongued and grooved flooring, say 8 by 8 feet, 12 feet high; fill and pack the wilted fodder (of course the stalks would have considerable sap in them), weight it down and cover with boards to keep out rain. I would be pleased to have the opinion of your readers of experience, and any suggestions that they might think proper. S. H. *Salisbury, Md.*

Information Wanted.—The Reform Club of New-York (a non-political organization maintained by voluntary subscriptions to inquire into the effects of bad features of our government, and to agitate in all proper ways for reform of existing evils) desires answers to the following questions, which may suggest interesting articles to writers for the COUNTRY GENTLEMAN:

1. Are the farmers in your community as prosperous as they have ever been?
2. If so, to what do they chiefly owe their prosperity? If not, what has been the chief reason of the change? (Leave out of consideration such temporary causes as a bad crop year, and consider the social and political causes.)
3. Do the farmers take less or more interest than formerly in economic discussions?
4. What effect does the tariff have on their condition?
5. Will a bushel of wheat or a barrel of corn buy as many necessaries of life as it did thirty years ago?
6. Have they gained or lost social dignity, as compared with other classes, such as merchants and mechanics?
7. Do farmers' sons show any less willingness than formerly to become farmers? If so, why?

Autumn Exhibitions.—Dates have been appointed as below for the State Fairs and other important shows named:

Alabama, Birmingham	Oct. 31, Nov. 2
American Institute, New-York	Oct. 2, Nov. 30
Buffalo International, Buffalo	Sept. 3, 13
California, Sacramento	Sept. 9, 21
Colorado, Pueblo	Oct. 2, 6
Connecticut, Meriden	Sept. 17, 20
Dakota North, Grand Forks	Sept. 17, 21
Dakota South, Aberdeen	Sept. 25, 27
Delaware, Dover	Sept. 25, Oct. 5
Detroit International, Detroit	Sept. 17, 27
Georgia, Macon	Oct. 29, Nov. 1
Illinois, Peoria	Sept. 25, 27
Indiana, Indianapolis	Sept. 25, 28
Iowa, Des Moines	Aug. 30, Sept. 6
Kansas, Topeka	Sept. 15, 21
Kentucky, Lexington	Aug. 27, 31
Maine, Lewiston	Sept. 10, 13
Maryland, Pimlico	Sept. 9, 14
Massachusetts Horticultural, Boston	Sept. 17, 20
Michigan, Lansing	Sept. 9, 13
Montana, Helena	Aug. 28, 31
Nebraska, Lincoln	Sept. 9, 13
New-England, Worcester, Mass	Sept. 3, 6
New-Hampshire Grange, Tilton	Sept. 10, 12
New-Jersey, Waverley	Sept. 14, 20
New York, Albany	Sept. 13, 18
Ohio, Columbus	Sept. 3, 6
Ontario Provincial, London	Sept. 9, 14
Rhode-Island, Providence	Sept. 25, 27
St. Louis, St. Louis	Oct. 7, 12
South Carolina, Columbia	Nov. 11, 15
Toronto Industrial	Sept. 9, 21
Vermont, Burlington	Sept. 3, 6
West Virginia, Wheeling	Sept. 9, 13
Wisconsin, Milwaukee	Sept. 16, 20

Acknowledgments.

Communications for publication have been received during the week ending May 20, from Gerald Howatt—J. Rusby—F. B. Park—R. W. Hurlbut—J. H. Andre—Allen Chittenden—Stephen Beale—Prof. J. A. Lintner—Thomas Bowick—John M. Stahl—S. Bodgett & Son—B. P. S.—F. B. Steiner—W. A. B. McComb—J. Wilson—E.—A. S.—R. E. Sumney—T. O. Sandy—A. M. Gibson—L. C. Baker—S. A. Voller—Henry Stewart—C. F. Showalter—Prof. C. H. Peck—Mrs. G. S.—W. Horne—Rose Autumn—Louise A. Beatty—D. H. Tompkins—T. B. Wales—R. W Weakley—L. T.—Adriance, Platt & Co.—C. W. T.—A. Janney—Josiah Shull—C. A. S.—Mrs. G. T. Jones—E. F. Johnson—E. G. Packard—W. J. Thomson—S. L. Albertson—Edwin Wing—S. Humphreys—E. V. W.—W. B. W.—Mrs. G. Jaqua—S. D. Malone—K. K.—E. W. Stewart—Phil. Thrifton—J. E. Winn—S. C. Bates—L. D. Cary—T. A. Stanley—W. F. Brown—W. H. Ramsey—Stephen Beale—H. W. Phelps.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, May 23, 1889.

Nova Scotia Report.—The Annual Report for 1888, received from Dr. George Lawson of Halifax, the Secretary for Agriculture of Nova Scotia, is a well prepared document of 200 pages, and contains much interesting matter worthy of special notice. It appears by this Report that there are 84 local societies in the province, with an aggregate membership of 3,985. The School of Agriculture, under the charge of Prof. H. W. Smith, a graduate of Cornell University, has recently had an experimental farm added to it, resulting in a large promised increase of students. It is intended to open the institution more fully to women, especially for the study of the natural sciences, dairying and domestic economy. One-half of the volume is occupied with the reports of the county and local societies, mostly with local information, but there is much other matter of general interest.

From a series of interesting experiments made in Europe on the smut of oats and barley reported at some length, it appears that while seed oats subjected for seven hours to a dry heat of 127° were not benefited any whatever by the reduction of the smut, it was entirely destroyed in five minutes in water at 127°. The seed oats were quite uninjured. A solution of sulphate of copper containing only one-quarter per cent. of this salt was nearly as efficacious, but it killed a part of the seed. Lime was useless. The same result did not take place with barley, which was ascribed to the thick and closely investing husk, excluding the disinfecting solution. But five minutes with warm water at 127° proved perfectly efficacious.

A paper republished from the Gardeners' Chronicle, gives a detailed account of fruit evaporation in Western New-York, written by P. L. Simmonds, who visited the evaporating establishments and thus obtained much information not otherwise known to the public. He asserts that "the change of front from profitless wheat-growing," to the more profitable evaporating of fruit, "was made with a rapidity which England might envy, but has not approached." Rochester, formerly known as the "Flour City" but now the "Flower City," is the centre of this great movement, where the orchard products of New-York State were valued at nine millions in 1880, and will probably be worth far more in 1890, and where within a radius of forty miles from Rochester, nearly two thousand fruit-drying establishments are now in operation. Thousands of tons of apples are prepared annually from grades of fruit formerly wasted or allowed to rot on the ground. These evaporators range in capacity from 25 to 1,000 bushels of apples a day. They give employment to 30,000 hands. Two years ago, the total quantity of dried apples was about 30,000,000 pounds, requiring 250,000,000 of green apples, of which 200,000 tons of water were driven off by the consumption of 15,000 tons of coal. The product finds a market all over the world.

In these establishments, nothing is wasted. The cores and parings are dried and sold for jelly, making an average price of $20 a ton. A bushel of apples yields 20 pounds, besides 20 pounds of refuse. The 20 pounds are reduced by evaporation to 6 pounds, and the refuse to 4 pounds.

Portions of Nova Scotia appear to be admirably adapted to the raising of plums, and in the report from King's county we are informed that an "immense crop" was raised last year. The prices were low but the supply was so abundant that the crop brought far more money than the short crop of 1887, with high figures. Some land owners are setting out additional plum orchards and expect rich returns. But in some other localities, planters appear to have adopted the old error that the trees must take care of themselves, and we are told that "the black knot is destroying our plum trees, which makes it difficult to grow fruit. Some of our orchards are helped by cutting off the fungus, others are neglected." From another locality, we are informed that "few are grown; black knot kills the trees;" and from another, "black knot killed many trees." The sure remedy of prompt and faithful excision appears to be unknown or neglected, instead of being applied every day in the year, if necessary, from its first appearance.

The Report elsewhere states that fruit growing in Kings county has developed wonderfully within a few years, but that it is still in its infancy; that orchards have doubled in area in two years, and that it will not be far in the future when that valley will ship millions of apples instead of thousands of barrels. Single orchards ten or fifteen years hence, are expected to furnish a full cargo for a steamer. This portion of the Report assumes a comfortable self-complacency at the "superiority of their apples to any in the world, leading the great London market," when they hope to be "independent of the United States or of its government."

Nurserymen's Convention.—The 14th Annual Meeting of the American Association of Nurserymen will be held at the Grand Pacific Hotel, Chicago, June 5-6—hotel, discussions and exhibits all under one roof. An attractive programme is offered, and the meeting promises unusual interest. GEORGE A. SWEET, president; Charles A. Green, Rochester, N. Y., secretary.

The Geneva Station.—The Seventh Annual Report of the Board of Control of the New-York State Agricultural Experiment Station is an octavo of 438 pages containing about the usual variety of matter, though we think we see evidences of progress in the direction of achieving practical results. The papers included certainly convey the impression of earnest work by able men, sincerely desirous of accomplishing solid good. An elaborate index adds much to the value of the work—though we wish a table of contents had also been furnished. Gen. N. M. CURTIS is president of the board; Dr. Peter Collier, director.

Dairy Products at Paris.—We have the following note from Mr. JOSIAH SHULL, secretary of the N. Y. State Dairymen's Association, under date of Ilion, May 18th:

"There has been inquiry relative to an exhibit of dairy products at the Paris Exposition. I wrote for instructions in order that individuals desiring to make exhibits might know the course to pursue. This association cannot make an exhibit; they must be made by individual exhibitors, if made at all. I send you the letter of the chief of bureau, that persons desiring to exhibit may have some guide."

Following is the reply received by Mr. Shull from Dr. D. E. SALMON, chief of the Bureau of Animal Industry, U. S. Department of Agriculture, May 16th:

"I would be very glad to have your association make an exhibit of butter and cheese at the Paris Exposition. I think these products would arrive in good condition if put in sealed packages and then packed in a double case with an air space between. You ought to ship by the vessel to go June 15th, and the goods should be in New-York in time to be placed in the refrigerator on board by June 14th. If you conclude to do this, please write me at once stating about how many cases you will have and their size, so that I can make arrangements for cold storage on board of ship. On receipt of a letter from you stating that you will make a shipment, and giving the number of cases, I will send you full shipping directions."

Dogs and their Value.—The Twenty-Second Annual Report of the Connecticut Board of Agriculture contains the condensed results of the careful statistics obtained in answer to a series of questions sent to the town clerks of each town in the State. Although full answers were not returned to all the questions, there were enough to make a fairly accurate report. Several pages are occupied with these returns in tabular form. From them we learn that the number of sheep killed by dogs last year in the State was 2,119. The number of sheep maimed, according to partial reports, was

581. Damages paid by towns for sheep killed and maimed, $10,279; and paid by owners of dogs for sheep, $636; but as most of the settlements were private, the real amount must have greatly exceeded this sum. Dogs registered, in the State, 32,415. Dog tax collected, $41,100. The money paid does not at all show the real damage; flocks are often ruined, owners are discouraged, and sheep farming given up. The number of sheep in the State (50,000) might be quadrupled with no diminution of other stock, and with a decided improvement in the condition of farms. The luxury of home grown lamb and mutton is not given in figures; nor the real value to the owners of all their dogs.

The Forests.—The Report of the Directors of the Michigan State Forestry Commission, prepared by Prof. W. J. BEAL of the Michigan Agricultural College, director of the commission, contains within its ninety compact pages a vast amount of valuable information relative to forests, their growth, uses, products, consumption, and destruction and waste throughout the country at large, although chiefly confined to the interests of the forests of Michigan. We give some of the statements in the brief space below.

The annual waste or consumption of forest timber in one year in the United States, according to the last census, is estimated at $700,000,000, more than double the amount of the National Bank currency; nearly double the value of the wheat crop; more than double the cotton crop; ten times the product of gold and silver, and seven times the value of the coal. There are 1,000 mills engaged in manufacturing lumber and shingles in Michigan, with an invested capital of $48,000,000, the annual product approximating $60,000,000; 35,000 persons being employed by them, who receive annually over $7,000,000. The total product for the State in one year is 2,000,000,000 feet. The railways use over 3,000,000 ties. Pulp factories are utilizing the cheaper woods. The Chicago Lumberman's Exchange estimates that Michigan had originally about 150,000,000,000 feet, board measure of pine, but that now only 20,000,000,000 remain; during the past five years the average cut being 4,500,000,000. Last year $10,000,000 worth of property was destroyed by forest fires. The State can well afford to spend the interest on this annual destruction in attempting to prevent or control it. The loss by fires in the United States is about one-twelfth the value of the fuel consumed and one-seventh of the value of all the timber cut; but the greatest loss is the destruction of the young growing trees for reforesting the land.

In allusion to the time required for forest trees to grow, Eugene Davenport remarked, in a public address; "True, it does take time, but as our old friend Josh Billings said, 'set them out a good while ago.' Nature has favored us, let us provide for posterity. It does not require so long a time as many suppose. I know one tree by the roadside that forty years ago was a switch, and is now a foot and a half in diameter, with a beautiful top forty feet across. Trees along our place, set twenty years ago, are nearly large enough for tapping. I would rather have the ten acres of maple grove which sprang up thirty-eight years ago than any twenty acres of farm land in Barry county."

Hog Cholera.—A report on this important subject, by Dr. D. E. SALMON, is published by the Department of Agriculture at Washington, making an octavo of 200 closely-printed pages, with five colored plates. The history of this, or some similar disease of swine, is traced back as far the year 1833. In 1845-46 the disease was found prevailing in a large number of widely separated States, and from this period on it rapidly extended until it affected the swine of every State in the Union. The contagion is supposed to have been originally imported from Europe with animals brought to this country for the purpose of improving our breeds of swine. Investigations by the Bureau of Animal Industry, extending over a period of five years, are believed to have definitely established, among others, the following facts:

1. The disease is contagious and infectious, and may be contracted by a healthy hog from a diseased one, or from infected premises, and the contagion may be carried from farm to farm in various ways.

2. It is bacterial, the germ having been first accurately figured and described in 1885, and studied almost constantly since that time.

3. The germ is readily cultivated in various media, is transmissible to other animals than hogs, from which it may be retransmitted to swine and produce a fatal form of the disease.

4. A fatal disease similar to hog cholera, which has been named "swine plague" to distinguish it from the disease first met with, was discovered during the progress of these investigations. It is also a germ disease, widely distributed and fatal, and may exist as a complication in outbreaks of hog cholera.

5. The disease may generally be prevented by isolation of the animals, and by cleanliness combined with simple measures of disinfection.

6. Outbreaks of hog cholera are to be checked by separating the well from the diseased animals, and practicising disinfection.

7. Infected premises may be made safe for the admission of a new herd by disinfecting with lime or other disinfectants, and allowing three to six months to elapse after the disease has disappeared.

8. Medicines have not been found to influence greatly the course of the disease.

9. Inoculation has been tested in almost every form as a preventive without satisfactory results.

10. Hog cholera is apparently identical with a disease which has recently been described in various parts of Europe.

——A particularly lively circular in review of this report is issued by Dr. FRANK S. BILLINGS of Lincoln, Neb. Here are a few of his remarks:

Unable by every piece of infernal devilry which the ingenuity of a political trickster could invent, supported by truculent tools second only to himself in want of principle, Mr. Salmon was unable to prevent my obtaining position in Nebraska or my expulsion afterwards, though the inciting cause of my leaving in a few weeks. Would an honest man have thus endeavored to stop another from getting a position? Unable to stop my work he now endeavors to rob me of every credit for the discovery of the germ of swine plague, as he had already succeeded in doing for Dr. Detmers, who really discovered it in 1878. It is thus evident that I have no fight to make for myself in one sense, but I have for the truth. * * *

A point which the scientific world must ever hold against Salmon is his unwarranted and unprincipled dishonesty towards Dr. Detmers. It can be shown by letters from most responsible American observers that this Salmon hog cholera object, as now illustrated, is the same organism which Dr. Detmers discovered in 1878, but did not describe it so it could be readily recognized thereby until report of 1880. Science has no other name for a person who acts as dishonorably as Salmon has towards Detmers, in persistently not giving him credit for what he did, than a thief, and no respectable man or association of men, either physicians or professionals, can afford to countenance such a person.

Massachusetts.—The Massachusetts State Board of Agriculture, WILLIAM R. SESSIONS of Boston, secretary, has issued its Thirty-sixth Annual Report in a solid volume of 660 pages, copiously filled with valuable matter on the dairy, culture of crops, orcharding, fertilizers, field experiments, and farm management generally. One hundred and twenty-five farmers' institutes have been held the past year under the auspices of the several incorporated agricultural societies, where lectures were given followed by spirited discussions. There are at present in the State 60 farmers' clubs with a membership of over 6,000. The secretary states that the capacity of the State for the increase of agricultural products is enormous. There are besides the woodland, 1,560,067 acres of uncultivated land. The cultivated land produced in 1885, $47,756,033 worth of agricultural products, the average product per acre being about $30, while one town produced $218 per acre. The value of vegetables was over five million dollars, among which was $154,000 in celery, $100,000 in asparagus, $230,000 in green corn, lettuce $109,000 and tomatoes $164,000. A great increase in the sale of flowers is shown by the amount in Boston alone of not less than $500,000 the past year.

Exports of Provisions.—According to a Washington despatch of May 14th, the Chief of the Bureau of Statistics reports that the total values of the exports of beef and hog products from the United States during April 1889, and during the four months ended April 30, 1889, as compared with similar exports during the corresponding periods of the preceding year, were as follows: April, 1889, $8,398,602; April, 1888, $6,898,042; four months ended April 30, 1889, $36,222,782; four months ended April 30, 1888, $36,103,846. The values of the exports of dairy products were as follows: April, 1889, $420,021; April, 1888, $302,784; twelve months ended April 30, 1889, $10,011,500; twelve months ended April 30, 1888, $10,078,596.

Apples in England.—From the following remarks in the London Garden, it will be seen that American apples are greatly injured by the rough handling they get before shipping:

Apples of home growth are selling fairly well, for in spite of the enormous importations of foreign fruit the home-grown still commands the best price in the market. I have lately examined some of the foreign apples, and although they are showy on the exterior, they are as a rule dry and lacking in the crisp juiciness so characteristic of English-grown samples. If these foreign apples were not dry, the losses of the retailers would be far heavier than they are, as after the rough handling they have received, scarcely one in a hundred is free from bruises, and unless sold quickly a great many of them decay.

The planting of apple trees is occupying a good deal of attention just now, and my own impression is that they are the safest investment of any fruit we cultivate.

Farm-Yard Notes and Items.

The large advertisement, on the first page of our last issue, of the Tennessee Sales of Jersey cattle, May 28, 29, 30 and 31, will not have escaped the notice of our readers. These Sales always attract large numbers of buyers, and include animals of the best breeding and value. The last two are at Nashville, and the first two at points easily reached from that city. The Sale of Wednesday, May 29th, will also include Trotting and Pacing horses and Ponies, offered by Maj. CAMPBELL BROWN and Mr. M. C. CAMPBELL. About 175 head of Jersey cattle are offered—the property of the associated Tennessee Jersey Breeders on the first three days, and on the fourth day those of the Southern Kentucky and Tennessee Jersey Breeders.

A Sale of about eighty head of choicely bred Short-Horn cattle is advertised this week by Mr. W. W. BENTLEY, to take place at Pulaski City, Va., June 5th. Mr. B. had a Sale in 1884 of 41 head, which averaged nearly $300, and were all taken by Southwestern Virginia buyers. We trust he will have equal success on the present occasion.

We have received a card from Mr. S. E. PRATHER, secretary, Springfield, Ill., May 15, stating that the Eighth Annual Meeting of the American South-Down Association will be held in the Leland Hotel, at that place, May 20th, at 7:30 P. M.

"The membership being widely scattered throughout the United States and Canadas, some may perhaps find it inconvenient to attend. Communications from those unable to be present, pertaining to the work of the Association and the interests of sheep breeders generally, if addressed to the secretary in time, will be duly considered during the meeting. It will be much better, however, for all who can possibly do so, to be present."

The auction sale of Short-Horn Cattle, consisting of choice selections from the well-known Herds of Bow Park, Brantford, Ont., Mr. H. C. Ramsay, Buffalo, N. Y., and James Hunter, Alma, Ont., took place at Dexter Park, Chicago, Ill., May 15-16, (as advertised p. 361). The weather was bad—rain being almost incessant during the sale; as a consequence the attendance was very small, and prices were low. Sixty animals were disposed of for the aggregate sum of $10,570. The following brought $100 and over:

BULLS.

Lord Underly Barrington 6th, 4 years, T. Fisher Jacksville, Wis.	$300
Grand Duke of Oxford and Ridgewood 3d, 2 years, D. W. Smith, Bates, Ill.	310
Baron Oxford of Niagara 4th, one year, Frank Merritt, Sherlock, Mich.	200
Lord Barrington of Erie 30th, 2 years, N. H. Everley, Prairie City, Ill.	305
Duke of Oxford 57th, 1 year, Frank Cole, Spring Grove, Ill.	145
Lord Woodbine 3d, 2 years, John Smith, Bristol, Ill.	140
Duke of Kirklevington 30th, 7 mos., F. Merritt	100
Earl of Aberdeen, 2 years, J. Smith	125
Duke of Kirklevington 27th, 1 year, F. S. Andrews, Mackwonago, Wis.	115
Lord Wild Eyes of Erie 7th, 1 year, S. E. Ward & Son, Westport, Mo.	100
Earl Verbena 6th, 18 mos., A. D. Hanshaw, Hodgeon, Ill.	100
Waterloo Duke 36th, 18 mos., F. A. Baker	100

COWS.

Duchess of Oxford 14th, 4 years, Homer Brooks, Wixom, Mich.	$250
Barrington of Erie 7th, 3 years, W. H. Jacobs, Madison, Wis.	320
Bambury Countess of Kirklevington 7th, 5 years, J. D. & L. B. Smith, Berlin, Ill.	200
Barrington of Erie 8th, 1 year, W. H. Jacobs	215
Waterloo 56th, 2 years, W. H. Baker, Detroit, Mich.	175
Wild Eyes of Erie 9th, 18 mos., F. A. Baker	210
Kirklevington Duchess 43d, 1 year, F. A. Baker	205
Kirklevington Duchess 6th, 3 years, T. W. Brown, & Son, New Berlin, Ill.	200
Wild Eye of Erie 4th, 3 years, F. A. Baker	200
Rose Duchess 36th, 3 years, W. H. Jacobs	205
Kirklevington of Erie 28th, 3 yrs., W. H. Jacobs	210
Geraldine 4th, 3 years, Homer Brooks	210
Waterloo 5th, 1 year, F. A. Baker	200
Lady's Queen 2d, 1 year, W. H. Jacobs	200
Duchess of Clarence 36th, 5 years, Judge Sloan, Janesville, Wis.	210
Waterloo 34th, 1 year, W. H. Jacobs	210
Countess of Selwolf 7th, 6 years, J. Smith	215
Maurita 43d, 4 years, W. H. Jacobs	215
Adelina 30th, 2 years, J. Smith	210
Flossy Gwynne 4th, 3 years, W. H. Jacobs	220
Welcome Duset, 2 years, do.	205
Duchess Nancy 1st, 10 years, D. W. Smith	200
Rose Duchess 45th, 3 years, W. H. Jacobs	200
Lady Fansley 16th, 2 years, J. Smith	200
Adelina 29th, 7 years, C. Walker, Clinton, Ill.	200
Duchess of Clarence 31st, 1 year, W. H. Jacobs	205

Mr. S. W. SOLENBERGER, Chambersburgh, Pa., writes under date of May 11th:

The COUNTRY GENTLEMAN gets there every time. Through a four-line advertisement I have made the following sales of Short-Horns: To J. Wain Vaux, Philadelphia, Guilford Phlegola 4th, calved July 4, '86, sired by Plumwood A. M., 40305, dam Red Rose; to A. S. Logan, Philadelphia, for his farm at Dover, Delaware, Guilford Red Rose, calved Oct. 20, '87, sired by Plumwood A. M., dam Red Rose, and 9th Lonan of Guilford, calved Nov. 28, '87, sired by Duke Imperial 39003, dam 1st Lonan of Guilford; and to L. R. Schnebly, Fairview, Md., Lady Plumwood, calved Nov. 16, '84, sired by Plumwood A. M., dam 6th Lady Matilda. They are a choice lot and my herd was never in finer shape than this spring.

An auction sale of Jersey Cattle, consisting of drafts from the herds of Messrs. Thos. T. Turner, Normandy, Mo., J. G. Creviling, Clayton, Ill., and others, was held May 14, at the Missouri Horse Exchange, St. Louis, Mo., under the direction of Mr. HARRY ABHMAN, auctioneer. Forty-four animals were disposed of for an aggregate of $3,916, averaging $89 per head. The best prices were:

BULLS.

Lucy's St. Lambert 12745, 1 year	$125
Del Oro 8626, 5 years	125

COWS AND HEIFERS.

Happiness 9581, 9 years	135
Daisy of T. Stacy 29625, 7 years	135
Belle of Clayton 22234, 5 years	115
Taper 12105, 8 years	115
Acetale 9154, 7 years	105
Signal's Jersee Belle 34055, 3 months	95
Rickock Beauty 2d 29710, 4 years	95
Belle's Gem 21488, 6 years	95
Mocassee 42311, 2 years	95
Leonora of Wyndna, 7 years	90
Cicero's Lora 18480, 5 years	85
Rubano's Princess, 34704, 3 years	85
Thalma's Buttercup 41748, 2 years	85
Cedric's Pet 31985, 4 years	85
Cantinita 37336, 1 year	85
Eliot B. 8514, 13 years	85
Miss Ploy 39627, 2 years	85
Signal's Eureka 39677, 2 years	85
Cora P. 34718, 1 year	80
St. Alban's Normanda 41736, 3 years	80
Ella Rosewood 4th 37235, 5 years	80
Rose Normanda 34361, 1 years	80
Signal's Sadina 34362, 2 years	80
Virginetta, calf, by Del Oro	80
Signal's Sydonia 34363, 1 year	75
Thalma's Normanda 41741, 2 years	75
Lady G. Seltnate 40408, 4 years	75
Cedriska 37365, 2 years	75

The dispersion sale of Ayrshire Cattle, the property of Mr. GEO. A. FLETCHER, took place at Milton, Mass., May 17, (as advertised on p. 361). Prices ruled low and buyers procured many choice animals on reasonable terms; 39 head (including 8 calves) sold for an aggregate of $2,117, an average of $54.26; 31 cows averaged $64 33. The best prices were:

Rose Corruth 8321, 8 years, H. M. Whitney	$101
Zilla Douglas 2d 5782, 9 years, W. P. Jones	131
Mary Gibb 7463, 7 years, J. D. W. French	97
Alice Douglas 5th 6665, 6 years, H. M. Whitney	97
Zilla's Princess 6806, 3 years, J. D. W. French	97
Maida Bishwell 9614, 4 years, C. E. Peace	76
Lillian Clyde 2d 8681, 3 years, do.	75
Helen 6th, 9 years, H. S. Ramsdell	75
Glenworm Douglas 4th (bull), 2 years, P. K. Bacon	95
Zilla Douglas 6th, 4 years, H. S. Ramsdell	74
Robina Wood 9703, 5 years, Dr. Rogers	62
Lucy 2d 9704, 6 years, F. L. Fish	61
Libby 34 8464, 10 years, D. Copeland	61
Lady Clarinda 4th, 10 years, P. K. Bacon	61
Lady Milton 3711, 8 years, do.	57
Bettie P. 8319, 5 years, F. L. Fish	55

The Committee of the Ayrshire Breeders' Association, appointed at the annual meeting last February, (JAMES CHESEMAN, Boston, chairman,) recommend the following rules to govern cow tests at fairs, dairy shows, and experiment stations:

1. All cows entered for dairy work should be placed in closed stalls secured by locks. They should be fed and milked by competent persons appointed by the superintendent or judge, subject to the approval of the owner. The food consumed during the test shall be of such kind and quality as the superintendent may determine, subject to approval of owner, and be charged to them at cost price. All water consumed shall be of uniform temperature, and to be carefully weighed and recorded. Unconsumed food shall not be charged against the value of the cows' products.

2. A statement when the cow dropped her last calf, date of last bull service, method of treatment and feeding since last calving, of kind and quantity of food consumed for ten days previous to commencement of the test, must be made under oath.

3. The cows shall be milked as frequently as the superintendent may direct, and at regular intervals during the test, and for twenty-four hours previous to its commencement.

4. Scale of points:

For each twenty days since calving	1
For each twenty days of gestation	1
For every pound of dry matter in 24 hours' milk	8
For every pound of butter in 24 hours' milk	20
Total	40

5. Samples of each milking to be taken for analysis; and the total quantity of solids to be determined by calculation.

6. The total quantity of dry butter fat as determined by the milk analysis, shall decide the relative quantities of butter obtained from each cow for twenty-four, or forty eight hours as may be required. When convenient, one or more milkings may be set in a cold deep-setting apparatus of approved make, at a temperature of not less than 40°, and in a cooling medium of 45°; or be separated in a centrifugal machine. The cream product to be ripened in all cases at a temperature of not less than 65° for twenty-four hours, and churned at not less than 62° nor more than 67° according to season.

7. The butter obtained shall be analyzed, and only the dry fat be calculated. The mean of the several analyses of milk and butter shall be taken to indicate the quantity of solids and butter fat.

8. The cow, or herd, as the case may be, giving the greatest quantity of marketable products according to the scale, at the least cost, to be awarded the prize.

The Grazier and Breeder.

Inquiries about Feeding.

Testing Cows—Clovers.—I should like the best way to feed a cow for butter test, and on what feed should a cow of 1,000 lbs. be fed in May? How long should she be fed before the test, and how long after calving should the test be made? Should she be kept in the barn or out at pasture? If fed on medium clover, alsike clover or alfalfa clover, give the value of each as a green food. M. D. H. *Middleport, N. Y.* [1. M. D. H. will find on p. 388, in answer to W. & S., very nearly what he wants. He will also find there discussed the principles which should govern in feeding for a test. He should at first feed his cow for the purpose of learning her normal capacity of milk production, but a cow must be well fed for at least one month to test her normal capacity. And as the cow should not be fed highly until she gets over the effects of calving, her test could not be properly earlier than the seventh week after dropping her calf. 2. H. may adopt the ration given on p. 352, under second head, if not on pasture; and if on pasture, then the additional food there given, under third head. If he substitutes medium clover, alsike clover or alfalfa, in place of the clover and timothy, it will be so much the better. 3. H. asks for the feeding value of green clover, alsike and alfalfa, by which it is inferred that he wishes to know the comparative value—that is, the value of each compared with the others. Alfalfa has the largest proportion of albuminoids; Swedish clover and medium clover about the same. They all make very rich green food for milk, and are best fed before blossom, because then richest in albuminoids. The following is the analysis of each of these three clovers when cut early and nicely cured into hay. We give only the per cent. of digestible nutrients:

	Albuminoids.	Carbo-hydrates.	Fat.	Value per 100 lbs.
Medium clover.....	8.5	39.1	1.7	$0.79
Alsike clover.....	6.6	34.5	1.5	0.68
Alfalfa clover.....	13.3	39.4	1.0	0.86

This shows all these to be very rich milk foods. Alfalfa is the same as English lucern. The difficulty in providing it as a milk food is, that alfalfa is not adapted to so great a variety of soils as medium or alsike clovers. E. W. S.]

Farm Team—Cow on Pasture.—Please give ration for farm team, horse of 1,000-lbs. weight and mule nearly the same. Have been feeding 6 qts. bolted corn meal and 6 qts. wheat bran mixed with what hay they would eat, fed in three equal feeds. Horse will be driven to a light market wagon six or eight miles daily, rest of time general farm work. He is considered a hard keeper. I wish an economical ration made up of the following: Prairie hay, $14 per ton; wheat bran, fine, $19; bolted corn meal, $1.15 per 100 lbs.; linseed meal, $1 50; ground oats, 40c. per bu. Also butter ration for cow with cottonseed meal added at $26 per ton. She is on good pasture. T. P. *Manchester, Va.* [T. P. in feeding his farm team should use a larger proportion of bran than corn meal, as the fine bran is better to sustain muscle and physical strength. Unbolted corn meal containing all the bran, if ground as fine would be as good as the bolted. He may make up the following ration from the foods given: 13 lbs. cut prairie hay, 6 lbs. corn meal, 3 lbs. fine wheat bran, 1 lb. linseed meal. The cut hay should be slightly moistened, and the corn meal, bran and oil meal having been mixed together dry, should be thoroughly mixed with the cut hay, and if this feed when so mixed ferments from one feed to another then let each feed be mixed by itself. For the two animals the morning and evening feeds may be 9 lbs. cut hay, 5 lbs. corn meal, 6 lbs. bran, 1 lb. oil meal, and the noon feed would be 6 lbs. cut hay, 3 lbs. corn meal, 4 lbs. bran. This would be dividing the ration probably in the best form for three feeds. This ration should be sufficient for steady good work, but if the work was particularly light the corn meal could be reduced 1 lb. and the bran 2 lbs. But the ration given is for steady work. This small amount of oil meal will keep the digestive organs in good condition and the coat sleek. 2. The ration for his cow on pasture may be that given to W. and S., on page 352, under the third head, and he may substitute cottonseed meal for the linseed meal. This would then be 2 lbs. corn meal, 2 lbs. fine bran, 1 lb. cottonseed meal, all mixed with 3 lbs. cut hay. Give one-third in morning and two-thirds at night. E. W. S.]

Horse-Breeding for Profit.

ENS. COUNTRY GENTLEMAN—In the breeding of horses, fast becoming a leading industry of the East, as well as elsewhere, several points must be considered to insure success, and chiefly the class of horses for which the greatest demand is likely to arise. Here in Cayuga county, the horse-breeding centre of the State, the Percherons have long been the favorite. This county is essentially a grain-growing one, and as such ranks with the best in the State; but all grain-growers know that they can not keep up the fertility of their farms and raise grain exclusively. A certain amount of live-stock must be kept, enough so that no coarse fodder corn or oats shall be sold. Formerly sheep and cattle were to be found in plentiful numbers on nearly every farm, and they paid moderately well. The low price of wool and butter has been discouraging, that branch of farming being carried on not only without profit but in many instances at a loss. But few colts were raised, and in many instances a mare was put to breeding because of some unsoundness that made her "good for nothing else." The sire was selected, not for any good qualities that he might have, with a view of improvement, but almost invariably for cheapness. Is it any wonder that our horses deteriorated until it was impossible to raise a colt with any assurance that he would grow up into a sound horse? The Percherons were introduced here about ten years ago—two imported stallions being brought in at first. The result was a marked improvement from the undersized and, in many instances, unsound horses to be found at that time, and thousands of dollars have come into the possession of the farmers from the sale of grades.

The question is asked, will not this business, like everything else, be overdone? To the painstaking breeder it will never be overdone, for the reason that all are not good horses in any breed, but on the contrary there are good horses in all breeds, and good horses always have, and always will command good prices. What we want is the breed that will furnish from a given number the largest per cent. of good horses. This unquestionably can be done only by proper judgment in the selection of the sire; we have our mares and cannot change them. A thoroughbred should be chosen if possible, as they unerringly transmit to their colts qualities in which they themselves excel. It costs as much to raise one colt as it does another, and the difference in price of service will look very small when added to the price of a horse after he is matured.

In view of a still further improvement in breeding—in which there seems to be no limit—there were, about two years since, some thoroughbred French Coach Stallions introduced here to be kept for service. This breed combines size, beauty and action. They are certainly horses of great vitality and endurance. The breeders take kindly to them—not that they expect to get all coachers, but they do expect to get a larger per cent. than could be obtained by any other cross, and judging by the indications as the colts begin to put in their appearance, they will not be disappointed.

They are good horses to raise, for the reason that if they do not all come up to the requirements of a fine carriage horse, they are unquestionably a general-purpose horse, and will fill any place in which a horse is wanted, with but few exceptions. They make an excellent cross with the grade Percheron mare. The colts have plenty of size, and are endowed with increased vitality and action.

The care of colts, which is one of the stepping stones to success in breeding, should be carefully attended to. At four months the colt is fit to wean. If that comes in the fall, sometimes he is allowed to depend entirely upon his own resources for a living. At this time of the year the grass is frost-bitten and affords little nourishment; the result is the colt gradually grows thin in flesh, and loses his shape, and no amount of good care in the winter will make up entirely the loss. The first winter with a colt is of the utmost importance. He should have a comfortable place where he can take plenty of exercise. A little good hay and four to six quarts of oats and bran mixed per day will cause him to thrive, and when spring comes you will have wintered him with but little more expense than to winter a calf. The colt then will sell right here at auction at from $80 to $100. The calf will sell at the same auction at $12 to $14.

With land at an average price of $75 per acre we can raise colts—aside from the service fee of the stallion—at a cost not to exceed $75, at three years old. All that is fed to them goes back to enrich the farm. Farming can be made to pay, and does pay—but if you go on the calf theory it is slow, very slow! F. H.

Scipio, N. Y.

Jersey Cows and the Escutcheon.

ENS. COUNTRY GENTLEMAN—In former times—that is to say, three or four years ago—so much importance was attached to the shape and extent of the escutcheon carried by the Jersey cow, and the bull as well, that unless this supposed infallible mark of true milking ability was of the regulation size and shape it was almost impossible to dispose of a cow of the breed. No matter how well and conclusively she may have proved her excellence at the pail, the most important requisite was the escutcheon, and if this were present, of the first-class and high order, it determined the matter at once, and her value and desirability were measured there-by, and the price she would command was high in accordance.

The importance of this theory was backed up at the time, and encouraged by the action of the American Jersey Cattle Club in the prominence attached to this feature in the scale of points for Jersey cattle, eight points being the rank allowed, which was as high as any given to formation and size of the udder, or other parts more intimately associated with greatest value in the best dairy animal. The club rectified this error, however, in 1885, when it overhauled the scale and gave the escutcheon a black eye, by totally ignoring its claims, in leaving it out altogether. This move of the club was a suitable and commendable one, and has had much to do with settling the matter as to this mythical theory, and indicates the true value, and proper estimate in which it is worthy of being held.

It is a very good thing for the man owning a cow, with a well defined and perfectly shaped escutcheon, if he meets a buyer who believes that it indicates value; the sale will probably be effected more easily and at a higher figure than if she were deficient in that respect, but it does not by any means follow that this cow will prove better or more profitable than one possessing equally good points in all other respects, but lacking in breadth and height of escutcheon. There are so many excellent cows with poor escutcheons, and so many notably poor ones that make a superior showing in this respect, that there is no dependence to be placed upon it. Its influence is deceptive and misleading, ending in loss and disappointment to those who put their trust in it without having observed the results of its alleged teachings. The escutcheon is a delusion and a snare, and the club displayed wisdom in passing by its claims unrecognized in framing the new scale of points. It is hardly likely that the dairyman with an eye to profit, in search of great dairy animals, would choose the Short-Horn or the Polled Angus—grand in all their proportions, from the butcher's standpoint—yet a study of the specimens of these magnificent beef cattle at the late Fat Stock Show at Chicago—or at any other notable gathering of the beef breeds—would have revealed to his gaze escutcheons which for extent and symmetry equalled and surpassed anything ever dreamed of by the most enthusiastic escutcheon admirer. If this mark does not mean milk, rich milk and plenty of it, in the beef breeds, why should it indicate these things in the Jersey? GEO. JACKSON.

Marion County, Ind.

The Shetland Pony Trade.

A Scotch paper, the Aberdeen Free Press, gives the following interesting statement:

The stock of ponies in Shetland is running very low. Mares, formerly obtainable at from 50s. to 80s., cannot be had to-day at much under £10 to £12. The average size of a Shetland pony is 44 inches. If they are higher than that they are not so valuable; but the highest prices are obtainable for those that are only 40 inches or under, these being scarce and much sought after. A good many years ago Sir Arthur Nicholson, Feilar, introduced an Arab stallion into Orkney, which he crossed with the native mares. The product was a larger pony, very hardy, swift, and active, but too big, except for some purposes. The Fetlar ponies are quite distinguishable from the original stock on account of their size. The prevailing color of the true Shetland ponies is brown, and there are also a number of black ones among them. Compared with the native ponies from Iceland and North Faroe, which are sometimes offered as real Shetlanders, they are much finer in the head, which is small and handsome. They are capable of great endurance, especially in their native country, as I in the days when the stallions were more largely used than they are now in the mines some of them have been known to live for twenty years below ground. Shetland ponies have become very popular in America, and are being bred on the ranches. It is doubtful if, when removed from their native soil, these hardy little animals will maintain the ancient characteristics of the breed. Lately a large draft was bought by Gordon Cathcart, of Cluny, who intends breeding them in one of the western islands. In their native home they are now bred with greater care than formerly. They were allowed to herd and run together, and, of course, there was a great deal of in-breeding among them, no attempt being made to keep anything like a recorded pedigree. The need there is for preserving the purity and characteristics of the breed is being more generally recognised, and the action which is being taken with this object in view has probably been quickened by the popularity which Shetland ponies have gained in America. Strangers to the breed are said to have been largely imposed upon by dealers, who, as already stated, palm off Icelanders and North Faroe islanders for the real Shetland ponies. The average height of the ponies from North Faroe Island is about 48 inches, and that of the Iceland ponies about 50 inches—a fact which in itself should help buyers to distinguish between the different breeds, and, besides, it should not be forgotten that the Shetland ponies carry by far the prettiest heads.

Red Jersey Swine in Kentucky.

ENS. COUNTRY GENTLEMAN—For the farmer who does not intend to take care of his hogs, but to let them shift for themselves, the Black Berkshire is a good breed, but for the farmer who can and will give his hogs proper care and attention, and who wants to make money by them, the Red Jersey is the one to raise. All my life I have taken much interest in the raising of hogs, and have given many different breeds a fair trial.

What first called my attention to the Red Jerseys was their weight. I had two lots of pigs that were the same age—one was half Red Jersey, the other was half Chester White, and at killing time I noticed that those that had Jersey blood netted 40 lbs. most. So I thought that if a half Jersey would do that well, a whole Jersey would do better, and purchased some full bloods, which I have never regretted. They are a very thrifty breed, hardy and healthy as any. My neighbors' hogs have cholera all around me, yet mine do not take it, perhaps because they are never allowed to run at large, and so do not have the chance to catch it. I endeavor to keep their general health good, once a week giving them a dose of salt and ashes, and keeping them clear of lice by greasing them and pouring coal oil on their backs. If a hog becomes infested with lice, it is very easy for him to take the cholera. Jersey sows are very prolific, and last longer as brood sows than those of any breed I have ever tried. At nine years old it is profitable to keep them. Neither does getting very fat unfit them for service.

If the Chester White gets very fat when three or four years old, they have been known to bring only one pig at farrowing, while I have had a Jersey sow bring fourteen and raise them all to be good pigs, not a runt in the lot. The same sow at another time raised thirteen.

The sows are deep milkers, but, of course, need help in raising so many pigs. When her milk begins to fail she should be fed on such food as will tend to increase its flow. I always begin to feed the pigs as soon as they will eat, keep a trough containing milk close to their bed inclosed in such a manner that their mother cannot reach it, and when the pigs are two or three days old they are out there tasting it, and when they are four or five days old they begin to drink it.

The sows, which are gentle, kind and most affectionate mothers, seem to know how heavy they are, and are very careful in going back to bed not to hurt any of their pigs. A young sow that I have now is as tender with her young as any human mother could be; she lets me pick up one of her pigs to look at it, but if I make it squeal she shows her disapproval very plainly.

I have never had any trouble about the sows eating their young. I take care to feed them well at that time and never allow them to get very hungry. Brood sows should always be kept in good order, but never allowed to get

very fat. Last winter mine had the range of some woodland, and almost lived upon acorns.

It is also very important that pigs should be kept warm and comfortable while very young; no other live stock seems to suffer so much from neglect. If not well cared for until a week old their growth is lessened for a month. My plan is to give the pigs all they can eat until they are three months old, then—suppose they were born the first of March, that will bring them to the first of June—they are turned out to make their own living in the clover field, the harvest field, and the orchard. They can thus live well all summer at little expense to their owner, and in September they are put up to fatten when the corn is in the roasting-ear state. They are fed stalk and all until by degrees they learn to eat hard corn, of which they then have all they want. At the age of nine months they are killed, and will average 340 lbs. nett. If allowed to have one and one-half ears of corn twice daily, all during summer, they can easily be made to average 300 lbs. at the age of nine months.

Until ten months old the Red Jerseys make as pretty dressed pork as any breed of hogs; all that reddish color is scraped off after scalding, and the skin is as white as that of a white hog, while the flavor of the flesh cannot be excelled in quality.

Many persons think that large breeds of hogs cannot be made fat until they get their growth, but this is a mistake, at least as far as the Jerseys are concerned. They will take on fat at any age; I have fattened them when only five months old.

From the increase of two brood sows during one year, I made $340 cash, and had enough meat left to supply my family for 12 months. Some of the pigs were sold for breeding purposes, and the remainder were sold on foot except what were kept for home use. I do not get fancy prices for my pigs either—only about $6 apiece at two months old, when they are ready for delivery.

My neighbors said then that my pigs were fine because I had a dairy and could feed the milk to the pigs, but this year I have moved my dairy to another farm, and have fed the pigs on slop from the kitchen, mixed with wheat bran. As they grow older, I soak corn for 24 hours and put that in the slop. The pigs did not learn to eat it as quickly as milk, but managed it pretty well by the time they were a week or ten days old, and this year my pigs look as well as ever.

Wheat bran is altogether better for pigs than corn. It is not so fattening in its tendency, and goes to make bone and muscle. Dry corn is much too concentrated, except when they are old enough to eat grass, which tends to counteract it.

It is so much better, I think, to have pure-blooded stock, and take care of it and make it profitable, than to keep a large number of scrubs and half attend to them. The way farmers have of keeping a large number of brood sows, and letting them shift for themselves, is very poor management. Not long ago I saw a nice young sow with a litter of little pigs, and nothing to protect them but a brush pile, and no bed except a little grass and leaves that she had gotten together.

A young pig is as tender as a young baby, and should be carefully sheltered from the cold and the rains. If it suffers from neglect during the first few days of its life, it will feel it for a month. Pigs that are not properly cared for never do make as good hogs as they otherwise would. Many farmers think that if they throw their brood sows an ear of corn occasionally, they have done their whole duty. If the sows raise their pigs, well and good; if not, the sow is to blame for it, not themselves.

Many persons object to the Red Jerseys on account of their large, overhanging ears, but I have actually got to think them rather pretty, and became so attached to one old sow that I kept her until she was nearly blind. The children said it was because her ears shaded her eyes so; her teeth gave out too, so that she could not chew corn. They grow to an immense size; one has been known to weigh 1200 pounds, and many others have reached 1000. But except for breeding purposes, it is better not to keep them after they are nine or ten months old. E. H. DUDLEY.

Christian County, Ky.

The Dairy Department.

Summer Food—What Shall We Plant?

ED. COUNTRY GENTLEMAN—Every intelligent dairyman knows the necessity of studying economy in the management of the dairy. As butter is commonly made and sold, it is a question, whether it will pay to rely for extra food in the summer, on grain, which must be purchased, and if not purchased it has a commercial value above its results in the income of the dairy. Where the product of the dairy is of such quality as to bring an extra price in market, it will always pay to be at extra expense in its production; as its sale will warrant extra cost.

It is evident to me, from all that I have seen, heard and am able to surmise, that the most of our dairymen should rise to a higher plane of comprehension of their work, and in its management. The loss to the dairymen of New-York last season for the lack of extra food in summer, to keep up the flow of milk, was immense. It would take hundreds of thousands of dollars to make up the loss. Cows universally were reduced one-third in their yield of milk and in many sections one-half; they never got back. No dairyman can afford to run his business with only two months of flush. It should be kept up the whole season and then the profits will be little enough. There is no use hoping it will not be so this year. It is the rule, that in midsummer the pastures get slim from various causes, and it is an historic fact, that "in fly time" cows fall off in yield of milk. The sequence is equally historic that plenty of extra food will prevent this, and while we have to go through all the motions of doing a dairy business, we might as well have adequate results. We cannot do this without extra food for the cows. All the logic of common sense clinches this argument.

Because we have pasture now fresh and green, we have no positive assurance of plenty in July and August. The loss in yield of milk is not all the damage. Cows stinted in the amount of their food always, when giving milk, get more or less emaciated, and skin and bones do not afford a good foundation for the dairy. The coming idea in the providing of extra food for summer will be ensilage—ensilage kept over the winter. The sooner we work up to this march of progress the better; meanwhile we should not fall outside, but provide other foods until this advanced position is secured. There is no plant which will afford the amount of food for the ground and labor bestowed as the corn plant. In exhorting dairymen to avail themselves of this fact we must point out that its value rates all the way from less than 10 per cent. of nutritive matter to 30 per cent., according as it is planted and grown. The more singly and perfectly the plants are produced the more nutrition they will contain, and the more thickly planted the less nutriment they will contain according to bulk. The dairyman can get water cheaper for his cows than to pipe it through fodder corn.

At Kirby Homestead, twenty acres will be planted with corn for fodder. To help bridge over the poor-pasture period, the old night-pasture is to be planted with corn to give the cows in the stables night and morning. The cows will be turned into another night-pasture. I am satisfied no money can be made from cows not fed all they will eat. It is the reverse doctrine which ran the average-animal yield of the dairies of New-York last year down to $35. It is a full supply of food the year round which will afford the basis for a large return. With this basis there must be fewer poor cows and less exposure.

We have to do in this article with summer foods. A most excellent plant food is oat-pea hay. This is a better balanced food than the green fodder corn; but somehow, when the cows have grass with the fodder corn, nature seems to balance the foods, so that the yield of milk is most satisfactory. Succulent foods are entirely natural in summer, and for the cost are the best. They will give results in warm weather which could not be realized in cold weather, and in fact would kill animals exposed, as most farmers usually expose their stock. There are more of the albuminoids in the oats and grain than in the corn fodder, and still more in the peas. I doubt if we can produce any forage food so well balanced as oat-pea hay. Clover hay would be most excellent stable food to give the cows extra. They would not eat it so well as they would the oat-pea hay with the grain in it. The grain of oats has the nutritive ratio of 1 to 6.1, peas 1 to 3, oat straw 1 to 20.6. I have no analysis of pea straw, but it must be rich in albuminoids, and better than clover hay, which is 1 to 5.6, while corn fodder is 1 to 34.4, and corn 1 to 9.8. Prof. Stewart puts peas in blossom as 1 to 4. The oat-pea hay does not give as much flow of milk, but it does produce milk rich in solids. It is a handy food, as it can be cut when green, and be cured and housed in the barn in a handy place ready to feed, rain or shine. It would be especially useful when grasses are as soft and washy as they were last autumn. The butter made from these grasses was poor, and it needed the oat-pea hay, rich in nitrogenous elements, to balance the watery character of the grasses, and to give solidity and quality to the products.

The dairyman should have his field of oats and peas sown for hay and harvested for this purpose, and also a full crop of fodder corn. I am of the opinion that a dairyman, if he sees that his pasture will be short, can well afford to utilize one of his field of oats in the form of hay, by cutting it when in the milk and while still green. This can be cured and converted into butter and cheese, and be turned to better account than to be allowed to ripen. One result of this foresight will be that the cows will not run down, and require extra food in winter to get them through, with little or no income. The crop will not take so much from the land. An abundance of summer food will always tend to lengthen the season of profit. One of the corner stones of the $35 yearly income, is the four or five months of nothing obtained from the dairy. Extra summer food is a necessity. F. D. CURTIS.

Kirby Homestead, N. Y.

Thirty-Six Cows on Sixty Acres.

ED. COUNTRY GENTLEMAN—I have made mixed farming my business, but not with as much success as I would like for the amount of labor I do. I have 60 acres of pasture land on which I pastured 18 cows last year for the first. They had all that grew on the 60 acres, except that eaten by 8 head of horses. Could I not manage to keep 36 cows on the same 60 acres by taking some other course than to pasture the whole 60 acres? It is all tillable land and can be plowed. (1) If I raise fodder corn, what kind would be best, amount per acre, and the proper way to put it in; this is limestone soil? (2) I have 200 acres of land. Would it pay me to raise grain to feed those cows through winter or pasture my land and buy my grain, and put in more fodder corn for winter? (3) Can I afford to keep my cows and make milk through the winter for three cents per quart net? If I can, please state the proper feed for them to make milk, quantity and quality. (4) What would be the proper way to keep the bull where I keep so many cows? Kept my bull in the stable fed, some grain, corn and oats, but the most of my cows have bothered me very much, and some are not coming in at all. (5) Cows that run over, that came in last fall, and are not with calf—would it not pay better to dispose of them through the summer and buy fresh cows in the fall? If so, please state what course I should take and about what time to dispose of them, and if it would pay me to milk them as long as I could and feed heavier. (6) My cows have bothered me very much all winter by getting lame with the foul in their feet. I let them out to water twice a day. Please state the best thing to use. I have used tar in the claws; does not seem to stop it. (7) J. W. H.

Columbia County, N. Y.

1. To keep 36 cows on 60 acres has ceased to be a problem. It is now demonstrated that it cannot only be done, but exceeded. It needs the silo to make it a guarantee. Then one can pasture, half-soil or soil, eight months of the year, as he may choose. Mr. Rogers of Binghamton, if I remember him correctly, told me that he kept 94 cows and several head of young stock on less than 70 acres, and Commissioner Brown of New-York State keeps over a cow to the acre by the use of the silo. The cows are stabled, and run in a small pasture, but the greater part of the year ensilage forms the main feature of the roughage ration.

2. You should depend upon ensilage corn for the *great* crop, clover in rotation, and supplement the ration with bran or oats and oil meal. It is probable that in Columbia county you could raise the "E. & W." ensilage corn successfully, or some of the large, rank-growing dent corns like Smid'ey's, Leaming and other varieties. The corn should be planted, not over 8 or 10 quarts per acre, in drills, having a kernel of corn not nearer than 6 or 8 inches apart, the drills 3 feet 6 apart. If the ground is well prepared, and the seed put in with any of the good corn drills, about 1½ inches deep, the greater part of the cultivation can be done with slanting tooth-harrows, and only needs finishing up with a cultivator. At the last working of the corn, it is a good plan to cultivate in about two bushels of rye per acre between the rows. It keeps down the weeds, and when the corn is cut, it grows rapidly, and furnishes a fine after-growth for young stock, keeps the soil from washing during the fall and spring, and again makes a fine growth to plow under for another crop of corn—about equal to a clover sod. How to build a silo to preserve this crop, has been so prominently explained within the year by the COUNTRY GENTLEMAN, that the plans need not be repeated here, beyond saying that the wooden silo has "come out ahead."

I would, if I were you, raise oats to feed. The ensilage, if thinly grown, will contain ample corn grain, and it needs oats and bran to balance the ration. If the market price of oats should prove very high, you would, no doubt, make it profitable to sell the oats and buy bran and oil meal to take the place of the oats. This is a matter the market at the time settles. It will not pay to raise oats for [illegible] with good ensilage. As your 36 cows consume [illegible] possibly consume in 8 months more than 20 to to 24 acres of good ensilage, you will yet have 40 acres of land to experiment with.

4. I do not know what you can get for milk at retail, but here in Ohio, silo dairymen do not complain about selling milk at 2½c. per quart through the winter, and I am sure at that price I can live, at least; and know scores of others who say that with ensilage and bran they never made good milk so cheaply as last winter. I doubt if a better ration can be fed a milch cow through the winter than 50 lbs. of ensilage, 3 lbs. clover hay, 6 lbs. of bran and 1 lb. of oil cake, each per day, and then kept 24 hours, every day, in a warm, clean stable. The winter milch cow does not need to be turned out for exercise, or drink. Tie her with a neck chain or strap, keep her clean, and water her where she stands. The man who keeps a winter dairy should make the stable so that summer conditions are an every-day reality. The ensilage and bran represent a summer ration, and with it should go a summer drink of water, not below 50°, and the cow watered twice per day.

3. The proper way to keep a bull is to break him to work with a stag of like size, and see that he has moderate work every day. He will be all the better for it, more hardy and vigorous, and then there will be very little danger of his getting cross and doing one any violence. I would as far as possible raise my best heifer calves, to keep up the supply of cows for the dairy. Get a good Guernsey or Holstein bull of a butter family, where quality has been looked after instead of quantity, and breed to him, and whatever breed you choose, keep in that line. Do not breed Holsteins one year, Short-Horns the next, and Polled Angus the year after, but stay by the first breed. You can improve a breed a great deal quicker than you can find one by your trials. Your need is a large yield of well-balanced milk for the city market, and I think you can raise cows to that end better than to buy.

6. It is hardly profitable to keep a cow two years before she again becomes "fresh," unless she is a great milker, and gives milk in paying quantities for 20 months. It is a common practice to milk farrow cows as long as possible, and let them flesh up and sell to a butcher; but just now cow beef is not tempting the market, and whether it pays to fatten, or dispose of at once to the sausage-maker, is a question that you can best answer—taking cost of feed, &c., into account.

7. The best thing to use for foul in the feet, in winter, is to keep the cows in the stable all the time on a good dry clean floor, with bedding. The foot may be cleaned out, and turpentine or the like put on. My cows stand on a half-earth floor, with bedding, and foul foot is unknown. Last winter they stood in their stalls 110 days at one time, and not a cow was lame during that period. The Dutch remedy hereabouts is to clean out between the hoofs, and then tie the cow in running water for 24 hours.

As a rule, winter milkers are not as regular about "coming in" as summer "fresh" cows.

Western Reserve, O. J. G.

Ripening Cream Once More.

ED. COUNTRY GENTLEMAN—I have written what I have on this subject for the benefit of dairymen and farmers' wives, and not for creamerymen, like Mr. Boyd, whose letter appears on page 353, for these are well able to take care of themselves, having good practical knowledge; but the thousands of small private dairies, and farmers' wives who make butter, are those most interested in knowing safe and simple practice. I venture to think that not one of these thousands can understand Mr. Boyd's way with the cream, so as to follow it out with useful effect, and I think that any one and every one can easily understand the plain and simple rules I have given.

For all along until the present time—[illegible] Boyd is right [illegible] false theories [illegible] quite as great [illegible] have better [illegible] made [illegible]

is not the thickening of the milk by souring? There is no serum about the butter globules but the milk itself, of which the cream mostly consists.

This is why I object to this new theory or hypothesis, or whatever it may be. What does a farmer's wife know about this imaginary serum? I want only plain, simple, comprehensible terms used, and there is no difference whatever between Mr. Boyd's practice and mine, except in the use of different words. Mr. Boyd makes a mystery of it, and this leads to confusion and worry of mind to anxious men and women who are striving to learn the best way.

Mr. Boyd adds some sour milk to do the ripening; that is his starter, as I assume, for he has not said explicitly what it is, but indirectly leads me to understand it to be his "lactic ferment." When sweet, newly-skimmed cream is poured into the cream jar of the small dairy, and is stirred with the sour cream, there is the lactic ferment of Mr. Boyd, and the same in effect as the large creameryman uses to ripen his cream in a large lot quickly for early churning, and to have this so explained to the many expectant readers of the COUNTRY GENTLEMAN is the object of my communication.

I fear Mr. Boyd somewhat exaggerates—I hope he will excuse me for saying this—when he says he has tested this matter "thousands of times;" once a day for three years would be a thousand times, and thousands would take up a good many years. If this has been so old a matter, and of such great importance, how is it that it has not been heard of until recently? And possibly Mr. Boyd is too sanguine over this matter. H. STEWART.

State Dairymen's Association.

Meeting of Board at Ithaca.

EDS. COUNTRY GENTLEMAN—The board of managers of the New-York State Dairy Association met here to-day to map out the programme for the year. The association had asked for an increased appropriation for its work the coming year, which had been granted by the legislature and approved by the Governor without hesitation, as the association had demonstrated by its last annual report the importance of its services. This report was the best ever issued by any society of the kind in the State, and was deemed so valuable that the legislature ordered the printing of 5,000 extra copies for its own use. The association printed, out of its appropriation of last year, nearly 1,000 copies.

Last year six butter conferences were held under its direction, and this year it was proposed to increase the number of these profitable meetings to forty. In order to carry out this plan, the appropriation was increased $1,500, making it $4,000. The managers concluded to hold thirty-two one-day butter conferences, forenoon and afternoon, in different parts of the State, where butter should be made on the spot and lectures given on the subject of dairying. Two competent persons are to be selected by the president, Prof. I. P. Roberts, and the secretary, Hon. Josiah Shull, to attend all of these conferences, and demonstrate the principles of butter-making and its relations to the dairy, as far as practicable, by the object-lesson of doing the work. In connection with this, there will be full showing orally, and opportunity given for asking questions and getting at all the facts. The best experts available in the State are to be selected. This work is to begin in Cayuga county, the last of May, and be continued in different parts of the State as requests may be made. Several counties have already applied.

There will be held in addition, four dairy conventions, to continue two days; as follows: At Hamilton, Madison Co.; East Aurora, Erie Co.; Potsdam, St. Lawrence Co., and one in Allegany county, the place to be selected by Hon. A. B. Cottrell, whom the association recognizes as an earnest friend and promoter of the dairy interests of New-York. The regular annual meeting will take place at Ithaca, Dec. 10, 11 and 12, 1889. Hon. Geo. Z. Erwin, has signified his intention to take part in the convention, in his town, Potsdam. The four conventions will be conducted by speakers from our own State, but at the annual meeting the intention is to invite experts and prominent dairymen from other States, including Gov. Hoard of Wisconsin. It will be seen that the association has entered upon a valuable work for the ensuing year, and with the well-known efficiency of its officers, success is assured.

The managers passed resolutions of thanks to the Governor, and other friends and supporters, naming Senators Sloan and Erwin, and members of Assembly Ainsworth and Cottrell, as entitled to special mention. A telegram was sent to the committee on finance of the Senate asking them to report and pass the Cottrell bill, which provided for the establishment of one dairy school. It was, however, too near the close of the session and the bill failed to become a law, although it received the unanimous vote of the assembly.

President Roberts and Secretary Shull were made the committee on programmes for all the meetings, and the secretary was directed to have printed and distributed rules for the management of the conferences, and directions for the care of the milk and cream, amount, &c., for each conference, so that the conditions might be as uniform as possible, and full information had of all the conditions connected with the care of the cows, breeds, food, handling of the milk and the cream, and its ripening. A brief report of all these facts is to be made by the experts or instructors, and their statements will be printed in the next annual report of the association. No effort is to be spared to obtain from the best dairymen all the information possible, and impart to the public all the instruction which can be given in regard to improved methods.

Messrs. Roberts, Shull and Curtis were made a committee to prepare a form of questions, to be submitted to the superintendent of the U. S. Census, which should insure as full and as accurate a compilation of dairy statistics from this State as possible.

The managers enjoyed an examination of the experiments going on in connection with the Cornell University Experiment Station. They found these to be extensive and of great practical value. F. D. CURTIS.

Ithaca, May 14.

Dairy Conferences—Their Object.

At the meeting of the managers of the New-York State Dairymen's Association, a report of which is given above, the following Bulletin was adopted:

The question may be asked—the object and purpose of holding dairy conferences. This is answered by saying that it is to bring before the farmers and dairymen the most approved methods of producing and handling dairy products; in showing by practical work how to make butter that will please consumers; how to produce and present it in a marketable condition and form, in sufficient quantity and quality to please consumers, and secure gain, or from which the farmer may make some profit by its production.

To make dairying a success, we must know the tastes of the consumers. People are becoming more refined in their tastes and more exacting about the quality of their food. This applies more especially to milk and butter, as these products are consumed, more or less, by every man, woman and child in our land.

Instead of over-churned, over-worked butter, made from stale cream, that becomes strong, we want creamy-flavored butter that is fresh. A large part of our farmers ignore these requirements; and judging by what we hear, no one makes poor butter. The question then will be asked, where does the poor butter come from?

The dairy conferences are held to bring instructions to localities, to the people of neighborhoods, and give practical work and instructions so as to improve the value of their milk and their butter. The person keeping one cow is proportionally interested in this matter as the farmer of a fifty-cow dairy.

The instructors are not to frighten the people by advising them to buy expensive implements and apparatus, saying that they cannot make good milk and butter unless they have the latest inventions. There have been made as good milk, butter and cheese, with the old-fashioned apparatus as with our most improved. But what we want is to make these products *all* as good as the *best*, so as to get the markets and the approval of the consumers. The instructions are not to improve our *model* dairies, but for the benefit of general dairy interests. Then the lessons taught may be communicated to others who may not be so fortunate as to attend the conference; thus the work will be progressive, extending from farm to farm and from neighborhood to neighborhood, when we shall have a more prosperous and happy people.

Notes on Dairying.

To make dairying a success, certain things and conditions are necessary, and the better these things and conditions are understood and carried out in practice, the more desirable and the more perfect will be the product. The following are some of the points necessary to be observed:

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4. General remark

Ilion, N. Y.

Holstein As

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Apia shall comprise six members—Germany, England and the United States each appointing one and residents of Apia electing the others.—A strike of over 90,000 Westphalian coal miners has occurred, and delegates were sent to confer with Emperor William, who advised with both miners and mine owners. A compromise was arranged but not carried out. A bloody conflict occurred May 17, near Breslau, between the strikers and the military.—The Shah of Persia is on his way to St. Petersburg.

Minor Items.

Gold for export from New-York, May 17, was $1,750,000.

Heavy snow fell in Northern Wisconsin and Michigan, May 15.

Seventeen year locusts have made their appearance in Tennessee.

The cutting down of telegraph poles in New-York has been continued.

Nearly $25,000 has been contributed to the Memorial Arch fund, New-York.

Another subway explosion occurred in Union Square, New-York, May 13.

The American Meat Company and the American Cattle Trust have united.

A packing-house and one million pounds of meat were burned at Council Bluffs, May 16.

A $25,000 bronze statue of Horace Greeley is to be erected in City Hall Square, New-York.

The committee on cathedral plans, New-York, has selected four from the 67 presented.

Ex-President Cleveland has leased the house of banker Marquand in Madison avenue, New-York.

Over 700 houses were burned, May 6, in St. Sauveur, a quarter of Quebec, and 5,000 persons made homeless.

Dressed-beef rates have been reduced from 50c. to 45c. per cwt., Chicago to New-York, by the leading roads.

At the Fasig sale, Cleveland, O., May 13, the 9 year-old black trotter Guy brought $29,750. Record, 2.12.

A cigarette started a fire in the Worcester, Mass., theatre, May 15, resulting in total loss of building and contents.

The search for Dr. Cronin, a well known Irish-American of Chicago who disappeared last week, still continues.

The first execution by electricity in this State will be that of William Kemmeler at Auburn prison, the last week in June.

Oil has been found at Terre Haute, Ind., and much excitement prevails; speculators are flocking in and new companies being formed.

The lines of the Wabash railroad east of the Mississippi were sold, May 15, to the Wabash western purchasing committee for $15,550,000.

The Massachusetts legislature has passed an act forbidding the docking of horses' tails, with penalty of fine and imprisonment for violation.

The 3,000 employés of the Wanamaker store, Philadelphia, shared in the distribution of $60,000, May 17, part of the profits of year just closed.

Dr. F. L. Vincent of the Clifton Springs, N. Y., Sanitarium, while experimenting with a tripod suspension machine, May 11, was choked to death.

Prof. Albert S. Cook of Berkeley, Cal., has been elected to the chair of English at Yale. Prof. Russell of the theological department has resigned.

The Minnesota drunkards law went into effect May 16. It provides for the fine and imprisonment of all intoxicated persons who become so voluntarily.

James B. Smith, city editor of the Springfield (Mass.) Republican, was mistaken by his brother-in-law R. B. Sturtevant, for a burglar, shot and killed, May 12.

The New-York Graphic pictures Louis Conlon of Montucon, France, a man five feet high with a beard seven feet long. He usually wears it around his neck.

United States Paymaster Wham and party were waylaid near Cedar Springs, Arizona, recently and robbed of $20,000. One soldier was killed and eight wounded.

The steel steamer Alaskan, of the Oregon Railway and Navigation Company, broke in two in a storm off Cape Blanco, Oregon, May 13; two sailors were drowned and 30 are missing.

The Sioux Indians are ready to negotiate with the government for the sale of part of their lands, which are among the finest in South Dakota. The tract will furnish 160-acre sections for 1,000 families.

Election of delegates to the constitutional conventions were held in North and South Dakota, May 14, with Republican majorities. In Montana the election went Democratic by a close majority.

The landing of the Virginia colonists at Jamestown, in 1607, was celebrated at that place, May 12, by the faculty and students of William and Mary College, with addresses by Pres. Tyler, Prof. Hale, and Mr. Watkins.

Rev. Edward C. Towne of Washington has sued Chauncey M. Depew for $1,500 in payment for historical material procured for the latter's centennial address. Mr. Depew says the material was never received, and that he paid $50 and offered $100 more.

W. I. Bishop, the mind-reader, died suddenly after a test of his power at the Lambs Club, New-York, May 13. An autopsy was held three hours after, before any inquest, and Surgeons Hance and Ferguson have been held in $5,500 bail each by the coroner.

The Presbyterian General Assembly began its 101st annual session in Dr. Howard Crosby's Church, New-York, May 16. Dr. W. C. Roberts of Illinois was chosen moderator. The Southern Assembly met the same day at Chattanooga, Tennessee, Dr. H. C. Hill of North Carolina moderator.

The United States Supreme Court awarded, May 13, to the executors of the will of Myra Clark Gaines, $576,000 against the City of New Orleans for use of property sold, but recovered by Mrs. Gaines in 1891, after nearly 50 years litigation. Mrs. G. died in '85. The property is worth about $3,000,000.

Solomon Hirsch of Oregon has been appointed minister to Turkey; Clark R. Carr of Illinois, minister to Denmark; Henry W. Severance of California, consul-general at Honolulu; John Jarrett of Pennsylvania, consul at Birmingham, England, Thomas H. Sherman of the District of Columbia, consul at Liverpool.

The Elberon hotel and cottage (where President Garfield died) at Long Branch, N. J., belonging to C. C. Francklyn, were sold at auction, May 13. Mrs. Mary M. Gosling of England (a cousin of Mr. Francklyn and loaner of $100,000 on the property) bought the cottage for $25,000. The hotel brought $50,000.

The State legislature adjourned, May 16, after passing the naval reserve, Vedder liquor, sale of tobacco and opium to minors, care of women and children in factories, and capital appropriation ($372,000) bills. The dressed-meat bill was killed, and the rapid transit bill left with railroad committee. The report of the Fish committee on the ceiling steal was rejected, and the milder one of the Ainsworth committee adopted. Gov. Hill vetoed the ballot reform bill. Over 400 bills remain in his hands. Mr. Smith returned to Albany on the 17th.

About Doctors' Bills.

Many a struggling family has all it can do to keep the wolf from the door, without being called upon to pay frequent and exorbitant bills for medical advice and attendance.

True, the doctor is often a necessary, though expensive, visitant of the family circle; nevertheless pure and well-tested remedies like Warner's Safe kept on hand for use when required, will be found a paying investment for every household in the land.

Sickness is one of the ingrates of life and yet every ill that flesh is heir to has an antidote in the laboratory of nature. Hon. H. H. Warner, of Rochester, N. Y., President of the Chamber of Commerce of that city, was a few years ago stricken with kidney disease, which the physicians declared incurable. In this extremity a friend recommended to him a vegetable preparation now known throughout the civilized world as Warner's Safe Cure. He tried it, and was quickly restored to perfect health. The incident led him to begin the manufacture of the wonderful preparation, and to make its merits known in all tongues and among all peoples.

He has now laboratories and warehouses in the United States not only, but in Canada, England, Germany, Austria, Australia, and Burmah. His preparations meet the requirements and affect the cure of a variety of diseases, and are all compounded from medicinal plants of the highest virtue.

Mr. Warner is a man of affairs, of wealth, culture and the highest standing in his own city and throughout the State. His character is the best guarantee of the purity and excellence of his renowned Remedies, which may be found in every first-class drug store of Europe and America.

For a Disordered Liver Try Beecham's Pills.

There is no city in the United States exempt from the dangers of malaria. Ayer's Ague Cure neutralizes all miasmatic poisons.

The prevalence of scrofulous taint in the blood is much more universal than many are aware. Indeed, but few persons are free from it. Fortunately, however, we have in Ayer's Sarsaparilla Warner's Safe Remedies, which may be found in every first-class drug store of Europe and America.

For a Disordered Liver Try Beecham's Pills.

Special Announcement.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., ENOSBURGH FALLS, Vt. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time. my16-4t

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. 1 mrch-26t

Farm Produce Markets.

Albany Markets—May 20.

FLOUR.—The Argus says: Market weaker, with improvement toward the close.

	1888. May 18.	1889. May 11.	1889. May 18.
Com. State	$3.10@4.40	$4.00@4.50	$3.80@4.15
State Extra	4.20@4.50	4.10@4.80	4.15@4.40
Amb. State & W.	4.25@5.10	5.00@5.35	4.75@5.00
G. Ind. & St. L. & W.	4.45@5.10	5.00@5.30	4.75@5.10
Winter W. Pat.	5.00@5.60	5.50@5.90	5.25@5.65
Minn. "Bakers"	4.60@4.75	4.60@4.75	4.75@4.90
Sp'g W. Pat., new	4.90@5.25	4.75@5.50	5.25@5.50
Sp'g W. Pat., old	5.25@5.50	5.00@5.75	5.75@6.10

Rye Flour selling well at $3.75@3.90 per bbl. Graham, $3.00@3.50. Oat Meal in fair demand at $5.00@5.50 per bbl. Corn Meal continues quiet; fine family, $2.75@3 per bbl.

GRAIN.—Corn in fair demand, stocks light; No. 2, 49¾@49¾c.; No. 3 mixed, 48@48½c. Oats steady; No. 2 white, 34½@35c.; No. 3 white, 33@33½c. Rye unchanged, with free offerings, at 55@55c. per 56 lbs.

HAY AND STRAW.—Market firm; demand good; receipts colarged. Timothy, best, $1.00@1; medium $1@1.(; clover, $1@1.1; mixed, $1.1@1; rye straw, best, $1.00@1; oat straw, 80@85; wheat straw, 60@65.

HOPS.—Market unchanged; crop prospects favorable.

N. Y. State, 1888, choice	15	@16
N. Y. State, 1888, common to good	8	@11
N. Y. State, 1887, all grades	8	@11
Pacific Coast	16	@20
German	16	@20

Albany Street Market—May 20.

BUTTER.—Good to choice, 16@18c. per lb.

EGGS.—Near-by and new laid, 11@11c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8½ @10c. per lb.; forequarter, 6½@8c.; mutton, hindquarter, 9@10c.; forequarter, 7@8c.; lamb, hindquarter, 10@11c.; forequarter, 7@8c.; veal, hindquarter, 10@11c.; forequarter, 7@8c.

POULTRY.—Fowls, 12@13c.; chickens, 12@13c.; turkeys, 12@13c.; ducks, 12@13c.

FRUIT.—Apples, $2@3 per bbl.; Cranberries, $1.75 per crate; Strawberries, 15@18c. per box.

VEGETABLES.—Asparagus, 5c. per bunch; Beets, new, 6@8c. per crate; Cabbages, new, $2@3 per crate; Cauliflower, 25@40 per doz.; Green Peas, $2@3 per crate; Lettuce, 30@40c. per box; Onions, new, $1 per crate; Oyster-plant, $1 per doz.; Parsnips, $1.25; Potatoes, $1.75@2.00 per bbl.; new, 90@$1; Radishes, 10c. per bunch; Rhubarb, 40@50c. per doz.; Spinach, 75c.@$1 per bbl.; squash, $1.25 per crate; Tomatoes, $1.75@2.75.

New-York Markets—May 18.

BEANS—Marrow, 1888		1.65 @	1.70
Medium, 1888, choice		— @	1.70
Pea, 1888		— @	1.70
COTTON—	Uplands.	N. O. & Gulf	
Ordinary, per lb	9½ @	— @	9¾
Middling	11 @	— @	11¼
Fair	12⅞ @	— @	13⅛
EGGS—State and near-by, per doz		@	14½
Western and Southern	13½ @	@	14
FLOUR—Spring Wheat pat., per bbl	4.00 @	4.25	
Winter	3.50 @	4.00	
No. 2 extra State and Western	3.30 @	3.50	
No. 1 extra	3.80 @	4.00	
Minnesota clear	4.05 @	4.40	
Straight	4.40 @	4.60	
Rye Flour, superfine	3.40 @	3.60	
Corn Meal	2.70 @	2.80	
FRUIT—Apples, Baldwin, per bbl		@	3.00
Russet	2.50 @	2.75	
Spy	3.00 @	4.00	
Oranges, Florida, choice, per box	4.00 @	6.00	
Russets	3.00 @	3.50	
Strawberries, Charleston, per qt	20 @	30	
North Carolina	14 @	20	
Tennessee	13 @	15	
Maryland	13 @	15	
Peanuts, per lb	3½@4 @		
Dried—Apples, sun-dried, per lb	2½@3 @		3½
Evaporated	5@6 @		6½
Peaches, sun-dried	5 @		5½
Evaporated	4 @		10
Plums, Southern	3 @		—
Cherries	12½@13 @		15
Blackberries	4 @		—
Raspberries	16 @		17
Huckleberries	10 @		—
GRAIN—Wheat, State white, per bush	90 @		91
Ungraded spring	82 @		90
No. 1 red, winter	90 @		90
No. 2 red, winter	— @		89½
Corn, No. 2 white	— @		56
No. 2 mixed	49 @		49
Oats, No. 2, white	34½ @		35
No. 3, mixed	32 @		32
Barley	85 @		95
Rye, State and western	55 @		55
HAY—Timothy, per 100 lbs	75 @		80
Shipping	60 @		65
Clover	70 @		75
Straw, long Rye, No. 1	70 @		75
No. 2	55 @		60
Oat	45 @		50
HOPS—N. Y. State, 1888, choice, per lb	— @		20
Good to prime	20 @		22½
Best, 1887	16 @		18
Pacific Coast, 1888, best	18 @		20
Pacific Coast, 1887	8 @		9
German	8 @		75
MAPLE SUGAR, per lb	7 @		7½
Syrup, per gal	60 @		75
POULTRY—Live fowls, per lb	11½@		13
Spring chickens	18 @		25
Turkeys	9 @		11
Ducks, per pair	50 @		60
Geese	80 @		1.25
Dressed fowls, per lb	9½@		10½
Phila. springs	20 @		25
Bait & West. broilers	18 @		20
Turkeys	12 @		13
Ducks, per lb	12 @		13
Geese	8 @		10
PROVISIONS—Beef hams, per bbl	23.00 @		—
India mess	13.00 @		13.50
Hogs, dressed, per 100 lbs	6.25 @		6.75
Lard, per tierce	6.50 @		7.00
Pork, new mess, per bbl	13.00 @		13.50
Short clear	14.00 @		16.00
Family	13.50 @		14.00
VEGETABLES—Asparagus, Charleston, per doz. bunch	1.25 @		1.50
Prime	75 @		1.00
Beets, Bermuda, per box	75 @		1.00
Florida & Bev. per crate	1.25 @		1.50
Cabbages, Sav. & Fla. per bbl. crate	1.75 @		2.00
Norfolk	1.00 @		1.50
Celery, N. O., per doz	— @		30
Cucumbers, Florida, per doz	1.00 @		2.00
Green peas, North'n fcit., per crate	1.50 @		2.00
Edenton	1.25 @		1.50
N. C., per bu. crate	75 @		1.00
Kale, Bermuda, per bbl	1.00 @		1.50
Lettuce, Norfolk, per bbl	1.00 @		1.50
Charleston	— @		—
Onions, Orna., red, per bbl	75 @		1.25
N. O., new	2.00 @		3.00
Bermuda, per crate	85 @		1.25
Potatoes, State, per bbl	1.00 @		1.37
Eastern	1.30 @		2.00
Southern, new	2.00 @		2.50
New-Orleans	4.00 @		5.00
Bermuda	6.00 @		7.00
Sweet, Vineland	3.25 @		4.50
Radishes, N. C. & Norfolk, per bbl	50 @		75
Rhubarb hot-house, per 100	5.00 @		7.00
Spinach, Norfolk, per bbl	75 @		1.00
String beans, Fla. wax, per crate	1.00 @		2.00
Savannah	1.00 @		3.00
Tomatoes, Fla., per crate	1.00 @		2.00
Bermuda	— @		75

Cattle Markets.

NEW-YORK, May 18.

BEEVES.—Receipts, 11,378 head. The arrivals on Monday last were heavy and values declined 10 per cent. Wednesday on a light supply the market recovered and prices became steady. Friday the markets closed dull at former values. The herds offered ranged from coarse to fair, with a few poor cows. The herds taken for export ranged from coarse to good, and were in part dishorned Colorado steers. Some choice quality bulls were taken for export.

[Per central, net.]	This week.		Last week.	
Good beeves	$5.00 @	—	$5.00 @	—
Fair	4.75 @	4.90	4.75 @	4.90
Coarse	4.50 @	4.70	4.50 @	4.70
Poor	4.00 @	4.40	4.00 @	4.40

[For central, grass.]	This week.		Last week.	
Good beeves	$4.35 @	—	$4.75 @	4.90
Fair	4.20 @	4.30	4.50 @	4.70
Coarse	3.90 @	4.10	4.10 @	4.40
Poor	3.60 @	3.85	3.90 @	4.05
Oxen	4.00 @	4.30	4.10 @	4.60
Dry cows	1.75 @	3.50	1.90 @	3.60
Bulls	2.00 @	3.75	2.25 @	3.75

MILCH COWS.—Receipts, 97 head. Trade is dull and values are weak, the news offered being of indifferent quality. Two cows, with two calves, sold at $165 for the two lots. Otherwise the range was $20@50 per head.

VEALS AND CALVES.—Receipts, 10,754 head. The week opened with a moderate supply and a steady tone in values. This was not sustained on Wednesday, when values were off ½c. per lb. On a liberal supply again on Friday, values declined ½c. per lb. The quality of the offerings has been from very poor to fair. Range of prices, buttermilk fed, $4.00@4.50 per cwt.; calves and lean veals, in mixed lots, $3.50@4.50 per cwt.; veals, 6@6½c. per lb.

SHEEP AND LAMBS.—Receipts, 35,671 head. The week opened with a steady tone in sheep and a weak feeling in lambs. Wednesday the market became firm at former values; Thursday sheep were firm, lambs dull; spring lambs off ½c. per lb.; Friday there was no change in sheep or in lambs, while spring lambs were off ½c. per lb. Range of prices, Sheep, 4@5½c. per lb.; lambs, 5½@7c.; call sheep, 3½@4c.; spring lambs, 6@8½c. Quality poor to good.

SWINE.—Receipts, 24,102 head. Trade has been dull and values weak; 10 car loads, 197 lbs., 4½c. per lb.; 42 State hogs, 200 and 176 lbs., 4½@4c. per lb.

BUFFALO, May 18.

BEEVES.—[Per central, gross.] This week. Last week.

Extra steers	$4.15@4.30	$4.35@4.50
Best butchers'	3.90@4.05	3.90@4.15
Second quality	3.75@3.85	3.85@3.90
Poor to common	3.50@3.60	3.70@3.80
Stockers, 700 lbs	3.10@3.30	3.40@3.60
Stockers, good to choice	3.25@3.40	3.60@3.75
Bulls	2.25@3.25	3.25@3.35

Receipts, 10,800 head against 15,300 last week. Butchers' cattle generally were lower, but there was considerable demand for good lots of 1,050 to 1,150 lbs. average, and the supply was hardly sufficient to go around; heavy steers were flat except for a sale of a few 1,600-lb. extras at $4.70; the bulk of export steers were shipped out; common half fat were in light supply. Bulls quiet; receipts liberal. Stockers in fair demand, light supply.

MILCH COWS.—Choice higher; common almost unsalable. Extra, $45@50; good to choice, $35@40; common to fair, $20@30.

VEALS.—Receipts; trade fair; good to choice, $4.75@5; heavy, $3.25@3.

SHEEP AND LAMBS.—Market opened all out of line with the East, being 15@20c. higher, owing to light supply. Heavy dropped out and prices declined; closing dull and unsettled. Sheep, 30 to 100 lbs., $4@4.25; fair to good, 80 to 90 lbs., $4.60@4.85; common, $4.75@5. Clipped lambs landed the last of the season's; good to choice, sold at $6@6.25.

SWINE.—Receipts, 17,800. Fair demand at opening, but for the rest of the week sellers accepted the best bids, and prices steadily declined to $4 for light and medium weights, a drop of 75c@$1, and the lowest figures reached in two years. Closing to-day: Yorkers, $4.30@4.45; mediums, $4.45; pigs, $4.60.

BOSTON, May 20.

BEEVES, NORTHERN.—Good oxen, dressed, $8.75 per cwt.; fair to good, $8.50; second quality, $7@8.25. Western, Abra—Extra, $6.75; good to prime $6.50; light to fair, $6@6.50.

MILCH COWS.—Demand good at $40@50 per head.

CALVES.—Sales of 3,000 at 4@6½c. per lb.

SHEEP AND LAMBS.—In lots at $5@5.25 per head.

SWINE.—Western fat hogs, alive, 4½@4c. per lb.; pigs, 4½@4c per head.

Dairy Markets—May 20.

ALBANY.—Butter receipts free; demand good. State creamery, choice, 18c.; Western creamery, 17@18c.; State dairy, 16@16c.; fair to good, 13@14c; Western dairy, choice, 14@15c.

Cheese easy. State factory, full cream, 10c.; new, 10@10½c.; dairy, good to fancy, 12c.

Utica.—A boom struck the cheese market here last Monday, and most of the salesmen were wise enough to take advantage of it. Sales were 5,130 boxes at 9½@10c., the ruling being 9¾c. and 1,720 boxes consigned. Little was disposed of 4,000 boxes at 9¾@9¾c. the largest amount going at 9¾c. Fully 1,500 boxes of the Utica cheese sold at 10c. Such an advance in fodder stock was never before known, and considerable curiosity existed as to the cause of it. Both New-York and Liverpool were said to be bare of cheese and anxious to get it. But the events of the latter part of week showed that the boom was manufactured for temporary effect only. The price fell off in New-York to 9¾c. for finest, and 9½c. was top on anything that did not stand the severest test. Probability is that 10¼c. was boomed for the sake of its effect on cheese arriving in England about that time. Certainly there was no legitimate demand that would warrant the prices paid. Interior markets will now be lower.

Butter has got down to about the lowest notch possible. Sales in Utica were at 19c. creamery at 17c. per lb. and 18 pkgs. do at 20½c., sold to local dealers. Quotations in New-York are 16c. for fancy 15½c. creamery or dairy, and down to 14½c. for choice.

NEW-YORK.—Good butter in fair demand. Receipts, 20,166 pkgs. Eastern creamery, fresh, 19c. Western creamery, fresh, 18@19c.; State dairy, choice, 16@17c.; old butter, west, 14@15c.; Western dairy, 13@14c. Western factory, choice, 14@15c.

Cheese firm. Receipts, 31,410 boxes. Factory, best, 9½@9¾c. per lb.; light-milk skims, 6@6½c.; Ohio flats, 9½@9¾c.

BOSTON.—Western creamery, extra, 19@19½c.; extra firsts, 17@18c.; factory, 16@17c.; Vermont, extra, 19@19½c.; dairy, choice, 16@17½c.; Eastern creamery, good to choice, 19@20c.

Wool Markets—May 20.

ALBANY.—Fair inquiry; sales 24,000 lbs.

No. 1, Pulled	24@25	Medium Fleece	22@23
Super Pulled	23@24	Fine Fleece	20@21

NEW-YORK.—Ohio X and XX, 23@24c.; Michigan X, 20@21c.; combing and delaine, 24@26c.; western fleece, 25@26c.; unwashed western, 20@23c.; pulled, 25@26c.; Virginia, 21@23c.; Territory, 23c., scoured, 53@57c.; Montana, 23c.; Oregon, 19@23c., do. scoured, 47@52c.; Texas, 20@21c., scoured, 50@52c.; California, 19@23c.; scoured, 50@52c.; Mexican, 20c.; Irish combing, 23c.; Donskoi, 19@20c.; East India, 15c.; Australian, 22@23c.

BOSTON.—Sales, 1,035,700 lbs. domestic and foreign: Ohio and Pennsylvania, 23@30c.; Michigan, 23@28c.; combing and delaine, 24@30c.; unwashed, 19@24c.; scoured, 48@57c.; pulled, 24@40c.; Territory, 23@30c.; Texas, 20c.; California, 19@25c.; Oregon, 19@25c.; Australian, 20@40c.

If you want the best

THRESHING-MACHINE OR ENSILAGE-CUTTER,

send to the old and reliable Empire Agricultural Works, over 30 years under the same management, Minard Harder, Proprietor, Cobleskill, N. Y., for fully illustrated, descriptive and free Catalogue, showing "why catalogue pays."

The Fireside.

Our China Wedding Day.

How like a dream the pages seem
That Time for us has gently turned,
Since we, dear Heart! till then apart,
Of happiness the meaning learned.

Two decades, swift as clouds that drift
Across the azure dome of May,
Beyond the dim horizon's brim,
Silent as they have winged their way.

Four lustrums, bright as gleams the light
Of myriad gems on midnight's zone,
Or rainbow dyes in eastern skies
When far the summer storm has flown.

And now, as swells of Sabbath bells
The soothing cadence on our ears,
'Mid murmuring bees and blossoming trees
Our China Wedding Day appears.

O, happy day! O, flowery way
Through which the winding path has led,
While sun and shade, o'er hill and glade
Their grateful alternation shed!

O, Thou whose care all creatures share,
Whose power through space and time ex-
Accept the praise our spirits raise [tends,
For all the gifts thy goodness sends!

Rockville, Conn., May 12. A. M. G.

Lessons from Nature.

One clear, bright afternoon I laid aside the book I had been reading and putting on my hat and jacket started out for my daily walk around our little farm. Following the bends and curves of the creek I came to a river, the upper part of the picturesque Hudson, and sitting down on the railing of the slope looked about. The day was one of those remarkably pleasant ones, which come occasionally in mid winter, bringing with them hopes of the promised springtime; and the fresh breeze from the north only added to the enjoyment of out-door exercise. The ice which had drifted down from above, meeting with some obstruction below, had spread across, a broken jagged mass, leaving two open channels, one near each shore.

Suddenly my day-dream was interrupted by a strange voice, and jumping up I searched for the intruder, but finding no one resumed my seat and took up the thread of my thoughts. Again words were whispered into my ear, but this time so sweetly and soothingly that I was completely charmed, and dared not turn my head lest it might be withdrawn never to return. The speaker was dear old Mother Nature, and this is what she said:

"That quiet stream, going on its way making a faint babbling sound, although its motion is almost imperceptible, owing to the smooth bed over which it flows, will just as surely bear all things

'Away on its bosom
To the ocean wild and wide.'

Yes, in its own good time it will as certainly add its mite to the great whole whither all streams are tending, as that famous Mad river which bursts its

'banks of sand and clay
And sweep their wooden bridge away,
Like withered reeds and stubble.'

"Do you see in that ice formed along the edge, twigs and leaves? This great branching tree in earlier life protected the water from the burning summer sun, but then, when its surface was soft and susceptible, unmindful of the effect in the future, she dropped into it those thousands of ugly twigs; partly from force of circumstances, chiefly from the sluggishness of the current, they were not thrown off but allowed to remain and become congealed; and there they will stay, marring its purity, until all is swept away into oblivion."

Yielding to the entreating tones of my charmer, I examined this ice more closely, and in places could distinctly see the water stirring underneath. "Remember," continued the silvery tones, "that ever-moving current extends under *all*, and is wearing, wearing away the barrier which keep it down. Of course where the ice is strong and thick it is invisible, and it is only in places, where that barrier becomes weakened and transparent, that it appears to remind us of its nearness."

Now and then a snap was heard, then silence. "Only the fall of one of those dainty ice structures whose frail hold on the roots of a tree has given way, letting it down and out of sight."

Another louder and more prolonged crash. "A large ice castle upheld by the arms of a bush long after the water, its main support, has stolen from under it. Its existence, you must perceive, was very precarious, and has been prolonged by artificial means. The end comes, and it being larger makes a louder crash, which is heard at a greater distance, but the echo, though longer in dying away, is just as surely followed by silence.

"Note these wee pieces sinking gently into arms awaiting them—arms almost uplifting themselves to receive the spotless burdens which had not attained to dangerous heights." The voice became more sympathetic and tender, reminding me of a mother describing the peaceful death of her baby. A long pause ensued; then the theme was taken up in a solemn and impressive manner:

"Have you come to the conclusion that the stream is an enemy to creation?—a hungry unsatisfied foe, ever ready to catch, envelop and draw from us all that we love and admire? Not so: These things were made but, as it were, to last for a day, their lives were uncertain and not wholly devoid of suffering. True, they cheered the heart of the northener by the grandeur and spotlessness of their architecture, but alas! does not reason teach you that an end comes to all earthly things? Then why dread the cause, which, when their work is done, takes them into its bosom and drifts them safely to the south, to the ocean. Do you not know that others as exquisitely made are waiting to fill their places? Is it not wise, therefore, to remove them from the field of conflict out, out, to the broad ocean of eternity where those scars and faults will be blotted out, where they will rest forever on the mild sea, no more to be frozen by bitter north winds?"

I arose from my seat on the narrow rail and walked along the shore. From a distant barn came the sound of the flail threshing grain from its sheath.

"What is the lesson we learn from this?" I asked of my wise instructor. The answer was promptly given:

"In the early spring when those delicate blades covered the hills with green, though we admired their beauty we knew they had not attained the purpose for which they were sown. Nor later still when their yellow tops waved in the soft south wind. At harvest time when the golden sheaves were gathered into the mow, it was only the heads that were over ripe that shed their kernels plump and bright. To get the grain that was to make our bread and feed the hungry cattle, each graceful spear had to be crushed and bent by the farmer's heavy flail." E. S. H.

Stillwater, N. Y.

Mission Bread in Dakota.

It is no easy undertaking to make one's daily life an effective object lesson in Christian civilization! Perhaps this is what we are all bound to do. But the obligation is felt as a peculiar responsibility by those earnest women who have thrown themselves into the Indian work as teachers and missionaries. In one of the camps upon the great Sioux reservation in Dakota the work of a government day school and church mission has been carried on for three years by two ladies living together in a little mission house, five miles from any other white person. They have made it an important part of their plan to give, so far as possible, an actual illustration of the superiority of "the white man's road." The teaching of cooking and civilized habits of eating has been an important feature. There is no such thing as a family meal among the untaught Indians; the coffeepot is always at the fire, and food is cooked and eaten according to the supply or the demands of appetite without any regard to regular hours, which, indeed, they have usually no way of marking. But as they become a little raised in the scale of civilization, clocks, crockery and regular meals all make their appearance in the tepee or log house.

The true Dakota bread, made from the flour issued by the agent as rations—though some of them had a fine crop of wheat of their own this last year—is a kind of unsweetened doughnut or fried bread, too often sodden in grease. But they take very kindly to good raised bread, being, in fact, extremely fond of it, and very glad to adopt the change as fast as possible. By means of cooking classes among the mothers of families as well as the school girls, good bread is now regularly made in many of these homes.

But as a means of extending its use still further, and also—for those who receive help must learn to give—as a resource for earning a little money for an "Easter offering" to carry the good news still further, "mission bread" is made in the industrial school room on Saturday by some of the older girls, assisted and overlooked by their teacher. This bread is sold through the camp and finds ready purchasers. When fruit can be had, pies are also made and are eagerly appreciated.

Reading in a home letter the account of a day spent in this way, it struck me as a novel and not uninteresting illustration of the old Saxon meaning of the word *lady*—loaf-giver. When the baking was finished, the little cart, drawn by an Indian pony, was brought up, the teacher, with two girls and the big baskets, were somehow packed in, and armed with a dinner-bell as a signal, they set out, and in a single hour disposed of all their stock, while in the evening several other would-be customers came to the house, and expressed so much disappointment at failing to obtain a share, that it was decided to double the quantity the next week.

It is thought to be better to sell, at moderate prices, than to give to the Indian, for buying means industry, while giving means pauperism. Many touching instances have arisen of the effort they are willing to make to procure comforts, when once the desire to improve their condition is aroused. May not the good mission bread and pies carry with them a good many lessons? D. H. R. Goodale.

Amusing our Children.

Reading from week to week V. B. C.'s interesting chapters, and especially her "advice in general" to mothers of the little ones, brings back memories of my mother's unceasing care for us, her children, through childhood years, and while she carefully guarded our principles, finding time amid the many duties of a farmer's wife to well begin our education, teaching us hours of each day, and withal finding a quiet hour almost every day to indulge us in that delight of children's hearts—story-telling.

Gathered at her knee we five would listen to these stories (interesting and instructive at the same time), which she was ever ready to tell. There was "the little pig who went to seek his fortune," and "the boy who would have oyster patties," for the little one of the flock, and for the older ones historic tales mingled with the romances she wove for us. Mother's stories formed a great part of the pleasure of our daily lives, and no task was thought hard, or duty arduous, if mother only finished her request with "and then I will tell a nice story."

"History repeats itself," they tell us, and I find it true in the little ones around me, for when the after-supper duties are finished, and I "sit me down," knitting in hand, for an hour of quiet, I am almost sure to find myself the focus of three pairs of bright eyes, whose owners have been eagerly watching my movements for sometime, and in a moment a "committee of one" is by me whispering, "please tell us a story;" while, quite certain of my answer, the others gather around, baby climbing into my lap, taking up all the room, indeed there is scarce a selvedge left for the other two to piece on to, no matter how close they sit.

Then what is the story to be? "A new one" is the first stipulation, not one of the "ninety-and-nine" that I have been filling up this hour with throughout the winter evenings am I allowed to repeat, and baby wants to be amused. "Nothing frightful" is to be told, for he is a timid little fellow and such a tale would cause him to cling close to mamma and cast frightened glances into the shadowy corners of the bedroom when a little later, in "nighty" and slippers, he trots in to live his story over again in his dreams.

That it is not always easy to tell stories, especially "new ones," every mother who amuses her children thus will join with me in saying. But in all my experience with little ones I have never found anything so effectual to quiet a half-sick child, get a noisy little crowd through a rainy afternoon, settle a childish difference or fill up the hour before bedtime.

We wonder that the little ones continually plead for "new stories," not content with hearing the old ones retold. But when we think of it are not we "children of a larger growth" ever making the same request? Settling ourselves in our pews on the Sabbath we look expectantly towards the pulpit, our very attitude asking the preacher there to give us his newest, freshest thoughts; and daily we scan the incoming papers, making of them the same request we in childhood whispered at our mother's knee: "Tell us a story and let it be a 'new one,' please." A Farmer's Sister.

Washingtonville, N. Y.

Carlyle on Arbor Day.

After a tour through Ireland, Carlyle wrote the following thoughts, which for him, contained some good suggestions, with a tinge of his peculiarities:

Many Irishmen talk of dying for Ireland, but before dying for your country think, my friends, in how many quiet strenuous ways you might beneficially live for it. Every patriotic Irishman (that is, by hypothesis almost every Irishman now alive) who would so fain make the old country a present of his whole life and self, why does he not, for example, directly after reading this and choosing a feasible spot, at least plant one tree? That were a small act of self-devotion—small, but feasible. Eight million trees before the present generation ran out, that were an indubitable acquisition for Ireland, for it is one of the barest, ruggedest countries now known—far too rugged a country, with patches of beautiful park and fine cultivation, like shreds of bright scarlet on a beggar's coat—a country that stands decidedly in need of shelter, shade and ornamental fringing, look at its landscape where you will. * * * Eight million trees, and I rather conjecture eight times eight million, would be very welcome in that part of the empire. * * * "Trees of liberty" have not succeeded well in these ages. Plant your eight million trees of shade, shelter, ornament, fruit; that is a symbol much more likely to be prophetic. Each man's tree of industry will be, of a surety, his tree of liberty, and the sum of them, never doubt it, will be Ireland's.

The Venezuelan Press.—A few lines in the *Patriota*, the daily paper of the town, announced that the editor and senior director had been imprisoned for expressing their opinions too freely upon public questions; and I learned that it was possible that they might remain for months or at the President's will. Uneasy is the hand that wields a pen where autocrats reign, for so constant an occurrence is the imprisonment of any one who criticises the Venezuelan government, that opposition newspapers have an *attache* called "the prison editor," whose especial duty is to shoulder all responsibility for offensive articles, and spend such time in jail as may please the powers that be. A chat with my friend of the *Patriota*, who was just then in limbo, showed that he regarded his incarceration as quite a regular thing, and was in no way cast down thereby.

—*American Magazine.*

Foreign Ministers at Washington.—Foreign ministers demand the most scrupulous observance of the stereotyped rules of etiquette, and watch with scrutiny every attention and inattention to them. A failure to seat a member of the corps or his wife in the precise seat belonging to his or her rank at the table, would, probably, destroy the pleasure of the occasion. Not one inch farther from the host or hostess than belonged to the country they represent would be tolerated. The placing of the diplomats in line to be presented at occasions of ceremony must be done in strict observance of rank and importance of each. Hence, persons dining or entertaining these dignitaries must first post themselves accurately on the status of every kingdom, province and principality, if they expect to give their guests pleasure and to avoid a scene, such as has characterized occasions where "second-class South America" has occupied positions a few paces above "first-class Europe," or where little European provinces have been given more conspicuous places than greater kingdoms.

—*American Magazine.*

Extermination of the Buffalo.—At the present time, outside of the National Park, where about two hundred and sixty buffaloes are now harbored, there are not over three hundred, probably not so many, left in the whole United States. The survivors of this magnificent race of animals are scattered in little bunches in several localities. There are about one hundred in Montana, or at least there were a year ago, some at the head of Dry Creek and the remainder at the head of Porcupine Creek. In Wyoming there are a few straggliers from the National Park, which, when chased, run back there for protection. In the mountains of Colorado, last summer there were two bunches of mountain bison, one of twenty-five head and the other of eleven. These have probably been killed. There are none in Dakota, though eighteen months ago thirty were known to be there. It was estimated in 1887 that there were twenty-seven in Nebraska, and about fifty more scattered in the western part of the Indian Territory and Kansas. Those in Nebraska have since been killed by the Sioux. Of the thousands that once inhabited Texas, only two small bunches remain. Thirty-two head are near the Staked, in the northwestern part of the Panhandle,

and eight in the sand-hills on the Staked Plains north of the Pecos River. These were seen and counted on the 1st of April of last year. This estimate of the remnant of a great race is believed to be essentially correct. It was obtained from reliable and well-informed persons throughout the West, and in part from personal observation during the past years.
—*Harper's Magazine.*

THE DOG CRAZE.—The dog "craze" is increasing, and with startling rapidity, and it continues to be shared alike by both sexes. A pair of canine treasures is now counted a small possession; and the fashionable and avowed admirer of dogs now boasts a collection of five or six varied specimens, and thinks nothing of going out for a stroll, on a sunshiny day, through one of the city's parks, attended by the whole collection. It does present a somewhat curious scene for a stylishly dressed woman to be holding, as it were, a sort of impromptu circus in one of the squares. Her several dogs gamboling about, while she checks them with a slender whip clasped in her daintily gloved hand, and summons them to her side by a shrill whistle, all under the observance of a motley crowd of spectators that stand off at a respectable distance, as if enjoying a free show. The fashionable dog for the feminine pet is increasing in size; and, instead of the soft, curled poodles and toy pugs, we now see English and Irish setters, symmetrical Italian and English greyhounds, Scotch collies and Blenheim spaniels.
—*Table Talk.*

HOUSE-BUILDING IN SAMOA.—The negotiations between the skilled and wily carpenter and the prospective Samoan house owner would amuse, but hardly meet the approval of, the business man of to-day. Under the propitiating influences of kava, the necessary presents are produced to induce the carpenter to undertake the construction of a house. It is begun at once, without any terms of agreement, and the work advances until the carpenter thinks more presents necessary, and he ceases work. Additional gifts being made, the carpenter continues the construction until he deems it necessary to demand another contribution, when he again stops work. If the contribution is not forthcoming, labor is suspended on the incompleted house, never to be undertaken for completion by another of the craft; and forever afterwards it remains unfinished and a public reproach to the good name of the unfortunate owner, who, at the time of its beginning, not knowing what may be the ideas of the carpenter as to the cost of its construction, must either call upon the community for aid, which is generally freely extended, or suffer the humiliation of this unfinished monument.—*Century.*

Leisure Moments.

Epitaph for a photographer—"Don't move!"

"Whom the gods love die young." And the more one sees of the survivors, the more one appreciates the taste of the gods.

Now comes the time when the youth who has worn his fall overcoat all winter wonders if a few repairs won't make it pass for a spring one.

Mrs. Ward—"Where is your husband working now?" Mrs. Precinct—"He ain't working. He has got an office in the city government."

Cholmondeley (sighing)—"I wish I were a rumor." "Wherefore?" asked Reginald. "That I might gain currency," responded the wretch.

Mother—"I am glad to hear you went to church to-day. What was the sermon about?" Adult Son (a reporter)—"I don't know, mother; I haven't written out my notes yet."

Little Bessie dropped an armful of playthings. —"Did you break anything?" asked the mother. "Nothing but the quiet," she replied, "and that's mended already."

"A wealthy man ruined by new wheat," read Mrs. Talkeme. "This is sad," she commented, "but thousands of wealthy men are ruined by Old Rye, and the papers don't say anything about it."

A St. Louis man who was approaching Chicago by rail the other day innocently asked the conductor if trains stopped without being flagged. The look he got in reply paralyzed the whole left side of him.

Poor suitor (to rich belle who has accepted him)—"I cannot give you diamonds, darling; I am poor." Rich belle—"Oh, never mind, Edwin, I can buy my own, all I want; but you can give me an occasional ruby or sapphire now and then."

"Say, ma," remarked the small boy, "isn't it funny that everybody calls my little brother a bouncing baby?" "Why do you think it is funny, William?" returned his mother. "Because, when I dropped him on the floor this morning, he didn't bounce a bit."

Hiram Hay of Hayville recently made a trip to the Pacific coast. In describing his experience, he said: "The only thing that disappointed me was the way my old watch cut up. All the way out it kept gainin' time, and all the way back it kept a losin'. Wonderful, wasn't it?"

The Pig and the Cow.—A Pig having fallen into a Pit set up a loud Squealing for Help, and the Cow came Running to see what was the Matter. In her Anxiety to be of Service she caved the bank in on the Pig and Smothered him. "Alas!" he gasped, with his Dying breath, "had I called the Bear, who is my Enemy, I should have been no worse off!" Moral: It's about an Even thing whether you call the Doctor or the Lawyer.

Uncle Berkshire—"How much be that watch?" Jeweller—"Forty dollars." Uncle Berkshire—"An that smaller one?" Jeweller—"Fifty dollars." Uncle Berkshire—"An the smallest one?" Jeweller—"Seventy-five dollars." Uncle Berkshire—"Gosh, mister! How much is no watch?"

Bobby (who is visiting his kind old grandmother)—"I wouldn' mind eatin' some of that nice hot bread, grandma." Grandma—"Well, Bobby, you can have all you want of it." Bobby—"Yes, but ma won't let me eat hot bread." Grandma (testing the lad's moral strength)—"She won't know anything about it, Bobby." Bobby—"All right, grandma, just give me a piece, please."

Opulent Banker—"Mr. De Smith, you have served me faithfully these many years, and on this anniversary of the day you entered my employ I desire to present you this keepsake." De Smith, accepting a proffered envelope with mingled emotions of reverence and gratitude, breaks the seal and discovers—a photograph of the banker. "Sir," he gasps, "all I can say is that it is very much like you."

The Hilarious Heifer.—An elderly Sheep chancing to meet a certain two-year-old Heifer of his acquaintance, who was gamboling lightly through the fields and indulging in many manifestations of unwonted hilarity, asked: "What has happened to make you rejoice in this unusual manner?" "I am to be taken to the slaughter-house to-morrow," replied the Heifer smilingly. "Why! Great Scott!" exclaimed the Sheep, "what do you find in that to make you joyous?" "You do not grasp the situation in its entirety," said the Heifer, executing an elaborate pas seul. "The summer boarders are coming on the day after to-morrow, and they are to bring an eight-year-old Boy with them. I shall get away just in time. See?" Moral: Circumstances alter cases.

Domestic Economy.

For Shoes and Slippers.

Shoes and slippers well taken care of will last much longer than if carelessly thrown around, and look well as long as they are fit to be worn.

One of the best places to keep them is in the pockets of a strong shoe-bag, firmly fastened on the closet door. Fig. 1 shows a good design. This bag may be made of linen-twill, cretonne, or ticking in fancy stripes. The back of the bag is 25 inches wide, and 36 inches long. The top is cut to a point. Two strips, each 9 inches deep and 25 inches long, are cut for the pockets. These are bound across the top with dress braid, then laid on the back with the extra fullness in plaits in the bottom, and stitched across twice, making three pockets in each strip, with a box-plait in

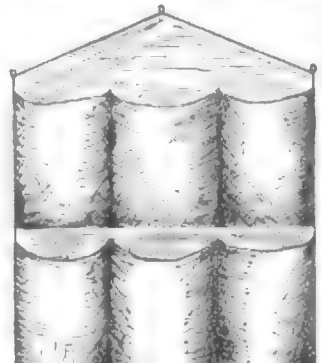

Fig. 1.

each pocket. The entire bag is bound with worsted dress braid. A small-sized brass curtain ring is sewed on strongly to each upper corner and to the tip of the point. The shoe-bag is suspended by these rings from nails, or what is better, small screws, on the inside of the closet door.

Where there are little children, such a pocket on the inside of the sitting-room closet door will prove a great convenience for house-shoes and slippers. If the lower pockets are lined with rubber cloth, they will be useful for holding rubbers or overshoes. When they become damp or muddy they can be easily wiped out. The better part of a cast-off waterproof cloak or coat answers very well for lining the pockets.

A handsome slipper case is illustrated by fig. 2. It is designed to contain only one pair of slippers and is ornamental enough to be an addition to any bedroom. By observing the proportions a paper pattern can be easily cut. The first step is to have a piece shaped for the back out of a thin board or very heavy pasteboard, also one for the front out of pasteboard. The piece for the back should be 6 inches across the bottom, 9 inches across the top and 12 inches along the sides. The distance across the bottom and the lengths of the sides for

Fig. 2.

the front piece is the same as for the back, but across the top the distance is 13 inches in a straight line. As shown in the illustration the front is rounded across the top.

The back is neatly covered on both sides with dark brown silesia. The front is covered with golden brown felt on which a design has been embroidered in outline, using dark brown crewel for the cat-tails and dark green for the leaves. It is lined with the brown silesia. The front and back is overhanded together across the bottom and up the sides, and finished with a dark brown cord which extends around the

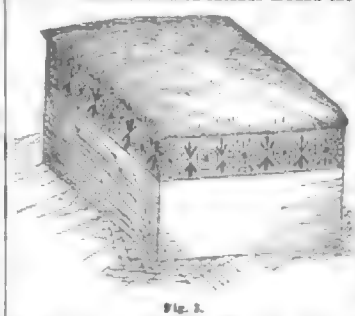

Fig. 3.

entire case. A ribbon of the same color is tacked to each upper corner, by which the case is suspended from a strong picture nail driven in the wall.

Where closets are wanting and room is an object, a very handy combination of the useful and ornamental will be found in an ottoman and shoe-box made like fig. 3. Procure a good strong box—the size in which soap usually comes packed is good. Fasten the lid to the box by tacking pieces of leather, hinge-fashion on the back. It can then be easily raised and lowered. Cover the sides smoothly with any strong plain material. Cover the lid in the same manner, first putting on enough excelsior or hay to make it look rounded. The ottoman in the illustration has a strip of felt worked in a simple pattern around it near the top. Inside in one corner fasten by a nail through the bottom a medium sized baking powder can, in which to set the bottle of shoe-blacking.

MRS. BUNYHAND.

Spring Growths for Greens.

Dandelion greens have a wide reputation, and are healthful and good, and every housewife appreciates their worth. Turnip leaves, and the young horseradish leaves, make a very nicely-flavored eatable, and pepper-grass is also nice. Rhubarb leaves are excellent, but, like dandelions, need to be scalded in salt and water. A chunk of salt pork is a great improvement to every kind of greens, to be boiled with them; it seasons them and makes them more palatable. Asparagus, every one knows, is one of the best greens, and milkweed comes next to it. All these vegetables are healthful in the early spring. Lettuce, cooked like other greens, is very nice; and brake stems, just as the leaves are uncurling, can hardly be told from asparagus, when cooked the same. Nature is very provident in furnishing a supply of articles for food which the stomach requires and craves. Perhaps the reason why any kind of boiled greens are so very welcome in the spring, is that sharp vinegar is always eaten on them, and acids are needful to the stomach at this season, not only to give an appetite, but to thin the blood that grows thick during the cold weather. If taken medicinally, greens are a reliable remedy that almost every person enjoys. In Nebraska they make great account of raising kale for a continuous supply of greens through the year.

S. H. R.

Old-Fashioned Needlework.

"Of all the pretty embroidery I have seen for a long time, that skirt of Nell Davis' is the sweetest," said May Gleason, as she sat chatting with her room-mate.

"It is too lovely for anything; but I cannot see when she did it."

"Oh, she is one of your industrious busybees! Her lessons are always perfect, too; but she says she has worked on her skirt only in the spare time, nights and mornings, and it is only a little while since she had the pattern stamped upon the cloth."

"Only five weeks, she told me, and now it is completed. Oh, dear, I wish I was Nell Davis! I should have lots of nice clothes," sighed Fanny Gray, looking very disconsolate.

"You know what lovely aprons she has embroidered! No one wears such pretty ones in the school. She says her grandmother taught her all these nice stitches; she was a wonderful needlewoman," said May.

"I don't suppose my grandmother ever embroidered a stitch in her life; if she did, I am none the wiser for it."

"I wonder if Nell would spend time to give me lessons. I should be delighted to do one, and mother would be so astonished!"

"What is the use! You can make a skirt on the sewing machine in a hundredth part of the time it would take to net one like Nell's. I think it is a waste of time to do such fancy work. I won't learn; I had rather have a good time, when I can get it."

"I think that Nell Davis has as good times as any of us; she is always happy and busy. You know that machine-work is going by for nice work, and hand work is in demand. I am going to ask Nellie to teach me, and I think if she finds time I can learn," said May. "I do think that net work is lovely. Nell says that years ago her grandmother netted a bed-spread, and it has been in constant use on a spare bed ever since—as long as fifty years, sure—and not a break in it. But it takes so much time and patience!"

"I think that Kensington-wrought bed-spread that Nell has on her bed is ever so nice. I do think the Davis ladies are a very industrious race! Mrs. Davis showed me some cushions that her grandmother embroidered over a century ago. Such old-style needlework is very beautiful, and to think that it is all coming in fashion again! Is is not queer?" asked Fanny, thoughtfully.

"I think it ever so much nicer than any kind of lacework, and it is so durable that it lasts almost forever," said May.

"It does not pay to crochet or knit lace; it breaks away so soon. Mother says that torchon edgings last as long again."

"Do you remember in our history class, last week, how it spoke of Queen Mary and her maidens embroidering hangings for the walls? What an endless task it must have been!"

"After all, it is a nice accomplishment, and one must enjoy doing such work, and it employs the spare moments. I am determined to learn, and perhaps I may leave something for my descendants to be proud of. Who knows?" remarked May.

LILY LEE.

Cure for Tetter.—My wife has suffered for 40 years with tetter on hands and fingers. Having tried all remedies, such as caustic, tincture of iron, aquafortis and various others, and having taken blood remedies of all sorts, such as sarsaparilla, iodide of potassium, Fowler's solution, &c., with no good results, I wrote to a physician at Sparta, Hancock Co., Ga., who sent me the following prescription, and after two weeks' use, she is greatly benefited by it. She has had her finger nails come off several times from it, and suffered very greatly: Take of ammoniated mercury, dry white lead, burnt alum and calomel, 2 drachms each; mix it with 2 ounces vaseline and 2 fluid drachms spirits of turpentine; make an ointment and apply to the sores twice each day, after washing them clean with castile soap, and continue until cured. From the time my wife has tried this remedy, I feel confident in saying that it will prove a sure cure. I give this, hoping to aid in curing others who may be so afflicted, and hope they may try it with good results.

W. H. B.

Calhoun, Ga.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

NOT IN HEAT.—A dairy of eleven cows have been giving milk for two months; but we have not been able to find any of them in heat. They are in good order, and giving good quantity of milk. P. *Stockton, N. Y.* [How long have you had the cows? When did they calve? When in heat last? Your letter is equal to a Chinese puzzle. Surely you can give us a better idea of things.]

FORE LEG LAME.—A young mule is lame in fore leg. If you scare him he drags fore leg for few jumps, then limps. Will run cows, &c., but as soon as put to work his lameness increases. J. S. W. *Cedar Bluff, Ala.* [You give no idea of the state of the leg. Is there any swelling or apparent difficulty with the knee? Is foot natural? If not, state what is out of the ordinary? Has horse a splint or ringbone? Have him trotted to halter and note how he carries that leg as compared with the other, and state how leg is rested in stable if at all. Give all the facts you observe.]

COLT LAME.—A two year-old colt this morning gives evidence for the first time of lameness from a small bone spavin. Is being raised a stallion; is well bred and valuable. Can the spavin be killed and lameness cured? Will it be safe to breed from such a horse? Is it best to fire and blister? O. B. S. *New-York.* [Do not be too hasty to treat the colt for spavin. First let us decide that it is hock lameness. Is there any enlargement? Have you examined foot and leg thoroughly. Why do you think it is spavin? Have colt trot slowly to halter, and tell me how leg is carried; state where the foot of lame leg strikes the ground as compared with its fellow.]

FILLY IN HEAT.—A three-year old filly has been horsing for quite a while, or seems to be. If anything touches her she stands perfectly still; even in turning around in her box stall, if she happens to touch her hind quarters to partition she will press up against it. It makes her appear stubborn when being hooked up, but as soon as started goes off well. There is a thick yellowish discharge which appears after going a little ways. C. R. H. *New-Brunswick, N. J.* [Give mare one of the following balls once or twice a day for two or three days: Powdered opium, 3 dr.; powdered gum camphor, 6 dr.; powdered barbadoes aloes, 6 dr.; powdered gentian, 2 oz., and a sufficient quantity of syrup. Mix and make six balls.]

FORE FOOT LAME.—A colt, two years old, is lame in one fore foot. When being weaned was shut up in a box stall; endeavoring to escape, he got his foot wedged between the door and the jamb where it was terribly lacerated and bruised. The foot swelled and maturated, in which condition he was taken in charge by a surgeon and wounds healed. The coronet and front of pastern, however, remain scarred and abnormally large, and there is considerable lameness. H. B. L. *Laceyville, O.* [Apply golden blister all around foot from hoof to fetlock and repeat in four weeks, then report progress in about three weeks after. Before blistering, have blacksmith file the top of hoof quite thin all the way around and from hair downward about ⅛ to ¼ of an inch.]

ANKLE SWELLED.—A mare, five years old, had appear on left hind ankle, a month since, what I took to be scratches. Joint above hoof swelled, and there were two horizontal cracks just above heel. Tried several remedies, including one in COUNTRY GENTLEMAN, but mare does not seem much improved. The swelling is fully as great as it has ever been. J. T. C. *Portsmouth, Va.* [Give a physic ball, after three meals of bran mash; continue mashes three more feeds. Give two tablespoonfuls of the following powder in feed twice a day: Powdered nitrate of potass., 6 oz.; bicarbonate of soda, 8 oz.; mix. With damp sponge cleanse the heels three times a day, and then rub in some of the following wash all over sores and swellings: Powdered nitrate of potass., 2 oz.; powdered acetate of lead, 1 oz.; fluid extract of opium, 2 oz.; water, 1 quart; mix. Keep mare in box stall.]

FITS IN COW.—A valuable cow, bought last November, was served Sept. 21, and about Dec. 1 had a fit, and in a few days was in heat. Served her twice, and think she is in calf, but she has fits about every three weeks. If taken in the yard will whirl round and round for a few minutes, then fall and straighten out as though dead. She perspires freely, froths at the mouth, and a little blood usually passes from mouth and nose. Convulsions last from five to ten minutes. Is well fed on wheat bran, corn and oats, good hay and sowed corn. Gives four or five quarts of milk a day. S. T. *Millbrook, N. Y.* [Keep her in box stall. Feed just enough of bran and hay to keep her in order, but do not allow her to lay on flesh. Give her ½ lb. epsom salts, dissolved twice a week for three weeks. Mix in feed, twice daily, 1 oz. bicarbonate of soda. Do not take her out or let her out.]

FAILURE TO SERVE.—Stallion is nine years old; had only 16 mares last season, and got half in foal. He often dismounts with same ambition as he mounts; will spend two or three times as much time on a mare as when he performs a good service, and then dismounts with same amount of yard as he enters. Has shown this disposition ever since we began to use him, at four years old—when he was required to perform more than one service a day, and even sometimes when he had only three or four mares a week. He seems not able to make as large a season as some horses. Has never served more than 25 mares in one season. A. S. *Columbia, Tenn.* [Give one of the following balls every six days: Powdered barbadoes aloes, 2 oz.; powdered nitrate of potass., 3 oz.; powdered gentian root, 2 oz., and sufficient quantity Venice turpentine. Mix and make four balls. Give one drachm fluid extract of damiana in feed three times a day, also give 30 drops tincture NUX VOMICA on tongue three times a day.]

DEBILITY IN COLT.—A one-year-old colt was well and active up to four weeks old, then his hind legs began to swell at the gambrel, first one leg, and then both legs. After a long time, with suppuration and discharge, they got well. Then colt was ruptured, how I do not know; this was reduced. During winter colt appeared weak in his back, grew poor, and had to be helped up for two months. He was fed in meantime 6 quarts of oats and wheat bran daily—about 4 of oats. He can now get up, but goes as if stiff in his back; gets up behind first. Has appeared well at heart at all times. Often tries to void water, sometimes very plentifully. E. M. C. *Windham, N. Y.* [You do not say where colt was ruptured. Is it entirely well of that now? The colt is simply a wreck. Feed him well and let him have a run on good pasture besides. Mix a tablespoonful of the following powder in feed three times a day: Powdered bicarbonate of potass., 8 oz.; powdered iodide of potass., 2 oz.; mix. Whole flaxseed steeped as I have often advised in the veterinarian would be excellent for him mixed with food.]

SWOLLEN BAG.—My cow dropped her third calf, and seemed all right for about two week, when her udder began to swell, and to all appearances she had milk fever. No apparent pain, and seemed very hearty. Remedies formerly efficacious do not act. Some days she seems all right, and the swelling disappears, again she will swell in front and not behind, then she will swell badly behind, and milk veins will become very prominent. Have tried to dry her off without avail. Her food, previous to sickness, was equal parts corn and cob meal and wheat bran, with good mixed hay, fed long; she is a hearty feeder. B. H. B. *Woodbine, Md.* [It is probable that corn was largely the cause of this. Give her 2 oz. spirits of turpentine and 1½ pints of raw linseed oil; repeat in two days. Give her a small half teacupful of the following powder in feed twice a day: Powdered black antimony, 4 oz.; powdered, iodide of potass., 4 oz; bicarbonate of soda, 1 lb.; powdered chloride of potass., 8 oz; mix. Wash udder so as to clean the skin, then twice a day rub in some of the following lotion thoroughly: Tincture of arnica, 4 oz.; tincture of aconite root, 3 oz.; powdered nitrate of potass., 4 oz.; powdered muriate of ammonia, 6 oz.; hot water, 3 qts.; mix.]

LAME MULE.—Have had a fine large mule three years; every spring has gone lame. First spring he was supposed to have sweeny. Put rowel in shoulder (running a packing needle under the skin), but it did no good. Was cured by hard rubbing on chest and leg; the same rubbing cured him the following spring. This year have had no success; has been lame now for six weeks, doing no work. Have tried rowel in chest (made a small opening under skin of chest, and put in tow saturated with blistering liniment, which I changed every day) with no effect. Standing, he points with foot flat on the ground; seems more lame coming up hill than going down. Has no blemish of any kind, except a little enlargement just back of shoulder blade, but can find no soreness. Is very slightly sprung. What is sweeny? W. A. C. *Oakland, Fla.* [Soak the foot an hour night and morning in salt water as warm as he can bear it. Have shoe removed, foot pared down all it will bear nicely, rasp hoof *thin* all the way around at top from hair downwards half an inch, and nights put flaxseed poultice all around foot in a bag. Keep this up for a week, then apply golden blister to foot from hoof to fetlock—all around the foot. Rub in a box of blister and do it well. Report in three or four weeks. Sweeny is an old term for shrunken muscle; the proper name is atrophy. As a rule, atrophy is effect, not cause.]

WARTS ON MARE.—Can bleeding warts be removed from a mare? One is the size of a hen's egg, above her knee on hind leg; one in hollow of flank, and one on side of head. W. W. T. *Robertson, Miss.* [The only thorough method is to cut them out, then treat the parts as for a simple wound. We have often done this with entire satisfaction when parties had tried all sorts of milder treatments, only to aggravate the trouble.]

WEAK EYE.—A 7-year-old gelding, brought from the West last April, has trouble with an eye. First noticed it running water, and later a white collection of matter appeared next the lower eye-lid; sight is perfect. Have thought the trouble caused by a slight cold, as he has coughed occasionally ever since I got him. Have washed eye with milk and water, and also tried weak tea. R. O. C. *Geneva, N. Y.* [Give the horse three tablespoonfuls of the following liquid in feed three times a day: Powdered iodide of potass., 4 oz.; water, 1 quart; mix. Give one of the following balls, and repeat in four days: Powdered gentian, 4 dr.; powdered sulphate of iron, 6 dr.; powdered Barbadoes aloes, 6 dr.; Venice turpentine, sufficient quantity; mix, and make two balls. If other treatment proves necessary, write again. Simply keep the eye clean.]

CLOSED TEAT.—The end of a cow's teat has grown up; have to draw milk with tube; have used on teat oxide of zinc ointment but it grows worse; milk execrable a part of the time. J. M. G. *West Lebanon, Me.* [Keep a lead probe in it. Always smear with extract of belladonna before inserting.]

DEATH OF COLT.—A colt, six days old, died this morning under peculiar circumstances. Yesterday, found him down; and so stiff in hind parts and neck that he could not get up; when helped up would stand and suck. Grew worse all day; would lie perfectly flat with hind legs straight back from hips and head and neck nearly at right angles with back. Toward night he breathed very hard and fast, would strike with forefoot, but hind parts were rigid. Pulse over 100°. Appetite good until death. R. W. H. *Genoa, N. Y.* [The foal must have met with an accident in which the spine was injured.]

HEAVES WORSE.—A 20-year-old mare, with heaves, was taken suddenly worse about three weeks ago on the road, and could scarcely walk home; has fallen away in flesh; hind legs and feet are swollen; she stands and pants, and after walking a few steps, will be so overcome that she cannot drink more than a few mouthfuls of water without stopping to breathe. Local veterinarian pronounced it incurable, but recommended as temporary relief arsenic and linseed oil in her feed, but she will not eat feed with oil in. C. W. T. *Stilton, N. J.* [Every night pour a gallon of boiling water on half a pound whole flaxseed, and next day mix a portion with each meal, and give the remainder in cold water as drink. If you can get any fodder corn, give it instead of hay. Put 20 drops of hom. tincture of arsenic on tongue three times a day, and 30 drops of bryonia three times a day an hour after the other is given. A little lime water added to her drink will be good. Report in a week.]

Saddle or Harness Sores.—If J. E. Wing of Utah will apply the following mixture to sores caused by saddles he will find they will heal rapidly. 1. Tincture of opium, 2 oz.; tannin, 2 dr.; mix and apply twice a day. 2. Take white lead and linseed oil and mix as for paint, and apply three times per day. This is good for scratches or any wounds on a horse. Before applying any mixture wash the sores with good castile soap and water. E. W. *Mechanicsburg, O.*

Veterinary Certificates at Sales.—As tuberculosis is now a well-known disease among dairy cattle, and as a great many people suppose that the Jersey breed is especially liable to it, would it not be wise for all persons selling dairy cattle at auction, to offer a warranty that they are free from it? Such a warranty may be necessary for the protection of innocent parties, both seller and buyer, and could easily be given in the form of a certificate of a proper veterinary authority, that he has examined the cattle, and that they are free from all disease. S. *Montgomery County, Pa.*

Notes from Readers.—I should be lost without the COUNTRY GENTLEMAN, though I am not a farmer. There is so much in it each week of general news that no other paper has, that when a family get accustomed to reading it, all miss it. WM. B. TAYLOR. *Candice, N. Y.*

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——If every farmer in the South would read the COUNTRY GENTLEMAN, it would be a great help. T. B. BRIDGERS. *Raleigh, N. C.*

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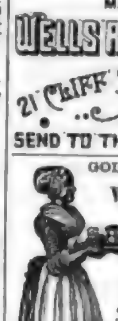
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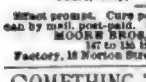

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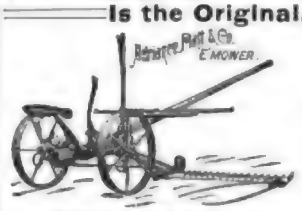

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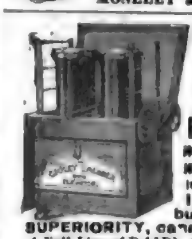

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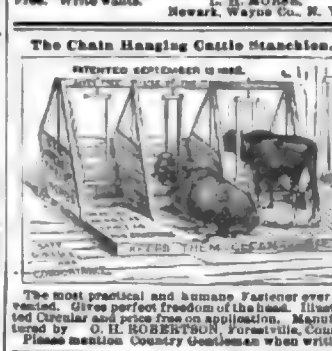

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Swinging Cow Stanchion.

Each cow shuts herself in or lets herself in place. Best cow fastener in the world. All hard wood. Circulars free. Manuf'd by Walter Scott, Hoosick Falls, N.Y.

DR. C. F. JONES'
Excelsior Cow Remedy

Cures ABORTION. This well-known Remedy will give, if used according to directions, perfect satisfaction. Price $12 per dozen. Sold in America only by WESSELL & GATES, Litchfield, Conn.

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We offer a remedy to cure COLIC in Horses, and it will do it every time.

Read the following testimonial from Mr. M. W DUNHAM, the well-known Importer and Breeder of Percheron Horses:

OAKLAWN FARM, Wayne, Du Page Co., Ill., July 30, 1888.

Gentlemen: Since the introduction into my establishment about a year ago, of the remedy known as the "French Colic Cure," I have not lost a horse from colic. It is used exclusively in my stables, and it is with pleasure I recommend this remedy as the best one I have of for the cure of Colic, a disease from which so many horses are lost throughout the country.

M. W. DUNHAM.

This is not a "cure all," but just what it is advertised, a CURE FOR COLIC. Sent to any address on receipt of Price, $1.00.

Address, M. AMAND & CO.,
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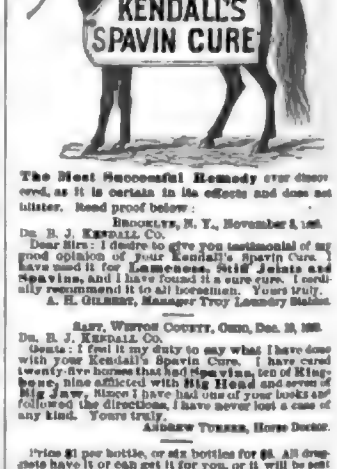

The Most Successful Remedy ever discovered, as it is certain in its effects and does not blister. Read proof below:

BROOKLYN, N. Y., November 8, 1888.

DR. B. J. KENDALL CO.

Dear Sirs: I desire to give you testimonial of my good opinion of your Kendall's Spavin Cure. I have used it for **Lameness, Stiff Joints and Spavins**, and I have found it a sure cure. I cordially recommend it to all horsemen. Yours truly,

A. H. GILBERT, Manager Troy Laundry Stables.

SAINT, WESTON COUNTY, OHIO, Dec. 10, 1888.

DR. B. J. KENDALL CO.

Gents: I feel it my duty to say what I have done with your Kendall's Spavin Cure. I have cured twenty-five horses that had Spavins, ten of Ringbone, nine afflicted with Big Head and seven of Big Jaw. Since I have had one of your books and followed the directions, I have never lost a case of any kind. Yours truly,

ANDREW TURNER, Horse Doctor.

Price $1 per bottle, or six bottles for $5. All druggists have it or can get it for you, or it will be sent to any address on receipt of price by the proprietors. DR. B. J. KENDALL CO., Enosburgh Falls, Vermont.

SOLD BY ALL DRUGGISTS.

Worthless Cows Made Valuable!

PINEHILL-ON-HUDSON, March 11, 1888.

MESSRS. MOORE BROS.—*Gentlemen*: I want you to send me another bottle of Injectio Vaginæ, as I find your prescribed treatment for a non-breeder successful in the first case treated, and wish to try it on another. Yours, truly, SAMUEL VERPLANCK.

Price, $2 per quart bottle; Vaginal Syringe, $1. One bottle ordinarily required for the treatment of each animal, but the same syringe can be used on any number. MOORE BROS., *Veterinary Surgeons*, 127 to 133 Hudson Ave., Albany, N. Y. Factory—19 Norton St.

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THE CULTIVATOR
AND
Country Gentleman

Albany, May 30, 1889.

Johnson Grass in Tennessee.

EDS. COUNTRY GENTLEMAN—On page 371 are two notices of Johnson grass, to which I wish to call attention. W. D. P., Camp Spring, Md., says that it stood in his locality two winters and died the third. From my experience, he should exclaim, "Happy riddance!" Some years since, the writer sowed a small plat of ground with the seed of this grass, but reading afterward in agricultural journals many unfavorable notices, he plowed the plat and cultivated it to destroy the grass. Though several years have elapsed, the grass has not been destroyed entirely, and this spring a careful grubbing for the roots was had, and the ground plowed at intervals three times and planted to beans, with the expectation of seeing no more sprigs of grass. At this writing, a very good stand has made its appearance, and several years may elapse before its entire eradication. In this latitude it will not succumb to winter's frost or summer's heat.

Your correspondent from De Soto Parish, La., states that when cut just at the right time, horses eat the hay readily. I willingly accept Mr. Frierson's statement, but strongly suspect the hay is not comparable to clover or timothy hay, or that of the annual grasses, German millet or Hungarian. My opinion is that this so-called grass might do in sections where timothy and clover and other tested grasses do not succeed well, but the land where it is sown should be dedicated to it, with no expectation of ever seeding it to anything else. One great trouble would ensue, however; the roots would spread and trench on other fields, and the seed would be scattered and rooted in every direction. I cannot speak for the Gulf States, but in this middle tier I say to farmers, let this grass severely alone. R. W. W.

Nashville, Tenn.

Central Ohio.

EDS. COUNTRY GENTLEMAN—The season has been remarkable for the small amount of rainfall since March 1st. Wheat, oats, grass, and corn need rain badly, but the prospect is not good for an early shower. Those who had a strong force got their oats sown early, and their corn ground broken, ready for planting, before the earth got hard and dry, but those who are believers in plowing under in the spring the manure made during the winter, instead of letting it ripen in the barnyard under hot suns and rainfalls, and those who are always a little slow about beginning spring work, are having a hard time to finish up their plowing and get their lumpy ground in condition to plant. Those who drew out the accumulations of manure—and I am a believer in doing that—are a little behind other farmers in time of planting, and their ground is a little harder to pulverize than that which was plowed earlier, but when the rains come the manure so plowed under will help to dissolve the hard soil.

The greatest trouble will be, should rain not fall for several weeks yet—which is a possibility, for I am told by believers in moon signs that the change of the moon on the 9th indicated wet, but the rain did not fall here—the corn planted in the dry, loose soil will not germinate. My plan always has been, in such dry seasons, to plant deep with a two-horse planter, and then plank-drag and harrow, so as to fine and pack the soil as much as possible; by so doing the corn will be growing while the soil is being pulverized. I like this much better than taking so much time to fine the soil before planting, and then about the time we are ready to plant, a hard rain falls and we are compelled to wait a few days before we can get into the field. Such was the case last year; a field was one-half of it planted, when a three days' rain came on and it was eight days before that clay soil would allow of a team to walk over it.

Potatoes must necessarily be a short crop this year in this section; also hay and oats; rains coming soon cannot push these crops forward to where they should be. Wheat looks well on good soil well fertilized, but on poor clay soils, or low undrained black soils, the crop will not in many cases pay the expense of cutting and threshing.

The necessity of tile draining becomes more evident with each year's experience, and many hundred rods of tile have been put down this spring. The results of draining two years ago have been better than money loaned out, and farmers are taking their money out of bank and putting it into their land, thus giving employment to worthy men who want work, and enhancing the productiveness of their farms. Their fields are much easier to cultivate, their crops larger, and they are enabled to cultivate much earlier than heretofore.

The live-stock interest is brightening with everything but cattle for beef. The bill to prohibit the importation of dressed beef into Ohio failed to pass the Senate, and Ohio is full of western dressed beef, and as a result our cattle are selling at one cent per pound less than they would if the bill had become a law. This is to the advantage of no one except the butchers' and the dressed-beef shippers. Steers are selling at 3½ cents down to 3 per pound; while good cows sell at 2 cents, but the meat sells in the shops at 18 cents, down to 6 and very little at 6 cents. One meat shop supports three families—in total numbers fifteen. It would take a large farm to support fifteen persons in the style in which these butchers live.

Hogs are in short supply; the demand for feeders is very brisk, and for small pigs there is such a demand that owners are afraid to put any price on them. There is a great crop of old corn now in crib, and the probabilities are that it will not be fed up to hogs as farmers will not buy hogs at more than shippers' prices. No doubt some of the thinnest hogs shipped to market would pay a better price for corn, if fed two months, than to sell the corn. The dressed beef shipments from the West have a tendency to create a scare with hog feeders.

While writing this we have had a light rain, and the central and southern part of the county has received copious rains, but now it is clear sky again and dry weather indications. The timothy hay crop will be a short one; early planted corn on soil plowed in April is coming up well, but that planted since the 10th can not grow well until rain falls.

There is a growing interest in horse-breeding and several valuable stallions for service, both heavy draft and roadsters, are doing a large business here this season. We have very few heavy draft mares but many half bloods, and a great many fine-bred road mares.

Franklin Co., May 17. H. WARREN PHELPS.

Osage Hedge and Other Fences.

EDS. COUNTRY GENTLEMAN—We have just completed 140 rods of board-and-wire fence, and now have about five and a half miles of it, part of it nine years old. I have had some experience with wire fence, which Mr. Adkins (page 343) says he lacks. I have also had about twenty-five years' experience with osage hedge.

I cannot agree with Mr. Adkins that the hedge plants should be set only four inches apart. When we put out our first hedge, 25 years ago, the rule was to set the plants eight to ten inches apart. We placed ours four inches apart. The next year we set out sixty rods more, putting the plants only three inches apart. We found that we had set both hedges too close. The plants did not have room for a strong, stocky growth. One hundred rods, set a year later, six to seven inches apart, on practically the same soil and given the same treatment, soon passed the closer-set hedge, and has been a stronger, closer fence. The plants are now so large at the ground that a rabbit could scarcely pass between them. It is highly important to use only the very best plants, and to give the row good cultivation for two or three years.

Mr. Adkins is an enthusiastic friend of Osage orange hedge, while I am not—having found board-and-wire better and cheaper. His statement that they have just cut back an old hedge to six inches, and that it will be stock-proof in two years, disproves his statements elsewhere in his article. For the hedge cannot be more than 30 years from the planting; it has not been a *fence* more than 26 years. The fence that at that age must be made worthless for two years, at the cost of all the labor necessary to cut an old hedge back to six inches, is not so good a fence as Mr. A. claims the Osage orange hedge is.

I have seen Osage orange hedges made by careful painstaking, wide-awake farmers from a dozen States; I have examined hedges in a dozen States; I have seen no stronger, closer hedge than some we have, and yet, as we have found by sad experience, our best hedge will not turn some hogs or bulls. It is also exceedingly difficult to make a rail or a board fence that will turn these animals; but a hog or a bull does not go through or over our wire fences. I cannot understand why Mr. A. thinks a hedge cut back to six inches high would, with a strip of woven wire eighteen inches high, as soon as it had reached a height of three feet, turn a bad hog, provided that hog had a ring in his nose. Ringing a hog has no effect on his hedge breaking. He does not root through the hedge. Hedge shoots only three feet high would be so weak—mere switches—that I would not have a shote in good growing condition with so little enterprise that he would not crawl over that strip of netting eighteen inches high and, brushing those tender, milky switches aside, pass through Mr. A.'s hog-proof hedge.

I cannot understand how it is that "no impoverishment of the soil is noticeable along the hedge row." However, many things are not noticeable, to some people. But a hedge must feed. In fact, being a fast, woody grower, it is a gross feeder; and therefore it must take food from the farm crops along it. The hedge and the corn or the grass cannot use the same food.

I must beg to dispute Mr. A.'s assertion that an old hedge cut back to six inches from the ground will be stock proof in two years. It will not turn horses, cattle or hogs. Further, Mr. A. thinks osage orange hedge the best fence, and keeps his best hedge only 36 inches high; hence he considers a fence only 3 feet high the best! Such a fence will not turn horses, cattle, sheep or one-half the hogs in the country. A good fence, indeed! It is not a fence at all.

The string of fence we have just completed has white oak posts from young trees, cut eight years ago and seasoned in the dry. The posts are set 3 feet deep. The holes were dug 2 feet deep, and then made 1 foot deeper with an eleven-inch auger. The earth was well tamped. The posts are 7 feet 6 inches apart. There are three boards below and three wires above. The wires, a heavy galvanized hog wire (barbs 3 inches apart). The boards are best quality pine 6 inches wide fencing boards. This fence cost us complete, labor and all, 87 cents per rod. It is on hilly land, else we would have drawn a furrow along each side, making a ridge under the fence, and then two boards would have sufficed. This would have reduced the cost about 18 cents per rod.

This fence will require practically no repairs within 25 years. We have a string of fence in which like posts were used. The posts have now been in the ground 19 years and every one is firm. The ends of the boards were sawed off, to take off the 'wind shakes. The nails and staples were put in the heart wood. Steel nails were used, and used liberally. The fence is pig tight, horse high and bull strong. It will not rob farm crops. It takes the minimum of land from cultivation. It does not hold the snow in drifts and keep the roads muddy till late spring. It does not harbor noxious insects and animals. Its first cost is little more than that of a good hedge; its requiring no attention for years makes it cheaper than hedge, as it is stronger, closer and better.

Mr. A. has not progressed far enough. He must climb another round higher. Osage orange is better and more economical than Virginia rail or post-and-rail fence. There was a time when I advocated osage orange hedges; but it was before I had used wire. Mr. A. has had no experience with wire; let him try it and he will put his hedge back to second place. I have never had a tenant that stole fence rails for fuel. We have no thieves in this neighborhood. Mr. Adkins is not so fortunate; but if he puts up wire fence he will find that tenants cannot burn it any more than they can burn hedge.

A neighbor who put up this spring a string of all wire fence, had an experience that others should be warned of, that they may avoid it. His posts being from young timber and unhewn (it is not necessary to hew the posts, only chip away the sapwood to receive the staples) were round. The wires were properly stretched, and of course all stapled on one side. Their tension turned the posts *around* until the wires were slacked and the brace thrown off one end of post. The remedy is to have at least six posts at each end *not* round.

What Mr. A. says about hedge not being carried away by an overflow is quite true. A large creek runs through our farm and frequently overflows. The current of the overflow is unusually swift; it will take a Virginia rail fence every time, and wreck post-and-rail fence five times out of ten. We have both hedge and wire on the land subject to overflow. One requires about as much attention as the other. The hedge catches the more drift, which often must be cleared away, else the animals could crawl upon it and get over the hedge. A heavy log may crush through the hedge, and oftener will tear off a wire; but the wire is soon replaced, as we have a clawed stretcher with which a wire can be stretched from one post to another almost as fast as the staples can be driven. If the log breaks the wire, we double-staple the two ends and stretch a wire from one post to the other. This requires only five minutes' time, and our wire fence has been broken by the overflow only twice in five years. If the posts are well set, they will not be moved, as a wire fence opposes very little surface to the current.

We must acknowledge that a hedge is the most beautiful fence. A well kept hedge is a thing of beauty, and therefore I regret that it is not a thing of better use; for the first requirement of a farm fence is to turn stock.

Adams County, Ill. JOHN M. STAHL.

Eastern Kansas.

EDS. COUNTRY GENTLEMAN—Since May 1st I have taken a trip through Kansas, and find prospects for good crops very flattering, and this means a large immigration to the State, and smaller farms better cared for. The drouth in Kansas was very severe, lasting two years in Eastern and three or more in portions of Western Kansas. In the latter locality it resulted in almost bankruptcy for many farmers, who with limited means located upon new claims, from which they must make their living. This being a failure they, in many instances, placed heavy mortgages on their land, and in the typical prairie schooner, together with the large class of restless no'er-do-wells, departed for untried regions. Those who kept their places and put in crops will, to all present appearances, reap their reward. Everything indicates a turn in the wheel of fortune with Kansas in the ascendency. Notwithstanding the hard years the State averages well with others. Statistics recently published give the yield of crops per acre for seven years. The average in bushels is:

	Kansas.	Illinois.	Indiana.
Wheat	14.3	12.5	13.5
Corn	29.6	27.0	30.0
Oats	30.0	34.5	32.3

During two of these years the drouth in Kansas was the most severe ever known. During this same period the average yield in that portion of Kansas, east of the 97th degree, was, for wheat, 15.4; corn, 32.2; oats, 36.2, thus leading both of those excellent States in these leading crops.

Western Kansas is always good for live stock, and raises certain crops successfully nearly every year, especially sorghum, which in those regions yields a superior quality of both syrup and sugar. I look for the time when sugar factories will be as numerous in Kansas as creameries are in New-York, and new methods of utilizing the cane will lessen the cost of such establishments. Aside from that, sorghum is one of our most valuable forage crops, some of the best ranchmen depending on it rather than on prairie hay for winter forage.

I came to this county a trifle over two years ago, so have passed through the severe season of 1887, when wells and springs so frequently went dry, but I do not think the drouth any worse than I have seen it in New-York, nor so bad as in Illinois the same year. Last year crops were very good, and we see full corn-cribs on every hand, while fields are dotted with stacks of hay and fodder, which could not be fed for want of sufficient stock, though many hundred steers were brought to this county from Colorado to feed. With the present very flattering prospects for crops there will be a good market in this county next fall for feeders. Considerable

stock is going to market; during the first seven days of May eleven cars of hogs were shipped from Emporia, besides some from adjoining towns, and probably $50,000 has been paid for horses in this county in four months for shipment to eastern markets, one car last night going to New-York city.

The county clerk says the mortgages on farms in this county are decreasing, which alone is an indication of prosperity. There are more pleasant days with sunshine than in any State where I ever spent much time. Good schools, and no such things as open saloons. W. H.

Lyon County.

Our Illinois Correspondence.

CHAMPAIGN COUNTY *May 21.*

For the week past it has been blowing hot from the south and southwest, and cold from the north and northeast, with clouds and without them, but so far in this month no thunder, lightning or rain, except occasionally a few drops from great cloud-masses passing over. However, we hear of rains only a few counties off on the north and the west, and feel pretty well assured that the area of drouth is diminishing, and severe suffering, to the crops, for want of rain, will soon be a thing of the past. On the 19th, after heavy rains west the day before, for the first time this season, white-crowned and blue-bodied cumuli thunderclouds gathered in the southeast and east and there were all or nearly all the indications of rain, except thunder and lightning. Reports from the counties under these clouds tell of light rains only and out of all proportion to the cloudy masses. It is a curious and interesting fact, that often in seasons of protracted drouth there are days and days in which the clouds nearly fill the celestial vault and yet give down no rain. Under these conditions and a moderate measure of humidity in the atmosphere, it might be a favorable hour to try whether or not heavy cannon shots would so shock the upper air as to provoke a movement of the vaporous substance of the clouds and result in a greater or less rainfall. Among veteran soldiers the belief is as common to them as any other, that any considerable amount of gun-firing or cannonading is almost certain to produce more or less rain, generally falling over the spot, but sometimes a few miles removed.

Though the area of drouth is narrowing, there are counties and counties both in Illinois and Indiana, where it is now quite severe in its effects. Pastures were never shorter or drier for this date in May. The hay crop cannot possibly yield over a half or a third the past average for five years; wheat is heading out low down and prematurely; oats are not over two-thirds of a full stand and are not stooling at all. As for corn, where there was moisture enough for germination, the stand is full; on dry, cloddy ground the seed remains as sound as when planted, and will sprout and grow if we have for the next three weeks no more than light rains. The tree fruits have fallen almost as much as in the scarce year of 1887, partly due to the previous heavy crop, and partly to the four hard frosts of the first week in May. Small fruits are certain to be light in yield and inferior in quality.

Of the present agricultural situation it may be said that the outlook is rather unfavorable for all or nearly all crops but corn. Considering the enormous acreage, the favorable conditions under which it was planted, and the facility for easy cultivation and freedom from weeds, corn, in spite of the drouth, promises a crop quite up to the average for the last five years.

The Newtown Pippin.

The extract you make from Garden and Forest, in which Mr. Robinson, editor of the London Garden, indulges in a eulogium of the Newtown Pippin, declaring it to be "the best apple in the world," afforded me not a little gratification, because, having procured good samples from the Albemarle region in Virginia, early last winter, and compared them with the best black-soil product, I found scarcely any difference between the two, in size, color, flavor and keeping qualities. In fact, when the Virginia and Illinois apples were put together, it was next to impossible for good judges even, to distinguish the one from the other, either by size, color, taste or smell. I should like to say to Mr. Robinson, that the failure of the best varieties of apples in Illinois, of which our agricultural papers and a majority of fruit-growers have had so much to say, is not due to soil or climate, but to defects in cultivation, and that as good Newtown Pippins, Yellow Bellefowers, Northern Spys, Rhode Island Greenings, Baldwins, and other well-known kinds, can be grown on the black and brown soils of Illinois as anywhere in the world, when the trees are given a monopoly of the soil, and sufficient moisture is supplied. The soil and the subsoil in Illinois under latitude 40° north, and above and below that parallel, favor the growth of the tree. The warm, mellow springs, the fervid summers, and the long mild autumns, contribute to the size and high quality of the fruit, while the winters are never severe enough to threaten or destroy the vitality of the tree that has been properly trained and generously nurtured. There is no better or safer measure to judge of the capacity of a soil for apples and pears, and I may add, for most of the small fruits, than the size and character of the original timber growth. When we tell arboriculturists that on the brown and black soils of Illinois, valuable timber trees like the walnut, burr oak, blue ash, red elm, sugar tree, and many others attain colossal size, they will accept the statement that under proper cultivation the apple and the pear may attain their best development.

May 23.—Light showers with lighter thunder last night. This morning the mercury was down to 39° at sunrise, with a strong wind from the southeast. Unless there is a large rise of the temperature danger of frost is imminent.

R. F. J.

Agricultural Legislation.—The New-York Assembly, just before its final adjournment, rejected the Nixon anti-dressed-beef bill by a vote of 28 to 80—only the following members voting aye—Andrus, Blumenthal, Clark, J., Connolly, Cottrell, Dante, Dunham, Endres, Flaherty, Greene, Hagan, Hornidge, Husted, Kimball, Mase, Moody, Nixon, Sheehan, Smith, T., Strasburg, Towne, Young, Speaker.

The following bills, having passed both houses, are still in the governor's hands as this paper goes to press—we prefix in each case the name of the introducer:

Baker—Providing for distributing among existing agricultural societies lapsed appropriations under act of 1841.

Mase—Dog tax bill, amended by exempting animals belonging to breeding associations.

Husted—Giving the Hatch money to the Cornell Station.

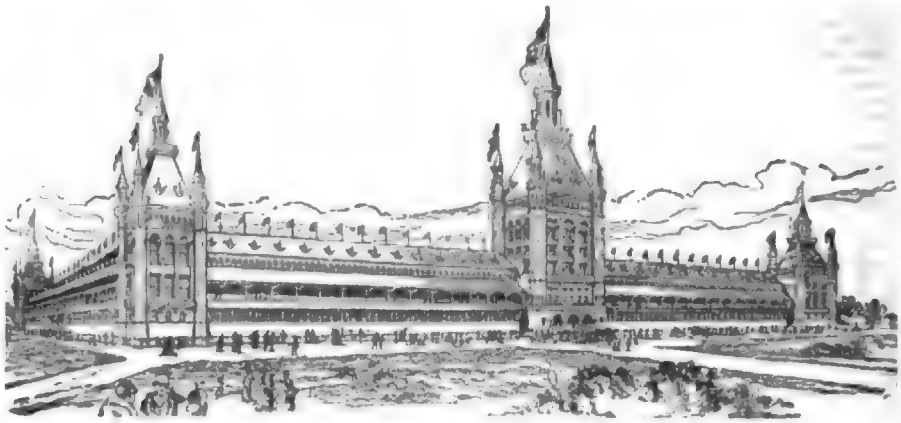
McNaughton—Providing for incorporation of mutual live-stock insurance companies.

Arnold—Forbidding deception in sale of vinegar, and charging dairy commissioner to attend to it.

Stevens—Requiring veterinarians to register their names before Jan. 1, 1890.

Hay and Straw.—The directors of the New-York State Hay and Straw Dealers' Association met last week at Syracuse. Every county west of the Hudson is now represented in the association, and it was decided to admit members from adjoining States. The association expects to bring about reform in the trade, but denies that it is a trust or intends to supersede the New-York and Boston commission men.

—The business of shipping hay from Mississippi has reached such proportions that a press which will make the best and most compact bale is as necessary as a mowing machine. The director of the State Experiment Station has therefore invited all hay press manufacturers to meet at the Agricultural College, June 18 and 19, for a competitive contest.



Main Building for the Detroit Exposition next September.

We give a cut of the Main Building of the Detroit Exposition, a structure of such size and superior design as is claimed to outrival any other fair building in the United States. The length is 500 feet; height, 70 feet; depth, 250 feet; height of corner towers, 116 feet; main tower over grand entrance, 200 feet; area of total exhibit surface, 900,000 square feet. The structure covers 3½ acres, is lighted and ventilated by windows requiring 30,000 square feet of glass, and contains booths that, were they placed side by side, would extend over six miles. The total cost, together with companion structures, will be over $250,000.

Silos, p. 405.—Please tell Mr. Rice, or any one about to build a silo, to build it of masonry by all means. I have had six years experience—about 250 tons per year. H. B. J.

Lake Waccabuc, N. Y.

A Summer Fair.—The Tenth Annual Exhibition of the Moorestown (N. J.) Agricultural Society will be held next week, June 6 to 8. BENJ. H. GILLINGHAM, secretary.

The Apiary.

Beginning Business.

EDS. COUNTRY GENTLEMAN.—Please inform a subscriber as to the proper starting of an apiary—best time, and probable expense.

Brickerville, Pa. J. R. W.

Much depends on the question how extensively J. R. W. wishes to engage in bee culture. If he desires to make of it a business, or even a specialty, and lacks the necessary knowledge, there is no better plan than that of serving an apprenticeship for at least one season with some successful, thorough-going bee-keeper. If he simply wishes to raise honey for his own use, or to keep bees in a small way, with the idea of increasing the business if it proves profitable and congenial, then it may be advisable to get a few colonies, secure some text books, subscribe for one or more bee papers, and by careful study, combined with the experience gained from the care of the few colonies, learn to manage a larger number.

In the spring or early summer is the best time to start an apiary. Unless one is an expert, it is better to buy bees of some reliable dealer. Get them in good, movable comb hives. Prices vary, but good colonies ought to be secured for $6 per colony, or less, if several are taken. Just how many colonies an inexperienced person should start out with, is a difficult question to answer, so much depends upon circumstances. Perhaps it would answer to say: "Get as many as you can afford to lose." That is, start upon no larger scale than that upon which failure can be borne. I should say that ten colonies would be a large number, while, in many instances, five would be enough. Many of our most successful bee-keepers have started with only one or two colonies, and gradually built up their apiaries until they numbered their colonies by the hundreds.

Aside from the cost of the bees, there is little expense in starting an apiary in a small way. There will be needed a smoker, $2; bee veil, 75 cents; honey extractor (if extracted honey is to be produced), $10; uncapping knife, $1 25; new hives for swarms, say $1 each. If comb honey is to be produced, section boxes will be needed; they cost from $3 to $5 per thousand. Comb foundation costs about 40 cents a pound.

Allow me to once more urge the importance of first reading and studying some good bee books before attempting to start an apiary, and the knowledge thus gained will answer the inquiries made, and hundreds of others.

Flint, Mich. W. Z. H.

Bees' Hum.

An Article Unavoidably Deferred.

The honey season of '89 has begun. The flow of nectar is not in a swelling stream, but leak as little as it may, it encourages the bees, and the great family begins "to rock a thousand cradles," and to knead a thousand loaves of pollen-honey bread for the occupants.

This returning to the business of life is an interesting feature in bee-keeping. Like impatient children kept in by illness or bad weather, the bees appear to fret and to contend with themselves in their eagerness to rush forth. Early in the season, in sunny, mid-day hours they frolic and play, we know not how many games, in the porch of the hive. Every hive should have a porch. The bees appreciate it as much as the bee-keeper enjoys his veranda.

The first work of spring is to clean house. The hive with movable bottom now shows its convenience. The body is lifted aside, and the bottom board swept. This is not enough. Every frame in the body of the hive should be taken out. Dead bees, and wax-litter from the uncapping of the cells may lodge between, mould, and spoil comb if not removed. Will not the bees remove dead bees and all litter? They will, and one man with a wheelbarrow will carry off a mountain in time. If a dead bee be lodged and secured between combs, the bees will carry it away by piecemeal.

But there is work to be done more satisfactory than tugging all summer at the uncleanliness of a hive. Ten minutes' work of the bee-keeper places the hive in good condition, and the occupants have only to brush up, repair a little comb and go about their regular business; until the time comes to put on the surplus boxes, the bed spreads and comforters should be kept on, and well tucked in. The bees cannot be too warm up to June 1.

At mid-day set a table before them, place a feeder under the quilt filled with warm honey. The colony may be strong, but the object in feeding is to encourage the queen that she may lay many eggs, that comb-cradles may be full, and full grown workers may be numerous when the flood tide of honey comes.

Bee-keeping has been discouraging for two years, but it cannot be that a third will follow in succession. Let every farmer—every one—remember that the more bees we have the greater will be the distribution of the fructifying pollen, and the greater will be the yield of all plants. GEO. A. STOCKWELL.

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

BLOOD-SPAVIN.—A valuable 5-year old horse has blood-spavin on the hind legs; is in good condition. R. V. W. *Leesburg, Va.* [If they have been there some time, and produce no inconvenience, treatment may not be necessary. On the other hand apply golden blister.]

SWOLLEN HOCK.—A colt, dropped the 14th of last month, at a week old was stepped on by its dam, bruising the insides of both hind legs. I rubbed on liniment, and the swelling disappeared, except at the hock of one leg, and I am afraid it is cap-hock. Two veterinarians, however, disagree; one says it is cap-hock and the other not. A. J. B. *Allegan, Mich.* [Rub the swollen parts once a day with some of the following liniment: Tincture aconite root, 2 oz.; tincture iodine, 2 oz.; tincture opium, 2 oz.; spirits camphor, 1 oz.; alcohol, 6 oz.; mix.]

COLT WEAK.—A colt, 12 days old, was foaled in good shape, but very weak; could not get up without help. When 2 days old noticed a puff-like bunch on gambrel; also bowels were bound up, until I gave him an injection, and have had to do the same thing every day since. Gets no better. Mare is on pasture, and has bran mashes almost every day, and seems in good health. S. L. M. *Medina, Mich.* [Give half milk and half flaxseed tea. You will see how to make tea from whole flaxseed in many papers recently. Of course you will feed this at the same temperature of the mother's milk. Add 5 grains of pepsin to a little of the above twice a day.]

OUT OF CONDITION (no page given).—Since treatment, bull has stopped grating his teeth, drinks better and seems to want more; bowels were costive, but a pound of salts yesterday caused them to move freely and naturally; nose is moist, and he does not bloat as before. On the other hand he has no appetite except for a little grass; is very thin and listless; eye is dim and sunken, and he lies down most of the time with his nose to the ground. T. R. P. *Utica, N. Y.* [Give four tablespoonfuls of the following powder three times a day with a pint of old ale and a gill of molasses: Powdered black antimony, 4 oz.; powdered gentian root, 1 lb.; sulphur, 8 oz.; sulphate of quinine, 6 dr.; powdered capsicum, 4 dr.; mix. Whole flaxseed and oat meal gruel may be turned down him twice a day.]

HARD BUNCH ON LEG.—A registered cow of excellent breeding showed bunch on knee of left foreleg, about 2 years ago. It grew steadily for about a year, when it was opened, supposing it contained fluid; but there was no discharge, except a little blood. Bunch has increased in size until it disfigures the animal. Is hard to the touch, but does not produce lameness. The cause was, beyond doubt, lying down and getting up on a hard floor. I should be be greatly indebted for a remedy. W. J. T. *Wheaton, Md.* [Apply golden blister every three weeks. Use a box at each application, and repeat about three times. Also give a drachm of iodide potassium in feed three times a day for six weeks. Keep her in a box stall or in a paddock. If at grass, the medicine may be given night and morning.]

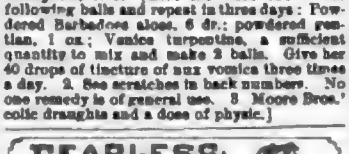
HIP AND SHOULDER LAME, p. 384.—In trotting mare to halter, she brings foot very little ahead of the hip and chucks it to the ground; lifts it higher than her well leg, throwing her head down as she brings it forward at a trot. In going up or down hill, is careful about setting it, and slower in movement. When first hurt, she could not go backwards; always turned to the right if at her will; now she can slide her foot back, but not lift it; raises it very little in going forward; in turning to the left drags it under her. She is sore below upper joint of shoulder when pressed on the muscles. The only swelling after she hurt herself was a welt about 7 inches wide and 10 inches long back of shoulder blade in direction of flank, about 6 inches from top of blade. Think she was hurt by drawing a heavy load on barn floor, striking an 8-inch sill with the wheel first, the tongue giving her a broadside lick in so doing. She still improves slowly. J. *Martinsburg, W. Va.* [Apply golden blister to the hip or whirlbone joint, covering a circle of about 3 inches in diameter. In three weeks report, referring to this page, when we will advise regarding the shoulder.]

COW ILL.—A young cow was taken sick a few days ago, lying down and grunting. She calved in October last, seemed to be in good health all winter, but did not shed off when my other cattle did this spring. Was put on orchard grass and clover about three weeks ago; took bull four weeks ago, and was in good condition; seemed to be costive, and gave her one pint of linseed oil which opened bowels; eats nothing but a little bran and drinks very little water. T. O. S. *Montrose, Va.* [Give same treatment as advised to T. R. P., Utica, N. Y., but add 2 dr. powdered carbonate of ammonia to each dose at night and morning.]

VERTIGO IN MARE.—About a year ago my mare, and shortly after being in heat, was taken on the road with what seemed like vertigo; stopped, trembled, started forward with head raised high, and shaking same, and in less than two minutes was all right. May be twice in the past year she has given a shake to her head, which reminded me of the old attack, and again to-day she acted just as she did a year ago. She has just been in heat, and while that continued was almost crazy (as she always is at that period). Is naturally a very nervous animal at all times. She is not highly fed; is in rather good flesh, but not over fat. R. S. B. *Glen Ridge, N. J.* [Give one of the following balls Mondays and Thursdays: Powdered aloes, 2 oz.; powdered gum camphor, 12 dr.; powdered gentian, 2 oz.; powdered opium, 6 dr.; sufficient quantity of syrup; mix and make eight balls. Feed whole flaxseed steeped and mixed with regular diet of oats and bran at least three times a week.]

NAVICULAR DISEASE.—I have a lame horse, and the most experienced veterinary surgeon here pronounces it a case of navicular disease. I am not willing to accept this condemnation of a valuable horse as final without asking a question or two. What are the signs of that disease? Is it incurable? Would it be wise to resort to nerving the horse as a remedy? If the operation of nerving was successfully performed would the horse be all right, or would it only be a temporary benefit? L. S. W. *New-York.* [State age of horse, color of feet, shape of feet. Are the soles concave or convex? Are they about natural as to this, or is the frog very small and sole drawn up towards body making a very concave sole, or are frogs good sized and soles of feet flat? Are heels broad or narrow? Are toes straight from hair to shoe, or are they concave or convex? Are both feet affected or one? How long has lameness existed? Is he lamer at start or finish of a five-mile drive? How are feet rested? What treatment has he had and its effects? Give other facts that you notice.]

"MARE CRIPPLED.—A mare had a colt the 23d of April; seemed all right for a day or two, then suddenly became very lame in the left hind leg. She ran a great deal after colt, and perhaps hurt herself in so doing. Lameness seemed to be in stifle joint, or upper part of leg. Bathed and rubbed her with strong vinegar and camphor, and the lameness somewhat disappeared. While working her found she had scratches and doctored her for that. Lameness seemed to be gone, but on the 12th I found her down in her stable, not able to get up, nor stand when held up. She lay stretched out most of the day and yesterday evening we swung her so that she can stand. Hind legs are badly swollen and scratched from trying to get up. Appetite good and she looks bright out of the eye. (1) What is a good remedy for scratches? (2) Also for colic? (3) D. H. T. *Mundy-Six, S. C.* [Give the mare one of the following balls and repeat in three days: Powdered Barbadoes aloes, 6 dr.; powdered gentian, 1 oz.; Venice turpentine, a sufficient quantity to mix and make 2 balls. Give her 40 drops of tincture of nux vomica three times a day. 2. See scratches in back numbers. No one remedy is of general use. 3. Moore Bros.' colic draughts and a dose of physic.]



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Weather, Crops and Prices.

Meteorology for May 20-26.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.66	inches.
Lowest	do.	do.	.....	29.66	do.
Mean	do.	do.	.....	29.96	do.
Highest temperature	do.	do.	.....	78°	
Lowest	do.	do.	.....	42°	
Mean	do.	do.	.....	60°	

Three fair days; four cloudy. Five days on which rain fell; total precipitation, 2.68 inch. Prevailing wind, N. W.; maximum velocity, 24 miles per hour, on the 21st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day.....	20th	21st	22d	23d	24th	25th	26th
This year...	66°	70°	56°	54°	58°	60°	58°
Normal.....	63°	64°	64°	65°	64°	64°	64°

Total deficiency for the week, 29°.

General Review of the Week.

The week was cooler than usual in the central valleys and the Southern States; in the last named section the temperature differed but slightly from the normal, while over the Ohio and Upper Mississippi valleys the daily temperature ranged from 5° to 10° lower than usual, with light frosts in the upper lake region and the Upper Mississippi valley. In New-England, New-York, and on the Pacific coast, the week was warmer than usual. The temperature for the season, from January 1 to May 26, has been above the normal, except in the South Atlantic and southern portion of the Gulf States, where the season has been cool, and is from two days to one week late. In New-England, and generally throughout the Northwest, the season is from one to two weeks in advance, and the daily temperature for the entire period has been from 3° to 6° above the average for the season.

The rainfall for the week has been greater than usual in New-England and the Middle Atlantic States, where the excess in rainfall ranged from one to three inches. Large excesses were also reported in the upper Ohio valley, including the greater portions of Ohio, Indiana and Upper Michigan, and from Eastern Kansas southward to Eastern Texas and Western Louisiana. Well distributed showers occurred in the Upper Mississippi valley, the Lower Ohio valley, Kentucky and Eastern Tennessee, but no rain occurred in the southern portions of Georgia, South Carolina, Southeast Alabama and Florida, this being the second week during which there has been a total absence of rain in this section. Only light showers are reported over the central portion of the cotton-region, including Mississippi, Alabama, the eastern portions of Louisiana and Western Tennessee. The rainfall for the season continues in excess on the Atlantic coast from New-York to the eastern portions of South Carolina, and generally from the Missouri valley southward to the Texas coast. There has been a large deficiency in the rainfall for the season from the Ohio valley southward over the tobacco and cotton regions of Tennessee, Kentucky and the east Gulf States. The deficiency in rainfall in this section amounts to about ten inches for the season; or, in the Ohio valley, Kentucky and West Tennessee, less than 30 per cent. of the usual rainfall has occurred, while over the central portions of the cotton-region from 50 to 65 per cent. of the normal rainfall is reported. The recent rainfalls over the northern portions of the winter-wheat region, and throughout the corn and wheat regions of the northwest, have doubtless improved the growing crops in these sections.

The weather during the week has been favorable for all growing crops throughout the northwest, the central valleys and New-England, but the drouth continues in the South Atlantic and East Gulf States, where the reports indicate that all crops are greatly in need of rain. Cotton and small fruits have doubtless been more or less injured, insects are increasing rapidly, and gloomy prospects generally reported. The drouth also extends over Southern Louisiana, but in Northern Louisiana and the western portions of Mississippi the conditions are more favorable. The crop prospects have been greatly improved in the States of the Ohio valley by the timely rains, but some damage resulted to fruits in this section from the frosts which occurred on the 23d. Heavy rains occurred to-day over Tennessee and will probably extend over the northern portion of the Gulf States to-night, affording some relief from the continued drouth in that section. Throughout the States of the corn and wheat belt the weather for the week has improved the condition of the principal crops, although frost caused some damage to early corn and vegetables in Minnesota. Excessive rains and cool weather over the Middle Atlantic States injuriously affected small fruits and tender vegetables, but generally improved grass and grain. The season in this section and New-England is early and crops have developed rapidly. The grass crop, which is one of the most important crops in New-England is specially reported in fine condition. Harvesting is in progress as far north as Tennessee.

New-York—*Sidney, Delaware Co., May 23.*—The spring so far has been all that could be desired—warm, seasonable rains, and at this date, abundant feed. Corn nearly all planted, and much of it large enough to hoe. Meadows are looking very fine; the hay crop seems assured. Just now we are having a cool wave, and a clear, still night would surely give us a severe frost unless there is a change of temperature. Milk and butter, our leading products, are too low for any profit for the ordinary farmer—the only one that can have any surplus under these conditions is the man that best understands the economies of agriculture. J. S. G.

New-Hampshire—*Dover, Strafford Co., May 22.*—This has been one of the most remarkable springs on record. Planting is now nearly completed. Grass never looked better at this season. We have had some extremely hot days, with scarcely any rain until the 20th, but are now in the midst of a fine rainfall, which will benefit crops of all kinds. I recently visited the home of the correspondent of the COUNTRY GENTLEMAN, George Q. Dow of North Epping, N. H., and was much pleased with the work Mr. D. is doing. His fine strawberry plat is well cared for, as are his Berkshire pigs, St. Bernard dogs, and various breeds of poultry. This gentleman is demonstrating to the farmers in his community that certain specialities pay the New-England farmer much better than following in the old ruts. Dairying topics are much discussed at agricultural institutes and grange meetings, and the impression prevails that the co-operative creamery is to be an important factor in our agriculture. J. M. M.

Connecticut—*Hartford County, May 22.*—Quite cool since the rain of the 20th and 21st; it was feared there would be frosts on the low lands. Grass started early and has grown very rapidly; pastures all good feeding, and live-stock doing unusually well. Mowings very favorable for more than an average crop. Oats doing nicely. Planting nearly out of the way. Potatoes being hoed; beetles are on duty and will soon be taken care of by Paris green. Fruit trees of all kinds look favorable for a good crop. Old potatoes in slow demand, 35 to 45c. per bush.; beef, 6c. per lb.; pork, 6c.; veal, 8c.; dressed fowls in good demand at 17@18c.; dairy butter, 20@22c.; creamery, 23@25c.; hay selling slow at $18 per ton. Northern and western horses in good demand; about 25 car loads have been disposed of in the county at good prices. A. S. W.

Ohio—*Westerville, Franklin Co., May 21.*—Good rains fell the 19th and 20th, and the drouth is ended. Everything looks bright this morning, but we anticipate frost on the 22d. Late planted corn is in good condition to come up now, and pastures look green. E. W. P.

Mechanicsburg, Champaign, Co., May 23.—Past week cool and cloudy; 22d, quite a hard frost, which cut corn and potatoes in some places, but did no harm on high ground. Several light rains have helped corn, wheat and gardens; not enough to benefit meadows and oats much. Meadows will be very light here. The finest implement for cultivating corn when small is a Thomas smoothing harrow. A good way is to take one section and harrow one row at a time. Butter, 8@10c. per lb.; chickens, 5c.; eggs, 10c. per doz. S. W.

Indiana—*Wabash, May 24.*—Great damage was done to the corn and potato crops in this vicinity by the freeze Wednesday night. The corn plants are brown and withered, and the crop will be cut short, if, indeed, wholesale replanting is not required. Wheat was slightly injured. The weather is the coldest ever known at this season.

Columbus, Bartholomew Co., May 24.—A heavy white frost here last night did considerable damage to fruit and vegetables. The wheat, which is heading out, is somewhat injured.

Illinois—*Champaign County, May 24.*—Light rain and low thunder on the night of the 22d; more rain and more thunder 23d; in all a half inch of precipitation. The rain will fetch the corn up, but there was not enough to benefit grass materially. R. F. J.

Vandalia, May 24.—Cloudy, threatening weather. Yesterday evening and last night, one of the severest storms we have had for several years, accompanied with terrific lightning and heavy thunder. Rain fell in torrents; fell in about two hours, 2¼ inches. On the 18th, a severe hailstorm, destroying much fruit and field and garden crops. Markets unchanged; no price for anything. R. A.

Wisconsin—*Fond du Lac County, May 20.*—We had it very dry, with discouraging prospects until the 17th, when a slight rain led on the 18th and 19th to a soaking fall, which has brought up corn that had laid unrepented for several days. Pastures had become short, small grain had advanced slowly, but now there is no danger of crop failure this year. Cut worms have destroyed some fields of wheat and barley, and some pieces of corn are being planted over from the same cause. Eggs have gone up to 10c. per doz. When they were down to 7c. we allowed them to be picked up on shares. E. R.

Janesville, Rock Co., May 23.—Never, at this season of the year, have we had such cold weather. Every night for a week the mercury has been just above freezing, and through the day, 30° to 64°—fires and overcoats are needed. Many cases of serious illness among those who have changed woolen underclothing for the usual seasonable fabric. With all this every green thing looks well. My asparagus fails to be of much use because of the cold. Health is very poor indeed—generally. Not in my memory have we had so many electrical storms with hail large as hazel nuts, and rains in deluges for three days in continued heavy showers. I have never known such continued thunder. It lasted continuously for 54 hours last Thursday and Friday; much damage was done, and several persons were killed by the electrical current, and many persons dangerously injured. Live stock also suffered; many killed. The hail was not very thick, and did but little damage. Wheat, 70@80c. per bu.; rye, 60c.; barley, 45@55c.; corn, 35@37c.; oats, 25@28c.; potatoes, 30c.; butter, 14@16c. per lb.; eggs, 10c. per doz.; cattle, $2 60@3 50 per cwt.; hogs, off, $4 25; horses in good demand; coal, in trust, $6; hemlock, 12½c., $5@5½c. Business fair. W. H.

Horticultural Department.

Manuring Fruit Trees.

It was formerly the practice, in applying manure to fruit trees, to make a little pile a foot or two in diameter around the base of the trunk. But planters subsequently discovered that this was quite a mistake, and that the roots extended far away from the stem. It was then frequently recommended by leading writers on tree culture, to extend the manuring and cultivation as far away from the tree as the spread of the branches overhead. We still see this course continually advised in different horticultural journals at the present day.

Thirty years ago, the writer of these remarks performed a series of experiments to show that this recommendation was quite insufficient, and that, as a rule, the roots of both young and old trees which had sufficient room to grow freely, extended on each side to a distance at least as far as the entire height of the tree, and often much farther. These experiments and observations consisted of placing manure at various distances, and observing their unlike and very distinct effects. Peach trees ten feet high were improved in growth by manure twelve feet away. The fibres of apple, pear and dwarf pears were actually traced through the soil at equally great distances, and some of them much greater; and such trees as throw up suckers indicated in this way the great length of the roots from which they sprung.

In the accompanying figure (fig. 1), there-

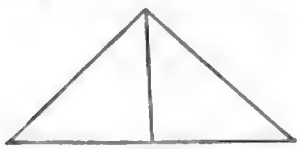


Fig. 1.

fore, the two right-angled triangles may represent the length of trees and their roots—the perpendicular indicating the tree, and the base on each side the roots. In fig. 2, the tree is

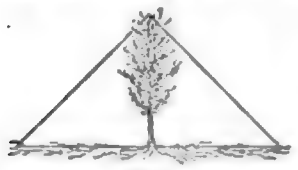


Fig. 2.

more distinctly exhibited, with its spreading roots, some of them, according to nature, extending beyond the mathematical boundary. Fig. 3 is a plan of the ground in which the tree

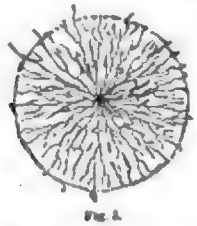


Fig. 3.

stands, the inner dotted circle being as far out as the extent of the branches, and the outer one about or nearly as far as the push of the roots—showing that they really occupy several times the area commonly allotted to them.

To produce the best effect, therefore, in applying fertilizers, they should extend over this whole surface, which commonly will mean that they should be cultivated broadcast, although a partial benefit is sometimes obtained by a more cramped allowance.

In transplanting trees, it is necessary to cut off and leave a large portion of roots in the ground. This operation checks the growth for a time, or until new roots can be thrown out to replace the lost ones. In young and vigorous trees, this renewal is quickly accomplished; and as a larger portion is secured on the young tree than on older ones, the check is only temporary. Older trees lose more of their roots when taken up, and do not restore them so soon; hence the reason that they receive a longer and more formidable check in growth. The only way, therefore, that large trees can be transplanted without seriously suffering, is to shorten all the larger roots a year or more beforehand, by cutting a trench at a proper distance around them, causing them to send out new and shorter roots, which may be removed in place of the longer ones left in the ground, when they are taken up.

Value of Cherries for the West.

Eds. Country Gentleman—To us in this section, and to the farmers generally north of forty degrees latitude and west of Chicago, the cherry is the most satisfactory tree fruit. Peaches grown in this territory are in the nature of costly luxuries; usually they can be bought for less than they can be produced at home. This is true of plums and pears. There are exceptional localities indeed, but as a general rule, the growing of peaches, pears and plums by the farmer in the region marked out is not economical. An apple orchard can be maintained only at considerable expense and by the most vigilant care. Yearly setting is necessary. Our most experienced and careful orchardists have been well nigh discouraged by the past few years. When *their* apple orchards are thinned down to a fraction only, the farmer cannot find much encouragement in apple growing. However, the apple is so easily kept, can be prepared for the table in so many forms, and is in every way so excellent that I would certainly not be understood as deprecating any reasonable efforts to grow at least a home supply.

In truth, I could hardly wish for or recommend any decrease of effort to grow the peach, pear or plum, as well as the apple. My object is not less attention to these, but more attention to the cherry. The good points of some things become their direst misfortune. It is so with the cherry. Of all our tree fruits it does best in thick sod, in out-of-the-way places, where the ground is trampled solid. And because it will fruit without care or culture, such conditions are almost its common lot. If to the cherry had been given that thought and care, that effort to obtain better varieties or to improve by enriched soil and sedulous tillage the varieties we have, that have been given to the apple and pear, we should have a fruit that would be highly prized, and the results would be gratifying.

The cherry is the only fruit tree that I have succeeded in keeping alive and fruitful along a lane where there is much wagoning and stock-driving; and really I deserve very little credit, for the trees have grown and fruited with very little attention. The trampling of stock and the passage of vehicles continuously over the roots of nearly every variety of pear, plum or apple, prove fatal. While I am well aware that some, including Mr. F. D. Curtis, advocate that orchards be kept in grass, I have always found it best to cultivate the land about peaches, apples and plums as long as the trees were expected to fruit. Mr. Curtis thinks that orchards are woefully injured by cultivating them. I always wrap the ends of swingle-trees and the tugs for a foot or so forward, with several thicknesses of heavy cloth; and this done, I would discharge, very quick, the man who could not use a gentle team without bruising the trunks or the roots of orchard trees.

Some will think I go too far when I advocate cultivating the orchard as long as it exists; but I have come to this conclusion after having in grass for some years two oldish orchards, and then cultivating them; and after observing the benefit resulting from a change to cultivation from grass in not a few orchards belonging to others. Of course, when the orchard is cultivated, often put to feed a vegetable crop, it must have much more manure than when pastured. When the amount of manure applied is kept up to the demand on the land, cultivation will give better results than grass—unless with the cherry. I have always had yields satisfactory in quantity and quality from cherry trees growing in sod from the start; and at times thought I saw some improvement, and again doubted it, from stirring the ground around the tree. The cherry tree is not such an anomaly as to require no food; hence the land under it should be manured, and the manure should be trenched in.

The cherry bears every year, whereas our apples and peaches bear every other year. In this the cherry resembles our small fruits, which rarely miss a crop. Also, the cherry rarely requires more pruning than having its head shaped when transplanted, or perhaps for two or three years after. Here is a saving of labor over the apple; and also over the peach, which really requires pruning more than the apple, though it rarely gets it. I have never had a cherry to winter-kill—in fact, have lost very few trees that had not reached a good old age. Farther north, I believe, trees forced by too much manure are apt to be killed; but the hardiness of the cherry has steadily become of more importance to me during the past ten years. Excessive moisture is the condition most hurtful to the cherry. Good artificial or natural drainage is essential to the best results; but so it is with the other tree fruits.

Unfortunately, we can not grow the sweet varieties so well as at the East. My Pennsylvania and New-York cousins who have come West, usually made wry faces when first they ate our cherries; but the wish for "the cherries we had back East" has not been heard long. If we allow our cherries to become very ripe, they can hardly be called sour. We can grow the sweet varieties here; but all in all, it is much better to grow the Dukes, Morellos, &c. My favorite, and it is a general favorite in the West, is the Early Richmond.

We do not like to give up our apples, peaches, pears and plums; yet I believe it would pay us better to stop somewhat our search for hardy varieties of these fruits, and give more attention to the improvement and growing of the fruits that so far have proved hardy. Some of these fruits, notably the cherry, currant and gooseberry, have been comparatively neglected; with these, and blackberries, raspberries, grapes, &c., we ought not to be hungry for fruit; and the better methods of keeping do not make us so dependent upon the apple as formerly, and anyhow, cheap transportation has made the price of New-York apples less, if anything, than the cost of producing them here. I think this should be well considered; and then, as before stated, if we do not feel disposed to give up our orchards, I have no complaint to make. I am not after less attention to the fruits we can grow once in a while, so much as more attention to the fruits we can grow every year.

John M. Stahl.

Adams County, Ill.

A Woman's Garden—II.

A Neglected Pleasure.

Among country neighbors, long ago, when the word neighbor meant more, perhaps, than it does in these days of advanced ideas (for our altruistic sentiments, being expected to cover the entire world, naturally become somewhat attenuated), sharing plants with one's friends was a distinct pleasure belonging to the spring epoch of "making garden." It was so freely admitted to be one of the beauties, as well as one of the duties of good gardening, that there was just as little hesitation about accepting these offers as about making them. Indeed it was sometimes taken as a flattering compliment when a visitor, herself the possessor of a charming, well-stocked garden, would remark: "What a pretty thing that is! I must really beg a bit in the spring!"

Those were the good old days of universal dependence upon perennials and hardy stock plants; a cherished and notable flower garden implied a collection of flowering plants, made gradually, year by year, each with its own endearing associations, coming in its season like a welcome friend. A very moderate amount of judicious planning was expected to yield a regular annual return of rich yet inexpensive pleasure. Our fathers and mothers were thrifty, even in this. No costly bedding plants, by dozens or hundreds, set out in formal shapes in May, to be swept off by the first frosts of autumn. To share plants of this sort would be absurd. Indeed there is hardly a possibility of connecting them with any sentiment. They may please the eye, but they do not appeal to the heart, whereas the very sight of "mother's" pinks, poppies, hollyhocks, lilies—whatever the flower might be, growing in the very spot where for so many years she used to bend over them, will often bring a suspicious moisture to eyes unused to weeping.

Surely flowers are prostituted when they become the expression of a mere taste for display, but one cannot avoid the consciousness that it is sometimes so. It seemed to me a good illustration of the danger of looking at them in a commercial light, when I once heard the daughter of one of our largest and most successful florists remark that she hated all flowers except wild-flowers!

Just now there is a marked reaction in favor of the old hardy perennials. Mixed borders, in which, by careful arrangements, clumps and masses of the fine old hardy flowers, or perhaps, newer varieties of some of these, set each other off to advantage, and are interspersed with bulbs and low-growing annuals that make a lovely changing carpet of foliage and modest bloom. This is just now the most fashionable method in gardening, and there can be no question that, as an adjunct to a rural or suburban home, there is no mode so full of interest and lasting advantage. Whoever makes a flower garden of this character establishes a perpetual and increasing fund of innocent and refining pleasure.

It is the steady increase of the original investment, instead of an annual destruction, as in the case of exotics, that makes the opportunity for an indefinite distribution of dividends. Most of our hardy perennials increase rapidly in good soil, when undisturbed, and after a few seasons a frequent division of the dense mass of roots formed in each case, is a positive benefit rather than of an injury. As early in the spring as the condition of the ground will allow, the beds should be carefully forked or spaded up, and the too solid clumps lifted and separated; either spreading out, so as to occupy more space with the same variety, colonizing in different parts of the grounds, or, to return to the suggestion with which this paper began, indulging in the easy luxury of disseminating among friends and neighbors the favorites that have so well rewarded our care. Who that loves flowers does not delight in giving them away? And how much better to give an offset, a living root, that will go on multiplying itself and producing its lovely flowers perpetually, than to send a mere perishable bouquet! No woman can cultivate flowers with love, with enthusiasm—and for my part I do not see how any woman can care to raise flowers without enthusiasm—and not find in this capacity for constant subdivision another source of enjoyment in her floral treasures.

To be sure we must not forget that in some cases a superb effect depends wholly upon this natural accretion, which produces, in a long-established specimen, an indefinable grandeur. But we can give, in most instances, with no danger of ruining ourselves. It is a recommendation and not an objection that this true home gardening demands intelligence. For the best results, skill, taste and knowledge are certainly requisite. She who plans and carries out such a garden has a fine field for the exercise of artistic gifts, if she possesses them, in the arrangement of both form and color, so as to produce real beauty and not mere formal regularity. A knowledge of the habits and requirements of every plant cultivated is exceedingly desirable. There is sufficient inducement to make it as thorough as possible, and if to the practical knowledge so useful to the gardener, she investigates the structure, and then adds historical information to scientific accuracy and to that, familiarity with its association in literature—what more natural for a modern Eve? At least her lilies and primroses will still be innocent gifts, and cannot carry any forbidden knowledge with them when she offers them to her less curious neighbors.

Dorothy.

Tree Planting—Arbor Day.—The government circular issued by the Department of Agriculture, and prepared by B. E. Fernow, Chief of Forestry Division, contains minute directions for all the details of the operation, full and distinctly given, which will be useful to persons not already familiar with the requirements for success. Choice of trees, their size, form, and condition, importance of good roots, treatment before and at planting, and after-care, with their many particulars, are well pointed out. In only two or three points are any exceptions to be taken. The inference is drawn that a tree may make the best growth when removed from a poor soil to a better one. Planters generally will prefer a good soil both before and after transplanting, as favoring strong, healthy and vigorous growth continuously. The directions about watering do not discriminate sufficiently between very unlike conditions of soil, in one of which it may be useful if properly applied, and in others it may be positively detrimental. A soil so dry, hard and lumpy that it will not embrace the roots, would be more benefited than one already in water-soaked masses, and a light soil would be unlike a heavy clay. But these are only slight objections, and the circular will undoubtedly be of great use to the many thousands who observe its directions.

and it will be a valuable aid in educating our young people in ornamental planting and in a taste for sylvan improvement.

Fruit on the Hudson.—In your last issue I see an article copied from the Kingston Freeman, on the fruit crop prospects in the Hudson river valley. As this town is nearly in the centre of the fruit-growing district, I have had a fair opportunity to judge of the coming crop. The writer of article referred to was a trifle premature in his statements. Trees were indeed a mass of bloom, but as in last spring a heavy rain storm washed out much of the pollen, so that not one in ten fertilized and set; cherries and plums will be very light; late frosts hurt currants; many peaches have fallen, but enough are left to make good fruit. There are however, comparatively few trees left. Many were set ten years ago but failure in the crop discouraged growers from putting out more as the old ones died. Grapes are looking well, but I do not think the crop will equal last year's enormous yield, as two heavy crops seldom follow each other; many vines being hurt by overbearing. Strawberries look well although the acreage is light. We are having very favorable weather; most growers have their work well advanced, and are looking forward to good prices which prevail with a light crop. Raspberries are very poor indeed, many entirely winter-killed.

Marlborough, N. Y. J. A. S.

The Walking Fern.—In the COUNTRY GENTLEMAN of May 9 appears a note on the walking fern from "H. S.," who calls it a "curious plant and rare." Curious it certainly is, as all botanists will agree, but not rare by any means, as any botanist, whose searches have taken him through the Alleghenies in New-York, New Jersey and Pennsylvania, will tell you. I have found the beautiful *Camptosorus rhizophyllus* in abundance in various parts of Pike county, Penn., near Milford and at Shohola and Matamoras in the same county; at Mauch Chunk, at the Delaware Water Gap, at Sawkill Falls, at Raymondskill Falls, and other Pennsylvania points. In New-Jersey it abounds in Sussex and Warren counties. The mountains in Orange, Ulster and Sullivan counties, in New-York, are full of it. I have most frequently found the largest and most luxurious specimens of it in localities where the most deeply pink-colored trailing arbutus (*Epigæa repens*) grows. Glen Onoko, at Mauch Chunk, produces fine specimens of it. I have gathered small specimens of it at Watkins' Glen. Several times I have found specimens at various points in the Niagara gorge. In that gorge its growth is hindered by the continuous wearing away of the faces of the cliff by frost, the dropping bits of rock effacing the plant-beds in the fall and spring. It may be a "rare" plant in the South, but it is abundant in the North. H. A. VAN PELTENBERG,

Editor of "The Milling World," *Buffalo, N. Y.*

—— The walking fern is found in New-England, and has probably a wide range, though never, so far as I know, common. I have seen specimens found in both Connecticut and Massachusetts, and have been told of its discovery by an eager young botanist in New-York. D. H. R. G.

The Fancier.

Bull Dogs.

The bull dog is one of the oldest breeds known at the present time, for he is mentioned by the earliest writers. Edmund de Langley, in his Mayster of Game, the manuscript of which is in the British Museum, speaking of the bull dog as the Alaunt, says: "Thei hav grete hides, and greet lippers, and greet chris. And with such men helpeth him at the baityng of a boole, and aite huntyge of a wilde boor. Thei holde fast of here nature." The bull dog is universally admitted to be the national dog of England, for he is identified all over with Great Britain, and is not bull-dog pluck and endeavor one of the most cherished qualifications of all classes of Anglo-Saxons? When bull-baiting ceased to be a fashionable sport in England, and before it was actually put down by the law, this cruel pastime was only supported by the lower classes. For this reason the grand old dog sunk in public estimation. Some years ago, however, he was rescued from his low estate, and he now occupies the high position which his pluck and endeavor entitle him to hold. It is scarcely to be wondered at that when the bull dog was almost exclusively bred and kept by the residuum of the canine world, he was a morose and savage animal, for he was the subject of cruel treatment, and had no chance of proving that his intelligence was at least equal to that of the average run of dogs. Now that he is carefully bred and attended to, he has proved that not only in intelligence and temper is he equal to other breeds, but that his pluck and endurance is still as deeply implanted in him as it was in his ancestors.

BULL DOG—*Specially engraved for the* COUNTRY GENTLEMAN *from a Drawing made in England by Ludow.*

The most ardent admirer of the bull dog will never think of claiming him as a smart, raking looking fellow. He was, of course, bred for the work he had to do, and when this is considered, it will at once be seen how splendidly he was built for such a purpose. All his strength was required in front. Hence his wide chest and powerful front legs. No animal could seize and hold a bull unless he had a *retrousé* nose, so that while holding on he was able to breathe freely. At one time this point of the bull dog was carried to an excess, and great cruelty was practiced on bull puppies to make their faces the fashionable shape. Happily these are seldom known now.

The skull of the bull dog should be as great in circumference as possible—square-shaped, broad in front, with heavy wrinkles of loose skin over the head and face; the lower jaw projects a considerable distance beyond the upper, and is turned up in front; the canine teeth should be well apart, and the front teeth regular, both upper and lower jaws being exceedingly strong; the lips or "chops" should be loose and heavy; the nose, as already mentioned, is *retroussé*, large, broad and moist; eyes large, soft, round, and moist, dark, and well apart, either "goggle" or Chinaman's eyes being a blemish; the "stop" or indentation between the eyes must be both wide and deep, and extend up the skull in a deep furrow; the ears are small and lying back so that the inside is visible, termed "rose" ears, and set on at the corners of the skull, so as to give the broad-skulled appearance so much sought after. They should be thin, the thinner the better; the neck is muscular, slightly curved, and has a heavy dewlap; the shoulders are strong, sloping, and very muscular; the chest as wide and deep as possible to give space for the heart and lungs to act; fore-legs very powerful, short, straight, and well clothed with muscle, which is apt to give the dog a bow-legged appearance. They are turned out at the shoulders, so that the body swings between them; the fore-feet are straight at the pasterns, large and moderately round, toes rather splayed out and arched, hind legs longer than the fore legs, and turned well out at the stifles, making the animal "cow-hocked," and feet longer than the front ones. The body is very deep at the chest, and of considerable girth, the ribs round, having the appearance of being on an incline, arising from the front legs being the shorter; the back is short, rising from the shoulders to the loins, and thence sloping to the stern, thus presenting the "roach" or "wheel" back; loins powerful, tucked up and well-arched; tail short, very fine and low set on; coat smooth and close, soft to the touch unless brushed the wrong way, when it is harsh.

Bull dogs are of various colors, except black, black-and-tan, and blue. The weights vary, but the best dogs scale between 48 pounds and 58 pounds. In temper he compares favorably with any breed, and is most loving and obedient to his master and those whom he knows, but he does not easily make friends of strangers. When roused to give battle, he is a perfect demon, his indomitable pluck and endurance, and his firm grip, making him a terrible antagonist. His general appearance is that of a dog possessed of great strength and activity.

H——, England. STEPHEN BEALE.

Domestic Economy.

Children's Clothing.

A little wise planning, and firm determination to do only what is necessary, will, even in quite large families, reduce the often hopeless-looking task of putting the wardrobe of the children in order, to something that one can hope to accomplish in reasonable time.

Last year's clothes should first be carefully looked over to determine what will do to wear just as it is, what must be remodeled, what

Fig. 1.

handed down, and a list made out for shopping.

The assistance of a woman for one or two days, or even a part of a day each week for a month, to cut, fit and stitch, will help wonderfully. The finishing off of all garments may be left, and it is really a pleasure to take an

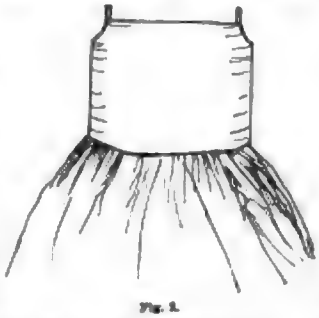


Fig. 2.

apron, dress or other garment and sew on the buttons, loops, or work the button-holes.

If all trimmings that are troublesome to laundry are left off, the children can enjoy plenty of fresh clothes without adding too heavily to the weekly washing and ironing.

Fig. 1 shows a simple and pretty way of making every-day dresses for children. It is particularly adapted for wash goods.

The waist is a simple blouse cut long enough to hang over at the waist. Any person accustomed to making children's clothes will not need a pattern to cut it. Use some waist that fits loosely, to shape the neck and shoulders. The under arm seams should be cut to slope outward toward the bottom. The waist is finished with a narrow hem around the bottom, which serves as a casing through which to run a tape by which it is drawn into place when worn. It is finished around the neck with a narrow collar. The skirt is round, and has a deep hem. It is gathered and sewed on to a plain waist (fig. 2), which may be made of muslin.

How to make over a dress for a young girl is shown in fig. 3. The dress illustrated was a

Fig. 3.

grey wool, which was too short in skirt, waist and sleeves. This was remodled by putting a broad band of black velvet around the bottom of the skirt, and adding a belt, cuffs and collar of the same. The work was not hard, and the effect was very stylish. A velvet the same color and shade of the dress material may be used in the same way, as also may plaid or striped material of colors to harmonize with the color of the goods in the dress.

Fig. 4 is a diagram for a dressy, useful and

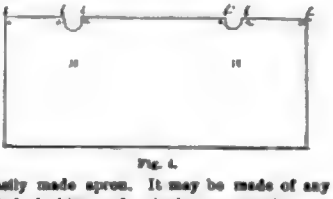


Fig. 4.

easily made apron. It may be made of any kind of white goods, gingham or percale.

Two widths will usually be sufficient for a small child. First cut off a piece three inches wide from the whole length of the goods for ties. Divide one width of the goods into two parts, which join on each side of the whole width. Now fold exactly in the middle, fold again and cut out shallow pieces making an arm-eise; face these around with a narrow strip. Hem the apron across the bottom and up the sides. Turn over an inch at the top and run a casing, leaving a narrow heading; run in three tapes from *a a*, *a a* and *a a*. Take off enough from the strip saved to make six-inch wide strings; hem these and sew on at the places marked *b*, to tie over the shoulders and at the back. Hem and sew on the wider strings at the places marked *c*. The front falls loose. The apron should be cut so it will be as long as the dress when finished. These aprons are very easy to iron, as the tapes and strings can all be untied, and the apron is then perfectly straight.

In buying material for children's aprons and dresses it is cheaper to pay a few cents a yard more for a good quality. "Cheap" gingham should be avoided, although there is nothing that gives better satisfaction than a genuine Scotch or French gingham. In prints the indigo blues wear well. Pomango will wash to look new each time. MRS. BUSTHARD.

New Advertisements.

Arthurs, S. B. ..... *Family Horse.*
Brown, Homer J. ..... *Cheshires.*
Burnett, Wm. ..... *Guernsey Bull Calves.*
Bingham, H. C. ..... *Jerseys.*
Cassell, Capt. W. H. ..... *Canada.*
Crowley, Patrick ..... *Sale of Jersey Cattle.*
Cloud, Dr. ..... *Jersey Bulls.*
Clark, Thos. S. ..... *Farms for Sale or Exchange.*
Clarkson, S. L. ..... *Jersey Bull Calf.*
Cedar Hill Farm ..... *Berkshire Swine, &c.*
Cloud & Son ..... *Chester White Pigs.*
DeForest, Jacob J. ..... *Short Horn Calves, &c.*
Drew, L. B. ..... *Ayrshire Bulls.*
Elting, F. ..... *Holsteins.*
Fulton, John ..... *Jersey Cattle.*
Hartford Air Pump Co. ..... *Windmill & Power Pumps.*
Hilster, Gabriel ..... *Pine-Bird Quills.*
Hagaman Mfg. Corp. ..... *Cider Mills.*
Howe, J. L. ..... *Farmer Wanted.*
Hosta, G. H. ..... *Brood Mare Wanted.*
Milton, W. F. ..... *Short-Horns.*
Mulgren, A. ..... *Situation Wanted.*
Magie, D. O. ..... *Men Wanted.*
Niles, Edgar ..... *Jersey Bull.*
Nellis, A. J., Mfg. Co. ..... *Nellis Forks.*
Price & Reed ..... *Fodder Corn, &c.*
Proctor, T. B. ..... *Berkshires.*
do. do. ..... *Gas Machine.*
Rogers, Mrs. H. D. ..... *Farm for Sale.*
Parker, Lee B. ..... *Hay Machines.*
Rutherford, W. L. & W. ..... *Jerseys.*
Schnebly, L. B. ..... *Short Horn Heifer.*
Sargeant, Wm. Henry ..... *Jersey Cow.*
Silver & Deming Mfg. Co. ..... *Bradley Cutters.*
The Richardson Mfg. Co. ..... *Buckeye Mower, &c.*
Tallmadge, C. F. ..... *Stock Hand Wanted.*
Whitesell, Chas. E. ..... *Carriage Horses.*

Pamphlets, &c., Received.

AGNUS, Gen. FELIX, *American Office, Baltimore, Md.* Fine Photograph of "Nestrama," souvenir of May 15—see editorial.

ANDERSON, Jos. R., Jr., Virginia Military Institute, *Box 313, Richmond, Va.* Announcement of Semi-Centennial Celebration, July 3-6.

BRADLEY & Co., *Syracuse, N. Y.* Circular of Two and Four Wheel Vehicles; pp. 32, handsomely illustrated.

BRITISH-AMERICAN ASSOCIATION, 24 School St., *Boston, Mass.* Protest against appointment of Patrick Egan as minister to Chili.

EDGAR, Wm., Q. P. A., *G. T. R., Montreal, Can.* "Fishing and Hunting Resorts;" pp. 96.

EDGE, Thos. J., Secretary State Board of Agriculture, *Harrisburg, Pa.* Programme for Spring Meeting at Brookville, June 12-13.

GENESEE SALT Co., *Mercantile Exchange, New-York.* Circular of Factory-Filled Dairy Salt—see advertisement, p. 436, and editorial, p. 434.

HERRICK, LEANDER F., *405 Main St., Worcester, Mass.* Pedigrees of Trotting Stallions Whipster and Pilot-wood.

KILPATRICK, THOS., *249 Madison Ave., New-York.* Lineage of Standard Trotting Stallion Sir Walter 2217, 2.19¼, with handsome portraits.

MOORE, DELAND, *Prospect Isle, Me.* Seed Catalogue, and sample packet of American Rose-Bage Turnip Seed.

MORROW & SON, Dr. WM., *Nashville, Tenn.* Circular of Jersey Herd.

SAGE & SON, CHAS. H., *1005 Arapahoe St., Denver, Col.* Circular of Real-Estate for sale.

SOMMERVILLE, W. F., *Director-General, Texas Spring Palace, Fort Worth, Tex.* Invitation to Exhibition, May 20-June 20.

Inquiries and Answers.

Clover.—Is this Japan clover? If not, please tell me what it is? E. D. M. *Nashville, Tenn.* ["Low hop clover," or yellow clover, *Trifolium procumbens.* It differs from Japan clover (*Lespedeza striata*) in its yellow flowers, which are collected in dense heads. C. H. P.]

A Twin Bull.—We have a fine Holstein-Friesian yearling bull, which we are raising with a view to putting him at the head of our herd. He is one of twins, the other calf and the dam dying at the time the calves were dropped. Under such circumstances, would you advise us to keep him for the purpose proposed? (1) Does the fact that he is a twin hurt him in any way? (2) C. T. H. *Lorain, Pa.* [1. Yes. 2. No.]

Sheep Registers.—Is there any registry in this country for the different breeds of sheep beside the fine wooled or Merinos? Also is there any scale of points or standard by which the various breeds could be judged? J. L. F. *Corning, N. Y.* [We have Southdown, Shropshire and Cotswold registers. The secretaries are, respectively—S. E Prather, Springfield, Ill., Mortimer Levering, Lafayette, Ind., and Geo. Harding, Waukesha, Wis. Write to these gentlemen for scales of points.]

Corn Cultivators.—Will some one familiar with two-horse corn cultivators please state what kind and make is considered the best, as they are almost unknown here? I want one that can be adjusted to different width rows, as it would be used for beans, which are planted 30 inches, much more than for corn. I should also like to know if it can be made to do satisfactory work in the place of the spring tooth in fitting ground for planting. A. D. M.

Brood Mare.—I have a mare due to foal middle of July, and it seems impossible to get pasture to turn her on. I think of keeping her in a yard and feeding her on cut grass and bran before she foals and as long as possible after foaling, and after grass is past, feed cut green corn. Will this be as good for raising foal as turning her out to grass? ARDALLAH. *Lochmoor, Ont.* [Abdallah may keep mare safely in a yard, fed as he proposes, but she would be the better for exercise. Let the cut grass be put in the manger and the bran mixed with it. About 4 quarts of bran per day before foaling, and after recovering, she should have 8 quarts per day, mixed with the grass. When green corn is given her, it should be run through a cutter, and at least 10 lbs. of bran mixed with it per day. If the mare and foal have proper exercise, they will do as well as if on pasture. She would be better for being driven on a walk a few miles per day. E. W. S.]

A Cement Roof.—Will some of your correspondents inform me as to the durability of the Star brand roofing and cement, manufactured in Philadelphia? Agents say it will stand for 25 years; I feel satisfied that it will not. Is it insured in the Province of Quebec as a first-class roof? Is it fire-proof? Will it stand the wind on a barn roofed with rough lumber, or will it lift? Will the cement run on a pitched roof with the heat? J. W. S. *Quebec.*

A Mistake Somewhere.—"A Farmer's Daughter," p. 409, says: "Sometimes, however, they do that in spite of me, and of two hens that have been given 14 each, I find one with 26 and the other with 6." Just how 28 chickens can become 32 is not clear. I presume the explanation is that the hen which had 26 stole 6 chickens from the one which had but 6 left, and stole the other 6 somewhere else, but "A Farmer's Daughter" does not make that statement. R.

Temperature in Deep Setting.—Can good results be obtained by deep setting of milk 24 hours in running water at 52°? E. P. S. *Shermans, Pa.* [E. P. S. does not say what system of deep setting he refers to. Submerging in running water at 52° will produce a very good yield of cream in 24 hours. If the cans are open, standing in running water as high as the milk inside, the can should not be more than 10 inches deep, with the milk inside 8 or 9 inches deep. It is easy to arrange a vat for deep setting by submerging, the water running in at one end of the vat and out at the other. The writer used the submerging system with well water at 50° to 52°, and found the result very satisfactory, except the labor required for pumping in fresh water twice per day. Water conducted from an elevated spring would be much more convenient, and more effective, because more fresh and uniform in temperature. E. W. S.]

Manuring Manure.—In reply to inquiries concerning manure spreaders and self-cleaning stalls, would say that I have been using for six or seven years a Kemp manure spreader, which does its work rapidly and well, and costs little for repairs. Have also had, for about the same length of time, Stewart's self-cleaning gates, for 30 cattle, and find that they are all that is claimed for them; in fact, so far as I can discover, they are perfect, except that the screw-eyes to which the gates are attached are not made strong enough, which could be remedied by making them larger or out of better iron. I unhesitatingly advise Quisque to try them, leaving passway behind, wide enough for a manure spreader. With the gates and spreader he can have clean cattle, and save a great deal of labor. J. C. S. *Anchorage, Ky.*

——Quisque, p. 347, asks for information about Stewart's self-cleaning gates. I was also in doubt, and went to stables where I saw cows that had stood on them, winter and summer, for years. Cows were in good condition—perfectly clean. Stables did not smell as strong as they usually do, and the cows' feet were in good shape. I ordered gates for five cows, and sunk a box two feet deep instead of building a concrete gutter, as I wanted to experiment before going to that expense. Could hardly get my farmer to try the gridirons, he was so sure they were no good, but when he cleaned that corner of the stable in a moment's time, and had clean cows to milk and look at, he gave up, and wanted more. I have just ordered gates for 90 head of Holsteins. The first cost is high, but a concrete gutter saves every particle of manure. A little land plaster thrown on enables one to make his own sulphate of ammonia, and the cost of the grate and gutter soon comes back. When we want to clean the stables (about once a month) we drive our Victor manure spreader into the stable, astride the gutter, raise the sections of grate and load the spreader, and haul to the field. By spring the work is done, and we have done the work in a dull time. There is no smell except when "hauling out." C. H. R. *Pittsburgh, Pa.*]

Acknowledgments.

Communications for publication have been received during the week ending May 27, from F. D. Curtis—Jas. Wood—Dorse—Dorothy—Prof. Chas. H. Peck—Smiths, Powell & Lamb—A. D. T.—S. M. Tracy—Prof. E. W. Stewart (5)—E. R.—W. Z. Hutchinson—H. W. Phelps—James M. Hayes—J. Hannam Clark—Dr. Horne—R. L. Millikes—J. M. Marriott—L. L. White—Aunt Addie—M. Walton—Mrs. E. M. Jones—F. D. Curtis—Stephen Beale—Jacob F. Randolph—Mrs. Timothy Harseed—F. E. King—A. Farmer's Daughter—Mrs. L. E. Babcock—S. A. F.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman.

Albany, May 30, 1889.

The State Fair.—The Prize-List for the 49th Annual Exhibition of the New-York State Agricultural Society, at Albany, Sept. 16-19, is now ready, and may be obtained by application to the secretary at his office in this city. Entries (except for fruit and flowers) close Aug. 12.

In Maryland.—Directly north of Baltimore, extending with similar characteristics probably well up to the Pennsylvania line or beyond it, lies a region surpassed by very few for its combination of solid agricultural advantages with picturesque beauty most attractive to the eye. The climate is mild and equable; the soil is fertile, excellently watered, amply supplied with limestone and other useful minerals, and with fine natural forests of oak, maple, ash, beech and many other beautiful and serviceable trees; and the surface is everywhere diversified with hill and dale in such manner as to present innumerable extensive and delightful landscapes, while rarely if anywhere too elevated or too rugged for some sort of cultivation.

In this favored region, adapted alike to the millionaire proprietor and the toiling husbandman of modest means, and adapted perhaps equally to the requirements of the live-stock of the farm, many of the most honored families of Maryland have for generations maintained their homes; and several of our best breeds of cattle have through long years been represented by magnificent herds. At the present time, aided by an immense demand from the great city of Baltimore, with its something like half a million of people, for such milk and butter as only channel island cows can generally be made to furnish, Jerseys are most prominent and we suppose most numerous. At all events, one sees evidences of Jersey blood very generally in the cattle that crop the luxuriant grass on those sunny hillsides and shade themselves under the fine old groves; and the district numbers among its most important possessions several breeding herds that are known for their aristocratic blood and the personal excellence of their members, wherever there are admirers of the Jersey cow. Of these herds we believe considerably the largest is that of Mr. EDWARD AUSTEN.

Filston Farm—such is the name of Mr. Austen's property—is an attractive place to the lover of natural beauty as well as the dairyman and the breeder; for the 640 acres of which it consists embrace some of the very loveliest scenery of all this lovely county. Its bounds extend to the Northern Central Railroad at Glencoe, 20 miles north of Baltimore up the valley of the Jones Falls; but to reach the handsome mansion, one drives a mile and a half from the station over a winding and well shaded road. The surface of the farm is irregular, giving excellent drainage; and there are never-failing springs of pure, clear, cold water (54°) in every field. The soil is what is called "rotten rock," consisting largely of disintegrated feldspar, and is bountifully fertile to a surprising depth. Excellent crops of grass were high and rank over broad surfaces at our recent visit.

It will be seen that the place is admirably adapted by nature to the bovine race and the pursuit of dairying in general; and it is only fair to add that every improvement and appliance which the latest knowledge can suggest, have been supplied, liberally and judiciously, by the enterprising proprietor. The farm is devoted only incidentally to the breeding of Jerseys, but chiefly to the production of milk for Baltimore. There are now 130 cattle in all on the estate, of which 90 are cows in milk, yielding considerably more than two gallons per diem each. They are milked at 4 A. M. and 3½ P. M., winter and summer, with great punctuality and scrupulous care and neatness—the milkers being required to wash and put on clean clothing before beginning, while the cows are carded, and their udders thoroughly brushed. The milk is chilled and aerated by allowing it to flow in a thin sheet over a cooler (some 30 inches high and 20 wide) consisting of an inch pipe of tinned copper bent back and forth over itself so as to make an upright pile, through which flows cold water for a distance in all of perhaps 30 feet. The contrivance is simplicity itself, as will be seen, and is rapid in operation, requiring only three quarters of an hour for 110 gallons. Mr. Austen thinks milk thus treated keeps three times as long as if merely cooled without aeration.

The stables, it is hardly necessary to remark, are models of neatness and convenience. We were particularly struck with the care that is taken to insure the health and vigor of the animals—especially in regard to the matter of ventilation, to which special attention has been given. Mr. Austen entertains a horror of all unnatural conditions, as well as of forced feeding. He gives his cattle only the ordinary well recognized milk foods—of the best grades and in lavish abundance, of course—with pure water and air at all times, and kind treatment. Persons who secure young bulls from the Filston Herd (no heifers are sold) have therefore about as good assurance of their health and constitution, individual and inherited, as it is possible to offer.

The Smith Self-Adjusting Swing Stanchion (made by F. G. Parsons & Co., Addison, N. Y.,) is exclusively used, and gives complete satisfaction. None of the difficulties often anticipated by persons who have not used stanchions are found to occur, and Mr. Austen would not think of going back to chains or straps.

Up to the present time, the establishment has been running under one disadvantage, the lack of ensilage. This want will shortly be supplied, a four hundred ton silo being now in process of construction. It is 60 feet long (divided by a transverse wall into two compartments), 18 feet wide, and 20 deep, and is built of stone in the most solid manner, the wall being two feet thick. Mr. Austen does not believe in wooden silos—thinks their owners will get tired of rebuilding them as they rot away. Experience in the corroding of lead long ago convinced him, after trying many kinds of timber, of the superior value of southern cypress in resisting warmth and moisture; it is cheaper than white pine, costing in fact no more than hemlock, and lasting six times as long. With this wood, accordingly, the silo is to be lined. Half-inch chestnut strips are built horizontally into the wall on the inside, and cement a quarter of an inch thick is applied between them, leaving, of course, a quarter of an inch for dead air between the cement and the cypress boards, which later (tongued and grooved) are nailed vertically to the wall strips, with laths slipped into the air space at intervals, to prevent the ensilage from pressing the cypress against the wall. Cut straw to the depth of 15 inches is to be used for covering, with boards to keep it in place. The roof is to be shingled, with three good ventilators.

Long an admirer of the Jersey breed, a member of the A. J. C. C. since 1884, and at present one of its directors, Mr. Austen has fully realized the advantages of going to the very best sources for foundation stock. His herd is headed by Matilda's Stoke Pogis 14832, one of the best results of the skillful breeding of Messrs. Miller & Sibley of Franklin, Pa. He was got by Stoke Pogis 34th 9987, out of the noted Matilda 4th 12616, who gave 16,153 lb. milk and 927 lb. 8¼ oz. butter in a year, and has an official seven-day test of 21 lb. 8¼ oz. without forcing—a test exceeded by scarcely a dozen cows in all. This bull cost his present owner a lot of money, but we should judge the investment has proved satisfactory, as he seems to possess just those points of practical value that are preeminently sought at Filston Farm—great vigor and constitution, with wide-sprung ribs, capacious digestive apparatus, much richness of skin, and a general milk and butter look. His get—Mr. Austen has 6 of his daughters, most of whom we looked at—take strongly after their sire in robust strength, and he seems to have a special gift of bestowing fine large udders, running remarkably well

forward. One of his sons is also on the place—a two-year-old called Betsy's Stoke Pogis, out of Betsy of Rochester 28562, 14 lb. 19 oz. on ordinary feed—and a splendid young bull he is, likely to do credit, we should say, to his noble ancestry. The cows are a business-like lot throughout, so far as appearances go; we saw fifty five together in a single field, and they certainly gave one the impression of vigorous health and great mammary power—a combination of strength and refinement that is not always found in even a very high-bred Jersey herd.

It need only be added that Mr. Austen makes milk production and the breeding of milk producers his exclusive business on the farm. This he aims to understand thoroughly, and never devotes attention to side issues, however alluring; he even buys the butter used in his own family. Fourteen men in all are employed, chiefly white; and one of the features of the place is the neat little tenant-houses for laborers that you come upon here and there in unexpected places. There are ten such cottages on the farm, each with its own little garden, generally well tended and an important source of profit to the occupier. We have no doubt that the adoption of this system aids greatly in securing and retaining the services of a faithful and industrious class of men.

—— Ten or twelve miles southwest of Glencoe as the crow flies, and about the same distance north of Baltimore on the Green Spring Valley branch of the Northern Central Railroad, is Nacirema, the country home of Gen. FELIX AGNUS of the Baltimore American—(please notice that "Nacirema" is "American" spelled backward)—at which place we had the pleasure of attending a very elegant reception to a distinguished party of gentlemen, in honor of Vice-President Thomson of the Pennsylvania Railroad. The guests numbered about five hundred—including Secretaries Blaine, Tracy, Noble and Rusk, and other persons of national prominence—and as a full dinner was served (from clams to coffee, with all accompaniments in lavish profusion and with great promptness and ease), it may be seen that the affair was well worthy of the extended notices it has received in the daily papers. The farm itself deserves a visit, however, dinner or no dinner.

Green Spring Valley is perhaps unsurpassed in Maryland for its combined fertility and beauty, and many of the largest country houses in the State have been erected there, with fine farms about them. Nacirema itself includes 350 acres of gently rolling land with very beautiful views in all directions, especially from the house, which is 900 feet above tide water—and seems to be everywhere fertile and in a high state of cultivation. The visitor is especially impressed, on his arrival, with the delightfully soft, rich lawns that surround the stately mansion, and the fine trees that decorate them here and there and line the driveways—Norway, silver and sugar maples, European and American sycamores, evergreens in great variety and of large size, juniper, oak and many other native trees, and shrubbery of various sorts. There are two barns on the place, one of them 60 by 110 feet, equipped with every possible convenience, and sheltering a small herd of carefully selected Jerseys, and a number of high-bred horses of several very different kinds. Altogether, the place forms almost an ideal retreat for the hard-working manager of a great journal in a hot and noisy city. We do not know how profitable it may be, measured by the standard of dollars and cents; but in the recuperation of mental and physical strength, in health and happiness and general satisfaction, it can hardly fail to return large dividends; wise are the city men who establish such rural homes, even if on a far humbler scale than this; and it is a good omen for the future that their number is everywhere so rapidly increasing.

—Some other notes on matters in Maryland must be left for next week's paper.

Caution!—Since the general introduction and use of arsenic in Paris green and London purple, those who use and apply these deadly poisons to the potato crop, have gradually become careless in applying them. Extreme caution was observed at first, resulting from a wholesome dread of the real danger under carelessness. Familiarity has gradually dissipated this fear. Operators allow the eddy currents of wind to blow the dust into their breath. The poison is sometimes thoughtlessly applied to potato fields on the windward sides of dwellings or children's play grounds. Insufficient fences have permitted cattle to break into poisoned potato patches, and to devour the leaves and die. Hence the importance of keeping up a constant care.

The danger has increased since the discovery that the codling moth may be easily destroyed by spraying arsenic. The poison is now more commonly used, and with many the carelessness is increasing. Still another step is now about to be taken towards danger. The papers have widely published and claimed the use of spraying to protect the plum crop from the curculio. Plum trees often or commonly stand in gardens, and small fruits, such as strawberries, currants and raspberries, are planted beneath their spreading branches or within reach of the spraying noozle to receive a share of the deadly liquid. These small fruits ripen and are eaten very soon after the spraying has been performed, and before abundant rains have washed all the poison from the rough or wrinkled exterior of most of these fruits. Thus in two ways the danger is made much greater with garden plums than with the larger apple orchards.

In using Paris green for the potato beetle, there is no danger of the poison ever entering the tuber. It is insoluble; it is thrown on the surface of the soil, and not on the potatoes beneath the soil; and there is nearly always many times more iron in the soil than will neutralize all the arsenic. In protecting the potato, therefore, the only danger is in carelessly applying the powder. But a more formidable danger now threatens its use for the curculio.

Two Timber Trees.—The London Garden speaks of two trees which have proved valuable for their timber, and which we think may at the same time be largely planted on the broad plains of the West as protection from destructive winds. One is "the willow," the wood of which never splinters—a quality which specially fits it for the bottoms of carts and wagons for carrying stones, or wherever it receives rough pounding. It is proposed also to use it for paving streets. But this writer does not say to what species these remarks apply; of these there are several, even among good sized trees. What is the experience in this country with the different willows for timber? The white willow has already been largely planted for screens at the West. As nearly all are readily propagated by cuttings, plantations on cheap land may be easily made.

The other tree mentioned by The Garden is the Norway spruce. Although not holding a high position in market on account of its knotty character from the numerous side branches of the trees, it may, if properly trained, be made into rails, pit props, roofing, rough flooring and joists, and packing boxes. The writer of the article in The Garden says he has known roofs of Norway spruce wood perfectly sound after a period of thirty years. In all cases it should be well seasoned. The formation of knots may be prevented by close plantations, causing the trees to run up tall, and this mode would give more timber to the acre. Our own experience with small spruce plantations indicates that on rich soil large timber may be grown in twenty-five or thirty years at the rate of about forty or fifty cords to the acre. The growth of the screens for protection against prevailing winds is comparatively rapid, and where the young trees a foot or two in height may be purchased at low rates by the thousand, screens and plantations combined might be secured at moderate cost. Where efficient belts and plantations are made in some of the Western States, where cyclones and tempests are to be checked by trees fifty or sixty feet high, it becomes a matter of importance to select those of rapid growth, and if such screens are abundantly planted over the whole face of the country there is no doubt that they would prove of great value in at least partly checking the severity of the winds.

Obituary.—We regret to chronicle the death of an old subscriber, HANNIBAL FRENCH, postmaster at Sag Harbor, N. Y. A local paper has an article of more than two columns in his honor, showing the esteem in which he was held by his neighbors.

To Dairymen.—At a late meeting of the officers of the New-York State Agricultural Society, it was resolved to give the State Dairy Commissioner and the State Dairy Association an opportunity to hold dairy conferences in the dairy hall at the fair next September, and to have lectures given by experts. The dairymen of the State are invited to make the exhibition their headquarters. As the utmost harmony exists among all these organizations, no doubt there will be cooperation and the beginning of more general and concentrated interest.

Attractive Investments.—An "Investor's Hand-Book," containing statements of interest to such persons as would like to receive a larger return for the use of their money than can be safely arranged for at the East, is published by the Eastern Kansas Investment Co. of Oswego, Kan., who have a special notice this week on p. 423. Mr. Fred Perkins, the treasurer, has been known to us for many years, being in fact the author and publisher of the excellent Perkins' Farmer's Accountant of which we have sold hundreds of copies to readers of the COUNTRY GENTLEMAN.

Farm-Yard Notes and Items.

The important horse sale to be held next Monday, June 3, at the St. Louis Horse Exchange, as per advertisement on p. 423, should not be forgotten by breeders.

That able champion of the Clay blood for breeding trotting horses, Mr. RANDOLPH HUNTINGTON, 58 N. Goodman St., Rochester, N. Y., issues a number of "Leaves" of Clay history—each being a large sheet of very fine paper, with pedigrees, elaborate notes, and a portrait of Henry Clay. The price is one dollar per set.

The Third Volume of the Clydesdale Stud-Book of Canada appears in its usual handsome style, an octavo of 300 pages, handsomely bound in black morocco with marbled edges. It includes the pedigrees of stallions 656 to 1000, mares 474 to 889, with Scotch appendix of 157 stallions and 105 mares—making 1056 in all. The list of prize-winners at the spring stallion show of 1888 is also given, the minutes of the meetings of the association for that year, and particularly commendable indices. Mr. HENRY WADE, Queen and Yonge Sts., Toronto, is the efficient editor.

The award of the judges in the butter test at the Buffalo Fair, last September, has been confirmed by the Board of Managers. Large prizes were offered for the cows that would make the largest quantity of butter for three consecutive days—cows to be milked on the ground, and butter made under the supervision of the judges—a public test, open to all breeds and all sections. By unanimous vote of the judges (indorsed by the Superintendent of the Cattle Department), Bencia Fletcher, H. H. B. 6991, was awarded first prize, and Netherland Peeress, H. H. B. 2640, second—both from the Lakeside Herd of Smiths, Powell & Lamb, Syracuse. Notwithstanding that this was a unanimous award, a protest was entered, and the Board of Managers took plenty of time to have all arguments carefully considered, and to hear all the facts, and have finally decided that the report of the judges must be sustained, and have paid the awards in full. The proprietors of Lakeside Herd naturally feel a great pride in this victory. It is no ordinary compliment for one herd to win every prize at a public butter test for which it has competed, which, if we mistake not, includes every such prize which has yet been awarded in the State of New-York. We think also the catalogue of Smiths, Powell & Lamb shows more butter records of over 20 lbs. in a week than any other herd ever known. Such victories are the legitimate result of carefully selecting and breeding for years, for the production of butter.

MR. E. L. CLARKSON writes: "We sold the bull calf advertised in the COUNTRY GENTLEMAN May 16 to Mr. James T. Inglis, Middlefield, Conn., and now enclose an advertisement of two calves by the same sire, Lord Victor Pogis 14699. His calves are fine, and have been awarded first prizes at Ohio and Wisconsin fairs."

When Peter C. Kellogg & Co. opened the auction sale of the noted Oakland herd of Jersey cattle, late the property of Mr. Valancey E. Fuller, of Hamilton, Canada, at the American Institute Building, May 21, the ring presented an appearance that recalled the booming days of 1883 to 1886. Faces of many admirers of the cream-giving little cow that have been missed from the sales of late years reappeared and offered their bids with much the same spirit and enthusiasm that characterized the sales in past years. The results were very satisfactory. They show that admirers of the Jersey still stand ready to pay liberal prices for animals that appear worthy to be used for the purpose of raising the standard quality of the breed. Commonplace animals were rejected at prices barely above utility rates, but animals worthy to be used as blood sources in conformity with nature's rule of the survival of the fittest, brought willing bids until good prices were reached and an average of $608 on the head constituting the Oakland herd was made. The cattle sent in by Mr. G. S. Hutchinson were less desirable in breeding as in quality, but sold fairly well. The better prices were:

Marianne Pogis, 7 years, A. B. Darling, Ramseyer, N. J.	$2300
Mary Anne of St. Lambert, 10 years, T. A. Havemeyer, Mahwah, N. J.	2100
Mermaid of St. Lambert, 10 years, T. A. Havemeyer	2000
In-and-in-Bred, bull, 1 year, A. H. Moore, Philadelphia, Pa	1700
Marianne's John Bull, 1 year, T. A. Havemeyer,	1100
Cana Daisy of St. Lambert, 1 year, F. Billings, Woodstock, Vt.	775
Canada's John Bull, 7 years, T. A. Havemeyer,	700
Stoke Pogis' John Bull, 7 months, T. A. Havemeyer	710
Mermaid of St. Lambert II, 6 years, Frederick Billings,	600
Marianne Pogis' Son, 8 months, Wm. Whiting, Holyoke, Mass	625
Orcus' Stoke Pogis, bull, 6 months, M. Thompson, Bernardsville, N. J.	600
Call Hills Bloss, 1 year, G. L. Baker, Sand's Point, N. Y.	600
Brooks's John Bull, 3 years, H. M. Howe, Bristol, R. I.	500
Pearls Pogis, 3 months, C. I. Hudson, New-York,	500
Stanley of St. Lambert, 9 years, N. P. Berry, Lexington, Ky.	500
Columbine of St. Lambert, 11 years, P. K. M. Rohe, New-York	500
Cana Belle Pogis, 1 year, Frederick Billings	500
Coco Pogis, 1 year, Ayer & McKinney, Meredith, N.	500
Belle Pogis, 9 years, P. K. M. Rohe	475
Mermaid Stoke Pogis, 3 months, Ayer & McKinney	500
St. Lambert of Banstead, bull, 3 years, M. Thompson	500
Mountain Berry, 6 years, P. K. M. Rohe	500
Cracus of St. Lambert, 13 years, A. H. Moore	500
Milda Pogis, 1 year, John T. Foote, Morristown, N. J.	500
Cana Columbine, 1 month, Ayer & McKinney	500
Rose's Stoke Pogis, bull calf, 1 month, Edward Howe, Princeton, N. J.	500
Belle Parcenia, 2 months, Wm. H. Wood, New-York	500
John Bull Baronet, 3 months, H. Hoopes, Philadelphia, Pa.	500
Mountain Berry Pogis, 1 year, Oakleigh Thorne, Millbrook, N. Y.	90

"The sale of cast-off Jerseys, May 22, resulted low, as was expected. Mr. Oakleigh Thorne's 20 head averaged $44; Mr. H. J. Parmit's 10 head, $40; Mr. A. H. Moore's 11 head, $37; Mr. Benjamin L. Swan, Jr.'s 8 head, $34.

PETER C. KELLOGG & CO.

Messrs. S. SPENCER & SON, breeders of dairy Short-Horns, Hiantone, N. Y., write us:

Our breeding bull, Joe Johnson, is doing finely, and has got the nicest lot of calves we ever had dropped on our farm. Our cows are averaging 35 lbs. of milk a day, and our heifers are a promising lot, and are sure to outdo the cows at the same age.

The tenth annual sale of Short-Horn Cattle from the herd of Mr. H. F. Brown, Minneapolis, Minn., was held in that city May 23d, and was largely attended. Thirty-six animals were sold, the total amount realized being $15,300, an average of $425 each. The highest prices were:

Waterloo Wild Rose, bull, Capt. Purcell	$1,000
Wild Rose Duke 18, J. F. Seeley, Minneapolis	1000
Duchess of Priory, Gov. Merriam	1000
Wild Lady Ad. G. P. Burnett, River Falls, Wis.	900
Lady Worcester of North Oaks, J. C. Rea'er	600
Waterloo Duchess, Horace Lowry, Minneapolis	600
Pearl Duchess, do. do.	500
Duchess 6th, Gov. Merriam	500
Ursaline 5th, do.	475
Lady May, P. B. Winston	450
Dorothy, Gov. Merriam	500
Ancemone 3d, J. J. Hill, St. Paul, Minn.	500

Mr. W. B. FASIG'S sale of Trotting and Pacing Horses at Cleveland, O., Driving Park, was attended by about a thousand persons, including prominent horsemen from many sections of the country. The noted horse Guy (3 12) was sold for $39,750, but was bought back by his owner—Mr. W. J. Gordon—at an advance of $1,000; Clingstone was withdrawn from the sale. The highest prices were:

Guy, b g., 9 years, by Kentucky Prince—Flora Gardner, H. A. Stephens, Cleveland, O.	$39,750
Sulema, b. m., 5 years, by Electioneer—Sulka, J. A. Madden, Lexington, Pa	10,100
Clara, ch. m., 9 years, by Leland—Avelon, J. H. Haiches, West Chester, Pa	7,000
Calhoun, b. h., 6 years, by Pilot Wilkes, C. A. Hodges, Battle Creek, Mich	4,000
Mambrino Sparkle, b. m., 11 years, by Fisk's Mambrino Chief—Kate Sparkle, H. M. Crouch, Minneapolis, Minn	3,000
Hartford, b. h., 9 years, by Harold—Judge, D. M. Crouch, Minneapolis, Minn	3,750
Shoo, Knows, blk. g., by Kentucky Prince, Bayard Thayer, Lancaster, Mass	3,100
Silvia, ch. m., 7 years, by Kentucky Prince—Tuberose, C. J. Hamlin, Pepple, N. Y.	3,000
Charlie Friel, ch. g., by Allie Wert—Old Lady, Geo. Kotcham, Toledo, O.	2,900
Sir Archy, b. h., 7 years, by Altitude—Molita, F. R. Abbe, St. Paul, Minn	2,800
Colonel Clay, b. m., 7 years, by Victor Knight, D. M. Crouch	2,100
Nobby Jr., br. g., 13 years, by Nobby—Fanny Rawlins, John Splan, Cleveland, O.	2,000
Patience, b. m., 8 years, by Leland—Lady Redmond, Hemphill & Hobbs, Baltimore, Md.	2,000
Christine, b. f., 3 years, by Onward—Parepa, C. J. Hamlin	1,000
Overture, b. m., 7 years, by Onward—Nashville, O. W. Handenbrook, Reading, Pa	1,775
Banjo, b. m., 4 years, by Onward—Peter Williams, Edward Apple, Rochester, N. Y.	1,100
Tolmeta, b. m., 5 years, by Onward—Sallie E. J. S. Coxey, Massillon, O.	1,000

The Grazier and Breeder.

Mule-Breeding in the South.

Eds. Country Gentleman—The mule is the favorite work animal in the South, and it is strange that it should not be in the North, considering its hardiness and strength and the ease and cheapness of feeding it. It is an exceedingly docile animal, playful as a kitten, and full of monkey tricks, which at times are ludicrous in the extreme. Its alleged viciousness is not natural, but the result of bad education. A mule and a "nigger" are supposed, in the South, to be made for each other, and there are certainly some resemblances in disposition between a darkey and a mule in regard to playfulness and mischievousness, and a sort of natural doggedness in the accomplishment of hard labor by the most patient but slow endurance. They are both suited to the southern climate, and certainly match very well together. But both being full of tricks, one teaches the other, and thus the exuberant frolicsomeness of the young negro boys is very quickly taught to the young mules, who are very apt in learning how to use their hind limbs on the slightest provocation. From experience, however, I know that young mules may be trained to be as docile as a horse colt, as gentle and tame and as free from all viciousness, and that the alleged habit of kicking is only the perverted natural inclination to frolicsomeness, whereby the animal is taught first to use its heels for self-defence, and then for revenge. A three days' old mule colt, now with its dam in a pasture lot, amuses itself by standing first on its hind legs and then on its fore legs, shaking the disengaged members in the air, and then trying to seize the mare by the back of the neck and shake her in mule fashion.

I mention these things to show that a mule is not any more vicious than a horse, naturally, and that with equally judicious treatment a mule may be as docile and gentle as a horse, while it is naturally less nervous and much more patient, persevering, resolute and dogged in disposition when at work. Very much of the value of a mule depends upon breeding. There are as great differences in mules as in horses, and these depend mostly upon the breeding. Locality, climate and feeding of course have their results, which are to be considered in regard to quality and the cost of rearing. Mules are reared for sale in the South, and the rearing is a special business in that central southern locality which comprises Western North Carolina, East Tennessee and Kentucky. The mules reared in the mountain region are considered the most valuable, other things being equal, on account of their hardiness, toughness and constitution. And certainly there is no place on this continent where mules can be reared more cheaply than in the mountain country. From keeping strict account of the cost of a pair of young mules, now 3 years old, I find it to be not more than $95 each, while the market value is $75 each, and would be $100 had they been better bred at a cost of $8 to $10 each more. As is very common with horses, the breeding of mules is unskilful, a poor, cheap jack and common cheap mares being used. Large mules are the most valuable, the usual prices ranging from $75 for 14½ to 15 hands up to $150 or $200 each for 16 hands and over, and the difference is mainly in the breeding, the feeding being of small account where hay can be made for $3 to $4 per ton or less, and oats and corn grown for 20 cents a bushel, and where the six months' summer keeping costs absolutely nothing that can be figured over and above the fencing of a range that costs only $2 to $3 per acre.

Mares of at least 15¼ hands, well built and of good constitution should be used as dams, and a jack of 15 hands for a sire. Feeding will do the rest. A very good jack can be procured for $300, and the mares can be procured from city stables where the rough streets very quickly make a good many tenderfooted, and these are sold off at very low prices. The cost of stocking a breeding farm consists mostly in the value of the land, and it is evident that cheapness in this respect is a most important item, also the possibility of getting summer feeding at a nominal cost. In the mountain region these advantages are such that mules may be reared with more profit than anywhere else I know of. For instance, a tract of good fresh land may be procured for $3 or $4 per acre of 1,000 acres or more; 200 or 300 acres may be deadened for $2.50 per acre, and set in orchard grass for as much more. Fencing costs about 75 cents per 100 rails laid up, so that a range sufficient for feeding 50 or 75 head during the summer, and grass for hay and corn for feeding can be grown on the deadened land for the cost previously mentioned. The mildness of the winter permits pasturage nearly the whole time, and when shelter is thought desirable it can be procured very cheaply in the form of sheds easily put up. A very profitable beginning can thus be made in the very heart of the mule-breeding region, and within 25 miles of the cotton country of North and South Carolina and Georgia, where the best markets for mules exist.

Mule breeding in Virginia cannot be made quite as profitable as it may be farther south, but as a correspondent (G. J. M.) desires information about this industry in that region, I would say in reply that there is always a sure market for mules at good prices. A mule brings $20 or $25 more than a horse any time. Virginia-bred mules may be sold in Jersey City where there is a large dealer, whose card I have seen in the business columns of the Country Gentleman, and whom I know personally; and this is by no means the only market for them. I do not know of any book especially devoted to the breeding and rearing of mules, but the special treatment of mules is in no way different from that of horses. Blue grass is prevalent all over Virginia, in the Piedmont region as well as in the mountains. Fauquier County is an excellent grazing locality east of the mountains, and Wythe County at the southern part of West Virginia has splendid blue grass pasture lands, but the land is almost too valuable for this business. The mountain region south of Virginia, through North Carolina, East Tennessee and Northwest Georgia I think offers the very best opportunities, which are certainly more favorable for rearing mules than for cattle. A mule can be reared for almost as little cost as a steer, but is worth three or four times as much at three years old.

Macon County, N. C. HENRY STEWART.

Various Questions about Feeding.

[Answers by Prof. E. W. Stewart.]

Price of Bran.

I see that you state that bran can be bought in Buffalo at $12 per ton. I wish you would give the address of the firm selling at that price. I pay $18 for it here. J. G. B.

Central Square, N. Y.

It is well that J. G. B. should inquire into the necessity of paying $18 per ton for bran. We mentioned the price in Buffalo as it was generally quoted in the city papers. It is always well in buying feed at low figures to write for quotations to several firms who deal in the feed, reminding them that you are seeking the lowest price from several dealers.

B. should also learn the cost of a car from Buffalo to his place, a little over 200 miles. He easily ascertain that at his station.

We give the names of three firms who will no doubt send him a sample of the feeds they will sell if he asks it. Cutter & Bailey, 143 Washington St., Harvey & Henry, 106 Chicago St., Thornton & Chesley, Erie St., Buffalo, N. Y. Of course they sell at the lowest rates only full carloads in bulk, and according to quotations bran can be purchased at wholesale in Buffalo for $13 per ton.

Weaning Colts at Three Months.

I have a mare to foal June 9. She must be taken away on Sept. 15, the colt then being a little over three months. I want to do my best for the colt. How shall I treat and feed him to make up for his losing his mother so young? L. *Providence, R. I.*

A colt to be separated from its dam at three months old should early be taught to take other food, and the food most nearly like the milk of its dam is cow's milk. It will be well to accustom the colt to early handling, so that it will take kindly to anything offered it to eat. At two or three weeks old teach it to take a little new milk from the cow once per day, not more than a gill. Give the milk warm with a little sugar in it. All animals are fond of sugar, and if a small lump of sugar is given to the colt first, it will assist in teaching it to take the milk.

At a month old it may be fed warm skim milk, stirring in a little wheat middlings—only a spoonful in a pint of milk. An excellent ration for a young colt will be warm skim milk with a spoonful of flaxseed jelly and a little wheat middlings. This jelly and middlings may be gradually increased in quantity, and after the colt is past month old, if milk is difficult to obtain, the colt will easily be taught to eat a mixture of ground oats, wheat bran and a little flaxseed jelly, just enough of the jelly to regulate its digestive organs, and keep it in a healthy condition. It will very soon learn to eat with good appetite, and when time of weaning comes at three months old the colt can be made to grow right along as if it had the milk of its dam. Of course the colt will learn to eat grass before it is weaned, and with the extra food mentioned will make a steady growth afterward.

Increasing Flow of Milk.

We have a finely-bred young cow, 4 years old, whose food seems to conduce to flesh and fat formation. Her food has been about two quarts ground oats and bran, proportions half and half. We have put her on common pasture, with a feed of alfalfa night and morning—no grain. Will bran or a course of laxative medicines help her toward an increased flow? *Hagerstown, Md.* D. & McD.

This case is not an uncommon one. The inquirer should have stated whether this cow had been a good milker at any time. We must infer that she has been a scanty milker since dropping her first calf. If her habit has become fixed to lay on fat with any extra food she may get, then it will be very difficult to change this habit. If she has ever given a good flow of milk, there may be more hope of bringing her back to that condition again, and this will best be done by a meager diet, having a large relative proportion of albuminoids; and we think her present feeding upon common pasture, with alfalfa hay night and morning, is about as good a ration as they can give her. The pasture grasses have a large proportion of albuminoids, as also does alfalfa hay. If she had not the alfalfa hay, we should advise a few pounds of coarse bran. She does not need any medicine.

2. This cow undoubtedly gives very rich milk, and if D. & McD. test her quality of milk, it may tend to reconcile them to the quantity. Let them keep up this system of moderate feeding with a nitrogenous ration, and it will be likely to bring about the best attainable result.

Grain on Pasture.

There is one point upon which I desire information: Whether bran or mashed grain should be fed wet or dry when fed to cattle that are out to pasture in the summer time; and if wet, whether with cold or hot water or steamed. *J. W. Sackville, New Brunswick.*

J. W. appears to take it for granted that the grain, in whatever form, is to be fed alone. But why should we feed grain alone on pasture more than in stable? If it is most economical of food value to feed ground grain, bran, &c., mixed with some cut coarse fodder, then must it not be most economical on pasture also? The most economical way to feed bran or ground grain to cattle on pasture is, to cut and feed one-half the weight of hay that you do of ground feed. The hay is moistened, and the ground grain and bran are mixed with it, and if the stock is fattening cattle, then it is best to feed it at evening, so that they may depend upon pasture through the day—but if it be to milch cows, then feed one-third in the morning and two-thirds at night.

To illustrate: To milch cows that are to be well fed, give 3 lbs. moistened cut hay with 6 lbs. of bran or ground grain—better 3 lbs. bran and 3 lbs. ground oats and corn, or ground oats and peas. This would be an excellent ration for full milk on moderate pasture.

2. If the bran or ground grain is to be fed without the cut hay, then it should be fed dry, because it will be better masticated, causing a larger flow of saliva if eaten dry than wet. Bran will do better fed alone than ground grain, because more bulky or less concentrated. We always recommend that ground grain, if it must be fed alone, should be fed dry.

Ration on Pasture.

Please give us a cheap auxiliary grain ration to feed in connection with good red clover and timothy pasture. Our cows are Jerseys and grades, and object is butter, which averages us 27½c. a pound for the year. Corn and oats, ground, $15; H. P. oil meal, $32.50; bran, $14; middlings, $16. G. & S.

Burton, Mich.

McB. will find a number of auxiliary rations given on pasture lately published in these answers. But as his foods may differ in price, we will give him the following: 3 lbs. cut hay, 2 lbs. ground oats and corn, 2 lbs. wheat bran, 1 lb. O. P. oil meal.

The hay is prescribed to mix the ground feed with, and thereby cause a more perfect digestion

While the pasture is flush this will be a full additional ration, and it should be given in the stable, one-third in the morning, two-thirds at night. This will keep up a steady flow of milk through the season, at least while the pasture is reasonably good. If the pasture should become very short, let him add 1 lb. and perhaps 2 lbs. bran. It is not necessary to add more hay. This ration will be well paid for in the extra amount of butter produced through the whole season, and the cows will be ready to continue a fair yield of milk when they come to the barn in the fall.

2. Starting with good cows, then good feeding brings out their best qualities, and this good feeding must be continuous, and not for a short time, intermitting with a scanty ration. But it must be understood that good feeding does not mean crowding the appetite. It is safer to under-feed than over-feed. The digestive capacity of the cow should be carefully watched by the feeder—never cloyed the appetite. This is a cardinal principle.

A Talk about Swine.

Eds. Country Gentleman—One of your subscribers, at Almeda, S. C., writes me that he wants the best breed of hogs; is bewildered by what he has read, each writer asserting that a certain breed is best, until the full list of breeds is gone through. He has bought ten Poland-Chinas; now comes a letter from a man in Georgia, telling him that he is all wrong, and that he ought to have gotten Berkshires—at the same time advocating a cross of Berkshire and Jersey Red (both to be registered stock). Therefore, my correspondent asks what are the points in favor of Poland-Chinas, of Berkshires, of Jersey Reds and of Essex; what are the benefits of crossing, and what is the best cross for largest amount of pork in a given time from a given ration; my choice, and why; what is the best work on hog-raising, &c.

Now I want it understood that when I give my opinion of the several breeds of swine, I do not think that the man who does not agree with me is a fool. Every breed will always have honest champions to declare that it is the best. I believe that in some point or points every breed of swine is superior to every other breed. But I also believe that when an average of all points is obtained, it will be found that the Poland China is the best breed. I have found it so. Others have found the Berkshires, or the Duroc-Jersey, or the Chester White, or the Essex, or the Duroc, best. This difference of opinion arises from the strain bred or characteristic most desirable to the breeder.

For example, the breeder who desires large litters above any other one thing, will likely prefer the Duroc-Jersey hog to any other. It is certainly the most prolific hog. Litters of 16 to 18 are by no means uncommon. I have known herds of Duroc-Jersey sows to average 14 raised pigs to the litter. This is one-half more than you will get from Berkshire or Chester White sows, and nearly twice as many as you will get from Poland China. The Duroc-Jersey sow is a good suckler and a careful mother. I believe her fruitfulness is largely due to her not being so highly bred. The Duroc-Jersey is a coarser animal than the Berkshire, Chester White or Poland China, and not quite so much disposed to lay on fat. Nor is it quite so early maturing, though it can easily be ripened for market under twelve months of age. I don't believe there is any breed of cholera-proof hogs, though I do believe that a hog rightly bred, fed, watered and housed, will often resist the microbe of swine plague; and it has been my observation (there has been no swine disease on Glenwood Farm for 10 years now, though often separated from our swine by only an open fence) that Duroc-Jersey swine were slower to contract disease than any other swine, though when swine-plague gets a good whack at them they die like flies. The Duroc-Jersey is not easily thrown off its feed, is not fastidious about its food, is a good grazer and rustler, and is not so much affected by change of weather as are some. Hence it commends itself to the man who has large herds in large fields, and who does not wish to give extra good care and attention. It must not be inferred, however, that the Duroc-Jersey is not grateful for the best of feed, shelter and care.

The Poland-China has been naturally changed by breeding during the past quarter of a century. Put a Poland-China of the sixties in a herd of Poland-Chinas to-day, and the hog of the sixties would appear to be a

rough, coarse, long, lank animal. The Poland-China has been bred smoother, more compact, more inclined to lay on lard, and with a disposition to mature somewhat earlier. Some strains have been bred farther along these lines than have other strains. Hence there is quite a difference among Poland-Chinas. Within this State, or many others, I can get animals of this breed that will differ in possible weight by one-fourth, in time of ripening by as great a difference, and in other characteristics by margins equally great. This is not because the Poland-China is not well bred, or has not been bred toward similar ideals, for it is well bred and has been bred toward a common standard. But some breeders have progressed more rapidly and wisely than others. These differences among Poland-Chinas are responsible for no small part of the difference of opinion about the breed, and they should always be considered by the intending purchaser with reference to his peculiar wants. As for me, I want a hog that will make a ripe animal of 250 to 300 pounds weight at nine to eleven months of age, and that is smooth, round, and dresses first-class pork. Hence I want a Poland-China of the most advanced breeding. The man wanting a larger hog and a better rustler, and not so particular about smoothness and early ripening, should select a Poland-China nearer the type of twenty-five years ago.

The Berkshire makes finer pork than either the Poland-China or the Duroc-Jersey. If you can build up a special market for your pork among those willing to pay extra for extra good hams and bacon, it will pay you to use the Berkshire. There are "big Berkshires" and "little Berkshires." This means, I suppose, that among Berkshires, as among Poland-Chinas, some strains produce larger animals than others. I have seen Berkshires as large as Poland-Chinas; some much less. I would choose the medium-sized Berkshire. The Berkshire is active, a good grazer, not easily thrown off its feed, blessed with a good digestion, matures very early, is smooth and plump, and the sows are careful mothers, good sucklers, and in size of litter second only to the Duroc-Jersey.

As to the advantages of crossing: For feeding, a cross of Poland-China (male) on Duroc-Jersey or Berkshire (sow) gives an animal superior to a full-blood of any of the three breeds. By the first cross, we get larger litters than from Poland-China sows, and better mothered; of pigs, better feeders and rustlers than Poland-Chinas, not so easily affected by the weather, and smoother and more easily ripened than Duroc Jerseys. A cross of the Poland China on the Berkshire makes a somewhat better feeding hog, but the litters are not quite so large. Always only one cross should be made; the produce is for feeding only, never for breeding.

Space warns me to stop with this. I have written honestly, though I may have made mistakes. Some will be sure I have. I can easily find Poland-China breeders who will not admit that there are differences among Poland-Chinas; Berkshire breeders who are sure the Berkshire is the most prolific hog on earth; and so on. I can only say that what I have said is the result of a wide acquaintance with and observation of the breeds named, as a grower of live pork. JOHN M. STAHL.

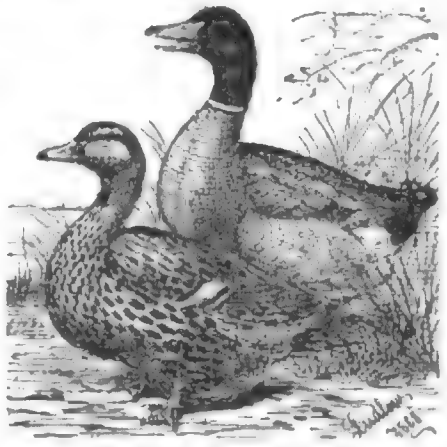
Adams County, Ill.

The Poultry-Yard.

Rouen Ducks.

Among those who keep ducks for exhibition the Rouen is certainly the chief favorite. This is scarcely to be wondered at when the variety of markings, richness of color, and large size to which specimens attain, are considered. Some of the classes seen at the great shows are simply enormous, and in not a few of these the task of selection is by no means easy, for there are so many which come so near alike in quality that it is only by means of a rigid adherence to the canons laid down that selection can be fairly made. The value of the breed in the economic production for the market is very great, but it cannot compete with the Aylesbury so far as the early markets are concerned. The latter matures very rapidly indeed, while the Rouen is much slower in its development, and during the earlier weeks of its life is engaged more in the making of frame than of flesh, but grows to a much larger size than is ever reached by the Aylesbury. It is most largely used for the breeding of the later ducklings and for the supply of ducks for the autumn and winter. The flesh is excellent, full of flavor, and when the duck is fully grown very abundant.

So far as the name of the variety is concerned, that is—like other poultry cognomens, such as Hamburghs, Polish, Toulouse geese, &c.—a corruption. Ducks are undoubtedly bred very largely on the lower banks of the Seine, but there are very few indeed which bear any resemblance to the English Rouen duck. Of course, as the plumage is that of the Wild Mallard, there are some which have markings in some slight degree approaching it, but there is no general character to indicate that this name is the correct one. It is also stated that the term is a corruption of "Roan," or the French rouen, and further that the word "rowen" was applied to fields kept up till after Michaelmas in order that the corn might sprout into green. It is possible that ducks fattened on these fields came to take the name, and that the present spelling is the same with the central letter altered. But these are all matters of speculation, as there appears to be no certainty as to the exact derivation of the term.



A GOOD PAIR OF ROUEN DUCKS.

In appearance the Rouen is very handsome indeed, and the richness of color added to the variety of markings make him the most beautiful of the larger varieties of duck. The secretary of the Waterfowl Club has written that the general shape of the Rouen should be deep and massive; the head large and well-shaped, rather "snaky" in appearance; the bill large and flat, tapering gradually, and almost in a line with the top of the skull, totally different from the short, thick bill of of the Pekin; the neck is of moderate length and gracefully carried; back, nicely arched and broad; keel, deep as possible and very even, *i. e.*, as deep in front as behind. Deep-keeled ducks are none too many.

Like the Mallard, the Rouen drake adopts in summer a garb resembling that of his mate, for it is characteristic of all the colored varieties of ducks that the drake has the richer plumage, the ducks being usually very "homely." The description of the duck given below may be taken for that of the drake in summer, but in winter he has a different appearance. The head should be a rich metallic, purplish-green, exhibiting different shades with every motion; the eye a deep brown, almost black, small and intelligent; bill, a very pale, yellowish green, not yellow, tipped with a black beam. A band of pure white encircles two-thirds of the neck in front, and the green should not extend a single feather below this, either behind or in front; the ring, as it is called, should be well defined, and about a quarter of an inch wide, as a wide ring is regarded as very objectionable.

Coming to the body we find that the breast is a deep claret, of the richest color, and free from what is known as chain armor or the claret feathers running white round the edges; the edge of the white ring at each side of the breast should be in an exact perpendicular line with the edge of the claret, the latter being well defined, and not mixed with the water feathers. Behind this ring, and joining the green of the head, the feathers should be of a very dark grey, running into a deep lustrous green down the back, and terminating in two curled feathers, which are characteristic of all drakes. This green is several shades darker than that on the head. The wing feathers are a very deep dark grey, with a distinct "ribbon" of purple green, bordered with narrow bands of white and black striking across them; the tail is dark brown or black, the latter preferred; the underneath or water feathers are a beautiful French grey, with minute wavy brown lines running across them, giving a most pleasing appearance. This grey color, which should be even and free from brown feathers, extends almost to the root of the tail, a crescent of very dark fluffy feathers fitting under the latter; the legs are thick and strong, and a very bright dark orange; toe nails, black.

The duck in shape resembles her mate, though generally and naturally deeper in keel. The head is of a dark brown or chocolate, on the top shading lighter into the throat, but a really light-throated duck is objected to; two dark lines extend from the bill to the eye, and from thence into the neck, giving the duck a striking appearance; the eye is rather lighter than that of the drake; the bill, which is an important point, should of a rich, dark orange, with a saddle or "splash" of black on the upper part. This splash should be black on the top, but should not touch the edge of the bill, the ground color of orange being distinctly visible at the edge. It should also not be too large. The breast, flank, back and general plumage are light chocolate or clay color, distinctly pencilled with a deeper shade; the breast is generally lighter than the rest of the plumage, but a dark or sooty duck is regarded as being very objectionable. The wing shows a ribbon similar to that on the drake, but the white band on it must not be too deep. The legs and feet are like the drake. Wings in both drakes and ducks must be tightly carried, but never crossed over the back, a fault which appears to be more apparent in some strains than in others. Rouens do best with freedom, and where they can have this they do well. They are of little use for killing until well grown, and as I have already said are better for supplying the autumn and winter markets than for spring trade. They are prolific layers of large pale green eggs, and the young in down are brown and yellow, with yellow legs. STEPHEN BEALE.

Cause and Cure of Gapes.

ED. COUNTRY GENTLEMAN—Mr. Tyson, p. 369, is mistaken in his view of the cause of gapes. The natural history of this worm is well-known, and it is quite different from that suggested. What is meant by "vermin" is not clear, nor is the difficulty helped by the statement that they are bred by dirt and filth; but one might suppose that some kind of lice or other insects are meant. Some years ago Mr. Halstead of Rye, N. Y., gave a very circumstantial account, much like this, of the lice on the fowls laying eggs which hatched into worms which caused the gapes, and this is probably the basis upon which Mr. Tyson builds up his belief. But an insect cannot produce this worm, whose character is well-known, and of which there are several species that infest young animals of various kinds and old ones as well, but not so disastrously. There can be no doubt that the worms which kill the chicks are derived from eggs picked up by the young creatures and abundantly scattered about the places where poultry have been kept, and that greasing the heads of the chicks is a wholly futile precaution. As long as my poultry yards were plowed two or three times a year, and the young broods were kept in the garden where no old hens were permitted (except the brood hen with the chicks, and she was cooped) this disease never appeared in my flocks. This sole precaution—fresh clean ground—is completely effective. H. STEWART.

Geese, p. 389.—I put them out in grass yard and give them plenty of water, as they prefer grass to anything else. As soon as they are strong enough, I turn them into a pasture field, and have had better success than when I fed them. I give my geese 11 eggs at setting—think that enough. I have not had much experience with any particular breed, as mine are the ordinary kind, weighing when grown 10 to 13 pounds apiece. I bring them up at night and shelter them in rain and storm as they drown easily. A. D. T. *Petersville, Md.*

Egg-Eating.—When hens eat their eggs, is it a sign of disease or simply a bad habit? Can you do anything but kill the hens? R. S. B. *Glen Ridge, N. J.* [Usually a habit, growing out of close confinement and idleness; sometimes it is caused by a craving for egg-material not found. Give the hens free scratching range, and if this does not cure, then the ax. When occurring in winter, a nest has been devised with a double sloping floor which lets the newly laid egg roll out of reach of the hen.]

The Dairy Department.

Bottled-Milk Delivery.

ED. COUNTRY GENTLEMAN—Being in the retail milk business I have been much interested in the few articles in your paper on "Bottling Milk," but am sorry the writers did not go more into detail regarding their methods.

For some years I delivered all my milk in the usual way, carrying a nine-quart can from house to house, and measuring from that what the customers wanted. Quite a number of customers did not have ice during summer and these, with others who did, wanted their milk delivered night and morning. I delivered night and morning until I found that the cost was altogether too much, when I changed and delivered all in the forenoon. With this method of delivery I had a great many complaints; the milk soured easily, cream did not rise, sometimes it was churned, forming small lumps of butter, and much sediment was often found at the bottom of dish. In regard to the cream not rising, I found, by experiment, a difference of fourteen to eighteen per cent between the percentage of cream from milk first taken out of a thirty-quart can, and that taken out last. The cream did not rise, not because the milk had been churned too much, but because the cream was not there to rise. The shaking it had while on the road was not sufficient to prevent the cream rising toward the top and thus being delivered to the customers served first. Those served from the last in the can had partially skimmed milk.

To avoid all these difficulties, I adopted the bottle system and have been using it just a year. It has many advantages over the old way, yet I am far from satisfied. Let me describe my method. The milk, as fast as drawn, is strained into thirty-quart cans standing in running water. I have no aërator for I don't know where to get a good one at a fair price. When all is drawn, the milk is carried to the milk-room, poured into ten-quart spout cans from which the bottles are filled one at a time. I use pints and quarts so that the customers can have just the quantity they desire. The bottles stand on a table and when filled are corked or covered, rinsed with cold water and put into boxes holding ten quarts or twelve pints, ready for the wagon. In summer the night's milk is kept in cold water or in a cool room, and delivered by seven o'clock the following morning. The morning's milk goes out a half hour later.

There are a number of objections to the bottle system, but all on the seller's side. The bottles are liable to be broken. When customers break them through carelessness, I oblige them to pay damages. It is quite a chore to wash the bottles. You have to do it yourself; otherwise they will not be washed clean. I gently insist upon the bottles being thoroughly rinsed immediately after the milk

is poured out, and this greatly facilitates the washing. The water I have to use for washing is quite hard, so I use crude potash at six cents per pound, in place of any soap. It takes quite a little time to fill the bottles, especially when but one can be filled at a time. Then putting the covers on takes more time. However, much of this lost time is made up by quicker delivering on the route. Notwithstanding all these drawbacks, I fully believe the bottle system to be the only one whereby first-class milk can be delivered in a perfectly neat and clean manner.

I am now looking for a perfect aerator—one that thoroughly and quickly cools the milk and can easily be kept clean and sweet.* I also wish to see made a machine for filling eight or ten bottles at a time; that fills them full and no more, and that does not cost more than it is worth. I think there can be made a bottle that costs much less than those made at present, and a machine to go with them that fills and puts the covers on. When these material costs are reduced, the bottle system will be more generally used, the milk business will be raised to a higher standard, and the public as well as the milk-seller will be better content.

To perfectly satisfy the public with milk is nowadays a very difficult task. I find that many seemingly intelligent people are very ready to blame the milkman for everything that is wrong with the milk, when rightfully the trouble is only the fruit of their own ignorance. Milkmen complain of the "dog-life" of "peddling" milk, and the small pay there is in it. I find that it is just about as one makes it, and the longer I am in the business the more do I blame the milkmen for their hard lot.

Because our forefathers reduced the price of milk May 1, and increased it Oct. 1 or Nov. 1, is no reason why we, with later seasons, should do likewise; and yet I have heard milkmen give this as their only reason for the change, when they were feeding their cows just as much grain and hay as in the middle of winter. When my cows go to pasture and I stop feeding grain, so possibly reducing the cost of making milk, then do I believe in reducing the selling price; and when by reason of short pasturage I am obliged to feed grain, then do I think the price of milk should be raised. This I believe the only legitimate and honest way of fixing the price of milk, and if all milkmen would hold to it, they could get their winter prices much longer than they do at present. I can call to mind no case where there is such a glaring want of organization and co-operation as there is in the retail milk business; and the sooner milkmen do organize and stop this reckless cutting of prices, the sooner will they receive just rewards for delivering milk every day in the year, Sundays by no means excepted, rain or shine, hot or cold—certainly a tedious task.

I hope to see in the columns of this paper an expression from others regarding these points, and I also hope to learn of their experiences in the bottle system of delivering milk.

Hartford County, Ct. THEO. A. STANLEY.

* See description of a device in successful use by Mr. Drew, Austen of Glencoe, Md., in editorial on page 476.

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association

NAME.	SELLER.	BUYER.
Abe Mercedes, Cross Bros.	S A Logsdon	
Aggie 4th's Lambert, J Alba, J Klein		
Bellevue Buster, J H Rhodes & Albert Rensselaer Kreentje, W C Wanson, H L Thompson		
Billy Clifden, Cross Bros.	B H Marsh	
Bridegroom, F K Wolcott, W Miller		
Captain's Rhodes, J G Prince, F W Hoest		
Cora Prince, J D Prince, F W Schwanzlee		
Clark 2d, W Wallace, R Woodway		
Dairsie's Billy Boelyn, E Huidekoper, S C Wakefield		
Edgewood Lad, D & R A Chapman, G W Wells		
Forster's Netherland, J B Dutcher & Son, F P Hoag		
Friesland Lothair, F H Haverty & Co, F W Webb		
Gem of Oak Lawn, Estate of S S Mann, A J Mann		
Grandson, J G Merrick, F Nees		
Grandpa Roy, F D Barker, W S Sawyerns		
Guy Mercedes, Cross Bros, C A Tawney		
Jerry Mercedes, Cross Bros, W H Newton		
John Hunewell, S Phillipsy, M Seltzer		
Lord Marworthy, J L Taylor & Son, F E Wheeler		
Lunar 2d, A Meyers, R C Lybrand		
Major of Winfield, J F Boyce, W Reybold		
Mercedes Abel, Cross Bros, S J Meyer		
Nigger, W S Smith, W S Smith & Son		
Pet of Clarion, J A Miller, G W Davies		
Pietje's Prince, J W & A M Challcross, J H Frenchon		
Prince of Wayne Wood, A & L Harris, B C Tharratt		
Quinn, C F Stone, G W Romere		
St George Netherland, C H Warren, H Clayton		
St Germain, A C Miller, J Gilchrest		
Tattyrevan's Bellingham, T A Moore, H J Durfee		
Viola, F E Boardman, G W Rated		
Violet Cornpe Boelyn, E Huidekoper, Tutt Bros		
Aaggie Beeetia, Estate of John Liver, Cora Liver		
Afra Frantjes, F F Woods, C H Chapman		
Armada, G M Shattuck, J Miller		
Baroris, W L Ewing, T R Cobb		
Brandina, Bidwell & Perry, J Dobbel		
Brazmen Maid, Estate of S S Mann, A J Mann		
Brennie, N B Jenkins, A H Perkins		
Carnation 2d, Estate of John Liver, Cora Liver		
Cassie Hackendorn 2d, C N Bates, W S Smith & Son		
Castor's Isabella, I T Hasen, F F Woods		
Cherry of Pacific, Bidwell & Perry, J Dobbel		
Clytemnestra, M B Jackson, H C Dennis		
Dallie Corgell 2d, J W Settle & Co, C M Gooch & Co		
East Lake Queen, H W Fenner, J Gilchrest		
Emma of Pacific, Bidwell & Perry, J Dobbel		
Fontaine 2d, J W Settle & Co, C M Gooch & Co		
Frenetia 2d, F F Woods, C H Chapman		
Friesland Florinda, F H Hagerty & Co, F W Webb		
Goldria, J H Rhodes, H J Hamlin		
Hallie J, T F Judd, C Dohrenwend		
Hamshire Maid 2d and Hendrikjen 2d, J S Mann, R W Hanger		
Hilda of Pacific, Bidwell & Perry, J Dobbel		
Holly D, T R Judd, C Dohrenwend		
Isabelle Scott, I T Hasen, F F Woods		
Jattie Lee 2d, W R Baldwin & H F Baldwin		
Kentucky Belle 2d, Estate of J Liver, Cora Liver		
Kitty Huntress 2d, J B Settle & Co, C M Gooch & Co		
Lady de Vries, D Hollinger, J P Wade		
Lizzie Huntress, J B Settle & Co, C M Gooch & Co		
Maid of Clinton, Smith Bros, J Gibbs		
Mohak Lora, R R Cox, G F Carter		
Miss Grace, I T Hasen, F F Woods		
Miss Martin, J S Mann, R W Hanger		
Mottled Beauty 2d, S E Boring, S C Wakefield		
Muse Dora 2d, O Hill, T G Yeomans & Sons		
Ossie, J H Rhodes, A McFee		
Parthella, N B Jackson, A N Peckham		
Philadelphia Signet, S A & L Hoxie, F Fear		
Plume 2d, G M Shattuck, J A Miller		
Pride Maid, N B Jackson, N C Dennis		
Princess Beatrice 2d, B G Lord & Son, S B Howard		
Princess Rosecrest, R R Cox, G F Carter		
St Calumus, N B Jackson, A N Peckham		
Sara Smith, J S Hartman, G V Buchanan		
Spring Rosebery, N B Jackson, N C Dennis		
The Swan V 2d, Home Farm Fine Stock Co, G W Wells		
Tula, D Hollinger, J P Wade		
Vivetta and Vivetta 2d, C Hartley, J C Copestake & Son		

Iowa City, Iowa. T. R. WALES, Sec'y.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Son of Brookside, W L & W Rutherford, F F Dimond		
Biology, C S Taylor, P A Gratz		
Black Diamond Napier, I D Risher, J Wilds		
Bold Ben, S E Gillet, S E Hanks		
Brunette's Hinter, M H Church, A D McOliver		
Captain Murrell, C B Painter, J J Steed		
Captain Thomas, W Walling, I Parsons		
Coquette, W L & W Rutherford, C C Sheldon		
Croton's Signal and Croton's Torment, A J Wheeler, Big Spring Jersey Herd		
Dan Grady, J H Carter, L Blum		
Dolly's Duke, M O Spalding, H J Rush		
Dorothy's Prince, H E Bruns, C Corden		
Epicurean, C Hancock, P A Gratz		
Hilson's Khedive, J L Harrington, F B Ray		
Forest Lord, W B Montgomery, W H Mayfield		
Gilded Pogis, H Kelly, M W Lord		
Goldfinch, Richardson Bros, C S Hayes		
Hero of St Lambert, F C Sayles, Gray & Hardin		
Ida's Gordon Pogis, M C Campbell, Rogers & Hill		
John Bull's Pride, T R Proctor, H E Kinne		
Judge Gray, I Rose, M C Gray		
Lord Valden, H L Muldrow, I E Hogue		
Lucky Mirpeire, W H Montgomery, J Hayton		
Mary M Allison's Son, C W G Ecke, T F McGrew, Jr		
Morajah, W F Glenn, T L Myers		
Pogis Rogan, H G Wilmot, D Beatty		
Prince of Rowanton, J K Vincent, M W Dunn		
Prince Selma, H L Muldrow, M E Tate		
Red Ton's Marius, S E Gillett, S E Hanks		
Rhoder Kalbryar, H & K Chief, J Leach		
Rocketyfie, H Reeds, W T Williams		
Rose's Gold Coin, J B Geyer, W H Belden & T S Guyer		
Sabina Prince, T O Hourihey, I W Scudder		
Safeguard, Mrs A Yeomil, W W Hilton		
St Armand, W L & W Rutherford, Mrs F Holden		
Sardinia Chief, H P Hopkins, J A Orr		
Tordello, C Brown, J O Hall		
Tornado, M C Campbell, C H Davis		
Touchstone of C J Boyd, C H Davis		
Zelia, Mat of W O Teagle, Mrs E Swanson		
Albright 2d, J H McKay, G L Gibson		
Alda Enslyn and Alda Signalda, A J Wheeler, Big Spring Jersey Herd		
Alice Brand, W H Matthews, Matthews & Humes		
Allaring's Elsie, A W Stewart, T J O'Donnell		
Alphea Fancy, W J Hysham, A O Oberlin		
Analysis and Analysis M, S H Moore, Matthews & Moore		
Annabel Lee, W H Matthews, Matthews & Humes		
Beauty Helen, Beauty's Crescent, Belle Enslyn and Nell's Pet, A J Wheeler, Big Spring Jersey Herd		
Bertha's Queen, W H Hopkins, J Howarth		
Bessie of Cedar Creek, M C Allen, W C Addis		
Birdie Bright and Birdie C, T Caldwell, H J Bell		
Bliss S H Moore, Matthews & Moore		
Bonnie May, J B Castleman, J G Caldwell		
Brewer's Valley Queen, H Brewer, W M Charter		
Bute's Perfection, J B Castleman, J G Caldwell		
Canna Pogis, W Anderson & W W Rose, Trustees, A M Lobb		
Casilina, Mat of R L Briggs, J L Gessler		
Celia Pogis, C Wellington, F Alderman		
Champion Grace, A F Spaulding, V R Peirce		
Charlotte Brooks, S H Moore, Matthews & Moore		
Coomassie Amy's Pet, N Litsey, W A Tomlinson		
Coomassie Veda, S H Moore, Matthews & Moore		
Cora of Linwood, W E Matthews, Matthews & Humes		
Cream Puff, W H Hopkins, J Howarth		
Crescent and Star, Crescent Bright, Croton Maid, Croton Maid 3d and Croton Maid 4th, A J Wheeler, Big Spring Jersey Herd		
Crest's Alphea Belle, R F Southworth, C F Cooper		
Dainty Shotwell, Mrs B B Jackson, S G McLendon		
Daisy M, J T Moffett, A Jeffries		
Diana Carrazin, R C Knight, A V Mattison		
Duchess of Kent, S H Moore, M E Miller		
Hainsetta's Myra, P T Caillouet, H J Bell		
Ella G, W E Matthews, Matthews & Humes		
Estella, Mrs E A Wirrie, H J Bell		
Ernestina, W E Matthews, Matthews & Humes		
Eva's May, J S Geyer, W H Belden & T S Guyer		
Fannie Charlton, A J Wheeler, Big Spring Jersey Herd		
Fido's Beauty, S W Gillett, S E Hanks		
Flora Fancy and Florrie Fancy, J Moore, Jr, W Morrow & Son		
Franklin Wilson, Genie Walker and Gentina, W E Matthews, Matthews & Humes		
Gertrude 2d, J J O'Fallon, M K Butler		
Gipsy's Duchess, J C McClintock, S C Parsons		
Grace Allen, J B Washington, J W Cass		
Gwinthlean 2d, S Morse, J H Taylor		
Harry's Ida, T H Ives, L Blum		
Hilda 3d, Pet of H Towns, W F Emery		
Holden, P T Caillouet, H J Bell		
Jennie Winn, F A Semin, A M Estey		
Jessie Rich, T L Dodd, J Taylor		
Jessie's Rose, A J Wheeler, Big Spring Jersey Herd		
Julep, J D Wing, H J Parmit		
Kate Nero 2d, J Moore, Jr, W Morrow & Son		
La Dame Blanche, Mat of C Smith, C T Biter		
Lady Durham's Mattie, J D Wing, H J Parmit		
Lady Mazes, R C Knight, A V Mattison		
Lady Myron, P T Caillouet, H J Bell		
Lady Suleiman, E Brewer, W M Charter		
Lady Violet of Beulah, Mat of E Morgan, V A Goodwin		
Landpeer's Fancy, Webster & Morrow & Son, W J Webster & Morrow & Son		
Lettita 3d, J Moore, Jr, W Morrow & Son		
Lillie Harebell, A J Wheeler, Big Spring Jersey Herd		
Lily of Valley Farm, T S Manley, McCann		
Linda of Riverside, Judson Bros & E Moore, J H Taylor		
Little Goldie, W H Matthews, Matthews & Humes		
Lula M Heiler, C C Crane, S F Holly		
Madcap, J D Wing, H J Parmit		
Mary's May Alphea, J Arbuckle, A Cooper		
Matina Palestina, A C Pupcon, J A Thorpe		
Mattie Pearletta, J Moore, Jr, Maury Jersey Farm		
Maud Rex, J T Moffit, D Powell		
Medora Lass 2d, A J Wheeler, Big Spring Jersey Herd		
Minnie Ettie Rex, J B Castleman, J G Caldwell		
Minnie of Ashland 2d, E P Walker, W C Meyer		
Miss Berenice, S H Moore, Matthews & Moore		
Miss Rinign, A J Wheeler, Big Spring Jersey Herd		
Miss Tiny, T F Tyner, W Vernon		
Miss Juliet, S H Moore, Matthews & Moore		
Nannie J, W J Hysham, A O Oberlin		
Neonette Le Brun, A Garretson, Hamilton & Studsinski		
Nobbie Chere's Violet, R Litsey, J M Knox		
Nona Winter, W E Matthews, Matthews & Humes		
Nora Dew Drop, J B Castleman, J G Caldwell		
Nora Enslyn, A J Wheeler, Big Spring Jersey Herd		
North Wind, S H Moore, Matthews & Moore		
Oak Leaf's Beauty, Fairchance Furnace Co, R L Martin		
Okaw Belle 2d, J D Wing, H J Parmit		
Orange Pearl's Rose, J S Geyer, W H Belden & T S Guyer		
Orwell Maid and Orwell Maid 2d, Bat of D A Stewart, F A Semin		
Oscar's Lady, J H McKay, G L Gibson		
Pansy of Belmont, M E Strauch-McCall, A S Childs		
Perpetuan, S W Dewar, W McClintock		
Pet of Hillsdale, Fairchance Furnace Co, H H Kimball		
Poland Maid, J P McCabe, H Crowley		
Polly Wogs, A J Wheeler, Big Spring Jersey Herd		
Pride of Avon, J B Phillips, T B Hambleton		
Pythoness, R C Knight, A V Mattison		
Rioter's Jersey Belle, J D Wing, H J Parmit		
Roxy's Jewel, T F Haughey, J E Newhouse		
Sarah Lee, D H Barstow, A Flagg		
Signal's Chrome, J G Crevelling, L Moser		
Signilla M, S H Moore, Matthews & Moore		
Sunshine, A Shaw, Mrs C C Murray		
Surplice, J D Wing, H J Parmit		
Susan Lee, D H Barstow, O Cosman		
Suzie of Glynllyn 3d, E Morse, J Potter		
Sweepstakes Lass, A J Wheeler, Big Spring Jersey Herd		
Thanksgiving, Judson Bros & E Moore, S Smith		
The Maid's Gem, A J Wheeler, Big Spring Jersey Herd		
Toledo Blossom, G Vogel, J A & F A Robertson		
Violet of Glenwood, O F Fuller, S W Perkins		
Vivat's Pogis, M J Spalding, C S Cates		
Welcome Beauty's Spot, A J Wheeler, Big Spring Jersey Herd		
Yellow Ochre, Mrs M A Bigger, F A Semin		

I & I Brandreth, Syracuse, N. Y. T. W. WICKS, Sec'y.

The Grain of Salt.

A lady finding a beggar-boy at her door gave him a meal of coffee, meat, and bread and butter, which he put down in the space of ten minutes. A moment afterward, however, he rapped beseechingly at the door again, and on its being opened remarked with his hand upon his heart, "If I had but a little salt I should be perfectly happy."

Of course he got the salt.

Human nature is always lacking something. Oftentimes it were better off without its wishes, yet it is universally conceded that no permanent enjoyment can be had without the savor of health, which keeps good cheer fresh and preserves and sweetens life for the future.

The great, ruddy farmer pines because he has not won fame or position. The famous man longs for the lusty health of the sturdy farmer.

The grain of salt is wanting.

How to secure and retain the savor of health in the midst of this rushing, nervous, overworked generation is a problem worthy of our closest attention. It cannot be done with stimulants, which but spur on the overwrought nerves to fresh efforts, only to leave them more jaded and shattered. Nor with narcotics, which temporarily soothe, but to create an unnatural appetite, the terrors of which a De Quincy has so graphically portrayed.

It may be asked, What is the cause of this extreme nervousness, lack of appetite, long trouble, deficient heart action, failing eyesight, apoplectical tendency, &c. We reply, poisoned blood, caused by diseased kidneys, and the troubles indicated are, after all, but symptoms of advanced Kidney Disease, which is but another name for Bright's Disease. Unless remedied there will be a complete breaking down of the great blood-purifying organs, the kidneys, and they will be excreted piecemeal through the urine.

Now, in the spring of the year, owing to the extra work which has been put upon the Kidneys and Liver, through a meat diet during the winter months, these symptoms are more pronounced, and the danger is that the patient contemplating increased ills. It is therefore imperative that the poisoned blood be eradicated, and that the Kidneys be put in complete health, which can be speedily and effectually accomplished by the use of Warner's Safe Cure, a tried and proved specific in hundreds of thousands of cases.

Pursuing the path we have marked out, you will possess the salt of content, without which life's banquet is "flat, stale and unprofitable."

Record of the Times.

Review of Passing Events.

The Cronin Mystery.—Dr. P. H. Cronin of Chicago, a prominent Irish-American and ardent Parnellite, mysteriously disappeared May 4th, and his friends attributed it to a conspiracy of his political enemies. The police followed many clues and dragged the river. A horse thief told a story of a secretly buried trunk containing a mangled body. A resident of Chicago said he had met the doctor in Toronto. On the 22d some street laborers accidentally found, in the catch-basin of a sewer in Evanston Avenue, a body which was identified as that of Dr. Cronin. There were cuts and bruises about the head. The police have since discovered an empty cottage containing blood stains and a key which fitted the trunk. It stands near the home of P. O. Sullivan, ice-dealer, whose card asking his service for an injured employé called the doctor away the night of his disappearance.

Death of Laura D. Bridgman.—This famous deaf, dumb and blind woman died at the South Boston Asylum, Mass., May 24, aged nearly 60. Born physically sound, severe illness destroyed sight, speech and hearing and impaired other senses. At eight years old Dr. Samuel G. Howe took her in charge and taught her to read and write. She made rapid progress in various branches of knowledge and in finger-speech with others. In 1842 Charles Dickens made her a visit and was profoundly interested. She had a remarkable faculty of reading character, was kind-hearted and thoughtful of her friends. In 1853 she earned by her work money to send a barrel of flour to the famine-stricken people of Ireland. Dr. Howe died in 1876, leaving her an annuity. In 1887, her 50th year in the asylum—her life-home—was celebrated by a reception at which Mrs. Julia Ward Howe, Dr. Howe's widow, presided.

From Abroad.—Queen Victoria was 70 years old May 24. Mr. Gladstone, the same day, was knocked down by a cab, but escaped serious injury, ran after and secured the arrest of the driver.—Minister Lincoln was presented to the Queen, the 25th.—Capt. Murrell of the Missouri received a warm ovation on his arrival at London, May 18.—Lord Dunraven's yacht Valkyrie was victor in a race, May 24. She will compete with American yachts this summer.—Henry George addressed an enthusiastic meeting in London, May 23.—John Bright leaves an estate worth over £30,000 to his children.—The raid on London clubs, where gambling is carried on, has been continued by the police, and many titled persons have been arrested. Mr. Saxton of the Field club was fined £500.—William O'Brien testified before the Parnell commission that the league prevented famine and violence in 1870. He stood by all he had said or written, as justified by circumstances existing at the time.—The work of evicting tenants on the Olphert estate, Ireland, met with desperate resistance, May 24, stones and boiling water being freely used.—Parisians complain because the American section of the Exposition and part of the British are closed on Sunday.—Minister Reid was received by President Carnot, May 21.—In the Samoan conference the American commissioners insisted that King Malietoa be restored to his throne and an indemnity paid. To this Germany demurred, but finally yielded.—King Humbert of Italy, the Crown Prince and Signor Crispi visited Emperor William last week.—Three thousand Berlin masons have struck for 9 hours' work, one hour less on Saturday and day before public holidays, increase of 10 pfennigs' pay, and two weeks' notice of discharge.—Women employed on the rice fields at Medicina, Italy, struck, and pillaged a number of bakers' shops. Troops have been ordered to the scene.—The Shah of Persia was entertained by the Czar at the Winter Palace, May 24.—The sum of $3,200 was snatched from the counter of the Bank of Montreal, May 21, the thief escaping.—A Montreal girl, Hortense Leduc, has had over $4,000,000 left her by a Mr. Hedell of France.

Minor Items.

Several bears have been shot, recently, in the Catskills.

A whirlwind wrecked two mountain villages near Scranton, Pa., May 20.

The Connecticut House passed the secret-ballot bill, May 23, by a vote of 189 to 9.

The Produce Exchange Bulletin of New-York, an oleomargarine organ, is dead.

A very heavy rainfall prevailed through New-York and the Eastern States, May 20.

A corner in Oregon and Transcontinental stock excited the New-York market recently.

The Connecticut oleomargarine bill has been passed by the House, over the governor's veto.

The trial of Howard, one of the electric sugar swindlers, was begun in New-York, May 20.

John F. Plummer has accepted the position of government director of the Union Pacific railway.

The Chicago & Northwestern road has taken off all Sunday trains on its Dakota division—800 miles.

The 120th anniversary of Stephen Girard's birth was celebrated at Girard college, Philadelphia, May 20.

The investigation of the management of the Chicago insane asylum reveals shocking cruelties to the patients.

An unknown friend proposes to establish 12 college scholarships for poor boys from the New-York public schools.

The vibrations of an earthquake shock at Lick observatory, Cal., May 20, lasted two minutes and twelve seconds.

A Confederate monument was dedicated at Alexandria, Va., May 24. Gov. Lee and Gen. J. E. Johnston made speeches.

Disputes over lot claims in Guthrie, Oklahoma, led to a riot, May 23, and the town authorities called in the aid of soldiery.

Charles Clendenning of Allegheny county, Pa., died, May 23, aged 101. He had never used whiskey or tobacco in any form.

The great Westinghouse-Edison electric light suit for infringement of patent of incandescent light, began at Pittsburg, May 21.

A riot occurred over the election of school officers in Forrest City, Ark., last week, in which three white men and one negro were killed.

The Northern and Southern Presbyterian Assemblies have agreed to cooperate in evangelistic and educational work among the freedmen.

Mrs. Folsom, mother of Mrs. Grover Cleveland, was married to Henry E. Perrine, merchant of Buffalo, N. Y., at Jackson, Mich., May 20.

The new Hebrew temple of the congregation Beth Emeth of Albany was dedicated May 24, Rabbi I. M. Wise of Cincinnati preaching the sermon.

The City of Paris made her eastward trip—Sandy Hook to Fastnet—in 5 days, 23 hours and 4 minutes, beating her westward 1 hour 3 minutes.

A fire at Wilson Point, Conn., May 23, destroyed station, freight-houses and wharves belonging to the Housatonic railroad. Loss about $200,000.

Edwin K. Burnham of Wayne county, N. Y., has been appointed to succeed Charles B. Andrews as superintendent of public buildings at Albany.

John C. Bradley, cashier of the Merchants' National Bank, New-Haven, Conn., has been arrested for embezzlement of bank surplus—$60,000 to $100,000.

The Augusta Victoria of the Hamburg-American line made her first trip to New-York, May 18, in 6 days, 5 hours, 30 minutes—the fastest first trip thus far.

A bad week for steamers. During a fog, night of May 18, the La Normandie ran down the pilot boat Charlotte Webb, eight miles east of Sandy Hook light, and Capt. Malcolm and boatkeeper Fitzgerald were drowned. The German Emperor and Bersesford, both English, collided, May 20, while the latter was anchored on the Goodwin Sands, and the former sank instantly. Six men are missing. The Curfew and Nyanza collided in the Suez Canal while the latter was at anchor in Bitter Lake, May 23. The Nyanza was sunk. No lives lost.

The Polynesia and Cynthia collided on the St. Lawrence river, 12 miles from Montreal, May 23, and eight lives were lost from the latter.

The Scranton (Pa.) City Bank has been robbed by its cashier, George A. Jessup, of $185,000. Cause: speculation and extravagant living.

Samuel Lord, founder of the firm of Lord & Taylor, dry-goods, of New-York, died at his home in Cheshire, England, May 22, aged 80.

The Supreme Court of Ohio has dismissed the case against Ives & Stayner, indicted for swindling the stockholders of the Cincinnati, Hamilton & Dayton road.

The annual tax-meeting at Geneva, N. Y., voted to buy the old Reformed Dutch church property for village purposes, women's votes unintentionally turning the scales.

The home of Rev. T. C. Clarke, Baptist minister of London Bridge, Va., was burned May 23. Mr. Clarke rescued four of the inmates but himself perished with four others.

Train-wreckers removed plates and rails on a thirty foot embankment on the St. Louis and San Francisco road near Sullivan, Mo., May 23, and a train of seven cars was thrown off, seriously injuring 40 persons.

Frederick Clark conducts a skunk-farm near —or rather four miles from—Mt. Morris, N. Y. By June he expects to have a stock of 600. The skins are sold to furriers for from 30 cents for white to $1.50 for coal-black.

The steamer Rockton, from Samoa, reached San Francisco, May 20, with 5 officers and 150 men of the Vandalia, and 12 officers and 300 men from the Trenton. Admiral Kimberly, 10 officers and 75 men remain at Apia.

The four-year-old daughter of W. J. Arkell, the publisher, in playing with sealing-wax set fire to her dress at her Canajoharie, N. Y., home, but was saved from death by the artist Bernard Gillam, who put out the flames with a rug.

The Chicago drainage bill passed the Illinois Senate, May 21. It provides for a channel 10 feet wide and 18 deep through the Chicago, Desplaines and Illinois rivers to the Mississippi —to serve also as a ship canal; $16,000,000 appropriated.

The first train over the new road connecting the Poughkeepsie Bridge with the Ontario & Western road was run May 21 from Campbell Hall, Orange county, to Poughkeepsie. It carried officers of interested roads, English stockholders, and others.

Choice Guaranteed 6% Per Cent. Bonds, in amounts from $100 to $2,000, interest payable semi-annually.

Secured by First Mortgages on Improved Farms in Eastern Kansas. Negotiated and for sale by THE EASTERN KANSAS INVESTMENT COMPANY, Owners, Labette County, Kansas.

Send for Investors' Hand-Book, and name amount you desire to invest.

Best of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. my31f

Special Announcement.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work *free* by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., Enosburgh Falls, Vt. This book is now recognized as a standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time. my15-6t

Complaints of ravages by the Potato Bug are this season unusually large from every section of the country. Many districts have the pests in greater quantities this year than any since they first made their appearance. With little labor and slight expense, their ill effects may be counteracted. A proper and timely use of London Purple, the cheapest insecticide, has never been known to fail in clearing the vines. See advertisement in another column.

The magical cure of colds and coughs, with Ayer's Cherry Pectoral, is indisputable. As a family medicine it is unequaled.

Savages expect to imbibe bravery by drinking the blood of their brave enemies. A more enlightened method of vitalizing the blood is by taking Ayer's Sarsaparilla. It braces up the nerves and gives strength and fortitude to endure the trials of life.

Beecham's Pills cure Bilious and nervous ills. [3

Farm Produce Markets.

Albany Markets—May 27.

FLOUR.—The Argus says: Demand improved, with good trade and firm values.

	1889. May 25.	1889. May 18.	1888. May 26.
Com. State	$3 10@4 00	$3 10@4 00	$3 10@4 15
State Extra	4 20@4 50	4 10@4 50	4 10@4 40
Am'n. State & W.	4 00@4 50	4 00@4 10	4 00@4 10
O., Ind. & St. L. & M.	4 45@5 10	4 45@5 10	4 45@5 10
Winter W. Pat.	5 00@5 60	5 00@5 10	5 00@5 45
Minn. "Bakers"	4 75@5 75	4 75@4 75	4 75@4 90
Sp'g W. Pat., new	5 10@5 75	5 10@5 75	5 25@5 50
Sp'g W. Pat., old	5 25@5 50	5 25@5 50	5 30@5 50

Rye Flour is fair demand at $3.75@5 per bbl. Graham, $4.10@4.25. Oat Meal in fair demand at $5.50@6.00 per bbl. Corn Meal continues quiet; fine family, $3.75@3 per bbl.

GRAIN.—Corn firm; demand fair: No. 2 mixed, 47½@48c. Oats active, receipts from: No. 2 white, 34½@35c. No. 3 white, 33½@34c. Rye in lessened receipt and demand at 56@56c. per 60 lbs. for State, and western, 58c.

HAY AND STRAW.—Market firm; demand good: receipts moderate. Timothy, best, 90@95c. medium, 85@90; clover, 75@85; mixed, 75@85; rye straw best, $12@13; oat straw, $8@9; wheat straw, $10.

HOPS.—Market quiet; demand fair.

N. Y. State, 1888, choice	23@24
N. Y. State, 1888, common to good	15@18
N. Y. State, 1887, all grades	9@11
Pacific Coast	16@20
German	36@40

Albany Street Market—May 27.

BUTTER.—Good to choice, 19@20c. per lb.

EGGS.—Near-by and new laid, 13@14c per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@9½c. per lb.; forequarter, 6@7c.; mutton, hindquarter, 9@10c; forequarter, 7@8c.; lamb, hindquarter, 10@12c.; forequarter, 7@8c.; veal, hindquarter, 12@14c.; forequarter, 7@8c.

POULTRY.—Fowls, 10@12c.; chickens, 13@16c.; turkeys, 12@15c.; ducks, 12@14c.

FRUIT.—Apples, $2@3 per bbl.; Cranberries, $1.75 per crate; Strawberries, 12@15c. per box.

VEGETABLES.—Asparagus, 40c. per bunch; Beets, new, $1.50 per 100 bunches; Cabbages, new, $2@3 per crate; Cauliflowers, $1@2 per doz.; Green Peas, $2@2.50 per crate; Lettuce, 10@15c. per box; Onions, new, $1 per crate; Oyster-plant, $1 per doz.; Parsnips, $1.25; Potatoes, $1.25@1.30 per bbl.; Sea, $1@1; Radishes, 10c. per bunch; Rhubarb, 6@8c. per doz.; Spinach, 75c@$1 per bbl.; squash, $1.25 per crate; Tomatoes, $1.50@1.75.

New-York Markets—May 25.

BEANS—Marrow, 1889	— @	1 90
Medium, 1889, choice	1 75 @	1 80
Pea, 1889	1 75 @	1 80
COTTON—	Uplands.	N. O. & Gulf
Ordinary, per lb	— @	9½
Middlings	11 @	11¼
Fair	12¾ @	13¾
EGGS—State and near-by, per doz	14 @	14½
Western and Southern	13½@	14
FLOUR—Spring Wheat pat., per bbl	5 15 @	5 35
Winter	5 00 @	5 30
No. 2 extra State and Western	4 60 @	4 90
No. 1 extra	5 00 @	5 30
Minnesota clear	4 00 @	4 55
Straight	4 60 @	5 00
Rye Flour, superfine	3 75 @	4 00
Corn Meal	3 45 @	3 60
FRUIT—Apples, Baldwin, per bbl	2 00 @	3 50
Russet	2 25 @	3 50
Bar	2 00 @	4 00
Cherries, N. C., per lb	8 @	15
Strawberries, Charleston, per qt	8 @	16
North Carolina	5 @	13
Norfolk	4 @	9
Maryland	6 @	14
Peanuts, per lb	2½@	3
Prunes—Agens, sun-dried, per lb	3½@	3¾
Evaporated	2½@	6
Peaches, sun-dried	1 @	3½
Evaporated	6 @	12
Plums, Southern	5 @	—
Cherries	12½@	15
Blackberries	4 @	6
Raspberries	19 @	23
Huckleberries	10 @	—
GRAIN—Wheat, State white, per bus	90 @	91
Ungraded spring	82½@	84½
No. 1 red, winter	90 @	90
No. 2 red, winter	87½@	88
Corn, No. 2, white	47½@	48
No. 2, mixed	46 @	46
Oats, No. 1, white	33½@	34
No. 2 mixed	32 @	32
Barley	65 @	75
Rye, State and Western	60 @	60
HAY—Timothy, per 100 lbs	75 @	90
Shipping	60 @	65
Clover	50 @	60
Straw, long rye, No. 1	75 @	75
No. 2	55 @	60
Oat	45 @	55
HOPS—N. Y. State, 1888, choice, per lb	22½@	23
Good to prime	20 @	22
Med. 1887	9 @	10
Pacific Coast, 1888, best	— @	21
Pacific Coast, 1887	6 @	9
German	39 @	43
POULTRY—Live chickens, per lb	13 @	13½
Spring chickens	25 @	25
Turkeys	7 @	9
Ducks, per pair	60 @	80
Geese	1 00 @	1 20
Dressed fowls, per lb	10@13 @	13½
Philadelphia	20 @	20
Broilers, Western	26 @	26
Turkeys	7 @	10
Ducks, per lb	15 @	20
PROVISIONS—Beef hams, per bbl	13 50 @	14 00
India mess	13 50 @	13 50
Hogs, dressed, per 100 lbs	6 @	6 63
Lard, per tierce	6 15 @	7 20
Pork, new mess, per bbl	13 25 @	13 50
Short clear	14 00 @	15 00
Family	13 00 @	13 37
VEGETABLES—Asparagus, Charleston, per doz. bunch	1 25 @	2 00
Prime	75 @	1 50
Beets, Nav. & Chas. per crate	1 25 @	1 50
Florida	80 @	1 10
Cabbages, Nav. & Va. per bbl. crate	1 00 @	1 25
Norfolk	75 @	1 25
Cucumbers, Florida, per crate	75 @	2 50
Green peas, Norfolk, per crate	50 @	1 25
Egg Shells	1 75 @	2 25
N. C., per bu. crate	50 @	75
Onions, com., red, per bbl	75 @	1 25
N. O., new	1 00 @	1 25
Potatoes, State, per bbl	1 00 @	1 25
Eastern	1 00 @	2 00
Southern, new	4 00 @	6 00
Newfoundlands	4 00 @	5 00
Bermuda	6 00 @	7 00
Sweet, Vineland	3 50 @	4 00
Radishes, N. C. & Norfolk, per bbl	50 @	75
Spinach, Norfolk, per bbl	50 @	75
String beans, Fla. wax, per crate	75 @	1 25
Succotash	2 00 @	2 50
Tomatoes, Fla., per crate	2 50 @	3 00
Bermuda	30 @	50

Cattle Markets.

NEW-YORK, May 25.

BEEVES.—Receipts, 11,137 head. The week opened with a heavy supply and a decline in values of 25 per cent. This was followed on Wednesday by a light supply and a brisk demand, with a recovery in values of 10 per cent. Friday the arrivals were light and the tone firm. Several loads of still-fed Kentucky beeves have been offered. The quality as yet is indifferent and prices are relatively low. The beeves taken for export were corn-fed native and grade steers.

[Per central, est.]	This week.	Last week.
Good beeves	$4 00 @ —	$3 90 @ —
Fair	3 90 @ 4 00	3 80 @ 3 90
Coarse	3 75 @ 3 85	3 70 @ 3 80
Poor	3 60 @ 3 70	3 50 @ 3 60
[Per central, gross.]	This week.	Last week.
Good beeves	$4 75 @ —	$4 75 @ —
Fair	4 60 @ 4 70	4 55 @ 4 70
Coarse	4 40 @ 4 50	4 35 @ 4 45
Poor	4 05 @ 4 15	4 00 @ 4 05
Oxen	4 50 @ 4 65	4 50 @ 4 60
Cows	3 15 @ 3 75	3 00 @ 3 50
Bulls	3 40 @ 3 65	3 30 @ 3 40

MILCH COWS.—Receipts, 61 head. The cows offered are in the aggregate of such a forlorn aspect that no sales are returned to Tuesday's sales. Non-man range, 22@30c per head. Some dull: 35 cows were sold at $25@35 per head.

VEALS AND CALVES.—Receipts, 1,018 head. Another onslaught has been made on the calves. These unhappy creatures fell off in value 1c. per lb. on Monday last, and then without visible cause recovered it Wednesday 1c. per lb. Thursday veals again advanced 1c. per lb. Friday the markets closed unchanged. Range of prices: Calves of a decent aspect, being buttermilk-fed, 7@8c. per cwt.; calves and veals in mixed lots, 6@6½c per cwt.; leads veals, 5@5½c. per cwt.; veals of medium quality, 4@5c. per lb.

SHEEP AND LAMBS.—Receipts, 27,976 head. The week opened with a steady tone in sheep and a weak feeling in lambs. Wednesday sheep became firm and lambs were steady. Thursday the tone was generally firm. Friday the markets closed unchanged. Range of prices: Sheep, 4@5½c. per lb; culls, 2@3½c; lambs, 5@6c; spring lambs, 6@8c.; culls 3@5c.

SWINE.—Receipts, 30,170 head. The tone of trade has been dull and values scarcely sustained. The offerings were of small importance; 7 mill hogs, 315 lbs., 6½c. per lb.; 36 State hogs, 220 to 270 lbs., 6½@6¾c. per lb.; 2 car lots, 6.05 per cwt.

BUFFALO, May 25.

BEEVES.—[Per central, gross.] This week. Last week.

Extra steers	$4 15@4 30	$4 10@4 30
Best butchers'	3 80@4 00	3 80@4 00
Second quality	3 60@3 80	3 50@3 60
Poor to common	2 50@3 40	2 50@3 40
Stockers, light	3 50@3 70	3 50@3 60
Stockers, good to choice	3 75@3 90	3 75@3 90
Bulls	2 50@3 25	2 50@3 25

Receipts, 15,300, against 16,600 last week. Although quotations show no change, the feeling was generally weak, with the heaviest attendance of sellers in many weeks, and of very particular about quality. Good to choice butchers were in light supply, sold and taken, while heavy cattle were shipped out for want of purchasers. Closing dull and weak. Stockers in fair demand. Bulls quiet and barely steady.

MILCH COWS.—Receipts heavy; market lower; choice only in request; extra, $40@45; good to choice, $30@35; common to fair, $20@28.

VEALS.—Light receipts. Good to choice, $3.50@4; heavy, $2.50@3.

SHEEP AND LAMBS.—Receipts, 8,800. Supply light but of choice quality, everything taken readily at the advance. Good to choice, 90 to 100 lbs average, $4.40@4.50; fair to good, 70 to 80 lbs., $4@4.25; common, $3@3.75. The few loads of yearlings sold at $5.25@5.50. Ohio spring lambs, $7.

SWINE.—Receipts, 33,100. Market opened slow but demand improved steadily, closing active and 10 cents higher. Yorkers, $4.55@4.60; mediums, $4.55@4.60; mixed packers, $4.60; good cobs $4.70@4.75.

BOSTON, May 25.

BEEVES, NORTHERN.—Good steers, dressed, 6½@7c per cwt.; fair to good, $5.50; second quality, $4@5.25. WESTERN.—Alive—Extra, $4.75; good to prime $4.50; light to fair, $4@4.25.

MILCH COWS.—A light run at $30@50 per head.

CALVES.—Improved quality at steady prices.

SHEEP AND LAMBS.—In lots at $3@5.25 per head.

SWINE.—Western fat hogs, alive, 6@6½c. per lb; pigs, $3@3.50 per head.

Dairy Markets—May 27.

ALBANY.—Butter receipts free; demand active. State creamery, choice, 20@21c. Western creamery, fancy, 19@20c. State dairy 18c.; fair to good, 16@17c. Western dairy, choice, 18@19c.

Cheese weak; demand moderate. State factory, full cream, 10@10½c. new, 10c.

UTICA.—The Cheese market took a big tumble here last Monday. Sales-room rised 102 boxes at 9c., 1st at 9¼c., 2,000 at 9¾c. (which was rising price), 914 at 9½c., 1,017 at 9¾c., 2,000 at 9¾c., besides 1,625 boxes unsold, total, 8,311 boxes, against 8,556 boxes year ago. Little Falls also sold 1,000 boxes at 9¾@9¾c., the milk going at latter price. Wild four or five little farm dairy at 9½. The market had evidently been overdone the week before and buyers had just money enough to make them cautious. Besides, the stock was all fodder made, and the season was found to be partly of grass stock, and of course fodder cheese will be at a disadvantage when grass cheese comes into market. On Tuesday the Utica New-York dairy shipped to Boston 1,000 boxes at 9¾c., and there it has remained, although at the last it is an extreme price, with the speculative top for anything but ungrassed stock. Shipments of cheese abroad are much lighter this week, and the cable has decreased to 9c.

Butter continues steady, with a somewhat better tone to the market. Sales at Little Falls ranged from 20c. for creamery, while dairy sold at Little Falls at 17½@18c., and 43 packages creamery at 21c. in New-York this week, against 19@20c. for either kind. Grass butter begins to come in, and it is expected that the market will soon improve. A good deal of stock is already being packed in the country.

NEW-YORK.—Some better firm with moderate offerings. Receipts, 1,900 pkgs. Eastern creamery, fresh, 19@21c.; Western creamery, fresh, 20@21c.; State dairy, choice, 17@18c.; Western dairy, 15@16c. Western factory, choice, 10@10½c.

Cheese firm. Receipts, 6,300 boxes. Factory, best, 9½@9¾c. per lb.; light skims, 6@6c.; Pennsylvania skims, 5@6c.

BOSTON.—Western creamery, extra, 19@19½c.; extra firsts, Higher factory, 18@18½c.; Vermont, extra, 19@19½c.; dairy, choice, 16@18c.; Eastern creamery, good to choice, 19@19½c.

Wool Markets—May 27.

ALBANY.—No change; sales light.

No. 1, Pulled	29@30c. Medium Fleece
Super Pulled	30@31 Fine Fleece

NEW-YORK.—Indiana, Pennsylvania, unwashed western, 24@25c. pulled, 29@30c. Territory, Ore. scoured, 39@40c. Montana, 38c. Oregon, 34@35c. scoured, 39@40c. pulled, 38@39c. California, 32@33c. scoured, 38c.; Donskoi, 24@25c.

BOSTON.—Sales, 1,958,000 lbs. domestic and foreign: Ohio and Pennsylvania, 32@34c.; Michigan, 29@31c. combing and clothing, 30@32c.; unwashed, 18@21c.; scoured, 36@40c.; pulled, 37@38c.; Territory, 34c. Texas, 29@31c. California, 18@20c.; Oregon, 20@32c. Australian, 38@40c.

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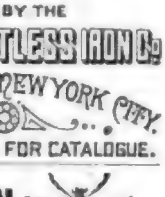

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"LONDON PURPLE" will SAVE YOUR MONEY. It is one-half the price, and does three times the work of the usual poisons.

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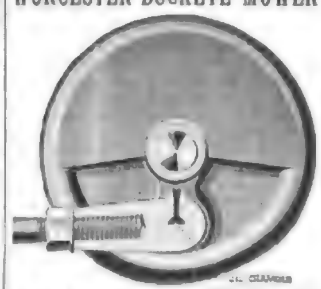

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The Fireside.

Salt-Making—The Latest Methods.

We recently had the pleasure of inspecting some of the salt works in the Wyoming and Genesee valleys in this State, and found them very interesting. This industry has grown to vast proportions within a few years, to the great benefit of all consumers of salt, both in giving them superior qualities and in furnishing these at continually reduced prices. Notwithstanding the enormous increase in the consumption of salt on American farms, in dairies, and for many manufacturing purposes, the increase of supply has fully kept pace with the demand, and the price for ordinary grades has been reduced more than half in the past ten years. This interest has been developed in Northern Michigan almost as rapidly as in Western New-York.

For many years Syracuse was the centre of the salt industry in this State, but it is so no longer. There great quantities of salt were, and still are, made by solar evaporation; but in Western New-York the brine is all evaporated by artificial heat. There are two systems in use for doing this. One is by circulating steam through pipes in wooden tanks filled with brine, called graiuers; the other is by direct heat from furnaces under steel or iron pans containing the brine. The former is said to make the salt at the least cost, while the latter gives salt of a better quality.

We spent more time in examining the works and processes of manufacture of the Genesee Salt Company than any other, and we believe it will be of interest to our readers to be told how salt is there made. These works are at Piffard in Livingston county, on the line of the W. N. Y. & P. R. R., thirty miles south of Rochester. They are very extensive and have a capacity, when fully running, of producing 5,000 bushels of salt per day. The rock salt is here found about 900 feet below the surface, and is in layers of different thicknesses, the chief one having 68 feet of pure salt. Above this bed of rock salt there is a constant natural brine flow. Into this salt the wells are sunk by means of drills. For several hundred feet these wells are cased with eight-inch pipe, so as to exclude all flows of water that may have surface or other contaminations. Inside this casing the piping of the well goes into the salt-bed, and in it the brine flow rises nearly to the surface. No amount of pumping reduces it below this level, and it has steadily improved in quality since the pumping began. When pumped into the storage tanks, this natural brine is as clear and colorless as the purest spring water. It is fully saturated, containing about 26 per cent. (by weight) of salt.

The storage tanks hold about 75,000 gallons each. There are twelve of them. The brine remains in these long enough for the gypsum to settle. Gypsum is said to be universally found with brine both in America and in Europe. The tanks are built upon high trestles, and from them the brine runs into the evaporating pans. These are of steel plate, and are 24 feet wide, 120 feet long, and about 20 inches in depth. There are five of these, side by side, with wide alleys between them. Beneath them are three furnaces to each pan, where small-sized anthracite coal is burned with a strong blast from the steam-driven blowers. Great skill and care are required to run these fires so evenly as not to vary the temperature of the brine in the pans. As the water evaporates, the salt forms upon the surface, floats there for a moment and then sinks to the bottom. The size of the crystal is in proportion to the time consumed in its formation. For fine-grained salt, for dairy and table use, a constant high temperature is absolutely necessary, while at lower temperatures larger crystals are formed.

When the salt sinks to the bottom of the brine it lies upon the steel of the pan, and must be quickly removed, if a high degree of heat is maintained, to prevent its baking there and the pan becoming injured. This is done by men with long-handled rakes who dexterously draw the salt upon drips by the sides of the pans, where the brine, held between the crystals, drains back into the pans. These men work in the dense steam rising from the brine, and, stripped to their waists, move about like weird spectres. Their work requires a high degree of skill which only experience can give.

In due time the salt is loaded into hand-carts and is wheeled away and dumped into storage bins, where it remains until the moisture drains away, until but little remains. It requires from a month to six weeks for this to be done. Coarse and common salts are then ready for shipment, but salt for table or dairy use has to be further dried by artificial heat. For this purpose it is raised by elevators to the third story of the immense store-house, where it takes a long journey in great revolving drums, through which strong currents of hot, dry air are steadily forced. We are informed that the company has patents covering the essential parts of these driers, so that they are used in no other works.

After passing through the immense driers, the salt falls upon screens, which separate the crystals according to the purposes for which the salt is desired. It is then packed in linen sacks, branded with the company's name and trade-mark, and is shipped to all parts of the United States, and even to foreign countries. Considerable quantities of salt have gone from these works to Australia, where it seems to be preferred to that taken from England.

We were especially struck with the whiteness, uniformity of crystal, and clearness of flavor of these salts made expressly for butter and cheese. We were shown a great number of letters from noted cheese and butter-makers, which indicate that this salt must be as good as it looks, and that is saying a great deal. Many of them mention the remarkable fact that it never hardens nor lumps, and when used requires no sifting. Many letters joyfully described the great keeping value of the salt when butter is held in storage, and when cheese is kept to ripen with age.

In most other sections no natural brine-flow is found above the salt bed, or, if it exists, it is too impure for use. There surface water is forced down into the salt and, when it becomes saturated, it is pumped up for use. As nearly all surface waters contain animal, vegetable and mineral matters the salt produced is necessarily affected thereby.

Near the Genesee Company's works is the Retsof mine. A shaft fourteen feet square is sunk into the salt-bed and the rock salt is mined and raised to the surface very much as coal is mined. This rock salt is used for cattle and for manufacturing purposes. The Retsof company make very large shipments from their mine which is the only one in the United States, except that upon the island of Petit Anse in Louisiana, where the salt bed is at the surface.

We left the Genesee and Wyoming valleys greatly pleased that an industry affecting the welfare of every farmer and dairyman, and indeed of every family in the land, has there been developed in so sound a manner, furnishing this staple article in a degree of purity and excellence nowhere surpassed, and at the lowest price ever known in the history of the world.

Bird-Houses.

The possessors of lawns, yards and gardens have been, within the last few years, awaking to the fact of the valuable assistance rendered by the birds. The graceful flitting, cheerful chirping and merry singing of the birds add animation to a country landscape.

Children who are trained to observe and care for birds will many times have an occupation for an otherwise dull and idle hour. Two brothers twelve and fourteen years old, who are spending their first year in the country, have found untold delight in building houses for the birds which have so interested them. They hesitated at first about commencing the work, fearing that it was so late in the spring that the birds would have already selected the places for their nests. Their uncle reassured them, by telling them that some late comers would be sure to need and like the houses, and

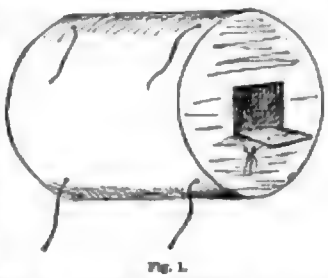

Fig. 1.

that they would be surprised how many second broods would be raised in the homes they would provide.

The boys decided to make the most simple and easily constructed ones first, and take a longer time for the more elaborate houses, thinking, even if they were not occupied, they would be an ornament to the grounds, and ready for the first-comers next spring.

Tin cans were used for making the first houses (fig. 1). Where the cans were opened to remove the fruit, the tin was cut out to make a square instead of a round opening. On the lower edge of this opening a thin bit of board was fastened by wires passed through holes to give the bird a place to light on. Two holes were also cut on both sides of the top and of the bottom of the cans, through which strings were passed by which the cans were securely fastened to a branch of a tree. The cans were painted a dark grey.

On the side of the wood-house was fastened a very neat brown cottage fashioned out of cigar boxes (fig. 2). This cottage was adorned with

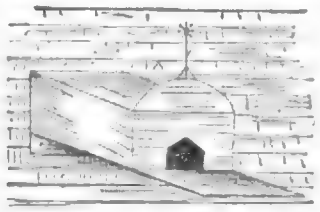

Fig. 2.

a rounded front, surmounted by a weather-vane made of wire. The door was cut with a fret-saw, and was pointed instead of arched, to suit the capacity of the workers. One box formed the house proper. A larger box furnished the pieces for the rounded front, platform, and the bracket at the back by which it was fastened to the wood-house.

A larger dwelling to be nailed on the side of the carriage-house and intended for the use of the martins (fig. 3) was two stories in height

Fig. 3.

with a balcony in front of each. A small flag floated from a miniature staff nailed to the peak in the front of the roof. This house was made

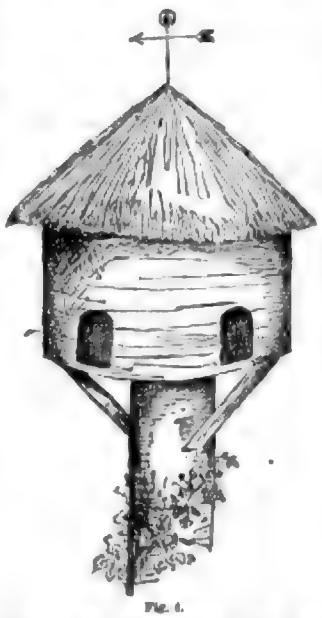

Fig. 4.

of thin boards nailed together with slender brads. The balconies were ornamented by curved pieces at each end whittled out with a pocket-knife. The doors were arched. The house was divided inside into upper and lower stories. These were again divided by several partitions.

The most ornamental structure made by the boys adorned the top of a post around which clambered a vine, (fig. 4). It was a round wooden box to which they fitted a conical roof, made of wedge-shaped pieces of shingle and securely tacked to the box. This roof was then thatched with straw, giving a picturesque effect to the house. The thatch was held in place by rows of wire concealed beneath the overlapping straw. It was further adorned with an elaborate weather-vane made of a slender rod, on the end of which was a small rubber ball. The arrow was cut from a bit of shingle. Rod, arrow and ball were all gilded. Doors were cut at regular distances around the house.

Ned's memorandum book, made in imitation of his uncle's, contained the following:—

Notes on Bird-House Building.

Cans are excellent and are liked by the smaller birds. It would be an improvement to their looks to place a thatched or pointed roof over them.

The ornamental top of an old pump, bits of cast-off furniture, round boxes, &c., can all be used to good advantage and fine effect in ornamental houses.

Various pieces of old brass, such as lamp tops, shade frames and old keys, work in well for making ornamental pieces and weather-vanes.

For gold paint use carriage gilding. Five cents' worth will go a long way.

For fastening up the houses different methods will have to be used, according to the places where they are to be put up. When it can be used, wire is better than string, and screws than nails.

To protect the birds from the cats when the houses are on poles, pieces of discarded stove pipe can be slipped over the poles below the houses and nailed in place, then painted the color of the pole, or the post can be wrapped with barbed wire for a short distance.

Soft browns, grays or dark greens are the best colors to use for painting the houses.

L. A. FRANCE.

"Boys Will be Boys."

"Boys will be boys." We resent the old saying,
Current with men;
Let it be heard, in excuse for our straying,
Never again!
Ours is a hope that is higher and clearer,
Ours is a purpose far brighter and dearer,
Ours is a name that should silence the jeerer;
We will be men!

"Boys will be boys" is an unworthy slander;
Boys will be men!
The spirit of Philip in young Alexander,
Kindled again!
As the years of our youth fly swiftly away,
As brightens about us the light of life's day,
As the glory of manhood dawns on us, we say:
We will be men!

"Boys will be boys!" Yes! If boys may be pure,
Models for men;
If their thoughts may be modest, their truthfulness sure,
Say it again!
If boys will be boys such as boys ought to be—
Boys full of sweet-minded, light-hearted glee—
Let boys be boys, brave, loving and free,
Till they are men!

—*Christian Union.*

Caring for Old People.

Recent articles on the rights of the old lead me to tell how some old people that I know are cared for. A near friend has the care of her mother-in-law, 70 years of age. There are five children in the family, the eldest a boy of 13 years. The grandmother has a large room, containing cupboards, closet, two beds and a small cookstove. She usually eats with the the family, but often gets a meal in her room when she has a visitor, for all the pantry and cellar stores are open to her. All her table and bed linen, china and silver are in her room and the daughter-in-law never thinks of using them. The grandchildren never stay in grandma's room unless she asks them. She is with the family when she pleases to be. If this son had put off marrying until he could furnish two homes, he would still be a bachelor, for his mother was so poor a manager that he could hardly keep one home. His wife keeps the house herself, and besides gaining in property he is a happy husband and father, and his mother as happy as before his marriage.

A couple, nearly eighty, stay by turns with three of their children, who live near each

other, and a room in each house is theirs. The grandchildren are always anxious for the visit of the old people. An old blind lady, over ninety-three, is cared for by a son-in-law, who is a poor man, but no money could induce him or his to give her into strange care. She has the best the house affords. A couple aged eighty and eighty-four years are cared for by strangers because their two children live far away, and they won't leave the old home. The pay is good and the work light, but no one stays six months, for the old lady's best dishes get broken, the furniture marred, carpets soiled, and the clothes ruined in the wash. The man is too childish to worry long over a thing, but the woman's health is injured as much as it would be by a vexatious daughter-in-law.

If I had to put my parents in the care of strangers I would send them to the poor-house so they could have company in their misery. Old people cannot visit, and have but few friends outside their own children, for they are of the past generation. How tedious their days must be when their only company is some one who has not love enough for them to listen with interest to the story that has been already told several hundred times.

I have tried the plan of two homes, for we lived a mile from my father's. When my mother was seventy her heavy work fell to my daughters' for no hired help could suit her. After a few years more my daughters married and my parents came to us, on the condition of our building them a three-room cottage in our yard. At first this worked very well, but as years went on I found myself doing the work of two families, even to getting six meals a day when mother was not well. I was often without help, and in sudden sight-sickness had to pass from one house to the other in the worst of weather. My mother would not give up her house until we left the farm, and then she wanted two rooms in our house to keep for her home, but I told her she was welcome to the rooms only she must eat with us. My father agreed with me, for he knew it would be so much easier for me. He is now gone and she has the rooms, one always warm in winter so that she can sit in it if she tires of the family sitting-room. All she cares for is in these rooms and no one molests a thing for her. She says she is happier now than when trying to keep up a home of her own. She is over ninety years of age and I am sixty; so my grandchildren say that one old lady takes care of the other. In a few more years, if life lasts, I hope to have a home with my children where my last days will be full of love and peace.

ONE WHO KNOWS.

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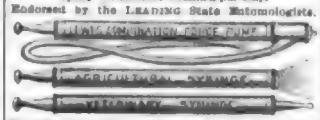

It makes 3 complete polished brass machines (see cut). To introduce, I will send a Sample Pump, express paid, for $3.50, and will also give a valuable illustrated book (just published) containing the latest and best receipts for destroying insects of all kinds, to each purchaser of a pump. The receipts alone are well worth $5. Pump will throw water 50 to 60 feet. My agents are making $10 to $20 per day. They sell rapidly. Send for Illustrated Catalogue, Price-List and Terms. Genuine GUARANTEED AS REPRESENTED OR MONEY REFUNDED. Address ap18-6t] P. C. LEWIS, Lock Box T, Catskill, N. Y.

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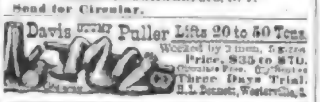

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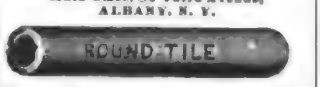

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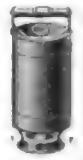

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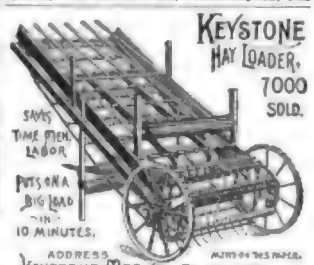

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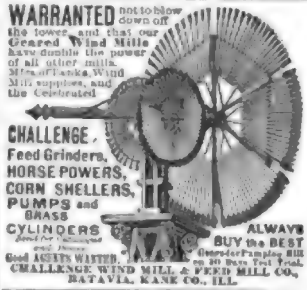

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FOR THE FARM AND GARDEN AND THE FIRESIDE.

COUNTRY GENTLEMAN

Current Numbers, Fifty-Sixth Year.

ALBANY, N. Y., JUNE 6, 1889.

Current Subscriber, VOL. LIV—No. 1357.

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Spanish Grass, by T. Meehan 401
Questions and Answers.—Value Grass Land—Fertilizer for Potatoes—Fertilizer for Corn—Fertilizer for Potatoes—Fertilizer for Corn—Hay Saving Machinery—Sowing Millet—Sowing Millet—Sowing Millet

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THE CULTIVATOR AND Country Gentleman

Albany, June 6, 1889.

Experience with Silos.

EDS. COUNTRY GENTLEMAN—I have had so many letters in regard to silos that I ask you to act as a medium for reply. And first about ensilage, which is whatever we preserve in a silo, the latter being a pit or place to preserve green food. Clover makes the best ensilage, millet is also excellent, but the cheapest and best is corn. The clover should be cured to feed once a day with the ensilage. Millet will not produce enough to be as profitable as corn, and it can also be cured better than corn. Corn stalks do not gain anything by being kept in a silo, but they are rendered more succulent, are more easily digested, and cattle like them better and do better on them. There is more milk, butter and growth in ensilaged corn fodder than when it is dried or cured. This is enough to know, and this fact is settled.

To come up to this standard of value the corn must be planted so that the stalks will be perfect corn stalks. This means thin enough in rows, as sowing broadcast will not answer. The fullest amount of sugar must be developed in the stalks, and this can only be done with space enough to admit of the sunshine and a full or complete formation of the stalk. It is always best to plant any kind of corn so that there will be ears on the stalks, as these ears will be preserved in the silo and will add to the value of the food. The most weight of corn fodder can be grown on an acre with the dent varieties of corn, and where these kinds of corn will mature ears they are the best to plant. In sections where the dent corn will not mature so as to fill out the kernels then native corn should be planted. The flint varieties can be planted closer in the rows. Six to eight quarts of seed for one acre is all that should be used, according to the kind. Set ears and then there will be perfect stalks, and this ensures more feeding value and less water according to bulk. The sowed fodder corn is likely to have 85 per cent. of water in it, and the fully developed corn not more than 60 per cent. The corn with the least water in it will make the sweetest and best ensilage. The corn may be planted with a hand planter in hills 18 inches apart, or in drills with a kernel every foot apart. This is close enough, and the rows should be 3 or 3½ feet apart, according to the kind of corn. The weeds may be kept down by harrowing the corn until it is several inches high. From 10 to 25 tons per acre may be grown, according to the richness of the land. When to cut, &c., I will tell about another time.

We will now build our silo. This must be air-tight and the foundation water-tight. Dig ditches three feet deep under where the walls are to go, and fill them with stones, placed in snug up to within a foot of the top of the ground. Lay a wall in cement on these, and carry it up a foot above the ground. Inside this wall lay a pavement of stone, six inches deep, and on this put stone cracked fine and fill in with grout, or lay the bottom with flat stones and fill the open spaces with grout. This will make an air-tight and water-tight bottom, and it will be lasting. Drain it if possible, and bank the earth up around to the top of the wall. On the wall, bed the sills in cement, so that no air can get under them. The frame may be balloon, with studding 2 by 6, which will give an air space six inches wide. From the sill to the plates, on all the outside, side up with hemlock boards, one inch thick, put on across the studding. On these boards put building paper, well lapped, and on this some form of siding. The roof may be of any kind, so that it does not leak. No extra precautions are required in its construction. There should be a window in the top, to let in the light and for ventilation. The inside of the silo should be made the same as the outside, on all of the sides exposed to the cold. Otherwise, the lining with hemlock boards may be omitted, and only the building paper and matched ceiling be used—the paper being nailed to the studding.

The silo must be air-tight, and when this condition is secured, with the precautions for the dead-air space and the shutting out of the cold, the work is well done. The studding should be set not more than two feet apart, to give strength to the building, as there is considerable side pressure. When the silo is large, the studding should be put in closer and may be horizontal, with the hemlock boards put on upright. This arrangement would tend to prevent the lateral pressure. A silo may be constructed in a hay bay in a barn, and then the walls may be strengthened with extra studding; and with paper outside and underneath the ceiling inside, it will be ample for keeping out the frost. The foundation must be made air-tight. Ensilage will not keep well in contact with stone walls or brick; hence such walls should be lined with wood. The silo may be in the form of a lean-to or an extra bent to the barn. It should be placed handy to the stable and for filling. When cows are fed ensilage, they will give milk nearly all winter and make superior butter. The stables must be made warm, as stock eating such succulent food cannot endure the cold. A warm stable and a silo are twin blessings.

Fifty cubic feet of space is allowed for a ton of ensilage. A cow will eat 40 pounds a day, and 40 pounds is equal to a cubic foot. It is easy then to figure out how big a silo any one wants for a certain number of cows, and how much ensilage it will take to keep a cow a given length of time. A good proportion for a silo is 30 feet by 16 and 18 feet high. The height helps to compact the ensilage and to drive out the air, which is necessary in order to ensure its keeping well. A silo of this size would hold 115 1-5 tons. The ensilage would keep 10 cows 576 days, or 19 months and 6 days. Twelve tons, the product of an acre, will keep one cow 600 days. Allowing 20 pounds of hay per day as equal to 40 pounds of ensilage and one acre of hay (one ton) will keep a cow only 100 days. Ensilage will make a maintenance ration, and with the ears in it will also fatten animals. It is well adapted as a food for grown animals, and is equal to hay. It can be preserved the year round, and we are now talking of an extra silo to be built this summer to be filled for next summer's use, when the dry weather comes on and the pasture is reduced.

F. D. CURTIS.

Derby Homestead, N. Y.

When Fall-Plowing Pays.

EDS. COUNTRY GENTLEMAN—I was much pleased to read the practical and well-described experiment of J. D. in fall plowing in your issue of May 16, page 388, and, although I regret his want of success, hope he will try again if only on a small scale. It is useless, as we both agree, to expect good results in all cases, and herein lies the value of experiments, to determine the conditions under which we may anticipate success or failure.

Still, in the trial in question, on a strong loam with a heavy subsoil, unless the land was very wet when plowed, I should have predicted a decided benefit from the operation. Barley enjoys a deep, heavy soil and according to good authorities, succeeds best on land which has been fall plowed and thoroughly worked over with some kind of cultivator in the spring, one reason being, I suppose, that the kind of soil barley delights in cannot always be plowed early enough in the season. The gang-plow often proves serviceable on land plowed in the fall, but which has become somewhat firmed down during an unseasonable winter.

As to the advantage of being able to work the ground earlier, I had reference to my own land, some of which cannot be plowed very early. Market gardeners, above all other tillers of the soil, appreciate the importance of every day gained in early spring, both as regards getting work out of hand and the early maturity of their crops. The quantity of land they cultivate is comparatively small, but it must be of good quality, generally a sandy or mucky loam, well enriched. On such, with properly composted manure plowed in late in the fall, it is possible, with the aid of a disc or Acme harrow, or even an ordinary cultivator—which I myself prefer—and a smoothing harrow, to make as good a seed-bed as any man could wish for as soon as the frost is out of the ground.

J. D. failed to discover any difference in favor of fall-plowing even on half an acre of clay land. Neither did I after the first fall plowing of my clay spots though it was very apparent after the second, and each succeeding year finds them improved.

I believe that we can obtain the next best results from land manured during late fall and winter, and plowed as early as practicable in the spring, but for growing choice garden crops quickly no plan succeeds so well with me as a good dose of well-prepared stable manure applied in fall and at once lightly plowed in, with treatment in the spring as stated above. The portion of the cabbage patch I mentioned, whereon manure was spread (at the rate of 60 wagonloads to the acre) during the winter of 1887-8, was again plowed last fall without manure, worked over with cultivator, April 23, and planted next day with Beauty of Hebron potatoes, which had been placed, March 25, on shelves in house cellar to sprout. On May 8, they were up sufficiently to allow of cultivating, and to-day (May 20), by actual trial, a four-quart measure will not cover the tops of most of them.

Monroe County, N. Y. J. H. C.

Ice-House Ventilation.

Why It is Necessary.

With many a household the keeping of ice during the summer season is a problem not easy of solution, and with the advent of warm weather the old question of how to do it, which seems to be discussed annually in your pages, comes up for an answer. I have been somewhat of a careful observer of these discussions, and have noted that experience favors a free circulation of air over the top of the ice covering; while a large number of those interested in the subject can see no good reason for allowing a current of hot air—or cool air either, for that matter—to circulate freely over the ice covering, in order to keep the ice from melting.

In the discussion various reasons have been given for the necessity of free ventilation, but so far as I have observed none, according to my notion, have hit upon the real philosophy of this treatment of ice-houses, and as I have never had my say in your columns on this subject, I hope I may not be deemed impertinent for giving one reason for ventilating ice-houses. For preserving ice during the season when the mercury stands above the freezing point, a few conditions are necessary. An ice-house should not be in size less than 8 by 10 feet, with 8-foot posts, inside measure. The ice should be cut in as large blocks as can be conveniently handled and carefully packed, all interstices filled either with chopped ice or snow, so as to exclude the air as far as possible. The sides and floor should have a layer of sawdust 10 or 12 inches thick.

The ice-house should have double walls, packed with sawdust, and the outside wall should be tight, and the building banked, so that the air cannot have access to the ice from below, while there should be good drainage. After the house is filled, wait for a cold day for putting on the final covering—the colder the better—for the more cold you can imprison with your ice, the more heat it will require to melt it. If you cover the ice when the thermometer registers 20° below zero, then we shall secure ice that is 52° below the freezing point, and it will require considerable warm weather to bring it to the melting point. The best covering for ice is the best non-conductor. If we could cover our ice with a lot of fleecy woolen blankets, it would keep well.

If we could cover it with asbestos or fine charcoal, it would keep still better, but as these would be rather expensive, we must look for something cheaper which will answer the purpose, which we shall find in sawdust. It should be put on from 12 to 18 inches thick, with free ventilation above. Sawdust, when applied to ice, soon becomes saturated with moisture, when it is a good conductor of heat, but if the surface is made dry for two or three inches in depth by a free circulation of air over it, then it becomes a good non-conductor, which is just the thing we must have surrounding our ice to keep it from being melted by the heat of summer.

In this I think is the solution of the conundrum, why should ice-houses be ventilated?

Hennepin County, Minn. M. M. FRISBEE.

Listing Property for Taxation.

EDS. COUNTRY GENTLEMAN—I have to-day received the annual visit of the assessor, and according to my custom for ten years past have preserved a copy of the list of taxable property found on my farm. I have found this of considerable value to me and no trouble whatever if the assessor comes to my house, and so I always refuse to be assessed on the street or at a store, as many farmers are, and tell the assessor that he must come to my farm where he can see the property, in case he is not satisfied with my valuation. Having the list of previous years to refer to is also a help to the memory, and one is less likely to overlook items. It is wise in the farmer to take an account of stock and compare his assets with former years occasionally, and there is no better time to do it than this when one is obliged to make a list of property. The farmer is likely to feel poor if he is short of ready cash, but if he finds that his stock has increased in value to the amount of $200 or $300 during the year he ought to feel that to be a compensation for the want of ready money.

A conscientious man is often troubled to know what prices he ought to put on property, and I think I was never assessed in my life that the assessor did not tell me I was valuing some of my property too high. For example, I have six good yearling cattle, grade Jerseys and Holsteins, and three about six months old. When I gave the number and age to the assessor, he said: "Call the six yearlings $60." "But they are worth more," said I. "Well, that is pretty near $7 a head," he replied; "throw in the three calves, and make the whole $65." When I protested that it was too low, he said: "It is no use for you to pay more than your share of taxes, and other farmers are returning their stock at these prices." All the hogs I have are brood sows with litters a little over a month old, and as my sows saved good litters, I consider the pigs of equal or greater value than the sows. When he asked me how many hogs I had, I replied so many sows and so many pigs. "Oh, I don't count pigs; the farmers all kick against it," was his reply. Now the fact is that there are scores of farmers who will depreciate and conceal their property, and do their best either to keep it off of the tax duplicate or get it on at less than half its true value; and the man who honestly tries to put his property on the list at its true value, will usually pay double the tax of his neighbor with an equal amount of property. I do not know that I can offer a remedy for this evil while human nature is such as it is, for the assessor often is at fault, and thinks to gain favor and make votes by placing low values on property. I have to some extent compromised the matter by stating to the assessor what I considered the value of property, and then allowing him, when he said I was valuing it above the average of the neighborhood, to fix it himself. I believe, too, that something can be done through our papers to educate men into a willingness to pay taxes.

While there should be economy where there is now extravagance in public expenditures, yet with all the evils connected with our taxation we are much better off with, than we would be without, taxes. I would call attention to the tangible benefits which we receive daily, and think almost as little about as we do of the air, the rain, and the sunshine. For example, our excellent system of free schools, which brings a good, practical education within reach of every child; our roads and bridges, which make travel pleasant and safe, and the transportation of the products of the farm easy; and the safety of life and property which makes the difference between a barbarous and an enlightened people. Then we have public improvements in many parts of the country, such as general systems of drainage, railroads, &c., which would be impossible without taxes. Whenever I feel like complaining of the burden of taxation, as I do when obliged to pay taxes unwisely and unnecessarily levied, I console myself with the thought that when a balance is struck, the benefit will far outweigh the cost. I have only contempt for the man who endeavors to shirk bearing his share of the burdens of life, and I would not trust a man in any business transaction if I had evidence that he kept back, secreted or undervalued, his property when listing it for taxation. I always feel gratified when such men are summoned before the board of equalization, convicted of their dishonesty, and the back tax assessed,

and I should be glad to see a law putting a heavy penalty in addition on such men.

An Indirect Tax.

There is one kind of indirect taxes of which many farmers pay more than they do of the regular tax, and that is by buying goods on credit, buying in small quantities, and buying articles which they could do without. The very fact that one can purchase without money has a tendency to make a man buy articles which he would do without if he must pay cash down for them, and he must expect also to pay more for goods if the account is to go on to the book to stand an indefinite time, than if he were paying cash. I do not wish to discourage the patronizing of home industries, and I recognize the necessity and value of the middle-man; yet I know that there are many places where farmers are made to pay enormous profits on what they buy, and I believe they should not submit to injustice. In my town, some years ago, the grocers agreed together that they would not pay above $1 for a dressed turkey, and as turkeys were bringing 9 cents a pound, the man with a turkey weighing 15 to 20 pounds would get no more than the one whose fowls weighed 11 pounds. A proper resentment and an assurance that we would not trade a dollar with these men until this rule was set aside, soon brought them to terms. I believe it to be the privilege and duty of the intelligent farmer to post himself on the cost of every article he needs to use in his business and family, and when he finds that his home merchants are charging exorbitant profits, to buy where he can get goods cheapest. For example, my harness dealer asked me $10 for a pair of carriage bridles and collars, and I thought it too much and went to a manufacturer in the city and got the same for less than $5.

I know that this question of building up our own town, and helping out our community, is worthy of our consideration, but it has two sides to it, and the farmer is often treated unjustly, partly because he buys on credit and largely because he does not know the cost of articles he must buy, and that his indirect taxes paid in this way are enormous. I advise farmers either to get justice from their home merchants or refuse to trade with them.

Butler County, O. WALDO F. BROWN.

From Southwestern Michigan.

The promise in the early spring for exceptional growing weather has not been fulfilled during the month of May. The rains have been seasonable, but have come in connection with low temperature. Frosts have been imminent and slight ones have fallen on low grounds. On the evening of the 21st the sky became clear at sunset and the indications pointed to a severe freeze. But a bank of cloud soon overspread the sky, and a drizzling rain began to fall; this, at 12 midnight, turned to snow, which whitened the ground. Such a fall in the temperature, coming under a cloudless sky, would have frozen so hard as to kill both wheat and rye. It was a close shave as it was. Frost appeared on all low ground. Clover is heading out shorter than usual, and both wheat and rye will have less straw than was expected, on account of the unseasonable weather for the growth of the stalk. This morning (the 28th) the hardest frost of the season appeared. Upland crops are not badly injured, but corn and potatoes on low lands must have been cut to the ground. One row of potatoes nearest the grass border in the garden is killed half way down, while the next rows farther away were not frozen. Strawberries were too large to be injured, but grapes must be nearly ruined. I think no damage was done to grain, except, perhaps on low frosty land.

Washing sheep is delayed ten days or more on account of the cold. Not half the flocks in this vicinity are washed at this writing. Sheep will shear quite a per cent. lighter than usual. They did not seem to winter well, and the lamb crop is a light one. One cause of lighter shearing can be traced to the antipathy that has grown up within the past few years against oily, heavy wool and wrinkly carcasses. Rams have been selected for a greater length of staple, having a smoother body and a larger frame. While the aggregate in pounds will be less, the quality will be superior and approximate nearer to Ohio and Pennsylvania wool.

Another cause that has had a tendency to produce lighter shearing sheep, is the boom that has existed for cross-bred lambs from Shropshire sires. Some of these cross-bred sheep are retained in the flocks. While they do not shear heavy fleeces, it is a staple of wool that is eagerly sought for by buyers. The palpable danger to the future of the wool industry, is that too many of these sheep will be retained in the flocks, and about the time the Merino blood is too far lost to be recovered, the fancy for goods will change, and fine wool will again be used exclusively. There can be no personal pride in rearing a flock of mongrels. There is no ideal to be working toward, while the Merino can be bred to any type and still be a Merino sheep. The popular taste now is for a larger sheep, with less gum and oil, and greater length of staple. This combination is readily gained by selection, and the type will soon become fixed.

There was some hope among farmers the the beef-inspection bill, which failed to become a law in our State, would have helped the cattle trade in some degree. It may be that the depression will be its own cure. There has been no effort among farmers to furnish the local markets even with good beef, and now when the pinch comes, and the demand is greater than the supply, fair prices are being obtained for such cattle as will pass muster. Three cents is readily paid for well-fed steers and heifers, and there is some looking about and inquiry for them. One local butcher is contemplating the project of ordering a carload of beef cattle from Chicago, to supply the home demand. This illustration of "carrying coals to Newcastle" would be quite anomalous for an interior town surrounded by a fine farming country. This condition of things doubtless prevails to a greater or less degree throughout the State, and is a very natural sequence following the extreme depression in the values for beef animals.

The scourge of cut-worms is not so devastating as last year. It is somewhat, however, like the old Roman's wound, which he said, "was not so deep as a well, nor so wide as a church door, but would do." Early sown vegetables have been eaten off to some extent in gardens, but what corn is above ground has been "protected" by frequent frosts and cold nights, so that this midnight marauder's opportunities have been restricted somewhat.

I think I mentioned in this correspondence last season, my belief that the eggs of cut-worms did not all hatch out in the fall, but that under certain unfavorable conditions, a part of them remained over the winter and hatched after the ground became warm enough in spring; that this later brood worked the mischief which is done after the time when entomologists tell us the worm transforms itself into the moth. This year all the worms seem to be full grown, which to me is a prophecy that their unwelcome visit will be short.

May 30.—The sky is all overcast and a slight rain is falling, which threatens to become general and continuous. A. C. GLIDDEN.

Van Buren County, Mich.

English Notes by T. Bowick.

A very high temperature with a limited amount of bright sunshine, is usually associated in weather forecasts with "thunder locally." But as the accompanying additional rainfall has principally occurred in the grazing districts—i. e., on the western half of the island—the conditions have been helpful to every interest. I seldom remember a more genial and pleasant May than the present; even in the great city one feels it joyous to live.

Corn and meal both respond to the fine weather, and trade is alike dull with either. Fine English wheats maintain their value, but the supply of middling qualities is in excess, and both they and our foreign cargoes have gone back 12 cents per 480 lbs. on the week. Russia still gives the largest imports, and her bulks would be even greater but for the fact that the exchange value of the paper rouble is 28 per cent. higher than at this time last year. Meat is coming to hand fairly, both of home and foreign production; and it may be said that the turn is in favor of the buyer, except in respect to neat small mutton of all kinds. The experts assure us that low prices are to rule in the immediate future; that graziers have bought in at too high a figure to admit of any profit; and that the visible supplies from America will probably swamp every calculation.

Butter is low enough in price, though not so low by 2 cents a pound, as it was a year ago. Our chief market (which is indeed a fair criterion of the trade) and the one in which the arrangements for classifying are the most complete, continues to be Cork; and the following report of yesterday's trade, which I place in tabular form, will show both the relative qualities and the proportionate prices:

Qualities.	*Numbers.*	*Price per cwt.*
Firsts	775	$[illegible]
Seconds	313	[illegible]
Thirds	126	[illegible]
Fourths	76	[illegible]

From this it is evident that extended dairy-school instruction is doing its work in Ireland, for the numbers (in respect to quality) have all but changed places during the past twelve years. I met this morning a small farmer from Cheshire, who is in town, giving evidence before the House of Commons Committee on Small Holdings, of which Mr. Chamberlain is chairman, and I gathered from him that improved methods are hardly known among the rank and file of his neighbors. No one among them has ever thought to produce an article which would compete in our home market with the "Gargonzola," which is essentially a small-holdings production, from the plains of Lombardy. There may be a trade secret connected with it, but it has not appeared to me that the small farmer of that region is at all the equal, not to say the superior, of his brother in England, and I do not think the herbage of the respective countries has anything to do with it. Perhaps we may get more attention to rural matters when the proposed new Minister of Agriculture gets into harness. I have however, little faith in paternal legislation.

Last evening I walked through Richmond Park, one of the most charming of the royal demesnes, and only seven miles from London as the crow flies. The herd of deer showed in fine blooming condition, which is always a good sign; while the adjacent meadows were ablaze with buttercups half hidden among the richest promise of a hay crop that has delighted the eyes of the farmer for years. It must be said also that the prospects for every kind of fruit are all that can be desired. Night frosts have been unknown, and as the blossoming time is two or three weeks later than usual, the various orchards are in the most charming condition. We have more than double the acreage devoted to hard and soft fruits within the past half century, and now run close on a quarter of a million acres. Singularly enough some of the best strawberry-growing districts lie on the sunny Grampian hillsides, in the far north; but railways have all but annihilated distance in regard to the transit of these perishable goods. Great improvements in the varieties of fruit grown, and in the methods of culture, have been introduced of late years.

It is probable that we shall hear nothing more of the proposed legislation relative to sugar bounties; opposition to the measure was of the strongest character, both in Parliament and also out of doors. Already, however, there has been a rise of two cents per pound, which on an average consumption of 73 pounds per head (the quantity used) amounts to a respectable addition to indirect taxation. Since 1873 the price in the market has lessened by 50 per cent., while the consumption has increased in the like amount. I am not remarking on whether it is wise or otherwise in other countries to give bounties, to help to supply our people with cheap sugar, but I do feel keenly on the matter of punishing the many (in the way that was proposed) for the sake of advantage to the few. Better for us to have pensioned off our remaining sugar refiners, rather than to run the risk of straining relations with our neighbors, or having retaliatory duties inflicted.

No letter would be complete without its Irish paragraph, and I close with the official figures showing the lessened population during the past half century. As the battering ram is still doing its work impartially on the mud cabin and on the comfortable homestead (put up at the expense of the tenant or his forefathers), one wonders what the census will reveal at the next decimal period two years hence:

Census.	*Rural population of Ireland.*
1841	7,292,120
1851	5,347,736
1861	4,576,196
1871	4,211,283
1881	3,989,167

London, May 15.

Inquiries and Answers.

Vernal Grass.—Please name inclosed grass. We have called it fox tail here; some say it is not that, but do not know what to call it. E. D. R. *Delhi, N. Y.* [It is "sweet vernal grass," *Anthoxanthum odoratum*. The true fox tail grass appears much later in the season, is generally found in cultivated ground and has not the sweet and agreeable odor which this grass emits in drying. H. E. P.]

Lubricating Substances.—I have a quantity of goose grease which I wish to use as axle-oil on a light wagon and buggy, but find that it is too thin. Would it do to mix powdered black lead with it in quantity sufficient to make it of the right consistency? A. A. [Two points are involved in questions of this character—one is the retention of the lubricating substance from waste, and the other is reducing the amount of friction. Mixing finely pulverized black lead with the goose-oil would of course make it stiffer, but it would not necessarily make a better lubricator. Actual experiment must be resorted to in order to determine such questions. For example, where cast-iron rubs on cast-iron, the friction with lard and black lead has been found only one-half as much as with tallow; but with bronze on wrought-iron the friction with lard and black lead is rather more than with tallow. On wooden surfaces on wood, soft lard is better than harder tallow. With steel on bronze, the friction with tallow and with olive oil, is distinctly less than with lard and black lead. We mention these facts to show that actual experiment is required to determine results when the reduction of friction is important. In the case of light wagons and buggies, the friction at the axles is obviously many times less for the horse on account of the long leverage at the circumference of the wheels. In more complex machinery, as mills and threshing-machines, it is important to reduce the friction as much as practicable, as it might become a large item. For carriage wheels, the lubricating substance should be one which will keep its place, which is one of the merits of black lead mixed with lard; but some unmixed oils, as castor-oil, also answer a good purpose. Thin oils have one advantage over thicker substances, because less in quantity is required to be applied at a time, and there are several disadvantages of a copious application. In applying finely pulverized black lead with the goose-oil, it will be important not to make the mixture too thick, even if the application has to be more frequently repeated.]

Oat Grass.—I send grass, which please name. It is new to this section. The first I saw of it was a few bunches growing in a field of Randal grass, the seed of which was brought from Lynchburg, Va. It grows in bunches or stools, five to six feet high on strong land, and is very early, and seems hard to kill or get rid of. Please give some information about it, and how it is regarded for pasture or meadow. J. A. S. *Mooresburg, Tenn.* [It is "tall oat grass," *Arrhenatherum avenaceum*. It is an introduced grass, and is excellent both for hay and for pasture. In some parts of the South it remains green during the winter (it being perennial), and it has therefore been called "evergreen grass." It is an early grass, and may be cut twice in one season. Its yield on good soil surpasses that of timothy. C. H. P.]

Sheep Papers.—I wish you would give me the name of a paper published in the interest of sheep breeders, where and by whom published. S. S. [American Sheep Breeder, Chicago; Shepherd's Journal, Zanesville, O; Montana Wool Grower, Fort Benton, Mont.]

Cabbage Maggot.—What can be done to save a crop of cauliflowers from small, white worms, which infest the stem below ground? The stems are fairly alive with them. They were nicely set to head out. A. C. B. *Providence, R. I.* [The small, white worms infesting the stem of the cauliflower are the troublesome cabbage maggot. It is said that a strong burdock infusion is an effectual remedy for it, if applied as soon as its operations are discovered. When the larvæ have burrowed within the stalks they are out of reach of any application that can be made. The only course then is to take up and destroy the plant with the surrounding soil that may contain larvæ not yet within the stalk. The burdock infusion is made by cutting up a quantity of the stalks and leaves and mashing them to a pulp in a kettle or tub mixed with water. Let the mixture stand over night, when it may be poured from the spout of a sprinkling pot at the base of each plant. Another remedy is to remove a little earth from around each stalk and apply caustic shell lime. Unleached ashes applied about the plants and washed in by rains are said to destroy the maggot. A kerosene emulsion made after the common formula, and reduced in the proportion of one part to twelve of water, should kill the larvæ without harm to the plants. J. A. L.]

Apple Tree Worm.—I wish you would give us a description of the apple tree worm or tent caterpillar. They are exceedingly numerous, and we should like to know a little more about them. Is it a moth that lays the eggs, and if so at what time does it appear? M. P. *Delhi, N. Y.* [Descriptions of this caterpillar, figures of it and of its nests and eggs, and full accounts of its habits and the best remedies to be employed against it have been recently given in the COUNTRY GENTLEMAN that it does not seem necessary to repeat them at the present. The information above desired may be found in the issues of June 21 and July 5, 1888, and in that of April 4 of the present year. In the first and last named of these, figures are contained. The moth appears and deposits its eggs usually about the first two weeks of July. Contrary to my expectation this orchard pest has made its appearance the present season in nearly as great abundance as it did last year. It is abounding throughout Eastern New-York, while the western part of the State is comparatively free from it. There is no good reason why it should be permitted to ravage apple orchards. The carelessness or negligence that permits it is a positive crime. Remedies and preventives—all that are needed—have been time and again pointed out in our agricultural papers, and only need to be put in practice. But perhaps some of our farmers do not take an agricultural paper. The paper would cost something if it is true—about the price of a barrel of good apples. But the directions for destroying the egg cells or nests of this orchard pest given in one of the issues of the COUNTRY GENTLEMAN mentioned above, if followed would be worth the price of from ten to twenty barrels of apples to any owner of a good sized apple orchard in Eastern New-York this year. J. A. L.]

The Entomologist.

Rose-Bug Destroying Peaches.

A correspondent of the COUNTRY GENTLEMAN, probably from one of the Southern States, sends a box containing a peach of an inch in diameter, which is in part eaten away by the insects that are inclosed with it. By some strange mishap, the communication sent with the box has disappeared from my table, but it probably asked for the name of the attacking insect and remedy against it.

The insect is the notorious and destructive rose-bug, *Macrodactylus subspinosus*, which at times proves a sore pest to the fruit-grower. The old remedies are, jarring the insects from the trees on sheets and destroying them, and dusting the foliage and fruit with plaster, slaked lime, oak ashes, or even road dust.

The Rural New-Yorker says that the injuries of the insects may be prevented by spraying them with pyrethrum in water; that this method is more simple and effective than any other that may be used. It is to be done in this manner: Wet two tablespoonfuls of the powder with water, and mix into a paste. Stir this into two gallons of water, and apply with a force-pump in a fine spray. It is claimed for this application that "in half an hour after the bugs are sprayed, they fly away or fall to the ground, and two thorough sprayings, about five days apart, suffice to relieve from all fears of their depredations." (Rural New-Yorker, July 16, 1887, XLVI. p. 261.)

We do not know that this method has been tested by others. We doubt its full efficiency, but have not been able to make experiment with it. Its effect would probably be that the insects would fall from the trees partly paralyzed, but we do not see how it could serve as a preventive of a new attack. Give it good trial and report results. J. A. L.

The Rose-Leaf Hopper.

EDS. COUNTRY GENTLEMAN — What is the best method of exterminating white flying insects sucking juices from under side of rose leaves? White oil, lime, snuff, &c., all fail here. ROSE LOVER. *Cuyahoga Falls, O.*

The insect for which a remedy is asked for above, is the rose-leaf hopper, as commonly known by almost every one who has to do with the cultivation of roses. It collects on the under side of the rose leaves, where it sucks the juices and not only causes an unsightly disfigurement of the leaf by the pale or whitish blotching that it produces, but also destroys its vitality.

Of its successive broods throughout the year, the first appear as minute white specks on the under side of the leaves early in May. They molt a few times and assume the pupa state the latter part of the month. This year nearly all had changed to the pupa on the 25th of May. At this date also the first winged insects had made their appearance. The pupa may be recognized by their wing pads, marked with three brown dots, and bearing a short, stiff, brown hair; there are also on the thorax eight similar setiferous brown spots, and an additional anterior pair which are not brown. The perfect insect is white with brown edges and feet.

Dr. Harris has given an account of the rose-leaf hopper under the name of *Tettigonia rosæ*. It does not belong to this genus, but as it has not received late scientific study, it cannot be cited at present under its correct scientific name.

But of more importance is a remedy for its injuries. Like many other insect pests, this should be attacked as soon as it first makes its appearance, and in its earliest brood. It is then comparatively easy to destroy it by a few sprayings of whale-oil soap or tobacco water, applied so as to reach the lower side of the leaves, where they are to be found. Later, up to the time that they have assumed their pupal stage, I have found fresh pyrethrum powder, blown over them with a powder bellows when the dew is on the leaves, quite effectual in their destruction. Perhaps pyrethrum in water would be still more effective. Powdered hellebore in water should also destroy them. From some experiments commenced last year, I think that undiluted kerosene may be atomized over the insects without injury to them. I have just repeated the experiment this season, killing the insects, but it remains to be seen if any injury will result to the foliage which was covered with the spray. Should harm result, the kerosene emulsion could be substituted.

It should be remembered that all of the above applications, to be effective, should be employed before the insect becomes winged, for in its final stage its wings are closely appressed to the body like a steep roof, and cover its breathing pores (spiracles) so as to shut out from them the applications, which have their chief efficiency through these openings.

When allowed to become winged, mitigation of injury may be found in driving them from the bushes upon kerosene-saturated cloths, or on tarred or other sticky surfaces to which they will adhere. J. A. L.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.)*

SWELLING IN JOINT.—A 6-year-old cow pony has a soft swelling in the gambrel joint; some say it is a "blood spavin." He is lame in that leg only when I ride him. M. C. L. *Alma, New-Mexico.* [Either apply golden blister or have the actual cautery applied.]

SWELLING ON KNEE.—A young mare that has never been strained and has been used very little, has a swelling like a tumor on the knee joint of her hind leg. It does not affect her any yet, but grows slowly. W. B. W. *Antwish, Miss.* [Apply golden blister; then report effect in about a month.]

SWELLING AT NAVEL.—A sucking colt, twenty four days old, has a swelling at the navel, about two inches long and half as wide. I am afraid it is a rupture. F. P. C. *Sylvania, Pa.* [If it is a rupture you can reduce it by taking the sac in your hand and manipulating the parts; pushing gently upwards, the intestines can be worked back into the abdomen. Afterwards they will come down again. In case it is a hernia (rupture) use Moore Bros.' hernia ointment and in all probability a complete cure will be effected.]

SWOLLEN LEG.—A mare has a badly swollen leg, and last February was sick for two weeks, and has been very weak since; if she gets down cannot get up alone. *Vernon, N. Y.* [Give mare 2 oz. spirits of turpentine and 8 oz. raw linseed oil. Give tablespoonful of the following powder three times a day: Powdered rhubarb, 4 oz.; cream tartar, 8 oz.; powdered nitrate of potass., 6 oz.; mix. Give the following ball the day after treatment is begun: Powdered barbadoes aloes, 4 dr.; powdered gentian, 2 dr., and sufficient quantity Venice turpentine; mix; make one ball.]

BUNCHES AND SWELLINGS.—A six year-old mare has had distemper; when apparently nearly well, was suddenly covered with bunches varying in size from a walnut to a man's hand; her legs also would swell to an enormous size; then they would leave as suddenly as they came, and reappear again in a few hours. Has been in this way for two weeks; is a trifle better at present. J. W. B. *Greenwich, N. Y.* [Give the mare a physic ball. Mix in feed twice a day an ounce of the following powder: Bicarbonate of soda, 1 lb.; cream tartar, 8 oz.; mix. Give regular exercise. She may need other medicines in a week.]

NERVOUS TAIL-SWITCHER.—A mare has constantly switched her tail for several months past; appears to be in constant heat, receiving stallion at first, and again on her trial day. There is also a frequent and spasmodic contraction of the bladder. Is kind; does not kick at all, but when handled about rump seems excessively nervous; has a spasmodic ejection of urine, &c. Is perfectly healthy every way; heavy built, and in good condition. J. B. D. *Forest Glen, N. Y.* [Give her one of the following balls; repeat in two days: Powdered barbadoes aloes, 5 dr.; powdered camphor gum, 3 dr.; powdered opium, 2 dr.; powdered gentian, 4 dr., and sufficient quantity of syrup; mix. Make two balls. Inject an ounce of the following lotion into vagina twice a day: Sulphate of morphine, 30 gr.; powdered sulphate of zinc, 2 dr.; water, 1 pint; mix.]

HARD QUARTER—WARTY GROWTH.—A Jersey heifer calved May 24; was driven from pasture that evening; one quarter (behind) of udder was hard, and from it not a drop of milk could be drawn; no soreness; remainder of udder all right. Used hot water and liniment; section still hard but smaller; nothing drawn from it. (1) A two year-old filly has a lump between hind legs about 8 or 10 inches below vagina. Last year it was about the size of a small bird's egg, and felt like a hard lump enclosed in the flabby skin between legs; is now about the size of half of a man's thumb, and is elongated by a small warty growth, which if much larger will interfere with her in traveling as it will rub in moving hind legs. (2) I. D. O. *Senatobia, Miss.* [1. It is not likely that the quarter will yield to treatment. An instrument for opening obstructed teats should be used, and if an obstruction is reached it should be opened. Rub the quarter with some of the following medicine once a day: Tincture aconite root, 2 oz.; tincture iodine, 4 oz.; spirits camphor, 6 oz.; mix. 2. The growth should be dissected out; this is the only satisfactory method. Then the wound should be treated in the ordinary way.]

Weather, Crops and Prices.

Meteorology for May 27-June 1.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.20	inches.
Lowest	do.	do.	.....	29.71	do.
Mean	do.	do.	.....	29.96	do.
Highest temperature	do.	.....	78°	
Lowest	do.	do.	.....	40°	
Mean	do.	do.	.....	57°	

One clear day; one fair; five cloudy. Four days on which rain fell: Total precipitation, .51 inch. Prevailing wind, S. E.; maximum velocity, 35 miles per hour, on the 31st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day	27th	28th	29th	30th	31st	1st	
This year	58°	52°	58°	51°	61°	73°	65°
Normal	64°	66°	64°	64°	65°	67°	66°

Total deficiency for the week, 39°.

General Review of the Week.

Temperature.—The week ending June 1 has been usually cool in all districts, except in the South Atlantic States, where the temperature, although below, has differed but slightly from the normal. In all other agricultural districts east of the Rocky mountains the daily temperature ranged from 6° to 15° below the normal, the coldest weather occurring over the Ohio and Upper Mississippi valleys and the lake regions, where the daily temperature was from 12° to 15° below the average.

The cold weather during the past week has greatly reduced the season's excess of temperature previously reported, and on June 1 the average temperature for the season, from Jan. 1 to June 1, differs less than 5° from the normal in all districts from the lake regions southward to the Gulf and South Atlantic coasts. The season is about ten days in advance in New England and the Upper Missouri valley, slightly in advance in the central valleys, and from three to five days late along the South Atlantic and Gulf coasts.

Precipitation.—The rainfall for the week has been largely in excess in Missouri, Arkansas and Kansas, and generally over all States east of the Mississippi, except in Northern New-England and Southern Georgia. In the remaining districts generous and well-distributed showers occurred. The heaviest rains occurred in the Middle Atlantic States, where from two to seven inches are reported, while in Tennessee and the Ohio Valley the rainfall ranged from two to four inches. Over the greater portion of the cotton region more than an inch of rain fell during the week, while in Florida, southern Georgia, Louisiana and Texas the rainfall amounted to less than 3-10 of an inch. The rainfall for the season continues in excess generally throughout the Middle Atlantic States, the east portions of North and South Carolina, and from Texas northward to Iowa and Dakota. The heavy rains during the past week greatly reduced the seasonal deficiency previously reported over the Ohio Valley and Tennessee and the northern portions of the Gulf States. At stations along the Ohio river about one-half the usual amount of rain for the season is reported, the deficiency for the season at present amounting to about nine inches. The deficiency for the season in the east Gulf States and Tennessee ranges from eight to ten inches, while the excess for the season in Virginia, Maryland and along the North Carolina coast amounts to from four to twelve inches.

General Remarks.—The cool weather and excess of rain were generally unfavorable for growing crops in the States north of the Ohio river. In the northwest the cool weather and frosts caused some injury to crops, but in Dakota, Minnesota, and Nebraska the general conditions were favorable for wheat and corn, excepting possibly the cool weather, which has retarded the growth of corn. In Missouri, Illinois and Kansas excessive rains and frosts are reported as having been injurious to the corn crop.

In Kentucky, Tennessee, Arkansas and Texas the crop conditions were doubtless improved by the rains, but cool weather was unfavorable, and some slight damage occurred from frosts on the low lands.

Drouth conditions continue in the south portions of Mississippi and Louisiana, while the rainfall in the northern portions of these States was favorable, but the weather too cool and sunshine insufficient for the growth of cotton plant. Reports from Alabama indicate that drouth has probably caused injury to all crops, but general rains occurred during the week, which are reported as favorable for early cotton. Owing to interruption to telegraphic communication no reports have been received from the South Atlantic States, where the serious drouth was interrupted during the week by general rains. Heavy rains and floods proved injurious in the Middle Atlantic States, and damaging frosts occurred in Northern New-York and Northern New-England on Wednesday, while the weather in Southern New-England was favorable for all crops.

New-York—*Pawling, Duchess Co., May 25.*—We have thus far had splendid weather for large crops of all kinds; the grass is looking unusually fine, having had plenty of rain, and it is about two weeks earlier than usual. Cattle are, as a general thing, going out to grass in splendid condition, and the milch cow is returning well at the pail, the specialty along the line of the Harlem railroad. Not much winter grain grown in the eastern half of the county, but what there is is looking rather better than last season at this time. Early potatoes are well advanced, and have a fine appearance, but their enemy, the potato bug, put in his appearance as soon as they broke through the ground, and is doing his utmost to keep them down and make a short crop. More acreage is put in than last season, owing to high prices locally for them the past winter. Corn is coming up nicely, the very warm days the first of the month, and plenty of rains since, have been unusually favorable for the seed to germinate. Generally speaking there is more corn planted than last season, mostly for the increase of the fodder, and oats never came up more evenly and of better color than they are at present; nearly all grew sown very early. A great profusion of fruit blossoms of all kinds, both large and small, but in some instances quite a percentage blighted; some before forming fruit and others after the weather became too warm. There was a slight frost the 23d on low grounds, touching some of the tender plants in the gardens, and the leaves upon some trees. If there had not been quite a little wind the frost would have been more general. I. W. H.

Rochester, May 30.—Not in five years has the grape crop of the Keuka valley been so cut up by frost as last night. Over 15,000 acres are devoted to grapes in that region, and the estimated loss is 25 per cent.

Allegany Co., May 31.—May was a fine month for farmers until 29th; severe freeze nearly ruined fruit and grass; hickory trees black; beech trees hurt; corn and potatoes in the same condition. Thermometer 22° at 5 o'clock. Quite a number of cows having milk fever; more fatal cases than usual. Cheese selling at 8½c. per lb. at factory; eggs, 12c. per doz. Severe rain storm to-day, streams full. W. C. T.

Maryland—*Forest Hill, Harford Co., May 28.*—The weather has been warm and favorable for the rapid growing of all crops until within the past few days, when a sudden change to cooler weather, with much rain, has put back all farm work for the present. Corn for the most part is up and looking well, some pieces having been cultivated; but little done by the cut worms. Potatoes are growing finely, and with little trouble from the bugs. Thus far grass and oats are all looking well, but much of the wheat is badly lodged; being all in head, and most fields being very heavy, it is feared that much of the grain will be ruined. E. S.

West Virginia—*Bunker Hill, Berkeley Co., May 27.*—The past month has been unusually wet, keeping many farmers from planting their corn in proper time. It is raining fast at this writing, 7 A. M. Wheat is falling down by reason of the large growth of straw, and unless it gets drier very soon much of it will not fill well; many heads, ill is feared, will be blasted. Grass is doing finely, and corn that was planted in proper time has come up splendidly, and is growing finely, needing but little replanting except where taken by the cut worms, they being troublesome in sod land. Live stock doing finely; pigs in fine health and good demand. Wheat is bringing from 80@90c. per bu.; corn, $2 per bbl.; butter, 10c. per lb.; lard, 12c.; wool, 20@25c.; eggs, 12c. per doz. Times seem good, and there is plenty of work at living prices. The C. V. R. R. will be completed in July through to Winchester, Va., and will be a great benefit to our people. Land is selling low on account of the low prices prevailing for agricultural products, and I predict that it is a good time to invest in this section. E. L. H.

Michigan—*Cheboygan, May 30.*—It froze hard here Tuesday night, ice forming an eighth of an inch thick. Early vegetables and tender plants were killed and fruit trees badly nipped on several large farms.

Illinois—*Champaign County, May 28.*—The light rains, lowery skies, and low temperature of last week intimated a cool summer, and the weather this week has confirmed the supposition. The rains, in all not over half an inch, have been of great benefit, bringing seed corn up in dry and cloddy fields, starting grass, slowing the process of ear development in wheat and oats, and thereby improving the plumpness and quality of the kernels. This spring's experience has fortified the position of those farmers who practice fall plowing for corn and oats, by demonstrating that in dry seasons land thus prepared is far the better seed-bed than that freshly broken in the spring. The low temperature is very favorable both to wheat and oats, and though the straw of both will be light and short, the heads and the filling of them may be up to the average. The rains if continued may fetch mid-summer and fall pasturage up to the average, but it is too late for a grass growth that will yield more than half a crop of hay, probably not over a third. Outlook rather gloomy for tenants paying four and five dollars an acre rent, many of whom depend much on the hay crop to make that payment. *May 29.*—Cold, northeast storm prevailing since midnight. Precipitation 1¼ inches, with probability of 2 inches by noon; barometer, 29.95, and falling; thermometer, 48°; rain steady rather than heavy, and the dry earth takes most of it up—heaviest rain since July 5, 1886. *May 30.*—The storm is still under full force. Rainfall to this hour 3¼ inches; barometer hardly a tenth below normal, but thermometer 20° at sunrise. For the date this storm is "a terror." I remember nothing since July 31 and Aug. 1, 1875, like it, in duration, steady fall of rain, high wind and low temperature. Many fear the worst for the crops is to come, when the weather clears, from hard frost. E. P. J.

Galena, Jo Daviess Co., May 31.—A heavy white frost visited this section yesterday morning. Corn on low ground was blasted to the sprout and all kinds of tender fruit killed. The damage is very serious.

Wisconsin—*Fond du Lac County, May 28.*—For the past three weeks we have had slight rains, with sufficient precipitation to save from a drouth. Much of the planted corn was left in dry earth, and remained there up to last week, when most of it has made its appearance. We have had the first soaking rain of the season. The dry earth has allowed the cut worms to do some damage to corn, and I learn that whole fields of wheat have been sown over to barley, because of the destruction by cut worms. They will probably lie more quiet for a while now the ground is soaked. Pastures are fair, and prospects of a hay crop beyond expectation. Small grain has not stooled out as much as is desirable, caused by dry and cold weather; still the prospects are fair for a medium crop. Prices very low. Wheat that could have been sold last fall for $1 a bushel now goes for 70c. The buyers did not want the wheat last fall, and they discouraged the farmers from selling, saying to hold it, as it must go higher, and now they are getting the same wheat for 30@35c less. It seems as if farmers will never learn to secure a good thing when they have the opportunity. Oats, 30c. per bu.; corn, 30c.; barley, 35c.; live hogs, corn fed, $3.75 per cwt.; fat steers, $3. *May 31.*—After nearly 24 hours' rain on 29th, weather turned cold and blew from the north, giving us frost on the mornings of 27th, 28th and 29th; ice forming on the morning of the 30th, and this morning an inch of snow on the ground. Corn cut down to the ground; the clover fields turned black; gardens nearly ruined, and small apples and cherries falling. A gloomy time for the farmers. Prices away down, and going lower. Wheat, 65@67c. Corn and grain much injured by cut worms. E. H.

Janesville, Rock Co., May 29.—Never in the history of Janesville has there been known such continuous cold weather. We have had six frosts during the past eight days; two very keen. There are, of course, many reports of damage, but not so disastrous as we might expect. Tobacco suffers most of anything. Many carefully-tended house plants, which have been put out-of-doors, have suffered ruinously, some irreparably, to the sore distress of their owners. Never as much rain and thunder in May in the memory of 45 years' history of Janesville. Rheumatism rampant. Wheat, 70@75c. per bu.; barley, off, 35@40c.; rye, off, 40c.; corn, 35c.; oats, 25c.; potatoes, 30c.; onions free; hay, $4.50@7 per ton; cattle, $2.40@3.40 per cwt.; hogs, off, $3.50@4; tobacco, 24c., 32c., 34c., 36@41c. per lb.; coal still in poor man's trust, $6 per ton. W. H.

Horticultural Department.

Editorial Notes and Comments.

TREES FOR WINDBREAKS.—When the main object is to protect grain and other crops from storms and cyclones in summer, deciduous trees are about equal to evergreens, provided they are allowed to throw out side branches all the way down to the ground. If these trees are cut for fuel every twenty years, such kinds should be planted as make the best fuel or timber, provided short timber is wanted. The best timber is that of long growth, but this growth will diminish their usefulness as screens. For permanent value both in winter and summer, evergreens are the most efficient; and a single row of Norway spruce or any of the free-growing pines, will afford as much shelter as several closely planted rows of deciduous trees when denuded of foliage. It must be borne in mind that we cannot have all the advantages of providing screens and raising long timber at the same time; but as a substitute, a supply of fuel may be secured, and timber the length of fence posts, which for its kind will be of much value.

A PLEASANT HOME.—It is very important on several accounts for every farmer to provide pleasant attractions for his home, especially if he has children growing up, and he wishes to increase their taste for the charms of country life. The following dozen requisites should not be omitted: 1. A dry and healthy situation for the house. 2. Suitable walks to the barn, and around to its doors and gates. 3. A neat appearance of the dwelling outside, and the homelike comforts within. 4. A smooth lawn around the dwelling, with a few ornamental and graceful shrubs, if the space is small, and shade trees if it is large. 5. Secure pure air, with nothing to impart bad odors. 6. Provide enough fruit to give a home supply through the whole twelve months. 7. Have a neat, productive, and profitable garden, kept in good order at little cost, with horse labor. 8. Let every thing be marked with neatness instead of disorder and waste. 9. Never board hired men, but provide them neat and cheap cottages to board themselves. 10. Assist the young members of the family in the study of the sciences, collecting specimens, and in sketching and drawing. 11. Provide a home museum and library, for leisure time or rainy days. 12. And, most valuable of all, cultivate those benign virtues which produce pleasant and kind faces in the occupants of home.

SELECT APPLES AND PEARS.—P. BARRY named the following apples as the best *for Western New-York*, in which good judges will agree: Fall Pippin, Famouse, Chenango, Gravenstein, Jersey Sweet, Malden's Blush, Oldenburg, Stump, for autumn. And for winter, Baldwin, Esopus Spitzenburg, Golden Russet, Jonathan, Northern Spy, Red Canada, Rhode Island Greening, Tompkins King. For pears—Chas. Downing would take, if for one only, Bosc; next Dana's Hovey; then Tyson, Boussock, Sheldon, Anjou; and for market, Bartlett, Angoulême, Lawrence, Anjou, Winkfield. For larger collections, Dearborn's, Giffard, Manning's Elizabeth, Petite Marguerite, White Doyenné, Frederic Clapp, Malines, Emile d'Heyst and Souvenir d'Esperen, may be added.

HARDY FRUITS.—On looking over a former volume of the Michigan Horticultural Proceedings, we find this question from Charles A. Green: "Why are seedling fruits apt to succeed best in localities where they originate?" Unlike answers are given by different persons, but the true explanation appears to be the following, taking for granted that when seeds are planted there is nothing in latitude and longitude that the seeds can know anything about; and warmth and soil being alike, they would produce the same varieties whether in England or Oregon. Subsequent action of climate may thin out the unsuitable ones. A thousand apple seeds, for example, are planted at Winnipeg. They have warm summers there, and all come up and grow. But the cold winters thin out nine-tenths, and the hundred that remain must of course be very hardy,—not because the climate made them hardy, but because only those which were naturally hardy could endure the exposure. If the same seed had been planted in Mexico, probably some other hundred would have proved best adapted to that peculiar climate. It was common, years ago, for some pomologists to lay down the rule that European pears were not suited to this country, but the fact that the most popular pear, beyond all comparison, is the Bartlett, and the one variety which President Wilder would select if he could have but one—the Anjou, and the Bosc, which Charles Downing named as the finest in quality, and the Superfin, which P. Barry placed first on the list,—are all foreigners, shows that a foreigner may find as genial a place to grow and develop as in its native spot. Varieties have often done better on new ground than at the place where the seed happened to germinate. The different climates thin the list and make the selections.

SELECTING EARLY SEEDS.—The report of the Missouri Board of Agriculture gives the result of experiments made to ascertain how much might be gained in earliness in selecting the earliest peas which grow and ripen for seed, and comparing the date of the product with the latest ripening. One hundred seeds of each kind were planted, and duplicate plantings made for additional proof. The result was that the earlier selections vegetated better and ripened earlier, the difference amounting on an average to over 14 per cent. in vegetation, and they were fit for the table earlier by an average of five days. Observation was made on July 14, of the planting of April 21, ten plants of which were found to have produced from the early seed 68 pods, of which 36 were well filled; while an equal number from the latest seeds gave only 49 pods, of which only 13 were well filled.

Items in Fruit Culture.

The Thirty fifth Annual Report of the Massachusetts Board of Agriculture contains a number of items in relation to fruit culture, management, marketing, &c., among them the following which we have condensed into compact form:

Prices of Fruit.—In the city of Springfield, the following average prices were received: Apples in 1875, 50c. per bush.; in '85, 20c. Pears in 1875, $3 per bush.; in '85, $1. Grapes in 1875, 10c. per lb.; in '85, 5c. Strawberries in 1875, 17c. per qt.; in '85, 9c.

Bone Manure.—Prof. Maynard says that the pear, like the apple, must have an abundance of plant food; and where well-decomposed plant food is not to be had, nothing will give better results than 500 pounds up to a ton of bone and potash to the acre—five pounds of bone to one pound of muriate of potash. But the fact should not be overlooked that this mixture is not suited to all soils. We have known some good soils not benefited by potash, and others where phosphate produced no sensible increase in the growth or crop.

Yellows.—Prof. Maynard insists that potash will cure the yellows in the peach; and that the liberal application of bone, potash and some additional nitrogenous manure—even if the soil be very poor—has caused trees that were thoroughly diseased to start into vigorous growth again, living years, and bearing crops of fine peaches. The New-Jersey peach-growers, and President Lyon and others of Michigan, have found the disease quite beyond the reach of any remedy except eradication of the diseased trees. Further experiment will be desired by many.

Well-Ripened Fresh Fruit.—The superiority of well-grown, well-ripened fruit on properly trained vines, and conveyed short distances, was shown by the fact that while the abundant supply of Concord grapes by the ton from the South and West, sold at wholesale at from three to five cents a pound, choice Concords grown near the market, and brought into it in a fresh condition, sold at from five to ten cents at wholesale.

Quince Management.—C. F. Jones of New-Jersey is reported as having adopted heroic treatment for his quince trees with great success. He prunes them, but very carefully, taking out all superfluous wood, and the next autumn he spreads well-rotted manure around the trees, covering the ground farther than the limbs extend. Two inches deep of clear manure are applied, to lie during winter, to be forked the following spring. This manure tells. Of the quinces, fifteen will make a peck, well colored, so that people will buy them. He has sold them for $5 a hundred.

Black Knot.—Mr. Briggs said he had successfully tried linseed oil on the black knot for the past three years. He applies it with a paint brush, and daubs the knots, which prevents the knots from increasing, while the trees keep on growing. He tried it on forty trees where the knot had appeared, and had no trouble. We much prefer cutting off all the excrescence before applying the remedy; and have used chloride of lime and crude petroleum. But excision is the most reliable remedy, if used on the very first appearance of the disease, instead of first leaving it for months as most people do.

Peach Yellows.—P. M. Augur, State Pomologist of Connecticut, said he had been unable to cure this disease of his peach trees. He had believed in the potash remedy. He said: "We have sometimes used eight or ten tons a year, largely in our peach orchard; we have also used muriates and different grades of potash salts. But I am sorry to say we have not been able to report complete exemption from the disease." Mr. Augur described the symptoms, and showed that he understood the difference between the genuine yellows, and the diseased and enfeebled trees which were not affected by it. The genuine disease, he stated, had not been able to cure, and that the only way was to pull them out.

A Woman's Garden—III.

Ferns and Greenery.

Nothing gives a place a livable and home like aspect, or takes off the crudeness of a new house, so quickly as a few vines. Setting them out (if the season permits) is one of the very first things to be done as soon as all danger from workmen is over.

What shall we plant? There are some of the old hardy favorites that refuse to be dispossessed; time, as it passes, only gives them a firmer hold upon our affections. Such are the Virginia creeper, the clematis and the bittersweet, which we may bring in from the woods, free gifts of nature, and obtained without money and without price. The Japan ivy, or Boston ivy, as it is sometimes called, is a newer variety of the ampelopsis, rather more formal and elegant in appearance than the old native Virginia creeper, as it resembles the English ivy in its close, neat habit of growth. It has also the merit of coming in leaf a little earlier in the spring, and lasting a little longer in the autumn, while in the richness of its autumnal coloring it is certainly unsurpassed. The old trumpet creeper, when well established, forms a magnificent mass of foliage, beautifully relieved by its bold groups of orange flowers—a fit object for the study of painter or designer. Does everybody know what charming grace there is in the homely hop-vine, and how delightfully it may be made to adorn a back porch? A climbing rose there must be on every cottage, or June will be robbed of something of her spell. Where the winters are not too severe, the wisteria can hardly be spared. The powerful cordage of its interlaced woody stems will mount to the top of the tallest building, while its noble racemes of exquisite lavender flowers and the delicate luxuriance of the pinnated foliage are alike dainty and graceful. There are many other claimants for favor, newer and perhaps more showy, but these are the established and good old things, that lend grace and loveliness to the streets of our finest rural towns. They are the standards, and, like the classics in literature, we cannot do without them.

An abundance of vines and shrubbery about a country or suburban home makes the flower garden a matter for individual preference. A well dressed woman may wear ornaments or not as she chooses. The pleasant home, in its setting of green, with a modest show of flowers in their season—the rose, the honeysuckle, the fragrant corymbe of the lilac, or the early splendor of forsythia and Japan quince—has no need of gay flower-beds to give it a look of completeness. It has finish and refinement in these lines and masses and spreading surfaces of the most beautiful natural arabesques of greenery—natural and comparatively permanent and free from trouble.

In choosing shrubs for planting, it is well to consider the character of their foliage and how it wears through the summer. The dear old lilac, for instance, is apt to get dingy and shabby before the season is over. It will hardly answer, therefore, to give it too conspicuous a position. In massing shrubbery so as to conceal objects that we wish "planted out," to give full effect to the best outlook, and to so contrive that each individual specimen may not only do its best, but help its neighbors to do their best, no little art may be called into play. One of the very best ways to learn all this is to study our neighbors' gardens, observing closely and noting failures as well as successes. It is much easier and pleasanter to profit by the mistake of another than by one's own. It is not worth while, however, to be frightened or discomposed by our own blunders. Nature is always making fresh beginnings and doing things over and over in slightly different ways, and if something disappoints us in the general effect, it is much better to dig it up and try again than to let it go, though we know that it is out of place. It is always stupid or cowardly to refrain from trying to set one's mistakes right. The main thing in gardening is to have an eye to the general effect, and not to stick things in at random. There is no such thing as getting good results in that way.

One of the prettiest groups of greenery possible, and among the very easiest to manage, is a little gathering of our native hardy ferns. A cool, shady corner will suit them best, on the north side of the house, or at the sides and half protected by a porch or entrance that does not have full sunshine. Plenty of moisture is important, and ease of showering should be considered, though they will bear neglect bravely. It is not by any means essential to have any large variety; a dozen stocky roots of two or three graceful sorts will make a very charming corner, and give a large return in beauty for the small amount of labor expended. But if one chooses, there may be a great pleasure in adding varieties, as one's walks and drives favor collecting; a fine clump of maiden-hair is always desirable, and makes a very effective contrast with other kinds, and a handsome, large-growing, foreign species may have a summer home in the centre of the little colony, if it is desired to enhance the air of elegance in that way. The thing to avoid is formality and anything like pretentiousness. A very simple and natural arrangement is always best, and there is often a corner or border where few things will thrive that may be made most attractive in this way.

Not half enough is attempted in the way of ornamental gardening with fruit. With the strictest utilitarian management, few things in the country landscape are prettier than the blossoming or fruiting orchards, and a little taste and skill in arrangement will make the fruits a decided adjunct of the pleasure grounds. But the limits of my paper forbid enlarging on this subject.

Shrubs, vines, ferns and fruit trees—these are all very simple, ordinary things, the common means of improving our surroundings it may be said. True, that is their great merit. How often the woman's garden has to depend upon the things which are common and easily obtained for its charms. It is pleasant to remember that they are not insufficient; that lavish summer will beautify and gladden the smallest homestead, and that loving skill and taste will effect greater wonders than many a well-paid gardener. DOROTHY.

Asparagus and Fertilizers.

The communication of F. W. T. of Middlesex, Mass., p. 368, under the epigraph of "An Anomaly in Asparagus Culture," gives me an opportunity to state some facts in my own experience which go to show that asparagus of large size and extra quality may be grown as well, if not better, with fertilizers than with manures. Some months ago, I stated I had prepared and applied the silicate of potash in solution to a small patch of asparagus of 48 hills, planted four feet apart each way, the bed being five or six years old. About this date last spring, I reported having sent samples of the product to a leading commission house in Chicago, and in return got a note of acknowledgement, saying the stuff was of extra size and superior quality. This year, in spite of the drouth, the yield of the bed is quite as abundant, the size larger and quality better. Forty shoots taken from the 48 hills and sent to a friend, were ascertained to weigh seven pounds, or two ounces and eight-tenths to the shoot. Some of the largest reached the figure of four ounces. I am not well enough informed as to the best asparagus sold in the New-York city and Philadelphia markets to say whether this asparagus as compared with the best eastern, is larger and better, or not; but I do know that it is entirely out of the common when compared with home-growths. The patch under notice is on low black soil prairie land; at the start its riches are heavily reinforced with stable manure. Previous to the use of the silicate of potash, the product was quite equal

to the average. The extra size for the last two crops I attribute to the fertiliser, in connection, I am bound to say, with tobacco stems, with which the bed was thickly mulched in the autumn of 1887.

I can readily understand how an asparagus bed can be made to yield heavy crops for years without the application of manures, or, for that matter, fertilisers, provided it has been previously annually manured. The explanation is that a large enough deposit of plant food has been made to enable the roots to draw upon it for a series of years without materially reducing the surplus. I suppose there is potash silicate enough in my patch to last a couple of years more, when reinforcement may be necessary. Those familiar with the common practice near large cities of enriching asparagus fields with night soil, slaughter-house offal, guano and other abominations, will be glad to know that a substitute for them has been found, and will be pleased to learn the fact, when the cleanly, chemical salt has been substituted for the rank manures. F. F. J.

Champaign County, Ill.

Ten Don'ts for the Farmer's Garden.

1. Don't deprive yourself and family of fruits and vegetables.
2. Don't depend upon wild berries.
3. Don't depend upon the markets or your neighbors.
4. Don't set aside your poorest land for the garden.
5. Don't plant in a restricted area closely fenced in.
6. Don't plant in little beds.
7. Don't plant in an old orchard.
8. Don't plant largely of anything which demands greatest attention when farm work is most pressing.
9. Don't get plants or seeds of neglectful neighbors or from old plantations.
10. Don't put implicit faith in novelties.

Michigan Ag'l College. L. H. BAILEY.

The Ox-Eye Daisy Flower.

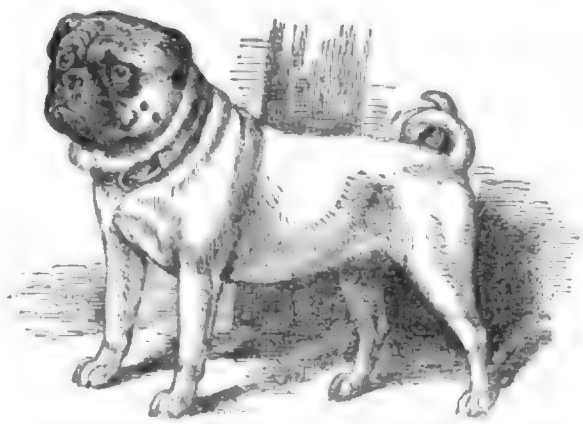
There are some interesting things about a daisy. In the first place, the flower is more than a flower—that is, the structure, with a yellow centre and a broad white fringe around it, is a cluster of flowers. Some may be inclined to doubt this, and therefore a little proof may be needed. Flowers of many plants are clustered; in fact, it is the common way to find several blossoms close together, either in a long row as in the barberry or the locust, or in a flat-topped cluster as in the carrot, or a close head as in the clover. Possibly it may be new to some that the clover head is more than one flower. As a child you may have pulled out the red parts to get the sweet at their core. Each one of these parts is a separate flower. In somewhat the same way the daisy head is made up of a hundred or more blossoms. In the clover the flowers are all alike—some older than others, but all of the same type. In the daisy there are two kinds, namely, the yellow ones in the centre, and the white ones around the yellow ones.

Now a few words as to the parts of the flower. In large blossoms, like those of a wild rose or geranium, there are four sets of parts. Beginning at the outside, there is a cup of green parts. This is the calyx. The showy parts next within are the petals making up the corolla. The third set of organs are small, slender and short-lived, called the stamens. They produce the flower-dust or pollen which causes the seeds to grow. These young seeds are borne in the centre of the flower, in what are known as pistils. Some flowers, as the rose, have many stamens, while others have them limited. In the daisy flower there are five stamens and one pistil. The showy flowers upon the outside of the head have each a large white corolla, which is prolonged until it is called strap-shaped. These ray flowers, as they are termed, do not have stamens and pistils as a rule—at least these parts are imperfect, and seeds are not generally formed by the ray flowers. Small yellow flowers in the centre of the head have good stamens and pistil, and bear the seed. The showy ray flowers are for the purpose of attracting insects, that they, upon arriving, may find pollen, which they gather up, and while going from one blossom to another in the same head, or different ones, drop it where it will cause the young seeds to grow.

In the daisy "flower," therefore, we see a here are many blossoms packed close together, and the outer ones spend their days and find their end in attracting insects, while the less conspicuous central blossoms bear the seed. The sunflower illustrates the same thing on a larger scale. In fact, the daisy and the sunflower belong to the same family, called the *Compositæ*, because of the composite nature of the heads, which look much like single flowers. As the school-girl pulls off the white rays, saying "Love me, love me not," she is removing a flower each time.

If the daisy was not such a miserable weed, it would be much more admired. As it is, it should be pulled up and destroyed. When a boy, the writer used to run barefooted through the bedaisied meadow and kick the heads off as they caught between the toes. He is only sorry he did not destroy still more of the handsome, interesting pests. As there are many flowers in each head, it is natural to expect many seeds. There are about as many as single flowers, for each bears a single seed.

Rutgers College, N. J. BYRON D. HALSTED.



HIGH-BRED ENGLISH PUG—*Specially engraved for the* COUNTRY GENTLEMAN *from drawing by Lydia.*

The Kennel.

The Pug.

The pug dog is an especial favorite with the ladies, and at one time a dog of this breed seemed to be a necessary equipment for any one who pretended to be in society. Of late they have lost somewhat of their hold, but they have many recommendations as house and carriage pets, for they are quieter, and not given to yelping, as are too many of the terriers. The Dutch claim the honor of introducing the pug into Europe, and during the reign of William III they were great favorites in England. They are essentially pet dogs, and are quite useless as watchers, even where a small amount of bravery is required, as they invariably show the white feather, though the opponent may be only a fowl or a little terrier. Thus they are more especially suitable for ladies who desire a companion that will behave himself, and as they are capable of strong attachments, it is not surprising that they have become favorites. They are, however, often indolent and stupid, but this is more the fault of their owners than of the dogs themselves. If properly fed and exercised, they are lively and cheerful, but if they have an abundance of rich food, and are allowed to snooze all day in front of the fire, or on the lap of their owner, they become both stupid and indolent. A pug, to be kept in health and condition, should be sparingly fed and judiciously exercised, when it will be a source of pleasure to its owner.

The points of a pug have been defined as follows: The head round and moderately large (a small head is regarded as a great fault); the face short and square at the nose; cheeks muscular and full; the tongue large (there are those who like to see a little of it protrude); ears thin, small and black, lying close to the face; eyes brown, full and gentle in their glance; and a mole on both cheeks, with three hairs in each, which should be black; the mask and wrinkles should be black, as also the vent. All pugs have a black stripe down the middle of the back, but it is more clearly defined in some varieties than in others. The color may be a rich golden shade or a cool grey, and the coat close, short and shiny. The tail is closely curled, lying flat against the side, the hair of it rough and rather longer than the hair on the body, which is very thick, muscular and cobby. The chest is round and wide, the quarters and loins full and muscular, with a strong, full neck, but no hanging skin. The legs are straight and small-boned; the feet hare or cat-shaped, with black nails.

Pugs vary in size; the smaller they are, the more they are admired, but the whole appearance must be thoroughly symmetrical.

H——, England. STEPHEN BEALE.

Domestic Economy.

We Reap what we Sow.

If we sow the seed of ill-usage in the care of our bodies while we are in the vigor of life, we may expect to reap infirmities as we come to advanced years. The rheumatism that bends many a back is the harvest of bodily neglect and abuse, when that body was erect and in the flush of strength.

Many a housekeeper, in her zeal to accomplish a great deal of work in a very short time, or in her extreme fastidiousness, is unsparing of her energies. She will work to the very limit of her strength, endure exposure, undergo anything if she can but achieve the result she desires.

I once had a neighbor who had a cast-iron rule that her washing should be on the line at an early hour on Monday morning; and not much less than a funeral or a wedding would keep her from performing this work at just that time. She was constitutionally fastidious, and for whiteness her clothes rivalled the snow very successfully. A tinge of yellow or a few specks of dirt in her clothes would really fret her soul more than would all the sorrows of earth. Her bodily feelings were secondary to the quick and perfect accomplishment of her house-work.

Many times have I seen her on a cold morning, with bared head and arms, hanging out clothes. In her haste she had no time to protect her body with wraps and lower her sleeves, but would take her hands out of warm water and leave a warm room to plunge suddenly into a low temperature. At an early age—at about forty years—this woman's health commenced to fail. There was a twinge of pain here and one there; neuralgia, rheumatism, one infirmity followed another, and in a few years she was a physical wreck. She harvested an abundant crop of suffering from the seed of bodily neglect and abuse that she sowed.

If such a plan is practicable, there should be an in-door clothes-line in some unoccupied space in the house, and during the severity of the winter, all, or most of the clothes be dried under cover. A spare bed-room or a shed chamber is a good place. Iron hooks can be screwed into some of the wood-work, and a light clothes-line can be fastened up and taken down in a very short time. There are such cute, light little clothes-lines now sold for 10 cents, about fifty feet in a line, and every housekeeper should have two or three on hand to use in cold, stormy weather. It is certainly a painful task, hanging out wet clothes, with a keen wind cutting one's body, and the feet chilled to the bone from standing on the frozen ground or in the snow.

Of course white clothes do not look so well as when dried out doors, but one's good sense should overcome a squeamishness in ideas when health is the subject under consideration.

Diverging from the subject, I would say it is also exceedingly injurious to clothes to be hung outdoors in cold, stormy weather. The stiff, frozen fabrics break and tear under the action of the wind. One beautiful day last winter we were tempted to hang the washing outdoors, thinking the clothes would dry before night. But we had mistaken the temperature of the weather and when night came the things were still frozen and they were left on the line. In the night a violent wind storm arose and a number of dollars would have been required to cover the damage done to the clothes. One fine linen tablecloth was snapped in two in the middle. Hems were frayed out, and many garments torn.

There are altogether too many charges laid to Providence on account of ill health. Many a person who is prostrated by disease, and spends year after year in suffering, attributes his affliction to the smiting hand of Providence, when in reality his infirmities are the direct result of the carelessness and neglect with which he has cared for his body. Nature has well-defined laws for governing our physical being, but when they are disregarded and we take the matter in our own hands to run in opposition to her rules, our bodies will certainly pay the penalty. NELLIE BURNS.

Points for the Cook.

A DELICIOUS PIE—Is made by stoning and chopping one heaping cupful of raisins, mixing with them the juice and grated rind of one lemon, the yolks of two eggs, two tablespoonfuls of water and half a cupful of sugar. Bake in a rather rich paste, putting the beaten whites, sweetened to taste, over the top.

FROZEN BANANAS.—Cut up six large, ripe bananas, and sprinkle with a half pound of powdered sugar. Let them stand until a syrup is formed and the sugar is dissolved. Then squeeze the juice of a lemon over them, adding the grated rind, a quart of rich cream whipped stiff, and a quart of water.

SCALE CRACKERS—Can be made most palatable by spreading them over with a little butter and placing them in the oven for a short time. For a luncheon dish you will find them particularly nice with quite a thick sprinkle of grated cheese over the butter, and a little salt and pepper, and then heated. While for supper dish follow the former formula, placing the crackers when heated in a pudding dish and pouring over them sufficient heated milk to cover.

STRAWBERRY DUMPLINGS.—Make a fine paste, roll out about a third of an inch in thickness and cut in squares of four inches, putting in each a gill of strawberries; fold over; pinch together tightly and bake or steam them. Have a butter and sugar sauce with a little lemon juice.

CALF'S BRAINS.—Wash carefully, and boil until tender in salted boiling water. Mash them into a smooth paste, seasoning with salt, white pepper, grated onion and chopped parsley. Moisten slightly with melted butter, then stiffen with cracker or bread crumbs. Add a well-beaten egg, and set it away on ice to become quite cold. When ready to use, form them into small round cakes, and fry delicately in hot butter. Arrange them in the centre of a heated platter, with a border of spaghetti, and a tomato sauce flavored with onion poured around it.

LAMB'S HEAD CURRY.—Procure a lamb's head which has been dressed for cooking, with the brains which have been previously blanched. Put the head in a stewpan with sufficient water to cook it, and place it on the range where it will stew slowly until the meat slips off the bones. Let cool, when cut into small pieces. Cut up two ounces of butter and a small white onion, and fry it to a light brown, adding one tablespoonful of curry powder and half a spoonful of curry paste; mix all well together with half a pint of rich broth, put in the meat, and let it stew gently for about thirty minutes. Stew the brains in water five minutes, after which chop very fine, mixing with them a good handful of bread crumbs, a small grate of nutmeg, a little chopped parsley, white pepper and salt, binding all together with an egg, and forming them into small round balls. Egg and bread-crumb twice, and fry a very light brown. Serve the curry with the croquettes around them. Have rice boiled oriental fashion and served separately.

AUNT ADDIE.

New Advertisements.

Angel, Carl	*Situation Wanted.*
Ann's Purchase Agency	*Pedigree Hunts.*
Burr, W. M.	*Kentucky Saddle Horses.*
Saddeman & Son, L.	*Hair-Preserving Bull.*
Brown, J. F.	*Jerseys.*
Box 14	*Man and Wife Wanted.*
Calderwood Farm	*Jersey Bull Calf.*
Clark, John T.	*Merino Rams.*
Fuller, H. H.	*Sale of Sheep.*
G	*Son of Vermonter.*
Galloway & Bro., Geo. W.	*Shorthorns at Auction.*
Howe Co.	*Agents Wanted.*
Hart, H. B.	*Men Wanted.*
Howard, J. Spence	*Berkshire Pigs.*
Higganum Manuf. Corp'n	*Dutton Grinder.*
Ingersoll M'f'g Co.	*N. O. Dust.*
J. B.	*Situation Wanted.*
Mayo, Henry	*English Sale of Sheep.*
Mountain Spring Farm	*Butter-Bred Jerseys.*
Manle, Wm. Henry	*Chester Whites, &c.*
Morehouse, Geo. H.	*Manures—Potatoes.*
Ohl, Ira L.	*Overseers and Herdsmen.*
Rose & Co., E. W.	*Heritage & Fodder Cutters.*
Simmons, J. Lee	*Man and Wife Wanted.*
Shotwell, J. R.	*Cattle Dog.*
Simpson, Lawrence	*Berkshires.*
Wooding, G. W.	*Farm for Sale.*
Warne, M.	*Percheron Horses.*

Pamphlets, &c., Received.

BACON, THOS. st., Treasurer Queens County Agricultural Society, *Hempstead, N. Y.* Invitation to Fairs, June 19-21, Sept. 25-27.

COLUMBUS BUGGY CO., *Columbus, O.* Catalogue; pp. 16, illustrated.

COWAN, A. D., Treasurer Court Memorial Fund, 134 Chambers St., *New-York.* Circular.

EVANS, E. T., General Manager Lake Superior Transit Co., *Buffalo, N. Y.* Circulars.

GILLINGHAM, BENJ. H., Sec'y Agricultural Society, *Morristown, N. J.* Invitation to 18th Annual Spring Fair, June 6-8.

GOODMAN, L. A., Sec'y State Horticultural Society, *Westport, Me.* Programme for Meeting at Brookfield, June 5-6.

GREEN, CHAS. A., Sec'y American Nurserymen's Association, *Rochester, N. Y.* Invitation to Chicago Convention.

SHELTON, Prof. R. M., State Agricultural College, *Manhattan, Kas.* Report of Pig-Feeding Experiment; pp. 8, with Plates.

THOMAS & Co., Investment Bankers, *Tacoma, Wash.* Circulars.

Inquiries and Answers.

Two-Horse Cultivators.—Can you assist an old subscriber in the selection of a two-horse cultivator? I wish to obtain one which is easily handled, works with little waste of land at turning points, and can be adjusted for narrow or wide rows, and for deep or shallow cultivation. Is a walking cultivator easier handled and more effective than a riding one (riding being of no object), and are the former longunless? I have obtained circulars from various makers, but none gives the needed information. C. H. *Belleville, N. J.* [Of the many manufacturers of two-horse cultivators in different parts of the country, who fail to advertise and give their address, it would be impracticable to select the best or furnish detailed information among the whole. All that are well designed and properly constructed should of course be capable of expanding and contracting in width, which would be essential. A walking cultivator is less expensive, and in some respects more easily handled than a riding one.]

Buckwheat, Rye and Oats.—I have read with interest "The Buckwheat Crop," p. 403. I sowed last year, July 21st, 1½ bushels Japan buckwheat on two acres, from which I had just cut a crop of timothy. I plowed once and put the ground in fair condition before sowing. The season was very wet, my buckwheat had a hard time, and I feared that I should not have any crop; and when I cut it, it looked so little that it did not look at all, but to my surprise I threshed and cleaned more than 40 bushels of splendid buckwheat. I have this year planted the same ground with corn. I want to sow about 25 acres with buckwheat, and I desire more light. Shall I sow earlier than I did last year? (1) Shall I use my sod ground as I did last year, and thus get two crops off of the ground in one year? (2) May I expect as good corn this year from these two acres as if I had not raised the buckwheat? (3) If I sow 1½ bushels rye per acre with the buckwheat, will this produce a crop of rye next year? (4) My practice is to sow rye about Sept. 5th on ground which has just produced a crop of oats. Can I get my oat crop harvested in time to sow buckwheat and rye (as you suggest), with a reasonable hope of a fair crop from both? (5) J. F. B. *Somerset County, N. J.* [1. As buckwheat is a somewhat variable crop for success, where a change in climate, soil and season affects the result, we would not advise sowing much earlier than last year in your locality, although further north it is usually sown a few weeks sooner. A single trial, however, is insufficient to establish a rule. 2. This will depend very much on the condition of the sod, whether old or newly seeded, and on the character and condition of the soil. Last season's success seems to invite a repetition of the experiment, but a change in various conditions may render it less successful. 3. Taking good crops from the land would of course reduce its strength, and manuring for the corn would be advisable. 4. If the rye makes a good growth this autumn, it will doubtless give a crop of grain next summer. 5. You can judge best by your knowledge of the season in your locality, and from the experiments you have already made, as to the chance for sowing buckwheat after oats; it would not answer in places much farther north. In all these experiments with the several crops of grain, we suggest the importance of keeping up the fertility of the land by fertilizers or barn manure.]

Uncut Ensilage.—Kindly insert an inquiry in your valuable paper in regard to filling silos with uncut corn. I desire to know of the experience of people whether good or bad. R. *Wayne County, N. Y.* [Do not the articles on pages 86, 106, 145, 203 and 302 furnish about all the information our correspondent wants? If not, let him state the *precise points* on which he needs further light.]

Injury to Plum Trees.—I found to-day in plum orchard of 1,000 trees, 6 years planted, two trees that were turning yellow and on examination found the bark loose and dead from the ground half way up to the limbs all around and the wood brown or dead. I have been in the habit of rubbing the bodies of my trees twice in the summer (June and July) with soft soap, such as is used in the house for washing. The soil is a light good corn land. Do you think it can be the soap? I cannot find any borers or worms under the bark. I should like to have your opinion in the COUNTRY GENTLEMAN. The trees are very large for their age. J. T. C. *Seneca Lake, N. Y.* [Plum trees have more sensitive bark than some others, and the bark of some varieties is more easily injured by the combined action of the sun and the intense cold of winter. This effect is more commonly seen on the side towards the sun's rays after hard freezing and thawing, but the diseased action often extends around the tree. We have known plum trees to be killed by being allowed to overbear, followed by unusually severe winter. The trees above mentioned being rather young and having tender bark, would be easily affected if rubbed with sharp and caustic soap, especially in the summer when growing. This application probably had some influence in hastening the injury, in addition to the work of the sun's rays on the frozen tree, the caustic application to the green and tender bark in summer, rendering it more susceptible of injury.]

Small Farming.—What is the amount of capital required to start farming with? I have been informed that with $500 I could start in a small way. For instance, a 100 acre farm—what capital would it take to get all the necessary implements and a few cows and work horses? W. B. *St. Louis, Mo.* [We shall need some additional information to enable us to answer this inquiry distinctly. The hundred-acre farm, if a good one, will consume for its purchase more than the $500; but with the understanding that the farm is already owned, or is under a mortgage, or is rented or taken on shares, the following would be required to stock it, in the most economical manner—which we fear will deter our young friend from pursuing his enterprise further in this shape. On the supposition that the land is sufficiently fenced and furnished with cheap and plain buildings, the following sums would be needed:

Two good working horses, 12 years or upwards	$300
Four cows and a few calves or heifers	150
Fifty sheep	100
Two plows, $20; one harrow, $15; one cultivator, $10	45
One fanning mill, $20; seed planter, $10	30
Sled and fixtures, $30; farm wagon, $60	90
Hoes, rakes, forks, spades, shovels, barrow, grain bags, saws, measures, buckets, &c.	5
Seeds for various farm crops, grass, &c.	25
	$845

Several important and costly items are omitted, such as mower and reaper, threshing machine, horse-power, horse-rake, &c. Some of the preceding are placed at a lower rate than the common price, while others, by purchasing at second-hand, may be had still lower—although second-hand machines, partly worn out or broken, are more expensive for use in the end. Notwithstanding all these drawbacks for the young farmer with little capital, there are some persons who, with great industry, good judgment and ample experience, will take hold and attain success gradually, but the great majority will fail. And it would be better, for at least some of them, to work for a salary or wages, and lay up a larger sum than the above named, with the provision for owning the farm and hiring at least one good and efficient assistant or farm laborer.]

Fencing Wood Land.—My neighbor and I own a piece of wood land through which our division line runs and where there has never been a fence. Is he obliged to fence half if I build the other half? I. A. A. *Monroe County, N. Y.* [No. Unless each of the adjoining lands is cleared or improved the owner of one cannot compel the owner of the other to build and maintain a division fence. See Vol. II, Revised Statutes, p. 903, sec. 30, 8th Edition.]

Poultry Paper—Fowls.—Can you tell me where I can subscribe for a poultry paper (1) and where I can get the Spanish chickens? (2) H. [1. Send for sample copies to the Albany Poultry Monthly and the Hartford (Ct.) Poultry World. 2. See advertisement of George H. Northup, p. 322. If any other reader has these fowls to spare, he will do well to make it known.]

White Bent.—What is enclosed grass, found in hay cut a year ago? S. A. W. *Morris County, N. J.* [*Agrostis alba* of the Manual, commonly called "white bent grass," and now regarded by botanists generally as a mere variety of *Agrostis vulgaris* or "red top." C. H. P.]

Kicking Horse.—I have a mare 14 years old that has within the past two or three months acquired a habit of kicking out straight behind her, at times, against the wall, while hitched in her stall. She more especially does it while she is eating grain, and if she thinks no one is around, and I should be glad if some one could give me a remedy to stop her from doing so, as it is dangerous, and she is injuring the wall. H. H. *Forest Hill, Md.*

Stump Explosion.—I wish to remove tree stumps, and would like to learn of the experience of some one who has used cartridges, discharging by electricity. F. H. J.

Baling Hay.—Will hay keep, baled directly from the field? Has it been tried to any extent? J. F. H. *St. George's, Del.*

Show at Elmira.—The intended localization of the New-York State fairs at a single permanent place is already bearing fruit in the way of stimulating opposition exhibitions. Announcement is made that the people of Elmira propose to have their own fair—the "Southern New-York & Northern Pennsylvania Inter-State"—and will spend $100,000 to make it "the grandest and most gigantic ever held in New-York." The date is Sept. 17 to 27. GEORGE M. ROBINSON, 130 Lake St., is secretary.

Obituary.—We regret to note the death of a subscriber of about fifty years standing, Dr. MARVIN WILSON PHILIPS of Lafayette County, Miss. Dr. Philips was of Irish descent, though his father and grandfather were both born in Virginia, and he himself was an ardent admirer of our Southern States, their people, and all their works and ways. He was born about 1808; and from Jan. 1, 1831, to May 25, 1864, was actively and very profitably engaged in cotton raising; but found time to contribute largely to the pages of the ante-bellum Southern Cultivator, beside writing occasional interesting notes to the COUNTRY GENTLEMAN.

Duchess and Ulster.—This live farmers' club meets at Poughkeepsie this week. Papers—"Manures and Farm Buildings," J. V. H. Nott of Kingston; "Harvesting Crops," A. M. Uhl of LaGrange; "Home Dairying," by ladies. EDGAR KNAPP, Stanfordville, president; W. F. Taber, secretary.

Butter Color.—The WELLS & RICHARDSON CO., Burlington, Vt., write us as follows concerning a description, recently published by the Jersey Bulletin, of a filthy process of preparing annatto:

"This description of annatto refers simply to annatto paste, which is not used to our knowledge by any manufacturer of butter color; at any rate, we do not use it, but buy the annatto seeds from the importers and extract the coloring matter ourselves. We assure you that our butter color is perfectly pure, and that all the processes of manufacture are such as to make it impossible for any injurious substance to be incorporated with the color. If you are ever in our city, we shall be very glad to have you call on us and examine carefully and critically our mode of making butter color."

Acknowledgments.

Communications for publication have been received during the week ending June 1, from Stephen Beale—John Gould—Ira W. Hoag—Byron D. Halsted—Aunt Chloe—Thomas Bowick—E. L. H.—A Farmer's Sister—E. H.—Prof. J. A. Lintner—T. J. H.—B. Reynolds—Martha—Prof. Chas. H. Peck—F. D. Curtis [2]—M. Walton—Dr. Horse—R. F. J.—A. C. Gliddon—George E. Brown & Co.—Gen. A. Smith—Prof. Stewart [2]—W. W. Farnsworth—John Henderson—Aunt Addie—J. W. J.—J. Hannam Clarke—E. Reynolds—Stephen Beale—Mary J. Ashton—C. H. T.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, June 6, 1889.

Feb. 14, 1884.—Can any reader favor us with a copy of the COUNTRY GENTLEMAN of the above date? It is needed to complete a subscriber's set for binding, and unfortunately we cannot supply it.

In Maryland.—Six miles north of the centre of Baltimore, on the great road connecting that city with York, Pa., and at a point commanding such extensive views in all directions that it was occupied during the war as a signal station, lies "Stoneleigh," a farm of 140 acres belonging to the estate of the late George Brown, and now operated by his son-in-law, Mr. FREDERICK VON KAPFF. The place is a most attractive one, with gently rolling surface, fine wooded lawns and drives about the mansion, and magnificent crops of grain and grass—in fact the wheat, forced on in growth by an unusually favorable spring, seemed to be in danger of falling and lodging, when we saw it, toward the end of May.

Forty years ago, this tract was open common, treeless and uninviting. Its transformation is largely due to careful study of the pages of the Horticulturist by the late proprietor, who was a warm admirer of the lamented Downing. Inspired by the genius of that delightful writer, he began, at about the time mentioned, a thorough and systematic renovation of the entire property. A fertile soil, gravelly loam on clay, needed not much beyond thorough underdraining to develop its possibilities in the direction of arable farming; and we judge that Mr. Brown was able to dismiss this part of his undertaking somewhat briefly, devoting his deepest thought and care to what was evidently a congenial task—the making of grassfields, the laying out of roads, and especially the planting of trees in almost innumerable variety and perhaps rather unnecessary profusion. As one passes over the excellent drive from the gate to the house, shut in on each side and shaded overhead by what seem to be almost monarchs of the forest, it is hard to realize that every one of them was planted within the memory of persons not yet old. Three lessons, trite but often neglected, are forcibly emphasized by this beautiful park, so youthful, yet so well developed—first, that it is well worth while to plant trees purely for ornament, considering that so munificent a return may be looked for within what is not, after all, a very long period of time; second, that it is also most emphatically well worth while to take great care to select varieties wisely, to arrange the grouping tastefully, and to do every part of the work in the best manner possible; and third, that if the trees are set rather closely at first, in order to make a show while still moderate in the reach of their limbs, it is very desirable to cut them out with a free hand as they grow, in order to afford space for the full development, in its well rounded perfection, of each individual tree. If such free cutting is neglected, two unfortunate results follow—it is actually distressing to the sympathetic owner to attack trees now finely grown, and it becomes increasingly difficult with each passing year to remove any tree without leaving some other, that has been injured by its close proximity, imperfect or ill balanced. These difficulties are felt at Stoneleigh, but seem likely to be overcome by the exercise of discriminating taste and careful study. Merely along the avenue from the gate to the house, hardly exceeding half a mile in length, no less than 100 good-sized trees were removed last year without leaving anywhere a perceptible gap.

The farm is operated on a seven-year rotation.

—corn, oats, wheat, and then four years in clover and timothy, which grow at a great rate after the wheat, and of course make an excellent preparation for corn. All the fertilizers used (barnyard manure and bonedust) are applied to the wheat; and the results are very satisfactory, averaging 12 barrels of corn on cob to the acre, 40 bushels of oats and 28 of wheat—not "brag" crops, but very good crops, year in and year out.

It is however rather the Stoneleigh Jerseys than its heavy crops and beautiful park that have made the place known. Readers of the COUNTRY GENTLEMAN are familiar with Mr. Von Kapff's name as a buyer, breeder and occasional advertiser of the butter breed; and he has been a worthy member of the A. J. C. C. since 1886, and served at least one term on the board of directors of that organization. The herd has been largely reduced within the last year or two by sales—some of which (particularly that of the grand bull Matilda's Pogis 16173, who went to a region where he is hardly appreciated, serving chiefly very ordinary cows) Mr. Von Kapff is now inclined to regret. Two capital young bulls are kept—Bandit 2d 19980, by Bandit 11273 out of Marcelita Roda 21078; and Idas 20980, by Ida's Stoke-Pogis 13616 out of the show cow Daisy Brown 12918, a daughter of Tormentor. Among the cows we noticed particularly the imported Fillpail Carlo 14434 (by Carlo P. S. 180 J. H. B. out of Primrose P. S. 244 J. H. B.)—a very handsome nine-year-old with remarkably good udder and excellent escutcheon; and her yearling daughter by Matilda's Pogis, Christmas Rose 50265, who strongly resembles the dam, and like all the get of Matilda's Pogis, has notably fine head and horns. A half sister of this heifer, Jersey Palm 50261, by Matilda's Pogis out of Blanda 35663, would attract attention anywhere, and should make a heavy butter-maker. Another beauty is Lady Rex Pansy 12755—a typical dairy cow, well made all over, and specially gifted in her fine, rich skin, wonderful milk veins, and promising selvage escutcheon, well out on the thighs. She is a daughter of Walnut Prince 3256, her dam being Princess Gentian 9114, who was got by old Rex and was sold to the Moulton Bros. without examination, on the strength of her pedigree. We are tempted to insert here a picture of Princess

Gentian's head, both because it is so handsome and because it would serve as a very fair likeness of Lady Rex Pansy.

Mr. Von Kapff makes butter for Baltimore, and has his cows come in in the fall, so as to be ready for the winter market. He has had wonderfully good fortune in the sex of his calves, which are almost invariably heifers, though no "theory" is followed to effect this result. Passing abruptly to live-stock of a different kind, it may be added that we were accompanied, in walking over the place, by a very beautiful and intelligent collie dog bought—as was another, equally good, who also ranges these grounds—from Messrs. W. Atlee Burpee & Co. of Philadelphia. The owner has naturally a high opinion of these gentlemen as purveyors of valuable dogs.

——We visited, with Mr. Von Kapff, the famous Hampton estate near Towsontown, the seat of the RIDGELY family for many generations, and well worth going a long distance to see. Some 7,000 acres of land are included, of which all but about a thousand are let to tenants. The remainder is partly farmed and partly devoted to cattle and horses; but a liberal area is reserved for woods and ornamental grounds. The mansion, standing on a high point and overlooking, at least in one direction, an extensive and delightful prospect, is large and very imposing in external appearance, and possesses peculiar interest

A SWEEPSTAKES-PRIZE ENGLISH HACKNEY MARE.

within, in its spacious halls, its antique internal finish, and its innumerable old portraits and other paintings and mementoes of by-gone—even pre-revolutionary—days. The hillside back of the house has been laid out, at large cost and with great labor, in broad and high terraces, adorned with gardens in the formal French style, which in this position are harmonious and beautiful. Considerable numbers of orange and lemon trees, with fruit nearly large enough for use, were about to be removed from the greenhouses, to add an additional charm to these fascinating grounds, at the time of our visit. Hampton, in short, has only a single deficiency to the eye—the lack of visible water. A lakelet, a goldfish pond, or even a marble basin with a tinkling fountain, would render it the realization of a landscape gardener's dream.

Ensilage Machinery.—We take pleasure in calling attention to the advertisement of ensilage and fodder cutters, carriers and powers, inserted this week by Messrs. E. W. Ross & Co., Springfield, O. The Ross apparatus is known wherever ensilage is; we have rarely listened to an ensilage discussion in which this machinery was not named, with high commendation; and it is quite safe to say that it has stood the trial of years, and has proved itself thoroughly trustworthy, and a genuine boon to the silolist.

The Royal Show—Which opens in Windsor Great Park on the 24th of June, promises to be the largest and best ever held. Not only will there be the attractions of the place and all the many associations around it, the fact that the Queen is president of the society and has promised to attend, that a large and distinguished company will be there as guests of her majesty, and that the show is within a reasonable distance from the metropolis, but, what is of greater importance to Americans, the entry is the largest in the history of the society. As will be seen by the table below, the number of exhibits in live stock is far above Kilburn, which was the largest until now:

	Horses.	Cattle.	Sheep.	Pigs.	Poultry.
Kilburn, 1879	815	1097	941	331	—
Reading, 1880	230	503	643	209	—
York, 1881	611	661	413	200	—
Shrewsbury, 1882	467	579	670	211	—
Preston, 1885	440	620	433	208	225
Norwich, 1886	235	651	446	203	221
Newcastle, 1887	503	626	513	194	605
Nottingham, 1888	506	644	537	149	543
Windsor, 1889	606	1041	1169	268	905

There are, in addition, 1194 entries of farm produce, comprising 119 entries of corn, 183 of wool, 165 of cheese, 252 of butter, 90 of cider and perry, 54 of hops, 24 of jam and preserved fruits, and 276 of hives and honey.

H——, England. S. E.

Manual Labor Education.—Your editorial, p. 284, hits the nail square on its head. There is as great a difference in work as there is in a crop, and horses who themselves know how to work to best advantage, are always easier to work for than such as know their work only theoretically. It is astonishing to see people perform the lightest kind of labor with the hardest methods, until they are shown the difference. Equally astonishing is it to see the many badly hitched-up teams of all sorts, and the more so when you begin to examine even the harnessing of the stock used. One of your correspondents made the remark on this question that "some of the pupils might be able to give their teachers points on how to handle such and such a tool." All the better, but there may be and certainly are points which the pupil might profit by; for although I am rather on in years, and have had considerable experience in handling teams, tools and all kinds of machinery in Germany, France, England and this country, I am glad to learn more, and have certainly done so by the perusal of your valuable paper. C. E.

Charleston, S. C.

Farm-Yard Notes and Items.

We re-engrave one of the two portraits which adorn the official report of the London Hackney Horse Show last March. It represents the sweepstakes mare on that occasion, a three-year-old called Lady Alice 1805, bred and shown by Aaron Beal, Crooms House, Sledmere, Yorkshire. The report says that "this mare goes in excellent style, and her shape is first-rate, though possibly exception may be taken to her quarters, which droop a little, and appear rather short." The "hackney" horse, as readers probably understand, is the English trotter—a breed in which great staying power has been sought rather more than the remarkable speed at short distances to which in the United States we give special attention.

The American South-Down Association met at Springfield, Ill., May 29; resolved to give a $50 silver cup for best South-Down at Chicago Fat stock show next November, reduced price of Record to members to $2.50 per vol.; and elected officers:

President—J. H. POTTS, Jacksonville, Ill.
Secretary—S. E. Prather, Springfield, Ill.
Treasurer—D. W. Smith, Exton, Ill.
Directors—C. M. Clay, John Jackson, Levi P. Morton.

An excellent opportunity to secure some of the very best Dorset Horned Sheep in existence is offered by the advertisement this week of the closing out sale of the noted English breeder, Mr. HENRY MAYO, at Dorchester, July 5, the week following the Royal Show. The United States ought to be well represented on that occasion, considering the rapidly increasing favor which this unique breed is finding in this country.

Mr. GEO. E. BROWN, of Aurora, Ill., sailed from New-York for England, May 25, on the Cunard S. S. "Etruria," for the purpose of bringing over his annual importation of Cleveland Bays and English Shires. Messrs. Brown & Co. have for a number of years imported only yearlings, which they mature on their farms near Aurora, thereby having to offer only fully acclimated stallions which are raised in a plain, practical way and not forced for the sake of rapid growth. Parties purchasing from them are sure to obtain reliable foal getters. They expect to import this year somewhat more extensively than usual, and to make room, will give unusual bargains in Holstein cattle, of which they have a large number. Their herd is too well known to need comment. Parties thinking of purchasing should not fail to avail themselves of this chance to procure foundation stock at very favorable prices.

EDS. COUNTRY GENTLEMAN—Our horse called Fuyard—one of our leading French Coach stallions, and a grand specimen of that breed—was sold last week to J. F. Converse of Woodville and Henry Stevens of Lacona.

Scipio, N. Y. J. W. AKIN.

The late Sir ROBERT LOCKE'S name was for many years well known as a large breeder of Short-Horns, and it is not surprising that at the sale of his herd on Wednesday almost all the leading breeders were either present in person or by deputy, and the herds of many will be strengthened by the purchases here made. Strange to say, with two exceptions, all the purchases were for home yards, and these two were for France. Whether the American and other buyers are hanging back for the Windsor show is not determined, but that has probably something to do with their absence. The result of the sale is eminently satisfactory. The 63 head realized a total of just upon $30,000, or an average of $490. The cows brought the best prices. Forty-six cows and heifers averaged $566, and the 16 bulls and calves $295. Following are some of the best sales:

Duchess of Buckingham, 1880, P. L. Mills	$1470
Duch. of Whittlebury 4th, 1883, Herbert Lewey	705
Duch. of Whittlebury 9th, 1884, L. Greiller	815
Duch. of Whittlebury 10th, 1884, Prince of Wales	880
Duch. of Whittlebury 11th, 1885, M. Greiller	1260
Duch. of Whittlebury 12th, 1886, A. H. Lloyd	2520
Duch. of Whittlebury 14th, 1886, J. Harris	875
Duch. of Whittlebury 15th, 1887, Sir W. H. Salt	1260
Duch. of Whittlebury 16th, 1887, Prince of Wales	1525
Duch. of Whittlebury 18th, 1888, Earl Bective	1575
Duch. of Whittlebury 19th, 1888, J. Harris	1680
Duch. of Whittlebury 20th, 1888, Earl Faversham	700

The only bull which reached above $500 was the Duke of Rosedale 12th 46,208, purchased by Mr. F. S. Stanley, which was sold at $650, and the next to him was the Duke of Whittlebury 8th, a red, born in 1887, which realized $600. Mr. Thornton was the auctioneer. S. E.

H——, Eng., May 17.

The Fifth Annual Exhibition of the Venango Poultry and Pet Stock Association will be held at Venango, Pa., Jan. 21 to 24, inclusive. WM. GRONER, president; J. C. HARRIS, secretary.

J. W. & M. B. SHALLCROSS of Louisville, Ky., have sold out their Holsteins. Twenty-nine cows brought $3,800, an average of $131; twenty heifers, $2,150, an average of $107; eight young bulls, $770, an average of $96. Aggregate for 57 head sold, $6,720; average, $118. Better prices might probably have been obtained, if breeders generally had been apprised of the owners' intention of selling.

EDS. COUNTRY GENTLEMAN—I have a grade Jersey cow, six years old, whose milk tests 45 per cent. cream. She is on good pasture and has one quart wheat bran night and morning.

Shenandoah County, Va. FRANK KING.

Autumn Exhibitions.—Dates have been appointed as below for the State Fairs and other important shows named:

Alabama, Birmingham	Oct. 21, Nov. 2
American Institute, New-York	Oct. 8, Nov. 30
Buffalo International, Buffalo	Sept. 9, 13
California, Sacramento	Sept. 9, 21
Colorado, Pueblo	Oct. 8, 9
Connecticut, Meriden	Sept. 17, 20
Dakota North, Grand Forks	Sept. 17, 21
Dakota South, Aberdeen	Sept. 25, 27
Delaware, Dover	Sept. 30, Oct. 5
Detroit International, Detroit	Sept. 17, 27
Georgia, Macon	Oct. 22, Nov. 1
Illinois, Peoria	Sept. 23, 27
Indiana, Indianapolis	Sept. 23, 28
Iowa, Des Moines	Aug. 30, Sept. 6
Kansas, Topeka	Sept. 16, 21
Kentucky, Lexington	Aug. 27, 31
Maine, Lewiston	Sept. 10, 13
Maryland, Pimlico	Sept. 9, 14
Massachusetts Horticultural, Boston	Sept. 17, 20
Michigan, Lansing	Sept. 9, 14
Minnesota, St. Paul	Sept. 6, 14
Montana, Helena	Aug. 30, 31
Nebraska, Lincoln	Sept. 6, 13
New-England, Worcester, Mass	Sept. 3, 6
New Hampshire Grange, Tilton	Sept. 10, 13
New-Jersey, Waverley	Sept. 16, 20
New-York, Albany	Sept. 13, 19
New-York & Pennsylvania, Elmira	Sept. 17, 27
Ohio, Columbus	Sept. 2, 6
Ontario Provincial, London	Sept. 9, 14
Rhode Island, Providence	Sept. 23, 27
St. Louis, St. Louis	Oct. 7, 12
South Carolina, Columbia	Nov. 11, 15
Texas, Dallas	Oct. 15, 27
Toronto Industrial	Sept. 9, 21
Vermont, Burlington	Sept. 3, 6
West Virginia, Wheeling	Sept. 9, 13
Wisconsin, Milwaukee	Sept. 16, 20
Wyoming, Cheyenne	Sept. 7, 20

The Grazier and Breeder.

Brood Sows—Young Pigs.

EDS. COUNTRY GENTLEMAN—I have 23 four-weeks-old pigs, and their three mothers, and two young sows, about 115 pounds each, in a 12-acre clover lot. The young sows are 7 mos. old, and are for breeding. One of the old sows is to be kept over next year to breed from too. I ask for advice as to management and feeding. Can buy delivered at the following prices: Wheat shorts, $1.20 per 100; corn in ear (in crib now), 65c.; oats, $1.15; skim-milk (part of the time sour), 25c. I wish to kill two of the old sows and all of the pigs late in the fall. No water in the lot, and if given them, must be carried fifty yards. Wish to breed the three sows next fall, and, if you think best, now also. Had thought of building a feeding-pen in the lot, which shall exclude the hogs but admit the pigs, and feed them oats while young, if you think advisable. Am willing to push them by high feeding, or will let them "rustle" with the clover. Am after the most profit.

[*Flanders, N. J.* L. D. C.

L. D. C. should read the answer to W. H. B., concerning pigs, page 353, and also that to F. J., p. 333. These suggestions may be of service to him.

As C. has an abundance of clover pasture for his pigs and sows, they will not require as much other food as when fed in pen. His feed (wheat shorts) should be bought much below the price he names. It is quite absurd that wheat shorts should be $24 per ton and corn $13.

The best feed he can use in connection with the clover pasture will be ground corn and wheat shorts in equal parts by weight. He cannot afford to grind oats at $33 per ton, but he might mix a few of the oats, unground, with the ground corn and wheat shorts.

2. If he can obtain at present skim-milk, he may feed 2 quarts to each pig per day, even at 25c. per 100 lbs. Let the other feed mentioned be mixed with the skim-milk for the young pigs, and it would be well that they should eat this unmolested by the sows.

It will be sufficient at present to feed these small pigs about 1 pound of the ground feed, with the 2 quarts of skim-milk, per day. This feed may be increased gradually as the pigs grow older. But as he wishes to kill these pigs in the fall, they should be fed judiciously, besides the clover, with the other feed through the summer, so that they will increase in weight something more than one pound per day. With judicious feeding they may gain an average of 40 pounds per month, or they may average 200 pounds at 5 months old.

3. The two sows to be killed in the fall should also be moderately fed during the summer—say about 3 pounds of ground corn per day each.

4. The older sow may properly be bred now and again in the fall, but the young sows would be better bred at 11 or 12 months old. After breeding, they should be fed only bran in addition to the clover. H. W. S.

What Kind of Cattle Pay Best?

Suggestions to Beef Feeders.

EDS. COUNTRY GENTLEMAN—Mr. Glidden says (p. 908 of your last volume) the cattle trust has destroyed the market for home-made beef. Well-fed cattle go begging at 2¼ to 3 cents a pound on foot, and there is no inducement for farmers to feed grain or to raise calves. This trust is a powerful organization, and can and will control the market in the absence of organized effort on the part of farmers to fight it. If trusts were conducted on the high plane of philanthropy, we might be disposed to sympathize with them since while the well-to-do farmer might suffer, the poor consumer would be benefited. While the interests of beef breeders and feeders are suffering, the retailer is obliged to pay just as much as the consumer will stand. Beef is retailing in New-York as high as at any time in the past five years. This general disposition to consolidation of capital and of large business interests is unfortunate for the country. Nothing has heretofore so distinguished this country and its prosperity as the general distribution of wealth throughout the land, and it has been remarked by political economists as the surest guaranty of the permanence of our civil institutions. There is nothing so essential to national strength as a *general* condition of prosperity, with the whole population busy and accumulating something, more or less, with each recurring year, beyond the daily necessities of life. Whatever tends to a general distribution of wealth makes for our national strength; whatever tends to concentration of capital in the hands of a few, at the sacrifice of a multitude of small interests by which the many are making a living, is an element of weakness.

Now what is our remedy in the premises? First, farmers should organize. The granger influence was once a great power in the West. Let its influence be felt again, and let farmers as well as other citizens strive, through their representatives, to secure legislation that will destroy the trusts, or so restrict their operation as to nullify the effects so disastrous to the stock-grower.

Second, in the meantime let farmers cast about and see if there is no class of stock other than beef that can be bred and reared at profit. Farmers are a very cautious and conservative class of people and slow to change. They are apt to follow the line of farming practiced by their fathers and their fathers' fathers. Here in the East, as a general thing, farmers raise about the same area of wheat, corn and oats that were raised on the same farm when it was worth only a fifth of the present market value, utterly ignoring at once the cheap competing lands of the West and our ready home market for dairy products, poultry, eggs, fruit and potatoes. When I bought my present farm eight years ago, its tenant relinquished farming after about 40 years' experience hiring farms in the vicinity, his son remaining with me as my farm manager. The old gentleman was a thrifty, industrious farmer, who raised wheat, corn and oats in proportions of area usual on 100-acre grain farms. He reared a large family, and in his old age had something to fall back on, the savings of his years of hard work. After two years' observation of my line of farming, in practicing which I kept 25 Jerseys for butter, and about 400 Leghorn fowls for eggs, he said to me one day: "If I had my life to live over, I would hire a farm of 40 or 50 acres, raise no grain, but keep 10 to 15 butter cows and 300 or 400 Leghorn fowls, and I am satisfied I would make a great deal more money with less work than by grain-raising." He had never before had opportunity to see the experiment tried of raising crops or products to meet a special market, but had plodded on for a lifetime in the old beaten tracks.

So in large sections of the West there was a time when land was cheap, and free range of pasture extensive, that it may have paid to raise beef stock; but has not that day gone by, and in the case of farmers who have inherited a taste for live stock, is there not some other class of cattle that it will pay to rear? Consider for a moment how narrow is the margin of profit in keeping a cow of the beef family for rearing calves. As I understand the matter, the entire milk yield of the cow between calvings, say for nine months, is necessary to the proper development of the calf in laying the foundation for future first-class beef; so that the gross income is the calf. Now to get at the net annual income of the cow, you must deduct from the value of the calf the annual cost of keep of the cow, and of food consumed by the calf other than milk. I fear the net result would make a poor showing for profit at the present value of land and its products in a wide area of the West. The most valuable product of the cow is not the calf, but milk, either as it comes from the cow or in the concentrated form of butter. The market for milk is comparatively limited; the market for butter is world-wide. There was a time when the New-York State dairies controlled the market, and butter from the West was generally known as grease. To-day the product of western creameries fixes the price in New-York city for the best grades of butter. Is not this a "pointer" in the right direction for western farmers? Your market would only be a cent a pound distant; that is, it would cost not to exceed a cent a pound to ship your butter to the eastern market. With a good spring or a well, a windmill, a Cooley creamer, and a Davis swing churn in which to bring and wash the butter, it is a very simple operation to make good butter if ordinary cleanliness is observed in handling the implements.

With fewer years over my head, and better health, I should want no better business than running a butter dairy farm of 640 acres in the West. With cheap bran and corn it would, I think, be a very profitable business. I would stock it with 200 to 250 head of high-grade Jerseys, to be supplanted by registered Jerseys as rapidly as breeding or my means would allow; would raise no grain except possibly an occasional crop of wheat for straw and to sow with, to succeed in rotatio
lage, and I should expect
of butter per head, which
top of the market. This is
Twenty years' experience ha
could do it. And then, do y
"steer" all the bull calve
breeding? I have reared
skim-milk and an average
day, that would weigh 650 l
have an idea that Jersey ski
richer than ordinary skim
Jersey is than pure ordinary
had a suspicion that the
which makes the Jersey mill
the whole system of the a
nutty flavor to the meat, w
her butter product. See wh
prietor of the Sherman H
about Jersey beef:

"I do not think I ever
bought of the college, me
mals (Short-Horn, Hereford
Galloway and Jersey) they
and put them on our *men*
The Jersey was pronounced
quality and flavor, and the
ate. It was profitable to t
there was more edible meat th
cass I have used of its age.

Note the words in his l
italicized. The competitic
quality and per cent. of
Jersey took precedence o
Short-Horn. It seems ver
breeders of the beef bree
ing too high, and have put
fluous fat. We know that
are no longer in demand,
table use or for the pork
supply of fat is really wa
my butcher recently for th
had for my poultry, he offe
at three cents a pound.

Let me say to the far
grade beef stock, who is
tyranny of the cattle trust
bull of a pronounced bu
vert your herd into butter
not find the experiment
you will not be the firs
thanked me for recomm
cross. Furthermore, the
proaches the thoroughbre
the more satisfactory will
returns. G. W. FARLEE.

Stock Notes at Kir

EDS. COUNTRY GENTL
2019, A. J. C. C., importe
calved April 19, 1869, dr
this month. This makes
old cow has had, as she ha
ing a calf since she was tw
still strong and hearty, an
cellent. She bids fair to
for several years more. S
warm box-stall, and is cal
by the children. In her
the second prize at the
as a yearling, when exhib
and afterwards the same
mother was also a prize-
and her daughter won th
the New-York State Fair.

Caroline was importe
breeder M. H. Cochrane
done so much to improve
The Carolines are a fa
family. They are cows o
markably large, square
uniform regularity and g
soft as velvet. No famil
called them in these resp
assurance to ask $800 f
this family. Mr. Wm. C
sixteen years ago, for a
2d, and he did not get he
Caroline.

We lost a granddaugh
sey-Caroline, by Bariton
another one rated a fe
died in May of milk feve
a fine heifer, named Bar
lieve now this noble c
cured if we had realized
case we ever have anoth
fever, we shall put sack
with bran wetted in hot
applications on day an
the whole body as far
the legs. This is the fi
had of milk fever.] O
cows last year had garge

The Poultry-Yard.

The Wyandotte.

This recent introduction from across the Atlantic has made wonderful strides in public favor, and meeting as it does a direct need at the present time there is every probability of the variety securing a permanent position. The need which it meets is for winter layers. Since the question of home supply for the egg market has been raised as a practical matter, it has been found that there must be a constant supply in the winter, which cannot be fully supplied by the non-sitting varieties. As is well known, large quantities of eggs come to this country from France, and in order to keep up the supply Asiatic fowls have been introduced there, and now we have tinted-shelled eggs from that country where at one time nothing but white-shelled eggs were known. This example must be followed if breeders on this side are to properly face the matter, and hence the demand for breeds which are above all winter layers. At the present time there is a steady and increasing demand for Plymouth Rocks, Langshans and Wyandottes especially, and generally for all the Asiatic type of fowl. Perhaps some American breeders may think I am doing injustice to their country in speaking of these breeds as of the Asiatic type, when Plymouth Rocks and Wyandottes were manufactured in that country. This I have no intention of doing, for I recognize the great service rendered to the poultry community by the introduction of these varieties, but simply mean that they are of the heavy-bodied, profuse-feathered nature which has always been associated chiefly with the Chinese varieties of fowls. Even the most ardent upholder of the credit of America will not deny that however judicious the blending, the materials largely came from the sort of fowls already named. In this country the Wyandotte has been found very hardy, an excellent winter layer, fairly precocious, and a good table fowl, that is, measuring it by the table standard for this class of fowl. The canons as to table qualities are utterly at variance in Europe and America. Here we ask for white flesh, there you seek for yellow flesh, which we regard with small amount of favor.

In addition to the undoubted economic merit of the Wyandotte, which has won it favor with one section of the community, the great recommendation to fanciers is that there is plenty of room for improvement in it, that is, the external qualities are by no means perfect. No one can go down the Wyandotte classes—I am now speaking of the Silvers and the Golds, for the Whites being self-colored do not present the same difficulty—without feeling that the ideal is a long way from being reached, both in markings and color. When this is the state of things and the breed is worth anything, it is sure to command support. Certainly this is the case with the Wyandotte, and I think that it offers to the breeders ten years' good work in order to secure that perfection of markings and of color which is evidently intended.

For some time there was great opposition among the breeders as to the type to adopt, and for a time it appeared as if there were to be two rival Wyandotte clubs, but wiser counsels prevailed, and a compromise was adopted. As the new standard of the American Poultry Association will shortly be issued I give the standard as adopted by the English club:

Cock.—*Comb*—Rose, full of work, low and flat, square at front, tapering toward the spike, which should be of moderate length, and may be either straight or follow the curve of the neck.

Head—Short and broad, face bright red, beak horn, shading into or tipped with yellow.

Earlobes and Wattles—Bright red, fine in texture.

Neck—Short, well arched, with full hackle; plumage silvery-gray, striped with black.

Breast—Broad and deep; plumage white, with deep black lacing from throat to back of thighs, showing green lustre.

Back—Broad and short, color silvery-grey, free from yellow or straw color.

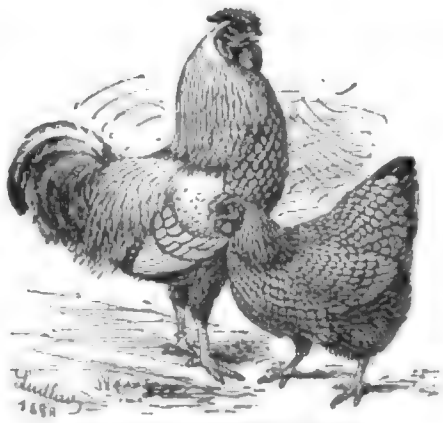
Wings—Medium size, nicely folded to the side, showing a distinct double bar, in which the feathers are laced all round.

Fluff—Full and abundant behind, black, thickly powdered with white.

Legs—Strong, but fine in bone, medium length; toes straight, color bright yellow.

Tail—Well developed, medium length, color black, showing green lustre.

Size—Cocks not less than 8½ pounds, cockerels not less than 7½ pounds.



A PRIZE PAIR OF WYANDOTTE FOWLS.

Symmetry and Carriage—Graceful, of Brahma shape.

Hen.—*Comb, Head, Earlobes and Wattles, Fluff, Legs*—Same as male.

Neck.—Short, full hackle, color as in male.

Breast—Broad and deep, plumage white, with deep, regular black lacing, showing green lustre.

Back—Short and wide at shoulder, color and lacing same as breast.

Wings—Medium size, nicely folded to the side, color and lacing same as breast.

Tail—Well spread, color black, showing green lustre.

Size—Hens not less than 6½ pounds, pullets not less than 5½ pounds.

Symmetry and Carriage—Graceful.

Disqualifications—Single combs, feathered legs or wry tails.

It will be seen that this standard refers entirely to the Silver Wyandotte. Thus far none has been published for the Golden. The latter variety appears to me to have a most promising future before it. Its richness of color is very effective, and there is something about those specimens that I have seen which lends itself in an especial manner to the peculiar character of the lacing. Already they are being taken up with considerable spirit.

When first introduced, there were many doubts expressed as to whether the rose comb would not be a great hindrance to success with the breed—among others, Mr. Lewis Wright suggesting that a single comb be engrafted on the breed. There can be no doubt that if any attempt were made to give the rose-comb the same prominence as in the Hamburgh, it would be fatal; but if kept in its proper position, and only given its right fullness, the rose-comb is an added recommendation.

Stephen Beale.

H——, England.

The Dairy Department.

Butter-Making on a Small Scale.

Eds. Country Gentleman—The ample instructions on butter-making appearing in your columns from time to time, leave one in doubt whether more might be advantageously added. But when the millions of pounds of grease-butter annually marketed—netting to the farmer less than the cost of production—are taken into consideration, one inclines to the opinion that these able writers fire over the heads of those most needing instruction, inasmuch as they are directed to those possessing large dairies and all modern appliances. While such can scarcely produce other than good butter, the farmer's wife is left to struggle on with one, two, three or five cows, as the case may be, with only a few crocks or pans, a patent churn, or possibly the old-fashioned dash or stone churn, at her command. Like a drink from the "old oaken bucket," no butter ever tasted better than that from one of these same churns, other conditions being equal. That they are not always so, these millions of pounds of poor butter eloquently attest. When these farm-wives who complain that they get so little for it that it does not pay to take pains, are asked why they do not supply consumers direct, and thus get a paying price—as since oleo has been openly sold as such, town and village customers are not only willing, but anxious, to pay retail prices, and even to come after it—the almost invariable reply is, that though they can produce fairly good butter during spring and fall, they find it impossible to make other than poor, soft, white, ill-tasting butter, during hot weather, and this is the very season when customers insist on good butter, and are willing to pay a good price to secure it, aware as they are that none can be had in open market at that time.

How then shall we proceed to make good butter from a few cows only, or perhaps only one? Assuming that there is no dairy-room or spring-house, we will begin with the common house cellar. Clear out all winter vegetables, and rubbish, such as musty boxes, barrels, &c.; clean out rat holes, fill with broken glass, and plaster over; then thoroughly sweep down on sides and overhead, and give a coat of very thick whitewash. This may be quickly done by slapping it on with the flat side of an old broom; as fast as the broom becomes empty, use it to brush the wash into the wall. If the cellar has no drain, and water is apt to come in at every freshet, it may be remedied as described a few years since. I repeat the directions: Sink a barrel, which does not leak, down seven or eight inches below the level of the cellar bottom, in the corner where water comes in most; a small drain, hollowed out with a hoe, next the wall all round, beginning at the corner farthest from the barrel, will lead all the water into it, leaving the cellar floor dry. This water will be clear, and may be used the same as rain water. This work is supposed to be done by *paterfamilias* or the boys, who may now be dismissed with words of praise, and the housewife will, with a bush of thick whitewash and an old turkey or chicken wing, proceed to fill up all the small crevices the men-folks have missed, for it is in these crevices that bugs and spiders love to lurk, and none such can be tolerated in the production of gilt-edged butter.

The milk-shelf may be a slatted one standing on the ground, or if troubled with mice, a swing-shelf is better. This may be put up by boring two holes in either end of two stout strips of board, and twisting plain fence-wire together, run through the holes, again twist, and hang up on railroad or other strong spikes driven in the joists overhead. Two such boards placed not too near the ends will support a shelf 3 feet wide by 8 long. If no wire be at hand, old hoop skirts may be burned, and a number of the wires be twisted into a strand and used. I have known such shelves to last for years. The shelf may be tested by two or more persons climbing on it at once and swinging a bit to settle it in place, as it should hang level. Screens should be at windows and door, or a door may be made by nailing lath a trifle more than their width apart on two strips of board which serve as sides, and hung just in the doorway on leather hinges, if nothing better presents. Now, if a long, narrow board, reaching from upper corner of doorway at back to opposite corner of floor, be cut the proper slant at ends, the top may be dropped into rabbet of doorway, as the door proper will be open, and thus hold it in place, while the lower end will be held in place by a stout wooden pin thrust in hole in door-jamb. Another hole may be bored half way up the jam so that the pin will come behind a lath. The board may be removed in a moment when the lath door is to be opened or the other one closed, and rogues are not apt to find the brace as a fastening—at least such a door was used by us in an exposed situation for ten or eleven years with safety. It is an absolute necessity that the cellar be left open at night—if we would produce other than the soft, ill-tasting butter before spoken of—that the cool night air be allowed to circulate freely, and the hot air of the daytime be entirely excluded by closing windows and door as early as possible to finish the cellar work. As soon as the evening cellar work is finished, the door should be again closed and not opened for the night until bed-time, when the air has become cool, nor should this same night air be contaminated by foul drains or other odors near the house. Drains are a nuisance at best; waste-water and kitchen slops may better be disposed of by pouring them at the roots of trees or flowers, or be used to water the garden.

The milk having been set in open pans or crocks—never covered—should be skimmed as soon as the cream is thick enough to hold together to skim without loss, which usually is at the turning point before the milk has soured; its readiness may be ascertained in a second by parting the cream a bit in the centre of the pan with the point of a knife. A thin-bladed old case-knife is in every way preferable to the fingers to slip around edges of pan to loosen the cream. Each skimmerful should be drained free of milk, and as the skimmer becomes clogged, scrape clean with knife. One can, after a little practice, skim almost entirely free of milk. Close observation has convinced me that it is milk carelessly skimmed in, which, becoming loppered, is churned into the butter, producing the white specks so often complained of. If by any chance cream has dried or melted about the edges of a pan, do not add this melted cream, which is practically butter and may be used as such about the cooking; or if a pan has been overlooked until the least past its prime, it may be used immediately in biscuit or cookey-making, but should not be added to the cream to become still older, as the least bit of rancidity added to cream acts as yeast in dough, producing more of its kind, and for this reason it is essential that when the skimming is completed and the cream has been well stirred, that the sides of the cream pan or jar be carefully wiped down with a clean, damp cloth, that not a drop of cream be allowed to dry on or decompose and thus contaminate the rest, nor should the cream jar be covered, but left open.

Occasionally there are a few days and nights together of such hot, sultry weather as to require our utmost endeavors; the milk should then be cooled by setting the pails in tubs of cold water before straining, or by setting it on the cellar floor to cool before removing to shelf. Even then it will sometimes sour almost from morning till night; a teaspoonful or more of salt placed on the bottom of each pan and the milk strained on it mixes it better than if the salt were added afterward, and assists in preserving the milk sweet until the cream can rise. It is sometimes advisable to salt the first few skimmings of cream also, to arrest fermentation until enough can be secured for a churning.

The milk for family use should be strained by itself so that there be no dabbling in the pans. The shelf must be kept scrupulously clean, by immediate attention to any drops or spilled milk, that the shelf may not acquire a musty odor which would impart itself to the milk. The cellar floor should receive frequent attention, so that must or mould do not accumulate, nor will bugs and spiders congregate where the broom is freely used. If any floor suffer, let it be that of the sitting room rather than of the cellar.

The dairy utensils should, as far as possible, be attended to by the dairymaid herself, as careless help will often wash pans through greasy dish or rinse water, thinking it makes no difference so they are washed, but pans so washed soon take on a greenish, dingy hue, necessitating frequent scouring; while if they are never once allowed in greasy water, but the milk rinsed out with the hand and a little warm water, then washed in clean suds, scalded in clear boiling water, and quickly dried with a clean cloth and used for no other purpose than in the dairy, they will retain their brightness—without scouring—until nearly worn out. Soap should never be used in the washing of a churn. If one has been unfortunate in having their churn carelessly scalded so that butter stuck to it, and so carelessly washed until the wood has become saturated with grease, it may be cleansed by rinsing from churn and bearings all particles of butter, then rinse lightly with boiling water to

heat the churn, draw off water, put in a heaping tablespoonful of baking soda or saleratus, add two or three quarts of *boiling* water and churn about vigorously for a few minutes; empty churn and rinse twice in the same way with *clear boiling water*, quickly wipe dry, and the wood will be found clear of grease. If of long standing, the grease may come to the surface again after a time; but, as soda is cheap, frequent attention in this respect will keep the worst churn in a sweet and wholesome condition, though if the churn be a very large one, or of very hard wood, it may require more than a spoonful of soda to cleanse it at first.

MEDDLESOME MATTIE.

The author of this article was taken ill while writing it, and died within a week. The letter was left unsigned, and we judge uncompleted.—Eds.

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association

NAME.	SELLER.	BUYER.
Aaggie Duke, Taylor Bros. A J & H C Brown		
Aaggie Mc's Champion, T G Yeomans & Sons. S Mc Kay & Sons		
Alaska's Prince, D E Pudney, T C Roe		
Algoa, S B Hardy, W R Cole		
Altoona, J L Metzger, J G McGraw		
Billy Wilson, N F Sholes, J T Island		
Blanden 8th, J Rust, J Rust		
Cora's Black Prince, J N Robins, T F Pollard		
Col Morrison, W A Howard, E R Morrison		
Conscript, C W Burnley, G W Haines		
Cottonwood King, W A Pratt, N Gambe		
Dick Wilson, Wilson A Pankey, E C Collins		
Dillon, Langworthy Bros. A B Wood		
Dinola's Pet, N F Sholes, H A Bumpus		
Duke of Jessra, W O Jackson, P Ranch		
Elmwood Prince, F B Knowles, C E Hoyt		
Firefly, O Sahson, O H Forbush		
Forest of Lake Bank, W J Fowler, Barnes & Crum		
Fowler Columbus, Langworthy Bros. M Fowler		
General Kirke, O H Forbush, O Sahson		
Grenadine's Wooster, N F Sholes, W E Marsh		
Hillview Harrison, J Clarke, P Berry		
Hillview Morton, J Clarke, W O Browning		
His Honor, S E Ewing, C G Cochran		
Holwerda 3d's Prince, W H Chapin, M S Bidwell		
Hollander's Constantyn, F C Stevens, W Horning		
Holland Gold Dust, J N Robins, E W Trexler		
Hoosac Prince, T H King, A E Marsh		
Jannet Prince 3d, D J Wood, C D Van Deboe		
John Harrison, N F Sholes, W Frith		
King of Dimon Creek, O Brisson, J B Thompson		
Kauden, B K Seabury, S R Waldo		
Kroesje's Rooseboom 2d, W H Graham, M E Moore		
Lauretchia's Best Prince, N F Sholes, H Clayton		
Lawrence Boy, A L Rowe, J H Smith		
Leslie Prince, H Hudson, I Seidner		
Lord Cliffden 18th, D Savery & Son, W S Hess		
Lord Cliffden 19th, D Savery & Son, W H Graham		
Matsey's Gerben Duke, H A Brown, M M Wheeler		
Netherland Beauty, Smiths, Powell & Lamb, G N Worts		
Netherland Bertram, Smiths, Powell & Lamb, G F Carter		
Netherland Bully Boy and Netherland Friar, S E Ewing, C G Cochran		
Numitor, E K Seabury, G W Pierce		
Ocelia's Boy, W S Gurnee, J Shields		
Olin, Stacy & Wells, B G Bliss		
Pioneer Farm's Boy, N F Sholes, J H Hoffacker		
Pioneer Farm's Prince, N F Sholes, J B Hunsinger		
Pioneer Girl's Prince, N F Sholes, H Roe		
Pompeii, J L Metzger, J Morgan, Jr		
Prince Nimrman, E Huidekoper, N Dunbar		
Prince of Black Bank, A C White, A F Groesbeck		
Prince Hutori, H L Mills, S W Dickinson		
Robert Fulton, W O Jackson, J Trimble		
Robert Norse 2d, D John, A M Holdaway		
Schoone Prince, H Rust, L Seefeldt		
Senator Lamar, T W Holland, T H Jones		
Shadeland Signet, Powell Bros. H C Brill		
Sir Newton of Aaggie's Tom, D Savery & Son, H Lane Bronner, J P Hooper, M E Moore		
Soldene 3d's Netherland, P M Harwood, I Damon		
Tennenhalter Dude, E M Trabue, Ross, McCuddy & Killebrew		
Tenghannock 2d, N F Sholes, H Mason		
The Foreman, J M Bennett, B D Brown		
Trietsed, P G Walker, J Hoven		
Verona's Prince of Twink, J W Stilwell & Co, W D Hart		
Willem Koningen of Mount Hollis, G A Flagg, J Plimpe		
Aaggie Albe, Aaggie Aaggie and Aaggie Ella, C A Bloom, H H Cox		
Aaggie's May 5th, P M Harwood, I Damon		
Aaggie Morrell 3d, S E Ewing, C G Cochran		
Aaggie Netherland Alexander, P M Harwood, I Damon		
Aaggie Rose Princess, Taylor Bros. H S Robinson		
Abi, J C Rich, Smiths, Powell & Lamb		
Adelina, Mrs H S Harney, D H Sherman		
Adriana 3d, Langworthy Bros. W H Hughes		
Agalia, Mrs H S Harney, D H Sherman		
Agalia 3d, Mrs H S Harney, T F Pollard		
Amelia 3d's Princess, F C Stevens, J O Morton		
Antigone, Mrs H S Harney, D H Sherman		
Augusta of Timber Point, Estate of W L Breese, D H Sherman		
Belle of Beech Lawn, J M Crabb, W O Peak		
Bernhardt, A D Mather & Co, J F Clark		
Bessie I, Mrs H S Harney, D H Sherman		
Betsy II F, G F Jackson, State University Farm		
Bettie Benson, L C Morse, J Benson		
Blanche Merral, S E Ewing, C G Cochran		
Bonnie 3d, J L Metzger, J Lloyd		
Bonny Lass 3d, J C Rich, Smiths, Powell & Lamb		
Bunt, Wilson & Pankey, H C Collins		
Carola Abbekerk 3d, F C Stevens, W Horning		
Carlotta, S E Ewing, D F Sholes		
Clifden Zweenie, C E Brabham, L H White		
Colantha, F C Stevens, Home Farm Fine Stock Co		
Colomba, J N Robins, D H Sherman		
Constance 3d, Langworthy Bros. W E Hughes		
Corinne, J N Robins, D H Sherman		
Cornwell Maid 3d, N F Sholes, W E Messenger		
Daisy of Beech Lawn, J M Crab, W O Peak		
Dieuwke Tolema, Estate of H D Chollar, W E Boynton		
Dinewood, S E Ewing, C G Cochran		
Donia, Koning 2d, W K Bancroft, M E Moore		
Druyf 3d, P M Harwood, I Damon		
Eloise of Islip 3d, Estate of W L Breese, D H Sherman		
Elsie Vesser, G L Haviland, W S Paddock		
Elsie, S L Warner, D D Hawley		
Felstna, Scott & McClean, A Buck		
Fret and Frette, P M Harwood, I Damon		
Golden Rule, S E Ewing, C G Cochran		
Grootschen Pet, J L Metzger, J Morgan, Jr		
Hamutal S, Harrel W, Hattie S, Hebe S, Helena S, Hellmore S, Hemsea S, Hemjanah S and Hermesind S, W M Singerly, F A Poth		
Hernia of Lelia, Estate of W L Breese, T F Pollard		
Hoeksma 3d, P M Harwood, I Damon		
Hotake 2d and Hotake 3d's Tweede, J L Metzger, J Lloyd		
Hoyden S and Hyacinth S, W M Singerly, F A Poth		
Irmena 3d, Langworthy Bros. W E Hughes		
Isabella Scott, F F Woods, O H Blood		
Isabel S, W M Singerly, F A Poth		
Jessica Hartter T, Langworthy Bros. W E Hughes		
Jewel, F C Stevens, Home Farm Fine Stock Co		
Jewel 2d, R S Stevens, Home Farm Fine Stock Co		
Josie Millen, W C Brown, G F Little		
Kaantitie, D Savery & Son, W S Hess		
Kirstina, J N Robins, D H Sherman		
Kitty Clover 2d, Langworthy Bros. W E Hughes		
Kooy 8th, G L Wells, E A Bartlett		
Lady Rita, A L Terry, J I Norris		
Lady Hester, C F Germann, L Seidner		
Lady Theresa, P M Harwood, I Damon		
Lady Wonder, J C Rich, Smiths, Powell & Lamb		
Lakeside Thea 2d, S E Ewing, C G Cochran		
Leonia Eerste, J L Metzger, J Lloyd		
Lilly of Maplelawn 2d and Lonoke Alice, N F Sholes, H Clayton		
Lucky Harlow, Langworthy Bros. W E Hughes		
Lucy Graham, C A Bloom, H H Cox		
Mabel Ray, P M Harwood, I Damon		
Maid of Auburn, M E Moore, J P Cooper		
Meekie 7th's Aaggie, D Savery & Son, W H Graham		
Mermia 3d, G G Palmer, J H Arnold		
Merry Midth 2d, Home Farm Fine Stock Co, G W Wells		
Middelietje, Estate of W L Breese, O S Grim		
Mignonne, Langworthy Bros. W E Hughes		
Minchen, J L Metzger, J H McCullough		
Minnie B B, Estate of H D Chollar, W J Boynton		
Minnie Moran, F C Pierce, H L Mills		
Minora B, N F Sholes, H Clayton		
Money Maid, S E Ewing, C G Cochran		
Myrtle Hegg and Naomie 3d, Langworthy Bros. W E Hughes		
Nappie, J N Robins, D H Sherman		
Neenida Laura, N F Sholes, W Rothwell		
Netherland Aaggie Wallstine, Netherland Beauty, Netherland Canna, Netherland Wanemata, Netherland Wattoline and Netherland Wiebe, P M Harwood, I Damon		
Nicolette, T Scott, A Buck		
Nightshade, C W Barnley, J B Cotton		
Nixy 3d, J N Robins, T F Pollard		
Nora Jacobs's Darling, Estate of W L Breese, T F Pollard		
Northern Queen and Northern Star, P M Harwood, I Damon		
Orilan, H M Hemnett, D H Sherman		
Pagnola 3d, J L Metzger, S T Knox		
Pierama and Pierama 3d, P M Harwood, I Damon		
Pink de Leag 2d, C F Germann, I Seidner		
Pinta, N F Sholes, M Hanson		
Platform Maid, W A Pratt, N Gambe		
Portage Queen 2d, W K Ancrecht, M E Moore		
Precious Jeannie, G F Jackson, State University Farm		
Princess of Londonderry, P M Harwood, I Damon		
Princess of Ridgeway, W Dickinson, F A Soutervant		
Pretender's Northern Star, P M Harwood, I Damon		
Quetta, J N Robins, O Corbett		
Rosalie 2d, D Savery & Son, W S Hess		
Seek-no-Further, J F Brown, I Rayman		
Sylard 3d, G H & D J Hubbler, N F Sholes		
Spitsen and Spitsen 4th, P M Harwood, I Damon		
Stephen Queen, W H C Higgins, D H Sherman		
Tace 3d and Tastrantje, P M Harwood, I Damon		
Tecca, T H King, S Roe		
Tilda 4th, J N Robins, O S Grim		
Tullia's Princess Netherland, Taylor Bros, H S Robbins		
Venie 4th, Langworthy Bros. W E Hughes		
Vesta 31's Beauty, N F Sholes, J T Island		
Waconeta, P M Harwood, I Damon		
Zephyr 3d, N F Sholes, M Clayton		
Zita's Beauty, N F Sholes, Read Bros		

Iowa City, Iowa. T. B. WALES, Sec'y.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Allegheny, T M Marshall, Jr, C E Radcliffe		
Bentley's Million, Wright & Alexander, C P Colbon		
Bonnie Pedro, T S Cooper, C Otis		
Brenda's John Bull, V E Fuller, H M Howe		
Caddo T, J W Scott, W E Rawls		
Call Him Bliss, V E Fuller, G L Baker		
Caroline's John Bull, V E Fuller, T A Havemeyer		
Crocus' Stoke Pogis, V E Fuller, G I Saney		
Curley's Duke, M J Paulding, E Richmond		
Duke of Bradford, H C Cutting, W Cochran		
Frank of Kennesaw, W R Joyner, M Johnson		
Happy Welcome, S W Collins, S W Collins & The Chas Parker Co		
Hermit, D F Appleton, W C Norton, Art		
Ida and Ida Bred 8 F Third, V E Fuller, A H Moore		
John Bull's Harmset, V E Fuller, H Hoopes		
Kingsoff Ashantee 2d, A H Moore, W E Rockwell		
Lovelanger, M E Miller, S J Sharpless		
Marianne's John Bull, V E Fuller, T A Havemeyer		
Marianne Pogis' Son, V E Fuller, W Whiting		
Nanad's John Bull, Est of D A Stewart, Mrs M E Davis		
Neptune of St Lambert, H J Gilbert, B W Crowninshield		
Nightingale's Orphan, G D Brown, S Shook		
Orange Rioter, T S Cooper, T J King		
Padreuna, J W Dwyer, Smith Bros		
Polo Queen, C Norton, Art, E Moorest		
Pogis of Hilledale, H G Westlake, W A Judkins		
Pretender's Beauty, H G & O C Cutting, H G Cutting		
Prince of Carolina, Est of J Washington, M E Howe		
Rex De Polonius 2d, L H Durham, T J Daniel		
Rioter Baroness, M E Howe & A B Chandler, M E Howe		
Rose's Stoke Pogis, V E Fuller, E Howe		
Royal Pogis, T H Wilson, A T Britton		
Rioter Pogis' John Bull, V E Fuller, T A Havemeyer		
Tinder Stoke Pogis, J C & H C Cogan, W Gleason		
Viscount, Est of G Roach, W A Simmons		
Acuba and Ada Rehan, R Hoe, R C Washburn		
Albert's Dawn, A B Darling, C Sackett		
Albert's Pride, Sibley & Holmwood Bros, A Mitchell		
Alpha Ray, J S Rogers, Q Cody		
Alpha Stoke Shotwell, Mrs H S Jackson, Mrs T E Grimm		
Alphea Fayer, W Simpson, R C Washburn		
A L Pogis, W Carpenter, Jr, D W Moore		
Aluminia, W C Norton, Art, E Cooper		
America's Fairy, M J Paulding, E Richmond		
Amina Ray, J S Rogers, E J Van Schaick		
Amoretta Ray, J S Rogers, J T Terry		
April Girl, R A Potter, H Jacobs		
Baby May, R L Swan, Jr, P DeBeau		
Beauty of Flamding, L C Ellis, Q V Queen		
Belle of Clarion, J G Crevelling, W N Bates		
Belle of the Herd 2d, R S Beach, R A Gridley		
Belle Perconia, V E Fuller, W S Wood		
Belle Pogis, V E Fuller, A H Moore		
Bellini La Belle, G H Dupey, H L Drake		
Bessie Bradford 3d, O Thorne, J Thorne		
Bessie of Oyster Bay and Blizzard, R L Swan, Jr, R Downing		
Bessielia, A B Darling, F Billings		
Brier's Lily, A G Atkins, W D Hobsapple		
Brown Fairy, C S Taylor, W Carpenter, Jr		
Brown Fanny, H Brasm, Hopewell Bros		
Brunette's Alphea, M E Howe & A B Chandler, A B Chandler		
Butter Queen, R L Swan, Jr, R Downing		
Cana Belle Pogis, V E Fuller, F Billings		
Cana Columbina, V E Fuller, Ayer & McKinney		
Canada, S F Gross, J W Clark		
Cana Daisy of St Lambert, V E Fuller, F Billings		
Chloe of Rutherlik, J Stillman, P C Kellogg		
Cocoa Cornetta, C A & G F Capen, W Gleason		
Cicero's Garcane, F M Baldwin, A Mitchell		
Claudiana, F Southworth, C Wolcott		
Columbine of St Lambert, V E Fuller, A H Moore		
Complacence 3d, Carson & Bro, W F Abraham		
Cora Pogis, W E Fuller, Ayer & McKinney		
Countess Gildertine, M M Gardner, M Overton		
Countess Rose 2d, O Thorne, F C Havemeyer		
Countess Victor, A B Darling, H Hitchcock		
Cream Rostar, A H Moore, C H Schmidt		
Creamer's Lass and Creamer's Maid, A H Moore, J W Dimick		
Creamery, T T Turner, U Ruehl		
Cricket's Minnie, M Overton, Maury Jersey Farm		
Crocus of St Lambert, V E Fuller, A H Moore		
Daisy Corone Pogis, G S Hutchinson, S R Dickson		
Daisy of Bradford, H C Cutting, W Smith		
Daisy of Ellaeg, J G Crevelling, W I Seymore		
Daroneia, O Thorne, C H Schmidt		
Dartrine, C M Christy, A J Hatch		
Dell of Ward Spring, S H Ward, N Kelley		
Die Vernonwell, A H Moore, J W Dimick		
Dexter Beauty, R L Swan, Jr, Mrs H Beaty		
Elsie Darling, T Catlin, G E Jones		
Enid 8th, C H Christy, G & H S Cromwell		
Enidtha, C H Christy, R C Washburn		
Eulgen's Beauty, O Thorne, J W Dimick		
Elsa of Briarcliff, J Stillman, M Robinson		
Eveline of Jersey 2d, G S Hutchinson, F C Farley		
Evelyn of St Lambert, G S Hutchinson, F C Havemeyer		
Fancy of Prospect, Sibley & Holmwood Bros, J T Terry		
Fannie of Maplewood, S S Budd, S S Peirson		
Florsettie 2d, Est of W H Moore, J E R Crabbe		
Glen Violet Pogis, G S Hutchinson, F Miller		
Golden Zenobia 3d, J D Wing, H J Furmit		
Granger Lass, J W Lang, C F Cobb		
Happiness, T T Turner, W Murrow & Son		
Harry's Patti, H V Long, G V Green		
Hattie Stoke Pogis, B W Collins, The Charles Parker Co		
Highland Glory's Pet, Mrs W R Cunningham, W B Wilson		
Holly of Hamilton, A P Gardiner, W B Skinner		
Hulda 2d, O Thorne, H G Keller		
Idalene S, Sibley & Holmwood Bros, L P Shoemaker		
Ida's Star of St L, Sibley & Holmwood Bros, G & H S Cromwell		
Infallible and Inferior, C S Taylor, W Carpenter, Jr		
Jeanne Parkes, W A & A F Mullin, P DeBeau		
Jennie Hugo, A S Darling, Mrs S F Troup		
Jennie St Heller, O Thorne, C H Schmidt		
Jessie of Bois d'Arc, E Briggs, J L Williamson		
Killarney's Pet, E S Long, G V Green		
Lady Dalton, D W White, C F Cobb		
Lady Hunter 2d, A H Moore, J W Dimick		
Lady Kate of R H F, A H Moore, T A Wilmerding		
Lady Mary Pogis, Est of D A Stewart, Mrs M E Davis		
Lady Myrsta, L C Sass, J L Ewell		
Lavana, C S Taylor, S A Ridgeway		
Leasie Lang, J W Lang, D W White		
Lass of Silver City, S W Collins, The Chas Parker Co		
Lilium 3d, H S Russell, H Bodee		
Lizzie's Rose 3d, V E Fuller, J V Teetsel, Trustee		
Little Rose, W S Lincoln, A Goddard		
Lizzie Mulford, S W Collins, The Chas Parker Co		
Lord Fife's Juliette, V E Fuller, W Rolph		
Madam Margaret, O Thorne, E H Schofield		
Madge 3d, J D Wing, H J Furmit		
Marianne Pogis, V E Fuller, A S Darling		
Marie Pedro, N Robins, A M Holdaway		
Mary Anne of St Lambert, V E Fuller, T A Havemeyer		
May of St Francis, H Bodee, J F Corrigan		
Mermaid of St Lambert, V E Fuller, T A Havemeyer		
Mermaid of St Lambert 2d, V E Fuller, F Billings		
Mermaid Stoke Pogis, V E Fuller, Ayer & McKinney		
Mida Pogis, V E Fuller, J T Foote		
Mittasa, O Thorne, J W Dimick		
Mitta 3d, J D Wing, H J Furmit		
Mizna, R L Swan Jr, C H Schmidt		
Minnie Lagar, F Hutchinson, A W Griswold		
Minnie of Fairchance, Fairchance Darmase Co, D S Richey		
Miss Crissie, M E Howe & A B Chandler, M E Howe		
Miss Hinman, F S Baldwin, A Mitchell		
Miss Mayar, H Hutchinson, Argentine		
Mitten 6th, O Thorne, J W Dimick		
Mollocker, W W Darrah, G & H S Cromwell		
Monmouth Princess and Monmouth Princess 2d, H Bodee, G & H S Cromwell		
Mopherz, O Thorne, C H Schmidt		
Morning Mist 2d, O Thorne, J W Dimick		
Mother Lottie, R L Swan, Jr, R Downing		
Mountain Barry, V E Fuller, A H Moore		
Mountain Berry Pogis, V E Fuller, O Thorne		
Mulford's Last Lizzie, S W Collins, The Chas Parker Co		
Nancy of St Lambert, V E Fuller, W F Berry		
Nern's Lily, C S Taylor, W Carpenter, Jr		
Novort, W S Lincoln, E S Terrell		
Nutshell 3d, A B Darling, D F Appleton		
Olga 2d, A H Moore, J W Dimick		
Ollie of St Lambert, S E Budd, S S Peirson		
Oottewah, W R Hill, M C Martin		
Ora Reed, H P Pigeon, The Maury Jersey Farm		
Pavilion 2d, F Morgan, J D Wing		
Pearl Carver, P C Carver, J F Washburn		
Pedro Sparkle, N Robins, L E Hentze		
Perry Farm Pomme d'Or, N Robins, J T Terry		
Pet's Perfection, M E Howe & A B Chandler, A B Chandler		
Philadelphia Lady, T B Atkinson, C Hancock		
Phoebe 3d, J W Dwyer, C Wingand		
Poetry, F Morgan, D Wing		
Pogis Silvermine, Sibley & Holmwood Bros, D F Appleton		
Polynetta, C S Taylor, W Carpenter, Jr		
Pride of Maplewood, S E Budd, S S Peirson		
Princess Triumph, C S Taylor, W Carpenter, Jr		
Proctor's Bright Eyes, T R Proctor, O H Sprague		
Pulchra, W Simpson, Tetrauss		
Purple Mulberry 3d, H Brasm, Hopewell Bros		
Queen Babe of St Anne's, G S Hutchinson, W C Page		
Queen of Powhatseng 2d, H S Russell, M Robins		
Rambler's Norn, G S Hutchinson, W F Berry		
Ready, W Simpson, G I Seney		
Rambling of Glenmore 2d, Est. of W H Moore, J E R Crabbe		
Ridgewood Maidy, C B Chilcy, D F Smoysmith		
Rioter Hugo's Gem, G S Hutchinson, G I Seney		
Rioter's Satin Bird, A H Moore, J J Doyle		
Roberta 4th, A H Moore, J Ambler		
Ruby 3d, E Bodee, E W Bullinger		
Scotch Lass, J S McElwain, G P Barden		
Sleepy, S L Swan, Jr, J W Dimick		
Souvenir of Ariadne, Hy Brasm, Hopewell Bros		
Starletta, Sibley & Holmwood Bros, J W A Davis		
Starry Signal, W Murrow & Son, W A Wood		
Stoney Lonesome, W Carpenter, Jr, B W Moore		
Sultana of Somerset, O Thorne, Mrs A F Baker		
Sweet Lily of St L, Est of D A Stewart, Mrs M E Davis		
Ta-Ka-Kake, Sibley & Holmwood Bros, L P Shoemaker		
Thorndale Belle 7th, O Thorne, J W Dimick		
Thorndale, O Thorne, J E Ambler		
Tinsid, W E Webster, T Catlin		
Tolter's Fancy, W J Webster, Maury Jersey Farm		
Urbana Lilly, C S Taylor, S A Ridgeway		
Valletto Ramapo, J Stillman, M Robinson		
Virginian Lillian, M E Howe & A B Chandler, M E Howe		
Wanka, O Thorne, S R Dickson		
Wanka 3d, O Thorne, J R Bardam		
Wildred, R J McGown, J T Armstrong		
Zoin Queen, H G Cutting, F W Smith		
Zulu's Nonnie, H G Cutting, W Cochran		

I & J Brookes, New-York. F. W. WIGER, Sec'y.

Record of the Times.

Review of Passing Events.

Destruction by Floods.—The bursting of a reservoir above Johnstown, Cambria Co., Pa., (pop. 10,000,) May 31, swept away a great part of the town, overwhelmed villages below it in the narrow valley of the Conemaugh river, and over 5,000 lives were lost. Houses by the dozen could be seen going down the river with people clinging to them, and near New-Florence 35 persons were counted floating on driftwood. Bridges were carried away and telegraph wires prostrated for six or seven miles. The break occurred about 5 P. M., but warning of danger had been given at 1 o'clock, and the Penn. R. R. had begun carrying people away. Before dark 119 persons were counted by railroad operators at Sang Hollow clinging to wreckage or floating dead in the current. At Nineveh 400 bodies came ashore. Many of the dead were plundered by Hungarians. The reservoir at South Fork was a lake, 3 miles long and one mile wide, formerly used as a water supply for the old Pennsylvania canal and latterly as a fish preserve. The wreckage at the Johnstown bridge, a stone structure, took fire and hundreds were burned to death. Instant measures for relief were taken by Govs. Beaver and Hill, President Harrison and Gen. Scofield, and tents, rations and soldiers offered. The storm which broke the reservoir inundated many towns in Western New-York, Maryland and Virginia. The business part of Washington was under water.

Decoration Day.—May 30 was warm and windy in Albany, showery in New-York, Washington and elsewhere. The parades were large and impressive, the decorations elaborate. President Harrison and Secretary Tracy reviewed the troops in Brooklyn, Gen. Sherman in Philadelphia, and Gen. Schofield in Washington, where the exercises at Arlington were of special interest, a monument to Gen. Paul being unveiled, and the graves of Sheridan and Logan decorated, with addresses by Gen. D. S. Alexander and Chief Justice Drake. Congressman M'Kinley spoke in New-York on the results of the war, Gen. Woodford at Gettysburg, and Lieut.-Gov. Jones at Albany. In Chicago, the Haymarket monument to policeman killed by anarchists in 1886 was unveiled. In Virginia, Alabama and Georgia, Federal and Confederate graves were decorated alike.

From Abroad.—The report that three British cruisers had been ordered to Behring Sea has been officially denied in the House of Commons.—The books of the land league have been found. The Parnell commission adjourned on Friday to June 18.—The Earl of Zetland has been appointed viceroy of Ireland.—Mr. and Mrs. Lincoln were received by the Prince and Princess of Wales, May 27.—At Colchester, his native place, Capt. Murrell of the Missouri was given a reception and banquet at which Henry George presented him with a gold watch.—M. Vizetelly, London bookseller, has been sentenced to three month' imprisonment for publishing Zola's works.—The silver wedding of the Count and Countess of Paris was celebrated at Sheen House, May 30. The Prince and Princess of Wales and the group of Orleanist princes were present.—A shock of earthquake was felt at Paris and in the Channel Islands, May 31.—The Vicomtesse Chandon de Briailles gave a breakfast at Paris, May 29, in honor of Col. Wm. F. Cody.—Owing to the excitement of the French mind, the proposed visit of King Humbert to Strasburg was given up.—Since the recent plot against the Czar's life precautions have been redoubled, no groups of persons are allowed to be near the Czar, and the parade in honor of the Shah's visit has been given up.—The steamer Hawkhurst, from London to Rio Janiero, traveled seven days and 2,300 miles with fire raging in the hold. The emperor conferred a medal on Capt. Robertson.—Gen. Hippolite, the insurgent leader in Hayti is reported to have defeated President Legitime, captured Port-au-Prince and proclaimed himself provisional president.—The American schooner Mattie Winship of Gloucester, Mass., was seized by the Dominion cruiser Vigilant, May 30, while fishing off Cape North, Cape Breton Island, on charge of being within the three-mile limit.—The St. Lawrence canals have been ordered opened on Sundays, forwarders complaining that traffic was diverted to the Erie.

Minor Items.

Contractor Smith is asking for that $40,000.

Over 3,000 immigrants landed at Castle Garden, May 31.

A new Reading locomotive has done a mile in 39 seconds.

A parade of 2,500 police took place in New-York, May 31.

Cardinal Gibbons of Baltimore is an earnest advocate of high license.

The Connecticut ballot reform bill passed the Senate, May 27, 16 to 5.

An auction sale of flannels in New-York last week realized $2,000,000.

Natural gas has been found in Wisconsin, 12 miles south of Milwaukee.

The last carload of Libby Prison material has been shipped from Richmond to Chicago.

About 12,000,000 young shad were recently placed in the Connecticut river at Warehouse Point.

The Texas Spring Palace, costing $300,000, was opened at Fort Worth, May 22, by Gov. Ross.

Since Jan. 1, there have been removed from New-York streets 1689 poles and 1,140 miles of wire.

A coroner's jury found that mind-reader Bishop was dead when the autopsy was performed.

Joseph Jefferson gave a performance of Rip Van Winkle for 1,500 orphans and foundlings in New-York, May 27.

The veterans of the Philadelphia Brigade presented to Pickett's men a new American flag at Washington, May 27.

Rev. Dr. Edward Beecher, 86, who lost his left foot by a car accident some time ago, preached again at Parkville, L. I., May 26.

The Manhattan Single-Tax Club of New-York has bought 1,700 acres of land in Sullivan county, N. Y., for a summer resort.

Secretary Windom has decided that imported goods for men's wear, known as worsteds, are in fact woollen cloths.

H. M. Roberts of East Hartford, Conn., picked a bushel of early peas in his garden, May 23. They were an improved local variety.

A preacher was knocked senseless in the pulpit at New-Liberty, Ind., May 26, by a bolt of lightning, and his sight is probably destroyed.

President Harrison's granddaughter, Mary Lodge McKee, was christened at the White

House, May 31, by her grandfather, Rev. Dr. Scott.

Capt. G. H. Williams of New-York, after the parade on Decoration Day, went home and shot himself in the head. No cause is known for the act.

The Wertz liquor law of New-Jersey proves to be a severe temperance measure, as it compels liquor men to pay their unexpired licenses over again or quit the business.

The Hawaiian princess, Victoria Kawekiu Kalulani Lunalilo Kalanihuahilapalapa, aged 14, niece of King Kalakaua, arrived in New-York last week on her way to England.

A bill has passed the Connecticut house giving women who can read the right to vote in school district meetings; also one making them eligible to hold office in school districts.

John G. Borden of Orange county, N. Y., and a winter resident of Florida, has offered a prize of $1,000 to the city in the latter State which shall be in the most cleanly condition by July 1.

The President has appointed Orlow W. Chapman of New-York to be solicitor-general, John R. Colton of Maine assistant-attorney-general, and B. F. Gilkerson of Pennsylvania second comptroller of the treasury.

The Presbyterian Assembly, New-York, adopted, May 27, a resolution expressing sympathy with the widespread movement to suppress the traffic in intoxicating liquors, but not advocating any particular party.

The Hartford (Conn.) Theological Seminary proposes to open all its courses to women to meet missionary and other needs also to form classes in theology, Bible study, music, and practical methods, open to the public.

Adjutant-General Richard C. Drum has been placed on the retired list, being 63 years of age. He enlisted as a private in the Mexican war, and became second-lieutenant; served in California during the rebellion and rose to be brigadier-general.

Mrs. Julia Ward Howe's 70th birthday, May 26, called forth a profusion of gifts, flowers and letters. On the 29th the New-England Woman's Club, of which Mrs. H. was a founder, gave a reception and presented Mrs. Howe with a massive vase.

Detective Daniel Coughlin, Frank Black, alias Woodruff, horse thief, and P. O. Sullivan, ice-dealer, have been indicted for the murder of Dr. Cronin at Chicago. Members of the Clan-na-Gael secret society are assisting in the search for evidence.

The Young Men's Democratic Club of New-York gave a dinner in honor of ex-President Cleveland, May 27. Speeches were made by Mr. C., Gov. Hill, Congressman Breckenridge, ex-Gov. Hoadley, F. R. Coudert, Col. Fellows and W. B. Cockran.

Mrs. Harriet Hubbard Ayer of New-York has been successful in her suit against the Recamier Company, to prevent James F. Seymour and others from voting on 498 shares of stock held as security for loan, and new officers were elected May 27.

The 70th birthday of Walt Whitman was celebrated by a gathering of 200 friends and neighbors at Camden, N. J., May 31, a dinner, speeches by R. W. Gilder, Julian Hawthorne, H. H. Gilchrist of London and others. Letters were read from Whittier, Curtis, Stedman, Howells and Mark Twain.

The New-York Stock Exchange has decided to exclude the "tickers" of both the Gold and Stock and the Commercial Telegram companies by a vote of 34 to 8. A recent decision of Judge Andrews compelled treatment of both companies on equal terms, while the Exchange wished to deal with the G. and S. only, the other having supplied quotations to the Consolidated Exchange.

See Advertisement of the

FEARLESS

THRESHING-MACHINE.

In the last number of this paper and for the best

ENSILAGE-CUTTERS,

send to the old and reliable Empire Agricultural Works, over 30 years under the same management, Minard Harder, Proprietor, Cobleskill, N. Y. for fully illustrated, descriptive and free Catalogue, showing "of why ensilage pays."

Choice Guaranteed 6% Per Cent. Bonds. In amounts from $100 to $1,000, interest payable semi-annually.

Secured by First Mortgages on Improved Farms in Eastern Kansas. Negotiated and for sale by THE EASTERN KANSAS INVESTMENT COMPANY, Ottawa, Labette County, Kansas.

Send for Investors' Hand-Book, and name amount you desire to invest.

Best of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. my16-tf

Special Announcement.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work *free* by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time. my16-tf

Many of our readers will soon have to think of Harvesting their Hay Crop. Such of them as need a new Mower, will not go amiss in buying an "ADJUSTABLE," which they will find advertised in our columns. Adriance, Platt & Co. belong to the small company of pioneers whose brains, energy and money, rightly applied, changed the hardest labor of the farm into the easiest and most expeditious. From the introduction of their two-wheel, jointed bar mower, which they christened the "BUCKEYE" in 1858, the universal use of mowing machines dates. Their trade mark of "ADJUSTABLE" is known throughout the world as the guarantee of excellence, reliability and durability.

BEECHAM'S PILLS cure sick headache. [4

"My daughter was greatly troubled with scrofula, and at one time it was feared she would lose her sight. Ayer's Sarsaparilla has completely restored her health, and her eyes are as well as ever, with not a trace of scrofula in her system."—S. King, Kittingly, Conn.

It is beyond question that Ayer's Cherry Pectoral heads the list of remedies for diseases of the throat and lungs.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y.

Farm Produce Markets.

Albany Markets—June 3.

FLOUR.—The Argus says: Market steady, with good demand and moderate receipts.

	June 1.	May 31.	June 3.
Com. State	$3.10@4.00	$3.10@4.00	$3.10@4.15
State Extra	4.10@4.50	4.10@4.50	4.15@4.40
Amb. State & W.	4.00@4.10	4.00@4.10	4.10@4.60
O., Ind. & St. L. Ry.	4.00@4.10	4.00@4.10	4.10@4.10
Winter X. Wheat	4.00@4.10	4.00@4.10	4.10@4.45
Minn. "Bakers"	4.00@4.75	4.00@4.75	4.00@4.50
Sp'g W. Pat., new	4.00@4.75	4.00@4.75	4.00@4.50
Sp'g W. Pat., old	4.25@4.50	4.25@4.50	4.20@4.50

Rye Flour in good demand and firm at $3.20@3.75 per bbl. Graham, $4.00@4.50. Oat Meal in fair demand at $4.25@4.50 per bbl. Corn Meal is having a very fair trade; the family, $3.00@3.75 per bbl.

GRAIN.—Corn steady and quiet; No. 2, 67½@67½c.; No. 3 mixed, 65@65½c. Oats active and steady. No. 2 white, 37½@38c.; No. 3 white, 36½@37c. Rye moving fairly at 56@58c. per 56 lbs. for State, and western nominal.

HAY AND STRAW.—Market firm; demand good; receipts fair. Timothy, best, $18@19; medium, $16@17; mixed, $14@15; marsh, $12@13; clover, best, $12@13; oat straw, $6@6½; wheat straw, $5.

HOPS.—Market strengthened by adverse reports from England.

N. Y. State, 1888, choice	28	@30
N. Y. State, 1888, common to good	8	@11
N. Y. State, 1887, all grades	3	@11
Pacific Coast	12	@25
German	30	@35

Albany Street Market—June 3.

BUTTER.—Good to choice, 16@18c. per lb.

EGGS.—Near-by and new laid, 12@13c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 6@9½c. per lb.; forequarter, 4½@6c.; mutton, hindquarter, 6@8c.; forequarter, 7@8c.; lamb, hindquarter, 10@12c.; forequarter, 7@8c.; veal, hindquarter, 8@11c.; forequarter, 7@8c.

POULTRY.—Fowls, 9@11c.; chickens, 12@15c.; turkeys, 12@13c.; ducks, 12@15c.

FRUIT.—Apples, $1.50@3 per bbl.; Cranberries, $1.75 per crate; Strawberries, 10@15c. per box.

VEGETABLES.—Asparagus, 5c. per bunch; Beets, new, 40@45c. per doz. bunch; Cabbage, new $2.50@3 per crate; Cauliflower, 75@1 per doz.; Green Peas, $3 per crate; Lettuce, 10@15c. per doz.; Onions, new, 10@12c. per bunch; Oyster-plant, $1 per doz.; Parsnips, $1.50; Potatoes, $1@1.75 per bbl.; new, $1@3.50; Radishes, 10c. per bunch; Rhubarb, 2½@3c. per doz.; Spinach, 75c. per bbl.; squash, $2.25 per crate; Tomatoes, $2.50@3.

New-York Markets—June 1.

BEANS—Marrow, 1888	1.95	@ 2.00
Medium, 1888, choice	1.90	@ 1.95
Pea, 1888	1.80	@ 1.85
COTTON—	Uplands.	N. O. & Gulf.
Ordinary, per lb	8½ —	— @8¾
Middlings	10½ —	— @10¾
Fair	12½ —	— @12¾
EGGS—State and near-by, per doz	—	@ 14
Western and Southern	13	@13½
FLOUR—Spring Wheat pat., per bbl	6.15	@ 6.65
Winter	5.00	@ 5.35
No. 2 extra State and Western	3.00	@ 3.25
No. 1 extra	4.00	@ 4.25
Minnesota clear	4.30	@ 4.85
Straight	4.90	@ 5.00
Rye flour, superfine	3.85	@ 4.00
Corn Meal	3.45	@ 3.60
FRUIT—Apples, Baldwin, per bbl	2.50	@ 3.00
Russet	2.25	@ 3.00
Spy	2.25	@ 3.00
Cherries, N. C., per lb	8	@ 12
Va	8	@ 10
Huckleberries, N. C., per qt	10	@ 11
Strawberries, N. C., per qt	10	@ 11
Norfolk	6	@ 8
Del. and N. J	6	@ 8
Peanuts, per lb	2½	@ 3
DRIED—Apples, sun-dried, per lb	2½	@ 3½
Evaporated	5½	@ 6
Peaches, sun-dried	6	@ 9½
Evaporated	11	@ 13
Plums, Southern	4	—
Cherries	10½	@ 15
Blackberries	4	—
Raspberries	20	@ 21
Huckleberries	10	—
GRAIN—Wheat, State white, per bus	88	@ 91
Ungraded spring	80½	@ 87½
No. 1 red, winter	86	@ 87
No. 2 red, winter	85½	@ 87½
Corn, No. 2, white	41½	@ 42
No. 2, mixed	40½	@ 41
Oats, No. 2, white	32½	@ 33
No. 2, mixed	30	@ 30
Barley	—	@ —
Rye, State and western	47½	@ 48
HAY—Timothy, per 100 lbs	80	@ 90
Shipping	70	@ 75
Clover	65	@ 75
Straw, long rye, No. 1	70	@ 75
No. 2	60	@ 65
Oat	45	@ 55
HOPS—N. Y. State, 1888, choice, per lb	—	@ 25
Good to prime	20	@ 23
Best, 1887	7	@ 10
Pacific Coast, 1888, best	7	@ 9
Pacific Coast, 1887	7	@ 9
German	28	@ 40
POULTRY—Live fowls, per lb	11½	@ 12
Spring chickens	20	@ 25
Turkeys	9	@ 9
Ducks, per pair	60	@ 75
Geese	1.00	@ 1.25
Dressed fowls, per lb	10½	@ 11½
Phila. springs	17	@ 18
Balt. & West. broilers	20	@ 27
Turkeys	11	@ 12
Ducks, per lb	9	@ 10
PROVISIONS—Beef hams, per bbl	14 00	@ 15 00
India mess	12 50	@ 13 00
Hogs, dressed, per 100 lbs	6.12	@ 6.25
Lard, per tierce	6.50	@ 7.00¼
Pork, new mess, per bbl	15.00	@ 15.50
Short clear	15.00	@ 16.00
Family	12 00	@ 13 00
VEGETABLES—Asparagus, Colossal	1.75	@ 2.00
toe, per doz. bunch	1.10	@ 1.70
Prime	1.00	@ 1.00
Beets, nav. & Chas. per crate	1.00	@ 1.00
Florida	50	@ 1.00
Cabbage, Southern, per bbl. crate	50	@ 1.00
Cucumbers, Florida, per crate	2.50	@ 3.50
Savannah and Charleston	3.00	@ 3.50
Green peas, Norfolk, per crate	60	@ 75
Del. and Md.	75	@ 1.00
Jersey	75	@ 1.00
Onions, N. O., new	1.50	@ —
Bermuda, per crate	50	@ 60
Potatoes, State, per bbl	1.00	@ 1.15
Eastern	1.00	@ 1.50
Southern, new	1.00	@ 1.00
New Orleans	2.50	@ 3.00
Bermuda	3.00	@ 4.00
Sweet, Vineland	3.00	@ 4.00
Radishes, N. C. & Norfolk, per bbl	50	@ 75
Spinach, Norfolk, per bbl	75	@ 1.00
String beans, Fla. way, per crate	50	@ 1.00
Savannah	1.00	@ 2.00
N. C.	1.50	@ 1.50
Tomatoes, Fla., per crate	2.50	@ 3.00
Bermuda	1.50	@ 2.00
Turnips, N. C., per 100 bunches	1.00	@ 2.00

Cattle Markets.

NEW-YORK, June 1.

BEEVES.—Receipts, 11,120 head. The week opened with a brisk demand and an upward tendency in values, which were firm. The tone was unchanged on Wednesday when the markets closed steady. Friday the markets closed firm at former values. The herds reported were generally coarse but reasonably well fatted; those taken for export ranged from coarse to good. Several corn-fed bulls went to British ports.

[For cents, net.]	This week.	Last week.
Good beeves	$5.00 @ —	$5.00 @ —
Fair	4.60 @ 4.85	4.60 @ 4.85½
Coarse	4.30 @ 4.50	4.30 @ 4.50
Poor	4.00 @ 4.25	4.00 @ 4.25
[For dressed grass.]	This week.	Last week.
Good beeves	$8.25 @ —	$8.25 @ —
Fair	8.15 @ 8.75	8.15 @ 8.70
Coarse	8.15 @ 8.10	8.15 @ 8.10
Poor	8.00 @ 8.00	8.00 @ 8.00
Oxen	8.00 @ 8.75	8.15 @ 8.45
Dry cows	5.00 @ 5.85	5.00 @ 5.85
Bulls	5.00 @ 5.00	5.00 @ 5.25

MILCH COWS.—Receipts, 98 head. Trade generally continues to be dull, and the quality of the offerings from poor to medium. Use new milk one cent, $40 the lot; ten cows, $40.50 per head; one grade springer, $41.50.

VEALS AND CALVES.—Receipts, 12,120 head. The calf of the dairy farmers of our State is not set forth in the indiscriminate breeding and annual slaughter of their calves, at prices which scarcely pay the cost of production. This is the condition of the trade at date. Range of prices: Calves, butter-milk-fed, 3½@4c. per lb.; calves and lean veals, in mixed lots 3½@4c.; lean veals, 4@4½c.; veals of medium quality, 4½@5c.

SHEEP AND LAMBS.—Receipts, 26,165 head. The week opened with a steady tone in sheep and a recovery of ½c. per lb. in spring lambs. This was followed on Wednesday by an advance in sheep of 10c. per lb., in lambs of ½c., and in spring lambs of 1c. Thursday was observed as a holiday and no sales were reported. Friday sheep declined 10c. per lb. Lambs were firm. Range of prices: Sheep, 4@5½c. per lb.; lambs, 5½@7c.; spring lambs, 7½@11c.

SWINE.—Receipts, 20,150 head. The feeling is both dull and weak. The few live hogs which have been offered are peddled out in very small lots. Range of prices: $4.85@5.15 per cwt.

Cattle Markets.

BUFFALO, June 1.

[For cents, gross.]	This week.	Last week.
Extra steers	$4.15@4.40	$4.15@4.40
Best butchers'	3.90@4.00	3.90@4.00
Second quality	3.75@3.85	3.75@3.85
Poor to common	3.50@3.60	3.50@3.60
Steckers, light	3.40@3.60	3.40@3.60
Steckers, good to choice	3.75@3.90	3.75@3.90
Bulls	3.00@3.25	3.00@3.25

Receipts, 17,000 head, against 15,300 last week. Heavy cattle continued dull and weak, with fair receipts, while the offerings of light, handy butchers', averaging 1,100 to 1,200 lbs., were sufficient to meet the demand at slightly firmer prices. Good mixed butchers' also found ready sale. Little common stuff here, and no inquiry. Yards bare at closing, but heavy supply expected next week. Bulls easy; trade and supply light. Stockers firm; fair supply; all sold.

MILCH COWS.—Receipts liberal; choice sold best; common dull; extra, $45@48; good to choice, $35@40; common to fair, $18@28.

VEALS.—Good to choice, $5.75@6.25.

SHEEP AND LAMBS.—Receipts, 21,800. The advance noted at this time of the year has apparently come around, and although buyers talked of "10-State prices" and heavy declines sure to follow, the market closed up strong. Droves in Pennsylvania bringing plenty of orders from New-York. Extra sheep, 100 to 107 lbs., sold at $4.90@5; good, 90 to 99 lbs., $4.50@4.65; fair, $4@4.30; yearlings, good to choice, $6.25@6.75; spring lambs, $7.50@8.25.

SWINE.—Receipts 47,600, steady throughout the week, closing strong, active demand from packers and local dealers. Yorkers, fresh in Pennsylvania, $4.80@5.05; mixed packers, $5.05; light weights, $4.75.

BOSTON, June 1.

BEEVES, NORTHERN.—Good oxen, dressed, 8½@9c. per lb.; fair to good, $4.50@5; second quality, $3@4. WESTERN, Alfred Eaton & Co.—Extra, $4.10; good to prime $4.30; light to fair, $3@4.25.

MILCH COWS.—Trade quiet at $35@45 per head.

CALVES.—About 1,000 head at 4@5c. per lb.

SHEEP AND LAMBS.—In lots at $7@8.25 per head.

SWINE.—Western fat hogs, sales, 6½@6¾c. per lb.; small pigs, $1.75@2 each per head.

Dairy Markets—June 3.

ALBANY.—Butter steady; receipts moderate. State creamery, choice, 19@20c.; Western creamery, 17@18c.; State dairy, 15c. fair to good, 16c.; Western dairy, choice, 14@15c.

Cheese weak; demand moderate. State factory, full cream, 11@12c.; new, 10c.

UTICA.—The cheese market took another tumble of ½c. here last Monday. Transactions amounted to 21,350 boxes, at 10@10½c. per lb., with the ruling at 10½c. Little Falls also disposed of 4,300 boxes, at 10½c., the largest number going at 8c. One reason why prices declined was that the bulk of the offering was fodder cheese, although there was a slight sprinkling of grass make. But the last of the hay cheese usually finds a dull market. In sympathy with country figures, New-York fell off gradually during the week until it reached 9½c., but on Friday a slight reaction took place to 9¾c., and in some cases 9½c., occasioned by smaller receipts than had been expected, which, coupled with quite heavy orders from abroad, caused a more active demand from exporters. The warm rains of the week have brought the grass up very nearly, if not quite to the flush, and this condition may be expected to last for a month or six weeks to come.

Butter was in good supply and continued as low as before. At Utica 18 factories creamery were sold at 18@18½c. At the Produce Exchange, both creamery and dairy, sold at 17@18c., there being no distinction made in prices. No improvement has taken place during the week in New-York, nor does any seem to be looked for so long as butter continues to be so abundant.

NEW-YORK.—Good butter steadily held; lower grades easier. Receipts, 46,418 pkgs. Eastern creamery, fresh, 17@18c.; Western creamery, fresh, 16@17c.; State dairy, choice, 15@16c.; Western dairy, 13@15c. Western factory, choice, 11@12c.

Cheese in more general demand. Receipts, 18,516 boxes. Factory, best, 9½@10c. per lb.; light skims, 6@8c.; Ohio flats, 10@10½c.

BOSTON.—Western creamery, extra, 18½@19c.; extra State, 18@18½c.; factory, 15@16c.; Vermont, extra, 19@20c.; dairy, choice, 16@18c.; Western dairy, 13@15c. Western factory, choice, 11@12c.

Cheese, northern choice, 9½@9¾c.; western, 9@9¼c.

Wool Markets—June 3.

ALBANY.—New clip arriving slowly; mediums, 25c.; fine, 24@25c.

No. 1, Pulled, per Pulled	28@29	Medium Fleece, per Fleece	27@28
No. 2, Pulled, per Pulled	26@27	Fine Fleece	25@26

NEW-YORK.—Ohio X X, 26c.; Indiana, X, 24@25c.; unwashed western, 18c.; pulled, 24@25c.; Territory, 21c.; scoured, 30@35c.; Montana, 22c.; Oregon, 19@21c.; scoured, 32@34c.; Texas, 24@25c.; scoured, 30@35c.; California, 18@21c.; scoured, 30@35c.; Colorado, scoured, 35c.

BOSTON.—Sales, 1,500,000 lbs. domestic and foreign; Ohio and Pennsylvania, 25@26c.; Michigan, 24@25c.; combing and delaine, 27@28c.; scoured, 30@35c.; pulled, 28@32c.; unwashed, 18@24c.; Territory, 22@25c.; Texas, 25@28c.; California, 18@20c.; Oregon, 18@20c.; Australian, 37@42c.; Scotch, 35c.

For a DISORDERED LIVER Try BEECHAM'S PILLS. 25cts. a Box.

OF ALL DRUGGISTS.

A WORD TO INDIGNANT FARMERS.

A very amusing feature of the fight between the farmer and the Twine Trust is the position assumed by some manufacturers of harvesting machinery, who assume to champion the farmer's interests. A prominent firm offers a wire binding device to take the place of what they have heretofore termed their "simplified knotter." By this new device twine is to be done away with this season and wire to be substituted. This wire attachment will cost the farmer $10. Wire for binding costs 10 cents per pound. The highest-priced manilla twine is sold at from 15 to 19 cents per pound. It will take four pounds of wire, on an average, to bind one acre of wheat, two pounds of manilla twine are required to bind one acre of grain. Thus it costs 40 cents to bind one acre with wire and 30 to 38 cents with the highest-priced twine. Add to this the $10 which the farmer is asked to pay for the wire attachment, and where does the saving come in? Another Harvesting Machine manufacturer offers an attachment by which both wire and twine are to be done away with. Two men are to be substituted for the binder attachment. They are to stand on this platform and, by a liberal quantity of elbow grease, are expected to save the expense of twine or wire. The first cost of this platform is $3.50. The wages of the men at $2.50 per day (and it will require experienced men to do the work) will be $5 per day. With this kind of an attachment to the machine it will impossible to bind more than 12 acres per day. So it will readily be perceived that it costs the farmer 44 cents more per day to cut his grain with the platform attachment than it would to use the highest priced twine; and this does not include the first cost of the attachment. In case this platform blunder does not meet requirements, this firm offers a header at $16. This means upwards done not save the straw, but leaves it standing in the field. There is a leading firm of harvesting manufacturers which have refrained from such methods, and have come squarely up to the requirements of the farmer in his struggle with the great octopus, the twine trust—Aultman, Miller & Co., the builders of the popular Buckeye binders and mowers. The Buckeye binder is constructed with a swinging disc in its knotter, which enables the machine to use not only manilla and sisal, the high-priced twines, but jute, which is sold as low as 11 cents per pound. The so-called "simplified knotters" on all-steel machines cannot use the cheaper grade of twine with any degree of success. The Buckeye Knotter goes with every machine without extra cost. Next season, when possibly some cheaper fibre for making twine shall be discovered and substituted for the dear raw material now in use, the farmer who owns the Buckeye, with its swinging disc, will be all right, but the owner of an "all-steel" binder will have his extra attachment on his hands, and even then, with its simplified knotter, will probably have to purchase a new device for the new kind of twine then to be used.

INDISPENSABLE,

Especially During Spring Work.

MOORE BROS.' GALL POWDER heals Collar Galls, Rat Galls, Boot Galls, Saddle Galls, and all Skin Abrasions, while the animal is at work.

We applied the Powder as directed, and found it worked precisely as you stated. We would not be without it. C. STEGMAIER & SON, Wilkes Barre, Pa.

Price, 50c. and $1 per can by mail postpaid MOORE BROS., *Veterinary Surgeons,* 167 to 169 Hudson Avenue, Factory 11 Morton St. Albany, N. Y.

LONDON PURPLE

The farmers of America who have used it have saved their crops, and also SAVED

¾ Million Dollars!

in the cost; while those farmers who have used other poisons have needlessly paid away and LOST

Six Millions Dollars!

If your merchant has not got

LONDON PURPLE

write to us and we will send you the name of the nearest dealer who has it.

HEMINGWAY'S LONDON PURPLE CO. Ltd

90 Water St. NEW YORK. 60 Mark Lane LONDON.

The Fireside.

The Water-Finder Once More.

His Kentucky Success Accounted for.

ED. COUNTRY GENTLEMAN — Your correspondent "Reader," page 336, wishes to know "whether water was found by digging at the place mentioned (page 276) for the two crossing streams."

This has happened in two separate instances, when wells have been sunk on my premises at places indicated by a water-finder. The first well was dug where the water-finder said two streams came together at the same depth, one from the northwest, the other from the southwest, and that they united and ran off together in an easterly direction. As it happened that in this instance the water-finder had located the well just where I wanted it to be, in the edge of a beautiful wood near the house of one of my tenants for whom the well was intended to furnish water, I permitted the man, who was a well-digger as well as a water-finder, to go to work at once. To his unbounded satisfaction, the two streams were found just as he had predicted, coming together between fissures of rock, one from the northwest, and the other from the southwest, and the united stream running off toward the east. In fact before he could finish the well, the water was so deep that it was impossible to lower it sufficiently by drawing it out in buckets to admit of the wall's being built up. We were obliged to wait until a dry season, when the underground watercourses as well as those on the surface are decreased. Then the water was drawn out, the channels by which it entered closed, and the well walled up with rock, after which the man opened the channels, and the well until now has furnished an exhaustless supply of delicious cold water.

Now for an explanation of the water-finder's knowledge of the underground streams. He though it was through the agency of the divining-rod, which undoubtedly did turn in his hands; but I am satisfied that it was gained simply from his close observation of surface indications. He was an Irishman, shrewd and intelligent, who had spent many years of his life in going over and over this section of country, studying the face of it with the one idea in his head of choosing likely spots for the location of wells, and whose keen observation coupled with his long experience in well-digging had taught him almost as much about the whereabouts of underground streams as many of us know of those upon the surface. He, however, would have scorned such a common-sense view of the matter, his faith in his divining-rod being supreme.

I remember while the well was in progress that a surgeon of the navy, who was spending his vacation at my place, rode down to where he was at work. The water-finder explained the use of the rod, showed how it turned in his hand over the supposed stream, and presently handed the forked twig over to the surgeon and told him to try his hand, that sometimes one possessed the "gift" without knowing it. The surgeon laughingly took it, and holding it as directed walked over the charmed spot, when, to his great astonishment, the rod turned in his hands just as it did in the hands of the water-finder. The experiment was repeated several times with the same result, and finally the surgeon told the Irishman that since he found he was so good at finding water he believed he would give up the navy and do nothing else. Pat took him literally, and attempted to dissuade him from the change, saying that although he did possess the "gift" to an unusual degree, yet he did not think its manifestation was decided enough to justify him in taking up the "setting of wells" as a profession.

It was at the digging, or rather the boring, of the second well some years afterward, that the rod indicated the crossing of two streams of water at different depths. This happened during the long drouth last summer, when I had a company of men with a boring machine come to bore wells for the benefit of my cattle. This time, however, I did not permit them to bore the well at the supposed crossing, because that point was just at the brow of the hill, and I was satisfied that if they got water there at all they would have to dig pretty deep for it, and as I was to pay them by the foot, the well would thus be very expensive. So I told the water-finder he might follow the stream farther on and select another location for his well, which he accordingly did, and chose a spot just above a depression in a basin near which I had decided beforehand that the well should be dug. My reason was that the basin was one of six in a line half a mile in length, pointing from high level land to lower, in the direction of the general drainage of the country, one of these basins being so deep that the sought-for stream had to run above ground for 50 yards; and in the lowest point of some of the others, a bit of earth would occasionally cave in and disappear as though it had been carried off by water. All this proved conclusively to my mind that there was an underground stream running from one to another, the more so as in the wet season a fine bold stream was accustomed to break out at the foot of the hill some quarter of a mile farther down. The water-finder knew nothing of my reason for selecting the spot, but worked round to it slowly and deliberately, looking very wise all the while, until finally he drove down his peg just where I wanted it, and there the well was bored and water found at a desirable depth.

In addition to this well, I had another bored last summer to furnish water for dairy purposes. In order to be convenient, this last well had to be located on a hill, and they were obliged to bore 80 feet before getting water, most of the distance through solid limestone rock. The well still continues to furnish an abundant supply of good cold water. In the location of this well I permitted the water-finder to place it where he liked within a prescribed limit. He said the rod told him that the stream was 12 feet broad, and he afterward traced it a mile and a half to where it rose above ground, the finest spring in the neighborhood.

Whether there is truth or superstition in the claims of the water-witch, they have had more successes than failures according to my experience, so that even the infidels are wont to humor the practice, especially as it inspires the laborers to go ahead with their work with so much more earnestness and vigor.

As I have before remarked, it is my opinion that the water-finder is guided by his close observation of surface indications, and when he approaches the spot where he has decided there ought to be an under-ground stream, then the muscles of his hands, all unconsciously to himself, so manipulate the twig as to make it turn. The witch, who has never heard Mr. Carpenter's theory of "*expectant attention*," honestly gives the water below and the rod in his hand, the credit for doing what he himself unconsciously does.

Another reason why both I and the water-witches are so successful in finding water is that in this section of Kentucky there seems to be a perfect network of underground streams, so that one can scarcely fail in striking one, no matter where he digs. Near my place there is quite a large stream that runs part of its course above ground and part below, appearing and disappearing several times in the course of half a dozen miles. For this reason it was called by the Indians the "jumping rabbit." M. WALTON.

The last paragraph seems to sum up the whole matter, and we think nullifies absolutely all testimony coming from the region referred to, in favor of the power of the forked rod. We regret that the statement it embodies was not made in our correspondent's first letter on the subject.—EDS.

A Pioneer Association.

A novel organization composed of elderly people whose parents were the first settlers of this section of Ohio, held its semi-annual meeting in the handsome Opera House at our county town, a few weeks since.

This organization is known as the Pioneer Association of Logan and Champaign counties, and has been in existence about fourteen years. Its object is, so far as I have been able to determine, to keep alive the reminiscences of those early days when the beautiful farming lands that make this part of Ohio so attractive, belonged to the "forest primeval;" to perpetuate from father to son, and so on to future generations, the struggles and pleasures and homely domestic events of the early tillers in the wilderness.

So rapid has been the progress from the log hut with its single room to the convenient, capacious farmhouse—from the puncheon floors to costly carpets—from the toilsome journey with ox teams, through swales and over corduroy bridges, to the smooth, pebbly pikes, and fine horses and easy vehicles of to-day—that the grandchildren of these same sturdy old yeomen cannot realize under what difficulties and at what enormous outlay of strength and muscle these changes have been brought about. They see only the marvelous results. They are reaping the fruits of those days of privation when their grandparents battled with nature single-handed.

Frontier life will always be an interesting theme to many people, but there are numbers of others to whom it is only a vague unreality, not of especial interest as touching their own individual histories in any particular. To all such the Pioneer Association is an educator—a living, breathing school in which they may be taught their obligations to their plain old forefathers.

Aside from this consideration, these old folks take such solid comfort in their meetings, talking about the old times when they "roughed it," that this feature of itself is a *raison d'etre* for the association. Some of them talk well, although not making any pretensions of being polished speakers. For boys who ran barefoot in the woods, having only an occasional winter's schooling, who worked early and late on the newly opened farm, had little chance to study rhetoric and elocution.

The stage of the Opera House was filled on the day mentioned with silver-headed, spectacled men and women who smiled down on the audience with that sense of proprietorship which is experienced only by those who are running a "show" and are satisfied with the outlook. As their names were called by the presiding officer, those who were on the programme for a speech stepped to the front and entertained the audience for five minutes with personal incidents of early times. Of those who spoke, a large number had come when babies with their parents from "Verginny," as it was frequently pronounced. Many other States were represented, but the Old Dominion seemed to claim the majority of the crowd. None of the speakers were under 70 years of age, and many much older.

One old gentleman gave a very droll account of a trip he and his younger brothers made to Sandusky City, then a little place on Lake Erie, a distance of nearly a hundred miles, in a heavy farm wagon, to get supplies for the family and sell their produce. Caught in a severe storm, they were soaked through to their skins, and at a certain bad bridge the horses stalled, and there the boys were compelled to remain all night in the rain, having great difficulty in getting a fire, for it was before the days of matches. Young America, in these days, would regard such an expedition as a huge picnic, but they would not care to repeat it. With the pioneer boys, such discomforts had not the flavor of novelty; they were too painfully common to be very amusing.

One of the comical features of these pioneer meetings is the singing. The ladies sit by themselves, the gentlemen on the opposite side, each provided with a note book, a singing master standing in front and beating time. The system of notation is called "patent," or, as some jocosely term them, "buckwheat notes" — queer square-headed, triangular-shaped things, out of which they extract their music. And oh! such music! The women sing what they call "counter," a cross between a tenor and something else not so harmonious. On this occasion the leader pitched it too high, and then what a scrambling and straining among the shrill voices as they charged up the ascending scale to reach the top notes! The scene reminded one of the graphic pen pictures drawn by Eggleston in his stories of western life.

To make this part of the performance really like the old-fashioned country singing school, one of their number at intervals carries water around to the class in a tin dipper, or perhaps a gourd. Having slaked their thirst and exchanged innocent chaffing, they proceed with their noise. This little side diversion appears to be an enjoyable one to these old girls and boys, recalling as it does their childhood days. This corps of singers are known as the "Old Foggy," and is a recognized institution all over the country, having been invited to participate in the opening ceremonies at the Ohio centennial held at Columbus last fall. On State occasions they come out in antique dress, short-waisted coats, with pointed skirts, stocks, &c., for the gentlemen, while the ladies are picturesque in costumes of fifty years ago.

I forgot to mention that in many of the speeches, adventures with the Indians, some amusing and some of a serious character formed the principal theme, particularly those given by the descendants of the "store-keepers" and fur-buyers of that early day.

Several articles of old-time use were on exhibition, among them a stumpy broom with a thick handle, the brush part very heavy and apparently made of wooden splints shaved down. How the good housewives managed to reach the corners with those unwieldy things is a mystery. Luckily they had no carpets to clean, as that would have been an utter impossibility with so clumsy an implement. One of the pioneers showed a linen worked sampler with various devices and texts, scriptural and from Poor Richard's almanac, wrought on it in dark colors, done by some industrious indefatigable maiden away back in the past.

Perhaps in fifty years from now, the pretty little "doings" in butcher's linen and Kensington stitch that have taken such hold on the feminine world to-day, will look equally odd and devoid of beauty to our descendants as did this much be-worked sampler. An iron instrument used in breaking flax, together with several old-time relics of wearing apparel, completed the exhibit, which was meagre compared with the display made at former meetings, I was told. The number of members runs up into the hundreds, and a membership fee of 50 cents being demanded of the men, from which expense they gallantly excuse the ladies.

Provision has recently been made for the continuance of the association by putting the age required for membership at 45 years, as many of the original members are dropping out of line at the inexorable call that comes to all of us, and to younger people must fall the pleasant duty of keeping green the memories of the pioneers of the West.

GARRY OWEN GAINES.

French as she is printed in American newspapers is full of unmarked graves.

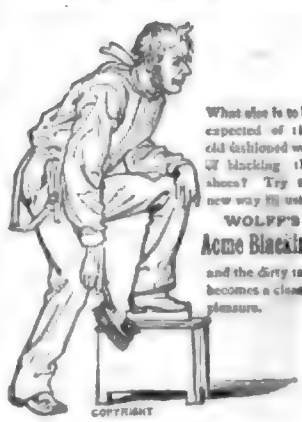
Raymond is five years old, and a strong Democrat. "Raymond, you must behave better," said his mother; "good Democrats don't act in that way." "Do Republicans?" inquired Raymond. "No," said his mother, "good ones do not." "O Raymond," cried little Laura, "do be good, or no one will have anything to do with you—unless," she added, "it is somebody like me, who hasn't any politics."

"Talk about wives," said Farmer Hawbuck, "I've got one wife in a million. Why, she gits up in the mornin', milks seventeen cows, and gets breakfast for twenty hard-workin' men before six o'clock, by gum." "She must be a very robust woman, Hawbuck," remarked one of his hearers. "On the contrairy," put in the farmer; "she is pale and delikit-like. Gosh, if that woman was strong, I dunno what work she couldn't do."

THE BENEDICTION OF THE NEVA.—A pavilion richly decorated is built on the ice of the river, through which is bored an opening, in order that the cross may be dipped in the water. Liturgical hymns sung by the choruses of the imperial chapel with inimitable perfection accompany the prayers of the Metropolitan. This prelate, followed by his clergy, blesses the invisible waters in order that they may be beneficial to man and fertilizing to the earth during the ensuing year. Formerly at Petersburg, and quite recently among the pious populations of the Volga and the Don, this solemnity gave occasion to explosions of fanaticism. As soon as the priest had plunged his crucifix in the river, mujiks would throw themselves into the sanctified waters, with the persuasion that they had a curative virtue like those of the pool of Bethesda. A natural result of this icy bath was a cold in the chest. At the fête of the Jordan it was not devotion alone that made martyrs; the etiquette of the court had its martyrs also. Up to the end of the reign of Nicholas tradition demanded that the Emperor should follow the procession bareheaded and without cloak, and the persons of his household were obliged to imitate his example. Furthermore, incredible as it may seem, the ladies of the palace used to go down into the snow décolletées, their delicate arms and bosoms exposed to the rigorous temperature that prevails at this epoch of the year. At the present day the old usages have become modified, and cloaks are tolerated.

—*Harper's Magazine.*

Sweat-Groan-Growl.



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Established Twenty-Fifty-Ninth Year. | ALBANY, N. Y., JUNE 13, 1889. | Country Gentleman, Vol. LIV.—No. 1906.

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THE COUNTRY GENTLEMAN is issued Weekly and is designed to meet the wants, not to cater best to, every department of Agriculture, Stock-Raising, Horticulture and Domestic Economy. Subscriptions may commence with any month.

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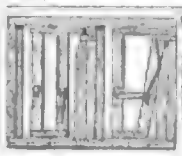

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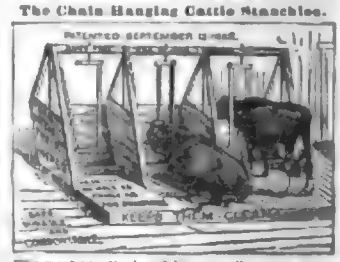

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THE CULTIVATOR AND Country Gentleman

Albany, June 13, 1889.

The Season in Western New-York.

EDS. COUNTRY GENTLEMAN—The first day of May, which was cold and cheerless enough for a Laplander, was, fortunately, not a representative one of that merry month, and it is somewhat singular that the weather on the opening days of each of the last three months has been very unlike what we might expect. On March 1 we were enveloped in a thick fog; on April 1 we awoke to find seven inches of snow on the ground, and on May 1 we were treated as above. May 5 was a delightful day, bringing forth the insect tribes in great numbers; among others I noticed the May beetle, white butterfly and black jumping-flea, the two latter making their first appearance upon the cabbage patch, which was planted May 1. Apricots and cherries were in blossom on the 6th, and Lombard plums on the 7th, four days sooner than last year. The weather from May 5 to 21, barring a want of moisture, which was slightly relieved by a thunder storm on the 19th, was genial and very favorable for rapid plant growth. At noon on the latter day a change took place, bringing vegetation gradually to a standstill, and lasting until the night of the 30th (the temperature meanwhile averaging only 47°), when a warm, generous rainfall and rise in temperature started all things growing again—all but the early crops of unfortunate market-gardeners and others whose potatoes, sweet corn, beans and tomatoes were almost completely destroyed by a killing frost on the night of the 28th, the thermometer showing 5° of frost at 4 A. M. on the 29th. After viewing the spectacle of nearly an acre and a half of carefully-cherished early vegetables entirely cut down, it is not surprising that the breakfast of your correspondent was not consumed with the usual gusto that morning. With the exception of the potatoes, however, some of which may recover, all are replanted. This is my first experience in six years of a May frost doing any damage worth mentioning, and I fancy the records do not show many instances of such damage done so late in the month. The rainfall of the month was about 1¼ inches. We had high winds on the 10th and 27th. In 1886 the mean temperature of May was 58°; in 1887, 56°; 1888, 52°; this year, 56°.

The temperature of the soil advanced steadily until the cold wave set in; it is curious how quickly it responds to a change of temperature in the air, even at a foot deep, no matter whether the ground be wet or dry:

Depth.	May 4.	May 11.	May 18.	May 25.
4 inches.....	56°	60°	74°	64°
8 do.	48°	62°	70°	62°
12 do.	51°	62°	62°	60°
20 do.	51°	62°	62°	59°
32 do.	51°	62°	60°	58°
Mean tem. of air.	47°	60°	62°	55°

Vegetation made great strides during the middle half of May. On the 5th scarcely a leaf was to be seen in the woods; on the 12th they were green with foliage, and a glorious time the wheat, oat and grass fields had up to the date of the cold spell spoken of above. Although planting operations are fully ten days ahead of last year, crops are not in advance to that extent. The fields look more forward, but that is owing to the thicker growth and richer color, of the cereals especially. In consequence of its success last year corn shows a larger acreage this spring, of which much was planted while the thermometer was in the forties, between the 21st and 30th, thus luckily escaping Jack Frost's inopportune visit on the 28th.

Among early cabbages and tomatoes, at any rate, the cut worm is destructive this year and I should have tried, had I been aware of it in time, the remedy of grass soaked in Paris green water mentioned in the entomological department of the COUNTRY GENTLEMAN of May 16. I have been successful so far, however, with the old plan of hunting for the worm; the capture of each one prevents much future mischief. Myself and young son, armed with steel kitchen forks, have examined a thousand plants in rather more than half an hour, with a find of more than a hundred worms. The species troubling us this year rarely cuts the plant right off, but feeds on the leaves, sometimes also eating out the heart of the cabbage; it is not always found lying close to the stem, but often several inches away from it, and the drier the surface of the ground the nearer to it does it seem to lie. I have never caught two at a time at one plant, though I have frequently taken one at the same cabbage on two successive mornings; so they must either travel or I must have failed in every case to find the second worm. Little or no injury was done to my sweet corn by the cut-worm, though some of my neighbors, who planted field corn early, complain of damage done, especially on sod ground. But one or more species of *Agrotis* have been decapitating tomato plants at a fine rate. Large quantities of the latter have been set out in an adjoining village under contract to the new canning factory to which I referred recently; in one case, of 10,000 planted one-half were destroyed and had to be replaced, the plants altogether costing $90—equal to 360 bushels of tomatoes; in another, the patch has been almost entirely replanted three times. And now the frost has made a clean sweep of all the patches.

The black flea was repulsed this season with only one dose of air-slaked lime and turpentine applied *immediately* after the cabbage plants were set out; only a few specimens were afterwards found. I believe that if this were always and thoroughly done, preventing the flea getting a foothold, it would generally be found sufficient, unless the application is removed by wind or rain soon after setting out the plants. One morning, two years ago, we dibbled in two thousand plants, intending as soon as the whole job was done to dust them, but on returning from dinner we found our cabbages covered with "jumping jacks"; of course we attended to them directly but even in that short space of time most of them were so badly bitten that they never recovered and the whole patch was not half a success.

The application of an infusion of burdock leaves, recommended by Professor Lintner as a preventive of the attack of the white grub of the May beetle, on radishes which show signs of being attacked with the maggot, will effectually keep it off, as I have proved this season, though the quantity applied, more especially to the long kinds of radishes, must be sufficient to soak well in; a mere surface wetting is not enough.

It is amusing to notice the gradual adoption of modern implements by old-time farmers. A neighbor of mine, well grounded by his father in all the ancient principles and practice of agriculture, was persuaded not long ago to invest in a disc harrow with eighteen-inch wheels, and the way in which it sliced up and prepared his sod for corn was a revelation to him. Hitherto his antipathy to book-farming, as he and all such term anything done out of the beaten track they have been accustomed to, has been so great that no amount of reasoning has availed to induce him to enroll himself upon the subscription list of the COUNTRY GENTLEMAN; perhaps now the ice is broken by the disc harrow he may be brought to see that implements of the present day and first-class agricultural journals are not such absurdities after all. Farmers' institutes need to be multiplied ten times over and thoroughly advertised and placarded in every hamlet within a radius of ten miles of the place appointed; not one farmer in twenty hereabouts even heard of the only one held in this vicinity last winter, thirteen miles distant. Such men as the above would then probably attend the institute, and the visit might be the means of their forsaking their forefathers' agricultural methods for those of our painstaking scientists and enlightened agriculturists.

The promise of enormous crops of all kinds of fruit, in this section of Western New-York, I do not think would have been verified in any case, but all doubt upon the question has been set at rest by the recent frost. Reports from all adjoining counties agree that plums, pears, peaches and grapes are are almost totally destroyed; cherries are not much better, although I have twenty Napoleon Bigarreaus well laden, scarcely hurt at all, while the Maydukes and Early Richmonds in the same row are considerably damaged. I examined a neighboring orchard, well stocked with different varieties of apples, but every kind was more or less injured, the Spys, perhaps, least of all, yet they formed the outside row on the east side of the orchard. Before this warm rain came, the frozen state of the fruit was not so apparent, but now a slight inspection will discover the great amount of damage done. Raspberries and strawberries suffered with other kinds of fruit, though to what extent reports at hand do not state.

Wheat is quoted at 93c. to 97c. per bushel; oats, 32c. to 34c.; State corn, 43c. to 44c: rye, 58c. to 60c.; hay, $18 to $19 per ton; oat and wheat straw, $19 to $14; rye straw, $15. Old potatoes are selling to-day at 20c. per bushel, a price which will be considerably increased before long, owing to the destruction of the young crop. Onions bring the same price. Lettuce (hot house), 18c. to 20c. per dozen; radishes, 25c. to 35c. per dozen bunches; pie-plant, 20c. to 25c. Southern vegetables are coming in abundantly, which will tend to lower prices for native produce when it comes into market. Butter, new dairy, 20c. to 24c. per pound; eggs, 13c. per dozen.

Monroe County, N. Y., June 1. J. H. C.

From Northern Indiana.

EDS. COUNTRY GENTLEMAN—The past winter was open and mild with little snow in this part of the State. Wheat wintered over in fair condition, considering the small amount of snow. Live-stock of all kinds did well, though we missed the large straw stacks which we usually depend on for part of our winter supply of roughness, and to a great extent shelter for stock. The severest drouth ever known in this part of the State prevailed this spring. Scarcely any rain fell for about eight weeks until a week ago when some local showers fell, and now the drouth seems fairly broken. Last night a steady rain began, continuing to-day, with fair prospects of giving the ground a thorough soaking and starting the ditches to running, which will give us moisture enough to make the wheat crop.

Corn planting commenced some ten days earlier than usual with us; several planted as early as Good Friday. The fine weather that followed brought up the corn, and the late frost hit it off to the ground; some have planted over. Altogether the stand of corn is the most uneven we ever saw; those who planted the first days of May, with very few exceptions got an uneven stand, much of the corn not being planted deep enough to get a sufficient amount of moisture to sprout and come up.

Oats were turning yellow and seemed to be going back, but the rain now falling will bring them forward, though I doubt their coming out sufficiently to make a full crop. Pasture is very scarce—in fact the grass has made scarcely any growth. Clover that generally grows up and falls down on our black rich land is now in bloom, and not more than six or eight inches high. Timothy meadows will also be short. Some meadows on low black ground were as yellow as they should be after the fall frosts have killed the grass. What effect this continued dry weather will have on them, provided we have rain enough from this on, will be hard to tell, as we never saw them in such a condition before.

There has been some complaint of potatoes, that were planted early in the commencement of the drouth, rotting in the ground, though potatoes cut a very small figure in our farm products in this section, as very few aim to raise any more than they want for their own use.

There has been more cane planted this year than for several years past. I suppose it is owing to the high price of sugar. While cane molasses may be considered a very poor substitute for sugar, I have noticed that the good housewife who has a barrel to go to uses a great deal less sugar, especially when the prices run as they do now. We pay for sugar now nearly or quite double what we did a year or eighteen months ago. There seems to be quite a dissatisfied element among the farmers; they don't understand why the price of every thing they have to sell should be controlled by the demand of the great commercial centers of the world, while prices of what they have to buy are fixed, not by supply and demand, but by the organized trusts that have grown up all over the country in the last few years like mushrooms. I was told lately by an agent selling binders that farmers were slow about ordering new binders this year partly on account of the drouth and partly because of the twine trust. Farmers are getting very suspicious of these concerns; they think the price of twine may be sprung on them at the last moment, as was the case with the cotton raisers and the bagging trust last fall. J. W. J.

Miami County, Ind., May 29.

Ensilage in England.

Utilizing the Fern or "Bracken."

EDS. COUNTRY GENTLEMAN—As I made ensilage in barns quite twenty years before the name of silo was introduced into the agricultural dictionary, and never failed—or what is next to failure, made sour or stinking ensilage, I may confidently reply to our Kentucky friend "C.," p. 393, by detailing the course of procedure; it will show wherein he failed to attain the success he deserved, and perhaps aid others.

The name then given to cattle fodder, chaffed and packed away in bulk, was "packed chaff." This packing, if properly done, generates heat enough to cook the chaff in the mass. For a silo the barn then served my purpose generally. It is the better for being about air-tight, but that is not absolutely essential. The exclusion of air saves waste, and expedites the generation of heat in the mass. This heat so essentially alters the fodder that the green growths which cattle pass untouched become appetizing and attractive to all stock, and preferred to any other stalk food. I use this term to distinguish it from corn fodder.

For instance, I determined to select fern, or bracken, as it is often called, for ensilage. Having some hundred acres from which to gather the newly grown fern, I had it cut and heaped ready for loading into carts and wagons. As it lies light, a high load of it will not cut up a large quantity, so the raves of the carts were lengthened upwards to hold in the loads, as the fern does not bind together like hay or straw loads. The chaff-cutter with largest size mouth soon disposes of a large stock of fern, which, if cut to one eighth of an inch, is better than a quarter of an inch cut, as it releases the juice and favors the resultant infusion better. About four fanfuls go to make a hundred weight of the chaff, which has one pound of finely-powdered agricultural salt mixed with it as it lies in a heap.

It is at once carried up stairs in fans, and shot into the barn, on the floor of which is laid a thin coat of dry hay or straw, if it be the bare earth; if plank, it is not needed. The mow of the barn has to be planked up to the cross-beams, to make one end of the silo. The chaff is carried to the farther end of the mow and scattered level on the floor, and a man with a watering-pot, with a fine rose, wets it lightly; a pint of water to the hundred weight is ample on green fern. Now comes the essential part of the packing in a large mow, say 35 by 18 feet. A dozen or more boys are engaged to tread down the chaff as fast as the man inside the barn scatters it level. Each boy has a flat-ended rammer in each hand, to help compress the bulk of chaff; it is simply a bit of inch-thick wood, six inches square, on the end of a stick three or four feet long. These they apply vigorously as they go round and round regularly one after the other, stepping only the length of their feet each step. The sides of the barn require extra treading and ramming to make the mass as firm as away from the sides. It may be left each night till the next day without covering down, but if it be left longer than one night, it should be covered up with any old rick cloths, carpets or sacks. It should be finished right off as deep as it is intended to be; from 12 to 16 feet is a good serviceable depth.

This is the course till the barn is filled up to the cross-beams. Now, the heat has to be shut in for two reasons; to cook the fern and its juices, and to exclude the air, which would produce ignition. The simplest cover to ensure uniform pressure on the mass, which will sink three feet at the middle and two feet at the sides, is a cover of old rick-cloths, sacks, carpets, &c.; on this earth is put, clay for preference, as the lumps can be more easily carried in and trodden level, giving it a coat six inches thick. The heat will become intense, and the clay will show cracks from four to six inches wide; these have to be stopped up as fast as they appear, once a day, till they cease to show, especially at the sides.

You may rely upon it, if you adopt this plan,

you have succeeded in getting a valuable supply of cattle food, which will keep sweet for a year or two, or longer, and may be used within two months if wanted. In opening to cut into the bulk, do not begin by uncovering, but open at the floor of the "midsty," if you have arranged a door there at starting; it saves cutting through the stout plank. You can begin in six weeks, using the "lightning hay knife," as the bulk is as dense as compressed hay. It will be found to be of a black-bronze color as you cut far into it, and will still be as hot as scalding bran mash. The flavor will be somewhat like clover hay, with an agreeable oily odor, just perceptible. Proceed the reverse of hay cutting—work from the bottom upward, right across the mow; when near the top remove the clay and turn back the clothes, &c., of the part you have cut into only. As you work toward the middle you will find the mass charred by the heat; do not think the worse of it for that. If you happen to have any weaning lambs with the scours give them some; they may derive benefit from it. Cattle often like this best, and it has a medicinal effect on ailing stock.

The same principle of compacting the mass by pressure applies to ensilage stacks; the same sort of covering serves, but with an additional tarpaulin over the clay or timbers to keep out the rain and snow. Do not omit the salt, and let it be as fine as dust to thoroughly integrate with the mass. It makes the ensilage more healthful for stock and induces milch cows to drink more, therefore to yield more milk than if fed on unsalted food, and corrects the action of rank green food. I regard hay made into ensilage as inferior to good hay. If well made with its full supply of seeds in it. Only foul weather warrants making stacks of hay ensilage.

For dry straw ensilage the procedure is the same as described with fern, but about a gallon of water is sprinkled over it for every hundred weight of fern in silo. Malt sprouts mixed with the straw or fern give it a nice flavor. I always use them or grains, if to be had. It is a great economy of rye, barley or oat straw to chaff and pack it under cover instead of littering the yard with it, and letting young or old stock nibble at it and trample it. The waste of a farm only should litter open yards and sheds, where the more scientific plan of stall-feeding is not adopted.

On a large holding it is also a great economy to have the straw chaffed at the same time as the corn is threshed out—it saves stack building. The same engine works both machines if at the barnside; labor must be ample so that there is no confusion by accumulations of straw chaff, and "cavins" of wheat or barley or "sights" of oats; these go with the chaff into the silo. If there is room to get a pony on the chaff it is equal to six men in treading; be careful he does not sink into it in light places or you may have to dig him out—no easy task, as I know from seeing horses sink in the straw when treading a barley mow, and require to be dug out. J. CHARLES KING.

Hertfordshire, Eng., May 7.

We do not remember any previous account of attempts to utilize the fern or "bracken," as it is sometimes called, and doubt if an American farmer would be likely to try the experiment—indeed, we supposed the plant to be utterly worthless for feeding, whether green or dry. Morton's Cyclopedia speaks of it as only valuable for the shelter it affords for game, and as occasionally propagated for covert only, while those not wishing it for this purpose, "regard it as an unprofitable nuisance, on account of its overrunning the land." EDS.

Silo Structure and Management.

EDS. COUNTRY GENTLEMAN—I wish to build a silo, if my barn would be suitable, being 100 feet long by 40 feet wide, side walls 22 feet high, the beets 20 feet apart, with girths 20 feet long between, to nail side walls on. The barn-doors are on the ends, and of course the floor runs the whole length of the barn. The basement is dug out of hillside, the barn resting on a stone wall 8 feet high. The first 40 feet of the length of basement is fitted up for milch cows; the last 40 feet for raising young horses. Then I have a granary in this centre section 20 by 25 feet, extending under the floor. Now as my granary door opens on the outside of the basement the remaining space behind the granary next to the bank is where I would like to build the silo, because it would be between the cows and colts. Could I have two openings near the bottom of the silo, one on the side next the colts and one on the side next the cows, for feeding out of the silo without injury to the contents? (1)

Would the ensilage fall down as it was dug out at the bottom, the top of ensilage being the last to be used? (2)

Would these openings need air-tight doors? (3)

How am I to fix the side of the silo to the stone wall, it being 2 feet thick? (4) J. L.

Renfrew, Ont.

1. Openings may be made as proposed, for ready access to the feed, made to fit closely and with strong bars.

2. The contents must be cut down vertically, as they would not stand when dug out below. In order to have ready access through the doors, make a clear cut from above all the way down when beginning to feed.

3. The doors at these openings should fit well, so as to exclude the air until feeding is commenced, and it would be well to face the inside of the doors with tar-paper for this purpose.

4. The interior face of the walls of the silo must be smooth and continuous, so that the contents will settle freely; and as they will extend down to the bottom of the basement, they must form a continuous surface with the stone-wall, leaving an air-space about it between the silo-wall and the outer barn-wall. The top of this air-space may be made into a shelf for receiving the weights when removing the contents.

EDS. COUNTRY GENTLEMAN—We think of building a silo in our barn bay this summer, and would like advice concerning the size of studs necessary to use. The proposed silo is to have a depth of 18 feet, length 18 feet, width 14 feet, outside measurement. I have seen quite a number of gentlemen who advise studding 2x10; but I do not see why it requires studs so large. (1)

In England they build a great many stacks of ensilage and why don't they fall to pieces if there is so much pressure upon the outside as many think? (2)

We know that we could not stack threshed wheat, oats or barley, as there is always pressure on sides. Again I have noticed in a stone silo, where they were feeding from the side instead of the top, that there the ensilage stood in a perpendicular wall and did not look in any danger of falling. (3)

For these reasons I can not see why we require studding as large as 2x10. I may be mistaken in this matter but if I could use studs 2x8 it would make a difference in the capacity as well as in the cost.

How would you advise feeding from a silo of capacity given if we fed only eight cows from it eight months in the year? It seems to me there would be so much surface exposed that it would spoil after being opened. (4)

Is the slow filling recommended by many, acknowledged by the best authorities to be the best way of filling the silo? (5) J. B. H.

Galt's Corners, N. Y.

1. Studs 18 feet long, with no support in the middle, would perhaps need to be as large as mentioned; but with a stout *horizontal* beam for central support they would require much less strength.

2. Stacks built of ensilage must be wholly or in part of the uncut fodder to bind them together. A new vertical wall, wholly of fodder cut half an inch long, would be impossible; and if the contents were subjected to much pressure, as in common silos, much strength would be required in the side walls.

3. Ensilage will stand well in a perpendicular wall after it has become stratified from heavy pressure, settling and heating, in the same way that a settled stratum of earth may be cut down vertically, while a mass of crumbled earth could not be made to stand.

4. A silo of the dimensions given by our correspondent, if filled, would hold more feed than eight cows would require, if each one had a cubic foot and a half a day. The silo would hold 4,500 cubic feet, and would give about 3,000 daily feedings, which divided among the eight cows, would last over one year. But as there would be some waste, and the silo would not probably be quite full, it would be safe to allow its contents as ample food for the eight months. If the ensilage, when fed out were sliced down with a hay knife from the side, a slice a foot thick would afford 250 cubic feet of ensilage, or over 150 daily feedings, and would last the eight cows nineteen days. The cut feed would therefore be exposed from one to nineteen days, and the portion longest exposed would be in danger of receiving some injury by the exposure. If, however, the ensilage were taken off by successive horizontal layers, each three inches thick, the longest exposure would be only about five days. Actual experiment would show which way would be best under all the existing conditions.

5. Slow and fast filling have their advocates, and there does not appear to be great difference between them if they are not carried to extremes.

Johnson Grass, p. 423.—R. W. W. condemns Johnson grass without thoroughly understanding its habits. To keep up a good healthy stand of this grass, it should be plowed well about every third spring, and the fall previous allowed to go to seed. This will keep it at *its feet*. If the wish is to eradicate it, the farmer has only to keep mowing it, and in about four years it will be gone, root and branch. It must make its seed occasionally—say every two or three years—to give its full return, and unless it does, it will die. The seeds are not like clover in character, and if sown on the top of the ground and not covered, they will not germinate. It is a splendid grass and much easier to get rid of than clover. TAR HEEL. *Lowell, N. C.*

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *June 5.*

It was raining lightly this morning at sunrise and has partially cleared since, but the barometer tells us more may be looked for in the course of the day. Since the heavy rains of the 20th and 21st, cloudy and unusually cool weather for the season has prevailed and corn and tender vegetation generally has not recovered the color lost during the storm. I am apprehensive of an unusually low temperature for the summer, but not of the rain deluges of former wet years. There were several curious and interesting phenomena connected with the late rains; one, that the week or ten days before, water appeared in the bottoms of sloughs some time gone dry, without any corresponding fall of the barometer denoting decreased atmospheric pressure; and another, the steadiness of the barometer, in which the mercury scarcely rose or fell the twentieth of an inch from the figure 30; and this too, while the wind was blowing a full gale and shifting from time to time from northeast to northwest.

As to the crops, the greatest damage was done to that of fruit. The young fruit was scarred, wounded and beaten off, and in exposed places the trees were denuded of half their leaves, to say nothing of old and weak ones blown down and limbs wrenched away. Grass, wheat and oats were very much benefited and a good deal more than usual after so heavy rains, because the earth being dry, the slow-falling rain was absorbed as fast as it fell, instead of rushing off into the drains and sloughs. It is feared a considerable portion of the seed-corn that has not germinated, may rot in consequence of the rains and low temperature and result in a poor stand, but this is to be determined hereafter. At any rate, it is evident now that those who got crops in early and put—the soil being dry—the seed deep into the ground, obtained a full stand and have been able to cultivate once, are more fortunate than those who pursued a contrary course, as they would have been had the drouth continued—or to state an important fact in a few words, it has become the first essential for success with grain crops, to fall-plow the land and get the seed into the ground at the first safe moment, and this too, whether the after season is to be wet or drouthy.

Referring to the deluges which have visited Pennsylvania and Virginia and their awful consequences, it may not be out of place at this time to offer the suggestion there may have been some relation or connection between the partial disarmament of Mississippi valley storms within the last five years, which the average observer cannot have failed to notice, and the increased violence of storm phenomena on the western slopes of the Alleghenies.

During the warm days in May chinch bugs appeared in great numbers, with the reasonable prospect, if the drouth continued, that they would prove very destructive to the wheat and oats in the first place, and corn in the last. Potato beetles too, were already out in forces so large their ravages could hardly have been arrested on the middle-season and late crops. Since the long cold rain little is to be apprehended from either in the central counties the present season, nor for a year or two to come. Rains nearly equally heavy this spring in the southern counties have been as beneficial to the crops in this respect.

As to the agricultural situation for Illinois, and the counties adjoining, it can hardly be said to have been improved for the outcome of the crops, by the late heavy rains and low temperature, because the present indications are for a summer and growing season ahead of, and in many respects similar to, those of 1875 and 1869, in which the corn crop failed to mature.

June 6.—Sufficient time having elapsed to enable one to judge of the effects of the late cold rain storm on crops, I went out some miles to see them this morning. The state of the corn crop being of first importance I gave it close attention, and found the growth not over three inches high for an average, and the stand not over 80 per cent. of a full one. The strong wind had whipped and shattered the tender leaves, but only in a few instances had the whole plant been killed. If warm and dry weather continues, its yellow complexion will be changed to green, and vigorous growth started. The corn fields were generally destitute of weeds, almost no surface water was in sight, and the plow had been started in 10 per cent. perhaps of the whole area. Grass seed having failed to germinate in many cases for two consecutive years where these failures were made, the land has been put in corn and the acreage is therefore an enormous one.

I found red clover near the point of full bloom, but not over 6 inches high; oats of good color threatening to head out within 16 inches of the ground, and winter wheat out in full ears with less than 2 feet of straw. Pastures have been freshened, but are still very short and yellow in many fields, while the meadows are only fairly green with a hay crop not possible to turn out more than three-fourths of a ton to the acre.

Inquiring the state of the corn crop of a conductor, whose run takes him due south from Chicago 250 miles, as to the comparative condition of the corn crop, he said he was unable to see much difference in growth or color between it 30 miles south of Chicago and 250 miles. The effects of the storm were quite severe on stock, and in two or three well known instances flocks of sheep of thirty and forty or more that had been recently sheared perished in course of it.

The earth was so thirsty at the time that scarcely any surface water is in sight this day, and if more rains do not come within a week or ten days we shall hear frequent complaints of drouth. D. F. J.

The Entomologist.

Parasite on Potato Beetle.

EDS. COUNTRY GENTLEMAN—I mail specimens of Colorado potato beetle covered with a parasite, in such numbers as to cause death to the beetle. Discovered them on beetles infesting egg plants in the hot-bed. Nearly all the beetles have them; some are completely covered. Are the parasites known to entomologists? It is to be hoped that they will become abundant, and lessen if not prevent the ravages of the beetle. S. L. A. *Rexford, N. Y.*

The parasitic mite infesting the beetle is interesting, since of the many enemies that prey upon it (twenty-five insect enemies have been discovered), only two of the number are true parasites. In addition to this little mite, a Tachina fly, of the general appearance of one of our common house flies, named *Exorista doryphoræ*, lays an egg on the larva, the maggot from which burrows into it and destroys it after it has gone into the ground for pupation.

The mite, the more important parasite of the two, since its first discovery in the year 1873 as infesting the potato beetle, has frequently been found upon it in immense numbers, completely covering its body and legs, and causing its death. It has been sent to me at different times from different localities in the State of New-York, from Massachusetts and elsewhere, and in each instance in such abundance as to prove fatal to the beetles that it attacked. In most cases the attack had shown itself, as in this instance, in connection with hot-bed culture.

The mite bears a strong resemblance to a species long known in Europe as infesting various beetles, viz., *Uropoda vegetans*, but having been found to differ therefrom, it was described in 1877 by Professor Riley as *Uropoda americana*. It is so small a creature that several hundreds are able to attach themselves at the same time to one beetle and draw their sustenance from it. Perhaps five placed close together would cover a surface about equal to the head of an ordinary pin. When largely magnified they look somewhat like one of the lady-bugs, being broadly oval, convex above, flat beneath, firm in texture, and of a yellow-brown color. In classification, the species belongs to the *Gamasidæ*, nearly all of which live parasitically upon mammals, birds, fishes and insects. The well-known "chicken-louse," *Dermanyssus avium*, which also occurs on caged canary birds, is a well-known species of this family.

An interesting feature of this mite is the peculiar manner in which it is fastened to the beetle, by a cord or filament proceeding from its anal end. The nature of this cord, which had long been known in the European species, was for a long time in doubt, but was finally shown to consist only of the viscous and dried excrement of the mite. When this attaching thread is broken, and the mite detached from

the beetle, it soon dies, not being able easily to regain its position. In examples sent me, most of the mites have been rubbed off in transit, and were already dead when received.

The parasitism of this mite is not limited to the Colorado potato beetle, but has also been observed upon other species of beetles and other insects. Dr. Thomas records it (7th Illinois Report, page 98) on a species of snapping beetle, *Elater negrinellis*. Prof. Riley includes it among the enemies of the army-worm, and Prof. French has found it preying on the variegated cut-worm (7th Ill. Report, p. 218). In a publication received by me to-day, entitled "Insect Life"—a valuable monthly periodical, issued by the Entomological Division at Washington—its occurrence on the Indian Cetonia, *Euphoria inda*, in Florida, is noticed.

Its multiplication on the potato beetle should be encouraged by the distribution of the infested beetles to localities where the mite has not been found. J. A. L.

Inquiries and Answers.

Animal Labels.—Can you inform us where we can procure the best sheep tags? C. B. *Selkirk, N. Y.* [See p. 333, first col., 4th advertisement.]

Incubators.—Which do you consider the best incubator? Where can I see it? C. B. [We should hardly like to answer the first question without qualification, but advise our correspondent to send for circulars to George H. Stahl, Quincy, Ill., and A. F. Williams, Bristol, Conn. She would probably be much interested in visiting Hammonton, N. J., where artificial incubation is carried on on a large scale.]

Apple Twigs Stung.—I send apple twigs withered by the sting of an insect. Seem to be mostly among Greenings and Spys; Baldwins have escaped. What is it and what is the remedy? J. G. *Albany County, N. Y.* [I find no egg deposit or burrowing within the twigs such as would naturally follow a *sting* that would cause their blight. Perhaps the withering is the result of the "pear tree blight," which also affects the apple tree, but this could not be told from seeing the twigs in the condition they show when received by me. In a comprehensive article on this "blight," by Prof. Burrill, of the Illinois State University, giving description and best treatment known, see COUNTRY GENTLEMAN for May 13, 1886, page 389. Cutting off affected portions, in a manner not to spread the disease, is there recommended. J. A. L.]

Broom Sedge.—Some weeks ago a Maryland correspondent inquired how to kill broom sedge. I am informed, and do not doubt, that *Andropogon virginicus*, commonly called "broom sedge," can be destroyed in the following manner, copied from Mr. Post's valuable pamphlet on Johnson grass, which also might be instructive to R. W. W. of Nashville, Tenn. (page 423), viz: To get rid of this grass in the months of July and August, take a two horse plow and turn up the soil to the sun, plowing as deeply as possible. In a few days again repeat the process, and you can the following year raise as fine corn or cotton as upon any other land you have. While you may not entirely exterminate the grass, what remains will be no more trouble than weeds in your fields which you do not fear. Any other time of the summer the cultivation will increase its growth. The theory is that at that time of year, the growth of the grass lessens, the sap returns to the roots, and they are easily destroyed by the hot sun. J. M. W. A.

Warrenton, Va.

Grain Aphis.—Enclosed find samples of wheat heads infested with a green insect apparently a louse, but we fear it may prove, with longer acquaintance, to be the dreaded milk weevil. It is small in appearance, but promises to step with Jumbo's weight upon our pocket-books. What is it? Is there any cure or preventive for it, or must we stand by and see our wheat destroyed? They are said to be in every head, and in some places are reported as killing the wheat already. A. H. *Allendale, Ill.* [The insects on the wheat are not the wheat midge, commonly called the weevil (which presumably is the insect meant by the "milk weevil"), but the grain aphis, one of the plant-lice, known scientifically as *Siphonophora granaria*. This aphis has in former years been very destructive to the wheat crop, in New-York and some of the Western States, proving as great a pest as the wheat midge. Usually it is not very harmful, and judging from the heads of wheat sent, it does not give promise of being very injurious in this instance in the locality in which it is reported. It is frequently kept under by parasites that attack it; and on parting the heads of the samples of wheat received, while I find no living aphides among the kernels, there are remains of dead ones which seem as if they had been parasitized. Moreover, the wheat is now so far advanced that the aphis will not be able to obtain sustenance from the hardening kernels much longer, and it is only on these that they are now feeding. It is fortunate that the attack is not a severe one, for there is no known method by which, in the absence of parasites, such an attack can be arrested. J. A. L.]

Heifer Ration.—I have been feeding the heifers as recommended by Prof. Stewart, page 333, with good results. My fodder has given out, also the O. P. linseed meal, and I would like a ration as near like the other as possible. Feed coarse and fine wheat bran, corn meal, N. P. linseed meal and wheat straw. M. *Olney, Md.* [M. may substitute wheat straw for the corn fodder given on page 333, and also substitute N. P. linseed meal for the O. P. linseed meal, and when the pasture becomes at all scant let him add 1 lb. to the fine bran. The straw in this case, like the corn fodder in the other ration, is given principally to mix with and give bulk to the concentrated food, thereby rendering it healthful. This will not materially change the ration first given, and it will still have a good effect in developing his two heifers. Let him report in the fall, giving the milk and butter yield. R. W. S.]

Apple-Tree Flies.—I send insects, which please name and describe their mission. Millions of them. J. C. W. *Mendville, Pa.* [The insects are flies, known as the white-winged Bibio, or *Bibio albipennis*. It is named from its wings, which are white, traversed by brown veins and marked by a black spot on the margin of the front pair, near the top. It has a small head, a black thorax, body and legs, and its length is less than half an inch. The larvæ of these flies occasionally appear in immense number in fields in the late winter, about the 1st of March, and may sometimes be gathered by the quart. They live on decaying vegetable matter, and are therefore harmless. The perfect insect, which makes its appearance about the last of May or first of June, is, so far as known, entirely harmless. It has been observed at times resting in countless numbers on the blossoms of fruit trees, and has been the occasion of considerable alarm for fear that it was feeding on the blossoms; but it is believed that they simply alight upon any convenient foliage for rest, as they are of very sluggish and inactive habits. For further information of the insect, see the COUNTRY GENTLEMAN for March 11, 1880; also my 2d Report on the Insects of New-York, pp. 110–113, fig. 22. J. A. L.]

Waxing Floors.—In the April 18 number of your paper, Alice Chittenden has an article on stained floors. Will she please tell us how to make the wax finish she there speaks of, and oblige a subscriber's wife, who wishes to finish some floors in that way? M. J. M.

Otsego County, N. Y.

Weather, Crops and Prices.

Meteorology for June 3-9.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.02	inches.
Lowest do.	do.	..... 29.58	do.
Mean do.	do.	..... 29.84	do.
Highest temperature	do.	.....	88°
Lowest do.	do.	.....	47°
Mean do.	do.	.....	66°

Seven cloudy days; six days on which rain fell; total precipitation, 1.31 inch. Prevailing wind, S. E.; maximum velocity, 11 miles per hour, on the 3d.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	3d	4th	5th	6th	7th	8th	9th
Day.....	58°	48°	56°	62°	72°	67°	66°
This year...	68°	66°	62°	59°	61°	68°	74°
Normal.....	68°	67°	66°	64°	66°	66°	67°

Total deficiency for the week, 10°.

General Review of the Week.

The cool weather has continued throughout all districts east of the Rocky mountains, the daily temperature in the central valleys ranging from 6° to 12° below the average daily temperature for the week, while in the Northwest and in the Southern and Middle States the daily temperature was from 2° to 6° lower than usual. In New-England the temperature differed but slightly from the normal, and although generally cooler in the interior, at some stations on the coast it was slightly warmer than usual. West of the Rocky mountains the temperature was generally above the normal for the week. The large seasonal excess of temperature which has prevailed in the Northwest, and the slight excesses previously reported north of the thirty-fifth parallel, have been still further reduced by the cool weather of the past week, and at the close of the present week the seasonal temperature in all States east of the Mississippi, and from Iowa and Nebraska southward to the Gulf, differed less than 3° from the normal, or the average daily temperature has been less than 3° in excess of the normal in the regions named. In Minnesota and Dakota the season continues from one to two weeks in advance. In New-England it is about one week early, while it is slightly in advance in the central valleys, and slightly retarded on the Gulf and South Atlantic coast.

The rainfall for the week has been generally less than usual throughout all agricultural districts except New-England, although well distributed rains occurred generally throughout the wheat and corn States and over the tobacco and northern portion of the cotton regions. The drouth continues from Florida and the southern portion of Georgia to Southern Louisiana, within which region no rain occurred during the week, and the rains of the previous week were not sufficient to relieve this region from the previous drouth. The present week is the third week of the current season during which no rain occurred in this section. The seasonal rainfall continues in excess generally throughout the Middle States, the eastern portion of North and South Carolina, and from Texas northward to the Missouri valley. In the States bordering on the great lakes and in the Upper Mississippi valley the seasonal rainfall generally exceeds 75 per cent. of the normal, while from the Ohio river southward to the Gulf coast only from 30 to 70 per cent. of the seasonal rainfall has occurred. In Tennessee and the Ohio valley the injurious effect of such large deficiencies in rainfall has been greatly mitigated by the timely occurrence of rain in this region. Heavy local rains occurred over the northern and western portions of the cotton-region, including Northern Georgia, western portions of South Carolina, Central Mississippi, Northern Louisiana and Eastern Texas.

The week was generally favorable for all crops in the Upper Mississippi and Missouri valleys, and corn is rapidly recovering from the effects of the recent frost, considerable being re-planted. More rain is needed in Northern Minnesota and Dakota. In the States in the Ohio valley weather conditions favored wheat, oats, grass and tobacco; but the weather was too cold and wet for corn. In Kentucky and Tennessee the weather has improved the tobacco crop much more than was anticipated, but previous injury will doubtless prevent a full crop. In Texas all crops were benefited excepting cotton, the growth of which was retarded by cool weather. Recent rains and freshets in the Middle States and North Carolina have greatly damaged growing crops, and in localities escaping the freshets the weather was so cool as to prove injurious. In New-England the conditions were generally favorable for all crops, excepting corn, which was slightly injured by low temperature. Reports are especially favorable from Arkansas and Kansas, where the wheat harvest is in progress and corn well advanced. Harvesting is also progressing favorably in Tennessee, but some damage occurred from hail in the northern and middle portions on Monday.

The Month of May at Albany.

According to the reports of Sergeant Sims of the Signal Service, the highest temperature for May this year was 88°, on the 9th; lowest, 36°, on the 4th. Warmest day, 18th—mean temperature, 72°; coolest, 3d—mean, 44°. Prevailing wind, S.; highest velocity, 36 miles per hour, S. E. Clear days, 7; fair, 14; cloudy, 10. Rain on 12 days. Mean temperature and total precipitation for last ten Mays as below:

1889—	Mean Temperature,	61°	Precipitation,	3.86 inch.
1888	do.	56°	do.	2.96 "
1887	do.	60°	do.	2.27 "
1886	do.	59°	do.	3.10 "
1885	do.	57°	do.	1.98 "
1884	do.	59°	do.	2.79 "
1883	do.	59°	do.	3.20 "
1882	do.	60°	do.	4.15 "
1881	do.	60°	do.	3.20 "
1880	do.	66°	do.	3.86 "

New-York—*Setauket, Suffolk Co., June 1.*—In May we had 7 clear days, 16 fair, and 8 cloudy; rain days on which rain fell; rainfall for month, 3.93 inches. Highest temperature, 10th, 86°; lowest, 6th, 42°; mean, 59°. Highest barometer, 16th, 30.37; lowest, 11th, 29.66; mean, 29.96. Heavy thunder shower on the 10th, light thunder shower night of the 14th. S. S. S.

Vernon, Oneida Co., June 5.—We have plenty of rain, and grass would be good except for the dandelion, which are running the meadows out all over. Say something about them in your paper. Do we get them in our grass seed? I have plowed 40 acres meadow, and plowing now every day for barley and millet. Now seeding good. S. G. F.

Vermont—*Middlebury, Addison Co., June 8.*—The spring so far has been very remarkable; about ten days earlier than last season with everything looking its best, with the exception of corn which is rotting badly. Heavy rain of the 30th has ensured us a good hay crop; it was followed by a week of cold, sour weather with slight touches of frost here and there; corn seems to be suffering in many places and is being planted over. Winter grain is looking nicely where it was not killed by the winter. Fruit trees blossomed very full and many of our best orchards have been sprayed, which will doubtless ensure a good crop. A few old potatoes are being loaded at the cars at 35c. per bush.; butter selling at 14@16c. per lb.; hay, $10 per ton. A. B. G.

Virginia—*Birdsnest, Northampton Co., May 31.*—Contrary to expectation we had abundant rains, particularly in the latter part of the month, but the first part was dry, and some patches of peas were badly damaged. We had some very warm days, and some so cool that fire was necessary. There were seven thunder storms with heavy thunder and sharp lightning, and the one on the 27th had some hail with the rain. Pasture are luxuriant. Corn planting is very late, and not all done yet. Early potatoes in blossom. Maximum of thermometer, 89°; minimum, 50°; mean, 67°; rainfall, 3.80 inches. Quite a quantity of peas have been shipped, and more to go. Rainfall from Jan. 1 to June 1, 33.90 inches. The mean annual rainfall is 44.32 inches. C. S. S.

West Virginia—*Bunker Hill, Berkeley Co., June 1.*—The almost incessant rain of the past 30 hours has done much damage by washing down wheat and corn, and a great deal of fencing has been carried away. We have had no such floods on the stream running by our place during a residence of more than 24 years. A great deal of wheat has been overflowed, and corn washed out in low lands. Unless we have some dry weather soon our wheat crop will be greatly injured. E. L. H.

Kentucky—*Bennettstown, Christian Co., June 6.*—Drouth ended ten days since in time to catch a great deal of clover hay in the rain, and too late to save the oats; there have been frequent and hard showers. Ground thoroughly wet; only three or four days that plowing could be done in past two weeks. Over half of the short crop of tobacco intended to be planted is set, though many of the plants were small. Corn growing well, but would come forward more rapidly if it were not so cool. Wheat is injured by the fly, and some say chinch bugs; harvest will commence by the 16th on Fults. Tobacco still selling low; leaf averages 6c. per lb., and logs 2½c., prized in hhds. Cattle healthy and cheap. Wool (Cotswold) good, and selling at 22c. per lb. W. R. R.

Tennessee—*Sanfordville, McMinn Co., May 30.*—Our section was visited by the first good rain that has fallen since early in March; 2¾ inches fell in the last 15 hours. The drouth was becoming very distressing, and clover and pastures were suffering greatly. S. F. C.

Ohio—*Westerville, Franklin Co., June 1.*—Fine rains during last week; very cool and raining still. No frost to injure vegetation. All crops late. Apples fallen off badly; cyclone on the 29th, passing five miles to the southeast and going in the direction of Johnstown, doing much damage, blowing down trees and fences, and uncroofing houses. H. W. P.

Michigan—*South Haven, Van Buren Co., May 31.*—The warm weather of a month ago gave things a good start, although it was very dry. Curculios have been on hand a month. The weather is like November now; cold north wind for a week or more. Frost the 26th and 29th; hurt late strawberries. To-day is the third day it has been raining almost continuously. Snowed a little last night. Peaches come through the blossoming period all right, but the buds were mostly killed a mile or more from the lake. P. H. C.

Indiana—*Greencastle, Putnam Co., May 31.*—The rain on Thursday night saved the fruit, for without it there would have been a killing frost. The thermometer marked 37°, only 5° above freezing, and the wet blanket shut out the everlasting howl that would have arisen from the agriculturist, but we are not yet out of the woods. Some snow was in the air yesterday morning, and it is still cold, with a drizzling rain falling; about 3¼ inches of rain has fallen in the last two days; but we are still behind compared with last year. T. C. C.

Wisconsin—*Janesville, Rock Co., June 5.*—During the week the cold has been quite severe; every night either a frost, or close to it. Rains have been heavy, beyond any knowledge of the oldest residents. We are geographically blessed, or we should have suffered from freshets and inundations in their full fury and damage. To-day is the warmest for five weeks. Corn looks sickly, yellow and unpromising. Tobacco beds are all covered at night, and by day also. Some few acres of tobacco have been planted—very few. Should the weather now continue warm and sunny we may yet have a fair corn crop. It must be now or never for this year. Hops are down—quite off. Grass is good. Wheat, 70@80c. per bu.; rye, 40c.; barley, 35@44c.; corn, 28c.; oats, 26c.; bran, $10 per ton; hay, $4@7.50; potatoes and onions at any price; butter, 11c. per lb.; eggs, 10c. per doz.; cattle, $2.40@3.60 per cwt.; hogs, $3.75@3.90; tobacco, 25½c., 32½c., 34½@11½c. per lb.; horses high, and much sought for. W. S.

Missouri—*Kansas City, Jackson Co., June 1.*—May was dull, wet and dismal, with more thunder storms than are usually seen in New-England all summer. But farmers are jubilant over the wet weather; no danger of drouth this season, as the earth is thoroughly saturated with water, ensuring good crops. Some damages will have to be repaired. Corn is washed out of the ground in some places; water supply from the Missouri was obstructed, the piers being washed out, and water now comes from Kaw river—is impure as well as muddy. Families blessed with large cisterns have reason to be thankful. Garden vegetables of every kind are cheap and abundant in the markets. Cherries and strawberries have been plenty for some weeks. New potatoes, beets and cabbages, and fresh meats of every kind are on hand all the time. Flour is declining in price, as also meal. No change in groceries since last month. Dry-goods are much cheaper than in eastern markets. Creameries are making as nice butter as can be found anywhere. Kansas City is esteemed generally healthy, but the sanitary condition of alleys and vaults is not good. The public thoroughfares are kept clean, streets well scraped and sidewalks swept. S. S. S.

Horticultural Department.

Editorial Notes and Comments.

Dusting on Dew.—It is common to make the useful recommendation, in applying any powder to repel insects on plants, to perform the dusting in the morning while the dew is on the plants. The only objection to this recommendation is, that plants are not moistened with dew every morning—or it is evaporated before the owner has time to do the work—or it may be too hot and dry for dew. The work is therefore put off till the insects may have done their mischief. A sure way, therefore, adapted to every morning, or to any time in each day, is to procure a watering-pot with a very fine rose, and with a fine mist moisten the plants, and follow immediately with the dusting. Without waiting for a dewy morning, ashes, plaster, air-slacked lime, hellebore, or any of the numerous poisonous powders, may be applied at any time of day.

A Wild Garden.—An inquirer wishes to know how to make a "wild garden," partly to save expense in keeping it, and partly as a novelty. Let him first select a piece of ground in a rather retired position, manure and cultivate it, and cultivate and manure it till it is rich, clean and mellow. Then purchase of the seedsmen all the perennial seeds he can obtain, and sow these broadcast and rake them in. If sown thick enough, not much else will grow on the land, and next year there will be a profusion of flowers. The strong will crowd out the weak, unless special attention is given to the weaker ones. Add wild flowers from the woods and ravines, by marking them when in bloom, and digging them up afterward. We have seen flowering plants thus hold their places without care a dozen years.

Popular Fruits.—On looking over the 18 pages of the carefully prepared list of fruits for the different counties in Pennsylvania, of the State Horticultural Society, we perceive that among apples, the most popular summer variety is Red Astrachan; for autumn, Maiden's Blush; for winter, Baldwin, and among crabs is Transcendent. Quite a number of other excellent apples closely crowd on these for popular favor, such as Rambo, Gravenstein, Smokehouse, Northern Spy, &c. Among pears, the Bartlett of course heads the list of early varieties; Seckel for medium ripeners, and Lawrence for late. Black Tartarian, Governor Wood, Coe's Transparent, and Rockport are the excellent ones among heart cherries; and Early Richmond, Mayduke, and English Morello, of the sour cherries. Mountain Rose stands at the head of early peaches, Early Crawford, Stump and Oldmixon (not "Old Mixon") among the medium ripening, and Late Crawford, Salway and Ward of the late varieties.

Fruits for Wisconsin.—The special fruit committee of the Wisconsin Horticultural Society reported at a meeting of the society the following list of fruits adapted and proved suitable to that State and to a large portion of the Northwest generally: *Apples*—Oldenburg, Hibernal, and Wealthy for favorable localities. *Plums*—De Soto, Weaver, Rollingstone, Forest Garden. *Grapes*—Worden, Moore's Early, Concord, Delaware, Brighton, Lady. *Blackberries*—Ancient Briton, Snyder, Stone's Hardy. *Currants*—Red Dutch, White Grape, Victoria. It will be observed that grapes and small fruits generally, have a decided advantage over apples and large fruits, in the facility with which they may be laid down for winter protection.

Forests and Showers.—J. D. Lyman, of Exeter, New Hampshire, in a paper read before the Board of Agriculture of that State, made the following just remarks: "Rainfall varies much with different years, yet no proof is found that upon an average there is more or less rain now than formerly, or more severe drouths. The Pilgrim Fathers, settling at Plymouth in 1630, were nearly dried to death in their third or fourth year, and their settlement suffered twenty-three drouths during its first century, although their home was in the largest forest in the world and close by the ocean. The rainfalls, measured for more than forty-five years at Washington, D. C., more than sixty years at Lowell, Mass., one hundred and twenty-five years at Albany, N. Y., and at some forty other places in this country for longer or shorter periods, fail to prove that the average rainfall has increased or diminished."

Elaborate Flower Beds.

A bed in which only the ordinary kinds of bedding plants were used with most attractive results is shown at fig. 1. The outside length

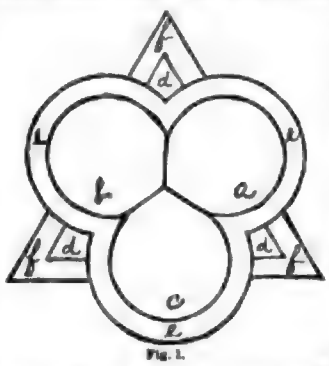

Fig. 1.

of the triangle on each side is eight feet, the inside being six feet; from the centre of the inner line of the triangle the outer circles are run, each having a diameter of four feet, while the inner circles are one foot less in diameter; the lines of the small circles being continued so as to meet in the centre of the triangle.

In planting this bed at various times I have tried a variety of plans, but find that the two following have given the best satisfaction: The first plan calls for three dozen coleus, Golden Feather, in *a*, dark-red *Verschaffelti* in *b*, and the same number of white centaurea *Gymnocarpa* in *c*; the border (*e e e*) containing a single row of geranium, Blackhawk, planted nine inches apart, requiring about 37 in all. The points (*d d d*) each have three geraniums, *Mde. Salleroi*, a neat dwarf-growing white variegated variety, while the borders (*b b b*) each have ten blue dwarf ageratum Cope's Pet. The total cost of the bed in this style ought not to exceed ten dollars.

The second way of planting the same design is to place a dark canna in the centre of the triangle where the lines of the circles meet; also use a *Dracæna* (indicis in the centre of each circle, *a* containing in addition 30 dark achyranthes; *b* 30 golden bedder; *c* 30 dwarf scarlet geraniums like Augusta Vallone. For the corners, *d d d*, one *Echeveria metallica* or *Kleinia repens*, in each, form pleasing points; the border *e e e* is planted with a single row of golden feather, 18 in each, while the borders *f f f* are filled with 36 blue lobelias. The cost of the design planted in the last mentioned manner will be from $12 to $15; the simple variation of using the taller centre plants adds greatly to the effect by breaking up the otherwise level surface of the bed.

A very popular style of bed, that as a rule gives good satisfaction, is a fine pointed star of any desirable dimensions, but better if not less than 4 feet from tip of points to centre, where a plant like *Canna, Caladium, Dracæna*, and similar plants, which will cost from fifty cents to several dollars each are used, and planting the rest of the bed entirely of one color of foliage, yellow, dark-red or white, or using white, pink or scarlet-flowered geraniums, all of which can can be purchased for from 75c. to $1.50 per dozen. A judicious combination of light and dark coleus, or coleus and flowering geraniums or the fine, blue-flowered, dwarf ageratum and light coleus is quite attractive. The bedding-size of ageratum usually sells for $1 a dozen, either blue or white, the latter being of much value either for bedding or cut-flower purposes, being continually in bloom, as is also the blue sort,

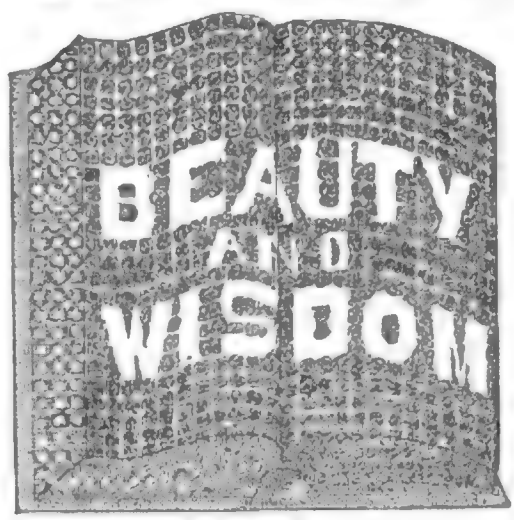

Fig. 2.

through the summer, if attention is paid to keeping the old flowers picked off.

For beds that combine substantial appearance, a high degree of beauty and general adaptability, may be mentioned the old-fashioned round bed somewhat elevated in the centre; they are suitable for a city lot, or the wide expanse of a public park, the size being all that needs to be altered. One color of foliage or of flower can be used for planting,

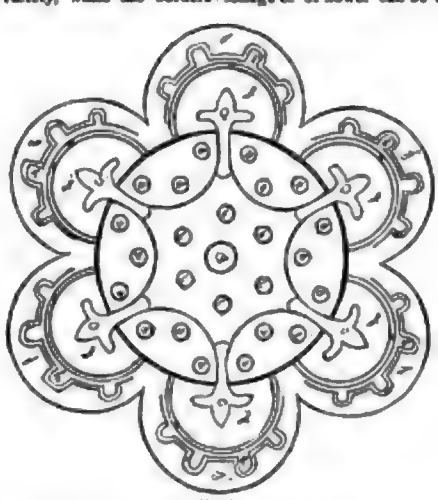

Fig. 3.

or a variety of these plants may be used together. Where the bed is large some pretty design may be made on the circular back ground; for this purpose designs like an anchor, crescent, cross, star, square and compass and the like are suitable.

The design at fig. 3 would be suitable for an entrance to a cemetery, the grounds of a public library or college. Though seemingly elaborate, yet it is simple in construction, and very effective when well made. The idea is simply that of an open book with an appropriate inscription; the body is raised about one foot from the surface, and the form preserved by means of wide-meshed wire screen around the edges, the plants being planted through the meshes; the proper shape is given to the upper surface before planting, the scale for work being two feet to the inch. The sides and top of the body is planted solid with *Echeveria secunda glauca*, which is a grayish white color; the letters are composed of the red *Alternanthera paronychioides*, used alone in double and single lines, or shading may be done by using the greenish yellow *Alternanthera aurea nana*. The edges of the cover are made of two rows of Golden Feather, *pyrethrum*. A bed of this size properly planted will require about 600 of the *Echeveria secunda glauca*, 125 Golden Feather and 150 *Alternanthera paronychioides* for the lettering. The total cost of a bed so constructed will not fall short of $50, aside from the labor. However, where the calculations as to bedding are made at the proper season (i. e. during the winter) and contracts made with reliable florists for the stock required, a large discount will usually be given, especially where large quantities are taken. Smaller beds in the same design can be made at a proportionate decrease in cost, but where lettering is desired a size less than five feet square would not be advisable.

A combination of semi tropical and carpet bedding, as a rule, is not specially to be recommended, but with designs of liberal proportions and surrounded by a wide expanse of lawn, the ground plan shown at fig. 3 has been singularly attractive. This bed has an outside diameter of 9 feet (scale 2 feet to the inch), but could be given a diameter of 12 feet, if desirable, using plants in proportion; a smaller size would have the appearance of being crowded. The small half circles (*f*) are to be 6 or 8 inches above the general surface, the sides (*g h i j*) sloping down gradually to the level of the lawn.

The centre of the bed (*a*) is also raised a little above *f*, and a plant that has the habit of growth of a canna, or castor oil bean (*Ricinus*) or Abyssinian banana (*Musa ensete*), or the great reed (*Arundo donax*), and its variegated variety has a fine effect when surrounded by six plants (*b*) like caladiums or small palms of the hardier class, outside of which may come nine variegated century plants (*Agave americana*) in three groups (*d*), and nine *Echeveria metallica* (*e*) alternate with the Agaves, thus giving a circular bed of fine foliage, and having a most graceful appearance, to which a border of semi-circles, planted in carpet-bedding style, are added, the colors thus employed giving altogether a harmonious and striking effect, when surrounded by a well-kept lawn. The points (*c*) are each made of fourteen red *Alternanthera versicolor*, and lie on a mass of the yellow *Alternanthera aurea* (*f*), each semi-circle requiring 26 plants, which in turn are edged with a single row of 11 *Echeveria secunda glauca* (*g*) planted on the sloping side; *h* is filled with the reddish green of 24 *Filex repens* bordered with a single row of 19 Golden Feathers (*i*). The white variegated dew plant (*Mesembryanthemum cordifolium*), two dozen planted in each part, completes the bed at *j*, and coming next to the grass, a fine contrast is presented.

The cost of this bed would be about the same as for fig. 2, but while adapted to a greater variety of surroundings, and in some ways of a more striking character, yet it cannot surpass it for effectiveness in certain situations, and the care of a bed like fig. 3, during the growing season, is much greater. In the latter, watchfulness and the use of shears are required to keep each plant within bounds, as otherwise some will outgrow and unduly crowd the others, and in this connection, this bed is notable for the absence of sharp points, a feature that, as far as possible, should be observed in the laying out of beds of all descriptions, each angle largely increasing the labor.

One of the simplest and at the same time not the least attractive of flower beds, was employed at one of the splendid grounds about Newport, R. I. Two two-inch planed pine plank, 12 feet long are set on edge with about a 10-foot space between them; beginning at one end strips of pine 2 inches wide and a half inch thick are fastened from one

plank to the other, a lighter board being also placed under the centre to support them. The stripe are placed about 2 inches apart, and 6-inch wide pieces, an inch thick, are fastened across the ends of the three boards to keep them in shape.

This frame is placed wherever the bed is desired, and then along each plank a strip of ground 1½ feet wide is dug up and well manured, using only very old well-rotten manure. In this border on each side, seven clematis of various colors are planted, and as they begin to grow, are trained over this trellis, and to intermingle with each other, enough branches being allowed to hang over the ends to conceal them. No particular care is necessary for such a bed, a covering of straw being easily given in late autumn and in the spring part of the old wood being cut out to prevent an injurious degree of crowding. By planting such a selection of varieties as the following, the period of bloom will commence in April and continue uninterruptedly until after September, the colors embracing a large variety: The earliest will be Albert Victor, lavender; *Standishii*, mauve purple, and *Verticillaris*, bluish purple. In June comes Miss Bateman, pure white; *Jackmanni*, rich purple; and *Rubella*, deep claret. In July, *Coccinea*, brilliant scarlet, *Henryii*, white, and *Pitcheri*, brownish purple, come in bloom; for August we have *Apii folia*, light yellow, and Mrs. James Bateman, lilac. During September, and later, will be *Viticella*, blue; *Orientalis*, yellow, and *Flammula*, white. The period for blooming for most of these sorts, some of which are very fragrant, is not confined to the time mentioned but extends more or less throughout the season until cut down by frost, and in most cases nothing will exceed the satisfaction to be derived from a fine bed of clematis for permanence and beauty. The frame, which serves merely to keep them from the ground, may be of any desired shape, as round, peaked, etc. The cost of the fourteen plants mentioned would be about eight dollars and a half. E. E. SUMNER.

Niagara County, N. Y.

Hollyhock Fungus in New-York.

EDS. COUNTRY GENTLEMAN—The parasitic fungus that especially attacks and injures the hollyhock plant is known to mycologists by the name *Puccinia Malvacearum*. It was originally described in 1853 from specimens obtained in Chili. It attacks not only hollyhocks and other species of Malva, but also plants of various other genera of the Mallows family, such as Althea, Modiola and Malope. It is possibly native in Australia as well as in South America as it was found there in 1805. It was unknown in Europe till 1869, when it appeared in Spain. Four years later it was observed in France and in England, and in two or three years more it had spread to nearly all parts of Europe. In some places its attacks were so severe and its ravages so great that the cultivation of hollyhocks was abandoned. Fortunately the fungus was not an inhabitant of this country. But in 1886 its advent in Massachusetts was recorded. It had been introduced with some seeds of Malope brought from Europe. Whether measures were taken to prevent its spread I know not, but I have seen nothing more concerning its appearance in this country.

But it has now appeared at Geneva in this State, as is shown by specimens received from that place a few days ago. The fungus attacks the stem and leaves of the plant and sometimes also parts of the flower and the young fruit. It forms small round reddish-brown pustules on the leaves and somewhat elongated ones on the stems. These pustules may be few or many according to the severity of the attack. They usually occur on the lower surface of the leaf, but sometimes a few are seen on the upper surface also. A slight suffusion of gray sometimes overspreads them. A small yellowish spot and often a little pit or depression marks the upper surface of the leaf directly over the place of each pustule beneath. Sometimes with age these pustules fall out, leaving a perforation or hole in the leaf. Each pustule is composed of a dense mass of oblong spores which stand upright, closely packed side by side, each one being supported by a slender pedicel. These spores have power to propagate the disease, spreading it from plant to plant. They may continue to develop through the season and in plants kept within doors, they may be developed during the winter.

It is obvious that to stop the spread of the fungus we must either destroy the spores or prevent their germination. It would be well for those who cultivate hollyhocks to examine their plants frequently and if the fungus should appear on them to take immediate measures to destroy it. If the attack is slight it may be sufficient to burn the few affected leaves, but if severe it would be better to burn every diseased plant that the spores may be destroyed. Then as an experiment it would be well to spray all unaffected plants with the Bordeaux mixture which has been found effectual in preventing the germination of other parasitic fungus spores. If taken in hand at once it may be possible to stamp out the disease, but this will scarcely be possible after it has become established in many places.

Albany, N. Y. C. H. P.

Domestic Economy.

A Chapter on Stoves.

"You are all through house cleaning are you not, Mrs. Grey?"—and the caller paused on the threshold as though doubting the propriety of entering, should the answer be negative.

"Finished yesterday, thank fortune!" was the hearty answer, as the hostess led the way into the hall, and threw open the door of the cosy sitting room. Clean it was, and entirely homelike, but the eyes of the caller opened wide as they fell on a nicely-blackened stove, put up and ready for use, even to the well-filled wood-box standing modestly behind it.

"Why, surely!" she began, but little Mrs. Grey interrupted her laughingly—

"You are looking at my stove; and I do not wonder, considering the many times you and I both have said we would never have stoves around in our clean rooms to give us dust and smoke and extra work, through the summer months. But I had two or three such unpleasant times with my no-fire rooms last summer that it set me to thinking, and I resolved, for this summer at least, I would try a different plan. You remember the cold rains we had all through May and even into June last year? Well, one of those days, and it was my wash-day too, who should come but my sister Kate with her baby and two older ones—all babies you may say. Dinah was here for the day and hurrying her very best to get through. Of course, Kate had to come into the kitchen, for this room was as cold as a vault, and each child sneezed and sneezed, and I was in such a worry and with good cause too, for they all took cold, and baby nearly died with croup that night, Kate told me afterwards. Well, in August, my father and mother came to make their summer visit. It was nice weather, only a little too warm, but you know that old people do not feel the heat as we do, and they sat out on the little porch or here in this room, and had such a happy time for three or four days! Then there came a stormy time, and it was unpleasantly cold everywhere except in the kitchen. They did not enjoy the last part of their visit in the least, and it was such a grief to me, and is even yet! So when I get to fretting over the dust and smoke, as I shall be pretty certain to do one time or another, I hope I shall remember how badly I felt in those days, and I am sure that it will help to strengthen my resolution."

Mrs. Lee looked troubled, but only said: "I trust you will not be sorry," and the conversation drifted into another channel.

The rest of May and almost through June was unusually warm and pleasant that year, until its last two or three days brought drizzling rains, ending in a day of heavy storm, during which there was no comfort to be found in the house away from the kitchen fire, as Mrs. Lee had to admit to herself while making her afternoon toilet in her chilly bedroom, which she fancied even smelled of mould, and the sitting-room she stepped out into was little better. Dampness seemed clinging everywhere. Involuntarily a thought of Mrs. Grey's cheery, well-warmed sitting-room came to her, and the thought kept by her as, seated at the sewing machine, she followed one seam after another through its length.

Outside, the rain fell steadily, its dashing against the window panes keeping time with the hum of the swift-running machine.

"Seems to me this room is pretty chilly for you to be sitting in, Lizzie."

"I am cold," answered his wife (for Mr. Lee was standing in the doorway), "but you see I am almost through sewing for to-day," pointing to the pile of finished work on the floor beside her. "You have been out in the rain, haven't you?"—noticing that there was more than a suspicion of dampness on his garments.

"Yes, and it hardly rained at all when I started; so I neglected to put on my rubber coat"—with a rueful glance at his wet clothes. "I went over to Grey's on an errand, and found the old people were there, and nothing would do but I must go into the house to see them."

"Oh! what unpleasant weather for them to make their visit," interrupted his wife.

"Not a bit of it, my dear," returned her husband. "There was a glorious fire burning in the sitting room, and the two old people sat there as happy as you please. Frank must have put that stove up especially for them, and Lizzie," he continued, hesitatingly, knowing his wife's love of extreme cleanliness, "I was wondering as I came along if you would not like to have a stove put up in this room. You know there is that little wood stove I bought at a sale some—let me see, how long ago?"—

"Three years," said Mrs. Lee, adding quietly, "I think it would be an excellent plan—could we do it this afternoon?"

"Of course we can," answered her husband heartily. "I'll call Tom to help me bring it down, and then I'll send him off with the milk, and you and I will get it up in a few moments."

It took more than "a few moments," however, for the stove has not yet been cast that would prove itself so accommodating as that, and more than one journey was made to the attic by Fred, where he bumped his head against the rafters, and filled his hair with mud-wasps' nests in trying to find a piece of pipe that would answer the purpose better than the one Lizzie was patiently holding "just so" until his return. But it was all arranged in time, even to the bringing in and filling of the wood box by Fred, while Lizzie used polish and plied the brush until the stove shone as surely stove had never shone before, the children thought, when trooping in from school through the rain, they gathered around the door giving vent to their surprise and delight in a breath.

Later in the evening Lizzie came in from the kitchen, closing the door behind her to shut out steam and dampness rising from garments drying around the stove to be ready for morning wear again. Crossing the dining room she peeped through the half closed door at her family group—the children with their lessons, and Fred in easy chair with slippered feet in close proximity to the cheerful blaze. He looked up from his paper to answer her smile, and nodded towards the stove; then glancing around the room—"Isn't this clear comfort, Lizzie? If there is a pleasanter place to be found I'd just like to see it."

And Mrs. Grey's astonishment, when a few days later she came to call, can be imagined; she sat down and laughed until she cried. "To think, Lizzie," said she, "You and I of all overclean housekeepers should each have a dusty, smoky stove in our cherished sitting rooms all through the summer! And that reminds me, I must tell you what Frank's mother said to me at parting the other day. 'My dear child,' she said, taking both my hands in hers, 'I have had such a happy visit; the first of my stay was bright with sunshine, and the last two or three days, although cold and stormy, I do think I enjoyed even more than the first. Your warm, cheerful sitting-room more than made up for the storm outside and left one nothing to wish!' That blessed stove, Lizzie, I could have taken it up in my arms and hugged it! 'Behold how great a matter a little fire kindleth.'" A FARMER'S SISTER.

Washingtonville, N. Y.

Sea Food.

BAKED BLUE FISH.—Spread two or three slices of bread and cover them with black pepper; lay on each thin shavings of salt pork, and put them in the opening of the fish, closing with a skewer or a few stitches. Lay it in a baking pan and surround it with pared potatoes. Pour over it half a cup of milk and set it in the oven. Baste occasionally and when partly cooked, add a cup of sweet cream. Salt lightly when nearly done and put a few bits of butter over the top to brown. Dish with the cream gravy and garnish with cress or parsley.

BAKED HALIBUT.—Have the fish sliced as for frying. Cut also some thin slices of salt pork. Lay two or three bits of pork in a baking dish, then a slice of halibut; on this place some more thin slices of pork with a very light sprinkling of parsley or summer savory; also a little pepper; put three slices of the fish together in this way, pour over the whole a cupful of rich milk or sweet cream and bake half an hour. Serve with an egg sauce made by adding a well-beaten egg to a white sauce of butter and flour rubbed together and boiled with a cup of milk.

BAKED MACKEREL.—Almost any baked fish is wonderfully improved by the addition of cream, and mackerel is no exception. This is one of the very best ways of preparing salt mackerel, and if the fish is strictly first quality, it makes a delicious dish. Lay the well-freshened fish skin-side down in a baking pan and cover with cream; a pint of cream to three or four mackerel. Take up carefully and butter liberally, pour over the hot cream sauce and serve at once. No other flavoring will be desired.

Canned fish, salmon, blue fish, &c., may be most satisfactorily served in the same way. They will need salt, and as they only require to be heated through they can be prepared in a very short time.

CLAM PIE.—Choose very small clams, as small as possible, as these are much more tender than large ones. Have some cold potatoes partially boiled and a small onion. Put a layer of thinly sliced potatoes in a pudding dish or basin, with a few shavings of onion, then a layer of clams, with seasoning of celery-salt, pepper and bits of butter. Fill up with alternate layers, and add the liquor from the clams. Put a strip of rich paste round the top of the dish, and cover with paste fully half an inch thick. Bake just long enough to cook the pastry.

FISH FOR BREAKFAST.—The fish and potatoes left from a baked dinner will make a nice breakfast dish. Slice each potato three or four times lengthwise, and divide the fish with a fork into nice flakey pieces, and not a rough, indiscriminate "mess." Make an egg sauce, as directed for the halibut, in a saucepan, set the fish and potatoes in the oven with a very little milk until warmed through, pour the sauce over them and let them stand a few minutes longer, dish up carefully and serve hot.

Another way is to pick up the fish quite small, removing all skin and bone. Have ready three or four hard boiled eggs, cooled by dropping into cold water. Remove the shells and cut in slices. Alternate these with the fish, and cover with the white sauce, or a cream dressing. This is simply thin sweet cream, brought to a boil and seasoned with salt, butter and pepper, and it makes one of the very best sauces for boiled fish of any kind. Chopped parsley may be added if liked. Simmer very gently in the sauce until thoroughly heated, and turn out carefully. DOROTHY.

Points for the Cook.

IN CUTTING UP CHICKENS—Be sure to use a knife to disjoint them, instead of chopping them. Also care should be taken with all meats not to use a hatchet, as the fine splinters and slivers of bone, which are exceedingly sharp, may cause serious trouble if taken into the mouth and stomach. It is a cook's place to look carefully over all meats, taking out all small pieces of bone, especially lamb, veal and mutton.

COLD BEEFSTEAK—May if rather underdone be nicely prepared by chopping very fine with some finely grated bread crumbs and minced parsley, and moulded together with a little rich gravy and a beaten egg. Have a cake tin greased with butter, in which put the hash firmly and put it in a quick oven, remembering that the second cooking of all meats must be done quickly, and let it get browned, when turn out carefully, garnish and serve.

MEAT BALLS.—Take scraps of meat (uncooked pieces being better than cooked), together with a small bit of sweet salt pork, and chop them very fine; also a small onion, if liked, and add to two cupfuls of meat one of fine bread crumbs, salt and pepper to taste, a little minced parsley if you have it, and an egg to bind all together. Drop into very hot lard, and serve on a bed of fresh, crisp watercress.

LAMB CUTLETS A LA CONDE.—Cut and trim a number of cutlets from a neck of lamb. Lard thickly with small strips of truffles, anchovies and gherkins, and surround each cutlet with a seasoning made with fine bread crumbs, mushrooms, a few chives, a small quantity of shallots, some capers, the whites and yolks of two hard boiled eggs, all chopped very fine and moistened with olive oil and a small piece of butter, adding salt and pepper. Keep the seasoning in place on each cutlet with a piece of the transparent skin that covers the fat of the inside of the lamb, and place in a pan in the oven until done. Then dust them over with burned bread crumbs, having a nicely glazed gravy made from veal; garnish with dice of lemon. Dish very hot.

AUNT ADDIE.

New Advertisements.

Burns, Charles De F. ..... *Public Sale of Sheep.*
Buedy, M. S. ..... *New Japanese Buckwheat.*
Bowman, John M. ..... *Farms for Sale.*
Cedar Hill Farm. ..... *Herdsman Wanted.*
Dwyer, Howard M. ..... *Fruit Farms*
Foster, Reyers & Co. ..... *Lansing Rock Salt.*
Grigg, James A. ..... *Short-Horns.*
Hills, C. ..... *Shropshire Sheep*
do. ..... *Red, White & Roan Heifers.*
Ham, S. M. ..... *Farms for Sale*
Johnson, H. P. ..... *Fruit Farms for Sale.*
Kelley, O. A. ..... *Brown Swiss Cattle.*
Lowe, Dr. J. B. ..... *Jersey Bull Calves.*
Lock Box 34. ..... *Hay Cutter, &c.*
Paine, C. C. ..... *Calves.*
Phelps C. C. ..... *Cheshires.*
Rogers, W. G. ..... *Jerseys.*
Sandy, T. O. ..... *Land Mart.*
Shepard, J. E. ..... *Agents Wanted.*
Thorne, Oakleigh. ..... *Help Wanted.*
Vickery, Will. ..... *Jersey Bulls.*

Pamphlets, &c., Received.

ADAMS, CHAS. S., *Law Exchange, Jacksonville, Fla.* Report of Auxiliary Sanitary Association, Epidemic of 1888.

COOK, Prof. GEO. H., *State Geologist, New-Brunswick, N. J.* Report for 1888; pp. 56, illustrated.

HEWITT, ABRAM S., Secretary Trustees of Cooper Union, *New-York.* Thirtieth Annual Report.

MORTON MFG. CO., *Rome, Mich.* Catalogue of Horsepowers, Feed Cutters, Mills, &c.; pp. 32, illustrated.

STATE BOARD OF AGRICULTURE, *Salem, Oregon.* "Resources of Oregon;" pp. 103, quarto, with folding map.

WARMAN, E. B., 48 *Dearborn St., Chicago, Ill.* "Physical Training, or, The Care of the Body;" pp. 20, illustrated—25c.

Inquiries and Answers.

Berkshire Swine.—Please inform me whether the large English Berkshires are really a different breed from the common raised Berkshire, usually advertised. If a distinct breed, what is the difference and are they as profitable a hog to raise as the small Berkshire or Poland China? Please give address of some reliable breeder of first class large English Berkshires. D. *West Newton, Pa.* [The English Berkshires of by-gone years were larger than at present—we do not understand that any distinctly large Berkshire breed is now in existence.]

Seeding for a Meadow.—I wish to seed in August a field, soil clay loam with yellow clay and hard pan subsoil; the top soil was stony but is now practically clean. What grasses are the best to use for a permanent meadow, hay being wanted more than pasture? The land is 1,200 feet above tide water with all the natural drainage needed. S. A. W. *Morris County, N. J.* [The most essential requisite for success in seeding, is to place the soil in the best condition for the germination and early growth of the grass, by a sufficient topdressing to render the surface soil mellow and moist. The most immediate results will be obtained from a mixture of red clover, meadow oat, and orchard grass, and later in the season from timothy, red top, Italian rye grass, meadow fescue, and Kentucky blue grass, or a part of these. If the ground is moist alsike clover may be added. Clover and timothy give fine heavy crops for a time, but as they soon run out, it is well to add several other of the best grasses, not only for the additional crop which they will furnish, but for the protection afforded to the roots of timothy and clover against the severity of winter.]

Subduing Foul Land.—I have a field that has been cleared about eight or ten years of the original growth of timber, which was mostly chestnut and oak, with a little maple, dogwood and walnut. There are still some very large chestnut stumps. It is stiff yellow clay, with fair surface drainage. It has been planted in corn and rye, and an attempt has been made to put it in grass, but it is now thickly covered with sorrel, blackberry bushes and weeds. I wish to put it in grass for hay, and thought of spreading lime thickly and plowing it before the seeds of the sorrel ripen. (1) Would it be best to sow grass or clover, or peas, to turn under? (2) Would this be the proper time to do so—say from the middle of June to July? Please advise me the best way to treat this field. Which of the improved harrows are the best for stiff clay that bakes after rains? Which are the least expensive? (3) M. A. S. *Fairfax County, Va.* [1. The treatment will depend on the amount or quantity of foul stuff, which may or may not prevent the plow from turning all under. The blackberry bushes, if abundant, may require cutting and burning when dry; or if scattered, this will not be necessary. You need a clean mellow surface for seeding to grass or clover, which may not succeed during the hot and dry season of summer. Much will depend on the moisture of the season for this purpose. The sorrel, if abundant, must be subdued with the plow and harrow, in connection with manuring, and the use of lime or ashes. In some localities, lime has proved quite efficient for subduing sorrel; in others it has produced little effect. It requires trial. 2. Clover is the best crop to plow under for enriching the soil; but as it is now too late to sow and start a crop, the best substitute would probably be cow-peas; or even a crop of buckwheat may aid in subduing the blackberries and other foul stuff. 3. The two most efficient harrows for hard soil are the spring-tooth and the Acme—the former tearing up and the latter cutting down. The prices do not differ much.]

Preserving the Wood of Silos.—I think of building a wooden silo. What shall I do to preserve the wood? I fear that the dampness from the ensilage will cause it to decay. If any one has had experience in painting the inside with tar, will he kindly give his advice in this matter through the columns of your valuable paper? S. *Rochester, N. Y.* [The wood used in building silos is not changed from wet to dry, and the reverse, so frequently as the wood of common farm buildings. It becomes damp when the silo is filled, and dries gradually when empty. The change is only twice a year. But it is well to give the wood a good soaking with crude petroleum, which penetrates the pores and makes it much more durable. Petroleum is much better than tar on several accounts, but tar may be used where it does not come in contact with the ensilage.]

Driving Water up Hill.—I have an overflowing spring 700 feet from my barn; the elevation is 28 or 30 feet to where I want to place the tank. How can I best bring the water to my barn? I have a two-horse tread-power that I should like to use to pump with. W. E. S. *Weddington, N. Y.* [Different modes may be employed according to varying conditions. As you do not inform us how much water flows from the spring, nor how much fall it has afterwards, we cannot say whether a water ram could be employed. This would require enough water to fill an inch and a half drive-pipe, with three feet fall, and clear water free from sand, grass, or other obstructing substance. If a water ram could be used, it should be set by a man who understands well all its requirements, some of which are pointed out in a good practical article in the COUNTRY GENTLEMAN for 1867, pages 760 and 812, and also in Thomas' Farm Machinery, p. 296. A well made and properly adjusted ram will run for months without any care, supervision or repairs. But if the water ram is inadmissible, you may pump by wind, the machinery costing more; or with horses on a tread power, driving a rotary pump. With a windmill, a large tank for receiving the water would be necessary, as days might occur when there would be no wind. The pipe through which the water is elevated should be rather large for lessening the friction, for which the "Rustless" pipe would answer an excellent purpose for its cost.]

Hair-Snakes.—I was lately standing in a doorway during a shower when I observed what is commonly called a horse-hair snake twining about a stem of blue grass. My curiosity was attracted, and I called the attention of others. We soon discovered several more similarly twining about stems of grass, and as the sward is located within three feet of our well, I wish to ask if there is any danger of the snakes entering it. In order to remove as much as possible the danger of our drinking water being infested, we proceeded to catch the snakes with tweezers and drop them into boiling water; we caught eighteen about the tops of the grass which has been allowed to grow without cutting, and others may have been secreted. Where did these snakes come from? Were they precipitated by the rain? Were they live horse hairs, or were they incubated from minute eggs laid in the sward last season? The first supposition is doubtful, for I did not find my snakes on old sward about the dooryard, and furthermore I visited the place from where the sod was lately obtained, and found it likewise teeming with hair-snakes, but I could not discover any on grass in other parts of the field. J. L. *Erie County, N. Y.* [The small animals, popularly known as hair-snakes, belong to the genus *Gordius*, and are propagated by eggs, mostly in stagnant marshes and ditches, but we are not able to say whether this is a distinct species from *Gordius aquaticus*, commonly seen on the surface of pools. The absurd common notion that it came from a horse-hair thrown into the water, cannot, of course, be true; and were it possible the curious feat might be presented of a horse's tail made up of hundreds of living snakes, by suspending a vessel of water at its tail.]

Cheese-Making.—Is there any book that gives full directions for making cheese in a small dairy for family use, to use the milk of eight to ten cows? All works that I have seen are written more for factory men than for farmers who would like to make up some fine rich cheese for their own and friends' use. If there is nothing of the kind published to fit the circumstances, perhaps some of your correspondents on dairy matters would give the desired information. J. D. *Pique, O.* [Stewart's Dairyman's Manual (which may be ordered through this office at the publisher's price, $3) remarks that "the factory system is now almost universally practiced; a few farm dairies are still worked, but even in these the method is practically that of the factory on a small scale;" and the directions which follow are on the factory plan. We know of no book now obtainable which gives advice better adapted to our correspondent's needs.]

Silo Building.—As I want to build a silo this summer, I have read the articles on ensilage and silos very carefully. On p. 424 H. E J. writes: "Please tell Mr. Rice or any one about to build a silo to build it of masonry by all means; I have had six years experience—about 300 tons per year." As I intended to build of wood, this put me to thinking. When your last number came, the first piece I read was "Experience with Silos" by F. D. Curtis, p. 430; in the second column (line 26) he says: "Ensilage will not keep well in contact with stone walls or brick; hence such walls should be lined with wood." Does H. E J. like his with wood? Mr. O. B. Potter has silos built of masonry and I don't think they are lined with wood. I don't know how well the ensilage keeps. I wish H. E. J. would tell me why he prefers masonry to wood. MAX. *Sing Sing, N. Y.* [The great advantage of masonry is its permanence; but it should be lined with wood, a dead-air space being left. See description of Mr. Edward Austen's very excellent silo, in editorial on p. 428, fourth col.]

Qualities of Bran.—In Prof. Stewart's reply on page 392, he states bran can be bought for $13 per ton. There are different grades of bran; the nearer it approaches being all hull, the cheaper it is. Will he state if the poorest quality as quoted in the market is just as good to use in making a balanced ration with ensilage and cottonseed meal? If so, there is no use of giving the extra price to get an article with more meal in it. He asks how I get my ensilage out in winter. My alleyways run up to silo on south and west sides, and have doors running from floor to top of silo. We open the doors as we feed, and let the ensilage drop down in alleyways. W. H. B. *Oxford Depot, N. Y.* [All bran and middlings are differently constituted since the roller plan of grinding has been adopted, which more completely separates the flour from the bran. It is now designated as coarse bran, fine bran, "fine feed" and middlings. But even that designated middlings contains very little besides finely ground bran. The middlings contain only about 4 per cent. more carbohydrates than the coarse bran and fine bran, and the difference in the feeding value is not equal to the difference in the price. There is also a difference made in the price of bran or middlings coming from spring or winter wheat, the winter wheat bran selling for a higher price. The outside coating to the winter wheat kernel is somewhat softer than that of the spring wheat, but there is probably very little difference in the digestible nutrients. We usually advise fine bran in preference to coarse bran, as being slightly more digestible. If B. will buy the quality known as fine bran or "fine feed," he need have no fears as to its feeding value. Is the ration which we gave him on page 392, it was supposed to be fine bran. If B. feeds the ration there given, we hope he will report the result as to milk yield and condition of cows. E. W. S.]

Horse-Breeding.—Where can be found the best written work on the care of brood mares and rearing of young colts? S. S. *Stillwater, N. Y.* [Send us $2 for Sanders' "Horse-Breeding."]

Acknowledgments.

Communications for publication have been received during the week ending June 13, from Prof. Chas. H. Peck—Prof. J. A. Lintner—S. B. Strong—A. B. C.—A Farmer's Daughter—John Gould—C. E. M.—John M. Stahl—Stephen Powers—Geo. Q. Dow—F. D. Curtis—P. J. Verhalen—M. A. S—F. H. C.—John W. Foster—L. L. White—G. A. Frierson—J. M. W. Atlee—T. H. Wasl—S. F. Gettys—Tar Heel—Mrs. J. M.—Wm. H. Bonner—Mrs. D. H. R. Goodale—G. W. Furlee—E. L. H.—T. C. G.—J. W. A.—B. —J. C. Whitehill—Henry Stewart—Waldo F. Brown—T. B. Terry—Prof. E. W. Stewart—E. A.—Geo. A. Coe—Mrs. Sarah H. Bowell—J. F. M.—Chas. Wright—Dr. Wm. Horne—S. F. Johnson—W. Z. Hutchinson (2)—Mrs. D. H. R. Goodale—Mrs. E. M Jones—John T. Bramhall—John M. Gant—D. Davis—John E. Hoyt—A. S. P.—Aunt Chloe—Prof. E. W. Stewart—Thomas Bowick.

. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, June 13, 1889.

Maryland.—Thirty miles southwest of Baltimore and a little less than half an hour from Washington on the Baltimore & Ohio Railroad, is the Maryland Agricultural College and Experiment Station, now under the care of a well-known and highly respected authority, Maj. HENRY E. ALVORD, who is president of the one and director of the other. The college is one of the oldest institutions of its kind in this country, and the only one ever established by voluntary contributions—a fact which speaks well for the enterprise of the Maryland farmers of forty years ago. The charter dates from March, 1856, being more than six years before the first Federal legislation for a similar purpose. As a foundation, about five hundred persons subscribed the amount necessary to purchase the farm and erect the first buildings. Subsequently the State made special appropriations, which are still continued, and the institution receives the benefits of the congressional land grant of July 2d, 1862, and the appropriations under the act of March 2d, 1887. The farm embraces 287 acres, 40 of which are woodland, the remainder under cultivation. The institution has done good work, but for years, owing to defects in its management, and other serious misfortunes, has been rather under a cloud of unpopularity. This the new president seems likely speedily to clear up; at least he has made a very favorable impression on the people of the State, so far as they have had opportunity to become acquainted with him; and prospects now look bright.

The faculty includes six resident professors, and advantage is taken of the proximity of Washington to secure the services of a number of experts from the department of agriculture and other institutions there, whose instruction is of peculiar value.

The Experiment Station, in its present form, dates from the passage of the Hatch bill of 1887, though experimental work as well as educational was contemplated in the organization of 1856, and was for a year or two carried on. As now arranged, about 50 acres of the college property, with a very good building, are devoted to the station work. Among other field experiments, 66 varieties of the tomato are under trial, their individual peculiarities, botanical and chemical, to be studied with special reference to their fitness for the great canning interest; also 40 varieties of oats, 45 of wheat, 90 of strawberries, 40 of early peas (for the benefit of truckers), and so on. Conjoined with these variety tests are experiments in the use of fertilizers, a subject on which particularly the tomato-growers have held extremely diverse opinions. A plat of 12 acres is devoted to a trial (for the department of agriculture, under special appropriation) of no less than a hundred varieties of sorghum, with 25 different fertilizers. An orchard of 1,000 trees, 300 or 200 varieties, was set out last year; and other planting is going on.

In the building, the new director has wisely established what is already a valuable library, chiefly of technical works, and including many of high value and high cost not often readily accessible. A very respectable chemical laboratory is in full operation. Here, as elsewhere through the projected work of this station, eminently *practical* results, pecuniarily profitable to the agriculture of the State, are chiefly sought for. Thus soil analysis is to be prosecuted on quite an extensive scale, but not for

the purpose of describing accurately the soils of the State, nor yet with the illusive hope of prescribing the exact manures needed on each farm for each crop, but principally to discover what fertilizing materials are not needed. In some sections of the State, for instance, the people are firmly of opinion that no potash is required, and the station will ascertain whether they are right. In other districts, where there is reason to suspect that the addition of lime may be quite necessary, the station will ex-periments applying that mineral in liberal quantities; if the land is actually running in it, doing, the station will find it out and let them know. Another question of importance now rests relate to the Maryland marls, which it was thought might prove to resemble those of New-Jersey in character and value. So far as studied, we believe they have not proved to be, and these hopes, being mostly low in phosphoric acid and strong in soluble potash. What ever they may be worth, of course it is highly important to the farmers to have the facts in hare positively determined. "The business of the station," as Mr. Atwell well says in one of his bulletins, "is to discover what is un-known, in facts, principles or applications, in the branch of agriculture. What is unknown must be found by research, and by accident, and requires knowledge, judgment and indus-try."

"A Treatise on Manures—Or, the Philosophy of Manuring, a Practical Handbook for the Agriculturist, Manufacturer and the Scientist"—such is the title of a 400-page Dr-dedicated published in this country by the J. B. Lippincott Co., 25 Murray St., New-York, and sold at $5. The author, Prof. A. D. Bernheim, Ph. D., F. R. S., F. C. S., &c., has undertaken "to collect and systematize, so far as he could be, all the trustworthy work on record in connection with the subject of fertilization and manuring." This task," he says—and one can readily believe it—"has proved heavy, because the literature on the subject is scattered broadcast through the agricultural, chemical and German scientific journals and works on agriculture." In this book it will be seen he has taken somewhat of the nature of a scrapbook, and seems rather more to have made a compilation of references than for consecutive reading.

Nursery Convention.—The American Nurserymen's Convention held its 11th annual meeting last week in Chicago. Nearly 300 members attended—nearly a hundred more of note than were absent—our correspondent writes. An attempt was made to have some thing to report on the amount of nursery business in the country, but the "hill and bean" obstinacy of some prevented anything like a report in a failure. A number of valuable papers were read, giving the experience of the writers in their special ways work. The present officers were re-elected—Ellwanger & Barry, Rochester, N. Y., vice-president, O. J. Carpenter, Parkway, Ill., secretary, Charles Arnot, Rochester, N. Y., treasurer; A. S. Whitney, Franklin Grove, Ill., and Wm. Pitkin, Jr., Rochester, N. Y., executive committee. The next place and time selected for the fall, the present session of the Convention to be merely biennial.

Personal.—President James Wood of the New-York State Agricultural Society (and postoffice Fredonia, N. Y.), who recently sailed for England on the Cunarder Servia, June 15, to attend the Royal show and to get a few cows for the improvement of our own farm can be found at the Royal Hotel, Liverpool, on the morning of July—four days before sailing on the noted fleet at Brunswick, Mo. Kimon, N. Y.

How to Get Business.—Enclosed we hand you our check for $15.00 on account. We received 61 cash orders from last advertisement, and 100 orders have been most satisfactory, and shall not forget the Country Gentleman, which we consider the best advertising medium in the country. We keep a full line of Seeds, Implements, &c.—Respectfully, Lawrence & Axtell, Goshen, Orange Co., N. Y.

The Eleventh Census.—Superintendent of the Census Roberts F. Porter writes us:

"It is important that the returns in relation to farm products and live stock should be full and correct. The enumerator in the house to house visitation will be furnished with a list of questions, but with the fact that farmers keep no books and hence returns are not in-frequently inaccurate. The census day will be June 1st next, and each May 31st, 1880, the farmer should make a memorandum of all this fact and take account of the products of their farms during the census year, it would be of material aid in securing reliable returns."

Farm-Yard Notes and Items.

We telegraph from a large picture in the London Live Stock Journal a portrait of the sweepstakes female Short Horn at the last royal show—a heifer called Belle Madeline, born Aug. 31, 1876. She is a cross; was got by Sons Benefactor 42760, out of Madeline Beauty by Major Booth(2), and was one of the best animals bred and exhibited by Mr. Robert Thompson, of Ingleby Greenhow, Yorkshi, each of which received a first prize.

Concerning the sale of the Lorain Short Horns—Whitehead, England, of which we published special report last week, Mr. John Thornton writes us: "The sale was more successful than many of the sanguine anticipated. The cows and the heifers were good, but the bulls were rather disappointing. Still on the whole it was a very satisfactory sale. Our leading feature was the production of any of your own breeders, either in person or by representative."

Mr. W. W. Dietler's sale of Short-Horns, at Pelham City, Va., June 7—an advertisement, of which you saw a account—was a success, in so far as "several things conspired to make it a failure. The seeds had broken communication in places, almost every direction, no doubt prevented many from attending, and the attendance was small, and the stock was not all sold. Prices ruling feature was the production of any of your own breeders, either in person or by representative."

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"I have sold so many cattle," writes the well-known Hereford breeder, Mr. H. Rudolph, of Syracuse, "I should like to have my advertisement appear for the present. I will undoubtedly have another to the fall, possibly a sale. I can say nothing about the date of the September. My advertisement in your paper has given perfect satisfaction."

The Proceedings of the Twenty-First Annual Meeting of the Ayrshire Breeders' Association, at New-York, May 1 and 2, are issued in pamphlet form.

The English Jersey Cattle Society (John Thornton, secretary, 7 Princes St., Hanover Sq., London, W.) has published its Herd Book, Vol. III., together with lists of Prize-Winners at the principal Shows, reports of Auction Sales, Tables of Butter-Test Prize-Winners, and other matter of interest to Jersey breeders. 1880. The book has over 450 pages. Price not stated.

The Franklin (Pa.) News says that Messrs. Fulton & Hilliard have sold their Holstein bull Stanford 2,256 for each foul that Beautiful Bell may produce, to be paid for at a stated by Electioneer, the money to be due and the foal to become the property of Miller & Hilby as soon it is able to stand.

The American South-Down Association is considering the propriety of holding an exhibition of its own next fall. The following gentlemen have been appointed a committee to report: N. S. Rockafellow, Bucks Co., Pa.; Wm. Jones, Jr., Delaware Co., Pa.; Wm. Lee, Lawrence, Mass.; H. P. Morton, New-York; R. F. Pomeroy, L. H. Croisier and T. M. Hutchison, Pennsylvania; Albert Stiss, E. S. Morehead, Thos. Bear, M. D. Harshaw, and L. C. Anderson, Ohio; S. P. Chase, Indiana; Wm. Ewing, Indiana; E. J. Pennessy and Chas S. Sorne, Illinois; J. K. Ord, Missouri; John Jackson and Gen. Baker, Ontario.

We think the Holstein Register puts it rather strong when it tells a correspondent who has a red-and-white calf, the offspring of pure Holstein bull and cow, that it is "a fraud of nature." It is doubtless merely a case of atavism, some of the ancestors of the parents having been red-and-white. Whatever color-ing whatever against the pure blood or the practical value of the animal. The Prince Hard-Rock, though giving preference to black and-whites, which make up the great bulk of

ROYAL SHOW SWEEPSTAKE SHORT HORN FEMALE.

good bull can only be seen used by his ability for improving the future capacity of the herd. Thomas, N. J.

The combination sale of Shetland Ponies, Trotting and Thoroughbred Horses, conducted by Mr. Harry Anderson, Auctioneer, took place at Fifth Avenue Sale Stables, New-York City, No., June 9th, 10th, 11th, 12th, (as advertised on p. 381). Forty two ponies brought $12,500, an average of $297. 69 animals, in all, were disposed of for $26,615.50, an average of $580.91. The highest price paid was $2,000.

Name.	Sex.	Color.	Sire.	Dam.	Price.
Queen, 12 years, New, W. C. Dickerman					$610
Dandy, 3 years, New, Dr. Wm. Hamilton, J. Pyle					1,000
Princess, 4 years, New Castle—Centennial, T. Pyle					1,000
Jack, 7 years, New Castle—Centennial, T. Pyle					1,000
Princess, 4 years, New Castle—Centennial, T. Pyle					1,000
Jack, 7

The Grazier and Breeder.

Beef Feeding at the East.

FITTING TWO-YEAR-OLD CATTLE FOR MARKET AS COMPARED WITH THREE-YEAR OLD.

EDS. COUNTRY GENTLEMAN—The last two winters I have fed two lots of cattle. The one three years old when sold, and the other 25 months. The comparative results obtained may be of interest to your readers.

Lot 1, five high grade Hereford bullocks, calved May, 1886 (average date), ran with their dams during the summer, on good pasture, and in October separated. The following winter they were kept in an open shed, fed liberally on corn fodder, from field corn cut after maturing, wheat straw, and in March a daily feed of timothy hay. In May they were turned out to pasture, low in flesh, though in thrifty condition. Pasture failing in the autumn, they were fed all they would eat of timothy hay.

Dec. 26 they were weighed, averaging 768 lbs. At night they were tied up in a comfortable stable, turned out during the day in open yard, where they were watered; stormy days only long enough to water. For 135 days they were fed, night and morning, on an average daily ration of 8 lbs. of the following mixture—3-7 corn meal, 3-7 Baltimore city middlings, and 1-7 decorticated cottonseed meal, mixed with 5 lbs. timothy hay and 12 lbs. corn ensilage.

May 8 their average weight was 1,089 lbs., a gain of 319 lbs. during the winter. They were then turned upon a good pasture, consisting chiefly of timothy and clover, with a fair portion of native grasses, having at all times an abundance of well water.

Nov. 25, 1888, they averaged 1,220 lbs. They were then tied up and fed an average daily ration, for 164 days, 13 2-5 lbs. of the following mixture—3-7 corn meal, 3-7 Baltimore city middlings, 1-7 decorticated cottonseed meal, mixed with 9½ lbs. timothy hay and 12½ lbs. corn ensilage, divided in two feeds, night and morning. The minimum daily ration was 10 lbs. grain, 8 lbs. hay and 10 lbs. ensilage, and the maximum, 17 1-7 lbs. grain, 9 lbs. hay and 17 lbs. ensilage.

In 126 days' feeding on this ration, the average gain was 294 lbs. per head. The following 15 days, the maximum daily ration being fed, the average gain was 7 lbs. per head; and the remaining 23 days, the maximum being fed and eaten with avidity, an average loss per head of 12 lbs. They were then sold, averaging 1,509 lbs. at three years old.

The success of the first winter feeding of 135 days, with an average increase of 319 lbs., decided me to make the attempt to fit my calves of 1887 for the market when two years old.

These I will designate as lot No. 2—11 high-grade Hereford bullocks, average date of calving, March, 1887. They, like lot No. 1, ran with their dams upon a good pasture during the summer until October, when they were separated, tied up at night, and fed 3 lbs. of Baltimore city middlings. During the day they were on a fair pasture. No hay was fed with grain, as I lacked the facilities for cutting it.

Dec. 26, 1887, they averaged 473 lbs. They were then tied up at night, turned out in an open yard during the day, where they were watered, and put on an average daily ration of 6½ lbs. grain, composed of equal parts corn meal and Baltimore city middlings, and one-sixth oil cake, mixed with 5½ lbs. timothy hay and 20 lbs. ensilage. They were fed 135 days, and made an average increase per head of 243 lbs. May 8, turned on pasture with lot No. 1. Nov. 25, their average weight was 908 lbs., an increase while on pasture of 193 lbs.—not at all satisfactory, for at no period during the summer was there a lack of abundance. I expected them to average at least 1,000 lbs.

The weight account stands thus at the beginning of last period of feeding:

1. Separated from cows, average	473 lbs.
2. 135 days' winter feeding	715
3. Summer pasture	908

That is, at twenty months old, they averaged 908 lbs.

Nov. 25th, they were tied up in the same stalls as lot No. 1, and treated in a similar manner; were put upon an average daily ration—in two feeds—for 164 days, of 10 lbs. grain, 3-7 lb. corn meal, 3-7 lb. Baltimore city middlings, 1-7 lb. decorticated cottonseed meal, mixed with 9½ lbs. timothy hay and 13 lbs. ensilage. The hay was cut in ¾-inch lengths, moistened, and grain thoroughly mixed with it and the ensilage.

The daily ration was gradually increased to the maximum of 12½ lbs. grain, 10 lbs. hay, and 12½ lbs. ensilage, which was fed during the last period of feeding.

In 126 days they gained 236 lbs., average; the following 23 days gained 6 lbs., average, and in the last 10 days of feeding lost 6 lbs., average, making them average 1,146 lbs. at 25 months old. They were sold with lot No. 1 at the Abattoir Stock Yards, Philadelphia, upon a very full market. They brought the top price, and the butcher who slaughtered them writes me:

"They gave entire satisfaction; the two-year-olds just as good as the three-year-olds, and perhaps a little more salable at this season. They dressed 59 lbs. per hundred of their live weight, which we consider making big weights. The quality of the meat was very fine, and at any time you put such cattle on this market, we will be pleased to purchase them."

Thus is demonstrated that two-year-old well-bred cattle can be fitted to bring the top price in our best markets.

There are several points upon which I should be pleased to have the comments of your numerous correspondents: 1. Why was the gain while on an abundant pasture proportionally no better? 2. Why, after the 126th day, was it that the average gain fell off so rapidly? I can account for it only by the excessively warm weather and wet condition of the yard in which they run during the day. During this period of loss both lots consumed with avidity the maximum amount of daily ration. With rare exceptions they were not off their feed. The comparative gains of these two lots, fed and treated precisely alike (with exception of quantity consumed) convinces me that there is more profit in feeding two-year-olds than at any more other age. But why is it that the younger cattle did not actually gain more pounds than the older?

I shall be pleased to have my method of feeding discussed, and any suggestions toward an improvement will be exceedingly acceptable.

Talbot County, Md. C. H. T.

Soiling in British Columbia.

EDS. COUNTRY GENTLEMAN—How may I improve ration for feeding cows for butter making? At present am cutting up oat straw and green, fresh orchard grass, and mixing with it bran, middlings and ground oil cake. Cows are common stock, medium size, the largest one would, perhaps, dress 450 lbs. for beef. They are almost all young stock having their second calves, and give from 4 to 7 qts. at a milking. At present am feeding them morning and night all they can eat of the cut straw and grass; in the middle of the day they are turned into a piece of wood pasture to pick up whatever rough feed they can get. Shall only be able to feed the straw with grass for a few weeks longer, and afterwards shall want to mix the bran, &c., with grass alone. Also would the same proportion of bran, oil cake, &c., do to mix with green oats and peas as with the grass? Cows are all fresh since middle of January up to present time, and shall have others coming in through the summer. Could weigh the bran, &c., but it would not be handy to weigh the green food, as sometimes it is wet when cut and at other times dry. I have a box I measure the feed with; some cows will eat three boxfuls at a feed and others two boxfuls. If you could give me the right proportion of bran, middlings and oil cake per cow I could easily manage. A. R.

Nanaimo, V. I., B. C.

A. R. may mix his ground feed with grass alone as well as with straw and grass, and his green oats and peas will be an excellent milk food mixed with a certain proportion of bran and ground oil cake. He may continue feeding morning and night, and as his pasture does not furnish much food he may feed an equal part of the ration morning and night. He will find it to his advantage to mow his grass or other green fodder in the field when it is dry. He can usually determine the probability of storms, and bring in his food in advance, so as not to be obliged to mow it when wet. Before mixing in the ground feed, his grass or other green fodder should be run through a cutter. This will enable him to mix the bran, &c. with it more evenly, and it will then be more completely digested.

2. When he has plenty of green food the proportion of bran, middlings and oil cake may be as follows: 3 lbs. bran, 3 lbs. middlings, 2 lbs. oil cake per cow per day. Let this 8 lbs. of ground feed be mixed with 3 bushels of cut grass. He will then feed 1½ bushels of this mixture per cow, morning and evening. But he will have to discriminate in the amounts given to each cow. This ration is given as the average of the whole herd to be apportioned according to the needs of each one. The feeder must have the experience and judgment to do this. This will be a sufficient grain ration the first two months, but if the cows show a capacity to eat more green food this can be increased accordingly. With plenty of green food this 8 lbs. of grain will be sufficient for a large yield of good milk.

S. W. S.

Thin Mare—Butter Cow.

EDS. COUNTRY GENTLEMAN—What would be the best feed for a mare 9 years old, of very large build? She was in very poor condition when we bought her, and seems to be short-winded. I should like a feed to fatten and strengthen her. Have had her since middle of February. She is picking up a little on the feed we give her, consisting of 3 quarts of soft feed, ground corn meal and ground oats, mixed together with 5 pounds of cut clover hay, moistened, and long hay in her manger. I give this feed three times a day regularly, and every other day I mix half a pint of linseed meal with her soft feed. I would also like to know the best feed for a common cow to produce rich milk and cream. She gives about 7 quarts of milk a day, and about 3 pounds of butter a week. She is not a fresh cow. MRS. C. S.

Scranton, Pa.

Mrs. C. S. has selected good improving food for her large mare, and if her clover hay is good, and her corn and oats are ground together in equal weight, her three feeds of 5 pounds each of clover hay, or 15 pounds per day, and 2 quarts of ground feed, say 7 pounds per day, ought to produce a moderate gain. But the clover hay may perhaps be made too wet. It should be moistened only so much as to make the ground feed adhere to the hay. She will masticate it better the less it is moistened. But for a horse of her size and condition, the following would probably be a better combination: 4 pounds of cut clover hay, 3 pounds of corn and oats ground together in equal weights, 1 pound of wheat bran, 2 gills of linseed meal. Let this be the morning and evening feeds. At noon give the same amount of hay, mixed with 4 pounds of bran and 2 gills of linseed meal, moistening the hay very little. She does not need any other hay than this 12 pounds. This makes a daily ration of 15 pounds of hay, 6 pounds of corn and oats ground, 6 pounds of wheat bran, ¾ of a quart of linseed meal. This is a fair feed for a large horse with moderate work, and should produce decided improvement in her appearance, rounding the form and giving a sleek coat.

2. From the description of the cow and her yield she produces poor milk, requiring 40 quarts, or 105 pounds, of milk for 3 pounds of butter. Such milk could not be made rich at once by any kind of a ration. The change would be too slow to be profitable. It would be cheaper to buy a better cow. But as the cow may be better than this would indicate, let her try the following ration: 15 pounds of cut clover hay, 6 pounds of ground oats and corn, 6 pounds of wheat bran. This is a ration for a day, and it may be given in two or three feeds. If this does not make better milk and a larger yield of butter after feeding for a few weeks, the cow is not worth keeping.

S. W. S.

Points in Barn-Building.

EDS. COUNTRY GENTLEMAN—The article on "Basements for Barns" in your issue for April 18, p. 313, suggests to me several things. First, I would never excavate for a basement on level land, unless it was located over a gravel pit, for the first requisite of a stable is that it should be dry. When I built my first basement barn I made the mistake of digging a foot too deep. You cannot depend on tile-draining around a barn, for the rats will stop your drains and spoil them. You ought, if possible, to locate the barn so there will be a slope from the stable door enough to carry off surface water. While it will cost more to make filling to drive on the barn floor, if the earth must be brought from a distance, it is much better to be at this expense than to get your stable so low that it will always be wet. A neighbor of mine put a large cistern under his driveway, which not only saved a large amount of earth, but placed the cistern where water could be drawn through a pipe directly into the stable. If I were building a basement barn, where there was not a sufficiency of earth to make the filling, I would certainly utilize the space in some way. An arch could be turned and a snug cellar made at a moderate expense.

I do not like your suggestion to have the driveway run lengthwise of the barn. I made that blunder once in building a barn, and found that I lost too much room, as I could not fill any part of the barn to the comb, and there was a large amount of waste room over the driveway. One reason why I like a basement barn is that it is so easy to arrange to throw the hay and fodder down to the horses and cattle, and yet some of the most inconvenient barns for feeding stock that I have ever seen are those with basements. I visited a barn of this kind a few days ago. The driveway or barn floor was across the middle of the barn, but the stables were lengthwise of the basement, and a dark, narrow passage ran the entire length of it, through the centre, and on either side were mangers for the hay. At each side of the barn floor was a door and stairway, down which the hay was thrown into the narrow passage, along which it must be carried and crowded into high, narrow mangers. These mangers were so deep that I could not reach the bottom of them with my feet on the floor, and an examination showed that there was a foot of mouldy half-rotten chaff in the bottom of each. If the stables had been arranged across the basement instead of lengthwise, and made continuous, so that a man could walk through them from end to end, a hay chute could have been located at each side of the barn floor, and all hay and fodder dropped directly in front of the horses or cattle, and when dust or chaff accumulated, two mangers 40 feet long, one of them to accommodate two rows of cattle, could be cleaned out easier and quicker than that of a single horse under the present arrangement.

I have been making a study of stable floors for three years past, and am a thorough convert to concrete or cement for this purpose. I had an impression that the first cost would be much greater for the cement floor, but knew it would be cheaper in the long run, on account of its durability, but I find that the material for the cement floor cost me considerably less than the lumber would, and while the labor is probably more to lay the cement than to put down a plank floor, its cost is certainly no more, and where stone, gravel and sand are convenient, the cement floor will cost less than plank. As to durability, there seems to be no limit to the wear of the cement, and men who have used it for years say that they believe it will last an ordinary lifetime without needing repairs, and stables which I have visited, which have been in constant use for more years than would have worn out a plank floor, show no signs of wear. My neighbors who have plank floors all agree in the statement that they can be used only two or three years without repairs, and must be renewed once in five or six years. It is just four years since I built a new barn, and I selected good seasoned lumber for the floors of the stalls, but every stall was in need of repairs last fall, and some of them scarcely usable. I began substituting concrete last fall, and as fast as my floors give out, shall replace them with it until all my stables are floored in this way.

A neighbor floored a stable 18 feet wide and 44 feet long last autumn, and reports to me that he has a first-class job, and his material cost $33. He used eight barrels of common cement for the foundation, which cost $1.50 per barrel, and six barrels of Portland cement for the finishing coat, which cost $3.50 per barrel. The first or foundation coat was made by mixing one barrel of common (Louisville) cement with five times its bulk of broken stone or gravel from which the sand has been screened; mix it dry, and shovel or rake it over until thoroughly mixed. Screened gravel will answer, but broken stone, no piece larger than an egg, is better, as the angular pieces of stone will bind together better. If the stone cost more trouble than the gravel, the latter will answer, but I should prefer to have at least one-third broken stone. This should be wet up and mixed until every pebble or piece of stone is coated with the cement; then put it down in layers of about two inches at a time, and tamp it until perfectly solid. A broad-faced rammer should be used, and the foundation, when done, should be six inches thick. On putting it down, use a spirit-level and straight-edge and establish your grades.

The studding for the stall partitions should be set up before the foundation is put in. It is well to let the foundation dry a day or two before putting down the final coat. The finishing coat must be made of Portland cement and sharp clean sand. The best sand for the purpose is that screened from clean gravel, using a screen with five meshes to the inch.

The coarser and more gritty the sand the better the job will be; if fine loamy sand is used it will not stand. Mix dry as thoroughly as you can with shovel or hoe, and then screen it again to insure that it be thoroughly mixed. Only a small quantity must be mixed at once as it sets quickly, and while the mortar should be well tempered it ought not to be too thin. The final coat should be two inches thick. Lay it down in strips about a yard wide, as this is about as far as you can reach to spread it. By using a plank two inches thick, to put your knees on, and a short straight-edge you can level across as you lay it down. As soon as the strip is laid across, go back to the end where you began and smooth it off, and when complete move your plank and lay the next strip. I would advise that the farmer unaccustomed to the use of the trowel put in the foundation and get all the material ready, and employ a mason to put down the final coat. The horses should be kept off of the floor for about a month, but it will depend somewhat upon the weather. If warm and dry, it will become solid sooner than if the weather is wet. WALDO F. BROWN.

Butler County, O.

Malt Sprouts—Bran—Milk.

EDS. COUNTRY GENTLEMAN—Please give me the comparative value of good malt sprouts at $10.20 per ton, and good winter wheat bran at $14, to be fed during the winter with corn ensilage. Object, large flow of good milk.

Elmira, N. Y. E. B. G.

E. B. G. will do well to lay in a supply of malt sprouts at $10.20 per ton to feed with corn ensilage in the winter. If the malt sprouts are of the best quality, clean and bright, they make one of the best foods to balance the ensilage. It is more nitrogenous than bran, and to the extent of its proper proportion in a ration is worth more than bran. But it should not be fed in greater quantity than 4 to 6 lbs. per day to a cow, because its large proportion of albuminoids makes its principal value to balance other foods poor in albuminoids, such as ensilage, corn meal, &c., or still poorer foods, such as straw, field corn stalks, &c., while bran is nearly a well balanced food of itself, and may be fed in larger proportion. It is also important to have a large variety of food in the ration. This is the secret of obtaining quality and quantity of milk. Farmers have heretofore erred in giving too little variety of food to their milch cows.

To show G. the specific quantities of malt sprouts and bran, I give the digestible nutrients of each, with their estimated value: Malt sprouts—albuminoids, 18.9; carbohydrates, 53.9; fat, 0.9; nutritive ratio, 2.9; value per 100 lbs., $1.32. Wheat bran—albuminoids, 11.8; carbohydrates, 45.0; fat, 2.58; nutritive ratio, 4.4; value per 100 lbs., $1.05.

The above shows bran to be a nitrogenous food, but far less so than malt sprouts. But that G. may also understand the manurial value of the two foods, I give the three elements, nitrogen, potash, phosphoric acid, in 2,000 lbs, or one ton: Malt sprouts—nitrogen, 76 lbs.; potash, 39 lbs.; phosphoric acid, 25 lbs. Wheat bran—nitrogen, 44 lbs.; potash, 20 lbs.; phosphoric acid, 65 lbs. I call his attention particularly to the ash elements of the two foods. Malt sprouts has 34 per cent. more potash, but 65 per cent. less phosphoric acid, although malt sprouts is as nearly as rich as any other food commonly used in feeding stock in this element, except wheat and rye bran. This shows the importance of variety of foods in a ration—each food has its own peculiar qualities, rich in one element, comparatively poor in another. This element, phosphoric acid, to grow the bones, is most important in feeding for milk, and especially for growing all young animals. This is the reason why we so frequently advise a proportion of bran in the ration. Ensilage, which G. proposes to feed with sprouts, is, comparatively, poor in material to grow the bones. This is one reason why sprouts make a good balance for ensilage, as, although not as rich as bran, they are yet richer than most other foods in bone material.

I will give an analyzed formula for a ration with 40 lbs. corn ensilage. I give only the digestible nutrients, in pounds:

	Albuminoids.	Carbohydrates.	Fat.
40 lbs. corn ensilage	0.48	4.80	0.30
5 lbs. cut hay	0.32	2.22	0.08
6 lbs. malt sprouts	1.13	3.17	0.05
6 lbs. wheat bran	0.47	1.80	0.11
1 lb. linseed meal	0.26	0.29	0.09
Total	2.66	12.28	0.64

This has a nutritive ratio of 1 to 5—a well balanced ration, having a good variety, and should produce a "large flow of good milk," if fed to good cows. It is presumed that these cows are Jerseys or grades. If they are large Holsteins the ensilage should be increased 10 lbs., bran 3 lbs., and linseed meal 1 lb. E. W. S.

The Poultry-Yard.

Goose Breeding.

EDS. COUNTRY GENTLEMAN—Last October I described in your pages two of the principal varieties of geese, and if your correspondent J. R. M. will refer to that article he may be able to obtain at least some of the information for which he asks. In this country geese are among the most profitable of poultry, and during certain seasons of the year there is a large and unfailing demand for them. It is true that turkeys have taken the first place which was once occupied by geese, and are preferred by many for great festive occasions, but commensurate with this change there has been a great increase in population and in wealth, and this has much more than compensated for the change. Green geese are regarded as a great delicacy, and at the Christmas season vast qualities of fattened birds are shipped. The finest of these are home grown, principally the product of the eastern counties of England, and of Cumberland, very fine ones also coming from Ireland. We have a large supply from France and some other parts of the continent of Europe, and of late years large shipments have come from Canada. Consequently the prices for the inferior qualities, such as we receive from abroad, have been very low through the flooding of the markets, and geese can generally be bought at 6 or 7d. per pound. These lack the flavor of our home-grown geese and are evidently not very carefully fattened. The lesson to be learnt is that in order to succeed, the very best should be produced, for there is always a good demand for these.

If we look to the great goose-raising district of England we shall learn something of the method adopted in the place where the best geese here are bred. In Norfolk the trade resolves itself into two great branches, the green geese and the Michaelmas, the Christmas trade being really a continuation of the latter. The farmers as a rule do not attempt fattening, which process is left to the dealers who lay themselves out for it. In March and April the dealers begin to get in their gosling supplies from the farmers or cottagers near the commons, and as a rule these goslings are about five or six weeks old, and very thin. They are fed for six or seven weeks under stages on barley meal, maize, wheat tailings, and brewers' grains mixed, which food soon makes them ready for the green-geese market. The stages or pens give them sufficient room to move about, but not too much and they are kept there for all the period, being allowed out now and again to have a bath, and for the cleaning of the pen. The Michaelmas geese take their places under the stages in August, and the endeavor is made to have them ready for the market before the Irish and Dutch supplies begin to arrive. On turnips, geese are found to be a capital substitute for sheep, and when a dealer has a turnip field he not unfrequently hurdles a portion of it and eats it off with them. They first eat the tops, and then the bulbs of the softer turnips, but when they are put upon swedes the man in attendance gives each turnip a chop. Geese will eat a field cleaner than sheep, and their manure is equally good. When fed in this way they need nothing more than a trough of water, and the finishing process consists in putting them under stages for a month, and feeding them on brewer's grains and meal.

So far as the varieties are concerned I have, as already stated, dealt with two of the leading ones, and refer your correspondent to what I then said, but I shall have something to say respecting the breeds before I have done. The pressing point for the moment is that of dealing with the goslings during the early stages of their life. It is well known that the management and food during the first few weeks of any animal's existence determine very largely its future size and the rapidity of its growth. Of course there are great variations in breeds as to their capacity for putting on flesh freely and rapidly, but very much can be and is determined by the early treatment and management. No bird that is neglected and half fed during the earlier stages of its existence can possibly thrive, and it is essential to begin from the first with the proper feeding. Goslings are about the easiest of all domestic poultry to rear, and when once hatched require very little looking after. They are not like chickens in that they do not require brooding. When hatched, as they may be under the mother bird or hens, whichever is most convenient, put in a roomy coop or crate, and it is better not to give them a large run at first. The coop must be situated in a sheltered position, as the sun's rays are very fatal to young goslings. Of course, if there are plenty of bushes or trees about, the matter is very simple, as the coop can be placed under the lee of those, but if the situation is open and bare some shelter should be improvised. The coop can then be made with a large caved roof, but in addition large hurdles in which has been interlaced furze should be provided, and if freely scattered about they will be welcomed by the goslings. It is an excellent plan to cover the top of the coop with furze, as that keeps the coop cool. In all cases the coop should be bottomless, for the goslings are unable to hold their feet on a wooden floor, and are very apt to injure themselves by slipping about. It is not necessary to go to much expense in the making of a coop, for they can be built at a very reasonable cost, as it does not need to be built very strong. Goslings are not usually hatched until the weather is open and mild, and are not delicate by nature. But it should be made roomy, as the youngsters grow very fast. When about ten days old they can be liberated from the run and will prove themselves splendid foragers.

The early feeding must all be in the direction of building up a frame on which the flesh may be laid. The best food from the first is wheat and oatmeal, or barley meal and wheat. The whole grain should be scalded and dried up with meal. Variations may be made by giving ground oats, and by boiling potatoes and drying them up with the meal. When about two months old they may be fed on raw grain and sliced potatoes, and this will suffice until the time for fattening arrives. They are also very fond of young grass, young green onions, chickweed, and an early cabbage hung within their reach in their run will be highly appreciated. No other special provision is necessary except the giving of water, which must not be forgotten. The vessel should be of such a nature that the birds cannot get into it, as they will assuredly do if it is open to them. Therefore one of the closed fountains is the best, if there is not a running stream.

H—, England. STEPHEN BEALE.

Notes on Back Numbers.

COOKED AND UNCOOKED FOOD.—There is one point which "A Farmer's Daughter," page 399, does not deal with, namely, the different conditions under which fowls live. Where in more or less confinement, and consequently where there is not the same demand on the system as in the case with active fowls that are at liberty, then soft food is the best, if it is given sparingly, but when the birds have wide runs, they do better on hard food, and the result of many experiments has shown that they keep in better laying condition on it. Of course, occasional changes such as your correspondent suggests for bad weather, are most desirable, but for regular food on farms hard grain stands first. The digestive system of the fowl is made to grind grain, and the disuse of these powers tends to their enfeeblement and to the laying on of fat in the fowl. Of course for fattening, soft food should always be employed, for the reason that every encouragement should then be given to the accumulation of flesh.

SHIPPING EGGS BY SEA.—Attempts have been made at various times to send eggs successfully to Australia, but hitherto without success. Just now another trial is being made, and when the result is announced I shall communicate it if there is anything to tell. It is not the mere question of time, though that is important, for steamers take about six weeks from this country to the Antipodes, but the difficulty is found in the heat to which they are subjected when passing through the tropics. Eggs for culinary purposes cannot be kept good on the steamers for the voyage, and if that is the case, it is scarcely to be hoped that eggs for hatching will remain in a fertile condition. The heat when passing through torrid zone is frequently 20° to 40° above that necessary for the hatching of chickens, and as a consequence the germ will be started, and then when a change comes it will die. The only way is to ship fowls, and almost every week there are consignments going over from this country, for poultry breeders on the other side of the globe are very enthusiastic and enterprising.

THE PLAIN TRUTH ABOUT IT.—Of course I cannot tell how far the remarks of Mr. Geo. Q. Dow (page 349) are true in America, but they certainly do not apply in this country. While it is true that there are many who make no money out of poultry-keeping, principally because they are willing to spend money for the sake of the pleasure the pursuit gives them, and the advantage of having fresh home produce on their tables, there are hundreds and thousands who make a very substantial addition to their incomes out of it. I know one man who last year made $3,730 out of the breeding and exhibition of poultry, and scores might be found who have made into the thousands. Why should it not be so? The diligence with which the pursuit is followed, and the enormous demand for produce and for stock birds, shows that there must be something wrong if there is not a profit somewhere. I may some of these days go more fully into the question, but now wish simply to say that Mr. Dow's remarks are not correct for this side. STEPHEN BEALE.

The Dairy Department.

The First Dairy Conference.

EDS. COUNTRY GENTLEMAN—The first butter conference held under the direction of the New-York State Dairymen's Association, convened to-day on the Baker Homestead, the home of Mr. A. D. Baker, in the town of Aurelius, Cayuga county. In this grand farming district, grain-raising is the chief agricultural interest, and the extensive fields of fine wheat, oats and corn show that this line of farming is well conducted. Probably in no part of the State is there a closer or more satisfactory connection with the old-time system of grain-growing, and the three-crop rotation, than in this vicinity. With the drawbacks now forced upon these farmers, on account of the competition of the West, high wages and gradual (but natural and inevitable) exhaustion of the soil, many farmers in Cayuga county are reaching out after methods of farming which may possibly better their condition. Mr. A. D. Baker and his brother John H., with some of their neighbors, including Mr. Geo. L. Shoemaker, and D. P. Hardy, secretary of the Cayuga Farmers' Club, with a wise forethought, have already established small dairies on their respective farms.

It was chiefly by the enterprise of these thinking farmers that this conference was arranged, and each one of them contributed cream and were active in their efforts to make a full success of the conference. One of the marked and most satisfactory features of this meeting, was the interest manifested by the wives of these farmers to obtain all the information possible. Their enthusiasm and interest in the results of the churning of the cream contributed from their dairies was inspiring, and served to awaken a more general appreciation of the efforts of the instructors to make the occasion interesting and profitable. Before our Dairy Association shall have done its full work in connection with the labors of our Dairy Commissioner, it needs no great stretch of prophetic vision to see that our dairy interests will have been materially advanced.

Prof. Roberts, the president of the association, was present and presided, making an appropriate opening address. The conference met in the capacious barn of Mr. Baker, which had been fitted up with seats, and on the floor were the churns, pails of cream, butter-workers, and all the utensils required for working a dairy. E. B. Marvin, Esq., gave the association and the public a cordial welcome, in which, in language well chosen, the objects of the meeting were set forth, and the importance of more progressive methods and a better knowledge of agriculture were shown to be necessary. Two churnings took place before dinner. The churns were arranged in front of the audience, and comments were made on the quality and condition of the cream before and during the operation.

The cream furnished by Mr. J. H. Baker was taken in charge by Mr. W. H. Gilbert, and churned in a Stoddard churn. Statement and results as follow: The cows were thoroughbred Jerseys; feed, pasture alone; number of pounds of milk set for the cream, 221; milk set in an O. K. creamery; average temperature of milk when set, 91°; of the water, 48°; milk set 24 hours; time of churning, 10 minutes; pounds of butter, 13; pounds of milk for pound of butter, 17. This cream was ripe, and was churned at a temperature of 68°.

The other churning was done by F. D. Curtis; cream furnished by D. P. Hardy, Evergreen Farm; cows, thoroughbred Ayrshires; milk, 185 lbs.; unsalted butter, 11¼ lbs.; salted and worked, 10¾ lbs.; time of churning, 28 minutes; temperature, 66°; 17 lbs. 9 oz. of milk for a pound of butter. Cream raised in a Cooley creamery; set 18 hours; temperature, 40° and lower. Cream ripe; churn, an O. K.; feed, pasture, with 3 quarts of wheat bran daily.

All present gathered about the churns and butter-workers while the instructors were doing the work, and asked questions. After the work was over, short practical lectures were given by Messrs. Curtis, Gilbert and Roberts, during the delivery of which more questions were asked.

Mr. Gilbert churned the cream furnished by A. D. Baker; cows, thoroughbred and high-grade Jerseys; milk, 200 lbs.; temperature when set, night, 96°; water, 48°; morning, 90°; water, 50°. Cream, mixed ripe and unripe;

amount of butter, 18 lbs.; pounds of milk for a pound of butter, 13¼; time of churning, 30 minutes; churn, a Stoddard; temperature of cream, 68°; cream raised in a Moseley & Stoddard creamery. Feed of cows, 2 quarts per day corn bran and oats, equal parts by weight, with pasture.

Mr. Curtis churned the cream of Geo. L. Shoemaker in an O. K. churn; pounds of milk, 200; temperature of milk at setting, 75°; water, 45° to 48°. Cream, sweet and unripe; temperature, 70°; time of churning, 35 minutes. Temperature of cream reduced during churning to 64°; pounds of butter, 9½; pounds of milk to pound of butter, 21⅝; milk set in an O. K. creamer; feed, pasture; cows, grade Durhams.

A vote of thanks was passed, and at the close Mr. Curtis alluded to the interest and appreciation manifested at this meeting as an indication of improvement in dairying, and a higher standard all round in the agricultural profession. F. D. CURTIS.

Aurelius, N. Y., May 20.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

RECURRENT HEAT.—A cow, to all appearances, perfectly well and healthy, is in heat as often as once a week, and sometimes remains in heat for several days. SUBSCRIBER. *Rochester, N. Y.* [Stop service for three months, and use injectio vaginæ. If fat, reduce her condition.]

FAILURE TO SERVE.—A bull, two years old in July, seems ambitious, rises for service and blunders about, rarely performing it, and then not effectively. In a few moments will try again, apparently ready, but no result; dismounts with same amount of yard as he enters, which is very rarely, and then with no force. Have never been able to get a cow in calf by him. Has been well kept, is healthy and in good condition. J. E. C. *Farmington, Conn.* [I am of opinion that the bull is infertile and that treatment would be futile.]

FALLING IN PLOWING.—A horse ten years old has fallen flat four times in plowing this spring, twice within a few minutes; showed no premonitory symptoms and no frothing at the mouth; had a bad cold late in the winter and eats rather poorly—has fallen only when at steady work plowing. C. S. M. *Plainfield, N. J.* [Can you not give lighter employment to this horse? Give him a dose of physic and two days' rest, but let him be walked a little. Also mix in feed two tablespoonfuls of the following powder twice a day: Powdered chlor. potass., 10 oz.; powdered iodide potass., 5 oz.; mix.]

NOT IN HEAT.—Three heifers calved March, 1886, have since given milk, but have not been in heat. Are in high condition and splendid milkers; two of them are three years old and have had but one calf each, and one is four and has had two calves. (1) A heifer two years old last April has never been in heat. I do not like to fat these nice young cows if there is any remedy. (2) W. S. *McLean, N. Y.* [1. Reduce their condition and use injectio vaginæ. 2. We cannot say which will do well and which will not in most cases. This one does not promise well; she should have the same treatment as the others, and in addition the mouth of the womb should be dilated as recommended in COUNTRY GENTLEMAN. See index.]

MEMBRANE COUGHED UP.—I send you by to-day's express a bottle, on whose contents I wish you to pass judgment. It was thrown up by a 6-month Jersey heifer, whose throat was very much swollen and we feared she would choke to death. A surgeon gave remedies for quinsy and she seemed easier, but soon was taken with a paroxysm of coughing and discharged the membrane, pipe, or whatever it is. No discharge of any kind accompanied it, the swelling subsided, and she began to eat. This morning seems all right. Has been running in blue grass pasture with other calves, (dropped this spring) and still has her skim-milk night and morning. Is unusually thrifty and vigorous, and never has ailed an hour. My herdsman thinks she bruised her throat on a high water tank. MRS. E. M. S. *Wabash, Ind.* [The fibrinous formation, about 7 inches long and half an inch in diameter, which you sent me is a wonderful thing. I have never seen an animal suffering from one of these, and never knew of but one other case like it. I have the other specimen which was in two pieces and the calf was found apparently strangling; his throat was clutched with the hand and a spasmodic coughing spell followed, in which one tremendous piece of white fibrous material was expelled. A short time after, the animal again showed distress and the operation was repeated, and a second piece was ejected; the calf was cured at once. The water trough could not have caused the trouble.]

BOILS—CONTRACTIONS.—A horse had two shoe boils or galls which have been cut off and now they look like two pieces of round steak. They are very tender and sore. (1) Also, his fore feet are in bad shape, contracted somewhat and look like a honeycomb. J. M. M. *Vernon, N. Y.* [1. Apply Moore Bros.' gall powder to the sores. 2. Have the feet cut down, heels nicely opened, then rasp the wall *thin* all the way around from hair downwards half an inch. The quarters should be lowered so that horse will stand on frogs. Leave shoes off for three weeks. Soak feet in warm salt water two hours a day for a week, then use half a box of golden blister around feet from hoof to fetlock. Repeat it in three weeks. When horse is shod he must wear bar shoes.]

EARLY CASTRATION.—Your satisfactory answer to my late inquiries tempts me to make another. Is there any special danger attending the altering of a mule colt at any time while a suckling? I have one which I wish to castrate in October. Have been told that there is danger before the age of two years. J. I. *Newburgh, Md.* [The earlier animals are castrated the better, as a rule. Animals only a few weeks old have not developed the testes, and the latter have no functions, and therefore castration in such cases is merely a slight surgical operation, but when the testes have exercised a powerful influence upon the system and the local nerves and blood vessels have become enhanced in size and function, then the operation of emasculation is a far more extensive one, and the shock to the system is infinitely greater.]

Transfers of Thoroughbred Cattle.

Ayrshire Breeders' Association.

NAME.	SELLER.	BUYER.
Prince Clifford.	J N Coldren,	H M Slocum
Prince of Mill's Mill.	A Cooper.	J P Mills
Acteon.	C M Winslow,	H R Wheeler
Lord Mars.	C N Brayton,	Wm Chilcott
Jack Sidney.	W S Allen,	W S Miller
Dickson.	G E Bryant,	W Bennett
Ixion.	Etta Gordon.	Miss Rose, Rose Mary, Mattie Verbank, Princess of Riverside and Lady Wanford. J P Converse. A S Logan
Lida Wolfarn.	J B Barnard,	G Bettis
Lumilie.	W Fairweather,	H S Prior
Marmill.	W Fairweather,	A J Starr
Lumilie and Lady Richard.	M S Culver,	P Athens
May Duke.	G A Fletcher,	C H Cushman
Zilla Adams.	G A Fletcher,	J D W French

Brandon, Vt. C. M. WINSLOW, Secy.

Holstein-Friesian Association

NAME.	SELLER.	BUYER.
Aaggie May 2d's Netherland.	Smiths, Powell & Lamb	R H Allen
Aaggie Pauline's Carl.	J Allis,	J W Sherman
Aaggie's Emperor Frits.	W F Sholes,	C P Curey
Adrie's Mercedes Byron.	E Huidekoper,	I C Wade
Archer Aberdeen.	W A Russell,	Maine State College of Agriculture and Mechanic Arts
Boland.	P P Parsons,	N F Sholes
Brightwood Boy 2d.	O C Fisk,	A J Bentley
Brother Chief.	J Bedford,	G Kelso
Bumble Bee 3d's Billy Boelyn.	E Huidekoper,	C Wade
Burgomeister.	Smalley Bros.	W Lappo
Cache Duke of Agnaco.	W D Preston,	Jr. Dahl & Davis
Cleve's De Brave Hendrik.	E Huidekoper,	I C Wade
Crumhorn.	A H Platt,	J S Newton
Dick Sharps.	J W Millwell & Co,	H Bonner
Dude King and Dude's Violet M King.	E Huidekoper,	I C Wade
Duke of Edson.	W J & J W Roberds,	L Kellogg
Duke of Strawser Valley.	J Rust,	J B Bell
Durrant.	J White,	H H & J B Thielson
Eastern Lad.	National Soldiers Home,	E E Mower
Enos's Twink of Wayne.	P T Caldwell,	J D Parmer
Hampden, Jr.	H S Hodgdon,	H E Hodgdon
Hetti.	W Jones,	D J Wood, L Walling
Hinchcliff.	S M Stephenson,	The Kirby Carpenter Co
Incuba 2d.	G Bauernfeind,	R Warfield
Klaima 2d's Trijn's Billy Boelyn and Kootingen 3d's De Brave Hendrik.	E Huidekoper,	I C Wade
Kensington Knight.	H O Warner,	A B Beach
Koster 6th's Keyes.	F W Berry,	C D Small
Lew Wallace.	N E Dudley,	H Dudley
Lobella's Hendrik.	E Heidekoper,	I C Wade
Malinche.	T H King,	N F Sholes
Manley's Trijn's Billy Boelyn.	E Huidekoper,	I C Wade
Marview Boelyn.	A A May,	D Whiting & Sons
Mercedes 2d.	J S Preston,	M D & D L Taylor
Meriotta's Eagle.	N F Sholes,	D E Pudney
Ned Pleasure.	W H Wilkinson,	H O Chapin
Nestance's Dick.	Smiths, Powell & Lamb,	R H Allen
Netherland Garson.	O H Forbush,	A R Lincoln
Nettie's Billy Boelyn.	E Huidekoper,	I C Wade
Nibbie Lad.	F P Lambert,	Danforth A Smith
Parcello.	Peter Voss Boelyn and Pleentje 3d's Violet V Boelyn,	E Huidekoper, I C Wade
Prince of The Three Pines.	J S French,	G H French
Phoebe II's Billy Boelyn.	E Heidekoper,	I C Wade
Ring.	J H Gesty,	L G Lewis
Rosina.	St Stanislaus Seminary,	St Stanislaus College
Shadeland Beach.	Powell Bros.	F J Baxter
Shadeland Lorain.	Powell Bros.	C D Kendeigh
Sir Newton of Aaggie 4th.	D Savery & Son,	P Gibson
Snooser.	H E Moore,	J F Taylor
Sons 3d's Simpe's Joe.	O L Wells,	L P Ayer
Tom Silence.	H H Withington & Son,	J S Dutcher
Toney Netherland.	G Bauernfeind,	J W Bedford
Trusty.	M H Alberty,	J H Chubb
Violet Peter Boelyn and Walpurna's Hendrik.	E Huidekoper,	I C Wade
White Chief.	J Urquhart,	C H Stevens
Winta 2d's De Brave Hendrik.	E Huidekoper,	I C Wade
Worthington.	O B Parish,	H F Warner
Zollicoffee Boy.	Smalley Bros.	H Hall & Son
Achsa.	Smiths, Powell & Lamb,	R H Allen
Adventuress.	Adyta and Adyta 2d,	E Huidekoper, I C Wade
Agnes Smit.	W A Russell,	Maine State College of Agriculture and Mechanic Arts
Amour 2d.	C E Williams,	I H Staunton
Arene Texelaar.	P T Caldwell,	J H Parmer
Artz 2d.	T H King,	N F Sholes
Aspasia 2d.	Smiths, Powell & Lamb,	R H Allen
Atlanta.	E Heidekoper,	I C Wade
Adrine F.	C E Williams,	I H Staunton
Azalia.	Azalia 2d and Azalia 4th,	E Huidekoper, I C Wade
Beda.	Smalley Bros.	H Hall & Son
Bell of Scotia.	J H Boland,	J E Bond
Bessie Grood.	O H Forbush,	G Conant
Bessie Heather.	Smiths, Powell & Lamb,	R H Allen
Betty Stark.	A H Platt,	G E Platt
Brabant Clifford.	H A Seymour,	Gibson
Cairnsville 2d.	Chink and Chink 3d,	E Huidekoper, I C Wade
Christine K.	A H Platt,	G E Platt
Carinda.	W D Crandall,	N F Sholes
Clove.	E Heidekoper,	I C Wade
Colwich.	J White,	H H & J B Thielson
Cory.	P T Caldwell,	J D Parmer
Creamelle's Pet.	O H & D J Hinkley,	N F Sholes
Cyrene 2d.	E Huidekoper,	I C Wade
Daisy Metzelaer.	J Bond,	O H Forbush
Day Velvet.	W W Smith,	J C Goodrich
Diana of Sea Side.	H F W Breuer,	Mrs C F A Bultmann
Dimple and Dimple 2d.	Smalley Bros.	H Hall & Son
Dinda.	W D Crandall,	N F Sholes
Dona Koning 2d.	H M Moore,	J P Cooper
Elsen and Elsen's Princess.	P T Caldwell,	J D Parmer
Era.	Smalley Bros.	W Lappo
Erunie 2d.	Smalley Bros.	H Hall & Son
Electa D.	O B & D J Hinkley,	N F Sholes
Endicket and Endicket 2d.	E Huidekoper,	I C Wade
First Duchess of Ashley.	H F W Breuer,	Mrs C F A Bultmann
Forget-Me-Not 2d and Francesca 2d.	E Huidekoper,	I C Wade
Galaxy.	J Urquhart,	C H Stevens
Great Klaas.	O H Forbush,	G Conant
Gretje 2d and Gretje Vess.	W D Crandall,	N F Sholes
Grace King.	E B Dudley,	H Dudley
Hella.	J Urquhart,	C H Stevens
Hjalvandia 2d.	E Huidekoper,	I C Wade
Indi 4th.	P M Shayler,	C I Leach
Jacob's Selestia.	P T Caldwell,	J D Parmer
Jennie Grood.	O H Forbush,	A R Lincoln
Jennie Metzelaer.	J Bond,	O H Forbush
Juliana Adelaide.	M F C Stevens,	E W Clement
Kastelotrijn 3d and Kastelotrijn Ann.	W D Crandall,	N F Sholes
Keepsake 3d.	Smiths, Powell & Lamb,	R H Allen
Klara.	E Huidekoper,	I C Wade
Lady Rosedrews and Lemmens.	W D Crandall,	N F Sholes
Litchfield Lass.	Smiths, Powell & Lamb,	R H Allen
Loretta 3d.	Smalley Bros.	H Hall & Son
Lucia 3d and Lucelyn.	E Huidekoper,	I C Wade
Lulanda.	P G Wallace,	J Hoyer
Manitonia 2d.	Smalley Bros.	H Hall & Son
Matty Clay's Aaggie.	D Savery & Son,	P Gibson
Maynie Netherland.	A A May,	D Whiting & Sons
Mignetia 2d C.	Mrs C W Scudder,	D N Brown
Minnie Eilverda.	A G Soulher,	D N Brown
Miss Grood.	F F Woods,	G Conant
Miss Wedea.	Mrs E S Barney,	D T Magie
Mulatto 2d.	W D Crandall,	N F Sholes
Monny Abbekerk 2d.	F C Stevens,	E W Clement
Nappie 2d.	J N Rankin,	C F Richards
Nell Gwynn 2d.	E Huidekoper,	I C Wade
Netherland Hern's Rose.	J H Rowland,	J E Bond
Netherland Wanpaca 2d.	Smiths, Powell & Lamb,	R H Allen
Nitalia.	W A Russell,	Maine State College of Agriculture and Mechanic Arts
Nubia.	E W Boyd,	W H S Foster
Orange Beauty.	T H King,	N F Sholes
Pansy Metelver.	John Boers,	O H Forbush
Pichantimy 2d.	E Huidekoper,	I C Wade
Pixidie.	E W Boyd,	W H S Foster
Poolia.	E Huidekoper,	I C Wade
Russiana.	Smiths, Powell & Lamb,	R H Allen
Ruth Dudley's Granddaughter.	N S Dudley,	H Dudley
Rachette 2d.	E Huidekoper,	I C Wade
Sadie Ellwood.	A G Soulher,	D N Brown
Salma.	J Urquhart,	C H Stevens
Seed-no-Further 2d.	Brown Bros.	F F Allen
Sixth Unadilla Texel.	C S B Asso,	N F Sholes
Soda.	Soda 2d and Soda 3d,	E Huidekoper, I C Wade
Spes.	St Stanislaus Seminary,	St Stanislaus College
Stasie.	F F Wood,	J C Kendall
Syria and Syria 2d.	E Huidekoper,	I C Wade
Theodoren K and Theodoren K 2d.	A H Platt,	M J Platt
Tinka.	Smalley Bros.	H Hall & Son
Umatilla.	N F Sholes,	Read Bros
Vanderzee 2d.	J A Frye,	C A Hixon
Violetta W.	Estate of T J Seay,	C I Seay
Vic.	Smalley Bros.	H Hall & Son
Viola St.	Smalley Bros.	W Lappo
Violet Bonbje.	Violet Cushion,	Violet Cushion 2d.
Violet of Cynops.	Violet Euphemia.	Violet Euphemia 2d, Violet Fidelia, Violet Nettie and Violet F Bonbje.
E Heidekoper,	I C Wade	
Vermetta 2d.	Smalley Bros.	H Hall & Son
Walpurga.	E Huidekoper,	I C Wade
Wamitta Kay.	D Kay,	J Pettigrew
White Daisy 2d.	E Huidekoper,	I C Wade
Windsor Lady.	G L Weeks,	F J Hutchinson
Winta 3d.	E Huidekoper,	I C Wade
Wittevroem 2d.	W D Crandall,	N F Sholes
Tetova.	T H King,	N F Sholes
John Ellwood.	A G Soulher,	D N Brown
Fidelia and Vedelia Vedder.	L M Payne,	H F Warner
Zonia.	Smalley Bros.	H Hall & Son

Iowa City, Iowa. T. B. WALES, Secy.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Angelo's Rioter Lad.	C W & Hicks,	H Pittman
Augures Quenco.	W H Gruver,	H A Gruver
Baron's Mollette.	J W Decker,	J Thomas
Bahal's Black Prince.	C C Cook,	W J L Welsh
Black Diamond's Glory.	J W Wall,	G B & H V Denton
Brier's Pogis Jeffrey.	Rosser & Ralph,	D Duncan
Butter Boy of D.	A B Darling,	E Barrett
Chippewa Pedro.	W B Martial,	W Summerton
China's Calmire.	M Morrow,	N Caldwell
Coorotas.	J B Castleman,	J G Caldwell
Corn's Son.	S W Fulgar,	W Byars
Count of F. M.	B Rowe,	M Rolph
Darrington Hugo.	A B Darling,	J M Sears
Duke of Cocoanut.	F Elliott,	H H Weakley
Earl Signal.	A K Johnston,	M M Karl
Eclipse.	S A Bishop,	G B Terrell
Epaulette.	W J Prude,	H P Dudley
Excelsa' Pride.	A B Darling,	T C McGraw, Jr
Fannie's Gold of St Lo.	N S Palmer,	W M Shanks
George of Angleon.	M W Angle,	W E Lewis
Gold Ridge.	W C Norton,	Agent, E W Gammell
King Cop.	O J Newton,	H Wachter
King of Ocean Mountain.	J L Thomas,	J T Wilder
King Rioter 3d.	Meadow Brook Jersey Cattle Co,	Berkeley Dairy Co
Kobe.	Mrs J M Thomson,	W J Thomson
Lord Proctor.	J M Meyer,	J Meyer
Malte's Toltec.	J M McFarland,	G R Shively
May Boy of St L.	W B Montgomery,	W K Heenan
May Nicholson's Prince.	N S Palmer,	S D Hubbard
Merry Prince.	W B Montgomery,	J E Pollock
Napoleon Glendale.	O Vogel,	J A & F A Robertson
Nemo's Bronx.	F T Farwell,	O G Van Winkle
Oona-p-sig.	J C Shipley,	C Sneed
Oyster Boy.	J B Wise,	T L Sea, Jr
Pansy's Rioter.	J E Kingsland,	Holly Grove Farm
Pearl's Gold.	N S Palmer,	A G Tuttle
Pogis Wilson.	R F Holly,	L M Smith
Pocahontas Mirabeau.	J D Ritchey,	W T Murray
Prince of Caroline.	M B Howe,	J Coates
Regent of Austin.	Est of W C McGown,	J T Brockenridge
Rioter Hero.	T S Cooper,	D P Estep
Romanival.	J B Gaston,	L H Smith
Rosedale Signal.	J G Tweedie,	W B Harrison
Royal Beauty's Duke.	W J Higham,	A O Oberlin
Royal Lucky.	W B Montgomery,	D P Moor
St Hel Sig's Glory.	W K Henry,	S & F Uhlmann
St Lambert Hugo Pogis.	T W McNealy,	A H Saunders
Sons of St Lambert.	P Stevenson,	T B Proctor
Sheldon Paris.	E L Clarkson,	J T Inglis
Signalinda's Son.	J L Morrow,	Rogers & Hill
Silverado.	Miller & Sibley,	H West
Sir Frank M.	Lambert, Est of	D A Stewart, Mrs D W Draper
Tillinghast's Rex.	H P Hoskins,	A O Tillinghast
Tostee 8th.	The Columbia Jersey Cattle Co,	N F Burns
Translation's Prince.	G S Shively,	E T Fleming
Van Amburgh.	T W White,	W C Taylor
Victor S.	H Merriman,	J E Kleiner
Victor's Torment.	J L Thomas,	Lyons View Asylum
Yakout of Hillcreddie.	C H Jones,	J Lounsbery
Albert Nev's Daisy.	Green Mountain Stock Farm Co,	Shwickley Dairy Co
Albert Zillia.	J B Kingsland,	Holly Grove Farm
Albright.	J H McKay,	S W Chipman
Alfredo's Princess.	M S Matthews,	Matthews & Humes
Alteration.	S H Moore,	Matthews & Humes
Anna's Gipsey.	C J Folsom,	S I Chambers
Artless Queen 3d.	Green Mountain Stock Farm Co,	Berkeley Dairy Co
Augures Carlotta.	W H Gruver,	H A Gruver
Belle Hamilton 3d.	Green Mountain Stock Farm Co,	Berkeley Dairy Co
Belle of Dayton.	H A & O W Babb,	J B Palmer
Belle of Iberia.	A W Wilcox,	F C Hutton
Bess of Bellvista.	T S Webb,	M M Thompson
Bess Rialto.	Mrs M M Rogers,	J S Hammond
Betsy Bunker.	Green Mountain Stock Farm,	Berkeley Dairy Co
Bettie La Broca.	J W Watt,	G B & H V Denton
Blythesmile's Child.	W T McArthur,	Bradford & Clarkson
Bonnie Caroline.	M S Rowe,	R H Ricks
Brendalton 2d.	Green Mountain Stock Farm Co,	Berkeley Dairy Co
Brown Beauty.	J F Southworth,	H V Willey
Cash's Patsy.	M N Palmer,	W M Shanks
Camille of St. Helier.	Green Mountain Stock Farm,	Berkeley Dairy Co
Clara Violet.	W Anderson & W W Rose,	trustees, W Byers
Carlo's Lady.	H Merriman,	J E Kleiner
Carlotta M.	J H Moore Matthews & Moore	
Catherine.	W Anderson & W W Rose,	trustees, L M Phillips
Cedricks.	T T Turner,	M L Harrington
Champion Maid.	H W Morgan,	S A Morgan
Champion's Chloe 4th.	Chloe St Helier and Cito Rioter,	Green Mountain Stock Farm Co, Berkeley Dairy Co
Clover of Prospect.	A V Wilkins,	F C Hutton
Cordelia Pogis.	Green Mountain Stock Farm Co,	Berkeley Dairy Co
Cosette 2d.	J C McCoy,	S Kirkpatrick
Cream Beauty.	Mrs M N Rogers,	J S Hammond
Delinquaya of Bellvista.	J L Thomas,	J P Wilder
Dinah Maria.	W T McArthur,	Bradford & Clarkson
Doris Rugler.	N N Palmer,	W M Shanks
Duchess Meda.	Green Mountain Stock Farm Co,	Berkeley Dairy Co
Elsielea Chapman.	M Hemes,	Matthews & Humes
Ellen Dabney.	S W Coe,	P R Day
Emily P.	R F Holly,	L D Parshurst
Evergreen Pearl.	N N Palmer,	W M Shanks
Everton Fanny.	S H Moore,	Matthews & Moore
Fairy La Rosa.	Mrs M N Rogers,	J S Hammond
Fawnedale Randolph, Fawnez 3d, Francelia 3d and Frankie Rioter.	Green Mountain Stock Farm Co,	Berkeley Dairy Co

1 & 3 Broadway, New-York. F. W. WICKS, Secy.

Record of the Times.

Review of Passing Events.

Seattle Destroyed.—Under a high wind and poor water supply the business part of Seattle on Puget Sound, Washington Territory, (population 30,000) was burned, June 6–7 including all stores, hotels, banks, newspaper offices, railroad and freight depots and miles of wharves, &c., covering 64 acres of land. Loss estimated at $3,000,000. An upset can of turpentine started the fire. Seattle is a rapidly growing place with extensive trade in lumber, coal and salmon, and many manufactories. Its harbor shelters the largest steamers.

The Johnstown Disaster.—Conemaugh lake was 11 miles above Johnstown. The dam was of earth faced with stones, 80 feet high, 900 long, 300 wide at bottom, 20 at top, two feet *lower* at center than sides; had been enlarged by a Pittsburg fishing club. Engineer Parke, in charge, said the water rose suddenly Thursday night, and in spite of two outlets gained 10 inches hourly, on Friday. About noon he rode to South Fork and sent telegrams down the valley; at one o'clock the water was over the dam, at three it gave way; in 45 minutes the lake was emptied of 62 million tons of water, in a 40 foot torrent. Two trains were side-tracked on high ground at Conemaugh below South Fork. Most of the passengers fled to the hills; 19 were drowned; three cars swept away, also a round-house with 20 locomotives. The stone railroad bridge below Johnstown held the wreckage, and sent back the flood in a maelstrom over the town, already flooded. The wreckage took fire and 2,000 victims are thought to have perished here. The total loss will never be known. The high estimate of 12,000 has been reduced to 6,000 or less. The six villages aggregated 30,000 inhabitants. The money loss may be $12,000,000. The Cambria iron works (employing 6,000 men) were not destroyed; damage about $300,000, and will soon resume work. Adjutant-General Hastings set a military guard to keep order and exclude idlers. J. B. Scott of Pittsburg was appointed director, and 3,000 men set to collecting bodies and clearing up. The bridge wreckage, 6,200,000 cubic feet, is being slowly blown up by dynamite. Much of it must be burned to avoid pestilence. Over 2,500 bodies have been recovered and buried. A sanitary corps is at work; also Red Cross nurses under Clara Barton. A children's bureau is open and many have been restored to their parents. Numerous offers to take charge of orphans received. Registration of 19,000 names made; then a house-to-house canvass was adopted. Supplies have poured in and rations been issued daily to 10,000 persons. Relief funds were at once started in cities, towns and villages. Philadelphia has given $630,000; New-York, $610,000; Pittsburg, $300,000; Chicago, $130,000; Boston, $100,000; Brooklyn, $75,000; Cleveland, $48,000; St. Louis, $30,000; Washington, $45,000; San Francisco, $35,000; Cincinnati, $37,000; Colum-

bus, $23,000; Baltimore, $20,000; Newark, $16,000; Buffalo, $15,000; Lancaster, $15,000; New-Haven, $13,000; Albany, $12,000; Jersey City, $13,000; Scranton, $11,000; Wheeling, $10,000; Penn. Railroad, $30,000; Reading road, $10,000; Augusta, Ga., $10,000; New Hampshire legislature $10,000; Connecticut legislature, $25,000; Massachusetts legislature, $30,000; Andrew Carnegie, $15,000; Col. Elliott F. Shepard $10,000; 25 cities, $5,000 each; 33 cities, $3,000 each. Funds have been started in London, Paris and Vienna. Total thus far over $2,500,000.

Floods Elsewhere.—In Western New-York great damage occurred on the Genesee river; Elmira on the Chemung lost $400,000 and the Fallbrook railroad $1,000,000.—At Williamsport, Pa., the water rose 34 feet and carried off 200,000,000 feet of logs and 40,000,000 feet sawed lumber; also a bridge on which a number of sightseers were gathered; 1,500 people are without homes. At Lockhaven the damage is over $1,000,000. Fifty-five towns in Western Pennsylvania were cut off from telegraphic communication.—On the Potomac, bridges were swept away and the greater part of the Chesapeake and Ohio canal washed out.—Petersburg suffered heavily; also Richmond, and farmers up and down the valleys have lost buildings, fences, live-stock and crops.

From Abroad.—A Russian Jew stated to the sweating committee of the House of Commons that he worked at Manchester from 5 A. M. to 12 P. M., and sometimes later, getting 3s. per day in the busy season, and 6 to 8s. a week in the slack, and had a wife and children to support.—Mr. Gladstone began a stumping tour at Southampton, June 5.—Engineer Bourke, of the British steamer Calliope which escaped from Apia during the storm, has been promoted to be fleet engineer.—Dr. Schliemann has recently been at work in Crete, and has found a tomb which the Cretans declare to be that of Jove.—A hurricane at Hong Kong has destroyed 10,000 lives.—Missionary letters to London report that the Mahdists have made Western Abyssinia a desert; thousands of Christians butchered or sold into slavery, and flocks and herds destroyed.

Minor Items.

The testimony in the Stewart will case fills 16,000 folios.

Gov. Bulkeley of Connecticut has vetoed the secret ballot bill.

The migration from New Hampshire farms has greatly lessened.

The "ticker" has been restored to the New York Stock Exchange.

Col. J. C. Kelton has been appointed adjutant-general of the army.

Mr. John G. Borden ordered a carload of condensed milk to Johnstown.

Relics of the Johnstown flood have been found floating in the Ohio river.

A fire in Jacksonville, Fla., June 5, destroyed 60 buildings, with loss of $200,000.

Adolphus Andreas, the oldest Mason in the State, died in New York, June 6, aged 90.

The annual grand council of the allied tribes in Indian Territory met at Purcell, June 5.

A treaty between Mexico and Japan has been ratified by their ministers at Washington.

The grand lodge of State masons met in New-York last week with attendance of 1,000.

Sitting Bull, the noted Sioux chief, is dying at his home in the Grand River valley, Dakota.

A shock of an earthquake was felt in New-Bedford, Mass., June 7, and also at Brest, France.

Chief Arthur of the Engineer's Brotherhood declares that he will never again sanction a strike.

Dr. Samuel P. Moore, formerly surgeon-general of the southern confederacy, died at Richmond, Va., May 31, aged 76.

The national brewers' convention at Lockport, N. Y., last week, adopted resolutions against foreign hops and prohibition.

Discoveries of coal, iron, lead, zinc and even gold are reported near Guthrie, Oklahoma. The first election by ballot took place June 4.

Brooklyn turned out 60,000 Sunday school children in parade, June 5; the Clinton avenue division was reviewed by ex-President Cleveland.

The 200th anniversary of the settlement of Taunton, Mass., was celebrated June 4. Gov. Ames was present, also Gov. Ladd of Rhode Island.

The Pennsylvania road has sent out 160 carloads of bridge timber, and purchased 5,000,000 feet of spruce and pine lumber to repair flood damages.

The Pennsylvania road reports that requests are pouring in from all parts of the country for special rates for excursion parties to Johnstown.

George A. Chase of the Bowne cotton mills, Fall River, Mass., has announced that after July 1, the employés will share in the next six months' profits.

Mr. S. N. D. North of Boston will have charge of the wool and worsted statistics for the new census; also of the newspaper and periodical press.

The latest explanation of the Cronin murder is that Alexander Sullivan and others had speculated with and lost $70,000 belonging to the Clan-na Gael societies, and that Dr. Cronin discovered it and prepared an exposure. The inquest is proceeding at Chicago.

Much excitement exists in Fort Dodge, Iowa, over the passage of an ordinance giving cows the freedom of the city; the aldermen have been boycotted in their private business.

Governor Hill has vetoed the excise commission and Vedder liquor bills, signed that giving all State laborers $2 per day, and allowed the Fassett prison bill to become a law.

Henry Smith, American agent for the first transatlantic steamship company, the British and American, whose steamer Britus crossed in 1838, died in Burlington, N. J., June 6, aged 80.

C. P. Huntington of New-York recently bought most of the last vacant plot of land on Fifth avenue below 59th street—15 lots on 57th street and below—of the Bonner brothers for $450,000.

Memorial exercises in honor of the confederate dead were held at Norfolk, Va., June 6, with address by Gov. Fitzhugh Lee. At Winchester 3,500 confederate graves were decorated and Gen. Jubal Early spoke.

The five companies in the Poughkeepsie bridge system have consolidated under the name of the Central New England & Western railroad with eastern terminus at Hartford and Springfield and western at Campbell Hall, N. Y.

A farmer in Niagara county, N. Y., was too quick for the frost of May 28th. He put his help in the field the night before and pulled up 10,000 recently-set tomato plants and put them under cover. After the frost they were set out again without apparent injury.

If you want the best
THRESHING-MACHINE
OR ENSILAGE-CUTTER,
send to the old and reliable Empire Agricultural Works, now 20 years under the same management, Minard Harder, Proprietor, Cobleskill, N. Y., for fully illustrated descriptive and free Catalogue, showing "why ensilage pays."

Choice Guaranteed 6% Per Cent. Bonds.
In amounts from $100 to $1,000, interest payable semi-annually.
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Send for Investors' Hand-Book, and name amount you desire to invest.
Best of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. my21tf

Special Announcement.
We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work *free* by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., ENOSBURGH FALLS, Vt. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.
It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time. my18-8t

Beecham's Pills act like magic on a weak stomach.

We have found no remedy, for malaria, so reliable and safe as Ayer's Ague Cure. Taken according to directions it never fails.

"For a long time I had no appetite, was restless at night, and very much debilitated. After taking two bottles of Ayer's Sarsaparilla, my strength and appetite returned, and my health was completely restored."—D. M. Fisher, Oswego, N. Y.

Farm Produce Markets.

Albany Markets—June 10.

FLOUR.—The Argus says: Receipts light; demand moderately good; market steady and slightly easier.

	June 8.	June 7.	June 9.
Com. State	$3.10@3.60	$3.10@3.60	$3.10@3.55
State Extra	3.15@3.80	3.15@3.80	3.15@3.80
Amb. State & W	3.85@3.90	3.85@3.90	3.75@3.85
O., Ind. & St. L. Ex.	3.85@4.10	3.85@4.10	3.75@4.00
Winter W. Ext	3.90@4.00	3.90@4.00	3.90@4.00
Minn. "Bakers"	4.00@4.25	4.00@4.25	4.00@4.25
Sp'g W. Ext., new	4.00@4.30	4.00@4.30	4.00@4.30
Sp'g W. Ext., old	3.90@4.00	3.90@4.00	3.90@4.00

Rye Flour in good demand and firm at $3.90@3.95 per bbl.; Graham, $4.00@4.50. Oat Meal dulling moderately well at $4.30@4.90 per bbl. Corn Meal in fairly good demand; fine family, $1.50@1.75 per bbl.

GRAIN.—Corn in moderate demand; No. 3, 61½@62c.; No. 2 mixed 63c. Oats active, moving freely, No. 2 white, 39@39½c.; No. 3 white, 38@38½c. Rye in light demand at 80@81c. per 56 lbs. for State, and western 81@82c.

HAY AND STRAW.—Market steady; demand fair; receipts moderate. Timothy, best, $16@17; medium, $12@13; clover, $10@11; mixed, $11@12; rye straw, best, $13@13; oat straw, $8@10; wheat straw, $12.

HOPS.—Market steady; fine goods scarce.

N. Y. State, 1889, choice	20	@21c.
N. Y. State, 1889, common to good	15	@18
N. Y. State, 1887, all grades	8	@11
Pacific Coast	14	@20
German	26	@40

Albany Street Market—June 10.

BUTTER.—Good to choice, 18@19c. per lb.

EGGS.—Near-by and new laid, 14½@15c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 6@8c. per lb.; forequarter, 4½@5½c.; mutton, hindquarter, 9@10c.; forequarter, 6@6c.; lamb, hindquarter, 10@11c.; forequarter, 6@6c.; veal, hindquarter, 10@11c.; fore quarter, 7@8c.

POULTRY.—Fowls, 9@11c.; chickens, 11@13c.; turkeys, 13@15c.; ducks, 12@15c.

FRUIT.—Apples, $2@3 per bbl.; Cranberries, $1.75 per crate; Strawberries, 8@15c. per box.

VEGETABLES.—Asparagus, 5c. per bunch; Beets, new, 3@4c. per doz. bunch; Cabbage, new $1.50@2 per crate; Cauliflower, 10@15c. each; Cucumbers, $1.50 per crate; Green Peas, $1 per crate; Lettuce, 3c per box; Onions, new, $1@1.75 per crate; Parsnips, $1.25; Potatoes, $1@1.50 per bbl.; new, $1@1.50; Radishes, 3c. per bunch; Spinach, 75c. per bbl., String beans, $4.50@5 per crate; Tomatoes, $2@2.

New-York Markets—June 8.

BEANS—Marrow, 1889		1 95	@ 2 00
Medium, 1889, choice		—	@ 1 85
Pea, 1889		—	@ 1 85
COTTON—	Uplands.	N. O. & Gulf.	
Ordinary, per lb	10½@ —	—	@ —
Middlings	11½@ —	—	@ 11½
Fair	13 @ —	—	@ 13½
EGGS—State and near-by, per doz		13½@	15
Western and Southern		14	@ 14½
FLOUR—Spring Wheat pat., per bbl		5 35	@ 5 75
Winter		4 91	@ 5 75
No. 1 extra State and Western		3 60	@ 4 40
No. 1 extra		3 00	@ 3 40
Minnesota clear		3 65	@ 3 90
Straight		4 40	@ 5 25
Rye Flour, superfine		2 85	@ 3 40
Corn Meal		2 70	@ 3 00
FRUIT—Apples, Baldwin, per bbl		2 50	@ 3 50
Russet		3 50	@ 4 00
Spy		3 00	@ 5 00
Cherries, fancy, per qt		12	@ 16
Va., prime		7	@ 10
Gooseberries, per qt		5	@ 7
Peaches, Ga., per crate		3 00	@ 4 00
Huckleberries, N. C., per qt		—	@ 10
Plums, wild goose, Ga		—	@ 2 00
Strawberries, Jersey, per qt		5	@ 10
Delaware		3	@ 7
Up River		3	@ 8
Staten Island		10	@ 15
DRIED—Apples, sun-dried, per lb		—	@ 3½
Evaporated		6	@ 7
Peaches, sun-dried		4	@ 5½
Evaporated		5	@ 13
Plums, Southern		4	@ —
Cherries		10	@ 15
Blackberries		4	@ —
Raspberries		10	@ 13
Huckleberries		8	@ 11
GRAIN—Wheat, State white, per bus		88	@ 90
Ungraded spring		83	@ 84
No. 1 red, winter		84	@ 85
No. 2 red, winter		81½	@ 81½
Corn, No. 2, white		—	@ 48½
No. 2, mixed		47	@ 47½
Oats, No. 2, white		34½	@ 34½
No. 2, mixed		30	@ 31
Barley		55	@ 60
Rye, State and western		56	@ 60
HAY—Timothy, per 100 lbs		80	@ 90
Shipping		70	@ 75
Clover		60	@ 65
Straw, long rye, No. 1		60	@ 65
No. 2		45	@ 50
Oat		40	@ 45
HOPS—N. Y. State, 1889, choice, per lb		20	@ 21
Good to prime		21	@24
Best, 1887		7	@ 9
Pacific Coast, 1889, best		—	@ —
Pacific Coast, 1889		—	@ —
German		36	@ 40
POULTRY—Live fowls, per lb		12	@14
Spring chickens		17	@ 23
Turkeys		—	@ —
Ducks, per pair		—	@ —
Geese		1 00	@ 1 25
Dressed fowls, per lb		14	@16
Phila. springs		20	@ 25
Balt. & West. broilers		20	@ 25
Turkeys		12	@ 16
Ducks, per lb		12	@ 16
PROVISIONS—Beef hams, per bbl		14 00	@ 16 00
India mess		13 00	@ 13 50
Hogs, dressed, per 100 lbs		6 50	@ 7 00
Lard, per tierce		6 50	@ 7 00
Pork, new mess, per bbl		15 25	@ 15 50
Short clear		14 00	@ 16 00
Family		13 00	@ 13 37
VEGETABLES—Asparagus, Colossal per doz. bunch		1 50	@ 1 75
Prince		1 00	@ 1 25
Beets, Bar. & Chas. per crate		—	@ —
Florida		—	@ —
Cabbages, Southern, per bbl. crate		75	@ 1 00
Cucumbers, Florida, per crate		1 00	@ 2 00
Savannah and Charleston		3 00	@ 3 50
Green peas, Norfolk, per crate		60	@ 75
Del. and Md.		75	@ 1 00
Jersey		1 25	@ 1 50
Onions, N. C., new, per bbl		2 00	@ 2 25
Bermuda, per crate		80	@ 90
Potatoes, Maine, per bbl		1 75	@ 2 00
Eastern		—	@ —
Southern, new		4 00	@ 6 00
New-Orleans		—	@ 4 00
Bermuda		1 00	@ 3 50
Radishes, N. C. & Norfolk, per bbl		—	@ —
Spinach, Norfolk, per bbl		75	@ 80
String beans, Chas. war, per crate		1 25	@ 1 75
Savannah		1 00	@ 1 50
Tomatoes, Fla., per crate		1 50	@ 2 00
Savannah		—	@ —
Turnips, N. C., per 100 bunches		1 50	@ 2 50
Jersey		3 00	@ 4 00

Cattle Markets.

NEW-YORK, June 8.

BEEVES.—Receipts, 11,295 head. The week opened with a brisk demand and a recovery in values of 10c. per cwt. This tone was not sustained on the following Wednesday when values declined 10c. per cwt. Friday the arrivals were heavy and the quality coarse; values again declined 10 per cent.

The first grass-fed Texas steers arrived this week and were sold as $3.30½ per cwt. The herds offered were in general coarse and fairly fatted. The export beeves were corn-fed grade cattle. The best taken by the home trade were meal-fed.

[Per cental, cut.]	This week.		Last week.	
Good beeves	$0 00	@ —	$0 00	@ —
Fair	0 00	@ 0 00½	0 00	@ 0 00
Coarse	0 00	@ 0 00½	0 00	@ 0 00½
Poor	0 00	@ 0 00½	0 00	@ 0 00½

[Per cental, gross.]	This week.		Last week.	
Good beeves	$5 00	@ —	$4 95	@ —
Fair	4 30½	@ 4 95	4 15	@ 4 75
Coarse	3 60	@ 4 25	3 55	@ 4 10
Poor	3 00	@ 3 35	3 00	@ 3 50
Oxen	3 75	@ 4 00	3 40	@ 4 25
Dry cows	3 10	@ 3 75	3 00	@ 3 75
Bulls	2 30	@ 3 40	3 00	@ 4 00

MILCH COWS.—Receipts, 105 head. The tone of the market is rather better, and the general quality of the offerings less miserable. Three cows with 4 calves sold for $111; 19 cows sold at $rage$47.10 per head. A few selected cows sold at $50@55 per head.

VEALS AND CALVES.—Receipts, 1,402 head. The advance of 1c. per lb. reported on Monday last was followed on Wednesday by a further recovery of ½c. per lb. Thursday the markets were unchanged. Friday the markets declined ½c. per lb. The quality of the calves on sale is disgraceful. The veals are better but none reach above fair. Range of prices: Calves, buttermilk-fed, Mc@— per lb.; calves and lean veals in mixed lots, 5@6½c.; veals of medium quality, 6@6c.

SHEEP AND LAMBS.—Receipts, 27,129 head. The week opened with an advance of ½c. per lb. in sheep, and a steady tone in lambs. Wednesday sheep declined ½c. per lb., and lambs were off ½c. per lb. Thursday sheep were off ½c. per lb.; lambs fully ½c. per lb. Friday sheep were steady while lambs declined ½c. per lb. Quality of the flocks offered, poor to good. Range of prices: Sheep, 4@5½c. per lb.; lambs, 7@8½c.; yearlings, 6@6½c.; ewes, $4.50@4.70 per cwt.; rams, &c. per lb.

SWINE.—Receipts, 24,200 head. The market opened steady on Monday and remained unchanged until the close of business on Friday. The nominal range for the week has been $6.00@6.30 per cwt.

BUFFALO, June 8.

[Per cental, gross.]	This week.	Last week.
Extra steers	$4.30@4.50	$4.15@4.30
Best butchers'	3.90@4.15	3.80@4.00
Second quality	3.40@3.70	3.30@3.60
Poor to common	3.00@3.25	3.00@3.25
Stockers, light	2.65@3.00	2.65@3.00
Stockers, good to choice	3.15@3.35	3.25@3.40
Bulls	2.25@2.75	2.30@2.50

Receipts, 15,200 head, against 17,200 last week. Market active and the fairly liberal offerings of medium and heavy were taken at the advance noted. Common; half-fat stuff, however, dragged, and for the poorest, last week's prices were hardly realized. Stockers quiet and easier; receipts light. Bulls quiet. Railroads commenced taking stock for shipment on Tuesday.

MILCH COWS.—Steady; fair receipts. Extra, $50@60; good to choice, $35@45; common to fair, $15@25.

VEALS.—Demand good. Good to choice, $4@4.50.

SHEEP AND LAMBS.—Receipts 47,200; opening prices were decidedly higher, owing to large orders, light offerings and heavy advance East, but no sooner as the railroad blockade was removed the market dropped 10@15c. below last week's figures, closing, choice, 90 to 100 lbs., $4.85@4.95; one head, averaging 120 lbs., sold at $5; fair, 80 to 90 lbs., $4.75@4.80; common, 75 to 85 lbs., yearlings, $4.75@5.30; spring lambs, $6.

SWINE.—Receipts, 45,100. Fairly active at steady prices. Mediums, $4.70@4.75; Yorkers, $4.70; mixed lots, $4.65@4.70; roughs and stags, $3.75@4.25.

BOSTON, June 8.

BEEVES, NORTHERN.—Good oxen, dressed, $8.75 per cwt.; fair to good, $5.50; second quality, $4@5. WESTERN, Alive—Extra, $4.60; good to prime $4.30; light to fair, $4@4.25.

MILCH COWS.—Trade limited at $35@55 per head.

CALVES.—Abundant at 4@6c. per lb.

SHEEP AND LAMBS.—In lots at $3@6.25 per head.

SWINE.—Western fat hogs, alive, 6½@6¾c. per lb.; small pigs, $1.50@2.25 per head.

Dairy Markets—June 10.

ALBANY.—Butter easier; receipts fair. State creamery, choice, 18@19c.; Western creamery 17@18c.; State dairy, 16c.; fair to good, 15c.; Western dairy, choice, 14@16c.

Cheese steady; demand good. State factory, full cream, new, 10c.; fair to good, 9½@9½c.

UTICA.—The market took a slight turn for the better last Monday, the leading price being 9½c. higher. Sales amounted to 11,000 boxes, at 7½@9½c., with 9c. for rolling prize. Little Falls sold 2,000 boxes at 9½c., the bulk going at 9½c. The cause of the advance seemed to be that fine stock had been cleared out in New-York, and shippers wanted more than they could get. Another fact which helped was that the offerings were of grass stock, and it was believed that this would prove better quality than the fodder cheese heretofore received. Weather continues moderately cool, and hence favorable for the receipt of cheese in the city. Prices rose during the week to 9c. after hearing from the country, but after Wednesday's steamers had sailed the demand dropped off somewhat, and at the close 9½c. is about all that the best stock will bring. Light skims are worth 1½c. for the best.

Butter stock is in slightly better demand, and has advanced ½c. this week. Utica sold 81 pkgs. creamery at 17½@18c., and Little Falls 10 pkgs. do. at 17½@18c., together with 25 pkgs. dairy at 16@16c. New-York advance quotations to 18½c. on rather a dull market, but with no excess of supply in gilt-edge quality.

NEW-YORK.—Butter receipts liberal; demand moderate. Receipts, 43,541 pkgs. Eastern creamery, fresh, fancy, 19½@20c.; Western creamery, fresh, 17@18c.; State dairy, choice, 16@17½c.; Western dairy, 15½@16c.; Western factory, choice, 12c.

Cheese in more general demand. Receipts, 44,422 boxes. Factory, best, 9½@9¾c. per lb.; light skims, 8@8½c.; Ohio flats, 9½@9½c.

BOSTON.—Western creamery, extra, 19@19½c.; extra ovals, 20@21c.; factory, 17½@18c.; Vermont, extra, 19@20c.; dairy, choice, 16@17c.; Eastern creamery, good to choice, 18@19c.

Cheese, northern choice, 9½@9½c.; western, 8½@9c.; sage, 10@10½c.

Wool Markets—June 10.

ALBANY.—Dealers firm; sales 30,000 lbs.:

No. 1, Pulled	32@33c.	Medium Fleece	32@33c.
Super Pulled	30@31c.	Fine Fleece	28@29c.

NEW-YORK.—Ohio X X, 27@28c.; Indiana, 30c.; delaine, 32c.; unwashed western, 23c.; pulled, 25@26c. Territory, scoured, 45@50c. Montana, 45@50c. Oregon, 38@42c.; scoured, 45@50c.; Texas, 18@22c.; scoured 32@36c.; California, 18@21c.; scoured, 30@35c.; Colorado, scoured, 35c. Australian, 42@46c.

BOSTON.—Sales, 2,035,400 lbs. domestic and foreign; Ohio and Pennsylvania, 29@30c.; Michigan, 28@29c.; combing and delaine, 29@30c.; scoured, clean; pulled delaine, unwashed, 30@35c.; Territory, 45@50c.; Texas, 28@32c.; California, 18@21c.; Oregon, 28@32c.; Australian, 37@40c.; English, etc.

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No Dirt! No Fuss! No Back Ache!
LASTS LONGER,
LOOKS BRIGHTER,
and makes the Shoes WEAR BETTER.
Don't let the women have all the best things, but use
Wolff's ACME Blacking
ONCE A WEEK FOR MEN.
ONCE A MONTH FOR WOMEN.
I find ice tip top Harness Dressing.
WOLFF & RANDOLPH, Philadelphia

The Fireside.

Recent Publications

Biographical Reference.—We commend to the attention of all buyers of useful books, and particularly all working journalists, a book published (at $5) by Gridley & Co. of Philadelphia. It is a new and enlarged edition of Phillips' "Dictionary of Biographical Reference," containing a hundred thousand names, and makes an octave volume of more than a thousand pages, closely but neatly printed, and well bound in half-morocco.

The Tenth Census—is now, we believe, completed. It fills up the two last large octavos containing the "Compendium" of this tremendous work, on the two which heretofore have appeared, extending nearly six feet on the bookshelf. The first two volumes embrace population, agriculture, manufactures, transportation, mining and other industrial resources, newspapers, forestry, wages, pauperism and crime, and other matters of interest, replete with a number of special tutorials—mechanisms of all kinds, machine patents, petroleum, petroleum, building stones, waterpower, lumber, harvesting and cotton. The Census ought to be taken next year, in as much bigger proportion as this is bigger than the Ninth, and taken as much longer in time, as it will not be finished till the Twelfth is well under way, and it will need a whole bookcase to hold it.

Our National Flower.—Messrs. I. Peace & Co., the well-known art publishers of Boston, issue a very pretty little book with quite elaborate illustrations of the golden-rod and the bathing arethusa, and ask readers to vote on the question which of these two should be adopted as the flower of the United States. As soon as we can better quote "fits the bill." What do readers think about it?

Fiction.—Another of Gracie Kenny' fascinating stories—"Margery, a Tale of Old Nuremberg"—is issued by W. A. Gudgeon & Co., 11 Murray St., New York, and sold in Albany by J. B. Lyon & Co., price $1.25. It is very pretty 16 mo. volumes.

"The Heart of Gold," by Lyra Dolcan Wilson—a book intended chiefly, we judge, for young people, though perhaps possessing equally interesting to their elders—is published, with illustrations, by Lee & Shepard, Boston, C. of Boston, and sold in Albany by J. B. Lyon.

From D. Appleton & Co., New-York, we have a cheap volume by W. M. Thackeray, by Lucia Peacock; and from the American Book Company, also of New-York, one entitled "The Last of the Tasadays," by James R. Gilmore, better known as Edmund Kirke.

Periodicals.—The 15th volume of the Century is now ready, and a superb volume it is. Attractive as it is in typography, which we doubt whether most readers fully appreciate the wealth of information, illustration and exquisite art work that they receive in the form, also, of a bound over one of these bound volumes. The June issue of this magnificent work, by the way, is a peculiarly note-worthy as containing the first instalment of Mr. Lossing's account of the battle of Saratoga, 5,000 miles from St. Petersburg and 1,000 from the Volga. These notes are by the private property of the Czar, and are worked in for the benefit of his son that he and the Nihilists are sent when the Czar is pleased to commute a sentence to penal servitude in the mines. Hence an unusual number of political prisoners are gathered at Kara, and Mr. Kennan made the best use of his time while there to take the photographs and obtain the trustworthy information regarding their life.

The Christian Union (N. Y. Fords, Howard & Hulbert, 27 Park Place, New-York, N. Y.) is a particularly excellent monthly, under the style of the Century and Harper, and about equally beautiful, though smaller. Its price is only $3 a year annum, it will be seen that the subscriber must necessarily receive many times more than the worth of his money.

A terrible account of the slave trade in Africa appears in this month's Century. "Do not let it be stopped," says the author, "that this horror is not the only form of infamous trade in an end. This horror and this day are now. In this same country, Slavery is not a horror. Time, civilization, Christianity are each ready touching it. No fact in relation to the slave-trade is more appalling than this. The fact of this immense, for a time buried, then doubted, but at last been reluctantly admitted, vote by the government of England."

The Art Amateur begins this month a series of entertaining and useful articles on "chairs and sofas." Beautiful illustrations greatly enhance their value.

The Sunday Scholar in the Infant (April) Presbyterian Review is one of general interest, though not for the use of which the subject—the Sunday School. The author is Rev. Dr. Hall, and he considers, by any measure, but points out fearlessly several reasons why the Sunday school is not what it should be as at present organized—especially in regard to that always troublesome department, the library, and its proper management that it may be made a real benefit.

A Wee World of My Own.

There once used to be
A wee world of my own
Where none grew sorrow and the winters were trim.
Where I always had
Where I played all alone,
My small, wee world of my own.
A great big world
Where the rainy seasons
Small weeds grow between the palm of my hands
And
Where small is the castle
Of my own imagination
And orchards is narrow—I was better so that
I could
Hold
Every thing in my small world of mine.
Nothing seemed to the stillness of heaven,
Nothing
Dozing so
Like my own fairy palace,
And wood to fight with and I was the only one there.
I hoped to grow smaller
And smaller
To keep thoughts of love in a brave sorry-one,
Where I
Could be
Sweet and lovely.
But I never grew down, and I always grew up.

There once used to be
A wee world of my own
The crimson flowers are,
The small sentiments of love and tenderness—
And it fails not to-day,
For I am still there.

"I'm so blind I can't find that Wee World I am built in."
Yet I am still there.
Sweet Wee World of my own.

The Duties of Old Maids.

The first duty of the old maid, as "Lillian Mayne" so aptly expresses it, "is to make herself as much as possible unlike the popular idea of a worker." She owes it to herself to make herself comfortable, to surround herself as much as it can possibly be, and to do this she must have money. She must not depend upon her family nor part out to life. The old bachelor has the right to spend his money on any person attached to her position is fast dying out, as the feeling of dependence on others and even the privilege of taking her destiny in her own hands. The women who were the case of old maids was composed of those girls who were educated, accomplished, and who, from lack of efficiency in purse or position, were considered undesirable as wives, and who, as time ran on, reverse, and their ranks are reinforced from the ranks of those who have lost the husbands whose lot is of their own choosing.

Another class of old maids are those who grow up together it often happens that it is the most expert, the most self-reliant and the most practically cultured, who remain unmarried. And the reason is that they are the ones to make a choice, that no one was more sought for, or more admired. They are the many or more accurate man who would fain have chosen them for his wives, but who in their sensitive but more approachable sisters. Yet in after years these same men will congratulate one of their children will rush her with being an old maid.

A thoughtful man once told me that the reason why so many women are left unmarried was because their ideals were so high that no living man could ever come up to them. "And what makes old bachelors?" I asked. "No man is left a bachelor who can help it," was the reply. I replied: "If a man doesn't marry it is because the woman he loves won't marry him." But whether a woman marries or does not marry she will naturally outlive her first ideals, simply because they are casually utterly impracticable; and if the truth were known there are probably as many old maids among those who are married as among the unmarried women. Of course there are many exceptions to this, but genius is the happiest state known to man, but this golden ideal will be but seldom realized while so many men, and women too, marry from other motives than those springing from a real heartfelt affection.

What a woman's begins to be about thirty years of age "and feels herself losing out settled, that is the time she begins to realize the disadvantages of her position, take account of her resources, and assert her rights—unless she means, as some writer advises, to glue herself and settle down as a nonentity in some brother's house, taking whatever is given her and glad to get that. Then comes the time when the place upon her that she plays upon herself; if she is energetic, by any time day they only shake their heads regretfully, and "poor thing" and pass on to some other take to our rightful positions." The old maid may think that she has reached the end in making a matter of herself, but to my thinking, such a course is the most cowardly of all. Much greater courage is required to face the battle of life than to run away from some of the soldiery. Woman was designed as a helpmeet for man, and as long as there is one of the good things of this world, not a happier, dependent one.

If she is poor and has to make her own way in the world, whatever what it is that she has been fitted for, and go to work with energy and self-denial to perfect herself in that, or to take as honorable place among the world's bread-winners. She will not possess what her married sister in the same circumstances, who is occupying the same place and does it as contains it later, conscious all the while that she has been sacrificed to the world and secure the necessaries of life for those whom she loves better than herself.

If, on the other hand, the old maid has become a confirmed invalid, she owes it to her client to be domestic in her tastes, then to her home there is no place for a confirmed invalid relative to come and live with her. But if she is a well woman she will not possess the right of controlling her own affairs to the best advantage. She will not be a burden to such, for physical health is the first and last large a percentage of women who go into sickness as a result of ignorance, folly and fashion, to her own house, if she holds the reins, she will be able to control the matter. Her home will be open to her friends, and if she has any inclination to self-culture to her heart's content, or profitable work for humanity, and it may happen to be, with no one to say to her, "Cui bono?" she will be able to devote herself to the interests of her own household creatures, in the consciousness that something is being accomplished for the good of others. In the happiness; there are many children who are left motherless, and who, in the absence of a mother, have no one to adopt and bring up as her own, who can be to them a mother in the truest sense. Many a young life over the hills, for my human friend whose circumstances alone compels him to get his thoughts, his time, his all.

And last, but not least, let our old maid see to it that she is not a bore to her friends. Let her not be a gossip, a busybody, a meddler, a throw sunshine on the pathway of others, on the side to whom she is related. Let her make all if her heart and hands are always busy doing good to humanity at large. Let her not be afraid to be sad and sorrowful over real disappointments, many discussions, and laughed slightly. And from other causes, but let her not be afraid to be sick of the loving ministration of friends in her old age, if she spends the best years of her life in promoting the happiness of others.

C. M. Allen.

Roman Public.—We heard many funny stories from the political writer in the Atlantic with regard to the ignorance shown and the misconceptions entertained by the Irish in regard to supposed revolutionary movements. Four or five ago, last, after the assassination of the prominent Nihilists, the Irish in this country published photographs of Nagarial were sent to every part of the world. In the Irish Times, of Dublin, appeared a picture of the assassination of the capture of the assassin, and on the back of the picture was printed the following instructing how he looked it a cap and without a cap, with a beard and without a beard, with a coat, with a waistcoat and without a waistcoat. A hard drinking and ignorant police officer in the Irish Times, who had to do with the sale of a copy of the card fell, arrested four soldiers who had been drinking in a public house, and charged them with conspiracy. They were committed them to jail; then he went about the business, and he was found in a helpless condition, boasting that he had captured four Nihilists and committed them to jail. The Irish Times was obliged to make a public apology for what that he could turn the six together over to the Irish Government for what it is worth, but he would get not only the 10,000 reims rewards, but a promotion as well.

Admiral Porter's Son.—Admiral Porter had a little grandson, who lived near him, and rapid wise-course about twenty-five feet from the ground. The boy was the son of Admiral Porter's son, the fellow-officer who for but three years of age—attempted the perilous feat about him. There was no one to see it was him of danger or prevent him but the boy's mother, who was in the house at the time, and, quite naturally, she was afraid to call him back. The youngster was determined to get down, and he did so successfully, by climbing down the rope, and then sliding down to the face, with a big stick in his hand, and a broad grin of satisfaction on his countenance. The fearful animal then jumped on the ground, and ran off to tell his mother what he had done. Admiral Porter was in the habit of saying the child, should be happen to fall off the boat, he would be sure to land on it, as those had shaken the water from his shaggy coat. Admiral Porter's son was a midshipman on the brig-of-war Dale, and was lost in the December wreck enjoyed and for which we believe he was court-martialed. The boy in the child's arms around his neck, and the Dale was wrecked. The boy was saved, but the child was lost.

Cheap Fuel.—Another cheap fuel is reported from Oregon. The cheap wheat is the cheapest of the cheap. The straw is used for steam purposes. Mr. Nicholas.

Cheap Fuel.—Another cheap fuel is reported from Oregon. The cheap wheat is the cheapest of the cheap. The straw is used for steam purposes. Mr. Nicholas.

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PILLS
GREAT ENGLISH MEDICINE
For Disordered Stomach, such as Wind and Pain in the Stomach, Sick Headache, Giddiness, Fullness after Meals, Dizziness and Drowsiness arising from a Disordered State of the Stomach, Blotches, Pimples on the Face, Cold Chills, Flushings of Heat, Loss of Appetite, Shortness of Breath, Costiveness, Scurvy, and Blood Humors of all kinds, These Pills, when their Use is Persevered in according to the Directions given, will be found to Restore the Female Constitution to a State of Perfect Health. FOR WEAKNESS, Disordered Liver, Indigestion, and Debility, these Pills have no Equal. They Purify the Blood, Restore the Long-lost Complexion, Brighten the Eyes, and Bring Back the Roses of Health to the Pale Cheek. They are wonderfully efficacious in Cases requiring a Powerful Aperient.

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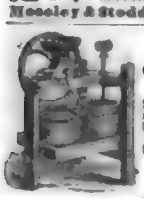

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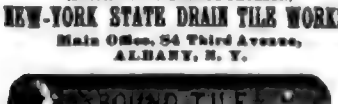

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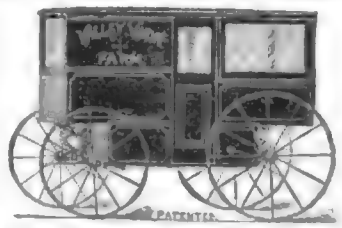

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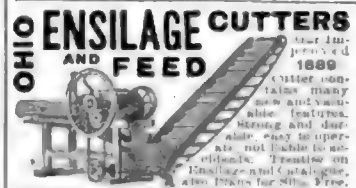

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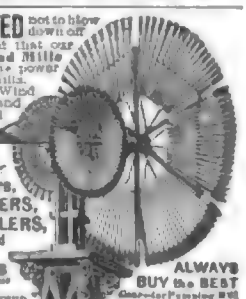

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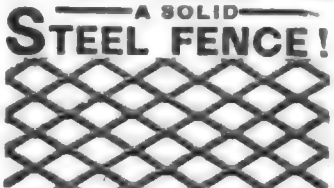

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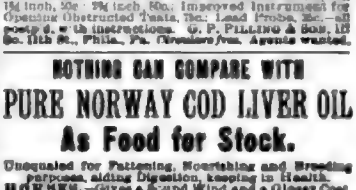

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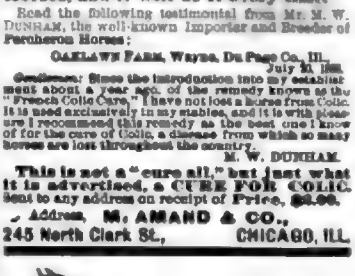

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THE CULTIVATOR
AND
Country Gentleman

Albany, June 20, 1889.

A Potato Planter.

Intelligent cultivators, and those particularly who in raising potatoes aim to ascertain the best modes, by measured experiments, have long since learned that better crops are obtained on well prepared soil when the seed is buried at least five inches deep, than with a covering of only two or three inches; and a better return is obtained with flat or nearly flat culture, than by heaping up cones of earth around each hill. When planted deep enough, there is no necessity for the hilling to cover the forming tubers. Many thousand bushels are spoiled for the table every year by shallow culture, producing green potatoes. After the ground is prepared and brought to a deep, mellow condition, it is common to furrow it for dropping the seed, with a one-horse plow, which if passed twice in each furrow makes the rows more nearly even and straight, but throws the soil up on each side of the furrow, causing it to appear four or five inches deep when it is in fact only two inches below the level surface. This is one reason why so many potato fields are planted too shallow, and the real hidden reason why the aggregate loss in the country at large amounts to millions.

In order to give the seed tubers sufficient depth, and to place them at perfectly uniform distances apart in the row, we have contrived a very simple implement, which, for farmers who plant by hand, is destined to give more even crops, larger returns, and prove economical of labor. It is represented in the accompanying engraving (fig. 1), and consists of a bar of wood about thirty inches long, and made of a piece of pine scantling or other light wood, 3 inches square. It has a handle set in it at right angles, consisting of the handle of a worn-out spade. On the lower side are inserted short, thick wooden teeth, as far apart from each other as the intended plants in the rows—a foot or nine inches, or any other distances. When this tool is taken in hand by its handle, and the foot is placed heavily on it, its short, stubby teeth are sunk into the soil it the bottom of the furrow, forming holes into which to drop each potato cut. The planter moves it onward, with the last tooth in the last hole, and so advances nearly as fast as he can walk. The man who drops, can move on much faster than if he had to measure every distance with his eye before dropping every piece. The planting will be about two inches deeper than without it. This simple contrivance is not of course intended to supersede costly and finished potato planting machines used in large fields.

Fig. 1.

There may be modifications of its form. Instead of the spade handle, for instance, something like an ox-bow may be used, as shown in fig. 2. Instead of scantling, a strip of two-inch or two-and-a-half-inch plank may be employed for the bar, and by sawing in and splitting out portions, the short blunt teeth left, as shown in fig. 3. For this purpose, some kind of wood should be selected which is not easily liable to split.

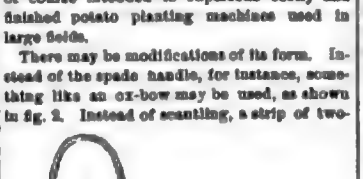


Fig. 2. Fig. 3.

Something about Fences.

EDS. COUNTRY GENTLEMAN—Discussion of the fence question is always in order, for fence of some kind is a necessity on the farm, and if we find some one farming successfully with one-half or less the amount of fence usually found on farms of the same size, or if he has adopted some cheap form of fence which turns cattle, it is just what other farmers ought to know.

It is useless to go into an argument to show the cost of fencing, and I will only say that if I should fence my farm into ten-acre fields, as many of my neighbors have done, I should need to build a mile of fence more than I now have, which would cost me at least $300 to start with, besides an annual expense of $30 to $40 to keep it in repair.

Twelve years ago I bought fifty acres of land joining my farm, on which there were no division fences, and I determined to try and see how small an amount of fence I could get along with and farm profitably. I decided to fence only my broken land for pasture, leaving the rest of the farm in one enclosure, and as my land least suited for cultivation was farthest from the buildings, I simply made a fence to turn cattle and horses between my plow land and this permanent pasture, with one or two small lots near the barn for hogs.

My farm contains ninety acres, and sixty of it is in one enclosure, with a permanent pasture of twenty-five acres, and five acres fenced into four lots near the barn, three of them being small pasture lots and one includes the garden and door yard. I have farmed in this way for eleven years, and have never seen the time when I thought I should have made more money or kept my farm in better condition if I had it fenced into fields so that I could pasture all of it. I never knew until I tried this plan, what a growth of clover could be had in the fall after harvesting the wheat. I think the heaviest clover I ever grew has been on these fields in September, and three times I have had it mature a profitable crop of seed. The only change I am thinking of making in my plan is, to enlarge my pasture to perhaps 35 acres.

With the exception of line fences, and that which enclosed my hog lots, my fence has cost but about one-third as much as an ordinary board fence would have done. I have one line of 50 rods, which has now been in use six years, which cost me next to nothing. It is a row of locust trees set four feet apart. They were set out ten years ago this spring, and at four years old we stretched a single barbed wire three feet from the ground and stapled it to every fifth or sixth tree, and then we laid a row of hedge brush along on the pasture side. The cost of this fence, aside from growing the row of trees, was ten cents a rod, and each spring since we have taken a load of hedge brush and put on one wherever it looked as though it was needed. This fence is thoroughly horse and cattle proof, and although not handsome, is perfectly safe, for the stock will never trouble the wire when protected by brush. The trees are already most of them large enough for posts, and some of them would bear splitting into two posts. I am so well pleased with this plan that I have set out a line of Osage orange for the same purpose, and intend to try soft maple also. I can recommend this plan where a fence to turn sheep and hogs is needed, but in this case would set out a double row of trees—that is, I would zig-zag the trees in the row, setting them so that as you looked down the row it would look like two rows a foot apart; and then I would make movable panels of board fence three boards high, and slip between the trees.

The remainder of my fence is plain wire. I will not use barbed wire except in connection with a tree-row or hedge, for I have known so many horses killed or blemished by it that I will not take the risk of it. I have found a plain wire fence, made with three wires and one board or pole, to turn cattle and horses perfectly. It will not do without the board, as horses when running cannot see it and will run into it. I make it with posts thirty to forty feet apart, and then every eight feet, staple a light upright to the wires. These uprights may be a strip of inch board, three inches wide, and they are not driven into the ground, but rest on a block or a flat stone. The strip of board is placed between the upper wire and the one below it, and is nailed to the uprights and posts. I have several acres of locust trees planted so close as to need thinning, and I intend to use some of these poles in the place of boards, and will wire them to the uprights, as this will hold them more securely than nails; but when the board is used, a wire nail long enough to go through both board and upright and clinch, will hold it perfectly. The wire for this fence—galvanized—cost about 10 cents a rod, and the entire cost of the fence, complete, will be less than 40 cents per rod, or about one-third that of post and board fence, and I believe it will last much longer. For my hog lots, I use a galvanized woven wire fence, three feet high, and costing, if I remember rightly 65 cents a rod in the roll. This fence will be sufficiently strong with posts 20 feet apart and a good stake driven between the posts. I have used this fence three years for my cows and pigs and like it. It has been thoroughly tested, as I have seen large heavy hogs run into it when chased by a dog and although bent a little not a strand has broken.

My experience with hedge fence covers over 25 years, and I do not recommend it, and would not plant it except where it can be allowed to grow without trimming on the border of some pasture, for the trimming of a hedge must be done when farm work is pushing, if you would keep it in good shape and avoid having thorns scattered, and it is next to impossible to make a hedge that will turn hogs. There is no other farm animal that can be so easily soiled as the hog, and unless one is running a bottom or prairie farm that will grow corn continuously, and is making hogs the leading product, it will not pay to make all the fences of the farm pig-tight. WALDO F. BROWN.

Butler County, O.

Potato Notes.

Wintering Early Seed Potatoes.

EDS. COUNTRY GENTLEMAN—We had our coldest weather last winter about the last of February. Just as it was over we drew out two loads of straw and put over the heap that contained our seed potatoes. All the earth on the heap was frozen solid. We covered it about one foot deep with packed straw. We used that which was short and chaffy, from near where the end of the straw-carrier was at threshing time, thinking it would be a better non conductor.

The first of April there was no frost in the ground, and we dug into the pit to see how they were. The earth was still nearly all frozen, and it took vigorous work with a pick to get a hole through. The first of May we opened and began planting. The frost seemed then to be just out of the earth. Some of the eyes on the seed end of the tubers had started. It looked as though this was done last fall. You know the early winter was very mild. Some other eyes had started a little; but as a whole the seed was very sound, and in nearly perfect condition. They were Hebron potatoes, which sprout very early under ordinary circumstances. Two of my neighbors tried this way of keeping, with same variety of potatoes, with good success. Another reported his badly sprouted (kept in cellar), and said he should try this way of burying next winter.

The straw was drawn back in the barn for use as bedding, so only the use of it and the little labor need be charged to the potatoes. The potatoes were entirely dry in the pile. We put three bushels of New Queens in bags and laid them in with the others, last fall. The bags even were not injured. I speak of this, as one friend, last fall, though I had better build a board roof over the pile. I felt sure that straw put on as I described to you would turn all water.

A New Seedling.

You will remember a long account that appeared in the COUNTRY GENTLEMAN last November in regard to a new seedling potato grown near Rochester. It was reported to outyield two to one any other variety tried by its side. If this statement had been in a catalogue, from a seedsman, I should not have noticed it; but when such men as were on that visiting committee, particularly the Hon. Seth Penner of your State (he is mentioned more particularly because the writer is best acquainted with him), say such a thing, it is worthy of more than passing notice. I will remember how much money I made from getting the Early Rose when it first came around. For some years it yielded double what other varieties had been doing, but eventually it had to give way to the Beauty of Hebron, of which

we have grown a good many thousands of bushels. Thinking that this new seedling might turn out the coming potato for productiveness, or that it had already so turned out in Western New-York and might reasonably be expected to with me, I secured and planted about 20 barrels of seed. They are very large and fine shaped, looking something like the White Star. They are called the Monroe Seedling.

Covering from Frost.

The past two weeks or more have been unusually cold with us. Some days the thermometer has not been above 44° at any time during the day. One day of this kind we felt sure, from the rapid rising of the barometer, that we should have a clear night and hard frost. At 11 A. M. the thermometer stood at 42°, and a strong north wind was blowing. We had six acres of early potatoes nicely up, and I could not stand still and see them freeze; so I got out my Planet *Jr.* cultivator, put on the side shovels, and arranged it so that by going in every other row I could cover about all the potato plants. The rows were very straight, or this could not have been done. I bore on to the cultivator so as to throw just earth enough to cover the plants—no more than was necessary. The frost came. The thermometer went as low as 28° on the lowest land, and on our highest land we had 280 grapevines that had made a splendid new growth of from one to two feet, and every one of them was frozen down. I did not see how it was possible to cover them so as to save them from such severe cold. Is there any way it could have been done? We drew out two loads of straw in the night, after frost was certain, and covered a quarter of an acre of strawberries. This saved nearly all of them. (They have been covered once since, and caught out once, and the end may not be yet. At this writing, June 4, I am sitting by a bright fire.)

Well, we saved the potatoes. That one night was the only one cold enough to freeze them much. They will stand an ordinary frost. They have grown out again now, none the worse for the temporary covering. Those uncovered in the neighborhood were badly used.

Shallow Cultivation.

Twenty years ago many used cultivators with two great, broad, long, shovel-plow teeth. (Some must use them even now, for I saw some out in front of a dealer's in Cleveland last week.) These destroyed a part of the roots of the growing corn and potatoes. Strong new land made the crops able to stand the abuse and still yield pretty well. The users certainly did not stop to examine the damage done to roots and think about it. They used what was made for them to use, asking no questions and thinking no thoughts.

Next we had three shovel cultivators, with shorter teeth, and wheels if desired. After a time the five-toothed cultivators came around, with still lighter teeth, those of the Planet *Jr.* style. I got teeth from the manufacturers that were but 1¼ inches wide. This made a very light surface cultivator, and after our potatoes were three or four inches high, we set the wheel so that only the surface could be stirred, letting the plants have their feeding ground undisturbed. But inventors seem not to have been satisfied, and have lately brought out another surface cultivator that is most wonderfully at variance with the old rip-and-tearers of a quarter of a century ago. I refer to Breed's universal weeder. In brief, it is a big rake, with 36 teeth slanting backwards, and thills to put the horse in instead of a handle. The driver in the rear can bear on to the teeth or lift up. From the length and lightness of the teeth they wriggle around in the earth in a way that is discouraging to weeds just starting.

Haven't you ever cultivated potatoes planted in drills, leaving a strip of earth along in the drill unbroken? I have, and often have wished there was some rapid way of mellowing up that strip. If the rows are very straight, it need not be very wide—but it is there all the same. I have sometimes used the Thomas harrow after cultivating the first time, to mellow the soil right around the plants; but it isn't quite the thing for this purpose.

Well, now, I cultivated 5 acres this morning with Breed's weeder, stirring all the ground between the rows an inch or two deep, and right around every plant just as much as anywhere, all in 3½ hours. The injury to plants was not worth naming. The soil was all beautifully fined and mellowed. To have done the same work with light cultivator and hand rake would have taken me six days. The weeder is 7 feet wide and takes, of course, two rows at once.

From its necessarily very light nature, it would be of no use except in clean, mellow, nicely tilled land. The inventor writes me to use it entirely for cultivating potatoes (level culture of course) until they are ready to lay by. I cannot say yet whether I can take the whole course, but I have been all over them once.

What next shall we have to cheapen the cost of production? There are, perhaps, 100 acres of potatoes within 15 minutes' walk of my farm, where a few years ago I was the only grower. From every quarter I hear by letters of increased acreage. The planter, digger and other tools are the cause of this. Should the season be as good the country over, as last year, stand from under next fall. But quite likely it will not be. At any rate those who by the most careful and thorough tillage raise large and fine crops, and are wide-awake about selling, can best stand what the future may bring forth. T. B. TERRY.

Hammond Co., O., June 4.

Our Agricultural Life.

EDS. COUNTRY GENTLEMAN—I send you few brief answers to the questions asked on p. 410.

1. *Are the farmers in your community as prosperous as they have ever been?*

No. In this section farming and fruit-growing are combined to a greater or less extent, and while a few have made some money from peaches—and there are always some forehanded farmers—the majority have made very little progress toward a competency for their old age, and many are going backward. Peaches are not nearly as profitable as they were a few years ago, even in years of partial crops. They are comparatively a luxury, with mechanics and laboring men as the principal consumers, and when wages are low and money scarce, they can and do go without them. Some of our peach men barely realized enough to pay their expenses last season, and two or more live on that famous 100 acres mentioned by Mr. Gliddon as being the most profitable quarter-section in the State. Merchants complain that farmers and mechanics are asking for credit more and more every year, and often from men who were supposed to be in easy circumstances.

2. *Do the farmers take less or more interest than formerly in economic discussions?*

Very much more. Of course there are some who are so set in their opinions as to refuse to read or listen to anything contrary, and the great trouble with most farmers is that they are so wedded to the old political parties they are unable to rise above party and think for themselves.

4. *What effect does the tariff have on their condition?*

Makes them poorer. Last fall my wife went to Chicago to get some carpets and furniture to finish furnishing our house. Got a good wool carpet, and making a fair estimate of the enhancement in price caused by the tariff, I figured that we paid about $30 more than we would if there had been no tariff. My wife intended to get some woolen dresses, but finding she had paid so much duty on the carpet and other things, she would not have money enough, so went without, as thousands and millions of farmers' wives are doing. My overcoat is becoming somewhat shabby after 12 years' service, but I could not afford to get another last fall, because I have had to pay so much duty on things we have needed more, and there are millions of farmers going without things for the same reason. Over production is not the trouble so much as under consumption, and the latter does not increase the demand for wool or the wages of the operatives in woolen factories. Of the $30 duty on my 100 lbs. of carpet, the wool-grower gets a sop of about 2 cents a pound, or $2, while the manufacturer pockets the other $18.

5. *Will a bushel of wheat or a barrel of corn buy as many necessaries of life as it did thirty years ago?*

I am not old enough to remember, but a neighbor, a fair minded man, says he has had a harder time to get along the last 20 years than the 20 years before the war.

6. *How they gained or lost social dignity as compared with other classes, such as merchants and mechanics?*

Ask something harder. None but snobs look down upon farmers, or any one else nowadays, because of their occupation. They are advancing in intelligence slowly as well as the rest of mankind. As to whether farmers' sons show any less willingness than formerly to become farmers, I do not think there is much difference. Farming at present, with its improved appliances, is more attractive than it used to be, and also more productive with the same labor; so really the boys can be more easily spared.

At the end of the year the farmer finds that instead of having a whole pie for his labor, he has only a piece, and a bite of that is gone for interest; indirectly, at least, on government bonds, watered railroad stock, &c., another bite is gone for taxes to pay a horde of officials big salaries; another to support the liquor business with its train of evils; another for protection; another for trusts; another for excessive profits to agents and middlemen; and after a few more for natural causes—drouth, bugs, sickness, &c.—he finds his pie all gone and only a piece of crust left.

South Haven, Mich., May 31. F. H. C.

The New South.

EDS. COUNTRY GENTLEMAN—After leaving Philadelphia and entering the States of Maryland and Virginia, one is struck with the characteristic change in the farms and farm buildings. The tourist sees few out-buildings, but an ample plantation house with broad verandas, detached kitchen and outlying cabins, not wanting in populous tenantry of all ages and colors, from the kinky head with a coal black face, to the straight flax-haired blond. One notes the almost entire absence of those neat farm cottages which dot the New-York and New-England landscape; nor does he see, every few miles, those white village clusters nestled among the hills, which indicate the busy lives of manufacturing industries. Instead the southern village consists of one dingy street, the building bearing the completed appearance of a "hundred years ago" and it would seem, necessarily sandwitched with assorted, dilapitated negro cabins. On the stoppage of the train, one can hardly fail to recognize the modern Aunt Chloe and Uncle Tom, balancing on their well-poised heads a loaded tray, anxious to beguile man'rs and misses into buying the truly delicious "fried chick'n," but abominable coffee, indigestible biscuits and unsavory pie.

The traffic of the southern towns is, for the most part, not in the hands of the natives; for "to do business" is the role of an overseer or a foreigner; but the ownership of a two-thousand acre plantation entitles one to the heraldic escutcheon of an F. F. V. These plantations were once extensive tobacco fields, a princely estate, tilled by slave labor, the owners, noblemen by right of domain, but now they are simply a large extent of worn-out, poverty-stricken land, almost worthless, through twenty-five years of excessive exhaustion caused by alternating crops of wheat and corn; corn for food of man and beast, and wheat as the "money crop." Without manure, or the fertilizing effects of cattle and grass-growing, the soil, although rich in possibles possesses but little of its original fertility. The hot sun of summer burns these heavy unshaded clays saturated by spring rains, into a brick-like mass, fatal alike to grain or grass plants.

The impoverished, discouraged and helpless farmer seeks relief in anathematizing "political corruption," "the silver dollar," "high tariff" and "monopolizing trusts," while "unjust taxation" "railroad oppression" and "negro domination" come in for a share of execration. There can be no help for this condition of things in this part of the South, except by a complete reorganization of the farm industries. The owners of these large plantations without capital are helpless. They must consent to sell the land, not as a whole, but in such convenient farm parcels of 80 or 100 acres, and on such conditions as to induce purchasers who have capital to undertake to reclaim the land. They must also make it possible for them to enjoy some of the educational and social advantages which have been their life-habit in their northern, eastern or western homes.

A farmer considers his farm worth $40 per acre when he can make it realize crops which, after paying him for his labor, yields an interest of seven or eight per cent. on that value; but he would hesitate to purchase land at $10 per acre that would pay him for his labor only, allowing no interest on the cost of his land. He would consider such land worthless, and it would certainly be so in that condition. But let this same farmer sell an acre of his $40 land, and buy an acre (not four acres) of the $10 land, and he would still have $30 cash in hand. Now let him appropriate one-half of this money to this new investment. The first year let him sow broadcast $10 worth of such fertilizers as experience has proved to be of service in his special locality, and plant a crop of cow peas which will cost $3 per acre more; pick peas enough to cover cost of seed, then plow the vines under for wheat, sowing broadcast $5 worth of agricultural lime. This will furnish abundant plant food and humus. Seed orchard grass with the wheat and clover the following February and March.

Now as to results. The wheat will yield 18 to 20 bushels to the acre, and the grass the following year 1½ tons of hay worth $18, as well as a heavy aftermath which should not be closely pastured, but allowed to shade the land as a top-dressing during the winter. The ground is now ready for a corn crop which will yield 30 or 40 bushels, and is never below 20 cents or 60 cents per bushel. The proper rotation is now corn, orchard grass and clover, cattle, cow peas, occasional wheat, but seldom oats. It is only necessary to exercise the same care as was used in keeping the $40 land in a state of fertility, using all the manure as a top-dressing for grass to protect the soil from the summer sun. The farmer observes that he has still $15 of his original investment in the bank. This picture is no fiction; we know whereof we speak.

The question may rise, why do not the present owners of the land manipulate it in this manner? The answer is simple. A two-thousand acre plantation would require $30,000 cash, with an additional $30,000 capital in stock and utensils, or a working capital of $60,000, or three times the present value of the land. Then you say, why don't they sell? Just the thing; who will buy? S. A. F.

Cullman, Ala., May 24.

Farm Profits.

I feel very earnestly about the matter discussed by Mr. Brown on page 393. Such articles should be multiplied. The question has recently been discussed in several journals, Does farming pay? I have been surprised and pained to hear intelligent men write that in general there is very little profit in farming. I am certain that only very poor farming does not. The man who cannot make a comparatively handsome profit from farming in these United States now, has only himself to blame. The fault is not in farming, but in his ignorance, thoughtlessness or laziness. I am thoroughly convinced that the average of profits from farming is higher than from any other legitimate, stable vocation. I have lived for some years in the city, and have lived much longer in the country. My parents lived for 35 years in the city and about as long on the farm. Their experience and mine are that we do not half appreciate the profit and advantages of farming.

Will Mr. Brown allow me to criticise his statements? In estimating what the farm furnishes us, we must use city figures in order to make a just comparison with city life. No man can keep a horse in Quincy, for example, for $1 per week. Its feed would cost more than that. Shoeing, bedding and stabling would each be respectable items. I have taken the trouble to get figures from city friends, and they agree that feed, shoeing, bedding and stabling a horse will cost all of $1 per week, in Quincy. On paved streets horses must be shod much oftener than on country roads. If we are to determine how much cash in the city is equivalent to what the farm furnishes us in the country, we must make our figures just what the things cost in the city. Hence I put the cost of that carriage horse at $3 instead of $1 per week. Two cousins who live in villages and have kept accounts with their carriage horses, and who feed liberally but economically and care for the animals themselves, have told me that the annual cost per horse was near $90.

"A convenient house with twelve rooms" is indefinite, but I know that Mr. Brown will not live in a house not kept well painted, &c., surrounded by nice premises, and that to him "convenient" means all of the modern conveniences that may be had in the country without extraordinary expense. If Mr. Brown

can get such a house in a respectable village, as desirable for a residence as is his present location, for $15 per month, rents must be cheaper in Ohio than here, and in addition Mr. B. must have no children and must have an excellent reputation as a tenant. Quincy is not a large place and rents are reputed to be low; yet in Quincy such a house would cost him all the way from $25 to $75 per month. In or about Chicago, unless he went "forty miles from nowhere," such a house would cost from $75 to $200 per month.

In town the grocery bill includes about everything for the table except fresh meats, fancy fruits, bread, and milk. Several of my Quincy friends have allowed me to go over their grocer's and butcher's pass books. From these I can tell very nearly what it costs for a family of, say, five—man and wife and three children—to keep their table supplied. The work is done without the aid of a hired girl to waste or fleh; except that the washing and ironing is done outside. The point of this is that there is no waste of victuals; and it gives a clue to the style of living. Vegetables and fruit are done without until they reach low prices. Meat is eaten twice a day. There is plenty of "substantial grub," but very few egg-and-sugar gimcracks, and no tony entertaining done. For this average family of five Quincy people the grocer's bill will average $31 per month; the butcher's bill (this includes fresh meat only) $6 per month; milk, $2 and bread $3 per month. Total for one year, $360. This is cheap, too.

When Mr. Brown moves to town he will find that the farm has furnished him a score of things, minor, but, in the aggregate, important—that he has not thought of. I venture to say that he has a good well and cistern. Very likely he has a force windmill pump and sprays his lawn in drouthy weather. The water is furnished by the farm. In town the water for a twelve-room house will cost him two to four dollars per month; and if he sprays the lawn, water will cost one dollar more per month. One hundred dollars per year is a low figure for water bills and kindred items. Now for my figures:

Carriage horse	$104
House-rent	300
Food	360
Incidentals	150
Total	$914

I include groceries in my credits to the farm, because nine farms out of ten pay for them with the surplus of eggs, poultry, butter, &c.

Let us go farther. To dress my average Quincy family of five comfortably, but by no means richly, will cost $250 per year. This does not mean much silk or lace for the wife; two hats a year only. The man I presume wears a white shirt, a collar and a scarf—he is not Patrick on the street. I'll wager Mr. Brown he won't dress his family of five when he gets to the city for $250 per annum.

Now, I have a total of $1,150, the country equivalent of which the man on the farm, making only a decent living, gets every year. This is what the farmer that simply holds his own gets from his farm. When you find a farmer on a farm worth $4,000 that does not make a living for himself and family of four, you find a man too ignorant and prejudiced to do other city work than street work at a dollar a day; or so lazy or wasteful that he could not keep a position, even on the streets.

Six per cent. of $4,000 is $240; hence my city man must earn, by his own labor, $910 per year. Now, what salaries do the average city workers get—not the railroad presidents but the mass? In Quincy, dry goods clerks of ten years' experience get from $7 to $12 per week; drug clerks, three years at school and having years of practical work in pharmacies, get from $50 to $65 per month; clerks in shoe stores get from $6 to $10 per week; in grocery stores the same; passenger railroad conductors get $75 per month; brakeman, $50 per month; bookkeepers, $30 to $65 per month. How many men, working without capital, are getting $900 per year in the cities? Not more than two per cent. of the total number. The top of the city just reaches the bottom of the country. The farmer called a poor one by his neighbors is as well off as the city worker very near the top.

But my city worker must be at his post every week day. He may get a vacation of a week each year, and congratulates himself if his salary goes on. Outside of this he is very slow to ask his "old man" for a day off. Not even the evenings are his own—in 50 per cent. of the cases. I know that when I first went to work on a salary in the city, what very forcibly struck me was that there were no rainy days in the city—to stop work. For me there was no more lying in the hay-mow, book in hand, hearing the patter of the summer rain on the roof, and the horses shaking their halters and munching below. There might be picnics Saturday afternoons, but they were not for me. There were no chats while the horses rested and a neighbor sat on the fence; social calls during business hours were not encouraged. The midday excuse for a meal was a a "delicatessen" lunch of three bites of cold meat, bread, suspected oleomargarine, and potatoes fried in tallow, on a table covered with white oilcloth, in a room as hot as an oven and entirely destitute of ventilation, and a man punching you on each side. How different from the old midday meal on the farm—the white cloth on the table on the cool porch or under the trees; the cool, rich milk, the chicken or mutton, the crisp cabbage and radishes, the juicy peas, the mealy potatoes, the fresh, luscious berries and the big red apples!

And then at night, in my room, so warm that I could not sleep, doors, windows, transoms, air-shafts and ventilators letting in only hot air, how I yearned for that old room at home—the wide, white bed, the breeze that murmured through the elm just before it entered the windows, pure, cool air, and quiet that lulled one to restful sleep!

These, my friends, are things just as substantial—yes, and of more real value, than the silver dollars clattering in your pocket, or the figures in red ink in your bank-book. They must be included in any just estimate of what the farm furnishes us; though I confess that I must leave it to others to reduce them to cents and dollars.

JOHN M. STAHL.

Adams County, Ill.

English Notes by T. Bowick.

With singular uniformity the crofters are getting reductions from the commission of 35 per cent. of rent, and 75 per cent. of arrears cancelled on the better class of estates in the North. On notoriously rack-rented properties the reductions are correspondingly greater; which proves that in either case an impossible payment was being exacted, a rent obtained not for the cultivation of the ground, but for the tenant hiring himself out at a distance for the fishing season, and bringing home the results of his toil on the sea. Proving also that government is coming to its senses, and that a gradual recognition is being obtained of the fact that "a man is better than a sheep." Your great American millionaires have something to answer for in this matter; it is so easy, when one has a full purse, made in another way, to outbid the small local cultivators, while the needs of the landlord do not allow him to look at anything beyond the amount of rent-roll.

We have had a continuance of exceptionally warm weather since my last—in the city almost tropical heat, up to 88° in the shade and 145° in the sun. A member of my family just in from Biarritz, assures me that the heat is even greater than in that favored southwest corner of France; while it need not be added that local thunderstorms are rather prevalent in many parts of the country. Thus in Warwickshire, these said rains, lasting but a few hours in any case, have had much the same character as those you meet with in Bengal, and have beaten down the fine and forward grass crops, into a state as if a heavy roller had passed over the meadows. Remembering that one inch of rain gives fully 100 tons of water to each acre, it is easy to conceive what must be the effect of double that amount falling in a couple of hours. London, however, has been comparatively free from such visitations, and parks, squares and open spaces are alike rejoicing in richest adornment, though the cirrus and cumulus clouds of exquisite beauty, which are overhead to-day, indicate a speedy coming change.

In hop districts the vine has made good progress during the past week, and the tyers have mastered their work in most grounds. Cultivation is somewhat backward, and where this is the case wire worms are reported in abundance, while weeds have also grown at a rapid rate. The tone of the market is firmer, and a good trade has been done in the better descriptions of last year's growth. All other crops have fully responded to the genial influences of the season.

The horticultural college, proposed to be started a few miles from Tonro, in Kent, does not make great headway. In fact, two successive "companies" have come to grief over it; for the affair has been more a company-promoting matter than anything else, up to the present. To-day our Lord Mayor is to be trotted out, and a big function enacted on spot; which function has, in some mysterious manner, obtained a semi-official authorization in government circles. This may tend to help to float the shares, but it will not do anything else. The proposed principal of the proposed college is a great man in the bee-world; though he will need all his skill in bees, and something besides, to create a good national school out of the few acres of worn-out orchard ground that has been provisionally secured.

A much greater entry of live stock is expected at the Windsor or Jubilee meeting of the Royal Agricultural Society, than has ever before been known. Even the Kilburn International gathering, which many of your friends will remember from its terrible outpour of rain, and its impassible lanes of mud—all now under pleasant green sward again—is to be vastly exceeded. Speaking of shows, that is a singular want of liberality which our French neighbors are manifesting toward outsiders, in their big concern at present. Foreign exhibitors may show their goods, but on no account must any sale be effected. In effect, it means France against the world.

Our consul at Copenhagen has just given a most interesting advice on the export of eggs from Denmark. The expansion is of an astonishing character, rising from 3,000,000 score in 1885 to close upon 6,000,000 score last year. The birds are chiefly Minorcas or Italians; the the food, barley, with bran and potatoes, and the egg-raiser confines his attention to that department only—not touching the production of fowl for the table. The Danish poultry farm seldom runs to more than five acres in extent; the farmer has no superfluous buildings to erect, or to pay interest upon; his expenses are limited and his fare hard; while he reckons himself tolerably well paid at 24 cents a score. The English farmer on the other hand counts the cost of production nearly 50 per cent. above that modest figure.

London, Eng., May 16.

—— Inclement weather has of late prevailed in some parts of the Continent, especially in Austria and South Germany, doing considerable damage to the growing crops. Hungary is likely to yield a good crop of rye, while Spain and North Germany send favorable reports as to nearly all crops. It is not likely however, that the yield of wheat for South Russia will at all approach the bulk of the last two seasons; indeed the European outlook generally cannot be regarded as specially promising. Opinions differ very much with regard to France, and dry weather is anxiously looked for, after the fine spell of rain, which has fallen so generally. Barley is certainly promising well in that country, which will balance a diminished acreage grown in Germany. Our home prices are not all encouraging; last week's averages for the 187 statute returning country wheats being under 27.50 per 480 lbs.

Belgium the most densely populated country in Europe, and despite its naturally poor soil one of the most productive, backs up the agricultural interest by the establishment of laboratories for the gratuitous analysis of feeding stuffs and manures. The number of samples examined has nearly doubled within three years, and amounts to something like 10,000 within the twelve months, while the law is down on proved offenders with almost merciless severity, one poor fellow having just finished a six months' term of imprisonment in addition to a fine of $300, and costs amounting to $1,400. Cooperative associations also are getting to be the order of the day over there, to enable the purchaser to obtain the articles required at wholesale prices, plus the cost of distribution. I said that Belgium was poor naturally, but ought to except some of the lands around Antwerp, which, whether by nature or by man's improvement, are among the most productive you can meet anywhere.

A good deal of note has been taken of the sagacity of the swallows in this year avoiding their usual landing place from Africa, all along the region of the Bouches du Rhone, on account of the members of their kindred that have lost their lives at the hands of unfeathered bipeds, aided by modern science. Arriving fatigued from the Mediterranean journey, they have naturally made for the earliest convenient resting places; and what more inviting than conspicuously placed telegraph wires running for miles along that pleasant country. "But men were deceivers ever," for these seductive perches are connected with powerful batteries, that are at once discharged, and throw thousands to the ground. The skins are immediately despatched in huge hamperfuls to the Paris market, and one almost wonders whether it is not something akin to "reason" that has sent them this year to the east or west of the fatal territory. Of course while there are receivers there will always be thieves; but the same thing seems to go on in every country. Last Sunday afternoon, on returning from Harrow, where I had been to look at the grave of an old friend—John Chalmers Morton, a name known to every one of your readers—I met three bird fanciers on the road, with 37 nightingales as the result of their rural trappings. They were decent enough Bethnal-Green fellows, and ready to speak about their calling, but not at all the sort that I should like to get into a misunderstanding with.

I should very much like to visit Rothamsted at present, to see the unequaled plats of natural grasses that have been under Sir John's fostering technical care for so many years past. A blind man almost can tell the differences which different special treatment has given to the separate half-acres—not difference in luxuriance only, but in character and species of the herbage produced. Admitted that the growth of permanent grasses is distinguished by particular irregularities far beyond what belongs to any other farm crop, there is still one thing most evident, namely, that the richest spots throw up their flowering spikelets earlier than the unmanured portions of natural pastures do. Admitted, also, that an application of nitrogenous manures increases the quantity of leaves and makes them darker, but does not greatly increase the total yield, we have to face the fact that a mixed diet suits best for vegetable as well as for animal life. The sum of the whole matter is, first, that well-rotted farmyard dung is the best thing of all; and, second, that in its absence an admixture of nitrogenous and mineral manures is the next to it—largely increasing the bulk of the crop, giving also uniformity to the ripening, though somewhat delaying the period of fructification.

Mr. Justice Hawkins, in giving judgment which practically stops disbowning of cattle, made an unfortunate admission when he described the dockage of horses as sometimes justifiable. Yet that practice has been declared illegal in several recent cases. Perhaps a compromise is about the best thing after all, and breeders had better see to the "disbudding" of the horns in young calves (not a painful operation), so as to save goring or prodding when the animals grow up. Norfolk is the district most affected, and it will be surprising if the wise men of the East do not manage to meet the altered conditions.

London, June 1.

A Double Silo.

EDS. COUNTRY GENTLEMAN—As ensilage is much discussed at present, I have a few points which I would like to describe. The arrangement came before me while working for a gentleman in your State. The silo, which adjoined a two-story and basement barn, was built of stone part way up and then brick, and covered with shingle roof. It had doors to enter from cellar and from first floor. A walled division made it practically two silos, facing to front, each 10 by 20 and 20 feet deep. On the outside an arrangement was made with track and car through a door for filling.

The corn used was Stowell's Evergreen, planted 3 feet apart with a Crown drill, every other tube being stopped for this purpose, and dropping each grain about 6 inches apart. The corn was cut by hand just when the ears were glazing, loaded on wagons and hauled to cutter (a Rose with elevator), cut and elevated in the silo, first one section and then the other being filled. The filling was gradual and the ensilage trampled down (left a few days after each filling), when full weights were put on top and it was left until used.

In beginning to open, at first it had to be taken out through the outside door in roof until the door on first story was reached—I mean from the silo nearest the barn first, thus keeping the other silo intact, cutting down a passage about 4 feet wide. Then begin with a plank from the door back on top of ensilage,

and work it off evenly from the top backward. The ensilage in both divisions was in good condition, except in the last one. When the warm weather began, a layer of 3 feet was left, which on the last of May began to mould. These silos hold about 200 tons, and fed 30 cows the season through in connection with a feed, thus: One-half bushel ensilage in morning, hay at noon, ½ bush. ensilage and 2 qts. bran at night; these rations being alternated although no regularity was used. The object was milk solely. CHAS S. REESE.

Warren County, N. J.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, June 11.

Six inches of rain since the 30th of May and no low a temperature that corn planted two weeks ago is just coming through the ground, is a pretty good beginning for a cool wet summer. There were heavy rains and much thunder on the 7th and 8th inst. and cold, cloudy, lowery skies following, but there is a southwest wind and it is warming up fast this morning. *Apropos* of the copious rain here and the deluges elsewhere on the 7th and 8th of June, is one of the commonest of all popular proverbs in the catholic countries of middle continental Europe, to the effect, that if it rains on St. Medard's day, June 8, rainy weather will follow for forty days thereafter. The saying was so nearly universal among the peasantry, and the truth of it was so often demonstrated by events, that certain French savants undertook to give a rational explanation why if it rained heavily on or within a day or two of St. Medard's, it would be likely to rain for days thereafter; and this is what they made of it: St. Medard's *fête* precedes by some days the summer solstice; at this solstice and during two or three weeks before and after, the sun does not vary materially from its high place in the heavens, and therefore pours down upon the earth each day about the same amount of solar heat. One can say then, that at this period of the year, astronomically speaking, the days follow and closely resemble each other. The weather then becomes "settled" as the English term it, that is, established in a certain way, and it remains to be learned on what footing. St. Medard's day arrives at a time when the forces of nature are in a state of stability. If the weather is dry, clear and fine, it is likely to remain so; if it rains and rains heavily on the 8th, then we may fear more or less settled wet weather for forty days following.

Since the heavy rains, grass has been doing very well by thickening up at the bottom; all cool-climate vegetables are suited with the weather, and oats are coming on with great vigor. Winter wheat failed to stool, is headed out low down, and the outcome of the crop is in doubt, whether it will be taken by the red rust, or if not taken whether the copious rains at the period of blooming, did not wash off the pollen, so that the heads will be imperfect or barren. The stand of corn is far from a full one, indeed it is the least satisfactory for several years. If the rains hold up long enough to admit of clean cultivation, the crop may be an average one; if we have a wet June, the price of corn this date in the year '90, is pretty sure to be something above the present low figure of 28 cents for 70 pounds in the car. In conclusion, we may congratulate ourselves that the chinch bug and the potato beetle are practically out of the battle for the next two or three years, and that the fruit crop for the off year is a good one along the whole line.

R. F. J.

A Good Cheap Land Roller.—I have had one of my own but two years, and I can see many good results from its use. If a piece of sowing put in with a drill is at once firmed with a good heavy roller it will start much quicker, and the land will be left smooth to run the harvester over. If the lot is near the barn, you need not shut up the hens, as the seed is quite secure from them. I dislike to shut the hens in, especially so early in the season. I consider the roller also the best implement to use on a piece of sod after plowing; it puts all the furrows right down where they belong. I used the roller to-day on a piece of sod plowed for potatoes, and then put on the same a disc harrow, and a more perfect job could not be done. The roller is also a capital thing to run over the meadows in the spring, pushing back the grass roots that have been heaved by the frost, and also the small stones which have been raked up by the horse rake. I have a sowing attachment on my roller which is quite an advantage, as I can while rolling sow plaster, &c., on my young clover or meadows, or even grass seed on the meadows that are frozen out. My roller is made in two sections, each 3 feet long and 28 inches in diameter, of solid log, and bored from end to end. It has a stationary shaft 1¼ inches in diameter on which the sections revolve. The bearings are of gas pipe 5 inches long, driven snugly in each end of the sections. It is more substantial than a stave roller, and I consider it by all odds much better and cheaper to make. Every farmer should have one. J. H.

Sharon Centre, N. Y., May 3.

Insect Poisons.—Is there a bug poison that does the work that peroxide of silicates does for killing potato, cabbage and any bugs or worms which farmers are troubled with? If so, please give me name of same and the manufacturer? Is there some kind of poison you can recommend as good besides Paris green and peroxide of silicates? J. H. C. *Portland, Me.* [The rule which we endeavor to follow is not to recommend any nostrum, medicine or poison of which we are not informed as to the composition. It would be unsafe to do so, and its use might result in serious accidents. The name "peroxide of silicates" means nothing, and appears to have been chosen to conceal its real nature. We know of no insect poison more efficient than Paris green, London purple or other compounds of arsenic; but these should always be used with great caution, and generally in a more diluted state than is often the case. If sufficiently diluted, and if as thoroughly intermixed as possible, these poisons may be obtained at a lower price than nostrums made from them and sold under concealed names.]

Angora Goats.—What became of the Angora goat-breeding? Are any flocks still kept in the Northern States? G. L. *Victoria Road, P. O.* [We believe they do well in Texas and elsewhere at the South, but hardly think they are bred to any extent in the colder States. If we are wrong, will some reader correct us?]

Feeding from Silo.—J. E. H., p. 456, asks advice as to feeding from silo. We read a good deal about cutting down ensilage and feeding it in sections. I tried that plan the past winter, and am perfectly satisfied. No more cutting down for me; I lost several tons of ensilage, it spoiled in 6 or 7 inches. My advice to him is, build your silo the proper size for the cattle you keep, and when you commence to feed, go over the whole surface; it will not injure it if you are four or five days in taking off a layer. W. H. S. *Oxford Depot, N. Y.*

Tile Draining, p. 384.—J. S. F.'s experience is a good deal like mine 45 years ago when I was a neighbor of the late J. J. Mechi. Land-ditching, using sticks and straws, shells, inverted sods, or gravel, was an industry many hundred years old, introduced into Britain, I believe, by the Romans; mole plowing had been long in use, and was much practised; but the making and laying of tile was then but lately introduced, and Mr. Mechi was an enthusiast, but like that excellent technical paper, the Drainage Journal, got out of his depth as to the distance downwards to be profitable. He worked on 6 feet; the Journal advocates 4 feet; both are unattainable. Another error (as I think) the latter encourages—the use of large tile, which, except for mains, are a positive objection in their working. No person now will use other than plain cylinder pipes, and the smaller they are, the narrower the chanel the water has to keep cut. I would suggest tile to be only 1¼ inch in preference to 2 inch bore, though the ditch to top of last spit must be wide enough for width of a man's shoe, which ought never to go to the bottom of a properly made drain, even if such absurd tile as 4, 6 or 8-inch in diameter be used. As to depth, practically the better plan is to adopt the shallowest that is absolutely safe from surface disturbance, because the land needing it (ranging in value from $2 50 to $50 per acre) will not warrant the expenditure of $51 per acre, which I am informed is the average cost for labor to drain thoroughly. E. X.

Cultivators, p. 444.—If C. K. will purchase a Little Diamond sulky cultivator of G. W. & S. Taylor, Smyrna, Del., he will get one of the best machines on the market, one well built in every respect. I have used one three years and it has given the best satisfaction. He can use any size or kind of blades or teeth on it, and use it as a corn marker also.

CHARLES WRIGHT.

The Entomologist.

The Currant Aphis.

EDS. COUNTRY GENTLEMAN—Kindly inform me of the quickest way of getting rid of the (I think) aphides, which cluster around the ends of the currant bush branches. These pests required to be destroyed by me last year twice, and to my surprise they have come again this year also. Please say what harm they will do if left unmolested. Are they perennial in their visits? I use either a solution of Persian insect powder or one of tobacco, and in this each little bud or branch was dipped and lightly rubbed, but for many bushes I found it a slow and laborious job. We require to think more of our currant and other small fruit bushes than do you of the eastern coast, for we have little or nothing else in the fruit line, owing to our altitude of 2,000 feet. Of apples, experience so far has proved that none but the hardiest and coarsest varieties will ever live here. E. A. *Nicola Valley, British Columbia.*

Dipping the infested twigs in either pyrethrum water or tobacco water, are good methods of dealing with this and other species of aphides, but the liquid often fails to kill all of the older individuals, and enough survive to continue the brood. A better application would be found in a kerosene emulsion made of about double the strength usually recommended—say one part of emulsion (after the formula so often published) to five parts of water. This could be sprayed two or three times over the tops, which if thoroughly done, would be as effectual as the more laborious method of dipping the individual tips.

We do not know the life-history of the currant aphis, *Myzus ribis*. If, as is probable, its eggs are deposited in the autumn, on the tips of the currant stems, they could be destroyed at this time or during the winter, by spraying with the kerosene emulsion, diluted only to a sufficient degree to admit of its flowing through the nozzle of the force-pump. There is good reason to believe that even undiluted kerosene might safely be applied in the winter time with an atomizer without injury to the plant. This would, beyond all question, be fatal to all eggs present, and therefore prevent the usual spring attack. But possibly the eggs may be deposited on some other plant, from which a migration may be made to the currant.

Myzus ribis is usually not very injurious to currants in the United States. It often causes an unsightly curling and bulging in red blister-like elevations of the leaves; when these extend generally over the bushes, the myriads of the plant lice which occupy them may, by the amount that they withdraw from the circulation, materially interfere with the development of the fruit.

In the above communication, mention is only made of the occurrence of the aphides on the tips of the stems. If they do not, in addition, attack the leaves as we have stated above, it would seem that they were a different species from our *Myzus ribis*. I would be glad to receive some examples for comparison. If sent, some of the tender tips should be enclosed with them for food on their journey.

J. A. L.

The Naturalist.

The Owls of America.

Perhaps the most strictly nocturnal of all our owls is the long-eared owl (*Asio wilsonianus*); so thoroughly does it conceal itself during the hours of daylight that, although a common resident species, it is very rarely seen, and is unknown even to many experienced woodsmen. The field naturalist looks for it in thick bushes and similar shady resorts, especially in dark cañons or along well-wooded streams, or even in caves.

It seems almost unable to see in the sunlight, and is exceedingly slow and awkward in making its escape when surprised at such times. Samuels relates that an owl of this species which he kept in captivity as a pet, appeared quite unable to see in bright daylight, and would actually allow its eye to be touched before closing it or jerking away the head, although active enough after dark.

Among the noisy crew of "hooters," the long-eared owl is perhaps the quietest, and its cry is entirely unknown to the present writer. The *menu* of this species consists of what small mammals, birds or large insects it can capture. During the summer season it destroys many field-rats and mice, and may be considered a friendly visitor; but through the long winter it is often sore pressed for food—along with the whole tribe of rapacious birds—and nothing comes amiss. Small birds doubtless form the most important item in its dietary at such times.

Owls seem largely independent of water, and the long-eared species has been known, in captivity, to go a month or so without drinking—the blood of their victims appearing to supply them with sufficient fluid. The nest of this night prowler is built in very various localities—in hollow trees, in rock clefts, on the ground, among the branches of tall trees, or in the deserted homes of hawks or crows. The nest is very roughly built, and the large white eggs usually number four. Not infrequently it builds in the same tree with other birds. Wilson once found the nest of a long-eared owl almost on the same branch with that of a night heron, in the midst of a large "heronry" of the latter species, the two widely dissimilar genera seeming to get on together in perfect harmony. The long-eared owl is a common resident almost throughout North America, and is very easy to recognize. The ear tufts are very marked, being as long as the middle toe, including the claw. The upper parts are brownish, mottled with grey. The length is about 15 inches and the extent 39 inches.

The short-eared or marsh owl is a somewhat larger and much bolder and rapacious bird than his congener just described; the extent is sometimes over 41 inches, or nearly as large as a goshawk. The ear tufts are much shorter than the middle toe, and inconspicuous, and so characteristic of the species, that this large owl may be diagnosed at a glance. It is a very widely distributed variety, being found in most parts of the world. With us it is somewhat migratory in its habits, and is occasionally seen in small flocks, particularly in marshy places, which are the favorite hunting grounds of this owl.

In marked contrast with the preceding species, the marsh owl is frequently abroad in the day time, and it is a much bolder and more vigorous brigand than the *wilsonianus*. I agree with your correspondent G. W. D. that this owl is a murderous enemy to young rabbits; that it also destroys great numbers of field rats and mice is certain, and that it will prey on any warm-blooded creature which it can capture and kill, any one familiar with the courage and dash of this owl will feel confident. It breeds on the ground—sometimes in a deserted burrow—the nest being composed of a scant layer of hay and the like; the eggs may number 6 or 7. The zoological name of this species (*Asio accipitrinus*) means "hawk-like horned-owl," and very aptly suits this broad-winged member of the family *Strigidæ*.

I first made the acquaintance of the great grey owl (*Strix cinerea*) while in camp in the Adirondack wilderness during the month of September, 1889. Repeatedly I had heard a wild, tremulous cry, quite unlike that of any owl familiar to me, proceeding from some great trees, and often I had tried to "still-hunt" the owner of the voice, sometimes with a rifle, but oftener with a field-glass for my weapon, but I was never able to get a glimpse of the vocalist. However, before I left the camp, one of our guides, while off on a tramp through the wildest part of the woods, shot a magnificent example of the great grey or spectral owl through the breast with his rifle, and proudly exhibited it as the origin of the weird noises we had heard. It was one of the most powerful and beautiful birds I have ever examined. The upper parts were brown, mottled with grey; under parts almost the same, but streaked on the breast; the feet were completely feathered to the claws. This specimen was of immense size, but unfortunately was not measured; however, the species is well-known to exceed two feet in length in some instances, the wings having an expanse of five feet, the beak and claws being powerful in proportion! The heavy, 45 calibre Remington rifle ball had so mangled the bird that only the skull was worth preserving, and that also was lost or carried off by some animal before we left the woods, a few lines in my note book being now my only relic of one of the most impressive "specimens" with which my experience has provided me.

This great species inhabits Arctic America, coming south in the autumn and winter, even to New-Jersey in very severe seasons. It is somewhat common in the region which used to be called the fur countries, and is well

known to observant guides in the Northern Adirondacks. It is decidedly a woodland species, seldom venturing beyond the forest shades. Its food consists of hares, grouse, and similar small game, and that it is an important rival of the sportsman is quite certain, but no instance has come to my knowledge of it being found in the neighborhood of a farmyard. Through the long, dark sub-arctic winter the "struggle for existence" of this bird and its feathered relatives is a most desperate one. Snow to the depth of many feet everywhere; ice thick as the wall of a fortress on every lake and river; arctic winds so strong that the most skillful woodsman dare not cross a frozen lake or similar open on his snow-shoes while they rage. To the South have flown the migratory *fauna*; to their snowy burrows have retired the squirrels; to their warm nests have gone the hibernating species. The few *genera* which brave the blasts and seek food in all weathers have found protection—the grouse under the snow, the hares in the thickest brush piles and windfalls, the wood-mice and fur-bearers in hollow logs. And over this dreary landscape, through the dusk and the darkness, and the whirling snow and howling wind, on noiseless pinions hunts the spectral owl! Often must it hap to him as to the Indian hunter, of whom the poet tells us:

> "Vainly walked he through the forest,
> Sought for bird or beast and found none,
> Saw no track of deer or rabbit,
> In the snow beheld no footprints,
> In the ghastly, gleaming forest
> Fell, and could not rise from weakness,
> Perished there from cold and hunger."

Yet that this great winged-robber does generally manage to find food and shelter is evident, and he in turn is often converted into game by the starving trapper, his large body furnishing a good meal for a hungry man. The spectral owl nests in trees, building a rude structure of sticks and mosses. The eggs, three or four in number, are small for so large a bird, measuring about 2¼ inches in length. Owls of many species, but particularly the great grey and the snowy varieties, have of late years been much used as decorative objects in libraries and drawing-rooms, and certainly, when artistically mounted, the *cinereus* is a decidedly picturesque ornament.

Nearly related to the species just considered, although in every way a smaller and less picturesque bird, the barred owl (*Strix nebulosa*)—also called hoot-owl and American wood owl—is one of our finest species. The alar extent is about 44 inches, which, as the wings are rather broad and rounded, gives a very large flight surface to a body only 18 inches long from tip of beak to end of tail. The color above is amber-brown barred with tawny and white; the breast is similarly marked; the lining of the wings is tawny.

This is one of our commonest wood-owl, and is well known to all experienced sportsmen and most farmers; it ranges through Eastern and Southern North America. The "outbursts of midnight discord," so often heard about the farm house or camp fire in wooded districts, proceed oftener from this species than from any other except the great horned owl. These two great vocalists among the *Strigidæ* do not seem to get on well together, and are seldom, if ever, found in the same belt of woods. From what I have seen of the long-horned murderer, I think it altogether possible that he may occasionally kill and eat a barred owl when other food is scarce, and he can catch one—which would easily account for the coolness which exists between these two wiry night-prowlers.

The American wood owl is a very rapid, strong and noiseless flyer; when mouse-hunting it flies very low, skimming over the meadows, and seizing with unerring aim any unhappy mouse which comes within the scope of its keen vision. In addition to such humble game, the barred owl sometimes feeds on poultry which are carelessly permitted to roost on trees or fences, and both rabbits and squirrels enter into its bill of fare. There is little good (from man's selfish standpoint) to say of any of the wood owls, and this species being the commonest, its depredations are most noticed; but, like most of its tribe, the *nebulosa* is fully able to take care of itself. During the day it remains hidden in dense evergreen trees or like cover, and can rarely be found even by an expert collector; and even when its retreat is discovered, its daylight vision is so good, and its flight so rapid, that it is very difficult to get within shot-gun range. And it is yet harder to bring the bird down, as it dashes out of the tree on the *opposite* side to that on which you are waiting, gun in hand—presenting, especially if the tree be somewhat large and thick, and clumped with others (the sites the bird usually selects), one of the most difficult shots possible, as such a swift-flying bird is usually well out of range before you can run to one side and bring up the gun. It is much easier and better to properly house poultry, and leave good cover in fence corners and wood lots for grouse and rabbits than to try to kill off the marauding owls, and it is the method I advise for limiting their depredations. The wood owl has often been kept in captivity; one belonging to Mr. E. A. Samuels, the ornithologist, became quite tame, and would take food at any hour of the day or night from his hand. The white eggs of this species are deposited in early spring in some deserted hawk's nest or tall hollow tree.

The hearing organs of all owls are wonderfully developed, the ears being provided with a movable flap, closing over the opening in the case of some species, and in others there are curious bony resonators half surrounding the orifice. Especially during very dark nights owls certainly depend largely on their ears to discover the whereabouts of prey, and their powers of audition, like the scent faculties of many mammals, and the vision of hawks and vultures, are probably far beyond the understanding of dull-sensed man, who, but for his brain, is the most gross, helpless and ill adapted to natural environment of all animals.

R. W. SHUFELDT.

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

BUNCHES ON THROAT.—I have a colt foaled last of April that has ten bunches about as large as a butternut each side of its throat. Can anything be done to remove them? L. B. S. *Bridgewater, N. Y.* [Apply golden blister, about a teaspoonful to each bunch. Repeat every three weeks.]

THOROUGHPIN.—I have a 2-year-old colt, which has a thoroughpin or bog-spavin of one year's standing, partly in on inside, and half the size of a hen's egg on outside. What will be the proper treatment to remove it? F. T. *Yorkville, Ill.* [Put on a high heeled shoe and apply golden blister.]

LAME MULE.—I have a mule four years old, that with exercise gets lame in hind legs. When walking, seems to catch in stifle, and stops him for a moment, and then passes as it comes forward. J. A. C. *Carp, Tenn.* [Either blister the stifles severely or have them fired, and then blister 24 hours later. If blister is used, it should be repeated in three or four weeks.]

FOUNDER.—I have a horse which was foundered about a year ago. For four months past the hoof on one of his feet has become so soft it will not hold the shoe. What treatment do you advise? F. K. *Atchison, Kan.* [You must describe the parts affected and the appearance of things. Soak feet (hoofs only) for two hours a day in the following: Powdered sulphate copper, 4 oz.; powdered nitrate potass., 4 oz.; powdered borax, 6 oz. Water sufficient to cover hoofs; mix.]

WARTS ON MARE, p. 413.—In reply to my query concerning the bleeding warts on a mare, you answered, cut them out and treat as a simple wound. Will you please describe operation of cutting out, how done, and the proper treatment afterward? W. W. T. *Robertson, Miss.* [I do not think you should attempt such operations, and therefore the method is not given. The veterinary surgeon is the proper one to do this, and if you cannot obtain the services of one, get your surgeon to do it.]

HEIFER'S FIRST SONS.—I have a heifer that calved March 15; soon after noticed a sore on each hind foot, which has never healed. A scab forms as if healing, and then breaks out; no mattery discharge, but bleeds very slightly. Not lame, but painful when touched. Feed, ensilage, hay and bran, the last month on pasture. C. B. B. B. *Durham, N. H.* [Give her in feed twice a day two tablespoonfuls of the following powder: Powdered nitrate of potass., 8 oz.; iodide of potass., 4 oz.; mix. Sponge sores off daily, and apply a little of the following lotion: Chloride of zinc, 2 dr.; water, 1 qt.; mix. Then cover sore with calomel.]

LAME HEIFER.—A heifer at 7 months lost calf, caused by fighting with strange cattle; has been milked since, and is now milking. Last November she appeared lame in one foot. This passed off, and in a short time appeared again. Thinking it was from a hurt, we did nothing. For the last two months it has been almost continuous, first in hind foot and ankle, and then in fore foot and ankle. She eats heartily, and looks fairly well, except that hair is a little rough. Has no cough, and has not been bred, but comes in heat regularly. Gave a cow drink two weeks ago, but no relief. Is it rheumatism, and what shall we do for her? D. B. *Salem, Ind.* [See treatment advised for rheumatic cow, in this issue, and add to that 1 dr. of iodide of potass. in feed twice a day.]

FITS IN HORSE.—A horse eighteen years old, has has three fits in the last three months; will fall suddenly, froth at mouth, tremble and struggle as if for breath. In two or three minutes will get up with a dazed appearance. In from five to ten minutes, will apparently be as well as ever. Is in fairly good order. Can he be cured? J. W. F. F. *Athens, Tenn.* [Give horse a dose of physic; have teeth looked to. Give 25 drops tincture nux vomica three times a day for two weeks. Horse may have moderate exercise, but no work for two weeks. I am presuming that you have examined the harness and found that the horse was not checked down by it.]

RHEUMATIC COW.—I have a cow, seven years old, which seems to have pain in her feet or legs. Appetite seems good and the bodily functions properly exercised with the exception named. The legs have at times swollen some; both the fore and hind legs being involved and at different times. She will sometimes raise up one foot, then the other, as though they were sore or giving her pain. She has lost considerable flesh. J. M. C. *Nashville, Tenn.* [The cow is rheumatic. Give her a general cow drink and half one every three or four days for two or three weeks. Also give a drachm of salol twice a day. An ounce of powdered nitrate potass. may be given in drink daily for ten days. Diet should be ground oats, bran, hay and grass.]

HARD UDDER.—A heifer had her first calf April 8. Udder in front has been hard ever since calf ran with cow three days; then tried to milk front teats; could get little milk; then was advised to turn cow in lot with two calves, which continually sucked her; after a few days took calves away, as udder got no better. Since then have been rubbing twice daily with cosmoline and milking very carefully. The udder is still very hard; the two teats give but about half a pint of milk. J. M. W. A. *Warrenton, Va.* [Rub udder once a day with some of the following: Spirits turpentine, 4 oz.; linseed oil, 8 oz.; sulphuric acid, 4 dr.; mix. Give her a general cow drink, and half a one every three days until she is improved. Also mix in feed a tablespoonful of the following powder twice a day: Powdered iodide of potass., 4 oz.; powdered colchicum seed, 8 oz.; powdered licorice root, 6 oz.; mix.]

MULE LAME IN FORELEG.—I have a mule, twelve years old, which seems to be in fine health, and with good appetite. Two years ago, after steady work, seemed to become slightly lame in foreleg. Thinking it was temporary she was permitted to go on, with little or no treatment. She shrinks from no pressure on any part of the leg until you reach the crown of the hoof at the junction of the hair, and at the same spot on each leg they were similarly affected. On each side of the hoof, and immediately above, a callus seemed to be formed of the consistency of bone, leaving a space of about two inches in the centre, not hardened, but tender to the touch. T. E. W. *Galveston, Tex.* [Evidently the trouble is "side bone." Apply golden blister, and give ten days' rest, repeat in a month, and again in a few weeks, when animal can best be spared. Before blistering soften the hoofs by soaking feet an hour or two a day in warm salt water for a week. After blistering soak three times a week for a while.]

HERNIA IN COLT.—A colt three days old has scrotal hernia. We placed it on its back, and returned the intestines several times as recommended in Sanders' Horse Breeding; but they persist in coming down as soon as the colt rises. We undertook to castrate him as directed in same book, by the covered process as practiced by Liautard. It was impossible to find the testicles, and came very near opening into a fold of the intestines, which we mistook for one of the testicles. Can anything be done for this colt, where there are no veterinary surgeons, except to leave him to his fate? C. A. T. *Peterson's Mill, La.* [The animal should be operated upon by an expert—one who understands not merely the simple castration of animals that are natural in those parts, but a man who makes a specialty of castration in all its branches and who has therefore experience in the performance of operations for the emasculation of animals that have hernia of various kinds in the region of the testes or cords. It would be improper to describe such operations, and expect people who do not understand them to perform successfully. I shall always insist that experts alone should be entrusted with such operations.]

RUBBING TAIL AND MANE.—A 5-year-old mare has been rubbing tail and mane badly for last two months. Ten days ago had surgeon look after her teeth, and he found one upper grinder split right in the middle. It was decayed enough to make her breath very offensive. The animal was cast and tooth taken out in 15 pieces. She is suckling colt, two weeks old, and has been fed ground feed and one bushel basketful of grass daily; has no regular work. When worked moderately she seems troubled with worms. About four days ago, while hauling brick, I noticed a quivering in fleshy part of left fore-arm just above elbow. She has been in stable last four days and quivering continues. Worked mares last summer (only used occasionally) which quivered same way; were fed high on corn to keep them fat. Another mare, age and weight same as first, rubs tail and mane especially bad; strikes floor with left hind foot most of time while in stable; also rubs fetlock of one hind foot with toe of the other. Feed each mare about 8 quarts by measure of ground feed, three times daily, one third wheat bran, with corn and oats to fill measure. It is fed wet to increase flow of milk. F. J. V. *Burlington, Wis.* [Feed Moore Bros.'s worm and tonic powders. It is a dangerous thing to feed animals high and only give them exercise or work once in three or four days. Rub a little kerosene on tails from the body to end of dock, and in 20 minutes wash it out; repeat in four days. Stop the corn feed. If mane and tail do not yield to the above, write again and refer to this page. The second mare, if not suckling foal, should have a dose of physic.]

MILK FEVER.—Within 24 hours after calving two cows were taken with weakness of the hind legs. In the first case the animal was removed at once to a box stall, and soon lost all use of her legs. She had calved all right and seemed to be doing well. I began giving her aconite in mild doses, which seemed to have no effect. No veterinary surgeon being within ten miles, I began trying remedies recommended to me. I gave oil, salts, a mixture of African peppers and May-weed, and a mixture of calomel, laudanum, and castor oil. This cow got well, but we are in the dark as to the cause of her recovery. In the second case I began using the two mixtures mentioned above. She grew rapidly worse, and we procured the services of an ordinary country cow-doctor, who said she had stoppage and prescribed yeast. He gave her about three pints. Another doctor being called, decided it was milk fever, and gave her remedies for that disease, we suppose. Both cows laid on their sides groaning at every breath and became totally blind, but both recovered their sight. The second cow improved so she could stand up, and tried to eat a little. She then went down again and died. In both cases nothing was passed from bowels until the cows got up. C. W. A. *Warren, R. I.* [In my opinion both cows were stricken down with puerperal apoplexy, commonly termed milk fever. Cows with that disease usually show more or less of the symptoms below. Calve easily, pass afterbirth all right and do well from a few hours to six days, then suddenly show illness, stagger, fall sooner or later, perhaps try to get up but as likely lie without effort, groan, breathe heavily, become blind, deaf and oblivious to all about, milk is either all gone or but little secreted, bowels torpid, the head is turned around to side and lies against the latter; if the head is brought around so that neck is straight, cow upon being freed will throw head back to side. Sometimes cows so affected seem to be cured by certain remedies, and sometimes I think they get well in spite of medicines. One of the best preventives and remedies for milk fever is Moore Bros.' general cow drink; also give 20 croton beans pounded fine or a pint of warm lard, and put upon the tongue 30 drops of tincture aconite root every hour. Give injections; turn cow every three or four hours; when she begins to show consciousness, give aconite every two hours, and after two or three doses give it three hours apart.]

Horticultural Department.

Editorial Notes and Comments.

NEWLY SET TREES.—Those who have set out young fruit trees this spring should remember that they need some attention for several weeks afterwards, in order to give them vigor of growth and to prevent loss by their dying. One of the first things required is to see that the soil about them does not become hardened into a crust, but that it be broken several times with a hoe or steel rake for four or five feet on each side of the tree. Another requisite is to prevent the growth of weeds and grass over the same surface. Another is to see that they stand firmly where they are planted, and if they are disposed to whip about by the wind, they should be staked. If the trees are rather large for transplanting, and the roots have been cut short in digging them up, they will not be likely to stand well; if the top has not been sufficiently reduced before the buds opened, they will probably make a small growth even if they survive, unless well secured by staking. Cutting back and shortening in the shoots after the leaves have appeared, will do more harm than good.

OTHER MATTERS.—Not to be overlooked or forgotten, are the destruction of curculios on plum, apricot, nectarine, early pears and early peaches; the spraying of apple and pear trees in bearing, as soon as the petals drop, and two or three times afterwards, every five or six days, varying according to the weather or after each rain; a constant watch of the plum trees the season through, and the prompt excision of every vestige of the black knot the day it appears. If faithfully attended to, this will keep the black knot from the trees with as little labor as to hoe a hill of cucumbers. If neglected, there is no help from it.

CHEAP APPLES.—The low price of apples the past season has had the effect in many cases of causing a freer use of them in many ways, and among others in their wider domestic uses—in stewing, roasting, for pies, for apple dumplings, and for Indian puddings, at the same time that many who would have greatly benefited by these uses, and who could have reduced their grocer's and butcher's bills, have allowed them to rot under the trees. Some farmers have fed their surplus in moderate quantities, and in connection with other food, to their horses and swine, thus saving food and increasing the thrift of the animals. But in one way, orchardists and owners have allowed the low prices to do much harm. They have been unwilling to take special care in hand-picking, in assorting, in putting them up in the best manner for shipment, and they have been carelessly bruised and more or less decayed by the time they reached market. Purchasers became dissatisfied, and concluded to restrict their supplies to small quantities in future, and the market was badly injured. The temptation which low prices have caused to slip-shod management, has produced formidable evil. It would have been better economy to take the same care as when prices were at the highest, and thus maintain a good reputation. It is asserted that even in this year of low prices, some orchardists who are known never to send a poor article to market, received prices well up to those in the best years.

NEW SEEDLING STRAWBERRIES.—The crosses between staminate and pistillate are easily produced by planting the seeds of the pistillate, every one of which is a cross between the two, if not mixed with others growing near. Wash the seeds from the pulp, and dry them on paper in the shade. Sow in shallow boxes with soil three inches deep, covering them a quarter of an inch or less in depth, and pressing the surface. Set in the shade and keep the surface moist by covering till the young plants appear. Separate and replant, water sufficiently, and early in autumn replant permanently with earth on the roots. (In speaking of "pistillate" plants, it may be well to remember that all such plants have perfect or staminate and pistillate flowers, but the stamens are too small or feeble to furnish a full amount of pollen.)

THINNING FRUIT.—It may be well again to remind our fruit-raising readers of the importance of thinning the fruit on overloaded trees, now that the crops are beginning to develop their abundance. A correspondent of the New-England Farmer says; "A part of my Sheldon pear trees last season were pruned to thin the fruit. The unpruned trees produced four pears when the pruned ones produced one, but that one was as heavy as the four, and when sold brought four times as high a price." The late Dr. Farley of Union Springs gave as the results of thinning some of his pear trees. He had several bearing trees of the Louise, giving about equal crops. He thinned the fruit on a part when young by taking off one-half the specimens. The thinned fruit grew so much larger as to afford as large a measure as the numerous pears on the unthinned trees. He gave it as his opinion that had he taken off three-fourths there would still have been as large an amount left. Overcrowded fruit is never of the best quality. It bears and ripens more seeds, which always tend to check, exhaust and injure the growth. It is much easier to pick off early the poorest surplus, requiring little care, than to pick it all when ripe, and assort it all with greatly increased labor.

Picking and Shipping Small Fruit.

EDS. COUNTRY GENTLEMAN—In this branch of horticulture, as in most others, no one can usually adopt in all respects the practice of another, no matter how admirably said practice may suit the conditions under which it is employed. We may, however, often obtain useful hints from the methods of others.

To begin with, secure your packages early. It is better to have them on hand three months before they are needed than to have to wait three days when you do need them. The style of package used will depend largely upon the manner of marketing. We use the two-bushel Cincinnati stand of four half-bushel drawers for strawberries, currants, cherries, black raspberries and blackberries, as we wholesale entirely, and commission merchants prefer these packages — grocers usually liking to buy their berries in this form, as it saves them all trouble with baskets, and allows them to measure out 16 to 20 quarts, frequently, from a half-bushel drawer. They are also preferred by the trade because they are uniform and interchangeable, like a silver dollar, and can be bought and sold with the berries without the trouble of returning. The growers here also give them preference because they are cheap and handy.

The berries are picked in quart baskets, four of which are carried in a frame with a handle made for that purpose, and on being brought to the packing shed are at once emptied into the drawers, so that if there is any fraud in picking it is at once detected. It is much less work packing a large quantity of berries, as the baskets are usually a little too full or too empty to pack in crates, trays will not always fit, &c., so we find it makes a difference of several hands in packing 50 to 125 bushels per day. We do not begin picking until the berries are dry; two pickers to each row are usually assigned, one on each side. Where the patch is long, draw a wool twine across the centre of the field, and pick one end one day and the other end the next, having the packing shed in centre of field, or one at each end of field.

Except in excessively hot weather the berries are left in the packing shed, which is airy and usually in the shade of a tree, until they are loaded for market. We usually expect our pickers to carry their berries to the packing shed (which is close by). When the ground is wet and of a heavy nature liable to pack, it might be advisable to adopt the plan in use at Barnesville and some other places, and have persons for the purpose of carrying the fruit from the pickers to the packing house, as it might in some degree prevent tramping and packing the soil. I think, however, as a rule, the pickers are rested by the change of position in carrying in their own baskets.

We use printed tickets of different denominations to pay the pickers. These tickets are cashed at stated times only. As we have work for our pickers from the earliest strawberry until blackberries are gone, we can pay off every week without fear of losing our pickers until about the close of the blackberry season, when we withhold a portion of their wages until we are done.

We aim to impress on the minds of our teamsters that stands of berries must be handled with the utmost care, and pickers are discharged who persist in mashing their berries instead of snapping them off. Do not allow the sun to shine on berries of any kind long after being picked. It injures them and destroys the gloss. For retailing by the grower, the crates holding thirty-two quart boxes are, of course, preferable to the stands mentioned.

Lucas County, O. W. W. FARNSWORTH.

American Nursery Association.

Chicago Meeting, June 5-6.

SUMMARY OF PAPERS PRESENTED.

NEW PLUMS, *by S. D. Willard.*—New varieties of fruit are demanded and the demand must be met. The advent of the Wild Goose gave a new impetus to the development of new varieties, and results have been satisfactory. Downing says that there are three varieties of wild plum indigenous to this country—the Chickasaw, Red or Yellow, and the Peach. Some of the new varieties that are quite promising are the Field, Prince of Value, Shipper's Pride, Guelf, Purple Egg, Yellow Gage, Frogmore Damson, and Farleigh's Damson. A few years ago a native variety styled the Garfield, possessing keeping qualities in a very marked degree, was sent out by a member of our association. The Kelsey is not sufficiently hardy for the Middle States.

NEW SMALL FRUITS, *by T. F. Longworthy.*—We are too hasty in booming new varieties. The experiment stations are within reach, and as varieties that become standard in one section are usually standard throughout the State, we have the means of subjecting novelties to practical and impartial tests; and if we reap the full benefits of the stations, they ought to be allowed to proceed in the work for which they have been established. It may be well to name a few varieties that are proving most profitable to growers in the Mississippi valley.

In strawberries, the Bubach has great merits, so has the Haviland. It is probable that, excepting where earliness is very desirable, these two varieties will entirely supplant the Crescent. Until we find something better, the Jessie will stand at the head of the list of perfect blooming varieties. In the early varieties of raspberries, thorns and productiveness appear to bear some relationship to each other.

—— Mr. Webster of Illinois spoke very highly of the Warfield strawberry. The fruit is very firm, hence it bears shipment long distances and brings the highest prices in the market. He had seen one field that showed no signs of "knotty" berries.

Secretary Green asked Prof. Budd to explain what caused "buttons" and "knotty" strawberries.

Prof. J. L. Budd of Iowa said it was caused by imperfect fertilization, cloudy weather, a lack of wind, or weather that prevented bees from flying—anything, in fact, that hinders fertilization.

Mr. Longenecker of Ohio said that growers of strawberries seemed to be using just as few perfect blooming sorts as possible, and yet have the imperfect blossoms fertilized. He thought this plan was being carried too far. He did not believe in the practice of depending upon one row of perfect blossoms for the fertilization of five or six rows with imperfect blossoms.

Prof. Budd said that, in ordinary seasons, one row could be depended upon to fertilize two other rows; but, other years, each alternate row with imperfect blossoms is all that can be surely fertilized.

COMMERCIAL FERTILIZERS, *by Thos. Meehan.*—To ask, "Should a nurseryman use commercial fertilizers?" seems to me like inquiring, might he eat beefsteak? Some may, and some may not; some may at one time, when at others it would be improper. We have used them only to a limited extent. We use almost wholly manure from horse-railway stables. It is so satisfactory that we desire no other. We have been told that this is wasteful; that most we pay for and haul away is but water, and that in a whole carload of stable manure, all that is of use to a plant may be carried in a saucer. But this is true of almost everything. Water is the chief article in a peach or a watermelon; and the whole profit a baker derives from a barrel of flour, consists in the water he mixes with it to turn it into bread.

The bulk of what an animal eats is rejected, the proportion assimilated ridiculously small, yet is the bulk of waste useless? Would the animal thrive as well if only that which is assimilated were given to it?—no one will believe it; and we equally believe that bulk is of great value in manure, though there be no greater proportion of immediate value than in the food of animals.

It has been said of a Scotch laird who was "enthused" with agricultural chemistry, that he told his farmer that the time would come when he would carry the manure for an acre of ground in one vest pocket. "No doubt, my lord," was the reply, "and you will carry home the crop in the other." We have got no further than that to-day. The concentrated manure has not given us the great crops. Bulk, with all its hard labor and supposed waste, is popular with all, and it is only when it cannot be had at reasonable rates that commercial fertilizers are at all popular.

The expression, "reasonable rates," to my mind, tells the whole story. No nurseryman can succeed without rich soil. A half-starved tree is like a half-starved animal; the spark of life is low. An accident to a man of low vitality may be fatal. The man with strong vital power will easily survive that which will kill another. Transplanting is an accident—a blow at vital power. Mortality among trees where the ground has been allowed to become poor, is always greater than where good food is continued with the trees. Many understand this, and will give more for trees from a well-fed nursery than for trees from a poor one. But, usually, the nurserymen cannot get more. His only comfort then is that he doubles his acreage. He gets trees in one year as large as he would in two on poor soil. He must have manure. If he cannot get the bulky kind at a reasonable rate, he must get commercial fertilizers.

But so much are we attracted by bulk that in many cases where others would use commercial fertilizers, we should prefer to plow in a crop of green clover, even though we lost the use of the ground for the whole season. If the ground did not grow good clover, we would use lupines or green corn.

It may be gathered from our remarks that we think a nurseryman may sometimes use profitably commercial fertilizers, but that we would use them less than others would, though favoring bulk as a very useful ingredient in a good manure.

—— Secretary Green agreed with Mr. Meehan. He used all the manure he could get, and then used all the commercial fertilizers he could afford to pay for.

Mr. S. D. Willard said the trouble was, some of the so called fertilizers were not worth $5 cents a ton. A bill to compel all fertilizers to be examined at experiment stations had passed the New-York Assembly, but was killed in the Senate, and Mr. Willard hinted that some of the fertilizer companies were to blame for its death.

Mr. Lindsay of North Carolina reported that they had a law in his State compelling the analyses of fertilizers, and it worked well.

Mr. F. R. Palmer of Ohio said they were getting commercial fertilizers in his State that were good, now that the law compelling an analysis was passed.

Mr. Longenecker preferred one-fourth the cost in manure to three-fourths in commercial fertilizers.

Prof. Budd explained why manure gives such excellent results. It supplies the soil with vegetable mould. Even dry straw or cornstalks will help in this direction. Were he to use commercial fertilizers in the West, it would be salt or ashes.

Mr. Watson of Illinois said he had tried salt in varying quantities, from five to twenty-five bushels per acre, and derived no benefit from its application.

Secretary Green thought nurserymen were behind the times in the use of commercial fertilizers. Farmers use them, and know it is profitable. Ask a New Jersey man if it pays, and he will laugh at your greenness.

PACKING AND SHIPPING NURSERY STOCK, *by N. H. Albaugh.*—Three requisites are: Pack so as to preserve the life of the tree; pack as compactly as possible, so as to economize space; and pack so as to save weight in shipping.

The first is the most important. Trees, as fast as dug, should be puddled and heeled in, where they may remain weeks if necessary. Every time trees are moved from one part of the packing ground to another, they ought to be passed through the puddle.

In all packing, some material must be used that will retain moisture a long time. Nothing yet discovered equals the lake or swamp moss, and when this is brought, in sufficient quantity, in direct contact with the roots and secured there, all is safe.

If less than a carload is shipped, and to large planters, or to other nurserymen, boxing is generally preferable if properly done. In car lots, stock can be safely and securely packed in bulk, putting ten or twenty trees in a bunch, using plenty of moss or damp straw, and then

roughly wetting up the trees when loading them.

In delivering to retail customers, there are advantages in packing each order seperately, in bale, puddling well, using plenty of wet moss among the roots, making the bundles very compact, covering the bodies with rye straw or other long packing material, and sewing burlap over the roots to keep the moss in place. Trees so packed will keep in perfect order for weeks, and are much safer, at delivery in the hands of the ordinary farmer-planter, than are open bundles.

Mr. Albaugh had seen trees delivered from boxes to farmers, where the trees were thrown, bare, into the wagon bed, the farmers then spending hours in trading in stores, while the warm sun was beating down upon the naked roots, the farmer then driving a dozen miles or more to his home, unhitching the team in the barn lot after dark, and leaving the trees unprotected during the night, when a heavy frost occurred, falling upon the bare roots; and then, when his trees died after being wet, he denounced the whole tribe of dealers and nurserymen as swindlers and frauds.

When trees are shipped to farmer customers, it is probably safest to box them, either after having them first properly baled, or packed loose, as may best suit the fancy or pocket of the shipper.

In packing in boxes, great care should be taken to pack compactly, filling every available space, as loose packing in a box is not much better than to ship without any packing at all, being much more likely to dry out when loosely packed. Some form of press is almost indispensable to close packing in boxes.

The securing of a lower freight rate on boxed trees is certainly the correcting of a great injustice, as there is always a waste of space in box packing, and the cost of the box is wholly or partly lost.

It is generally cheaper, and the transit is quicker, to choose routes with the fewest transfers, as a change from one road to another almost always consumes more time than 100 miles farther with less change of roads.

To sum up: Handle trees from the time they leave the ground as though they were things of life, and on no account allow them to leave the nursery packed in a way that they will not keep safely a month, for no one knoweth the day or the hour when a railroad train cometh.

—— At the conclusion of the reading of his paper, Mr. Albaugh was handed a letter to read. It was from a Wisconsin man, and the writer complained that stock was so long in transit that it died. He also scored the nurserymen for practicing cold storage. He wanted his trees dug up "fresh" in the spring—not those that had been kept in the cellar all winter.

A dozen members were on their feet in a moment to defend cold storage.

J. C. Plumb of Wisconsin said that cold storage was at the foundation of success in shipping.

S. D. Willard of New-York remarked that if he were going to plant trees, he would prefer cellar-stored trees.

But there is no use in wasting space in giving the testimony in favor of cold storage, as *all* favored it. Some kinds of stock had been kept in the cellar two years and grew finely when set out; and some one suggested that the stock sent the Wisconsin man might not have been cellar-stored stock—probably was not.

Mr. Augustine of Illinois had arrangements with the railroads to send a tracer after trees the next day after they are shipped; this precludes possibility of delays.

The Hon. S. M. Emery of Minnesota said that the consignee was often to blame because he did not get his stock in time. If it did not come in a reasonable time, he ought to notify the consignor and have a tracer sent, instead of simply waiting.

Prof. Budd of Iowa referred to the matter of puddling. It is all right, if properly done with the right kind of a puddle. If the puddle is of clay, and it partly dries before the trees are planted, it forms an impervious coating over the roots that prevents the moisture from reaching them, and death is the result. In such cases the puddle ought to be washed off before the trees are planted.

R. Douglas of Illinois said that a clay puddle would kill the trees, as it dries into a sort of "crockery" covering over the roots that keeps out the moisture. Black, mucky soil makes a good puddle. Small trees never need puddling. Too many use too much water in packing trees. More trees are killed from being packed too wet than from lack of moisture.

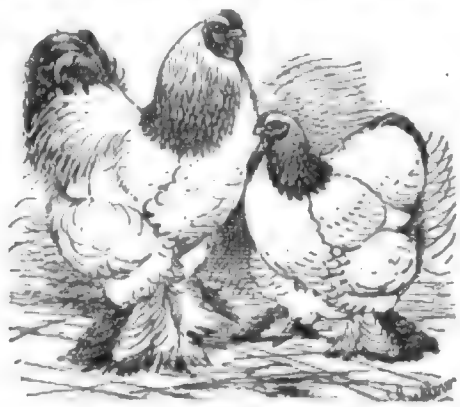
Mr. Willard, New-York: "There is a difference between moisture and being 'waterlogged.'"

[*Remainder next week.*]

The Poultry-Yard.

Notes about Brahmas.

The two varieties of Brahma are the Darks and Lights. The former have a dark or black ground color, with lighter shade of ticking thereon, which gives a somewhat grey appearance to them; the light variety have a white or very pale cream groundwork, marked here and there with dark stripes, but still the chief color is white. Both have very much the same



A FINE PAIR OF ENGLISH LIGHT BRAHMAS.

shape, and only differ in point of color. As a rule, adult cocks weigh about twelve pounds, and hens about two pounds less, while it is not difficult to get cockerels at six months up to seven or nine pounds, and pullets six to eight pounds. At times larger birds have been seen, but these are good weights. Unfortunately there has been a tendency of late years to a reduction in size, largely due to the cocking after fine penciling, *i. e.*, marking or lacing on the hens and pullets, and in some cases birds exhibited were pounds lighter than the weights I have here stated. Happily there has been a reaction, and size is now made by most judges and breeders a *sine qua non*, though not to the extent I should like to see it.

Coming to the actual characteristics of the breed, we find that the head is very small in proportion to the body, short and fine in its lines, and surmounted by what is known as a pea comb, which may be briefly described as a triple comb, the three small ridges running side by side, with the centre one rather higher than the other two, and not more than half an inch in height. The neck, in the cock especially, is very full in the hackle, and has a fine arched appearance, so that the head is forward, just in advance of the breast. If the head is thrown back the bird has an unshapely appearance, and the real outline of the Brahma, so far as the neck and head are concerned, partakes much of that of a spirited horse. The length of neck depends partly upon the general contour of the fowl, and if the bird is big all over and full in feather, the length of neck does not matter; but a long neck on a small bird gives a modified giraffe look, which is by no means what it ought to be. The back of the Brahma is wide and flat, what there is seen of it, but from the neck hackle, where the feathers join the shoulders, to the root of the tail, the latter covered by what is known as the saddle hackle, the distance is a short one, and has somewhat the appearance of a U, though the upper part of the latter does not adequately represent the true form. It will be seen that this shape is different from that of many varieties of fowls, which slopes towards the tail and then goes off at another angle like a sickle. But the Brahma does not do so at all, and a sloping back with a whip tail is altogether out of keeping with the contour of the fowl. The tail is different from that of all other fowls except such as are of the Asiatic type, and may be described as a bunch of short feathers with but a slight curve at the end, the whole rising straight, or almost straight, up from the body. The slightest appearance of tendency to sickle or long sweeping feathers is repressed, and the height should be very nearly that of the head, or as nearly so as possible. But the head must not be thrown back, neither must the tail, and the two require to be evenly and properly balanced, with the contour as already mentioned by me—that is, the U shape.

Looking at the body proper of the fowl, it should be broad and deep, with the breast well thrown forward, and the breast-bone set well between the thighs. The shoulders are prominent, and when the bird stands facing you it should have a big, massive appearance. The wings are small and well tucked up, for Brahmas are not flyers. Wings are but a small part of their economy. The thighs are covered with soft fluff, and fairly profuse, below which stand out the hocks, or soft feathers which protrude below the thighs. With these come the leg and foot feathers, which, in first-class exhibition birds, are produced as long as possible, in some cases standing out several inches from the middle of the foot. The more foot feather that can be got the better from an exhibition point of view; but for ordinary purposes this is a matter that need not be so much regarded. I am, however, here giving a sketch of the best birds, and state what is required. The legs are yellow in color and medium in length. They are strong, in order to support the heavy body. Thus much about the cock. The hen ought to be of the same shape and carriage as the cock, allowing for the natural differences in sex. She should have a rather short neck, and short legs, and with this statement I need say no more, as the characteristics are similar to those in the male bird.

The beak in the light variety is yellow, with or without a dark stripe; the deaf ears, comb, face, wattles and eyes red, as in the darks, and shanks of the same color. In the cock the head is a silver white, the hackles, both neck and saddle, white with a black stripe. The tail and coverts are a glossy green black, while the body has a peculiarly soft pearly whiteness. The shank feathers are white, but more or less mottled with black. In the hen the head is also silver white, and the hackles white with deep black stripe. The tail is black, except the top pair of feathers, which should be edged with white, and the body pure pearl white all over. Any yellow tinge in the plumage is regarded as a grave defect, spoiling as it does the appearance of the fowls, though it may only be the tanning by the sun.

E——, *England.* STEPHEN BEALE.

A picture of a fine pair of Light Brahmas appears herewith, and one of an equally good pair of Dark Brahmas on p. 479.

Food for Young Chicks.

Until 24 hours old, a chick does not require food. Its system still retains undigested a portion of the yolk of the egg, and when that reserve fund is exhausted, something of a like nature should be offered. I have tried a good many different kinds of foods, and find that soft egg-bread broken into a pan of sweet milk and heated to the boiling point, to be the best food for young chicks until they are one week old. After that time, scald wheat, boiled until soft but not until it becomes a solid mass, should be given. The wheat can either be given alone, or mixed with the bread and milk prepared as described above.

Table scraps, as bits of bread, meat and cold vegetables, softened with sweet milk, or with the richest of the liquor in which the meat and vegetables have been boiled, form what the little chickens consider a very palatable meal. If you want your chicks to live and grow fast, feed them liberally from the start; it makes them strong and vigorous, and prevents their falling a prey to all sorts of diseases.

Once a day, at least, their meat should be seasoned with chopped meat or dripping. Fresh meat is no doubt preferable to salt pork and bacon, but the latter will make a very good substitute when given in a reasonable quantity. Every few days Flora gathers up all the meat skins, bacon rinds and odds and ends of both fat and lean meat, and puts them on in plenty of water and cooks them until even the meat skins are tender enough to come to pieces. This is chopped fine and mixed with the morning meal for the chicks.

Our plan is to give them their breakfast in their coops, which stops their mouths and contents them nicely for awhile; then after the sun has risen, and nearly or quite dried the dew from the grass, we let them all out. By that time they are usually very hungry again, and are disposed to stand around and beg for another meal, but we are obdurate, and "shoo" them all out into the orchard to see what they can glean. By thus sending them off hungry they take a larger range, and show more energy and enterprise in satisfying their appetites.

The coops should then be turned over to air, the floors cleaned off, and when necessary moved to a clean spot on the grass, and the little dead chickens picked up and thrown away, but this spring we have attended to them so well that there have scarcely been half a dozen dead ones to be found in all. At ten o'clock we make another pilgrimage to the poultry yard, I with a bucket of boiled wheat mixed with bread and milk, and Flora with a large wooden bucket of butter-milk, or thick clabber, and a tin dipper. Together we make the rounds of the feeding coops, I putting a liberal feed in each one on a clean bit of board or an old tin pan, while Flora fills with milk each of the shallow pans which is placed near the coops.

We are very proud of our feeding-coops, not that they are so handsome, but because there are so many of them. Before this we have had only one or two, but this year we made nearly a dozen, so that the hens could almost have one apiece, and not fight over them so badly.

They are very simple affairs, only square pens made of tobacco sticks, arranged so that some of the interstices are large enough to admit the little chicks. The top is made of loose boards, as they must be uncovered every evening, for one of our neighbors keeps a pack of hounds that visit us every night, and if they have any difficulty in reaching the few crumbs that remain in the coops they demolish them entirely.

When we go out to the yard at the regular hour for feeding, the watchful old mothers note our approach, and come to meet us from every direction with their eager little broods running before them. The chicks rush into the coops and make haste to fill their crops, while their mothers stand by and cluck, thankful to pick up a stray crumb here and there. At 1 o'clock this performance is again repeated, and again at 4, when those hens whose broods are very young are gently driven into their own coops, fed there and fastened up for the night.

Until they are a week or ten days old, I do not permit them to stay out all day, the little things are so tender and so easily tired. The other chicks are fed no more that day, sufficient food being placed in their coops for their supper. Milk is given them twice a day, at 10 in the morning and again at 3 or 4 in the afternoon. All the year round my fowls have as much milk as they can drink, and no flock can show a better record for good health, or a more commendable appearance of general thriftiness.

To some extent I attribute it to those same hounds I spoke of above; they are such excellent scavengers, come every night and devour everything that is left, and leave the drinking troughs and feeding pans perfectly clean, so that not a drop of milk or crumb of bread is left to get old and rancid. Neither is my poultry-yard troubled by depredations from vermin, as is the case with some of my neighbors, so now I often leave something on purpose for the dogs. They do not molest the chickens themselves, and the vermin are afraid to come near a place frequented by them.

Where the ground is much shaded, little chickens are likely to suffer from gapes. The only preventive I know of is to keep them out of the dew, and to confine them to their coops in rainy weather. This spring too, I have been giving them a few drops of turpentine in their food once a day, and have noticed but few cases of gapes, but I am rather inclined to attribute it to the unusually favorable weather.

They have also been fed upon cooked food entirely, which I think much more wholesome for chicks until one month old.

All this is a great deal of trouble I must admit, but the pleasure of seeing the chicks grow off so fine and healthy makes one forget that; then too, there is a certain satisfaction to be gained from doing even the simplest thing really well.—A FARMER'S DAUGHTER.

New Advertisements.

American Fair Note ..... Premium Offered.
Bell, J. L. ..... Cultivator Stands.
Bell, J. L. ..... Hand Planters.
Cook, W. T. ..... Cultivator Plows.
Cook, W. T. ..... Corn Planters.
Cook, W. T. ..... Horse Hoes.
Cook, W. T. ..... Seed Drills.
Dederick, W. H. ..... Hydraulic Press.
Ellis, J. ..... Hay Tedder.
Emerson, Smith & Co. ..... Plows.
Fairchild ..... Strawberry Plants.
Fairchild ..... Raspberry Plants.
Fairchild ..... Blackberry Plants.
Fairchild ..... Currant Plants.
Fairchild ..... Asparagus Roots.
Fairchild ..... Rhubarb Roots.
Fairchild ..... Horseradish Roots.
Fairchild ..... Seed Potatoes.
Fairchild ..... Seed Corn.
Fairchild ..... Peach Trees.
Fairchild ..... Pear Trees.
Fairchild ..... Apple Trees.
Fairchild ..... Plum Trees.
Fairchild ..... Cherry Trees.
Fairchild ..... Quince Trees.
Fairchild ..... Ornamental Trees.
Fairchild ..... Evergreens.
Fairchild ..... Shrubbery.
Fairchild ..... Roses.
Fairchild ..... Bedding Plants.
Fairchild ..... Green House Plants.
Fairchild ..... Bulbous Roots.
Fairchild ..... Herbaceous Plants.
Fairchild ..... Vines.
Fairchild ..... Descriptive Catalogue.
Fairchild ..... Wholesale Catalogue.
Fairchild ..... Retail Catalogue.
Fairchild ..... Wholesale Price List.
Fairchild ..... Retail Price List.
Fairchild ..... Premium List.
Fairchild ..... Premium Flowering Plants.
Fairchild ..... Premium Vegetables.
Fairchild ..... Premium Fruits.
Fairchild ..... Premium Bouquets.
Fairchild ..... Premium Floral Designs.
Fairchild ..... Premium Miscellaneous.
Fairchild ..... Premium Essays.
Fairchild ..... Premium Rules.
Fairchild ..... Premium Entry Book.
Fairchild ..... Premium Ribbons.
Fairchild ..... Premium Diplomas.
Fairchild ..... Premium Medals.
Fairchild ..... Premium Silver Cups.
Fairchild ..... Premium Silver Vases.
Fairchild ..... Premium Silver Pitchers.
Fairchild ..... Premium Silver Salvers.
Fairchild ..... Premium Silver Tea Sets.
Fairchild ..... Premium Silver Spoons.
Fairchild ..... Premium Silver Forks.
Fairchild ..... Premium Silver Knives.
Fairchild ..... Premium Silver Goblets.
Fairchild ..... Premium Silver Tankards.
Fairchild ..... Premium Silver Mugs.
Fairchild ..... Premium Silver Ladles.
Fairchild ..... Premium Silver Butter Knives.
Fairchild ..... Premium Silver Sugar Tongs.
Fairchild ..... Premium Silver Cream Jugs.
Fairchild ..... Premium Silver Sugar Bowls.
Fairchild ..... Premium Silver Slop Bowls.
Fairchild ..... Premium Silver Waiters.
Fairchild ..... Premium Silver Trays.
Fairchild ..... Premium Silver Epergnes.
Fairchild ..... Premium Silver Candelabras.
Fairchild ..... Premium Silver Candlesticks.
Fairchild ..... Premium Silver Lamps.
Fairchild ..... Premium Silver Shades.
Fairchild ..... Premium Silver Globes.
Fairchild ..... Premium Silver Chimneys.
Fairchild ..... Premium Silver Wicks.
Fairchild ..... Premium Silver Burners.
Fairchild ..... Premium Silver Oil Cans.
Fairchild ..... Premium Silver Wick Trimmers.
Fairchild ..... Premium Silver Snuffers.
Fairchild ..... Premium Silver Snuff Trays.
Fairchild ..... Premium Silver Candle Moulds.
Fairchild ..... Premium Silver Candle Wicks.
Fairchild ..... Premium Silver Candle Wick Trimmers.
Fairchild ..... Premium Silver Candle Snuffers.
Fairchild ..... Premium Silver Candle

section of the country that has not been well supplied with the fruits usually grown there. The work of the division of pomology has continued to increase, and the interest manifested by the fruit-growers of the country is of a very encouraging nature. There are now on record over 5,000 correspondents who have responded to the questions asked them."

In regard to silk culture, Prof. Riley sums up the present status of the matter thus:

"There is no question as to our ability to produce the cocoon, and we have many advantages over the Old World in this respect; but the five years' experimentation with Congressional aid has simply served to give an artificial impetus to silk-raising which would again fall back to its former condition upon the withdrawal of such aid. No one could be more enthusiastic or more interested in his efforts to successfully solve the problem than Mr. Philip Walker, who has had direct charge of the filature here at Washington; and, after careful calculation, he has estimated that a specific duty of $1 per pound upon the reeled or so-called raw silk would render the reeling profitable in this country. Without such duty I fear that the continued experimentation with the Serrell reel will be of very little avail. For it must not be forgotten that whatever improvements accrue from our own experimentation here will be just as valuable abroad, unless they are protected by patent for the benefit of the American government. Without considering in any way the question of protection in the abstract it has always seemed to me plain that if the policy of the government is protection there should be no exception or discrimination made in this particular case."

Summer Meetings.—Butter conferences are in progress under the direction of the New-York State Dairymen's Association this week as follow: Walton fair grounds, 19th; Sidney, 20th; Deposit (farm of A. Devereaux & Son), 21st. On the 20th, the Easton (Washington County) Agricultural Association will hold an institute and picnic at the Quaker Seminary. June 25, the State Association will hold a butter conference at Ballston Spa.

New-Jersey.—We have received from Prof. G. H. Cook, Director of the New-Jersey Agricultural Experiment Station, the Ninth Annual Report, including the first report of the College Station now that the two are combined in one. The work of the former is specially applied to the examination of fertilizers, feeds and fodders, various field experiments, and to the investigations in the production of sugar from sorghum, and to other matters properly within the jurisdiction of the State. The college department, drawing aid from the general government, takes a wider range of investigation in the various principles and practice of agricultural science, and among its officers are the botanist, entomologist, horticulturist, biologist and chemical geologist. The united stations working together accomplish more than the two could do separately.

In the prosecution of the station work, analyses have been made of 170 complete fertilizers, 78 incomplete ones, 33 miscellaneous, and 9 of feeds and fodders. From incomplete returns, it appears that 33,689 tons of commercial fertilizers have been used the past year in the State, valued at $1,125,881. Full returns would give a much larger amount. Field experiments have been made with various crops. The biologist has given special attention to the oyster beds of New-Jersey, of which it is stated that there are more than 150,000 acres capable of use, and we are informed that the best oyster fields will produce more than ten times as much per acre as the average farms. A full and interesting report in detail is given on this subject. The soils of the State are undergoing examination, and the sources of fertility not yet reached. Some of these soils have within six inches of the surface enough potash and phosphoric acid to supply crops for a hundred years to come, and a good stock of nitrogen. There are still in the State more than 2,000,000 acres unimproved, more than half of which are capable of profitable cultivation and will respond to thorough tillage.

The results of the investigations on sorghum sugar, prove that it may be manufactured to good advantage in sugar-houses working not more than 40 tons daily for 70 days, with a product of 222,000 pounds of sugar and 30,800 gallons of syrup, from 250 acres of land, and on a farm of 1,280 acres; without materially diminishing other crops on the farm, in Southern New-Jersey. Nine-tenths of the sugar may be extracted by the diffusion process when the cane yields only 8 per cent. But some canes have been found which yield 12 to 14 per cent. of sugar, and the report adds that "by careful selection and cultivation it may be reasonably expected that the whole crop may be enriched up to this standard; and there is no staple crop now cultivated in our country which gives promise of such good returns, or of so great improvement as this; neither is there one in which a mixed industry of agriculture and manufactures can be so generally distributed."

Other valuable contents of this report we may briefly notice in future. The copious index and table of contents render its 350 compact pages easily accessible in all its parts. This index extends to all the reports since 1880.

Delaware Potatoes.—Mr. J. J. H. Gregory, Marblehead, Mass., sends us samples of this variety, which prove to be of remarkable good quality when cooked.

Show at St. Joseph.—The following liberal prizes for agricultural exhibits are offered at the "New Era Exposition" at St. Joseph, Mo., Sept. 3 to Oct. 5:

Best dozen ears of corn, plaited together				$500
Second	do.	do.	do.	250
Third	do.	do.	do.	125
Fourth	do.	do.	do.	60
Fifth	do.	do.	do.	30
Sixth	do.	do.	do.	15
Seventh	do.	do.	do.	5
Best agricultural display, by county or organization in a county				2000
Second best				500
Third best				250

Green Manuring.—We learn that a large portion of the Fourth Edition of Dr. Harlan's work on Farming with Green Manures has been sold within a year in thirty States of the Union and in Canada and Nova Scotia, by means of advertisement now standing in the COUNTRY GENTLEMAN.

Obituary.—The many friends of President Parker Earle of the American Horticultural Society will deeply regret to learn of the decease of his wife, MRS. MELANIE THACY EARLE. A friend writes of her:

"From a child she seemed as one with nature. We used to say that she had only to breathe on a plant and it lived and flourished. Hence her deep interest in her husband's horticultural pursuits, and her encouragement of her sons to work with their father rather than to adventure abroad, and this union of purpose has rendered them singularly united as a family."

An Unusual Live-Stock Show.—Seven full-grown African ostriches will be exhibited at the Illinois, Iowa, Nebraska and Kansas State fairs this fall, in each case in a large wire enclosure, giving visitors an unobstructed view of these monarchs of the feathered kingdom.

From Late Exchanges.—The COUNTRY GENTLEMAN has no equal as a journal for the farmer.—*Albany Express.*

—The best of the agricultural weeklies. Although its price is above that of the average weekly paper, *it pays for itself* in the amount of information it gives.—*Owosso (Mich.) Press.*

Wool in Michigan.—The farm statistics of 926 townships, have been received. The number of sheep sheared in these townships in 1888 was 1,682,260; pounds of wool, 10,207,791; average per head, 6.06 pounds. The number of sheep six months old and over in the same townships in May of the present year was 1,580,823. This is a decrease of 101,983, or 6 per cent. of the number sheared last year. The clip of the State this year will amount to about 11,260,000 pounds.

FINE PAIR OF DARK BRAHMA FOWLS—*Specially Engraved for the* COUNTRY GENTLEMAN, *from Drawing made in England*—See article on page 467.

Autumn Exhibitions.—Dates have been appointed as below for the State Fairs and other important shows named:

Alabama, Birmingham	Oct. 21, Nov. 2
American Institute, New-York	Oct. 2, Nov. 30
Buffalo International, Buffalo	Sept. 3, 13
California, Sacramento	Sept. 9, 21
Colorado, Pueblo	Oct. 3, 9
Connecticut, Meriden	Sept. 17, 20
Dakota North, Grand Forks	Sept. 17, 22
Dakota South, Aberdeen	Sept. 23, 27
Delaware, Dover	Sept. 30, Oct. 5
Detroit International, Detroit	Sept. 17, 27
Georgia, Macon	Oct. 28, Nov. 1
Illinois, Peoria	Sept. 23, 27
Indiana, Indianapolis	Sept. 23, 28
Iowa, Des Moines	Aug. 30, Sept. 6
Kansas, Topeka	Sept. 16, 21
Kentucky, Lexington	Aug. 27, 31
Maine, Lewiston	Sept. 10, 13
Maryland, Pimlico	Sept. 9, 14
Massachusetts Horticultural, Boston	Sept. 17, 20
Michigan, Lansing	Sept. 9, 13
Minnesota, St. Paul	Sept. 6, 14
Montana, Helena	Aug. 28, 31
Nebraska, Lincoln	Sept. 4, 13
New-England, Worcester, Mass	Sept. 3, 6
New Hampshire Grange, Tilton	Sept. 10, 13
New-Jersey, Waverley	Sept. 18, 20
New Mexico, Albuquerque	Sept. 30, Oct. 4
New-York, Albany	Sept. 13, 19
New-York & Pennsylvania, Elmira	Sept. 17, 27
Ohio, Columbus	Sept. 2, 6
Ontario Provincial, London	Sept. 9, 14
Oregon, Salem	Sept. 16, 21
Rhode Island, Providence	Sept. 23, 27
St. Joseph, Mo	Sept. 3, Oct. 5
St. Louis, St. Louis	Oct. 7, 12
South Carolina, Columbia	Nov. 11, 15
Texas, Dallas	Oct. 15, 27
Toronto Industrial	Sept. 9, 21
Vermont, Burlington	Sept. 3, 6
West Virginia, Wheeling	Sept. 9, 13
Wisconsin, Milwaukee	Sept. 16, 28
Wyoming, Cheyenne	Sept. 7, 20

A Convenient Farm.—Your correspondent, A. C. Gliddon, p. 404, must have visited my farm some time in the past, as he has my plan nearly exact. The farm is 80 acres, 80 rods on the road fronting east, and 160 rods running west. R. REYNOLDS.

Fond du Lac County, Wis.

Perennial Rye Grass.—Whatever difficulties may be experienced in the cultivation of this grass in other parts of New-York, none exist in this section when proper methods are observed. I forward you over 50 stems or culms of perennial rye grass taken yesterday from one of Mr. Crozier's fields, in one portion of which it is the predominating grass; in other parts it shows in proportion to original seeding with others in mixture. For years I have known of Mr. C.'s growing Italian and perennial rye grasses, and I have yet to learn of any failures having occurred in its cultivation with him; my own experience convinces me that more than ordinary care is necessary to insure success, and I have not as yet met with an individual on this island, with the exception of Mr. Crozier and the late Messrs. Delamater and A. T. Stewart, who was liberal enough to go to the trouble and expense of growing the grasses in mixture. Men who will pay thousands of dollars for a horse refuse to pay a few cents per pound extra for reliable seeds, or to employ a qualified professional man to superintend their cultivation. The result is, there is not a farm of its size on this island which can show to-day the same luxuriant meadows and pastures of mixed grasses that Mr. C.'s present, and both timothy and red top are conspicuous by their absence. I am influenced neither by prejudice nor partiality in these statements, but by a desire to stimulate individuals of wealth to develop a system of grass culture which would add to the beauty and wealth of the country.

E. Northport, L. I., May 20. JOHN HENDERSON.

Several of the stems sent are fully 48 inches in length.—EDS.

Farm-Yard Notes and Items.

We are pleased to notice the appearance of the first volume of the American Cleveland-Bay Stud Book, an octavo of 276 pages, containing the pedigrees of 548 stallions and 129 mares. Twenty-three of the former and five of the latter are however printed in a second part, on account of their showing a direct cross of thoroughbred blood, though otherwise complying with the rule, which requires that animals shall have been bred in Yorkshire, imported as Cleveland Bay, and contain a predominance of Cleveland Bay blood, the rest to be thoroughbred not nearer than twice removed. This division seems unfortunate, especially as the same numbers, printed in exactly the same manner, are used for both parts, so that it is impossible to tell, without reference to the book, whether for instance Bay Hero 23 A. C. B. S. B. or Gladstone 23 A. C. B. S. B. is the "simon-pure" animal of unexceptionable breeding. The book is illustrated with a number of full-page portraits, and contains, beside the pedigrees, an interesting sketch of the history of the breed, and other matter. The well-known importer and breeder, GEORGE E. BROWN of Aurora, Ill., is president of the association; R. P. Stericker, Springfield, Ill., is secretary; Geo. T. Van Norman, Aurora, Ill., treasurer.

Mr. GEORGE N. BUSSELL, the well-known Hereford breeder of Milford, N. Y., has had the misfortune to lose by death his magnificent imported bull Hampton Wilton, several times deservedly a first-prize winner against strong competition at our State fairs—to say nothing of his distinguished victories in England. His place at the head of the Bluestone Herd will be taken by Secretary, son of Regulus, dam Duchess by Cholstrey,—a bull imported by the Hon. M. H. Cochrane.

EDS. COUNTRY GENTLEMAN.—I report test of Jersey cow Rioter's Prize 27490. In seven days, May 20–26, she made 18 lbs. 10¼ oz. marketable butter, salted 1 oz. to pound. She gave an average of 37 lbs. of milk. Her daily feed was (during test and some weeks before), 20 lbs. grain—⅓ corn meal, ⅓ ground oats, and ⅓ wheat middlings—and three hours each day on good pasturage. She is a granddaughter of Rioter 2d, sire of Eurotas. Her dam is Zitella 2d 11923, an Alphea cow.

Ipswich, Mass. D. F. APPLETON.

EDS. COUNTRY GENTLEMAN.—I reported to you test of my Jersey cow Miss Satanella, on second calf, 16 lbs. 3 oz. butter in one week, and I now enclose statement of her yield during the following two weeks, viz., 17 lbs. 12 oz. and 18 lbs. 7 oz., showing a steady and satisfactory increase of butter without the slightest increase of feed—a difference in care. As you will see, this young cow for three consecutive weeks has averaged 17 lbs. 7 1-7 oz. butter a week, and almost 80 lbs. milk a day. In connection with this test, I call attention to a few facts:

1. The cow never ate more than 8 qts. meal and 2 qts. bran daily, and often *very much* less.

2. For months before calving she had no grain at all, and is only *beginning* to respond to good feeding.

3. She had three serious drawbacks during the three weeks' test: She first refused her feed entirely, and only returned to it by slow degrees; a few days after that, she was bred to Rioter's Pride, and is believed to be in calf to him; and soon after that, so severe a storm of rain, wind and frost broke over us, that we had to send out to the fields and bring in even the dry cattle.

This cow, although remarkably healthy and robust, is very sensitive to surroundings, as is intimated by her variable milking. At one time during her test the thermometer stood at 90° in the shade, and two days after that we had frost. We have since then had as cold, wet, changeable and disagreeable weather as I ever remember, and we have not been one day without open fires in our rooms during two weeks.

Some of our potatoes rotted in the ground and had to be re-planted. MRS. E. M. JOHNS.

Brockville, Ont.

The Grazier and Breeder.

Exteriors of Barns.

A gentleman who occupied a fine residence in the suburbs of one of our large cities, built a costly barn, with four different stories, and which presented a rather magnificent appearance. The exterior conveyed to the spectator more of the impression of great cost, than of appropriate taste. It was more like a palace. An acquaintance who visited the place, said to the owner: "Mr. ——, you need have no fear of the inconvenience of having your house burned, for when it is in ashes, all you have to do is to move into your barn, and then you may live in more splendor than before, and you will be looked upon as a wealthy nabob." The mistake made by the owner was in making the barn appear like a mansion. A barn should never be mistaken for a house, nor a house for a barn. The structure should represent its appropriate purpose; and in doing so the barn may be neat and symmetrical in its outline.

With scarcely incurring any additional expense, a barn may have a pleasing exterior, instead of an awkard and heavy form. In addition to its general symmetry, which may nearly always accord with convenience, a few smaller particulars added at the proper places, may add much to its appearance. Take, for example, small hoods over the doors and windows, and properly projecting eaves, and the effect will be really ornamental. As a matter

Fig. 1.

of utility, they will be worth more than their cost. The hoods will be a protection of the windows in some degree against storms, and prevent rain from being driven inside; and the projecting eaves will answer a similar purpose, and protect the walls outside. They

Fig. 2.

will both serve to stiffen the building by affording additional bracing.

They will possess another distinct advantage. The owner will not feel compelled to hide his barns and outbuildings from view because they are repulsive objects. Partially

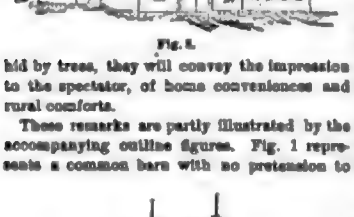


Fig. 3.

hid by trees, they will convey the impression to the spectator, of home conveniences and rural comforts.

These remarks are partly illustrated by the accompanying outline figures. Fig. 1 represents a common barn with no pretension to

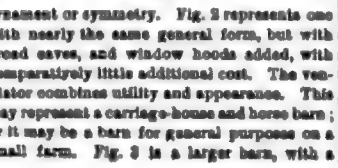


Fig. 4.

ornament or symmetry. Fig. 2 represents one with nearly the same general form, but with broad eaves, and window hoods added, with comparatively little additional cost. The ventilator combines utility and appearance. This may represent a carriage-house and horse barn; or it may be a barn for general purposes on a small farm. Fig. 3 is a larger barn, with a good exterior, and fig. 4 is another form. Fig. 5 represents the form and structure of a com-

Fig. 5.

mon window hood, which should be made of two-inch plank, to give it stability.

Fig. 6 represents the usual ultimate appearance of a barn built without any of the strengthening advantages of hoods and projecting eaves, and entirely without ornament.

Fig. 6.

It is well to bear in mind that barns such as we here recommend may be built of rough or unplaned lumber, taking care to give the right form; and if well soaked with one or two good coats of crude petroleum, and in a year or two finished with a coat of common paint, it will be more durable than with three coats of paint on an expensive barn built with planed and costly lumber.

About Cooking Food.

Eds. Country Gentleman—Allow me to call the attention of Prof. Stewart to some of the inconsistencies and inaccuracies in his article on p. 372. He says "cooking the clover hay partly brings it back to its succulent state." Is that true? Is it the cooking, or simply the moistening? We are now considering hay, not hay tea. Would not moistening with cold water be quite as effectual in softening the clover hay, without which he says the pig would not eat it? Is that true again? Did Prof. Stewart never see a pig eat uncooked clover hay, either cut or uncut? If not, he could not have been a very close observer of the habits of that animal.

Again he says, "cooked food is supposed to be fed with the liquid in which it is cooked." Is that true? Does the professor habitually use the liquid in which his potatoes and his eggs are boiled as food? If so, does he find it palatable and nutritious? I understand *cooking* to mean the application of *heat* in some manner to the substance to be cooked and that water is used in the operation only because it is a convenient medium through which to apply the heat.

The professor is quite right when he says that "hay tea is so nutritious that calves will make excellent growth upon it alone," and it might be a stroke of economy to feed the tea to the calves and then give the cooked hay to pig, provided its use was "principally to give the bulk to the contents of the stomach," for after thorough cooking there is certainly little if any nutrition left in the hay.

I certainly do class myself with "the practical farmers" and I do not think I have "adopted the view of a few theorists as against the universal practice of the practical farmers of the world," when I say that "cooking food as applied to hay is simply absurd," so absurd that the man who advises it is to be accepted with extreme caution as a teacher on all questions relating to agricultural science.

Great Barrington, Mass. M. I. W.

When M. I. W.'s question was answered on p. 372, it was supposed that he desired information, but his reply to this on p. 379 showed that his effort was merely to make points and not to gain information. Yet, in his effort to make a point he said, "It is an easy matter by cooking to extract all the nutrition," which was a complete admission of the whole question in controversy, for, if cooking will extract all the nutrition, then it renders all the nutrition of hay available or digestible. The calf can be grown rapidly upon the nutrition of hay extracted by cooking. Can the calf be grown as rapidly upon the nutrition of hay without cooking? Yet in this last reply he asks: "Would not moistening with cold water be quite as effectual?"

It must be quite evident that if one should state that 3 and 3 make 5, W. would exclaim, "Is this true? Does it not just as well make 6?" Because he has seen pigs nibble at clover hay he infers they would eat and digest it quite as well without softening. He has, no doubt, seen dainty horses fed on the best food, reach down and eat their straw bedding, but does he infer from this that the best way to prepare hay for feeding is to bed the horse with it first?

His questions would indicate that he is so profoundly ignorant of the topic under discussion that he supposes hay to be boiled in water, and that the water, containing the nutrients dissolved out, is thrown away and the refuse fed to stock. On the same plan he probably roasts his meat, has the juices dissolved out thrown away, and eats the rest. As he classes himself with the practical farmer, and must be presumed to work on the plan he here advises, let us infer that his profits are quite satisfactory. E. W. S.

Hog-Raising in Georgia.

Eds. Country Gentleman—Mr. Stahl's article on swine in your paper of May 30th, page 430, was read with much interest. Mr. Stahl is right when he says he allows every man his own opinion, and thinks no one a fool who differs with him. An experience of 50 years with nearly every breed I have read of, convinces me that the Berkshires are by far the very best for all general purposes. My father was the first man in Georgia to introduce good Berkshires. The first he got were entirely worthless, and he wrote to Mr. A. B. Allen of New-York, and Messrs. Amos & George Brentnalls of Orange county, N. Y., from whom he got as good as the world then had. This was in 1840, '41 and '43, but the hogs of my father then were not as fine as we have now, brought out by Mr. T. S. Cooper and other breeders. True, some of them were as large as 1,000 lbs., and I have the cut of Rip Van Winkle, bought by my father in 1842, which weighed in very thin order 716 lbs. gross, but he was very coarse and rough. Mr. Allen sent to England for some white Berkshires for my father, but like all white hogs we ever had at the South, they would have mange and were of little value.

My father, at large expense, for 20 years tested all the different breeds—Essex, Chesters, &c.—that he could hear of; and since I have been grown, I have tried all except Yorkshires, and am fully convinced that Berkshires are the hogs we need for general use. They head the list for well-marbled pork, and have more lean meat than any hogs I have ever seen. They fatten well at an early age and are very prolific. My father had a small sow, very ordinary in appearance, but very fine blood, that brought 17 pigs each time for two litters, and next time 14, making 48 pigs in little less than 12 months. True, we had to provide mothers for some of them, as she had not teats for all. I have often had them to raise 10 or 12 pigs, and last year had a sow bring 12 fine pigs from only one service by a Jersey Red boar. Now, I am the Georgia man who wrote to Mr. Holmes, Alameda, S. C., and told him of the crossing of Berkshires with Jersey Reds.

Last December I killed 8 pigs (half Berkshire and half Jersey Reds) when 9 months and 2 days of age, and *poorly* fed, which netted 231 lbs. each. They were fed exactly the same as 7 others, *full* Berkshires, all in same lot, while the Berkshires averaged only 167 lbs. each, showing a gain of 54 lbs. per head for the first lot of pigs. Now I do not wish to say that any mongrel animal is as good for breeding purposes as a thoroughbred, for I do not think so. But sometimes a cross-bred proves larger than a throughbred, for bacon purposes, as in case above mentioned.

I think the Poland-China a *good* hog, with plenty of feed, but they are very coarse. I am of the opinion that the Poland-China hog was made by a cross of the Berkshire with a large, coarse, spotted hog that I saw in Kentucky in 1841, known as the Woburn. Dr. Martin of Fayette County, Ky., had the largest hog then, I think, in the United States. He looked to me then as if he could have been fatted to go to 1,500 lbs., but was very coarse, with flop ears like the Poland-China hogs of this day. The Woburns were a favorite hog then in Kentucky, and some Kentuckians and my father had quite a spat with one another on the qualities of Woburns and Berkshires, in the American Agriculturist, edited then by Mr. A. B. Allen.

Now, I am sure the Jersey Red is a good hog, and experience has proved to me that a cross of Berkshires and Jerseys are, for bacon, the best of all. Mr. A. B. Allen's essay on Berkshires, which I have, shows that the Berkshires were originally a red hog—so by crossing them I think we get an animal of superior merit for the smoke-house. To raise the cross I advise the Red boar on pure Berkshire sows. This is my preference.

Mr. W. C. Denton of Charleston, Tenn., is one of the most successful hog men I have ever seen, and he killed or sold 20 or 25 Berkshire sows, to get Poland China, and told me he would not have a Berkshire as a gift. But he admitted that the Poland-China was a heavy consumer.

The only correct way is to put up a hog of each breed, feed and charge the feed of each, and count the gain, and thus determine the cost per lb. Do not put the pigs so that they eat together, but keep the account of feed of each *separate*, as a merchant does his customers. I think the Berkshires will lead the Polands, but from experience, I am also of the opinion that ¾ Berkshires and ¼ Reds will beat each. A pig that is of above breed, farrowed 7th of March last, weighed on 29th of May 64 lbs., and the litter of six, I am confident, will average that much, and I expect to kill them at nine months of age, and to get them up nearly or quite to 400 lbs. each, net weight, at less than 0.4c. per lb. That is the correct test of value of different breeds. If I had clover I could make the pork for less, but have none now. W. H. Bonner. *Gordon Co., June 5.*

Feeding Young Bull.

Eds. Country Gentleman—To what extent, if at all appreciable, can the milk and butter tendency in the progeny of a bull be influenced by his feeding? As a case in point, I have a pure bred Holstein bull nearly 14 months old, of exceptional merit and promise (in pedigree and individually). Before I bought him, over a month ago, he had received a little oat chop and bran twice a day, but no roots or other grain; also hay and straw. Since in my care he has received a heaped peck measure of cut turnips, morning and evening, with two quarts grain ration added, consisting of equal parts of bran and chop, the latter composed of oats, barley and peas, the first named predominating. Also gets plenty of timothy hay and water. He is kept loose in small box-stall; is in very fair flesh now, seems vigorous and hearty, weighing probably 900 pounds. My turnips are now done. What course of feeding would you suggest? Bran, oats, linseed meal, &c., are available and in due season will have green clover, timothy, peas and oat fodder, and corn fodder. The bull is being used for service this season. A Canadian Reader.

This question is rather obscure. There is no doubt that the progeny of a bull is affected as to vigor and health by the feeding of the bull. But only in this way would his feeding be likely to affect milk yield of his progeny—if the bull is in full masculine vigor, he is supposed to transmit the peculiar qualities received from his ancestors; the young bull, to be in the best masculine vigor, should not be kept fat. Fat is weakening to masculinity.

Reader has fed him so far judiciously. The turnips were rather in excess, but not continued long enough to do any damage, and, no doubt, improved his digestion.

Reader may now feed him appropriately upon hay, bran, oats and linseed meal. He may be fed the following ration: 10 lbs. cut hay, 4 lbs. bran, 3 lbs. oats, 2 lbs. linseed meal. This is not a large ration, but is quite sufficient, and should give vitality and masculine vigor. Exercise in a yard for an hour or two would be of advantage to him. When the clover is ready, feed this green clover, mixed with 3 lbs. of cut hay, and if he has plenty of clover, feed with it 2 lbs. bran, 2 lbs. oats and 1 lb. linseed meal. This should keep him in fine trim for service. E. W. S.

Molasses and Milk.

Some time early in March I procured a 40-gallon cask of sorghum molasses made at the sugar works here four or five years ago. The contents having been degraded so as not to be fit for table or packing house use, by having been put into an oil barrel, the cost to me was trifling. I knew molasses was employed by feeders who aimed at fattening show animals to the farthest safe limit, and had heard the stuff to be an excellent ration for milch cows, and I resolved to make the experiment. The subjects were three—two large, well-developed heifers lately come in, and one mature cow six years old, soon to be fresh. Two were in fair flesh and one fat enough for the butcher. During the former part of the experiment they were fed morning and evening, two quarts each of bran and two quarts of oats, and in the latter part, soaked corn in the ear was substituted for the bran. Besides the grain they had unlimited timothy, while in the barn, and oat straw equally unlimited outside. The molasses ration was confined to one quart daily, given in the morning after the grain. After conquering the aversion due to the presence of the oily smell or taste, they called for it at the usual hour and consumed it with great apparent relish. Having come second or third quality hay, absolutely refused by them before, they managed to dispose of it when

moistened with a thin syrup of the strength of a quart of the stuff to the bucket of two and a half gallons.

Now for results. I could not see a very sensible increase in the yield of milk or an improvement in the cream or the whole substance, but there was no mistaking a better appetite and a more complete digestion and an increased disposition to take on fat and flesh. The best evidence of improved digestion was afforded by the disappearance of kernels of corn in the dejections, and the more than usual freedom of these from whole oat grains, and the next best, in the vigorous health of the trio.

How molasses might improve the quantity and quality of milk from less well-fed, well-groomed, and well-stabled cows, or better than these, I do not know, but from my experience I would estimate molasses a dear ration at 20 cents the gallon, when ear corn could be had at 30 cents the bushel of 70 pounds, bran for 70 cents the hundred pounds, corn meal for 80 cents, and ground corn and oats mixed, the same price for the same weight. When I bought the molasses the seller said I would find a large deposit of sugar at the bottom of the barrel. But sugar crystals there were no more than if the contents had been oil. Will the presence of oil in a syrup prevent crystallization? If so, a little olive oil or cottonseed oil might be safely added to domestic-made syrup to prevent that thickening housewives complain so much of.

And in conclusion, I have satisfied myself that when milk is wanted for common household uses, soaked ear-corn is not only the best, but by 50 per cent. the cheapest grain that can be given to a milch cow. E. F. J.

"Pure St. Lambert."

Eds. Country Gentleman—Mr. Geo. Reburn of St. Anne's publishes a very able definition of the term "pure St. Lambert," but goes on to add:

"All stock from the animals bred and imported by the Messrs. Stephens are called pure St. Lambert, and are entitled to the affix St. L. Those having only 50 per cent. of that blood are not, and it is very misleading to buyers and new beginners to find such stock having the affix to their names. Mr. R. Stephens, when he found that breeders were doing so, wrote to the secretary of the A. J. C. Club about it, and warned all breeders, through an advertisement in the Country Gentleman, that the St. Lambert herd was disbanded, and that parties who were using the affix had no right to do so."

Mr. Stephens *did* so advertise, but he denied our right to use the letters St. L., *even for an animal bred purely from that stock*. He forgot that we called our cattle *after their ancestors*, and not after his village, and if his advertisement had any effect, I did not observe it. As well might he say that we have no right to name any animal "Stoke Pogis," because old Stoke Pogis was called after a village of that name, in England, and is no longer there. Mr. Reburn differs from Mr. Stephens, and says, rightly, that all animals purely bred from the old herd are entitled to be called pure St. Lambert—and so they are. (I may mention, in passing, that all Mr. Reburn's herd are pure St. Lamberts, save four cows which he bought last fall, and was trying to sell again.)

But he also says that half-St. Lambert cattle are disqualified, not from being called pure St. Lambert (no one would think of calling them so), but from being called *St. Lambert at all*. He says that we have no right to call them so, and that by so doing we swindle buyers and new beginners. I am surprised that Mr. Reburn should so far forget the courtesy which has heretofore distinguished him as to bring against his fellow breeders charges as injurious as they are untrue. Had he considered the weight of his words, I hardly think he would have used them. He has a right to hold an opinion, and also to express it, as his opinion, but to affirm that a thing is or is not so, just as he happens to think, and that all we who do not agree with him are wrong, is neither liberal nor just.

I bought two cows, Signal's Rose and Bertha's Signal. Signals on sire's side only. Am I to say that the upright and honorable gentlemen of whom I bought those animals had no right to the name Signal for them, because they are not entirely of that blood? I should think not. On the contrary, I particularly approve the names, and would not change them on any account.

Mr. Kellogg calls a "Hambletonian mare," referring to her as such. Are people to empty vials of wrath upon his head, or to consider themselves "misled" because the mare is not pure Hambletonian, without an outcross? The thing is almost too absurd to call for argument at all.

Breeders of irreproachable honor and integrity do use, and *most justly*, the affix St. Lambert for those animals which possess a large portion of that famous blood; purchasers are thoroughly satisfied, and often choose the name themselves; and, lastly, the A. J. C. Club, from which there is no appeal, sanctions this course by so registering our cattle for us. It is not likely that so many of the most prominent people in the Jersey world should *all* be in the wrong, and only Mr. Reburn right. I have a half St. Lambert heifer—Catharine of St. Lambert. She is a *grand-daughter* of Stoke Pogis 34, and has more of the blood that I consider the chief value of the St. Lamberts than very many of the cattle in Mr. Reburn's herd, which he justly and truthfully calls pure St. Lambert. Is she to be debarred from the family name? I think not. Were I to sell or to represent her as *pure* St. Lambert, I would, indeed, deserve censure, but I have never yet bred cattle of such a stamp that I needed to claim for them anything to which they were not fully and justly entitled. I have never yet had customers so ignorant as not to understand a pedigree when they saw it, particularly when accompanied (as mine invariably are) with the most explicit information on all such points.

Mr. Reburn makes a strong statement when he says that we misled our customers, and it might be better were he to think twice before assailing the integrity of those whose standing is not second even to his own. The inference is, that in buying from Mr. Reburn people are safe, but that in dealing with sinners like me they fall into the hands of Philistines!

I cannot think that Mr. Reburn means all this. For many years I have been proud of my Jerseys, for their own sakes. I have been still prouder of the success I have made of them, both financially and famously. But I have been proudest of all of the upright dealing, the unspotted reputation with which my friends and customers credit me; and when I recall all the kind opinions, both spoken and written, that I have received from all parts of Canada, and from every State in the Union, I am at a loss how to express my grateful thanks.

This is a pleasure that will endure while life itself shall last—a pleasure that will still be mine when I have grown too old and infirm to handle Jerseys any more, and when young Mr. Reburn shall fill my shoes, or shall try to do so. Mrs. E. M. Jones. *Brockville, Ont.*

The Dairy Department.

Milk-Cooling and Other Points.

Eds. Country Gentleman—In your issue of May 16 was an article on cold storage. I am thinking out plans for a dairy-house in which I wish to apply the principles of cold storage, if I understand them rightly. Would like to know whether milk set in deep cans, placed in a refrigerator or cold chamber in which the air is kept at say 35°, will do as well and yield as much cream in the 12 hours as if set in a water tank with water at same temperature, for same length of time. My idea of the requirements for a good dairy-house for deep setting of milk are, first, a tank, box or refrigerator in which to set the milk and raise the cream temperature to 38° to 40°; then a chamber for keeping cream to ripen, to churn and make up the butter, and keep the butter temperature at from 56° to 60°; and lastly another room with a stove or boiler in it, to heat water for washing utensils, &c., and in winter to warm the dairy proper. To keep the tank and dairy-room down to the proper temperature in summer, an ice-house or chamber would be needed, either alongside or over them. Can you or any of your readers assist me with plans or suggestions, or if any of my ideas are incorrect, put me right? I propose to build in the fall, to be ready for making my winter butter next season. I keep from 20 to 25 cows, and try as nearly as possible to have a steady production of butter the year round, though I find it impossible to get as many cows to come in in the fall as in the spring. This week, with 21 cows out on grass, and fed a little clover hay night and morning, we made 164 pounds of butter. The cows are Guernseys and Guernsey and Jersey grades.

I hope for some assistance through your columns, from which I have often obtained most valuable information. S. A. F.

Evanston, P. Q.

Cream will not rise nearly so well in cold air as in water of like temperature. When the "element of cold" is used as an agent in cream separation, the nearer the process can be made to approach the instantaneous the better. Water is several times better as a conductor of heat and cold than air, i. e., it absorbs the heat more readily, and this holds good in the rapid cooling of milk; the water quickly absorbs the heat, and even then it is difficult to get all of the cream from milk in twelve hours. The degree indicated by Mr. F., 38°, is at least 4° too cold to get the best separation. The simple action of cold is not to make milk cream better by the rapidly falling temperature, but the rapid cooling causes changes in the properties of the milk, causing certain influences to be retarded and giving the fats more freedom to rise, just as it is proved that delay in milk setting, allowing the temperature to fall before it goes into the cans, produces a change in properties or conditions that causes part of the fats to refuse to rise.

It is now thought by Prof. Babcock that the value of rapid cooling of milk down to 42°—the more rapid the better—is in retarding the formation of fibrin in the milk. A can 7½ to 8 inches in diameter, not over 20 inches in depth, filled with milk directly from the cow, and set in a tank of water at about 42° is as perfect gravity creaming as is known. A water box with a close-fitting cover, deep enough to readily set cans 20 inches deep, and filled with water with ice enough to maintain 42°, into which the cans of warm milk can be set, and the cover shut down to prevent contact with the air of the room, makes a very good and cheap creamer. If a slow current of fresh water can be maintained, all the better. The water absorbs all that is evaporated from the milk, so needs to be either changed occasionally or supplied from a continual source and "waste" provided for. Cream to ripen well should be kept at as near as possible the churning temperature, say at 60°.

Just now a great deal is being said, *pro* and *con*., about cream ripening, by the employment of some plan of maintaining uniform heat, or heating to 75° or 80°, and allowing it to slowly cool down to 62°, or get the later advanced plan of using a sour-milk "starter," and keeping the cream in a close, jacketed can, where a temperature of 62° can be maintained with little variation. Each of these plans needs to be studied into, and the one adopted that will best meet the conditions that have to be met at the dairy farm. Mr. F. will find much to interest and instruct him on this point by reading the controversy in current numbers of the Country Gentleman between Henry Stewart and John Boyd.

Fine butter production calls for a special dairy-house, with rooms adapted to the different needs of butter-making. The plans of Mr. Stewart in the Country Gentleman for cold storage are specific and seem to cover the case, but I doubt the propriety of the maker using cold storage at his end of the route, for when in cold storage for any length of time, and then shipped to any considerable distance, the change of temperature will destroy the aroma. It is better to have the cold storage at the market end of the traffic, and let the consumer take it there and consume it as rapidly as possible.

Mr. Fisher intimates that he is to go into winter dairying. With it he will find many things to look after quite as essential as a dairy-house—a warm barn and well-appointed stables with water in them, and, quite as important, an abundance of best milk-producing foods, among which a big silo of well-matured fodder cannot longer be profitably overlooked. The conditions of summer must be continued through the greater part of the year. It is now possible to make butter in the winter as cheaply as in the summer, but to do this there must be good conditions at all points. For butter-making, Mr. F. seems to have a special dairy already, and if he will make food, buildings, apparatus, &c., to conform with each other, he will no doubt succeed; for, compared with the usual butter cow, his dairy, with its pound and above of butter each per day, seems a good one.

It is somewhat difficult to have the cows all come in just as one wants them in the fall, ready for winter milking. The only partial remedy is to have them begin to "fresh" by the last of September. If the first ones only begin to calve by Nov. 15, the probabilities are that nearly one-third of the dairy will go on the late or even farrow list, and that is one of the most serious of the drawbacks of winter dairying. While the conditions of dairying are somewhat different in Canada than those existing in the United States, still the principles that largely contribute to excellence are so nearly universal, that in the main the "law and gospel" of dairying can be everywhere accepted as a guide. J. G.

Western Reserve, O., May 25.

The Butter Conferences.

Incidents and Results.

The instructors at the butter conferences are expected to make butter of fine quality, however the cream may be and whatever may be the surroundings. The experienced butter-maker knows this to be a hard thing to do. The variety of conditions, however, afford an opportunity for object lessons, as mistakes and failures can be pointed out and both lines of working can be shown—to wit, the wrong way and the right. One thing seems to impress the general audience—the instructors do not do things by *guess*. All temperatures are tested by thermometer, and when the butter is coming, frequent reference is had, to be sure it is in just the right state. The lesson of carefulness and system is forcibly taught by word and deed.

At one churning, the ladies were asked to indicate what should be done to make the butter come sooner, and with the cover of the churn off, three decided that the cream was too cold, each one by her own method of guessing. One touched the cream, another the lid, and another put her face in the churn. They were surprised when more cold water was added by the instructor, and in a few minutes the cream was at 64°. This cream was started at 70°, in an atmosphere of about 80°.

On a cold morning, a man reported that his wife had been churning for two and a half hours, and the butter had not come when he left home, and he wanted to find out the reason. They had no thermometer, and churned about the same time in the day as they always had, and it was a mystery. He was advised to invest twenty-five cents in a thermometer, warm his cream, and churn.

There are more failures in butter-making for lack of care in handling the cream than from any other cause. The common notion is, that if the cream only gets sour it is all right, how or when is immaterial. Particular pains are taken, at each conference, to show the importance of getting the cream from the milk while both are sweet, and keeping the cream in such condition that fully twenty-four hours shall elapse before it is churned. The cream must also be aerated, and this word is substituted for "stirred," and washing for "working," with a new term, "thorough salt mingling." Anybody can make butter of some sort out of cream, but not everybody can so handle milk and cream as to make good butter.

This section of New-York is simply grand in its people, farms and crops. The conference at Port Byron was in the town of Montz, Cayuga county, and at the home of W. T. Osburn. At this fine old mansion, on the shaded grounds, the people gathered with their lunch-baskets, and at 11 o'clock all was ready for a churning. L. T. Hamilton, Weedsport, was made chairman, and D. P. Hardy secretary. Mr. Osburn furnished the first lot of cream, taken from 200 lbs. of milk. The cows were grade Ayrshire, Jersey and Guernsey. Feed, grass only. Milk set in a home-made creamer at 90°—cooled with ice water at 38°—set 24 hours; cream ripe; churned at 60°; Superior churn; time of churning 15 minutes; 5¼ pounds of unsalted butter; pounds of milk for a pound of butter, 38¼. This butter was of fine quality and perfectly granulated. Mr. Gilbert salted it and had it ready to pack in a few minutes, doing the work with an old-fashioned ladle.

After a short practical talk a recess was had for dinner, and then another churning, of cream supplied by Mr. Jacobs of Montz. This was also the cream from 200 lbs. of milk. Milk set in cold setting; same churn; cream ripe; 10½ lbs. of salted butter; time of churning 18 minutes; 19 lbs. of milk for a pound of butter. Cows grade Jerseys; milked 6 and 6 o'clock; fed grass only.

After this churning the conference was invited into the spacious house, and spent a couple of hours in hearing lectures on dairying and in asking and answering questions. The ladies felt at home in the parlors, and did their full part in the discussions.

The next conference was held at Victor, Ontario county. In the forenoon the people met at the superb little creamery some of the pub-

No spirited citizens have built, and here the churning took place. The cream was furnished by Hawley Hamlin, East Bloomfield. Cows, always at pasture, 15; milk, 31 lbs., and in a finished creamer 17 hours; temperature, 86°; pounds of cream, 4½; pounds of unsalted butter, 19; temperature of cream when churned, 60°; feed, pasture and 4 lbs. a day, mixed, of bran ¾ and ¼ oats and corn meal.

In the afternoon a large audience gathered in the hall in the village. W. B. Osborne was elected chairman, and H. W. Ingalsbe secretary. Mr. Osborne spoke of the purposes of the meeting, and the importance of the efforts of the New-York State Dairyman's Association in reaching out and encouraging every part of the dairy interests of the State. Mr. Gilbert then spoke at length of the value of systematic and profitable talk on the site and the general subject of butter and cheese making.

Mr. Curtis followed, and endeavored to show how it was that the Dairyman Society existed, and been enlisted to make a report showing a basis of only 30 lbs. or less per cow to the acre, on the average; and then he demonstrated another line of dairying by which the farmer could be materially increased by selection of cows, adaptation of feed, and care in milk, to coarse, cleanliness, care, uniformity, skill, observance of rules, and pushing on the line of intelligence, and not being stopped by set notions, prejudices, grooves or conceits.

At all the several meetings this sense of thanks was given, showing that the people appreciated the existence of horticultural societies by those who had made the arrangements wherein the two could be held. It is a contribution that where the graces and the farmers' virtue have been cultivated, the farmers have warmed, intelligence widened, hands strengthened, and acquaintance with other communities is inspiring and full of the fragrance of promise and of encouragement.

Victor, N. Y. F. D. CURTIS.

Bottling Milk.

EDS. CULTIVATOR & GENTLEMAN—No doubt the bottling of milk has been overvalued as a means of distributing it to the consumer, but as suggested by Mr. Sherwood, in July issue, there are some improvements needed in the apparatus that would be very desirable. Having gone through the same experience that he has, I have formed the same conclusions, and have also considered the ways and means of meeting the difficulties as far as I could. While he notes it, his communication.

It is necessary that the bottles be quickly and perfectly washed. I have designed a simple method of doing it. A bristle brush mounted on a spindle and turned by means of a grooved pulley and cord, as in a handle, is a frame similar to that of a sewing-machine. I fitted up such a machine two years ago, worked it by an old frame of a sewing machine bought from a dealer in things by the pound. The bristle brush revolved in a tub of water, and as each bottle was held to it by the mouth and neck, it was put into another tub and rinsed, and then hung on a peg to drain. In about half a day's way 100 bottles were washed in 15 minutes and put out to drain by one man and a boy to help him. Water was hardly running from a pipe constantly in the tube, and kept cool off through a pipe to a drain.

Filling the bottles under cooler and better until I devised a cooler box which the milk was poured, and from which it was drawn through a gate which closed by a screw pinch could be opened by a cord operated by the foot. This cooler was a tin vat inside of a wooden box, and the bottles were filled from the bottom of the cooler and passed to the boy, who closed them. I used the Warren bottle, which is closed by a hinged wire cover, and is held fast by a spring, with a rubber ring to make the cover airtight. As filled, the bottles were set on a bench, and when all were full they were rinsed off with cold water, wiped dry and put into the boxes.

The seconds is ample time to fill and close and rinse a bottle; but it would not be difficult to extend this machine to fill 10 or 20 bottles at one time, by having a sufficiently long pipe attached to the cell, with the desired number of gates, which could be opened by one valve, operated as above, and closed instantly by a spring.

A sliding table, having seats made for the bottles, was used, to be set back and forth, for a helper to place the empty bottles and remove the full ones. The table was made high to rotate, might be used for this purpose. One hundred bottles per minute might thus be handled by one filler and two boys to help. I used a machine for the milk, but after a delay he chiefly does in this way, just as the vine and bear is chiefly trained to conversation, and as there are machines for bottling wine—and soda water—machines for soda and water, under high pressure, as well—so there will be no difficulty in finding the cell when it comes, as it will before long. A glass jar for the milk, with a cover to exclude the sunlight, and having no neck or a very small one, through which to pour the cream, and having with a spring snap, would be useful for the family. Economy of time and action is indispensable in such cases to keep down expenses. Considerable glass, for the bottles not broken, would be another desideratum. Glass is cheap, but when it is called for beyond a question.

The most unimportant consideration of the milk business is a disgrace to those engaged in it. Dr. Hall, who has been at the mercy of the dairymen, who manage to keep out water, and the milkmen which aggravated the disputes of the dairymen and the milk chemist, contrived the property of the producers and consumers at their own risk, and the more sharps as they may choose; and they choose to be sharps. The milk is not considered worth to their clients. The middleman should be the servant of the producer, and not the slave of the masters, and this is thus because the producers have not the skill to organize their own discriminating agencies. The total value of the milk trade is however enough to warrant a milk express organization, similar to the ordinary express companies, which would contract for cars, or furnish its own, and make deliveries to the customers by its own wagons. The business possesses every favorable condition for such an organization, and would no doubt become as profitable to those undertaking it as the present express companies. The milk producers could easily provide for it, and by mill such a system of distribution is in operation.

H. S.

Salt for Cheese-Making.—The Genesee Salt Co., Piffard, Livingston County, N. Y., issues a special circular to cheese-makers, in which pamphlet Silenus Hammond, agent, do well to send for and peruse. "When we say 'Genesee,' we mean it." The Genesee Co. salt is sufficient for forty pounds of cheese, and should be used in good season, from 60 or 65 lb. a sufficient for about 5,000 pounds of cheese, and 1,000 lbs. of salt to a ton of salt is an insignificant item. If the market value of the cheese is increased by the addition of a cent per pound from the use of better salt, the gain becomes a great importance."

Transfers of Thoroughbred Cattle.

No. Holstein Herd Book, Jan'y 1st, 1875.

NAME.	BREED.	BUYER.
Clothilde, 1,000, W. Corse, Buffalo	Holstein	
Jacoba, 1,001, W. Corse, Buffalo	"	
Jacoba 2, Netherland, 1,002, W. Corse, Buffalo	"	
Jacoba 3, Netherland, 1,003, W. Corse, Buffalo	"	
Jacoba 4, Netherland,

[illegible]

Record of the Times.

Review of Passing Events.

The Cronin Murder.—The coroner's jury rendered a verdict, June 11, to the effect that Dr. Cronin met his death by violent means, the result of a conspiracy on the part of certain members of the Clan-na-Gael who recommended the arrest of Alexander Sullivan and the holding of Coughlin, P. O. Sullivan and Woodruff. Mr. Sullivan was arrested and placed in jail, but released on the 14th under $25,000 bail. The special grand jury is now in session. John J. Mowery and Charles McDonald were arrested in New-York on suspicion. Governor Hill declined to sign the extradition papers presented by Chicago detectives, because insufficient. Woodruff has made a confession implicating those arrested.

Johnstown.—Governor Beaver has arranged a loan of one million dollars, without interest, with Philadelphia banks, until the legislature can take action, and the State will now undertake the work of cleaning up the Conemaugh valley, under charge of General Hastings. On the 12th the 5,400 voluntary laborers were paid off, and 1,000 new men came on at $1.50 per day. The work is laid off in five districts. 36 stationary engines are in place and the wreckage has been burned. Citizens met in town meeting to consider plans for rebuilding and assessing loss. Merchants are promised long credit in Pittsburg and Philadelphia. Free transportation has been given to over 2000 refugees. Miss Clara Barton has organized a women's relief association. On Sunday June 9 and 16 the churches held services in the open air. The number of bodies recovered at this point is 1,000. It is thought the total dead is less than 4,000. Governor Beaver has appointed a commission to handle the relief fund, now nearly $1,000,000. A part will be used to erect houses for the poorer citizens. Contributions from Philadelphia and New-York and vicinity now exceed $700,000 respectively, through Governor Beaver $60,000, Pittsburg, $670,000, Boston, $210,000, Cincinnati, $75,000, Park Fraser, $50,000, Dublin, £2,000, South Carolina sent $1 carloads of supplies, convicts in the Eastern Penitentiary, Pa., gave $641.40 of their earnings.

Deaths.—William W. Wright, ex-canal commissioner and a director of the Western experiment station, at Geneva, N. Y., June 11, aged 76. [illegible] the oldest printers in the country, at Saratoga, N. Y., June 11, aged 81. [illegible] served and edited the Messenger for 55 years.—Rev. Dr. W. N. Sneed, the well-known English Lutheran clergyman in the South, at Cincinnati, O., June 11, aged 61.—James Shields, one of the largest salt manufacturers in England, suddenly at the Astor House, New-York, June 11, aged 71.

Peace Abroad.—The agreement as to some others was signed at Berlin, June 14. It guarantees administration under joint control of Germany and America, the interest in which they sing and victory and, in consequence, a measure of the credit and a majority of the votes. [illegible] to be paid.—The Shah of Persia reached Berlin, June 9, and was welcomed by the Emperor, Count Bismarck and others. The Duke of Edinburgh arrived the 10th.—The Prince and Princess of Wales visited the Paris exposition and the Eiffel tower, June 10, when there were 354,000 visitors, 30,000 of whom ascended the tower.—A statue of Bruno, a 16th century philosopher burned at the stake for heresy, was unveiled at Rome, June 9, in the presence of 30,000 persons. The Pope was much depressed; 400 telegrams were received at the Vatican deploring the erection of the statue.—Mr. Gladstone addressed 30,000 persons at Bedruth, June 9, and 6,000 at Falmouth, on the 10th. At Stansted he spoke on disestablishment, and said Wales and Scotland were ready.—A Sunday school excursion train from Armagh, Ireland, with 1200 passengers, was wrecked near that place and 75 lives lost. Some cars ran back on a heavy grade and met a regular train.—A letter from Uvuri, on the Victoria Nyanza, dated Dec. 2, has been received at Zanzibar, stating that Stanley had arrived there. His force decimated by disease and famine. Emin Pacha had been left at Unyoro, on the northeastern shore of the lake.—Soochow, China, on the upper Yangtsze, is reported to have been destroyed by fire, with loss of 10,000 lives.—A storm at Valparaiso, Chili, May 9, did great damage to shipping in the harbor, by collisions; the bark Soto foundered, and a number of lives were lost.

Minor Items.

A large extent of forest is burning in Minnesota.

Rear Admiral Oberardt has been ordered to Hayti on the Kearsarge.

Thirteen persons were prostrated by the heat in New-York, June 16.

It will cost the Pennsylvania road $3,000,000 for repairs of flood damages.

The Adirondack railroad has been sold to the Delaware & Hudson company.

Calvin S. Brice has been elected chairman of the Democratic State committee.

Two boatmen were swept over Niagara Falls, June 9, and a woman jumped over, June 14.

A crowded meet convention was held at Jackson, Miss., June 14. John R. Lynch made an address.

June 14 was the 104th anniversary of the adoption of the stars and stripes as the flag of the Nation.

The steamer Iowa narrowly escaped collision with an iceberg last week by the vigilance of Capt. Belcher.

The Standard Sugar Refinery Co. of Boston has secured 25,000 tons of Cuban sugar at five cents a pound.

A brownstone house in West 55th street, New-York, was nearly wrecked by carbonic poisoning in the next six.

Members of the English salt mines have been visiting salt works in this State and elsewhere with a view of purchase.

Ex-Senator Platt, Governor Alger and J. M. Thurston of Nebraska, with their families, sail for Alaska this week.

At Richmond, Va., June 9, one thousand persons were baptized—400 by Father Bowman of the First African church.

Foreign professors for the new Roman Catholic university at Washington, are kept out by the state department.

A Confederate Veterans' association has been organized at New-Orleans, with General John B. Gordon of Georgia as president.

The great Iron Hill elm, Norwich, Conn., recently split apart. Under its shade Lafayette once used to hold religious meetings.

The will of Allen Thorndyke Rice gives a controlling interest in the North American Review to Lloyd S. Bryce, the present editor.

Ian Ivers, Pingree and Hazen, who performed the autopsy on mind-reader Bangs, have been indicted for murder of the assistant.

The first real Chinese dinner ever given in this country was served in the Mercantile club-rooms, Brooklyn, June 12 and eaten with chopsticks.

In the electric sugar case, New-York, Mr. Stewart described his refining machines and said that Mr. and Mrs. Preston never disclosed their secret to him.

A bronze medal will be issued for a paper mills at Holyoke, Mass., when [illegible] with tonnage of over 6,000,000 and [illegible] persons employed in manufacturing.

Thomas J. Morgan of Rhode Island has been appointed Indian commissioner in place of John D. Smith. Daniel Mallett, colored appraiser at New-York; Robert Smalls, colored ex congressman, collector of customs at Beaufort, S. C.

Brunswick, Me., celebrated its 150th anniversary, June 13, with poem by Prof. H. S. Chapman of Bowdoin, and oration by Prof. C. C. Everett of Harvard.

A new Polish church holding 5,000 was dedicated at Detroit, June 9. Father Kolasski, who has been excommunicated for disobedience, acted as his own bishop.

The Society of the Army of the Potomac held its 20th reunion at Orange, N. J., June 12, with addresses by Gov. Green, Courtlandt Parker and Gen. Howard.

William Atkinson, a wealthy citizen of Ironwood, Mich., killed himself, June 11, by jumping down the shaft of the Ashland mine—600 feet deep. No cause assigned.

The wreck at Seattle is being rapidly cleared away, tools put up, telegraph and light wires restored, daily papers issued, &c. The loss is now put at $[illegible].

Nearly 6,000 people gathered at Father Mollinger's church, Allegheny City, Pa., June 13, for treatment of various diseases by faith. Some remarkable cures are reported.

The Chippewa Indians of Mille Lacs, Minnesota, provoked by the digging of an irrigating ditch on their lands by the whites, attacked the laborers, June 13, and killed seven of them.

John Hughes, porter of Pullman car at Johnstown, who rescued Mrs. Halford and daughter, has been appointed skilled laborer in the Treasury Department at $700 per annum.

The 2,500 employés at Carnegie, Phipps & Co.'s steel mill at Homestead, Pa., have refused the new scale, reducing skilled labor 20 per cent. and increasing day labor 10 per cent.

Governor Hill has signed the anti-bucket shop bill (to check gambling in stocks, &c.,) and removal of Sing Sing bill, and vetoed the women's reformatory and compulsory education bills.

Michigan veterans, 1,000 in number, dedicated monuments at Gettysburg, June 12 with orations by Governor Luce, ex-Governor Blair, Generals Alger and Trowbridge and Edward M. Pearson.

St. James, the oldest Roman Catholic church in Brooklyn, was struck by lightning, June 11, and the interior burned out, including a carved altar worth $30,000, and several valuable paintings.

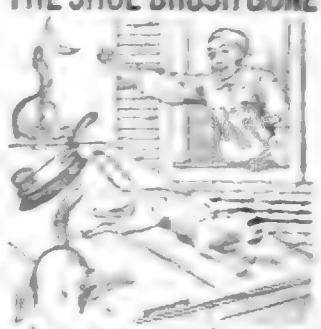
The Connecticut Senate refused to pass the secret ballot bill over the Governor's veto. The House passed a bill to prevent the sale of Phoenix Life Insurance Company stock to a Philadelphia syndicate.

Application has been made for a writ of habeas corpus in the case of the murderer Carpenter, condemned to be killed by electricity. Judge Dwight has granted a hearing before Judge Ley of Cayuga county.

A disastrous cave-in occurred at Wilkesbarre, Pa., June 13, where the Hollenback & Hallstead mine runs under the city. Loss to property owners about $200,000. 30 mine owners, $500,000, and 900 men and boys out of work.

The 16th State Sunday School Convention was held at Albany June 11-13. Attendance was large and enthusiastic. Addresses were made by Revs. R. E. Manchester of Brooklyn, J. Wilson Warner of New York and Arthur J. Parmen of Philadelphia.

THE SHOE BRUSH GONE



I was [illegible] since [illegible] using Wolff's ACME Blacking

Wolff's ACME Blacking

[illegible]

WOLFF & RANDOLPH, PHILADELPHIA.

[illegible]

THE GREAT ENGLISH REMEDY.

Beecham's Pills

For Bilious and Nervous Disorders.

"Worth a Guinea a Box"—and cheap at that.

For 25 cents.

BY ALL DRUGGISTS.

The Fireside.

The Greater World.

When you forget the beauty of the scene
Where you draw breath and sleep,
Leave city walls for gleams of sky that lean
To hills where forests creep.

The heights, the fields, the wide-winged air
Make the embracing day;
Not city streets. That little life of care
Steals our great joys away.

Live with the spaces, wake with bird and cloud,
Spread sentient with the elm;
Our home is nature, even to the proud
Arm of the sunset's realm.

Then may the scene God made is glorious!
Breathe deep and smile again.
The glow and noble dusks, victorious,
Disperse regrets and pain.

—*Rose Hawthorne Lathrop, in Scribner.*

Thoughts for Persons Growing Old.

I hesitate to take up a subject when it has a suspicion of being threadbare, but, as there is a point of view not yet appropriated, I will venture to draw attention to it.

In our consideration of the welfare and wants of old people, we are apt to forget that there are no well defined lines by which we can determine who shall come under that head. Some people are old enough to be so classed at sixty, others may reach their nineties as well balanced and capable of judging what is best for themselves, as any of those who might be expected to assume the responsibility.

The fact is, circumstances so entirely regulate different cases that it is almost useless to try to fit any one theory to all. I honestly think it would be our best course to take counsel together over our own approaching old age and prepare as far as we can for such a condition of dependence or independence as it may please God to place us in.

While material provision for old age is proper and right, yet it is liable to fail us notwithstanding all the care we may take to keep it under our own control or to place it securely elsewhere. I think therefore, that too much stress is laid upon that point rather than upon others which affect even more seriously the well-being of old people. It leads to the idea that if the old people have not means of their own, they have less claim upon their children or friends, which is not the right way to look at it, and ought to be discouraged by public sentiment. Old people who have filled their places reasonably well in a community, in the rearing of families and contributing to the general good, have a natural right to such comforts and care as they require. The nearest relatives are the ones to whom they ought confidently to look first, but if there are none then others who would naturally be interested in them are in duty bound to see that they are protected in their rights. While the responsibility lies, of course, strongest where the ties of kinship are nearest, yet it does not follow that it rests there altogether. We are all bound, as far as we know of the needs of old people, to do our part toward supplying them, instead leaving them to the mercies of those who do not do their duty, even though they may be their nearest relatives.

This, however, is my chief object in taking up this subject—to urge those who are yet young enough to look at it fairly and without personal prejudice, to take heed how they grow old themselves. After all that can be said or done in this important matter it depends chiefly upon the dispositions of old persons whether they find pleasure or comfort in their lot; we all know there are old people who refuse to be happy on any terms, while there are others who are always content and cheerful without any apparent reason why they should be so.

What we have to do is to fit ourselves to live when we are old, instead of reckoning upon escaping that ordeal by death or any other means. Great stress is laid upon preparation for death, forgetting that if we are fit to live we are fit to die, and if we ever require such fitness it is in old age. However much we may wish to escape the feebleness and infirmity that age generally brings, we cannot insure ourselves against them in any other way than by a cheerful laying aside of our own personality and taking our pleasure in others; bearing patiently whatever the good Lord sends, and likewise that which He does not prevent.

It is the resistance of that which is inevitable that causes much of the sorrow of old age, and we who can see that it is so, ought to educate ourselves in the light of our present ability to judge of the situation. We have no right to make ourselves an affliction to those upon whom we must depend more or less, whatever our money resources may be. When our day of active usefulness is past, we ought not to expect to control those who have taken up our fallen duties; each one must have the chance to find out the way that is best for themselves, and when they want the benefit of our experience they will seek it; if we thrust it upon them it will have no value for them, we shall concern ourselves to no purpose, and worry those we are most anxious to help.

Nature indicates that we are to "become as little children," and it seems as if the admonition to become so has more force then than at any other time in our lives if we would "enter into the kingdom." All earthly possessions lose their value as we approach the boundary; why, then, should we disturb our own peace of mind, or trouble others, by an effort to control them after they cease to be of importance to us?

In order to free ourselves from unprofitable care at a time when it should be our chief concern to be at peace with all men and ready for our summons to the life beyond, we should set our business cares in order before we are worn out by them. If we cling to our idols until we no longer can lay them aside voluntarily, they will surely bring us to grief.

Another important point for us to hold in view is that of keeping ourselves in sympathy with younger people. When that leaves us we have no hold upon them but that of duty, and duty-service is not apt to satisfy us where we look for more than that. It is because old people cease to have the right kind of interest in the things that interest young people, that they so often spend a lonely old age. The effort to find a common ground for companionship must be made on both sides. Old people, having been young, have the advantage, and should try not to forget the things that once pleased themselves, while young people would do well to study with patience and painstaking a life that assuredly lies before them. How thankful both should be when there are the right kind of grandchildren to pave the way to a common understanding of the humanities of life! A MARYLAND MATRON.

Finding Underground Streams.

Recent "water-witch" articles have brought us a great number of letters detailing instances of striking success with the forked rod, for most of which it is impossible for us to make room. We give, however, one or two specimen statements. Mr. J. W. INGHAM, Sugar Run, Pa., writes:

"The following incident took place in the writer's vicinity, and the persons mentioned were well-known to him and to others still living. Mr. Harry Elliott of Merryall, Pa., intending to dig a well, got his neighbor, Justus Lewis, in whose hands the crotched stick would work, to come to his house and prospect for water. Mr. Lewis was a farmer in easy circumstances, of good education, irreproachable character, and an elder in the Presbyterian church. It was in the spring when Mr. Lewis came, and after traveling round in Mr. Elliott's door-yard with a peach-tree limb in his hands, he designated a place where he said there was water not far below the surface, and Mr. Elliott drove a stake to mark the place. After haying, when he was ready to dig his well he employed Wm. Goodell, an old well-digger, a man of good moral character, except for the unfortunate habit of sometimes drinking too much of something stronger than well water. The first thing Goodell did was to prospect around the house with a peach-tree crotch. He did not know that Mr. Lewis or any other person had ever prospected there before him. He soon came to a place where he said he would warrant water in less than twenty feet from the top of the ground. The grass had not been mown in the dooryard, and had grown so high that it completely hid the stake that had been driven at Mr. Lewis' suggestion, but Mr. Elliott knew that it was not far off. He got another stake, and after it was driven discovered that it was not a foot from the first one, driven in the spring. The well was dug there and an abundance of water found at a depth of about 12 feet."

Mr. JONATHAN HOAG of Tomhannock, N. Y., tells the following story:

"Some twenty years ago I became desirous to bring water to my buildings. On an elevated piece of land near my dwelling, I had noticed in former years a springy spot, but had subsequently underdrained it; so at the time I proposed to bring the water, no one could tell where it was, as the surface was dry and the land had been repeatedly plowed. In speaking of the fact one day in my family, I said that I would have to get a water-finder and see if he could locate it again.

"With us at the time was a woman doing sewing for my wife, and she, hearing the conversation, remarked that they said the stick would work in her hands. So I told her that I would have her try it. When twilight came that evening, I cut and prepared a crotched plum stick, and we repaired to the place. She knew so little about it that she could not adjust the stick properly without my assistance, but I did it for her as I had seen it done aforetime, and she laughingly started, but had not proceeded far before she exclaimed, '*I cannot hold it!*'—and down it went.

"Then after trying it from every direction, I drove down a stake, and there I dug a well. After digging about eight feet, I struck a fine vein of water, which I conducted in a lead pipe to my buildings, and it is yet giving me an abundant supply. I am morally certain that the lady knew nothing of the location of the vein; neither did she, unconsciously to herself, so manipulate the twig as to make it turn."

Another friend presents an argument in the case, thus:

"The interesting testimony given by your correspondents seems to prove that water can be found without the use of peach or hazel twigs, but does not explain some attending circumstances. The twigs *do* turn in certain persons' hands; in others they do not. M. Walton testifies (p. 376) that while holding the wand, with the water-finder's 'thumbs on my wrist,' it moved with a force impossible to resist, 'though I held it so tightly that the bark wrinkled and slipped from the wood.' The theory of 'expectant attention' (p. 356) is not sufficient explanation here. The unconscious motions produced in the latter case are so slight as to require close study to note them. This was doubtless the secret of mind-reader Bishop's power—to read the slightest movement of the muscles. But in the former case we have the bark peeled off when both mind and muscle actively *resisted* the motion of the twig! Equally curious phenomena used to occur in the table-tipping days. I have seen a heavy centre table, on which sat two heavy men, move steadily across the floor under the finger-pressure of a woman of ordinary strength. All these were personal friends, having no belief in spiritualism or magic. 'Expectant attention' does not explain it. What does? These old beliefs need studying out. There may be more truth in them than materialistic scoffers suppose."

In connection with the foregoing, however, the following note from an old farmer, who is at the same time a student and a thinker, deserves consideration:

"This subject has occupied a good many columns in the COUNTRY GENTLEMAN of late, but it appears to me capable of being reduced to a simple and decisive test. I have seen a good deal of water-finding in my day, or at least attempts to find it, with the forked twig, but I have never seen any one that could withstand this simple test: Let the operator examine the ground, and mark out the distinct line for underground streams; let this be fully understood. Then blindfold him and lead him crookedly over the ground a number of times, so that he cannot tell where he has been before. This has always settled the question, where I have seen it tried. I have never yet seen the water finder who had a compass in his head sufficient to follow his old track and set his foot on it every time. Every one has blundered badly. What is the reason that all who have written whole columns on the subject have avoided this simple test? Operators who feel that they are in the right are willing to submit to such tests; those who doubt their own correctness will avoid showing their faith by their works."

Co-operation with Teachers.

Where parents fail to cooperate with school teachers, schools are a failure. The teacher may be able to hear recitations and the scholars may pass a fair examination, but the great good that may come from a term's schooling is lost. Children are sent to school to "get an education" very often with the idea that when they shall have mastered the contents of certain books their education will be complete. Still worse than this they leave school with the same idea. The best work a teacher can do is to endow his scholars with a love for research, reading and observation, and to teach them how to think.

It is a matter of astonishment how many children can attend school and pass examinations for years, and yet really they do not know how to think. The faculty exists, to be sure, but in how latent a way you may see if you undertake to arouse it. Many parents expect too much of a teacher, but whatever they expect there will be no realization of their hopes unless they are interested in the teacher, and do what they can to aid him.

The teacher's government must have the greater power of *home government* and *parental* enforcement to enforce it. When you can't "stand by" the teacher it is best to send a child to another school or teach him at home. It is a waste of time and an injury to him to trust him to one you cannot trust.

When a child reports some trifling matter of indiscretion on the part of the teacher, there are parents who are too apt—I had almost said ready—to give it undue importance and attention. This cultivates a tendency in the scholar to watch for such things, and to carry their supposed grievances to their parents. A child should seek for sympathy and protection from this source, but the best judgment must be used in giving. If a parent criticises a teacher before the child, what confidence or respect will be left for the teacher? None, if the custom be habitual.

It is not asking or expecting too much that a teacher shall be an example to his scholars, and no less is it to be expected and required that they respect him. The wisest educators say that it is better to uphold the partner in a child's education in a wrong—a slight one at least—than to allow the child to know there is any disagreement or divided opinion. The one may be remedied, probably forgotten; the other not easily.

Children have many lessons to learn outside their text books, and parents have ample opportunity to teach them. When a child finds fault with his teacher, here is his first lesson: *Human imperfection.* You can enlarge upon the text; and right after this comes *Charity for others' failings* and *forbearance toward all.* These are difficult lessons for their elders to master, but they should be recited to children until they *know* them *to be true*, and then they will be slow to "cast stones." A child of ten can usually be made to appreciate these things as well as an adult.

Children often suffer grievances in being punished for something in which they were indirectly concerned, when they were unconscious of wrong doing. Surely here is another severe lesson. People must and do continually suffer for the misdemeanor of others.

A little girl said recently, when she reached home: "I wasn't doing anything but standing by the gate, and some of them threw my hat over the fence. Lizzie's father says she shall not be kept after school for doing nothing."

"Have you come directly home to-night?" was asked her.

"No, I had to stay after school with all the rest. Some of the boys threw stones, some were saucy and awful bad, but we girls did'nt do *anything*, but stand up when he asked those to rise who were there after school. Mrs. White won't let him keep Lizzie, and she's going to write him a note about it. Must I stay?"

She was told that it was unfortunate for her to have been with such company, for there lay the trouble, principally. It was suggested that the teacher did not "pick out" the offenders from the number (who were in a yard on the way home from school) because it was impossible. There was complaint made to the teacher of the language used and the rough actions. But he could not tell who were merely "lookers on." Those who did not behave badly were in bad company.

After listening to these or similar comments, she turned away without saying anything; but she told Lizzie White's mother that she was sorry to have made the teacher any trouble, and she knew her parents did not want to give him any more by "making a fuss" about her being kept after school for a week—she could stand it. And she *did*, with a resignation which quite astonished others.

During vacation let the text books be closed, but parents should not fail to make some preparation in the child's mind for the coming term of study.

Teachers universally testify that scholars return to their studies after the long vacation with very little enthusiasm, and are more inattentive and absent-minded than at the close of the term. This is a natural result of what appears to be the cause. Their bodies and minds are, or should be, rested. Then why do they not go to work heartily? I fear that it is because the parents have failed to say an encouraging word about their school, or to take advantage of a thousand little opportunities of acquainting them with the desirability and advantages of their schooling. Let us do all we can to send the children back to school *eager to learn.* Teach them to learn their lessons for life, not for *recitation*, as too many do. Teach them, in primary or high school, to love or respect their instructors. Do all you can to secure good earnest workers in the teachers, and if they strive to teach your children to "love wisdom" and "get understanding," their education will not be likely to end abruptly when they graduate. Work with and for the teacher as well as the child, and more boys and girls will leave our public schools an honor to their instructors.

Litchfield County, Conn. A PARENT.

Clipped from the Magazines.

A CHANCE OF WEAPON.—Last winter I climbed Lookout mountain in company with a veteran of the late war. It was his first visit since the day of the memorable assault, and as we climbed he fought the battle over again for my benefit. As the conflict waxed hotter he grew excited, and on our arrival at the hotel near the summit was at fever-heat. We then passed on through the narrow defile which leads to the pinnacle, where we were confronted by a diminutive specimen of the genus "cracker" with these words, "If you gentlemen wish to go to the top, you must pay twenty five cents." This was too much for the pent-up feelings of my warlike companion, who, tragically waving his strong right arm, shouted: "I won't pay it! Twenty five years ago I came up here with a sword in my hand." But the modern Leonidas, moving not otherwise than to display a deputy-sheriff's badge, quietly remarked: "Well, sah, you must come up with a quarter to-day." The money was paid.
—*Harper's Magazine.*

THE NEW STATES AND THE FLAG.—There is, perhaps, a technical question whether the admission of the new States is so far accomplished by the mere enabling act that their representative stars may properly be placed on the flag for the approaching Fourth of July. It is not probable, however, that the question will ever assume any practical importance. The older States of the Union will not be apt to cavil on points of etiquette in the welcome with which they meet their new sisters, or to stickle on the exact location of the threshold. The field of forty-two stars may not be legal for Federal agencies until next year, but there is assuredly nothing illegal in the prior recognition by States and private persons of the practical relations of the new States to the remainder of the Union. Such a recognition would be at the worst but a brief and passing irregularity; and that is hardly to be placed in the scale opposite to the comity of States. The fortunate design of our national flag enables the older States to signalize at once the cordiality with which they add to the roll of their sisterhood the names of North Dakota, South Dakota, Montana and Washington.
—*Century.*

ESQUIMAUX TOBOGGANING.—The Esquimaux on land journeys, often encounter hills where it would be very dangerous to attempt a descent with a heavily loaded sled drawn by dogs. When such a place is reached, they unhitch the dogs and let the sled descend by its own weight. All the men act as brakes to prevent, if possible, a descent so rapid as to land the equipage a complete wreck at the bottom. The two strongest of the drivers take their places on the sides at the front of the sled, and the others hold on where they can; all pull back as strongly as possible when the speed increases. Some plant their feet straight in front of them and send the snow flying as if from a snow-plow. Others find themselves taking leaps that would astonish a kangaroo, are dragged furiously along, or, maybe, come rolling to the bottom after the sled. The dogs regard the whole affair as a joke, and with their traces tied together come dashing along in the wild chase, some barking joyously, others yelping distressedly as, caught in the traces, they are dragged to the foot of the hill by their reckless companions. It often seemed a wonder when, even with all our exertions, we could land sled and party at the bottom in safety.—*St. Nicholas.*

ANTI-PYRINE IN SEA-SICKNESS.—At a late meeting of the doctors of France at Marseilles, part of the programme was an excursion to Algiers; and before they sailed, one among them announced the preventive virtues of anti-pyrine in sea-sickness. "Now," said he, "there is an opportunity to test its value in a way rarely occurring. Here are a hundred and fifty doctors of us going to sea, not one of whom is a sailor. Let us all take the drug, sail across the middle sea like veterans and enjoy our little trip like old salts." Adopted. So every doctor armed himself with capsules of anti-pyrine and began to take them as the ship swung out of the dock and headed for Africa; and in half an hour afterwards the society, without exception, was laid out. They stuck manfully to the remedy, determined to give it fair play; but when they landed in the morning, a dragged-out, dilapidated-looking set, the vote that anti-pyrine was a miserable delusion in sea-sickness, passed by a large vote—a strictly unanimous one. As a temporary relief for sick-headache, it has considerable value; but it is as insidious as chloral, and even more seductive. All these drugs have about the same biography. They come in with trumpet blast and beat of drum, heralded as absolute cure-alls; spread themselves among the people like a pestilence, are eagerly seized by youthful physicians and helped along, and gradually subside out of public sight, leaving behind some victims to their power who live and a host of graves.
—*American Magazine.*

FRENCH AND GERMAN LEADERS.—As an officer, the capacity of the German rests more upon education, method, thoroughness, and familiarity with his part; more on tuition than intuition. He is unquestionably not possessed in any like degree with his neighbor of that vital spark, that spontaneous aptness which moves to brilliant execution. He is more a made soldier than a born one. Executive instinct is not a German quality. It is in organization, which is another thing, that he is supreme. The French are infinitely more susceptible of military genius, in its true sense, than their enemy. The Frank is a born tactician. Executive cleverness, smart response to circumstance, practical aptness, tact, and adroitness are French qualities. These are just those which the German does not possess. His mental movements are slow and indirect, compelling him to lean more fully than his agile neighbor on knowledge and training. He requires to be thoroughly versed. Let us again lay stress on the truth that German genius is for *organization*, the French for *execution*, and that the two are quite distinct. The Teuton will always rise superior in the first and the Gaul in the second. Unquestionably, what is truly signified by military genius belongs rather to the second than the first, and, other things being equal, the latter is probably a more potent possession than the former. Germany has produced fewer heaven-born soldiers than most countries, fewer executive men of any sort; France, an unusual number. It is by deliberate and gradually developed method that the German army has become the paradigm of the world. It is not there we must look for spontaneous originality and inspired conceptions.—*Atlantic Monthly.*

Two young Africans were one day fishing from a wharf, when one of them fell in the water and was drowned. The survivor's grief was so uproarious that a sympathetic bystander inquired if the drowned boy was a relation. "No," said he, through his tears, "he warn't no relation, but he mout's well been—he had all de bait."

Domestic Economy.

Baby's First Shoes.

It is very important that baby's first shoes be soft and large. Baby often suffers great discomfort from slight pressure on his tender little toes.

Forming these little shoes is a pleasant bit of fancy-work, and they make a very acceptable present to baby's mamma. They are easily cut and fitted, and there is a long list of materials to choose from, both for the shoe itself and for its ornamentation.

Fig. 1 shows one of these dainty little shoes completed. The material used was chamois

Fig. 1.

skin. Two pieces were cut the shape of fig. 2 for the upper, and the sole by fig. 3. The

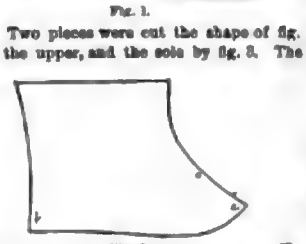


Fig. 2.

two pieces from fig. 2 are stitched together down the back and as far up as *c* at the front.

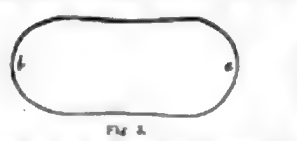


Fig. 3.

In joining on the sole, the front, marked *a*, is put against the end of the sole marked *a*, and the back, *b*, against the end of the sole marked *b*. They are then stitched around, and the seams trimmed closely. Eyelets are cut down both sides of the front, through which a narrow ribbon is laced and tied in a clustering bow top and bottom. A delicate vine is worked around the top.

As a baby's first shoe is almost a sock, and as much designed for ornament as use, they look nicely embroidered on the toe and around the ankle. Where the toe is to be embroidered it should be first seamed up and the embroidery done before the shoe is closed at the back. The top can then be ornamented around the ankle before the upper is joined to the sole. Wash silk should be used for the embroidery, otherwise when the shoe is washed the colors will run and spoil the looks of the little shoe. The ribbon used for the lacing should be very narrow with a plain edge. If preferred, silk tape can take the place of the ribbon.

Shoes made of chamois skin may be washed when soiled. Make a lather of tepid soft water and fine soap. Place the shoes in it and squeeze gently until the dirt is removed; then rinse through two waters, using warm, soft water each time. Care must be taken not to pull or stretch while wet. When almost dry straighten and pull into shape.

They may at first feel a little stiff, but if gently pulled and worked with the fingers, they will be as soft as when new. In selecting chamois, thick skins should be chosen. Shoes made of such chamois are not only nice for baby's first shoes, but are equally satisfactory for children who are learning to take their first steps.

Flannel and cashmere also are sometimes used for first shoes. When these materials are selected, a lining must be added, and all edges bound with ribbon or silk-braid.

Fig. 4 is a handsome design of wild roses,

Fig. 4.

suitable for either the chamois, flannel or cashmere shoe. It is to be embroidered with wash silk, in one or more shades. By placing transfer paper over the material of the shoe, after first sewing up the toe as before directed, the design over that, and going over all parts of the pattern with a blunt lead pencil, or the end of a knitting-needle, the pattern can be transferred easily.

Any simple braiding pattern looks well, and may be worked either in narrow braid or outlined in stem stitch with embroidery silk.
MRS. BUSYHAND.

About the House.

A great convenience for a veranda in summer will be found in a round box with a cover. This box can be elaborately decorated. Have the cover stuffed so that the box will answer a double purpose, that of ottoman on occasion, and a receptacle for one's work, newspapers, books or light wraps, which, if left on a chair or settee, might "be found missing," as the wind has a most surprising way of whisking light articles out of sight.

—Have an oiled silk bag to correspond with your sponge bag hung on the side of your wash stand to hold the bag of bran, which you soak for a little time in the water in which you perform your ablutions. This bran bag is made of coarse cheese cloth with one end left open, and from which the old bran can be emptied and the new put in, then tied tightly with tape fastened to the side of the bag.

—My experience with an earth closet is very simple. It was built at the back end of the coal and woodshed, the seat being constructed after the usual fashion. An opening was cut directly back of the seat out of the back of the shed, and a door made to swing upward, which fastened with a button when the portable box was removed or put back in position, fastening down in the same manner. An old coal-scuttle filled with ashes and a shovel in it stood beside the seat, and was filled every day and used as often as necessary. The box was emptied every Wednesday and Saturday whether it "needed it or not," as I was often assured it did not. The only answer I gave was a pantomimic one, pointing to a card tacked to the door of the shed with the directions printed in large type. The box, after being emptied, was thoroughly sprinkled with lime. Although this shed was only about ten feet from the back door of the house, there was never the slightest odor from it, and no flies. AUNT ADDIE.

Pot-pie—Even as it is usually served, in pasty and more or less impervious masses, seems good enough to be worthy of further improvement, and experiments show that a desirable variation may be made in the method of cooking this time-honored dish. Veal and mutton are equally excellent with pot-pie, and the less desirable pieces will be acceptable in this way:

Put over your meat in a large saucepan, with sufficient water to cover it entirely. If the bones are unmanageable, they must be broken. Make a dough as for drop-biscuit, allowing one cupful of sour milk to a pint of flour, with a pinch of salt, and sufficient soda to make the milk "fizz." Roll this out on a floured kneading board and spread with butter or lard, folding three times, exactly as in making pastry, using at least a half cupful of shortening. Roll this paste out in a round nearly an inch thick, cut an opening in the centre and lay it, like a lid, over your saucepan, which wants no other cover. The water must then be kept simmering steadily for an hour. Meat should never boil hard, as it renders it tough. At the end of this time, set the saucepan into a hot oven for fifteen minutes, or until the crust is of a pale golden brown. It should be cut pie-fashion, and served around the meat on a large platter. Made in this way, pot-pie is both light and savory, and makes a substantial foundation for a farmer's dinner.
DORER.

Old-Fashioned Needlework.—"Netting" should have been printed "*knotting*," which style of work is done by passing the needle with coarse thread, or fine cotton yarn, underside of the muslin, winding the thread around the needle three times, and setting the needle back through the cloth, drawing the thread down tight, which leaves the knot like a tiny ball; an eighth of an inch space between the knots is sufficient, and the work is very quickly done, and very durable. It is quite strong, and can be made available for many articles, either in the wardrobe or for bedding. It is an old-time art, that (like many others of our foremothers' skill) is being revived, and made useful in the present day. *Netting* is an art that has never been laid aside; it is an openwork embellishment, and is used for fringes, tidies and other ornamental uses, very different from the knotting, which is solid work, on solid material. LILY LEE.

Scrambled Eggs with Milk.—Butter a sauce-pan well. Proportion your eggs to your milk according to your supplies of each. Three eggs to a cupful of milk does very nicely, but four, five or six can be used, as either eggs or milk are plentiful or scarce. Add the eggs to the cold milk, turn into the cooking-dish; stir constantly till it thickens, and remember that the utmost care is necessary to remove it from the fire at exactly the right instant, when it is just done, or it will whey, and the sooner, the more milk is used. In scrambling eggs plain, if you are a little short of eggs, a few spoonfuls of milk can be added and nobody will ever know the difference. Like scrambled eggs, the foregoing dish can be used plain or over toast, or a dish the children will like amazingly can be made by dipping pieces of very stale bread into hot salted water, buttering lightly and adding the eggs when cooked.—*Good Housekeeping.*

Caviare Sandwiches, p. 397.—You are correct in your criticism; my receipt for the above dainty was misnamed. It ought to have read "Mock Caviare Sandwiches," but by oversight the first word was omitted. The real caviare is such a rare and costly article here in England that we very seldom think of using it, especially as the mixture for which I gave the receipt is such an excellent substitute—few people except old connoisseurs being able to tell the difference. AUNT CHLOE.
London, England.

In this country, the cost of the two articles is about the same.—ED.

Salad Dressing without Oil.—Boil three eggs for twenty minutes, take out the yolks and rub them very fine, add gradually one tablespoonful of melted butter and three tablespoonfuls of thick, sweet cream. Rub until light and smooth, add a half teaspoonful of salt, a dash of cayenne, and a quarter teaspoonful of mustard, mix, and add one uncooked yolk, a teaspoonful of lemon juice and a teaspoonful of vinegar.—*Table Talk.*

Record of the Times.

Weather, Crops and Prices.

Meteorology for June 9-15.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.19	Inches.
Lowest	do.	do.	.....	29 99	do.
Mean	do.	do.	.....	30 09	do.
Highest temperature	do.	.....	92°
Lowest	do.	do.	.....	57 °
Mean	do.	do.	.....	70

Three fair days; four cloudy. Five days on which rain fell; total precipitation, 1.99 inch. Prevailing wind S.; maximum velocity, 20 miles per hour, S. on the 9th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day.....	9th	10th	11th	12th	13th	14th	15th
This year...	74°	78°	70°	66°	70°	78°	71°
Normal.....	67°	68°	67°	68°	68°	67°	70°

Total deficiency for the week, 20°.

General Review of the Week.

The week ending June 15th has been warmer than usual in the States on the Atlantic coast, and cooler in the central valleys from the Gulf coast northward to the lake region and Minnesota, the greatest departures from the normal temperature being in the Central Mississippi valley, where the daily temperature was from 6° to 9° lower than usual. In the Upper Missouri valley, including Nebraska, Dakota and Minnesota, the normal temperature for the week prevailed. On the Pacific coast it was decidedly warmer than usual, especially in the grain regions, where the daily excess ranged from 10° to 18°. The thermal conditions for the season, from Jan. 1 to June 15, have differed but slightly from the average of previous years throughout the Southern States and the Ohio and Mississippi valleys. In New-England the season is from eight to ten days in advance, while in the Missouri valley and Dakota it is from one to two weeks early.

There has been more rain than usual generally throughout all agricultural districts in the central valleys and on the Atlantic coast, except in Southeast New-England and along the South Atlantic coast, where numerous showers are reported. The rains were unusually heavy over the central and western portions of the cotton region and over the tobacco regions of Tennessee, Kentucky, North Carolina, Virginia and Southern Indiana, the heaviest rains occurring in the lower Mississippi valley, where they were greatly needed. Although less rain than usual occurred in Kansas, Nebraska, Minnesota and Dakota, well-distributed showers are reported from these States, which, with previous rains, will doubtless prove favorable for corn. The large deficiency in rainfall for the season previously reported over the cotton region and Tennessee has been greatly reduced by the recent heavy rains, where the rainfall for the season now exceeds 70 per cent. of the normal. Generally throughout the Middle Atlantic States, Eastern North Carolina, and from Iowa and Nebraska southward to the west Gulf coast there has been more rain than usual. At stations along the Ohio river and in Northwestern Minnesota the rainfall for the season has been less than 60 per cent. of the normal; but it is probable that the timely rains in these sections have improved the crop conditions.

The weather for the week was unfavorable for small grains in Minnesota and Dakota owing to the small amount of rain. In Iowa, Illinois, Missouri, Kansas and Arkansas the crop conditions were improved by the weather of the present week. Corn is reported as growing rapidly, but in some sections of Illinois too much rain is reported. Wheat harvest is in progress in Central Kansas, and will commence in Illinois next week. A short crop of timothy and clover is now being cut in Iowa. In Ohio, Indiana and Michigan all crops have improved, but excessive rains interrupted cultivation and harvest work. Crops were generally retarded in Kentucky and Tennessee owing to heavy daily rains and little sunshine. In some sections of these States wheat has been damaged by insects and injured by excessive rains, although corn, cotton and tobacco are reported as growing well, but dry weather is needed for cultivation. Reports from North Carolina, South Carolina, Alabama and Louisiana indicate that the weather was favorable for all crops, which show decided improvement since the recent rains. In Mississippi and Texas the rainfall was excessive, and crops have been more or less injured in some sections, especially in Texas, where the weather has been too cool for cotton. The excessive rains which have occurred over the greater portion of the Middle States and New-England have been attended by weather conditions which have generally improved all crops, although farm work and cultivation were interrupted. In New-England all crops, including corn, improved and are growing rapidly. In Connecticut the weather has been especially favorable for the tobacco crop, which is reported in fine condition.

New-York—*Erie County, June 10.*—The drouth which threatened to stay with us all summer until two weeks ago has no present prospects of returning. The intermittent showers of the last fortnight have made crops grow wondrously, and potatoes that were frozen to the ground May 28th are again in full foliage. The last 48 hours have brought showers so heavy as to flood low lands, and so frequent that when out riding I could only go about three miles between showers, and then have to stop at some hospitable farmhouse to keep dry. That many farmers do not profit by experience is plainly shown by pools of water lying on land that has good natural drainage, but which is held there by depressions caused by cross-plowing and neglecting to level old dead furrows. The acreage of potatoes is the largest ever known in the county, being fully one and a half times that of last year. Tomatoes are also in general favor this year, and unless blight and insects destroy a part, there can be no market for a large portion of the crop. Early garden truck is very dull. The prices on the 8th at the Buffalo market were: Rhubarb, 12c. per doz. bunches; radish, 20c.; onions, 5c.; lettuce, 25c. per doz. heads; spinach, 20c. per bush.; strawberries, 8c. per qt. J. J. L.

Afton, Chenango Co., June 11.—It is wet, wet—so wet we can do no farming at all; horses will go to their ankles on plowed ground; water stands in pools in meadow and pasture, and crops are stagnating. Corn is only nicely out of the ground, a very favorable season will be needed to get a crop. Some have not done planting, while not one third of fodder corn is planted or sown, or millet for fall feeding. Oats and grass are fairly promising; potato bugs and potatoes are striving for mastery, and we shall have to "get there" with Paris green when there are tops enough to "grass." Cows are doing finely at the churn; from twenty cows (seven being 2-year-olds) we are churning 90 lbs. per day; cows have only what they get in the pasture, but butter is away down. Have had unusual bad luck with calves with bloody scours; several have died. Those that lived came up slowly. To one that I much wanted to raise I have given about one quart of whiskey, it being a heifer and a granddaughter of Grand Duke Alexis 1040. I had my best success in doctoring for scours by using puff ball. What has been the experience of readers? S. E. H.

Geneva, Ontario Co., June 10.—Frost night of May 26th did considerable damage to garden crops and grape vines; since then have had rain in abundance, also rain every day for the last week, which makes it impossible for farmers to get on to the land. Hay will be a very heavy crop; wheat and spring grains are looking well, except on low land where it is part under water; corn needs good hot weather to bring it along. Nursery trees are putting on a very fine growth. Fair prospect for pears and plums; we now look for a good crop. Apples and peaches short. J. W.

Canton, St. Lawrence Co., June 13.—Three weeks of wet, dismal weather, unfavorable for crops, except grass, which will be immense. Grain on low land nearly ruined; corn and potatoes small and sickly; and still the rain comes down without sign of intermission. Weather bad for dairying; feed is abundant, but soft and watery, and cows have decreased in milk steadily when they should have been advancing. Cheese is of good quality and moves briskly with slight improvement in prices. Ruling price this week 9¼c. per lb.; creamery butter, 16c.; dairy, 12@14c.; hay, $13 per ton; oats 40c. per bush.; potatoes, 30c. Cows are worth $20@50; common yearlings, $8@8; calves, $3@4 each. No frost in this locality of any account. L. T.

Maine—*West Madison, Somerset Co., June 8.*—The warm weather of early spring seems now to have been a little premature, as the past two weeks have been cool and seed has been slow in germinating. The past week has been very rainy and the ground is now saturated with water. It has, however, been good for grass, as it has thickened up and the prospect for a crop of hay is now much better than it was two or three weeks ago. Farmers have all completed their spring's work, and many are now waiting for the ground to dry off so that they can begin hoeing. The prospect for a large crop of apples is not so flattering as it was a few weeks ago. Apple blossoms have blighted in some orchards, so that the crop will be a very small one with many farmers. Small fruits are not grown to a very great extent in this vicinity; only a few rains enough for their table use, and occasionally one raises for the market. T. D. S.

New-Jersey—*Trenton, Mercer Co., June 10.*—The past period of wet and cool weather has had a retarding, and in some cases, fatal effect on farm crops. Corn has made little growth, but will recover with immediately warmer weather; oats have turned yellow on flat, heavy ground, and are rusting; in some of our best potato-growing districts whole fields are a failure, seed having rotted, and most fields show many vacant places, and to make matters still worse, the bugs have increased their numbers and depredations. Fruit, especially cherries and apples, is dropping from the trees. Reliable information from peach growing centres estimates the crop at 50 per cent. of a full yield. Strawberries in southern part of the State are being injured by rust; berries do not develop and fill out as they did earlier in the season. The present outlook is not as favorable for a prosperous year to farmers as the early spring indicated. Though we have had abundant rain, the hay crop will fall a good deal below a good year, and this is one of the most valuable. Old corn is selling now for 45c. per bushel, which is but 10c. above cost of raising. Old potatoes slow at 35c. Strawberries in demand at 10c. per qt. P. D.

Delaware—*Kent County, June 12.*—Delaware seems to have escaped the drouths, floods and frosts that have visited so large a portion of the States. May rather cool, with more than usual rainfall—not enough to cause serious injury. Clover hay harvest now in progress; crop average in quantity, and excellent. This seems to be natural clover land; blossoms perfect; no clover weevil; failure of catch of clover seed almost unknown. Wheat harvest will commence on 20th; acreage large; yield promises 75 per cent. of a full crop. Deficiency caused by lack of fertilization on account of heavy rains at blossoming time. Some rust has also appeared. Straw is very heavy—three to four feet long. Corn looks fine; many fields nearly knee high. Strawberry season is about over; crop very large, prices low—hardly more than paying expenses in some cases. Canneries have packed large quantities, paying 4c. Peach crop promises to be fairly good, although many have dropped. Growers will probably realize good prices on account of the failure of the crop in other sections. Pears look well, and are carrying half a crop. Blackberry and raspberry crops heavy. Some bugs have seriously injured grapes and cherries. Delaware farmers are paying more attention to improved cattle. I know of several herds of Jerseys now being crossed with Holstein bulls, the produce having proved better for milk and butter than either breed pure. Silos have been introduced, and have proved so useful that many more will be built this season. E. G. F.

Ohio—*Irondale, Jefferson Co., June 11.*—At no time during the past spring did we suffer from drouth nor from a surplus of rain. Pasturage came on early, and is unusually abundant. Meadows never were better, especially clover, which will be the heaviest crop in many years. It is now in full bloom, and beginning to lodge quite badly; weather is too unsettled to commence cutting. May came in cool, but soon got warm, and corn planting was pushed—some planting even in April. It came up well in a few days, but about the 20th the weather set in cold, and there were frequent light frosts, which did but slight damage except to retard growth of vegetation. For a day or two past it has been warm, and corn has begun to grow, but is very short, averaging scarcely six inches. The stand as a rule is good, so that there is time yet for a crop. Oats are splendid, and will doubtless be a heavy crop. Wheat has escaped any damage from frost so far as can be observed, and is one of the finest stands ever grown here, although not so heavy in the straw as expected early in the season. A frost the latter part of April was followed by two weeks of dry, cool weather, which I think was the cause. It will be fit to harvest about July 1. More than the usual acreage of potatoes has been planted, with prospect of an abundant crop unless a drouth sets it short or too much rain rots it. The present season's wool clip is said to be one of the best in point of quality for some years. Buyers are paying 30c. per lb. for washed with the usual shrinkage on very heavy or unwashed fleeces, and it is selling freely. Live stock of all kinds have done remarkably well, and there is likely to be quite a demand for stock—sheep and cattle—to eat the surplus pasture and hay. Small fruits are abundant; apples and peaches not plenty, perhaps enough to supply demand. Those who had late keeping apples are selling them now at a good price, but during the latter part of the winter and spring they were a drug in the market. I shipped a lot of 70 barrels, which did not bring me as much as I could have realized last fall. Wheat, 80c. per bu.; oats, 30c.; corn, 40c.; cattle, 3@4c. per lb.; hogs about 4c. E. H. B.

Indiana—*McGrawsville, Miami Co., June 10.*—The weather for the last ten days has been wet and cold, warming up latterly. Corn is coming up; oats have begun to grow and look green; meadows are starting up and making some growth, though the hay crop will be short. Wheat is looking better, but some fields since heading out look as though nearly one-fourth was blasted heads. We see a few such heads every year, but nothing like this was ever known before. Cut worms have been very bad on seed corn; one field had to be planted over. Prices are low. Hogs, 4c. per lb.; grass cattle, 1½@3c.; corn, 38c. per bu.; oats, 23c.; wheat, 70@80c. Horses are cheaper; good graded work horses for farm purposes sell for $120@175. J. W. J.

Wisconsin—*Janesville, Rock Co., June 11.*—During the week we have not had a fair, pleasant day, nor seen the sun but for a few minutes through cold, misty clouds. Overcoats and fires in use day and night; one frost, and the heaviest rains ever known here. Grass is heavy; pasturage never better. Corn is a sickly looking part of the farmer's expectations for labor, seed, &c. It may recuperate, but it must be very soon. Tobacco is fully as well off as corn, though it cannot grow this weather. Everything is water-soaked. Small grains are doing well—most of them. Straw will be too much for the grain, unless we have a cessation of rain and much warm weather. Potatoes will need a long drying off. Butter is lower than for years past. Live stock looks well and quite thrifty. There is an inclination to plant a large acreage of tobacco, and if we have a change now tobacco will be all right; the ground will be in first-class order for planting. To-day is much warmer; all things rejoice, and our spring trotting meeting opens. We have quite a number of trotting celebrities here, both in horses and horsemen. Ours is one of the best tracks in the United States. It soon dries. Wheat down, 70@75c. per bu.; barley, 40@44c.; peas, 30@40c.; corn, 35c.; oats, 25c.; hay, $4@7.50 per ton; bran middlings, $10; butter, 10@11c. per lb.; eggs, 10c. per doz.; cattle, $2.40@3.50 per cwt.; hogs, $3.75@4; tobacco, 2½c., 3½c., 5@6 11½c. per lb. Rheumatics abundant. W. H.

Iowa—*Small Junction, Hamilton Co., June 10.*—It has just cleared off after a splendid rain of three days. Has been rather cold for corn, but is warming up and small grain looks well. Meadows rather short; pastures good; a heavy frost on the 30th froze off the tops of some of the corn and garden stuff, also of potatoes that were in sheltered places where the wind did not strike them; further north it was worse. About all the corn is plowed through once, and part of it twice. Prospects of good crops. Fat hogs, $3.75 per cwt. gross; beef cattle, from $3 to $3.25, according to stock; butter, 10@11c. per lb; cream, 11c. per inch; eggs, 10c. per doz.; corn at railroad station, 23c. per bush.; oats, 18c.; cows, $18@25 each; horses, $80@125; stock steers, 2½@3½c. per lb. Pasture for cattle from towns, 30c. per month per head. O. S. T.

South Dakota—*Valley Springs, Minnehaha Co., June 12.*—We read of severe frosts east, north and south, but we have suffered very little here. Potato tops and corn showed some of its effects, but they soon recovered. Gophers beat us worse than all else, some cornfields are half destroyed by them. If we could get a bounty offered of two or three cents per tail, it would make industrious and useful boys out of idle and careless ones, besides saving millions of dollars at husking time. Some complaints about drouth, but grain is still looking well, having no signs of disease like yellow blades, caused by insects, &c. On the contrary it assumes a dark green and looks strong and healthy. Weather fine, grass growing well, and our new Oxford lambs are showing up splendidly. Prices of produce are low and railroad freights far too high, but the remedies are coming. J. D.

England—*London, June 8.*—Rainfall for May amounted to five inches, which is a heavier downpour than we have had for many years. If it be true that "May floods never did good," we have little advantage to follow such a summer deluge. R.

Farm Produce Markets.

Albany Markets—June 17.

FLOUR.—The Argus says: The demand continues fair with moderate receipts.

	June 15.	June 1.	June 16.
Com. State.....	$3.20@4.00	$3.20@4.00	$3.20@4.15
State Extra.....	4.10@4.30	4.10@4.50	4.15@4.60
Amb. State & W.	4.35@4.10	4.15@4.30	4.60@4.75
O. Ind. & St. L. Ex.	4.05@4.10	4.20@4.30	4.60@4.80
Winter W. Ext....	4.35@4.60	4.50@4.60	4.75@5.00
Minn. "Bakers"...	4.40@4.75	4.60@4.75	4.85@5.15
Sp'g W. Ext., new.	4.00@4.25	4.10@4.25	4.10@4.25
Sp'g W. Ext., old..	4.20@4.50	4.35@4.50	4.10@5.25

Rye Flour in good demand and firm at $3.30@3.75 per bbl.; Corn meal, $4.00@4.10. Oat Meal doing moderately well at $5.00@5.10 per bbl. A good trade in Corn Meal; fine family, $2.25@2.75 per bbl.

GRAIN.—Corn in steady demand and firm; No. 2, 60@60½c.; No. 3 mixed, 59@59½c. Oats firm; closing with lighter demand; No. 2 white, 34@35c.; No. 3 white, 33c. Rye in light demand at 65@66c. per 56 lbs. for State, and western 67@68c.

HAY AND STRAW.—Market steady; demand good; receipts light. Timothy, best, $16@18; medium, $13@14; clover, $10@11; mixed, $11@13; rye straw-best, $13@15; oat straw, $8@10; wheat straw, $10.

HOPS.—Choice firm; low grades weak.

N. Y. State, 1886, choice.....	20	@22c.
N. Y. State, 1886, common to good.....	15	@18
N. Y. State, 1887, all grades.....	5	@11
Pacific Coast.....	15	@20
German.....	25	@30

Albany Street Market—June 17.

BUTTER.—Good to choice, 17@18c. per lb.

EGGS.—Near-by and new laid, 13@14c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@9c. per lb.; forequarter, 5@6c.; mutton, hindquarter, 9@10c.; forequarter, 7@8c.; lamb, hindquarter, 10@12c.; forequarter, 6@10c.; veal, hindquarter, 8@11c.; forequarter, 5@6c.

POULTRY.—Fowls, 11@12c.; chickens, 11@16c.; terkeys, 18@19c.; ducks, 12@13c.

FRUIT.—Apples, $1.50@3 per bbl.; Cranberries, $1.50@3 per crate; Strawberries, 8@15c. per box.

VEGETABLES.—Asparagus, 8@10c. per bunch; Beets, new, 4@5c. per doz. bunch.; Cabbage, new Egypt per crate; Cauliflower, 10@15c. each.; Cucumbers, $2.25 per crate; Green Peas, $1.50@3 per crate; Lettuce, 5c per box; Onions, new, $1@1.50 per crate; Potatoes, old, $1@1.50 per bbl.; new, $2.50@3; Radishes, 10c. per bunch.; Spinach, 75@90c. per bbl.; String beans, $1.50@2 per crate; Squash, $1.50@2 per bbl; Tomatoes, $2@3.50.

New-York Markets—June 15.

BEANS—Marrow, 1886.....	1.90	@	1.95
Medium, 1886, choice.....	—	@	1.85
Pea, 1886.....	1.80	@	1.85
COTTON—	Uplands.		N.O.& Texas.
Ordinary, per lb.....	8½@	—	@ 9c.
Middlings.....	10½@	—	@ 10¾c.
Fair.....	12½@	—	@ 12¾c.
EGGS—State and near-by, per doz....	14	@	14½
Western and Southern.....	12@13	@	14
FLOUR—Spring Wheat, low grades, per bbl..	3.50	@	4.75
Winter.....	4.75	@	5.10
No. 2 extra State and Western.....	3.30	@	3.45
No. 1 extra.....	3.50	@	4.00
Minnesota clear.....	4.10	@	4.60
Straights.....	4.30	@	4.80
Rye Flour, superfine.....	3.45	@	3.65
Corn Meal.....	3.70	@	3.80
FRUIT—Apples, Baldwin, per bbl...	2.50	@	3.50
Russet.....	2.50	@	4.50
Spy.....	3.00	@	5.00
Cherries, fancy, per qt.....	9	@	11
Fair to prime.....	6	@	8
Gooseberries, per bus.....	1.25	@	1.50
Huckleberries, N. C., per qt.....	4	@	5
Peaches, Ga. and Tenn., per crate..	75	@	1.50
South Carolina.....	60	@	1.00
Plums, wild goose, per bu.....	75	@	90
Strawberries, Jersey, per qt.....	3	@	6
Delaware.....	3	@	7
Up River.....	4	@	13
Staten Island.....	3	@	10
DRIED—Apples, sun-dried, per lb.....	3½@	@	3½
Evaporated.....	5@6	@	6½
Peaches, sun-dried.....	4	@	5
Evaporated.....	6	@	12
Plums, Southern.....	3	@	4
Cherries.....	12	@	15
Blackberries.....	3	@	4
Raspberries.....	10	@	10
Huckleberries.....	8	@	11
GRAIN—Wheat, State white, per bus..	91	@	91
Depressed spring.....	80	@	80
No. 1 red, winter.....	89½	@	89½
No. 2 red, winter.....	88	@	88½
Corn, No. 2, white.....	47½	@	47½
No. 2, mixed.....	47	@	47½
Oats, No. 2, white.....	37½	@	38
No. 2, mixed.....	37	@	38
Barley.....	60	@	65
Rye, State and western.....	56@58	@	61
HAY—Timothy, per 100 lbs.....	80	@	90
Shipping.....	75	@	80
Clover.....	85	@	90
Straw, long rye, No. 1.....	70	@	75
No. 2.....	60	@	65
Oat.....	45	@	55
HOPS—N. Y. State, 1886, choice, per lb.	20	@	22
Good.....	17	@	19
Best, 1887.....	7	@	10½
Pacific Coast, 1886, best.....	21	@	24
Pacific Coast, 1887.....	5	@	8
German.....	25	@	30
POULTRY—Live fowls, per lb.....	11½	@	12
Spring chickens.....	14	@	20
Turkeys.....	10	@	10
Ducks, per pair.....	60	@	70
Geese.....	1.00	@	1.25
Dressed fowls, per lb.....	10	@	11
Phila. springs.....	18	@	24
Bait. & Wash. broilers.....	20	@	24
Turkeys.....	11	@	12
Ducks, per lb.....	15	@	20
PROVISIONS—Beef hams, per bbl.....	15.00	@	16.00
India mess.....	13.00	@	13.50
Hogs, dressed, per 100 lbs.....	5.75	@	6.75
Lard, per tierce.....	6.00	@	6.00
Pork, new mess, per bbl.....	12.12½@	@	12.37½
Short clear.....	14.00	@	15.00
Family.....	13.00	@	13.50
VEGETABLES—Asparagus, Colossal per doz. bunch.....	1.25	@	1.75
Prime.....	75	@	1.00
Beets, Sav. & Chas. per crate.....	—	@	—
Florida.....	—	@	—
Cabbage, Southern, per bbl. crate..	50	@	75
Cauliflower, L. I. & Jer. per bbl....	7.00	@	8.00
Cucumbers, Florida, per crate.....	50	@	1.25
Savannah and Charleston.....	1.00	@	1.50
Green peas, Long Island, per bag..	1.00	@	1.50
Onions, N. O., new, per bbl.....	—	@	2.10
Bermuda, per crate.....	75	@	90
Potatoes, Southern, per bbl.....	4.50	@	5.50
New-Orleans.....	4.00	@	5.00
Bermuda.....	6.00	@	6.50
Old, prime.....	1.37	@	2.00
Spinach, Norfolk, per bbl.....	—	@	—
String beans, Chas. wax, per crate.	75	@	1.25
Savannah.....	—	@	1.50

Tomatoes, Fla., per crate	1.00	1.00
Misc.	1.00	1.50
Turnips, Jersey, per 100 bunches	1.00	1.50

Cattle Markets.

NEW-YORK, June 18.

BEEVES.—Receipts, 10,000 head. Trade on Monday last was slow, with a weak feeling in values. Wednesday the tone improved, and trade though dull was steady. Friday the markets closed firm with an upward tendency. Some miscellaneous Cherokee steers were received and were very difficult of sale. The best herds to hand were mostly from Pennsylvania. The export herds were selected from those and from corn-fed Illinois cattle.

[Per cental, gross.]	This week.	Last week.
Good beeves	$5.00 @ —	$5.00 @ —
Fair	4.00 @ 4.87½	4.00 @ 4.87½
Coarse	3.00 @ 3.87½	3.00 @ 3.87½
Poor	2.50 @ 2.87½	2.50 @ 2.87½

[Per cental, gross.]	This week.	Last week.
Good beeves	$5.00 @ —	$5.00 @ —
Fair	4.15 @ 4.85	4.37½@ 4.85
Coarse	3.25 @ 4.00	3.50 @ 4.25
Poor	2.50 @ 3.00	2.75 @ 3.25
Oxen	3.00 @ 4.50	3.00 @ 4.50
Dry cows	2.75 @ 3.75	3.00 @ 3.50
Bulls	2.50 @ 3.75	3.00 @ 3.50

MILCH COWS.—Receipts, 50 head. The tone of trade is dull and the quality of the offerings deplorable. Sixteen cows were sold at $30@45 per head. Extreme nominal range, $20@55 per head.

VEALS AND CALVES.—Receipts, 2,700 head. The week opened with a steady tone, which was fully sustained on Wednesday and again on Friday when the markets closed firm. The calves coming forward are lean and doleful in aspect beyond expression: the veals are coarse and lean. Range of prices: Calves, buttermilks-fed, 7@8c. per lb.; calves and lean veals in mixed lots, 5@6½c.; lean veals, $4@4.50 per cwt.; veals of medium quality, 6@6½c. per lb.

SHEEP AND LAMBS.—Receipts, 21,000 head. On Monday last sheep declined ½c and lambs ½c per lb. Wednesday the demand was active, and sheep recovered ½c. and lambs ½c. per lb. Thursday trade was steady. Friday the markets closed unchanged. Quality of the stock on sale, poor to choice. Range of prices: Sheep, 4@6c. per lb.; lambs, 6@8c.; yearlings, 6@6½c.; ewes, (clipped) rams, 3c.

SWINE.—Receipts, 19,000 head. A few small lots of State hogs have been offered, and have proved to be very slow of sale. The range has been 6@6½c. per lb.

BUFFALO, June 18.

[Per cental, gross.]	This week.	Last week.
Extra steers	$4.85@4.90	$4.80@4.90
Best butchers'	4.60@4.75	4.65@4.75
Second quality	3.85@4.75	3.90@4.50
Poor to common	2.50@3.50	3.00@3.75
Stockers, light	3.00@3.60	3.00@3.60
Stockers, good to choice	3.75@4.25	3.85@4.25
Bulls	2.50@3.75	2.75@3.25

Receipts, 16,870 head, against 11,410 last week. The market was irregular with buyers at the opening, and the very liberal offerings of light and heavy weights were easily disposed of, exporters in fact not getting sufficient to supply their wants. Poor stuff, half fat, &c., with which the receipts were liberally sprinkled, were very weak and steady throughout the week. Market closed dull and prospects easier for the lower grades. Stockers in light supply and fair demand. Bulls steady.

MILCH COWS.—Supply in excess of demand; market easier. Extra, $50@60; good to choice, $40@45; common to fair, $15@30.

VEALS.—Lower; good to choice, $7.50@8.25.

SHEEP AND LAMBS.—Receipts, 9,100. Market opened steady, and in the face of unfavorable eastern reports held up. All really good sheep and lambs were readily taken, but common stuff was dull and weak. Good to choice, 90 to 100 lbs. average $4.35@4.65; fair to good, 80 to 90 lbs. $4@4.40; culls and common, $3.50@3.85; spring lambs, good to choice, $4.75@5; poor to unsalable.

SWINE.—Receipts, 28,510. Demand fell off, and with a good supply, prices declined 15@20c.; closing trade dull even at that. Yorkers, $4.35; mediums, $4.45@4.45; pigs, $4.60.

BOSTON, June 15.

BEEVES, NORTHERN.—Good cows, dressed, $6.75 per cwt.; fair to good, $6.50; second quality, $6 P.M. WESTERN, Alive—Extra, $4.62½; good to prime $4.50; light to fair, $4@4.25.

MILCH COWS.—Trade light at $30@35 per head.

CALVES.—Abundant at 4@4½c. per lb.

SHEEP AND LAMBS.—In lots at $3@3.25 per head.

SWINE.—Western fat hogs, alive, 4½@4½c. per lb.; small pigs, $1.75@2.50 per head.

Dairy Markets—June 17.

ALBANY.—Butter easy; receipts free. State creamery, choice, 19@19½c.; Western creamery, 16@18c.; dairy, fair to good, 12@14c.; Western dairy, choice, 14@15c.

Cheese in fair request. State factory, full cream, new, 10c.; fair to good, 9½c.

UTICA.—The country cheese markets were comparatively steady last Monday. Little Falls giving practically the same prices as before, and Utica declining only ½c. Transactions at Utica comprised 15,000 boxes at 9½@9¾c., the ruling price being 9½c. At Little Falls sales were 5,000 boxes at 9¾@9¾c., the bulk going at latter price; 1,000 boxes sold at Utica at 9¾c., and two lots, about 250 boxes, went at 9¼c. There was also one lot of farm dairy sold at the Falls for 9½c.—so it is evident that there was little falling off in either place. Buyers, however, were disposed to act conservatively, as the talk in New-York was heard just at that time. But very soon afterward an unexpected strength began to develop in the city. A large proportion of the best cheese both from Central and Western New-York was placed under engagement early in the week, and thus compelled shippers who were left in the cheese circle to raise their bids in order to secure enough first class stock to fill their requirements. The consequence was that by the last of the week 9c. was an inside top price, and all fine stock was well cleaned up, with good prospects for the coming week. The only explanation of the situation is that the "big 3" combination of shippers decreed an advance, and bought enough stock to control the market.

Butter is no stiffer—indeed it is off ½c. from the previous week. Sales at Utica included 60 pkgs. of creamery at 19½c., and at the Falls 24 pkgs. of dairy and creamery, all at 18c. New-York quotes 19c. on State creamery against 18½c. a week ago, and 17c. on dairy again at 17½c. then. There is no present prospect of an advance.

NEW-YORK.—Butter in heavy supply; small demand for low grades. Receipts, 28,317 pkgs. Eastern creamery, fresh, 17@20c.; Western creamery, fresh, 16@19c.; State dairy, choice, 16@17½c.; Western dairy, 13@15c.; Western factory, choice, 13@13c.

Cheese in good demand. Receipts, 69,341 boxes. Factory, best, 9½@9¾c. per lb.; light skims, 8@8½c.; Ohio flats, 7@9½c.

BOSTON.—Western creamery, extra, 18½@19c.; extra firsts, 18@18c.; factory, 16@16c.; Vermont, extra, 18½@19c.; dairy, choice, 16@16c.; Eastern creamery, good to choice, 18@19c.

Cheese, northern choice, 9½@9½c.; western, fine, 9@9½c.; sage, 9@9½c.

Wool Markets—June 17.

ALBANY.—New clip held back: sales 10,000 lbs.

No. 1 Pulled	32@34	Medium Fleece	32@33
Super Pulled	34@35	Fine Fleece	34@35

NEW-YORK.—Ohio X X, 31@31½c.; Indiana, No. de-laine, 30c.; unwashed western, fine; pulled, 31@32c.; Territory, fine, secured, 29@30c.; Montana, fine, secured, 25@28c.; Oregon, 24@28c.; secured, 26c.; Texas, 19@21c.; unwashed, 16@20c.; California, 19@23c.; secured, 25@28c.; Colorado, secured, 28c.; Australian, 37@38c.

BOSTON.—Sales, 2,162,000 lbs. domestic and foreign; Ohio and Pennsylvania, 32@33c.; Michigan, 29@31c.; combing and delaine, 34@37c., secured, 40@42c.; pulled, 32@36c.; unwashed, 26@31c.; Territory, 24@30c.; Texas, 20@21c.; California, 19@23c.; Oregon, 19@24c.; Australian, 36@40c.; Montevideo, 26@30c.

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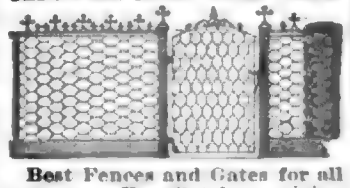

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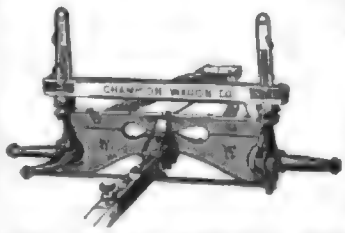

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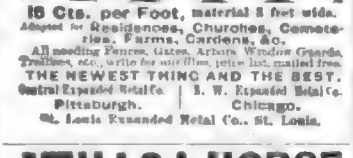

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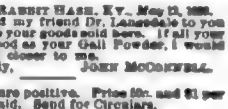

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COMBINED CIRCULATION.
VOL. LIV—No. 1900

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THE CULTIVATOR AND Country Gentleman

Albany, June 27, 1889.

A Scientific Hedge Fence.

EDS. COUNTRY GENTLEMAN—Many of the writers about hedges appear to have a positive hatred of them, owing, as their articles show, to their unacquaintance with the osage orange hedge when brought to that condition which science, directing and guiding nature, has produced. I had, in common with this class of hedge haters, concluded that very little permanent good could be got out of an osage hedge without infinite care and labor. My opinions underwent a radical change when brought face to face with a hedge-and-wire fence, constructed on scientific principles by specialists. (If you wish to have the very best article of any kind you must go to a specialist, and you will get the best and cheapest in the long run.)

The hedge-and-wire fence is made in this way: The row in which the hedge is to be set is well prepared as for setting any other plant or tree. The young plants from the beds are carefully selected, trimmed and set in the row at an angle of 45 degrees, as near as possible, and 8 inches apart. The row is kept clean by cultivation till the hedge is ready to "plash," which will be in three or four years, varied by the strength of the soil. The second and third seasons after planting, the stalks are trimmed up—not cut off—and made to grow stout canes, like nursery trees. The fourth year they are ready to "plash," when they are trimmed to bare poles about 5 or 5½ feet high. The earth is removed from each side of the hedge about 4 inches from the canes, and all the side roots cut off. The canes are then bent to an angle of 45 degrees, corresponding to that of the roots when first set. But before the bending is commenced four fencing wires are stretched along the hedge—two bottom wires barbed and the two top ones smooth, the bottom wire about eight or nine inches from the ground, and the top wire a little lower than the height the hedge is to be.

Now we are ready to commence binding the canes and "plashing." For this work special tools are provided, and men taught to use them properly. Each cane is stapled to the wires in four places, after being bent to the proper angle. Two men are required to do this "plashing." One of the men is provided with a driver, which I will not attempt to describe here. The second man is on the opposite side of the hedge provided with a cast-iron anvil with an inch hole in the centre of the face. This anvil is held against the stalk opposite the wire, while his help with the driver, which is loaded with staples, places the hollow point of his machine against the wire where it crosses the cane, and with a firm stroke of the steel-rod driver staples the wire fast to the cane. The staple is driven nearest the lower surface of the cane, and as the greatest future growth will be on the upper side of the stalk or cane it will be away from the wire and staple, which will not become imbedded. The next stalk is then bent by one of the men to the proper angle and stapled. The men soon become expert, and do the work very rapidly. The canes all being bent to a uniform angle and distance apart, and permanently fastened to the strained wires, the branches which start all along the canes from the root to top grow straight up from the upper side of the main stalk where the largest portion of the sap flows, forming almost a net-work of twigs from the ground to the top.

This hedge-and-wire fence is as stiff and firm as a post-and-rail or a plank fence, as straight as a taut line, and, when properly trimmed, is as plumb as a stone wall from bottom to top and about as thick—twelve to sixteen inches. The hedge is so firm that it can be trimmed perfectly straight and plumb without difficulty—a green wall, twelve to sixteen inches thick and four feet high, so thick and matted to the ground that chicken or pig cannot go through, and so straight and strong that bull cannot break through or horse jump over. This is the perfection of a hedge, where science and nature combine to link beauty with utility. The side roots being cut off and the stalk bent and secured to an angle of 45°, and the side branches kept trimmed, the roots do not incline to spread laterally, but follow the inclination of the stem of the tree—a law of nature, I believe. The cost is about the same as that of a good plank or a post-and-rail fence, and one cent a rod will trim it annually. Let those who condemn hedge-fences withhold their judgment till they have seen a hedge constructed on scientific principles, and they will admit that a hedge properly constructed is not only the most beautiful, but the best of all fences. S.

Cecil County, Md.

Wind-Mills in New-Jersey.

EDS. COUNTRY GENTLEMAN—I have read with much interest the successive articles in your columns on the subject of wind-mills, and the interest has been keener because the writers gave their personal experiences, instead of theories evolved from their inner consciousness. Indeed, this feature of experimental testimony respecting agricultural affairs is one of the great excellencies which distinguish the COUNTRY GENTLEMAN. Its pages smell of the field rather than of the city office.

I am a convert to wind mills. I *was* a skeptic, but am now a believer, a confirmed believer. My experience harmonizes with those narrated in these columns. A good wind-mill is not a mere toy for a gentleman to play with, or simply for a rich man's convenience, but eminently for the farmer who earns daily bread by daily toil. It is a necessity that belongs to an age in which machinery brings the profits, when in competition with muscle.

The farmer who struggles with debt must have labor-saving machinery or go to the wall. But he needs a wind-mill for his comfort as well as his profits; for his family as well as his farm; to add to the pleasures of farm management, and relieve the weary drudgery of pumping water, and the disagreeable necessity of watering stock out of a slimy mud hole in summer, and with chilling ice water in winter.

In 1886 I became interested in this subject and wrote the five firms then advertising wind-mills in the COUNTRY GENTLEMAN. I also corresponded with owners of mills and visited several of them. I saw some spreading their naked and torn arms against the sky as the successful personification of dilapidation, and an efficient warning to passers by against bad investments. I also found others of various names, that were as beautiful as they were useful, and working like a charm.

I finally decided on a 12-foot Eureka and placed it over my well 53 feet deep. I ran supply pipes into the kitchen and the creamer, with overflow pipe conveying water to the stables, and thence to the yard below into a 94-barrel reservoir. An automatic valve in the drinking tub, regulated the supply from the reservoir.

We now have water where we need it. No natural stream could furnish it so conveniently. During the winter a barrel-reservoir in the cow stable rarely freezes over, and furnishes water for 20 cows at a much higher temperature than the water in the yard. The increase in the milk, and the improved condition of the cattle from this cause, is a considerable item, and will repay the investment in a few years.

When I erected my mill I was anxious for a time, especially when a northeast gale swept down the coast, carrying the salty foam of the sea six miles inland. But its splendid survival of the blizzard of March, 1888, has removed my fears. I propose to erect another Eureka in a distant pasture, where I am confident it will take care of itself by its admirable automatic action, in all kinds of weather.

I am not sure I did wisely in buying a 12-foot wheel. I presume I get cold water for the creamer some mornings when the wind is too light to work a 10-foot wheel, which is an important item with me. A 10-foot wheel, however, would work in a stronger wind, as it would not be necessary to set the governor to turn a small wheel out of the wind, where prudence would require it in a large wheel. Besides, a 10 foot wheel would cost less and probably wear longer.

By means of a good windmill erected on my highest ground, I am enabled to run a successful dairy on the light soil of the New-Jersey coast. Out of my experience I can mend these useful and graceful servants to all, and especially to dairy farmers.

Ocean County, N. J. CHAS. E. LITTLE.

Baling Hay as Cured.

EDS. COUNTRY GENTLEMAN—Page 444, one of your subscribers inquires, "Will hay keep, baled directly from the field?" Having once or twice last winter recommended in agricultural papers the baling of hay direct from the winrow, and having since been assured by those in whom I have much confidence, that my recommendation is not altogether a good one, I take this opportunity to discuss the question presented by your subscriber's query.

My recommendation was founded, first, upon my own experiment—only one, and limited, and yet giving results so highly satisfactory that it was conclusive to my mind. Nevertheless, I would not have recommended the baling of hay direct from the winrow without further experiment, had not the experience, and greater experience, of others been the same as mine. Men who have baled a good part of a large crop, baling as the hay has cured, reported to me that the hay kept as well as loose hay in mows or barracks. As some of these had tried thus baling for two years, and no testimony against baling from the winrow had come to my notice, I felt justified in recommending this handling of the hay. However, each time I advised that those who adopted my suggestion should do so on a limited scale until the advisability of thus handling hay was fully established.

Almost as soon as my recommendation appeared in print, I received several letters, mostly from hay dealers, saying that hay baled as it came from the winrow, would surely spoil; and the evidence I have been able to collect since has been generally against baling from the winrow. One of the strong witnesses against it is a man whose personal acquaintance I have recently made. For years he managed one of the largest hay-handling businesses in the West, each year buying and selling thousands of tons. I have found him one of the best posted men on hay I have ever met; for, being raised on a farm, and for many years, and yet, a land-owner, he has made a study of hay-growing as well as of hay-handling. His honesty is not doubted. In fact, as he is now in the hay-press business, it would be to his interest to recommend baling from the winrow; for if hay so baled can be kept, the advantages of baling would be such, particularly here in the West, that the demand for baling presses would soon be doubled. This gentleman says that he several times tried handling hay baled from the winrow; that he gave it the most favorable storage conditions, yet that he had to hurry its sale to get it off his hands before it spoiled, and that one lot actually spoiled before he could get rid of it. His testimony is corroborated by quite a number of hay dealers.

Hence in reply to your subscriber, I would say that hay baled directly from the field will keep in some cases; but so far the evidence is that it will oftener spoil; and that baling hay from the field can at present be recommended only on a very limited experimental scale. We must have more trials, very carefully conducted, before the matter can be definitely settled one way or the other. With our present knowledge, it appears that hay baled from the swarth requires for its preservation certain conditions not required by loose hay, or by hay baled after it has been stored for some time; and what those conditions are is not yet known. If those who have tried baling from the winrow would give us the results of the experiment, and especially and particularly the character and quality of the grass or clover, the state at which it was cut, just how it was handled and cured, and also stored, the information would be valuable. In the reports I get from hay merchants, particulars as to the stage of growth at which the grass was cut, just how it was cured and how much it was cured, how it was handled otherwise and how it was stored after baling, are, of course, usually lacking, and therefore give no clue to those special conditions required by hay baled directly from the field.

Consideration of the advantages from baling directly from the winrow will show that they are sufficient to warrant painstaking experiment. First, but a fraction of the storage room is required when the hay is baled. The saving in cost and maintenance of mows would go a long ways toward reimbursing for the cost of baling, if it did not equal this cost. This division of necessary storage room would be more highly appreciated in the Middle West and West, where mow room for all the hay crop is exceptional. The relative prices of lumber, labor and hay are such that it often would not be profitable to provide and maintain mows for all the hay, loose. But the loss of hay stacked out of doors, or even of hay put in open barracks, would well be avoided by baling the hay from the winrow, provided it could then be kept; for surely storage room could be made for all the hay when baled. Baled hay would be damaged much less in open barracks, by the weather, than loose hay; for the baled hay is so compact that rain scarcely penetrates it below the surface. Another advantage of baling from the winrow would be the saving of labor in handling. A certain weight of baled hay can be handled with less than one half the labor required for handling the same weight of loose hay. Heavier loads also can be hauled. If hay baled from the winrow can be kept, then we can bale at once, and haul to the railway station as baled. This will save handling the hay twice. The hauling can be done when the roads are solid, and better loads can be hauled. Further, having the hay stored at the station, we can sell during the winter and spring, when the roads are so near impassible that little hay is being put upon the market and as a result prices are good. Hay to be fed soon could, when baled, be piled up into a solid mass, with perpendicular sides; and upon it could be laid a roof of boards, lapped and given sufficient incline, and weighted down. The shape and weight of the bales would permit of this and certainly the loss from weather would be very small. There would be yet other advantages of baling from the winrow; but certainly those mentioned should be sufficient to stimulate to experiment in this direction.

The cost of baling need not go much, if any, above $1.25 per ton, and I do not believe it can be brought below $1 per ton. I know the Whitmans say that with their presses hay can be baled for less than $1 per ton; if so, however, cheaper labor must be got than any I have ever been able to secure. Where labor or even wire is exceptionally high, the cost may go above $1.50 per ton, but only in rare cases. Hay baled usually brings the farmer all of $3 per ton more than hay unbaled. Hence there may be a profit in the operation of baling itself. For the ordinary farmer the best press is a portable one operated by horse-power. The press should be easily portable; that is, be changed from baling to moving, and vice versa, in a few minutes. The press is to be brought to the hay rather than the hay to the press. The extensive hay dealer may want a steam press; but for ordinary farmer's work a horse-power press, capable of baling well from eight to twelve tons per day, will be found the most economical. JOHN M. STAHL.

Adams County, Ill.

Northeastern Dakota.

EDS COUNTRY GENTLEMAN—Since last report, April 18th, we have had phenomenally high winds up to the middle of May, the wind blowing from either north or south every day, doing much damage in the western portion of the county, uncovering the last sown grain and blowing the soil away from the roots of the early sown grain that was above ground. From 20 to 30 miles west from Red River the soil is light and sandy, as three-fourths of our county is one vast grain field, with only here and there a few acres left in native grass, with a few acres occupied by farm buildings on each farm. Fancy if you can a country with no fences of any kind, and few windbreaks of timber, face of the land loose and dry, wind blowing 30 to 40 miles an hour, with heavy gusts traveling much faster at times, which raised what might be called a dust blizzard! The whole air was filled with a fine black dust, so dense that one could not see at times twenty rods. During the month of April and first week in May we had three such blizzards. The writer drove fifteen miles in one of them, and came out as black as an African.

Of course these high winds damaged some wheat fields considerably—not much where

the soil was heavy and the wheat had a good stand; but in other fields the wind blew the soil and the seed into bunches where the grain was not up, and some fields had to be seeded the second time; but 100 miles to the south, on the great Dairymple farm, over 2,000 acres had to be reseeded.

During May we had a few local thunder showers, but the area which they covered was very small. May 17 we had a half day's rain, which extended generally over the northern counties of Minnesota and Dakota, doing great good, but we have had so much cold winds, with occasional frosts, that vegetation is very backward; still, prospects of a good crop are much better at this writing than last season. The larger portion of our grain was only coming through the ground at this date last season, while now our wheat has a good stand, and is well stooled out, and as June is our month for rains, we are likely to have them generally over the country. One good day's rain will send the wheat forward with a bound. Most farmers sowed from a peck to half a bushel extra this season on account of shrunken wheat, so that on the whole the ground is well covered, but we need rain and warm weather to bring the crop forward. GEORGE PARR.

Walsh County, June 8.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *June 21.*

For a week we have had warm, sultry days and nights, with heavy rains, aggregating, with the May storm, nearly ten inches. This would be regular corn crop weather, and best of all possible for it, were not so large an acreage quite too wet to cultivate, and so much of it still in the mud and under water. I suppose that from a third to a fourth has been cultivated once; about the same area will be fit for the cultivator by the last of the week if no more rains come, while fully a third will not be dry enough for a week. In this the weeds have got, or soon will get, the upper hand. The estimate for the stand is about two-thirds of a full one, and if everything goes well after this date, two-thirds of a full crop may be counted on.

Though corn was planted nearly two weeks earlier than usual, it is not now over 5 to 6 inches high for the average field, and has made but half the growth it should have under favorable weather. As small as it is, much of it will have to go without cultivation because the wheat and hay harvests are not far off, and oats not much behind them, and these must be saved even at the cost of weedy corn.

Under the pressure of heat and humidity, grass has come forward very fast, pastures not overstocked now have a full bite, and mea dows will yield something more than a half crop of hay, with a good second growth likely to follow. To this date winter wheat is looking quite bright, with only a few signs of rust; but should the next ten days have anything like the past temperature and rainfall, it is almost certain that rust will strike the crop just at the critical moment when the energies of the plant are engaged in filling and perfecting the kernels. South the blow has already fallen, and the markets respond with an advance of 4 to 5c. Oats never looked greener or better, and have begun to show the heads, but the same danger threatens them as the wheat, but some weeks deferred. If the rains hold up now and we have a reasonably dry and cool remainder for June, most of the threats which hang over the grain crop will be withdrawn, and something more than an average, except corn, may be secured. But the barometer is down to 29 85, there is a warm, moist south wind blowing moderately, light-colored clouds in large masses move overhead and lie about the horizon, the rain crows keep up their complaining song—in short, the indications are for more rainy weather, possibly to be continued as long after the summer solstice as the rainy period set in before.

The late floods of rain have taught some valuable lessons in the matter of tile drainage. In the first place, it is seen that no amount of tiling will take the water off at once and leave the land in a state for cultivation immediately after the fall; that the mains generally are not large enough for the laterals, and finally that the open ditches and sloughs which receive the outfall have in the former case not been cut deep and broad enough to take the volume of water poured into them, and in the second, nature in forming the sloughs and creeks, did not make them large enough for the improved condition of things. Therefore, after such rains as we have had since the last days of May, in many places the water in well-tiled fields has stood long enough to scald and ruin the crops, and in the great drainage districts, where broad and deep ditches have been opened for miles and miles, there has been an overflow spreading out on each side, as when a great river overflows its bottoms and banks. The bottoms of the Wabash have been under water for nearly two weeks, and the corn and other crops ruined, while in some of the drainage districts the losses from a similar source have been nearly as great. In many instances the waters in the overcharged mains have burst through the earth at longer or shorter distances, above the outfall, filling the tile below so they will have to be taken up and relaid, and flooding the crops to their ruination. I do not know but there will be as large losses by flooding this year as before drainage had become general; but I suppose part of the explanation is, thousands of acres now carry crops that no one would have dared to plant twenty or thirty years ago.

At any rate, in order to meet the exigencies of all sorts of seasons, the flood years like 1865, 1873, and perhaps 1859, and the drouthy years like 1874, 1881 and 1887, a reconstruction of the whole tile drainage system will be required before these exceptional crop seasons are shorn of the features which make them the dread of the farmer and proprietor. Apropos of the extent of the excessive rain area, a stockman direct from Southwestern Texas, whom I met on the train yesterday, told me that it extended from Central Texas all through Arkansas and Missouri, and as far into Illinois—some 250 miles—as he had traveled.

The aspercel planted April 20th having failed to germinate, a second sowing was made the 15th of June, and is now coming through. Being a hot and dry climate plant, and choice of a thin limestone soil, possibly the heat, humidity and extra fertility of the black soil to which the seed has been committed, may prove disastrous to its outcome.

The alfalfa is now in full bloom and the foliage is yellowing and inviting harvest. This, what is left of the first crop, a portion having been fed to stock, will be cut as soon as the weather clears, partially cured after the manner of clover, and then put under roof and stratified with the residue of winter hay and straw. This is after the Colorado method of handling it, and appears to be a course that adds value to the alfalfa and doubles the value of the hay and straw—stock disposing of the mixture in winter with great avidity and apparent relish.

The average height of the first crop is not far from 15 inches this day, but the second crop that has been growing over three weeks is quite as tall as the first. This shows how very rapidly the second crop of alfalfa springs up after the first, when the three conditions of heat, humidity, and a soil highly fertilized, are present.

I have an unusually full crop of apples and pears on the trees about my house this year, though it is the off one for fruit, and although the trees bore heavily last year. This good luck I attribute to having followed a recommendation of my own, that in drouthy springs, in order to insure a full crop of fruit, the roots should have copious waterings some weeks or days before the output of foliage and blossoms. Of the irrigated trees, one of the heretofore barren russetts has a half crop, and the other a few fruits only, while those which were full last year have more than a half crop this. I am confirmed in the belief that on a soil and under a climate where the apple trees attain fair and full growth in twenty-five or thirty years, and the trees prove barren, or do not produce a full crop oftener than once in seven or eight years, the barrenness can be changed into fruitfulness, by the simple expedients of cultivation and providing moisture and fertility sure where they are deficient. I excuse myself for these repetitions by a brief quotation from a high agricultural authority, the London Agricultural Gazette: "It is no use objecting that all this has been said over and over again. People are still ignorant and want to know even the simplest things. The province of an agricultural writer is to repeat his lessons and his gleaned experiences."

—— There have been heavy rains all about this afternoon—dashes as it were out of a sky only partially clouded, and downpours that measure half an inch in 20 minutes. The heavy and warm rains are forcing the growth of the grasses, while washing so much of the substance out of them that cows give less milk that yields less cream, and all animals not rationed with grain and hay fall off, even where the grass comes up to their bellies.

June 19.—A strong southwest wind, light clouds moving over, and atmosphere saturated with moisture. Thermometer, 86°; barometer, 29.93, and dark clouds gathering on the northern horizon threaten thunder, lightning and rain before sundown. D. F. J.

Northwestern Georgia.

EDS. COUNTRY GENTLEMAN—Crops are fair, considering this most remarkable season. May was dry—the driest I have any recollection of. It rained but two days in the month (the 1st and 30th), but the drouth hurt nothing, though shortening the oat crop and setting back gardens. The recent rains have brought out the oats and revived gardens. Corn is most promising, and growing finely. Cotton is unusually small, and the cold weather still retards growth and injures stands. We had a light frost June 1, a most remarkable event for this country. Wheat and oats are being harvested. Fruit of all kinds more abundant than I ever have seen it.

The cool weather still continues (June 9). It turns immediately cool after the least shower. Never were crops easier cultivated; as we have had no grass or weeds to contend with, the fields are clean and in fine condition, the ground needing merely stirring. If seasonable rains continue during June and July, and we escape heavy winds, the crop prospects may be considered favorable from present appearances. Last year the prospect was more favorable at this time, but heavy winds in July, followed by very hot weather and a long drouth, cut short the corn crop fully one-half. July and August drouths are what we have most to fear in this part of the country. The first crop of clover was rather short, owing to its being so dry in May, but since the rains set in the second growth is most vigorous, and the second crop promises to be most abundant.

June 15.—It has rained a part of every day since the 10th, and some hard, washing rains. Much wheat and oats are in shock in the fields, and may be damaged from excessive wet. Corn looks luxuriant. Cotton has taken a start to grow, but no farm work has been done this week as the ground is so wet, and the weather still looks wet. Weeds and grass have taken a rapid start since the rains set in. When the rains hold up, the plowing must be pushed. All we dread is that drouth may follow this rainy spell; if so, the corn crop may suffer. JNO. H. DENT. *Floyd County.*

From Northern Ohio.

Dairy Prospects—Ensilage Experience.

The cold, backward spring, with chilly, dryish weather, lasting well up into June, has given place to hot, muggy weather, and copious rainfalls, a three days' rain now falling that will retard cultivation for a week at least. Corn is very backward. Fields that were planted May 15 to 16 only show the rows fairly well. So cold and lifeless was the soil that quite a large per cent. of my ensilage corn was 20 days in germinating and showing the sprouts above the surface. Much rotted on unfavorable ground, and many a field of ensilage corn is warranted not to have over 8 quarts of seed showing growth on any acre. The early June frosts did not prove as destructive as was at first supposed, and strawberries and small fruit suffered most. Oats promise well, and the grass crop will be full average, I think in this section.

The over-supply of milk in Cleveland, and the low price of butter and cheese, forcing the price of all new milk down to 60c. per 100 lbs. has not tended to raise the spirits of the dairymen, for it is a big dairy now that turns its owner $5 per day. Those who last season made winter milk, at good round prices, are not so serious; as the low prices find them with cows already 8 months in milk giving, and will soon begin to go dry. This winter dairying is being actively discussed, and many will go into it the coming winter. Just how much adding-to winter dairying can stand and yet maintain its profitable feature must be left for the future to decide, but this much, is evident—it will gradually force progressive dairymen into more intensive system; better cows, better maintained, and on fewer acres, and possibly with the silo, soiling in some of its forms will take the place very largely of the summer pasture of wide range. The thing now to be demonstrated is, will a cow take kindly to a closer confinement, and a yet more extended ensilage ration? Not an exclusive one of corn ensilage, but clover, millet, and perhaps oats cut in the right stage, and either put in the silo whole, or cut, and getting with the corn ensilage a balance ration, without paying quite as large tribute to the Minneapolis millers.

It would be a wise thing for some of our experiment stations to try oats, &c., for ensilage, how to best cut and care for it, and get ahead, once, of the farmers in experimental work. There is no fear, so long as people eat, that they will discard butter and good cheese, and the matter for the dairymen to study attentively, is, how not only to make a prime market article, but how to cheaper its production. Manifestly it can not be profitably produced even now at a living rate with all-summer dairying, exclusive pastures, and unproductive dairies in the winter, fed on $13 hay. The New-Yorkers have hit upon one good thing with their dairy conferences, a plan of popular instruction; but Col. Curtis needs to talk cheap food, abundant rations, better cows, and more humane and rational treatment of them, along with his churn talks, for one without the other in this year, 1889, is only to present one side of the story that must be learned, or dairying will be to the many in the future, only a plan of just existing, hardly living, and no profit or compensation.

The western silo men will hardly agree with the editor of the COUNTRY GENTLEMAN on page 460, that ensilage should not come in contact with a gas-tar painted wall. I have never known this to be an objection. The tar is applied boiling hot, and when cool is hard, and the odor has "ceased to be." I have purposely collected a basket of ensilage from close contact with such a wall and given it to a cow, who never noticed any objectionable flavor, nor could I, any more than from the tar paper that covered the silo door. In applying gas tar it is a safe thing to add one and a half pounds of pulverized resin to each gallon of tar, and this makes a smooth, glassy wall that can impart no odor to the ensilage, and yet makes a most inexpensive paint, yet cheaper than crude petroleum.

In connection with ensilage, Mr. Griswold of Macedonia, O., tells me of his experience in making ensilage of field corn and some left-over fodder corn, after having stood in the shocks for four weeks and more, that may interest many. After filling his four silos last fall he found himself the possessor of some six acres of corn—field and ensilage. Not relishing the idea of husking and the never-ending job of drawing in shock fodder, he at once cut it into big shocks, then built a double-boarded silo, and in November, about the 10th, cut this corn into the pits. A tank was set upon the top wall of the silo, and connected with the windmill; a hose with a nozzle sprinkler was affixed to the tank, and as the fodder was cut in, a steady shower of water was sprinkled on. The result was that the dry fodder thus wet settled down, took on heat, then cooled down, and the ensilage came out a good No. 2 in quality, with only a fraction of the loss that would have been sustained if the fodder had been left in the field until wanted, as is the usual custom. The silo at last was not covered, save with the litter about the machine, put on several days afterwards when the internal heat had expelled the air, and the result was rather superior to the pits that were covered in different ways. Just how the silo of the near future will be filled and covered, and with what material, one can hardly conjecture, so fast do silo theories become practical facts, but whatever they may be, be sure the COUNTRY GENTLEMAN will have full record of the facts.

Western Reserve, O. J. G.

Southwestern Michigan.

Corn, Clover and Wool.

EDS. COUNTRY GENTLEMAN—The conditions favorable to the growth of crops, as compared to those of a year ago, are at this date (June 18th) much better. During May of last year about the same amount of rain had fallen as came this year during that month, but in June, last year, only 1¾ inches of rain had fallen, and now a little over four inches is registered for the same period. The temperature of last year was above that recorded for this, since corn-planting, so that up to the present date last year the corn promised very much better. Corn now shows fairly above ground, but not large enough to make a show of green over the fields, when seen at a distance. Much of it has been planted over, so that the outlook today, as compared with average years, is not very promising. So much depends, however, upon temperature and sunshine from this time on, that no prediction is safe, based on the present prospect. One feature that militates against its future growth, is the fact of the slow, stunted growth for the last four weeks nearly, since its first appearance above ground. The starch of the kernel has wasted without stimulating the growth of the plant, and this I believe to be a vital loss—too great for the plant to recover entirely through its roots, in season for the next period of growth which goes to form the stock. I notice that corn planted ten days or more ago is coming with a ranker growth, and promises to soon overtop its neighbor, much longer above ground.

There was a well-grounded apprehension, earlier in the season, that our soil had become "clover sick," whatever that term may mean. The plants did not start with their usual vigor, and coupled with this was the fact that loss from seeding had been almost universal for several years. It was, however, more a foreboding than a conviction, because the diagnosis of the disease, if there is such a thing, was not generally understood, as no one was prepared to detect the malady at sight. It is no wonder farmers are anxious regarding the growth and vigor of clover. The whole future fertility of the farm seems dependent upon this single plant. If there is some other system of rotation, with some other plant as the basis of operation, farmers have not yet discovered it, and a system of experiments and trials sufficiently extended to prove the unknown plant, would impoverish the present generation of farmers, and be a greater check to over production than any combination known among organized tradesmen.

The apprehension referred to had no real foundation, I think, for since the heavy rains of the past three weeks, clover has forged ahead, almost reaching its wonted growth for the season, showing that it only needed more water in the soil to stimulate the root-system into more vigor, in order to push the top up to its normal stature. The new seeding of last spring, especially in oats, is now larger than usual, and the present rains, with a promise of more, are almost sure to carry it through beyond the critical period of drouth. The seeding on wheat is only an average. The early sown seed sprouted in part before the hard freezing had ended, which reduced its vitality so that the dry weather of early April killed most of that then above ground; but luckily quite a proportion of the seed failed to germinate until the later rains, and these plants are now vigorous and larger than the bleached out looking specimens which survived both frost and drouth.

Wool buyers have suddenly become itinerant instead of stationary, in their fever to get hold of the wool as quickly as possible. Two buyers in a day are not infrequent, and they show some elasticity in their views between the first proposition and the final offer. Twenty-eight cents yields to thirty quite readily, but the shading above that must be upon a fancy lot of long staple white wool, held by some farmer who knows the value of his clip.

The average per head for the State last year was 6 06 lbs., which will be considerably reduced this year on account of light shearing and the reduction in the number of sheep. The number sheared in 1888 was 1,632,260; the number reported by the supervisors this year is 1,580,326. This is a decrease of 161,932, or 6 per cent. of the number sheared last year. The highest summit of wool production for the State was reached in 1884, when 2,453,807 sheep were shorn, producing 13,857,543 lbs. of wool. This year shows a reduction of 873,480 in the number of sheep since 1884.

and a probable shrinkage of 4,000,000 lbs. of wool in that period. It needs no further commentary on the influence which the price of wool has on the production of wool. The above figures make their own argument.

Van Buren County. A. C. GLIDDEN.

From Southern Minnesota.

EDS. COUNTRY GENTLEMAN—For a person with no interest in the growth of crops, we have had a long cool, delightful season. A dry March and April were followed by a May that gave little rain, and June, thus far, has had less than an average. We have had none of the dashing showers so common in spring and early summer, and very little lightning. Everything is very backward—so different from what was expected two months ago.

The small grain was sown mostly in March, and a good part of the corn was planted in April. The small grain looks fairly well, but corn is small and yellow—scarcely large enough to cultivate well.

There have been two or three light frosts since the crops came up. On May 30 I found ice an eighth of an inch in thickness at my pump. Small fruit was damaged to some extent. Among the berries, the strawberry is the one most commonly found in the farmer's gardens of this region. Last year this fruit was plentiful. But the snowless winter did not agree with it, and this season the reign of the "short-cake" will be short and limited.

The average price of potatoes during the spring months was about 15 cents per bushel; yet this low price did not seem to discourage the farmer, for the amount now planted will fully equal the acreage of last year. There is good prospect of another big crop and low price. This crop's enemy, the Colorado beetle, is remarkably slow in appearing this season. A solitary tramp of this species is the only one I have met thus far.

My early peas, planted March 28, were ready for the table yesterday, for the first time. Thus 81 days elapsed from planting time before they were ready for use. This is by far the longest period I have ever had to wait, with these varieties. I frequently use them 48 to 50 days after planting.

Our meat inspection bill recently coming in force in this State has caused not a little comment even in leading papers of the East. It provides that no fresh beef, mutton or pork shall be offered for sale, unless the animal within 24 hours previous to its slaughter shall have been inspected by a properly authorized board of inspection—such boards to be appointed and located in every city and township throughout the State. The face of the bill indicates a desire to have only wholesome meat placed upon the market, while its real intent was a protective stroke to keep outside parties from shipping dressed meat into our State and offering it for sale. It may seem strange to the eastern reader that there should be need of such a protective policy in a State whose markets are crowded with live animals. With our carloads of cattle and hogs constantly on the road to Chicago, it is not altogether clear why we should need legislative aid to keep them from returning in dressed meats, through the regular channels of trade. Yet such seems to be the case. And the Chicago "meat combine" feels the loss of this market so sorely that it is about to test the constitutionality of the bill. In a recent search through our local market, the writer could not find a pound of breakfast bacon that was not cured in Chicago, selling here at 14c. to 15c. per lb. And these same dealers were shipping hogs to the Chicago market. Our home industry needs stirring up in some way.

It is clearly obvious that most kinds of manufacturing establishments do not follow closely enough upon the heels of the westbound tide of emigration. We depend too much on the East for heavy articles whose crude materials are flooding our home markets. Our hides go east, and many of them make a tour of 3,000 miles before reaching us again ready for our feet. Our straw is burned up, and wrapping paper shipped from points where straw is valuable. With rough tallow and lard at extremely low prices, and with ashes set at no value, the most of our soap comes from Chicago. We have been selling potatoes at 15c. per bushel, and buying starch made in New-York at 10c. per pound.

Of course a new country has to have patience in waiting for such things, but this State is fully ripe for a large increase in the number of her manufacturing establishments of various kinds. We do not object to having eastern capital manufacture our goods, but it might, with advantage to all concerned, come here and do the work. There are industries needed here and crowded there. The "go-west" advice may point to them as strongly as to any one just now. C. L. E.

Freeborn County, June 18.

Grasses.—I enclose three samples of grass growing on my farm. Will you kindly inform me as to the kind and feeding qualities of each? R. R. *Salisbury, Md.* [No. 1 is *Holcus lanatus*, "velvet grass." It is not without good qualities, though there are other grasses far better for hay and pasture. No. 2 is *Festuca elatior*, var. *pratensis*, "meadow fescue grass." This is an excellent early agricultural grass, and constitutes a considerable percentage of the product of many of our meadows and pastures of mixed grasses. It is not often cultivated as an exclusive crop. No. 3 is manifestly an introduced grass. It is not described in our American botanies. It is closely related to the European "yellow oat grass," *Avena flavescens*, but differs in some minor points from the description of that species. It is, perhaps, a mere variety of it, differing in having but two flowers in a spikelet and the leaves smooth on one side. The yellow oat grass is said to be valuable for upland pasture. C. E. P.]

Farm Machinery.—I should be very much obliged to you if you could give me some information about agricultural machines. I want to know a machine which shells the rice grain, and another one which mills the remains of sugar cane once pressed already. J. F. B. *Washington, D. C.* [In the failure of the manufacturers to advertise such machinery, address for information the Hinganum Manufacturing Corporation, 189 Water Street, New-York; the Foos Manufacturing Company, Springfield, Ohio; the Ames Plow Company, New-York, or any other of the general machine advertisers in past numbers of the COUNTRY GENTLEMAN.]

Clover.—I enclose two samples of clover, called here Japan clover. Please let me know if both are of the same variety. One is in seed; the other is everywhere, covering the old fields, roadsides, and even beaten paths and woods. S. A. F. *Cullman, Ala.* [No. 1 is *Trifolium procumbens*, the "low hop clover," or "yellow clover." No. 2 is destitute of both flower and fruit, but is apparently a small growth of "Japan clover," *Lespedeza striata*. It is clearly distinct from No. 1. C. E. P.]

Horses.—Is there a book on horses and their diseases which is adapted for general use—one of the same degree of excellence as Prof. James Law's on cattle? Please mention price, and where it can be obtained. CLARKE COUNTY. [Probably the old standard "Stonehenge" would meet our correspondent's views better than any other. It may be ordered through this office—$3.]

Ragwort.—Enclosed find plant for identification. Three years ago we had only a very few specimens scattered through our section, but it has spread considerably since then, and it is common in all grass lands. What is it? S. F. G. *Sanfordville, Tenn.* [*Senecio aureus*, "golden ragwort" or "squaw weed." It is a native perennial plant, belonging to the great family Compositæ, and to one of the largest genera of the family. C. E. P.]

Keeping Ice, p. 439.—Will Mr. FRISSELLE, whose article I noted with much interest, tell us how he secures the good drainage which he says, and, which we all know, is so essential to keeping ice? Our ice house is of proper size and has double walls, the outside wall built of slabs put together with mortar, securing a wall 18 inches thick, but the sawdust is damp all the time and the ice does not keep as it should. We are sure that the trouble is with the drainage, and I am anxious to secure the ideas of some of your wise contributors on that point. SUSQUEHANNA. *Muncy, Pa.*

Grasses.—Please name enclosed grasses. P. *Warehouse Point, Ct.* [No. 1 is *Holcus lanatus*, "velvet grass," a species from Europe, but well established in this country. No. 2 is *Festuca elatior*, "taller fescue grass," also introduced from Europe, but now very common in the Northern and Eastern States. It is a good grass for hay and pasture. C. E. P.]

Oat Grass.—Please name the enclosed grass. D. J. R. *Holliston, Mass.* [It is "oat grass," *Arrhenatherum avenaceum*. This is an introduced grass, which is sometimes cultivated. It is early, and in some localities is regarded as a valuable grass for hay and pasture. C. E. P.]

Weather, Crops and Prices.

Meteorology for June 16–22.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.48	inches.
Lowest	do.	do.	.....	29.77	do.
Mean	do.	do.	.....	30.00	do.
Highest temperature	do.	.....	85°	
Lowest	do.	do.	.....	53°	
Mean	do.	do.	.....	67°	

One clear day; two fair; four cloudy. Four days on which rain fell; total precipitation, 1.88 inch. Prevailing wind, S.; maximum velocity, 22 miles per hour, on the 21st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day.....	16th	17th	18th	19th	20th	21st	22d
This year...	74°	74°	64°	71°	69°	72°	64°
Normal.....	69°	67°	67°	69°	69°	70°	69°

Total deficiency for the week, 9°.

General Review of the Week.

The week has been slightly warmer than usual generally throughout all agricultural regions east of the Mississippi, in the central portions of Nebraska and Kansas, and on the north and central Pacific coasts. In Texas, and thence northward to Minnesota and Dakota, the average temperature for the week has been slightly below the normal, except as stated above—in portions of Kansas and Nebraska. The temperature for the season, from Jan. 1 to June 22, differs but slightly from the normal throughout the Southern States and the Ohio and Mississippi valleys. The average daily temperature has been from 1° to 3° above the normal in New-England, New-York, and from Texas northward to Dakota.

There has been an excess of rainfall for the week in the Ohio, Central Mississippi and lower Missouri valleys, and from the interior of Texas and Louisiana northward to Missouri and Nebraska. More than the usual amount of rain is also reported from Georgia, Tennessee, Michigan, Wisconsin, Pennsylvania and New-York, while well-distributed showers occurred in the South Atlantic States, Virginia, New-England, Minnesota and Dakota. The rainfall for the season continues in excess on the Atlantic coast from New-York southward to South Carolina and from the Missouri valley southward to the west Gulf coast. The large deficiency in rainfall previously reported from the Ohio valley and Tennessee has been reduced, and at present the rainfall in this section generally exceeds 70 per cent. of the normal, but in Southern Ohio about 60 per cent. of the usual rainfall has occurred, while in the northern portions of all the States bordering on the Ohio river and in Michigan and Wisconsin over 80 per cent. of the normal rainfall is reported. In northwestern Minnesota and Northeastern Dakota the rainfall for the season has not exceeded 60 per cent. of the usual rainfall for that sect on.

The weather was generally favorable for growing crops in all districts except Tennessee, Mississippi and Texas, where o cessive rains caused some damage to wheat and cotton. Reports from these States show that the crops are growing rapidly but becoming grassy. In the spring wheat region of Minnesota and Dakota all crops were improved by recent rains. In the principal corn States, including Illinois, Indiana, Iowa, Kansas and Nebraska, the weather was favorable and corn has made rapid growth during the week. In Michigan and Ohio the growth of corn has been retarded owing to continued wet weather. The harvesting of wheat, barley and clover is in progress so far north as the central portions of Ohio, Indiana and Illinois, but work has been retarded by frequent rains, and in some sections harvested crops slightly injured by rains. Reports from Kentucky state that the tobacco crop is excellent. The high temperature and general rains in Louisiana were very favorable, and doubtless greatly improved the corn, cane and rice crops. In the east and central portions of the cotton region all crops were favorably affected; the wheat harvest is about completed, and the crop prospects are reported as fine. In Pennsylvania the heavy rains were unfavorable for ripening grain and hay harvesting, although the crop conditions are rapidly improving. All crops were improved in New-England. New-York, and New Jersey, although corn is reported as backward in New-York. Numerous showers have slightly delayed the harvesting of the heavy hay crop in Southern New-England and the Middle Atlantic States.

New-York—*South Onondaga, June 16.*—The hail storm of the 10th did great damage to crops and buildings. We had a hard shower of rain yesterday, and another to-day. Corn is small and grows a little. Weather is now very warm. C. W. B.

New-Jersey—*Somerset County, June 22.*—The present week has furnished five clear, breezy days, and given farmers courage to begin the hay harvest. To-day a fresh, cool breeze from the northwest, promising continued fair weather. The clover crop, if successfully gathered, will be the largest in this section for years; a good crop everywhere, and clover-sick land unheard of. Second-year timothy has also good stand, though not so thick as the past year's seeding. Wheat and rye beginning to turn, and will be ready for harvest the last of next week. These crops are, as a rule, up to the average, though so unpromising last fall, owing to the lateness of seeding and extreme wet. Oats growing rapidly. Corn came up well and looks fine; continued showers of past three weeks have prevented proper cultivation on low lying land. Pasture good, and all farm stock in good condition. All fruit blossomed abundantly; later conditions, however, unfavorable for setting of cherries and apples. Peaches set full, and conditions favorable for development. Berries are a good crop, and prices good. Timothy hay, $15 per ton; wheat, $1 per bush.; corn 50c.; oats, 35c.; butter, 25c. per lb. E. B. V.

Maryland—*New-Windsor, Carroll Co., June 17.*—Sixteen rainy days so far this month; rain from every point, came from northwest yesterday; wind still there. Much hay down; some cut ten days ago; that standing is rotting underneath. My opinion is the silo would be the thing for such a season. E. D. R.

Ohio—*Franklin County, June 17.*—Much rain and many cloudy days do not give good weather for making clover hay. Potatoes are making a fine growth; those planted late and kept back by drouth are now coming on finely. The seed which came from Maryland and Michigan is producing finer stalks than that raised in Ohio. Cattle are dull of sale, and milch cows not in demand. Prices of butter in Columbus market, 18@18c. per lb. for common, and more as quality advances; creamery, 22c., and extra home dairy, 20c.—many having contracts by the year at 20@20c. to families. Common greasy stuff is very dull. Hay is selling at $12@13 per ton; corn advancing, 50@53c. per bush.; wheat, 80c. The strawberry crop is large, but not holding out so well as anticipated, selling at 8@10c. per qt. Blackberry bushes hang very full of even-sized berries. Apples not so plenty as last season, but fruit larger and fairer. The white clover crop is more abundant than for several years, and bees have done remarkably well, filling the comb with the finest quality of honey. There are wool buyers in excess of the supply of wool, paying about 20c., and 23c. for extra clips. Many farmers want to purchase small flocks of sheep. E. W. P.

Indiana—*Greencastle, Putnam Co., June 17.*—Drouth is now generally broken; rains have fully saturated the ground, and have been general. Corn and oats are looking especially well. The last two weeks have been generally cool, making it favorable for oats and wheat. The latter is now headed out, but much of it is short; the general opinion is that it will be of good quality, with only a fair ordinary yield. Grass in excellent condition. T. C. O.

Mooresville, June 19.—Long continued rains are seriously affecting farm operations. In low bottoms corn is drowned out, and on higher grounds the wheat, which is ripe for the harvest, but cannot be cut, is badly blown down in many places, and small green bugs have appeared in myriads and are damaging it. Clover is also injured by the wet weather. Tobacco, a staple here, will be a short crop.

Lebanon, June 19.—Owing to long continued rains the prospect for crops is very discouraging. A great deal of corn is under water, and the wheat presents a sorry appearance, and probably will not yield more than half a crop.

Marion, June 19.—Great consternation has been created among farmers by the appearance during the last few days of a small green bug that threatens to destroy the wheat, oat and rye crops. The pests appear upon every head of grain by hundreds, and planting themselves at the base of the grain, sap the life out of it. It is believed the backward portion of the crop will be utterly ruined. Reports from adjacent counties indicate that the presence of the pest is widespread.

Illinois—*Bloomington, June 19.*—It has rained every day for two weeks, and much of the country is under water. The ground has been cold and wet so long that in low places the corn has become yellow.

Champaign County, June 21.—A thunder storm of great violence broke over this county and neighborhood between 7 and 8 o'clock last night. Rain, 1¼ inches falling in less than an hour, and wind strong and gusty enough to blow down trees and knock over fences and prostrate grain. But these incidents are nothing to the flooding of corn fields already sodden, and preventing cultivation another week at least. Things look blue for the farmer. B. F. J.

Wisconsin—*Fond du Lac County, June 17.*—The frost of May 30 did more damage to corn than appeared when I last wrote. The cold and wet caused everything to stand still for a week or more, but since the 10th we have had warm and some hot days and nights. Much corn was planted over, and the seed remained in the ground so long before coming up that it is very small for this time of year. Several pieces were damaged by cut worms, and were plowed up and sowed to barley. More than half a crop of corn can be expected where ten days ago we expected nothing. The clover fields are heavily burdened, while other crops promise a good yield. Clover cutting will begin in four or five days. Every Sunday in this month has been rainy, so as to hinder cultivating corn the fore part of the week. Should this wet state continue it will be difficult getting our natural grass off of the marshes. Potato bugs by the thousands, but no chinch bugs have appeared as yet. E. R.

Janesville, Rock Co., June 18.—Warm, growing weather; rains have been abundant, nearly every day; last night we had a cloud-burst, the rain falling in rushing sheets. Some washouts in consequence; still I have not heard of any serious damage so far. Corn is beginning to feel the heat and to change in color. The frosts do not seem to have damaged it much, only retarded growth and kept it yellow. Vegetation of every kind is remarkably good and vigorous. There will be a plentiful supply of home-grown strawberries, though they will be late. We have some very extensive strawberry farms. Cherries will be a good crop if nothing interferes; they are thick upon the trees. I do not hear of any broom corn being planted; neither is there a sign of sorghum in Southern Wisconsin, so far as my observation and inquiries go. Wheat, 65@75c. per bush.; rye, 40c.; barley, 30@40c.; corn, 25c.; oats, 12@30c.; hay, $4@7 per ton; bran, $10; butter, 10@11c. per lb.; eggs, 10c. per doz.; cattle, $2.40@3.50 per cwt.; hogs, $3.75@4.15; horses in demand, especially for carriage animals; tobacco, 3@3c. to 5@11½c. per lb.; coal, $6.50@7.00 per ton. W. H.

Kansas—*La Cygne, Linn Co., June 17.*—The spring and summer so far have been phenomenally cool and wet; the ground is scarcely dry before another deluge is upon us, and the soil is as cold as in April. Grass has grown very rank and oats are looking well, as a rule, but corn is not and is growing slowly. The weather has been such that many fields have been neglected and imperfectly worked; still, there is plenty of time for the crop, and a summer seldom comes to Kansas lacking sunshine and drouth. The danger now to western crops is that owing to the cool wet spring all crops are rooted comparatively near the surface, and if July and August should be hot and dry, they will suffer much more than in a warmer, drier season. If such should be the case, many fields will grievously disappoint the owner at harvest time. The old adage that "a dry season scares and a wet one starves the farmers," has often proved true in the past and may again. Small fruits and vegetables are first class, abundant and cheap. Early potatoes will rot if it continues wet, and the wheat harvest will open this week in earnest if weather is favorable. The crop is good, but acreage small compared with years ago. Markets dull and low. Butter, 10c. per lb.; eggs, 10c. per doz.; potatoes, new, $1@1.25 per bu.; strawberries all gone, closing at 8c. per qt.; cherries, 15@20c. per gal. Prospect good for big crop of peaches. D. S. R.

Horticultural Department.

Editorial Notes and Comments.

A CHEAP WILD GARDEN.—The owners of small ornamental places often express their regret that they must either sacrifice their shade trees or their flowers, which will not grow or succeed well when shielded from light. They plant bulbs and herbaceous perennials, at considerable expense, but they often dwindle and die. They would like a selection of such plants as will flourish in the shade. If they live in the neighborhood of dense woodlands in which cattle are not allowed to range, they may procure many fine ornamentals at no cost, but marking them when in flower and taking them up afterwards. A constant succession may be obtained through a considerable portion of the season. Those which naturally grow in the dense shade of woods and wooded swamps, will grow, flourish and bloom when transplanted to densely shaded grounds. Such a plant for example as the hepatica, the persistent leaves of which render the plants conspicuous for a time. If the shaded spots can be filled with such plants as the large white trillium, the erythorium, wood lilies, sanguinaria, divaricate phlox, and some of the orchids and cypripediums, and a few shady exotics, they will all together make a most interesting display.

PRACTICAL HINTS.—Cultivators of fruit will succeed better by giving timely attention to various practical operations at the right time in the season, than by doing work out of season. A piece of work done in time will often save many times its cost. Among these items of work are thinning fruit on overbearing trees, removing raspberry canes when growing too thick, pinching back raspberry and blackberry canes to prevent growing too tall, mellowing the hard crust about newly set trees, watching and cutting off the first appearances of black knot on plum trees, and budding young fruit trees and timely removing the ligatures.

PLACES FOR ORCHARDS.—There are two kinds of advice given for selecting localities for orchards. One is to place them where the soil is best, level and more easily cultivated, on the ground that the products of the orchard are worth more per acre than any other crops, and consequently the trees deserve the best land. The other advice is to select hill sides, stony lots and other spots which cannot be cultivated for corn and potatoes, and thus turn the unprofitable ground to good account. The first mentioned advice—to select good land—is by far the best if the trees are to receive cultivation only and a clean soil. The harrow and cultivator cannot be used on the steep hillsides and among the obstructing stones. The trees on the level land may be kept in a fine thrifty condition if the soil is worked enough to be at all times clean and mellow the first half of summer. The hillsides will be infested with weeds, grass and bushes, and will have a very poor chance. But the rich mellow level ground, if also neglected, will be but little better.

There is no reason, however, why the hillside orchard should not be successful if well top-dressed with barn manure. Some of the finest orchards we have ever seen, bearing fine crops of excellent fruit, were those which were annually top dressed in autumn with manure, and with such other attention to insects and other drawbacks as they appeared to require. It is well, however, to be cautious in recommending rough ground, even to those who may know the importance of manuring, as there is such a strong tendency with nearly all persons to neglect their good resolutions and to give the trees insufficient care.

GATHERING FRUIT.—Several inventions have been made to gather fruit rapidly and to save labor. Raspberries when fully ripe are jarred off the plants and are caught in elastic hoppers, several times faster than picking with the fingers. But the work is necessarily done in a somewhat rough manner, and the fruit tumbling down in masses must be more or less bruised. It would not answer for the finest juicy specimens for the table, and would only do for the evaporator. Cheap and poor fruit for the general market would tend to reduce and keep down prices, and depressed prices would not tend to improve quality. Apple gatherers, made with elastic hoppers, something like a large inverted umbrella, have been figured, advertised and used to some extent; but it is obvious that specimens of fruit falling from any height would strike and bruise one another while tumbling to the hopper, and they would hit the limbs of the tree in their descent. Such fruit would only do for cheap marketing or drying, but fine specimens should not receive such treatment. Peaches, pears, and other delicate fruits must be picked by hand, if good prices or home value are expected. Fruit culture is in danger of being injured by the attempt to do a great deal superficially and in a hurry.

Pear Blight on Quince.

EDS. COUNTRY GENTLEMAN—I send portions of young quince tree that have suddenly become affected with a sort of blight. It was first noticed on the 7th. The trees bore last year about a dozen quinces each. The growth of last year was cut back to about one third, and the trees are now full of fine-looking fruit. The affected portions looked as if slightly scorched. They were generally old wood, and bore quinces that had barely set and were now hard. The twigs bearing them were shriveled and dead, giving color to the idea that the disease had originated in these dead quinces. On further examination, I found young growth just beginning to droop. On one portion cut off I noticed a stickiness. On the 8th, I visited a small orchard about half a mile away that was set at the same time my trees were. I found only a single branch affected. This morning I have cut away other affected portions from my trees, and find a frothy, viscid exudation on many of them. Occasionally the young growth, which is putting forth quite vigorously, shows a flower bud or a blossom. W. W. S. *Mercer County, N. J., June* 10.

The quince trees are evidently affected by the "pear blight," the cause of which is attributed, by those who have especially investigated the subject, to a minute organism or germ bearing the name *Micrococcus amylovorus*. This disease attacks not only pear trees, but also apple and crab-apple trees, quince trees, and sometimes thorn trees. In all of them it manifests its presence by the blackening of the foliage and the more or less discoloring and shriveling of the diseased twigs, bark or branches. It is often accompanied by a viscid exudation, and the disease may be communicated to a healthy tree of either of the kinds mentioned by inoculation with this exudation.

According to Prof. Arthur, the germs obtain access to the tree through the flower or the tender growing tips of the young shoots, or possibly through wounds or punctures in the bark.

The remedy commonly employed against the disease, is to cut away and burn the affected branches, cutting some distance below the apparent affected part. One writer affirms that a liberal application of wood ashes to the ground under quince trees will prevent them from blighting, but in the case of pear trees, the application of wood ashes and other fertilizers does not in all cases appear to secure immunity from the disease.

The development of a few blossoms on the quince is also taking place at the present time in the vicinity of Albany. It is probably due to the stimulating effect upon plant-growth of the long-continued wet weather we are now experiencing. C. H. P.

Missouri.—The Semi-Annual Meeting of the State Horticultural Society was held at Brookfield, June 4, 5 and 6. Attendance good; delegates from all over the State, and a number from Iowa and Kansas. The members were entertained by the Linn county society and the citizens of Brookfield, and given a carriage ride over the city and surrounding country, which for natural beauty, and for delightful homes, both in city and country, surrounded with fruit, shade and ornamental trees, and with flowers, takes high rank. The horticultural display covered three long tables. I noticed over a hundred plates of fine apples, a remnant of the Missouri fruit show at St. Louis last September, and also shown at the State meeting at Nevada last winter. Among them were Rambo Pippin and other autumn varieties, in good condition, which speaks well for the careful handling by the officers of the society, and for the cold storage companies of Kansas City and St. Louis, where this fruit was stored. There was a very fine exhibit of strawberries, cherries, currants and gooseberries; also grapes half grown, and peaches nearly ripe, from South Missouri. Among prominent exhibitors, I mention President Evans of Harlem, Mo., A. Nelson of Lebanon, Joseph Gamble of Brookfield, Dr. A. Goslin of Oregon, A. P. Crosby, A. Henderson, W. H. Combs, Miss H. Johnson and C. M. Murtfeldt. Reports from all over the State show apples to be very light—only about one-third of a full crop. Pears half a crop; other fruits 75 to 100 per cent. On the south slope of the Ozark range an abundant crop of peaches is reported. The Olden Fruit Company of Howell county have ordered fifty thousand peach boxes, and will order as many more for their late peaches, which will be carried by express to Kansas City. Many interesting points were discussed, among them the importance of better care and more thorough culture of our orchards and gardens, a closer study of our insect foes, and a more systematic and united effort for their destruction. The importance of organization and the printing press was fully recognized. A resolution was passed asking for the establishment of a bureau of horticulture by the general government. S. F. M.

American Nurserymen's Association.

Proceedings of Chicago Meeting—II.

TREE SEEDLINGS, *by C. J. Carpenter of Nebraska.*—Owing to the many "timber claims" set out in the West, the demand for forest-tree seedlings is almost unlimited. Sandy soil is used for growing them; seed sown very thickly, as they aid each other in coming up. It is advisable to grow several varieties.

—— Mr. Emery asked in regard to the cottonwood. In Minnesota and Dakota it is killed by the frost, even when six inches through.

Mr. Carpenter had discouraged its planting. It robs the soil to such an extent that nothing will flourish near it, and then dies itself. It is a murderer and a suicide.

TREE DIGGERS—Were discussed. Mr. Carpenter said in his soil he preferred the Whitney for seedlings, and the Bragg for larger trees.

Mr. Plumb of Wisconsin had practiced running the digger along the rows when the trees were what are usually termed two years old. This cut the roots, and new fibrous roots started, and when the trees were finally dug, there were no large roots to cut. He practiced this with evergreens every two years, and farmers would come and take away large trees, with a great big ball of earth attached, that would be impossible had not the digger been used in this manner. Were it not for the digger, trees could not be sold at the low prices now ruling.

Mr. Albaugh of Ohio explained that different soils and conditions require different diggers, but it was folly to attempt to raise trees without a digger of some sort.

President Sweet of New-York admitted that while all diggers were good when properly handled, there were such things as "tree butchers;" and he would not give a dollar a hundred for standard pears such as he had received of some nurserymen who had dug them with diggers.

WINTERING GRAPEVINES, *by T. S. Hubbard of New-York.*—By grapevines is meant in this instance not large vines, but those that have been dug and are to be planted the next season. The temperature should be just above freezing. If the cellar is damp, no covering is needed for the vines; simply tie them in bundles of 8 or 10 inches diameter, and cover them up. The trouble is to keep them from starting, and this is why they ought not to be covered. In a dry cellar covering might be needed. The cellar is ventilated. If there is danger of frost, the temperature may be raised by means of a stove; an oil-stove will answer. If vines *are* frosted, they should be packed in tight boxes and buried in order that the frost may be extracted slowly.

—— Mr. Samuels asked in regard to putting frosted vines into water.

A member reported success in so doing.

Mr. Patton of Iowa related an account of a man moving west with a team and having some nursery stock in his wagon. The weather turned cold. When it began to freeze, water was poured over the trees, and a coating of ice formed. They were thawed out in a cellar and nearly all lived.

GROWING VINES AND STOCKS, *by Silas Wilson.*—Select good, strong, well-ripened wood, well handled, and planted with care. Grape cuttings should be from 7 to 10 inches long, with from two to four buds each, tied in bundles of 100 each, using willow ties. Never tie with wire, as the rust of the wire soon penetrates the cutting to the pith and renders it worthless. They should be at once heeled in, or put into the cellar in damp packing to prevent evaporation. If heeled in, invert them, putting the tops down and butts up. Let them remain until planting time. If in taking them out, in the spring, they are not found in a good, moist condition, either wet them well in the ground and let them remain two or three days, or soak them in water twenty-four hours before planting. They should be planted deep enough to cover all the buds except one. Fruit stocks can be best secured by planting good seed on new, clean prairie soil.

GREENHOUSES.—Next came a most excellent paper by the veteran PETER HENDERSON, in answer to the inquiry: "What is the best method of preserving wood in greenhouses, and of heating greenhouses? Are iron greenhouses a success?" We give it entire:

"In considering the best method of preserving wood in greenhouses, construction and painting must be taken into consideration. There must be no joints or open spaces between the different sections where water can get into the wood. Such joints as cannot be avoided ought to be made very close and put together with white lead. Sappy, or shaky lumber ought never be used. To best preserve wood is painting; the first coat should be raw linseed oil, with very little lead in it, and all subsequent coats should be mixed very thin. There is probably no substitute equal to white lead and oil for this work, and it is the oil that is of chief value in preserving the wood. When the oil is exhausted, the lead is of no further value as a preservative. New wood absorbs the oil largely the first year; hence it is economical to repaint a house after the first twelve months. If this is properly done, the painting will stand good for several years. Would advise, for economical work, painting two coats when the work is put up, and a third coat, mostly oil, after twelve months. For the benches of greenhouses, yellow or Georgia pine is preferable to either spruce or hemlock.

"On the subject of heating greenhouses, whether hot water or steam should be employed, there is about an equal division of opinion. In our judgment, when the range of glass is sufficient to warrant the employment of a night watchman (say 50,000 square feet) steam has several advantages over hot water, chief of which are—the exact regulation of temperature, which can be secured by close attention, and the consequent economy in fuel, also the convenience of placing the heating furnaces all at one point. For example, we have a range of glass where the extreme point is about 600 feet away from the boilers. It would not be practicable to heat at that distance by hot water. But, for all medium and small-sized establishments, whether for commercial or private purposes, we recommend hot water. The regulation is simple.

"The size of the house or houses to be heated must determine the capacity of the boiler wanted. The boiler being properly apportioned to the lengths of the pipe, the following data, used in our own establishment, may be useful: In our houses, which are 20 feet wide and 100 feet long, when a night temperature of 70° is required in coldest weather, 10 runs or rows of 4 inch pipe, 5 on each side, are used; when 60° is needed, 8 runs of pipe, 4 on each side; when 50° are needed, 6 runs of pipe, and when only 35° or 40° are wanted, 4 runs. This is for the latitude of New-York city, where the temperature rarely falls lower than 10° below zero. Latitudes north or south of New York should be graded accordingly. If estimated by glass surface, about one foot in length of 4 inch pipe is necessary for every 3½ square feet of glass surface, when the temperature is 10° below zero, to keep a temperature of 50° in the greenhouse. A 1¼ inch pipe, when heated by steam, does almost exactly as much heating as a 4 inch pipe heated by hot water.

"Whether iron greenhouses are a success or not depends upon permanence of construction, relative cost and economical heating; and, upon the average advantages or disadvantages shown by the answers to these questions depend the answer. Iron has been used for skylight and depot roofs for several years, and for these purposes is considered a success; but the conditions in greenhouse building are very different. Construction of greenhouses of iron, without the use of more or less wood, has not been attended with such a degree of success as to warrant its commendation. In the original construction of the Botanic Garden conservatories in Washington, iron was exclusively used for the roof, but, owing to the expansion and contraction of the metal and consequent loosening and breakage of glass, after various costly experiments with different forms of metal construction, light wood caps were provided for all the iron parts, and, with this modification, the houses have stood for many years, and are very satisfactory. Where metal is used exclusively, the expansion and contraction, caused by the extreme changes of our climate, are so great that it has been found impossible to hold the glass on its bed, and to make the houses reasonably warm and tight. The difficulties to be overcome in construction can best be appreciated by considering the fact that the expansion of a piece of iron, subject to the ordinary climatic changes, is equal to about one and one-fourth inches in 100 feet, so that a house of this length would be subject to a constant movement, varying with the thermometer.

"With the present prices of material, the cost of such a roof, even if practicable, would be twice that of wood. But the most serious difficulty would be found in economical warming. The metal, which is exposed both outside and inside, is a most efficient conductor of heat. Taking glass as the unit, an ordinary

wrought or galvanized iron bar will throw off four times as much heat; a zinc bar six times as much. The surface of the ordinary metal bar exposed in the house will approximate fully three inches, which would be equal to twelve inches of glass exposure in its loss of heat in winter and increase of temperature in summer. With zinc bars the loss is 50 per cent greater than with iron bars. In addition to this loss by radiation, the increased loss by increased openings must be considered, as it is impossible to construct the iron or zinc so as to make it as tight as when wood is used. The expansion of the iron or zinc (zinc expands two and a half times as much as iron) breaks the setting, and frequently the glass. These objections are so important that it is doubtful if they ever be sufficiently overcome, so that we can afford to build entire metal roofs. The best iron greenhouse that we know of is one in which the frame-work and supporting parts of the construction are all of iron, giving the desired durability, strength and lightness, while small wood bars and caps are used for the setting of the glass. The difficulties of construction and heating are entirely overcome; the wood being used only for a setting has no strain or weight to bear, and will last longer than light metal bars, which are soon destroyed by oxidation and corrosion.

"Two years ago I erected a greenhouse, 250 feet by 30, after this style, only the skeleton of which is iron—that is, its posts, rafters and purlines are of iron. Such a building will stand 50 years, with but few repairs. The cost was about 25 per cent. greater than if wood had been used exclusively. It cost $30 per running foot, all complete, heating with steam included."

EXPRESS COMPANIES.—It was thought that the express companies ought not to charge more for carrying nursery stock in bundles and bales than in boxes. A resolution was passed instructing the committee on transportation to labor with the expressmen on this point, and the secretary was instructed to assess each member $5 to carry on the work. One member said he had been in the employ of express companies several years, and there was only one effective argument to be used with them—*convince* them that a reduction of one half in rates will increase their business four times. No other argument will have any effect.

The hour for adjournment arrived with several valuable papers yet unread, which were ordered printed in the report. Your correspondent looked over one by G. W. CAMPBELL of Ohio, and made a few extracts as follow:

"NEW GRAPES—Are so numerous that I can only notice a few of the most prominent. Niagara is comparatively new, and, although it has not been found adapted to very general cultivation, is still one of the most profitable for localities suited to its requirements; but it is neither early nor hardy, nor exempt from mildew. Empire State is a formidable competitor for public favor. Woodruff Red has many good points; it bears abundantly, producing berries and clusters of the largest size; color bright and attractive; ripens with the Concord. I think that it has more characteristics for a popular grape than any other red grape within my knowledge. The Eaton is a new variety of black color, vigorous, healthy, hardy, acid, and juice rather thin. The Jewel is a black grape of a different character; it is hardy, with foliage much like the Victor; ripens very early; flavor pleasant, sprightly, foxy. The Mayer is a new grape from Canada, that I mention for the purpose of having it discussed. With me it is not so vigorous as the Delaware. The Mills failed to ripen its wood last year, by reason of mildew. Ulster Prolific is hardy and productive; quality good; foliage healthy. Of the Nectar, which was first called the Black Delaware, I can only say that it is of vigorous growth and healthy foliage.

"What we need is a grape having all the characteristics of the Concord or the Worden, with a more tenacious skin, better quality and better keeping qualities. We also need a Delaware with more vigorous growth, larger fruit and healthier foliage." W. Z. H.

An Ohio Strawberry Festival.

EDS. COUNTRY GENTLEMAN—One of those large gatherings, not uncommon in this vicinity, was held in the shape of the strawberry festival of the Summit County Horticultural Society, at the home of a neighbor of the writer. About 300 people consumed four bushels of extra fine fresh-picked strawberries, and occupied five or six hours in exchanging opinions and experiences.

The gentleman who entertained the society is an invalid unable to walk, and having a taste for horticulture, has fitted up a model little fruit garden of one-half acre. It is an eastern slope of about five inches to the rod, and this has been graded to two level terraces. The upper terrace backs on to the rear of a proposed building site, and along this and the bank of the lower terrace grapevines are planted six feet apart, there being two rows but two feet apart at the latter place, one row being supposed to draw its sustenance from the upper terrace and the other from the lower one, the two being separated by a row of 10-inch sewer pipe three feet long, set close together on end, and serving as a retaining wall.

On the level plateaus of the terraces are three rows of cherry, pear and peach trees, and in the spaces between (about 30 feet wide) are planted strawberries in rows wide apart, and kept on the hill system. All is kept entirely free of weeds and perfectly level, so an invalid chair can be wheeled all around.

The strawberries were a wonder of thrifty growth and productiveness, and furnished the visitors a magnificent object lesson. The finest show was of Lida, a pistillate variety, which was estimated to have at least a bushel of berries on 25 feet of row containing 16 plants. Bubach was a good second, while Jessie, the earliest of the three, ranked as third, with Sharpless closely following. Mammoth, a curious large berry shaped like a turban squash, had one large berry to each plant, three or four smaller, and several blasted ones. A man who has tried this variety two seasons, said that this was the habit of the plant, and he considered it worthless. Waldron, Ohio, and one or two other late varieties, were making a good showing for fall-set plants.

The inspection of this little plantation led to many brief discussions, and I gathered that the plan of hill culture is falling into disfavor with commercial growers, for most varieties, only a very few—of which Sharpless is chief—doing best in this method. Mr. Risk, a Portage county grower, has thoroughly tested both ways with Crescent, Capt. Jack and Cumberland, (I saw his plantation under the hill system, and it was a model) and he says he gets just as many little ones in hills, as in thinly scattered, matted rows. He considers it impossible for strawberries to get as much from the soil when one plant occupies a single point in half a square rod, as it could if divided into a dozen and scattered over the same area. This is about my own experience, and by far the largest authentic yields I know of have been by the matted-row system.

Tools for Berry Culture.

A slight modification of the matted-row will be the plan I shall work upon hereafter. I shall plant not less than four feet apart and try in some way, after the middle of September, to check the growth of runners. The late runners are worthless for fruit-bearing and simply cumber the ground, crowding the borders of the row and injuring the berry-bearing plants. On loamy ground tolerably free from stones I believe a disc harrow of three discs, ten inches apart (cutting twenty inches wide) would do the business. These might be mounted on a frame with the central disc in advance of the others and so arranged as to give standing room for a boy to drive the horse. The trouble with disc attachments as ordinarily attached to cultivators is, that the rig is too light, and pressure of cultivator teeth in connection turn the runners aside before the discs get in their work—at least those who have tried them tell me this is the case. When my leisure time comes, toward autumn, I shall visit the saw works at Cleveland, and if practicable obtain a couple of 18-inch buzz-saw plates, get them ground to an edge and have them attached to heavy cast iron discs five inches smaller, and then rig upsome kind of a frame so that I can cut a clean 20-inch space between the rows. It may be possible to attach Planter *Jr.* teeth in the rear or to fit the axle of the discs to the forward part of the frame of a cultivator, narrowed to the width of the discs. If such an arrangement could be made to work, then matted rows could be evenly and nicely graduated in width without banking up the outside edges with a mass of loosened runners and unproductive plants as is done when the cultivation is kept up after Sept. 1 with the ordinary implements.

Just at this point I am interrupted by one of my men bringing in the set screw bolt to the Planet *Jr.* cultivator, which he has just turned off. This happens about every season, and as the dealer charges me 40 cents for a new one, including the clamp, it is getting monotonous, and I would like to ask Mr. Terry and others how they manage this most miserable attachment to a very useful tool. The steel set bolt has to set down pretty snug to hold the iron slides, and my man has already broken a carriage wrench on it before breaking the bolt itself. I mended up temporarily by putting on a 2 by 4 pine scantling, cutting it out so as to set down over the saddle of the clamp, and then bolting the side bars to the scantling by 4-inch bolts through the holes for attaching the shovel teeth, which I never use. It holds the cultivator very rigid, and I am not sure that I shall get a new clamp. Different holes can be bored for different widths, and two bolts must be removed, and when narrowed up the ends of the stick project, which would be objectionable in corn more than a foot high, but wood is cheap, and I can make a short one for corn, and the extra time of changing may possibly not amount to more than 40 cents in a year.

There is no part of the Planet *Jr.* that needs reorganization so badly as the clamp arrangement, and the manufacturers should turn their attention to an improvement in this point. Numberless devices could be applied, and if nothing better could be afforded, holes one inch apart, after the manner of the old cultivators, would be better than the present way.

At the meeting yesterday Mr. Terry showed an attachment of his own manufacture for stirring the soil. It was a 2 by 6 scantling, 2 feet long, with two rows of Thomas harrow teeth inserted in it, one row having four and the other five. The outer tooth on each end was not driven so far through as the others, and the teeth were about six inches apart. This was used by removing the teeth and shanks of a Planet *Jr.* and bolting on the under side of the frame. It could be attached to any similar cultivator frame. I have owned for a dozen or more years a V-shaped wood-framed adjustable one-horse harrow, but after some reflection I have concluded that Mr. T.'s contrivance would answer just as well and take much less storage room. There is a wide field for invention and improvement in tools for berry culture, and I will try to touch upon the subject again. L. B. PIERCE.

Summit County, O.

Domestic Economy.

"Let your Light so Shine."

In my early house-keeping days the care of the lamps was my sorest trial. It seems to me now, as I look back from out the shadow of other and far greater ones, that this was a small matter to be unhappy about, and yet it did make me very miserable. I absolutely hated the touch or smell of kerosene, and as I performed the whole duty of cleaning and filling lamps in the most careless way possible, and with but one object in view, that of getting through a disagreeable task as quickly as might be, it is unnecessary to say that the work was never satisfactory when done. My lamps were always greasy on the outside, and as they smoked, the chimneys were never bright.

One day I came across the following quotation, credited to Philip, Earl of Chesterfield: "I thank God that I don't have to clean shoes for a living, but if I had to make my living in that way, I would try to clean shoes better than my rivals."

There was something in the manliness of this sentiment that aroused my admiration, and made me look with a guilty pang toward my neglected lamps. I remembered how only last evening my husband, with his customary sweet patience, had quietly gone to the kitchen for a second lamp, as the one by which we were reading gave so poor a light. There was still a couple of hours before nightfall, and I resolved to give him a surprise. I could not plead ignorance as an excuse for my neglect. I know "just how" it should be done well enough. It was a sort of natural repugnance to the work, that may as well be called by the honest name of laziness as to try and find a more plausible excuse. The wicks had never been changed since the lamps were purchased, and there was a sediment in the bottoms that, to say the least, looked badly. I emptied them all, being careful not to pour off the oil from this sediment too closely. Then I washed them until you might have used them for drinking vessels (so clean were they) in hot suds with a tablespoonful of ammonia, and another of pearline, to half a pail of water. I put new wicks in all, first boiling up the burners with water, washing soda, ammonia and soap. Put them on in cold water, and by the time the water comes to a boil they will be as bright and clean as new, and the wheels, which often get clogged with grease and dirt, will work smoothly. Even if wicks are not too short, they should be changed every six months (at which time also wash the burners), and you will be repaid by the increased brilliancy of your lights.

Never cut a lamp wick after you once get it straight. They sometimes need to be trimmed when new. To do this, turn it down until the shortest end is even with the burner, and then with a very sharp scissors cut it straight across. Every day simply wipe off the charred wick, and the flame will keep straight and even. To do this use a bit of soft paper, or an old soft cloth.

If lamps are kept properly trimmed, the chimneys need not be washed oftener than once a week, although they may be polished inside and out every day with soft paper. When you do wash them, put ammonia or washing soda in the water, have the suds hot, and rinse in clean, hot water. Let them stand until dry, and then polish with tissue paper. Never fill a lamp fuller than to within an inch of the cap, as, if there is no room for air, there is danger of an explosion.

When my husband came home that night, I had lamps lighted in hall, dining room, parlor and kitchen, and as I saw his pleased and surprised look at the flood of light the moment he opened the street door, I made a vow that I would always let my "light so shine."

Small bronze brackets (of course they are only of iron painted to look like bronze), may be bought for fifteen cents each, and it pays, as a matter of convenience and neatness, to have these bracketed up all over the house, wherever it is necessary to set a lamp even occasionally. The ordinary glass lamp with a handle, and without a foot, leaves its mark wherever it is placed—on table or desk or bureau cover. The brackets are much handier and neater than small shelves, or wooden brackets, requiring only to be screwed to the wall. There should be one in the pantry as well as in the cellar and kitchen. The bedroom should have one on each side of the bureau; there should be one in both upper and lower hall, and even if you use hanging or handsome standing lamps in parlor and dining room, a bracket for holding an occasional lamp will not be found amiss. PALMETTO.

Strawberry Syrup.—Take large ripe strawberries, place them in a deep bowl and mash them with a wooden spoon. Let them stand two or three hours; then drain off the juice and strain it. Then to each pint of juice allow one pound of cut sugar, and boil slowly for half an hour, being careful to skim it well. When quite cold, bottle in small bottles which cork and seal tightly. Put away in a dry, dark, cool place. Fruit syrups can be made in this way of any of our small fruits, and will be found very acceptable to the ill and feverish, diluted with water and ice, and will not be refused by the well on occasion.

AUNT ADDIE.

Rhubarb Pies.—After the stalks are peeled and cut in small pieces, put in a wooden or earthen bowl, and with a wooden potato-masher bruise and crush until the juice is extracted. Wring out the rhubarb, and put it in the pie-plates that have been lined with crust; dredge over it a little flour, put in a few bits of butter, and sweeten. Less sugar is required than if all the juice were used. Wet the edges of the pie-crust when the top is put on the pie, and pinch together evenly. You can have the satisfaction of making rhubarb pies in this manner without having them boil over while baking. MRS. J. D. D.

Hammondsport, N. Y.

Whirled Eggs.—The water in which the eggs are cooked must be salted and kept upon a fast boil during the whole process. Stir with a wooden spoon or ladle in one direction until it whirls rapidly. Break the eggs, one at a time, in a cup, and drop each carefully into the centre of the miniature whirlpool, which must be kept in rapid motion till the egg is a soft, round ball. Take it out with a perforated spoon and put on a slice of buttered toast. Set the dish in the oven and proceed as before until sufficient eggs have been cooked. When all are done, salt and pepper lightly and serve.—*Good Housekeeping.*

Egg Salad.—Hard-boil six eggs, cut them into halves, put each half in a salad leaf, and arrange neatly on a platter or on salad dishes. Chop fine two olives, one gherkin and a tablespoonful of parsley. Mix five tablespoonfuls of olive oil with two of tarragon vinegar; add a half teaspoonful of salt and a saltspoonful of pepper; mix, and add a teaspoonful of grated onion. Sprinkle over the eggs the chopped gherkin, parsley and olives, pour over the French dressing, and stand in a cold place about fifteen minutes before serving.

—*Table Talk.*

Ice Creams and Ices.—Will some of the writers in the domestic economy department of your paper please give us a good receipt for ice cream and lemon ice? MAX. [For ice creams of many kinds, see COUNTRY GENTLEMAN, vol. 53, p. 681.]

New Advertisements.

Bailey, Mrs. S.	*English Pugs.*
Beckwith, C. S.	*Farm for Sale.*
Belle City Mfg. Co.	*Heritage Cutters, &c.*
Clipper Machine Works	*Clipper Mower.*
Craig George F.	*Jerseys.*
Caldwell Bros.	*Dorset Horn Bucks.*
Dam's Remedy Co.	*Agents Wanted.*
Ellwanger & Barry	*Put-Grown Strawberries.*
Fagan, John	*Berkshire Pigs.*
Garrahan, M.	*Celery Plants.*
Harder, Milnard	*Thrashing Machines, &c.*
Haines, John P.	*Herdsman Wanted.*
Hasbrouck, Ira H.	*Cook & Laundress Wanted.*
do. do.	*Collie for Sale.*
Jones of Binghamton	*Bricks.*
Kullander, Gustof	*Situation Wanted.*
Lamb, E. T.	*Farm for Sale or Exchange.*
MacBean, A. S.	*Cabbage Plants.*
Mason, C. M.	*Cabbage and Celery Plants.*
Parker & Wood	*Heritage Cutters, &c.*
Peacock, P. P.	*Jerseys.*
Prentice, T. R.	*Corn Machine for Sale or Ex.*
do.	*Berkshires.*
Ross & Co., E. W.	*Ensilage & Fodder Cutters.*
Rousch, H.	*English Greyhounds.*
Sebley, E. H.	*Holstein Cows.*
Stewart, D. G.	*Holstein Cow and Calf.*
Tate, E. K.	*Farm for Sale.*
Black, H. A.	*Jerseys.*
Scudder, Hewlett	*Hay Caloing.*
Tourjee, E.	*Music, Art, &c., Taught.*
The Conarchism Nursery Co.	*Agents Wanted.*
Wisner, Lewis S.	*Scotland Pump, Harness &c.*
Wilson, F. M.	*Merino Sheep.*

Pamphlets, &c., Received.

BEAUCHEMIN, LOUIS, 20 Rue St. Jacques, Montreal, Can. Paper (in French) on Culture and Heritage of Corn.

CRANE MACHINE CO., Martinsburg, W. Va. Illustrated Circular of new Roller, Harrow and Drill.

DWYER, T. J., Cornwall, N. Y. Circular of Fruit and Vegetable Plants.

HUNT, FRANK R., Farm Superintendent, State Experimental Station, Geneva, N. Y. Report; pp. 90.

HARDER, MILNARD, Cobleskill, Schoharie Co., N. Y. Catalogue of Fearless Thrashing Machinery; pp. 32, illustrated.

KEYSTONE MFG. CO., Sterling, Ill. Circular of Corn Husker and Fodder Cutter; pp. 20, illustrated.

LEUE, ADOLPH, Secretary State Forestry Bureau, Cincinnati, O. Third Annual Report; pp. 96 & 64.

ROSS & CO., E. W., Springfield, O. "Practical Information Concerning Ensilage and Silos;" pp. 176, illustrated.

TRACY, Prof. S. M., State Experiment Station, Agricultural College, Miss. "Experiments on Boll-Worm injuring Tomatoes."

Inquiries and Answers.

Currant Bushes—Seeding to Grass.—Is it practicable to transplant full-grown or young currant and gooseberry bushes in the fall, say September? We want to make our garden into rows, and there is more time in the fall for transplanting than in the spring. (1) In sowing ground for permanent pasture, will it be wise to sow early in September with rye, and with it timothy and blue-grass, sowing clover in the spring? How much of each grass would you sow? The ground was in pasture for two years, has been plowed now, and after harvest will be plowed again and limed. It is part clayey and part gravelly, and has always taken well with clover and timothy. We have never tried blue-grass before. Where can I get blue-grass seed by the quantity necessary for sowing ten acres of land? It is not kept by our local dealers. (2). S. *Muncy, Pa.* [1. Currant and gooseberry bushes may be transplanted in autumn, taking care to lift as large a mass of roots as practicable, and to thin out and cut back a proportionate amount of the branches. Protect them against the cold winds of winter by manure over the surface, and evergreen branches around the tops would be additionally useful. 2. Timothy, orchard grass and other hardy grasses may be sown early in autumn, if the ground is sufficiently moist and mellow, and clover in spring. Copious seeding on well-prepared ground will give the best growth of grass. Blue-grass makes a small growth the first year, and it may be better in your locality to sow in spring. The seed may be had of the large city seeds men who advertise in our columns.]

Berry Destroyers.—We have something that perforates and destroys our strawberry leaves, of course destroying the crop—I can see nothing. What can it be that seems to be such an insidious foe both last year and this? (1) A question about raspberries: After getting a good cane growth, then a good supply of blossoms, and berries half grown or more, they all at once begin to droop and dry up, and are never filled out or fit to pick. What is the cause and remedy? (2) What is the best time to salt asparagus, and how much? (3) J. D. *Valley Springs, South Dakota.* [1. There are several insects which destroy strawberry leaves, which we cannot point out without a more distinct account or description. When the insect is discovered, the plants may be sprinkled early in the season with white hellebore in water, with pyrethrum, with Paris green at the rate of a teaspoonful to ten or twelve gallons of water. The insects, in devouring this with the leaves, perish. Care should be taken not to use any of the ripe fruit till a few heavy showers have washed off all the poison. 2. This may be the effect of frost, or it may be one of the several insects which attack the raspberry. If the latter, the remedy would be one of the poisons already named, provided these poisons are used long enough before the ripening and use of the fruit to become completely washed off by rains. If the insect attacks the raspberries nearly at the same time with the ripening berries, the remedy cannot of course be used. Further investigation is required as to the cause. 3. Salt is useful for asparagus away from sea air, and it may be applied early in spring, at the rate of two or three pounds per square yard, or thirty or forty pounds to the square rod.]

Packing Silo.—Last year I built a silo with two departments, each 14 by 30 feet, 26 feet deep. I filled them partly full of corn. It kept sweet and was a success. This year I intend to cut clover and fill one part partly full, cover it with cut straw or sawdust, and finish filling it with corn at the proper time. Will that method do? (1) Would it not be just as well to cut the clover and corn two inches long, and thereby save horse-power? (2) J. W. G. [1. Your silo will hold about 200 tons, and in filling with corn and clover it will be well to estimate the proper quantity for filling. In filling a part, and allowing several weeks between before completing the work, it should be as well covered as if for permanently remaining, and uncovered again for finishing filling. 2. Cutting two inches long, instead of half an inch, will be better than entirely uncut; it will not pack so well as when cut shorter, but if the work is well done it will be successful.]

Churning—Beans.—Is a week too long a time for cream to accumulate after being taken from the milk before it is churned? It is kept in stone jars in a cellar so that its temperature will range from 55° to 60°. Some of my neighbors churn twice each week while others say that once is just as well and comparatively less trouble. (1) Can you give me some information about the insect that is so injurious to beans that are kept for seed? When can beans be planted so as to escape their depredations and still have time to ripen? (2) F. H. P. *Nemmet, N. Y.* [1. The time depends much on the weather and on various external conditions—what is the experience of our dairy readers? 2. We know of no effective remedy to preserve beans from the attacks of the bean weevil; vigorous growth and good cultivation would be useful.]

Conducting Water.—I wish to conduct water from a spring to my barnyard; the distance is 300 yards. Be good enough to let me know what fall I must have and what size pipe I should use. J. L. D. *Beaver County, Pa.* [There are three important points of information which you have failed to furnish, namely, the amount of water which the spring furnishes; what quantity you desire; and what is now the difference in altitude between the spring and the place of intended discharge. In the absence of this information, we can only give the general statement that any descent whatever will produce a current, which will be stronger or more rapid as the steepness increases. A descent of 1 foot in a 100 will discharge rather less than a descent of 1 foot in 10, in a pipe of the same size; and a pipe 2 inches bore, with a descent of 1 foot in 100, will pass 400 hogsheads in 24 hours, and three times as much in a descent of 1 foot in 10. A pipe 1 inch in diameter will give less than one-sixth as much.]

Poison Ivy—Canning.—Is there any way of ridding a large farm of poison ivy? It is in the stone fences and runs out into the lots as far as it can possibly establish itself. (1) Is there anything that will prevent the poison taking effect upon a person who is naturally susceptible to it? I have been assured that if I would chew the leaves it would not poison me again, but thought it seemed so improbable that I have never made the test. (2) Is there any special treatment necessary in canning squash in glass jars? I have a very successful way of canning sweet corn and wish this fall to put in a good supply of squash. (3) F. H. P. *Nemmet, N. Y.* [1. The same remedy must be used that destroys weeds which spread by the roots—keeping them cut closely so that the leaves cannot give life to the roots. This remedy could not be employed under stone fences, but must have a clean sweep of the land. Plowing and tearing out of the roots with a hook, might also be employed, but in burning the brush, avoid the smoke. 2. We would not recommend chewing the leaves. There are various other remedies, some of which may be very useful applied to the skin affected by the poison, while with other persons they have proved failures, and among these remedies one of the best is hot water, as hot as can be borne, every two hours; also chloride of lime, washing soda, bicarbonate of soda, solution of alum, a raw onion rubbed on the affected part, a mixture of gunpowder and vinegar applied frequently and washed off, &c., all to be applied early. 3. Will some of our skilled readers please answer this inquiry?]

Brome Grass.—I enclose grass for name; is it of any account? It comes early and thickens rapidly. R. F. B. *Keysburg, Ky.* [It is *Bromus arvensis*, the "field brome grass." It has been introduced into this country from Europe, and like its relatives, the "common chess," *B. secalinus*, the "upright chess," *B. racemosus*, and the "soft chess," *B. mollis*, it is sometimes found growing in fields and along roadsides, but it is not deemed of much agricultural value. Prof. Gray suggests that the three species just mentioned are probably derived from it. The differences between the four are very slight. C. H. P.]

Grain Aphis.—Enclosed find sample of wheat. You will notice small, green egg close to stem, and green bug or fly. Could you tell me what it is, and what damage, if any, they can do? R. E. *La Grange, Ind.* [The insect is the grain aphis, *Siphonophora avenæ*. The egg was not found. Possibly the oval body of an aphis may have been mistaken for it. The attack will not prove very injurious to the crop, unless the insect is present in large numbers. For some additional information, see "Grain Aphis," in the COUNTRY GENTLEMAN for June 13, 1889, p. 457, 1st col. In that notice it is inadvertently given as *S. granaria*—the name given to it by Mr. Kirby in 1798, on the ground that Fabricius had only given the name of *Aphis avenæ*, but had not described it, and the name therefore could not hold. In the earlier Fabrician writings it was not described, but in the *Entomologia systematica* of 1794, a good description was given, and it must therefore be known as *avenæ*, derived from the oats on which it was first observed, and to which it is often very destructive. J. A. L.]

Crimson Clover.—We sow a great deal of crimson clover here, and some are filling silos with it. A few think it not as good as common clover, either as a crop for soiling or for hay. We have a great deal of it, and I want an analysis of its value as hay, compared with common red clover—also for soiling and for green manuring. F. F. W. *Milford, Del.* [This clover (*Trifolium incarnatum*) is raised in France and Southern Europe, and to some extent in the south of England. Where the climate is adapted to it, the crops are considerably larger than those from common red clover, standing two feet high or more. It is a good food for stock, and probably when the amount of the crop is considered, is quite as valuable as one cutting of common clover, although it is not quite as rich in some of the food elements, according to weight. The following analysis of the green plant was made by the celebrated English chemist, Prof. Way:

	Water.	Albuminoids.	Carbo-hydrates.	Woody fiber.	Fat.	Mineral matter (ash).
Red clover	81.01	4.37	9.46	3.76	0.09	1.32
Crimson clover	83.11	3.96	8.70	3.76	0.62	1.75
Same dried at 212° F.						
Red clover	....	23.05	44.47	19.75	3.47	9.26
Crimson clover	....	23.40	51.50	22.30	3.73	9.70

When we figure the digestible nutrients in these analyses, we find the following (given in pounds):

Green state.	Albuminoids.	Carbo-hydrates.	Fat.
Red clover	3.81	7.91	0.44
Crimson clover	3.96	7.46	0.43
Dried at 212° F.			
Red clover	15.36	40.61	2.31
Crimson clover	19.26	44.70	2.35

It will be seen by these analyses that red clover has a larger percentage of albuminoids than crimson clover, but that in the other digestible elements the crimson clover is quite the equal of red clover. These analyses were of English grown crops. Our best American red clover does not show any better under analysis than this crimson clover; so that those whose climate and soil are fitted for raising crimson clover, must regard it as a very valuable crop, both for soiling and for ensilage, as well as hay. But it should be cut for hay on the first appearance of blossom, as it becomes too woody after that. It probably will not completely succeed north of Delaware, but it has been reported as successful in Virginia, and a valuable crop. Prof. Beal of Michigan found it quite unsuccessful in that State. In Virginia it has been sown in the fall, alone or with Italian rye grass, and is ready to cut the following May. It would seem highly probable that in many parts of the South this crimson clover will be found a valuable addition to the hay crop. W. will see, from the mineral matter or ash, that crimson clover must be a valuable plant for green manuring. E. W. S.]

Acknowledgments.

Communications for publication have been received during the week ending June 24, from J. Hannan Clark—Prof. Chas. H. Peck—Mrs. Chas. I. Allen—E. S. Towle—Gerald Howatt—C. Hills—Mrs. J. D. D.—H. W. Phelps—John Gould—C. W. Beak—Subscriber—E. Reynolds—Max—T. C. Grooms—Waldo F. Brown—W.—Garry Owen Gaines—E. S. Rose—W. R. Mowry—A. C. Gliddon—D. S. B.—John H. Dent—Dr. Wm. Horne—J. R. Mordecai—Lillian Mayo—Max—F. D. Curtis—George F. Craig—L. R. T.—G. W. Furbee—Dorothy—Miss Hortense Dudley—M. R. T.

°,° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°,° We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, June 27, 1889.

Back Numbers Wanted.—Any reader who can supply, in whole or in part, the first four volumes of the COUNTRY GENTLEMAN (being the years 1853 and 1854) will do well to let us know at once.

We also need, to complete a subscriber's set, copies of the issues of March 11, Nov. 25 and Dec. 2, 1886. Cannot some reader furnish them?

Agricultural Legislation.—The governor of New-York has signed the bill giving the Hatch money to the Cornell University station (which becomes chap. 598 of the laws of 1889); but vetoed the bill providing for the distribution among existing agricultural societies of the unused appropriations of former years, and an item of $1800 in the supply bill for printing 5,000 extra copies of the report of the annual meeting of the State Dairyman's Association.

Agricultural Science.—The Society for the Promotion of Agricultural Science will hold its Tenth Annual Meeting at Toronto, Aug. 26-27. W. R. LAZENBY, secretary, State University, Columbus, O. The American Association for the Advancement of Science meets at the same place, 27th.

Insect Depredations.—Notes published on page 493 from two widely separated points in Indiana (Marion in the centre and Evansville at the extreme southwest) mention the appearance of a "small green bug" that works havoc with the wheat. From an inquiry on this page, it appears that the pest (which proves to be *Siphonophora avenæ*) is doing damage also in Lagrange County, at the northeast corner of the State—from which it would seem that Indiana is pretty well populated by them. An associated press despatch from Indianapolis has the following statement:

"Complaints about the destruction of wheat by a strange insect are increasing. They come chiefly from the central and eastern parts of the State, but the ravages of the little bug have already spread to Northern Indiana, and the secretary of the State Board of Agriculture regards the reports as alarming. The insect is the 'green midge,' another species of which is the 'red midge.' The latter last appeared in this region 15 years ago, and did great damage to growing wheat. The 'green midge' has not been seen by farmers since 1865, when it almost entirely destroyed the wheat crop of Indiana and neighboring States. Millions of them appear in a field, settling upon the stalk, from which they draw the sap, causing the grain to shrivel before it is matured."

Our State Entomologist, however, writes as follows to the Albany Argus:

"The insect reported under the name of the 'green midge,' as destroying the wheat crop in portions of Indiana, is the *grain aphis*. In some notices it has figured as the 'wheat midge,' and in others as 'a new bug of which little is known.' It is not new, for it was named and described nearly a hundred years ago as *aphis avenæ*, from the oats on which it was first discovered. It is not a midge, which is a fly, as is the wheat midge, but quite a different insect, being one of the plant lice. Its injuries in Indiana have been greatly overstated. I have received it from that State, from Illinois and from other States, in none of which will it probably prove very injurious this year, as the grain kernels will soon be too hard for it to suck the juices. It occurs every year to a greater or less extent, but very rarely does it become a great pest. A notable year for it was in 1861, when all over New-England, New-York (except its western portion), in the northeastern part of Pennsylvania, and in parts of Canada, every grain field was invaded by it, and some fields entirely destroyed so as not to be worth the cutting."

—— The Albany Evening Journal, learning of the appearance of the dreaded lice in the

hop yards of this State, has interviewed Prof. LINTNER, and gives his remarks as below:

"It was hoped that the hop-yards were to remain free from attack this year, but examples of it have just been sent to me for identification from Glen, Montgomery county, with the report that they are appearing in numbers sufficiently great to excite the fear of serious devastation. The leaves received indicate a severe attack, and may well arouse grave apprehensions. Some of the leaves are swarming on their under side with hundreds of young lice, which have been hatched from the very few old ones that are to be seen associated with them. The winged form, the last of the three broods that have lived on plum trees this spring, and a few weeks ago migrated to the hop-yards, is not among them, having died after giving birth to the present wingless females. The following generations throughout the summer will be wingless, until a winged brood will appear in the autumn and migrate to plum trees for laying its eggs on the twigs.

"Neither London purple nor Paris green nor any of the arsenites is of use against the hop aphis, which takes its food by sucking the sap from within the leaves. The best preventive will be found in killing the eggs on the leafless plum trees during the winter by spraying with a strong kerosene emulsion. All the wild plum trees in hop growing districts should be cut down.

"When the yards have become infested the best remedy is spraying the under side of the leaves with a force pump and nozzle throwing a fine mist-like spray. Experiments recently made by the entomological division at Washington show that the best results are to be obtained from kerosene emulsion or fish oil soaps. The kerosene emulsion was prepared with two gallons of kerosene thoroughly mixed through a force pump, with a hot solution of one pound of soap in a gallon of water. This, diluted in the proportion usually recommended, viz, one part of emulsion to nine parts of water, killed the vines. At 20 dilutions the injury was hardly perceptible. With 25 gallons of water no injurious results followed and the lice were all killed. One hundred gallons of this wash would cost (with kerosene at eight cents per gallon by the barrel) 20 cents.

"The quassia and soap wash which has been so long used in the English hop-yards, viz, 100 gallons of soft water (or hard with soda added), four or five pounds of soft soap, and six or eight pounds of quassia chips (soaked for four days in two gallons of water and then boiled for two hours) is also a sure remedy, but its cost would be at least double that of the kerosene emulsion.

"In fields where the hop lice are abundant no time should be lost before applying one of the above remedies if the crop is to be saved or matured in good condition. It will pay well, putting many thousands of dollars in the pockets of the hop growers of this state."

The following paragraph, which appeared some time ago in the same paper, the Albany Journal, may be of interest in this connection:

"Hereafter Australian lady bugs will be at a premium. The California assistant entomologist has introduced this lady bug to the Los Angeles orange growers where the scale pest had appeared and its ravages had caused a steady diminishing crop of orange products. It has been discovered that the Australian insect attacks and kills the scale and feeds upon its larvæ; and the once despondent orange producers of Southern California are now predicting that their oranges will soon take precedence of the products of Sicily and Florida in the Eastern markets."

Emmet Wells' Hop Circular reprints the above, and remarks editorially:

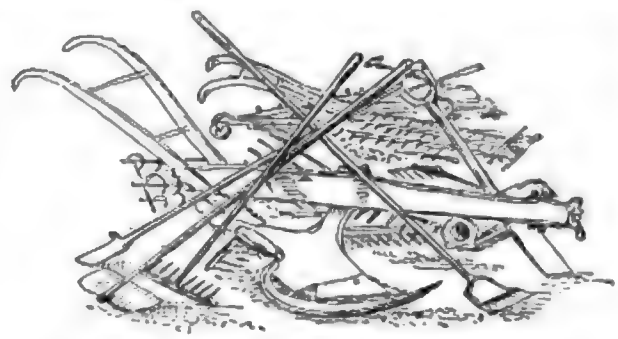
"The little lady referred to no doubt belongs to the same family as those who inhabit the hop districts of Central New York. Their cannibalistic nature enables them to 'take in' and 'chaw up' an entire family of hop lice within a very short period, and they can always be seen attending strictly to business. It might be a good speculation for some enterprising syndicate to import a few millions of these bugs from Australia and distribute them in the hop yards of this State."

Weed Exterminators.—Every farmer should learn how to give his crops the entire possession of the soil, and to know the easiest way to exterminate weeds. Many suffer loss by adopting laborious modes for destroying these vegetable depredators, and by allowing them partial or entire possession. They omit the two great requisites for the best success—the use of good tools, and the selection of the best time to use them.

The proper tools or means may be enumerated as chiefly the following: The drain-tile, the plow, harrow, cultivator, scythe, mowing machine, hoe, spud and mulching, with many modifications of most of them.

1. Tile-draining is important for giving possession of the ground, and allowing the free use of the plow and harrow for the extirpation of the intruders. A wet, flooded and inaccessible piece of ground will often give the weeds entire possession until they become too large to get rid of.

2. The plow is absolutely necessary for turning under perennial weeds, and if further attention is required, which is nearly always the



case, to permit a free use of the harrow, hoe and other tools, which should be employed often and long enough to clear out foul stuff, and to break and pulverize the sprouting seeds of weeds, so far as time will permit. A well mellowed and well cleaned soil is an excellent preparation for receiving the seeds of a crop—thus doing by horse-power the labor which, after the crop is growing, might require ten times as much work to do by hand, and be often followed by a second crop of ripening seeds.

3. The common vertical-tooth harrow will do much of this work, and the Acme and slant-tooth harrows will be well adapted to inverted sod. Whatever course is used, or whichever tools are employed, let the owner make it a distinct point to secure a good, clean, mellow bed of earth for the new crop. It will often make a great difference in favor of a heavy as well as a clean crop, while a hard, cloddy and half-prepared soil will be followed with a crop so feeble that the weeds will claim at least partial possession.

4. A smoothing harrow—that is, one with small, round, slanting teeth—may be run broadcast over the whole crop of corn until the plants are ten inches high, or over potatoes until six inches, doing the plants good instead of damage, and cleaning out all the weeds that are just starting or only an inch high in the rows, and thus stimulating the growth of the plants, and superseding all hand labor if repeated a few times. The corn plants may be partly prostrated by the harrow, but they will be erect again in a day or two, and look better than ever. The same treatment may be given early in spring to fields of winter wheat, pulverizing the crust and destroying all the small weeds among the plants.

5. After the smoothing harrow has done its work, crops which are planted in rows may still be cultivated between the drills with one-horse harrows or cultivators, or with two-horse walking or riding cultivators—this work being much assisted by the broadcast work which has gone before.

6. For garden beds, the steel rake may take the place of the smoothing harrow, and if passed over the surface as soon as the young plants are visible, but between the drills, the starting weeds may be all crumbled and destroyed with a twentieth part of the labor demanded when the weeds have grown half a foot or more. The hoe, if required, follows the steel rake, in the same way that the cultivator follows the smoothing harrow.

7. The scythe must not be omitted for cutting the stalks of perennial weeds which have been overlooked or neglected, and for preventing them from dropping and scattering their seeds; and if done at the right time, or just before the seeds form, a formidable check may be given to their growth. On a larger scale, the mowing machine becomes a useful aid; and if set a foot high, it is an excellent practice to pass it over pastures early in summer, to cut off the heads of coarse weeds and tall grasses before the seeds ripen and exhaust the soil, or give the pastures the rough appearance of irregularly ripened rubbish. On a smaller scale, the lawn mower will come under the same head for usefulness, in cutting the scattered weeds which often thrust their heads above the smooth green carpet. The spud is useful for the easy removal of scattered perennial weeds.

By adopting a regular system for the removal or destruction of weeds, or by preventing entirely their introduction, by using the right tools at the right time, the good farmer may enjoy the beautiful sight of clean fields with luxuriant crops. Many examples might be cited of this successful management, where we have witnessed the perfect extirpation of Canada thistles, farms clear of quack grass, ox-eye daisy, and of chess among wheat fields, where these weeds were abundant all about them on the land of more careless farmers, and annual weeds were quite as successfully treated.

Paris Green and Bees.—The free use of Paris green in spraying orchards early in the season is leading to great injury where bees are kept, owing to careless performance of the operation while the trees are in bloom, instead of waiting until the fruit is set. A bee-keeper of Michigan wrote to Prof. Cook that he had 60 colonies of bees which were dying by wholesale because a neighbor sprayed his apple trees while in full bloom, in which the bees were at work. Workers, drones, young bees and, he feared, queens too, were gone. A bee-keeper of Illinois reported a like case. The codling moth does not lay its eggs till the blossoms fall, and the spraying should not be done till the fruit is of the size of small peas.

Reliable Farm Machinery.—The attention of our readers is invited to the advertisement of the old and reliable Empire Agricultural Works, Cobleskill, N. Y., over 30 years under the same management, at which are built the celebrated Fearless threshing machines, beside tread-powers and other machinery of world-wide reputation. These works are also the eastern headquarters for the famous Smalley ensilage cutters, which alone is a sufficient guarantee of their excellence, as the aim of the proprietor, MINARD HARDER (whom we advise persons designing to purchase to consult) is, to offer no goods except such as possess "the highest standard of excellence."

Obituary.—Gen. WILLIAM T. WITHERS, proprietor of the celebrated Fairlawn farm, and breeder of noted trotting horses, died at his home at Lexington, Ky., last week, aged 64, from the effects of wounds received in the Mexican war. He was the first man in Kentucky to pay $25,000 for a trotting stallion, he paying that amount for Almont.

Hay Machinery.—The KEYSTONE MANUFACTURING COMPANY of Sterling, Ill., write us: "We are well satisfied with the returns from the advertisement [of Hay Loader, p. 508] and see no reason why we shall not be with you next season. If our Side Delivery Hay Rake continues to give good satisfaction, we shall be prepared to push that with your readers." An illustrated circular of the last-named machine—which looks to us like a promising novelty, well deserving consideration—may be had on application to the company.

A Flower Centenary.—The present year is the centenary of the introduction of the dahlia into England, and there will be a special exhibition of the flower by the National Dahlia Society at the London Crystal Palace, Sept. 6-7. It is hoped to have every known kind, form and type of the flower, illustrating its marvelous development in Great Britain during the past hundred years.

"Why It Pays."—This is the title of an illustrated pamphlet on ensilage and fodder cutting, issued gratuitously by those well-known manufacturers of high-class ensilage machinery, the SMALLEY MANUFACTURING CO., Manitowoc, Wis. It contains much valuable information on ensilage in general, and is well worth having. Even the advertising pages deserve consideration. As the compilers well remark: "Experience has fully demonstrated that the success of the silo depends materially upon the use of well tried and successful machinery in its filling. A poor cutter, a useless carrier, or even a defective tread or sweep power, has in many instances discouraged or disgusted the would-be silloist before he has fairly started, and the system is condemned and discarded without even a trial."

Farm-Yard Notes and Items.

The tenth number of the Herd Register of the American Guernsey Cattle Club gives bull pedigrees 1451 to 1790 and cows 3163 to 3580, together with transfer list, scale of points, and other matter. The club has 96 members. SILAS BETTS of Camden, N. J., is president; Edward Norton, Farmington, Conn., secretary and treasurer. Price of the pamphlet, 50 cents.

The 34th volume of the American Short-Horn Herd Book has 1,100 pages, and carries the bull pedigrees from 90,099 to 93,817. It is sent free to members of the association, and the price to others is only $3.75, which is very low for such a book, and we suppose barely covers cost. Orders should be addressed to the able and diligent secretary, Mr. J. H. PICKRELL, Montauk Block, Chicago, Ill.

The Short-Horn Breeders' Association is doing an enterprising work this year in the interest of the breed, by offering liberal prizes for dairy Short-Horns, aggregating $950 in each case, at the State Fairs of New York, Ohio, Indiana, Illinois, Iowa, Minnesota, Missouri, Nebraska and Kansas, and at certain other exhibitions. Still larger appropriations have been made for the Chicago Fat Stock Show next November, including $300 for first sweepstakes herd, $200 for second, $200 for grand sweepstakes animal and a fifty-dollar gold medal to the feeder—provided these awards go to Short-Horn cattle. The total of the premiums paid by the association at this show may reach the handsome sum of $1,500—a bright example for the advocates of other breeds to emulate.

The English Shire Horse Society offers large gold medals for best Shire stallion and mare at the Chicago show next November.

Bell's Messenger says that "a long time has elapsed since things looked better for the sheepmaster than at present, and this was strikingly exemplified at" a recent sale of Dorsets at Dorchester, "when better prices, by many shillings a head, were realized than has been the case for many years past. The sheep were admittedly a very superior lot, and this will in some measure, though not wholly, account for the high rates that prevailed, which will be best understood when we state that horn ewes in one case touched 66s., while couples made as much as 84s."

The first volume of the English Oxford-Down record is in press. It contains the pedigrees of 560 rams, and 55 flocks are represented.

Mr. WILLIAM EASTON'S sale of thoroughbred yearlings took place at Hunt's Point, L. I., June 17. The youngsters sold were from the Belle Meade, Cliff Lawn and Fairview studs, Tennessee. The attendance was large, but prices obtained did not meet the expectations of the owners. Eighty-seven animals were sold for $46,075, an average of $530.73. The highest prices were:

Bay colt, by Enquirer—Bribery, Dwyer Bros., New-York	$1800
Brown colt, by Iroquois—Brie-a-Brac, Dr. Carter	1850
Bay colt, by Luke Blackburn—Touch-Me-Not, W. Walden, Maryland	1800
Brown filly, by Enquirer—Colossa, J. Sanford, New-York	1150
Chestnut colt, by Enquirer—Tsarot, F. M. Hall, Maryland	1000
Bay colt, by Iroquois—Bonnie Maide, F. M. Hall	1000
Bay colt, by Luke Blackburn—Silver Maid, Dwyer Bros	1000
Bay colt, by Mr. Pickwick—Shamrock, L. O. Appleby	1000
Chestnut colt, by Great Tom—Bonnie Belle, F. M. Hall	1000
Brown colt, by Bramble—Bobtail, M. Hogan, New-York	1000
Bay colt, by Luke Blackburn—Top Light, W. Walden	900
Chestnut colt, by Great Tom—Mary Washington, F. M. Hall	900
Bay colt, by Great Tom—Mariposa, Dwyer Bros.	800
Chestnut colt, by Iroquois—Tallulah, A. M. Warnke, New-York	700
Chestnut filly, by Iroquois—Orphan Girl, E. K. Alcock, Canada	700
Brown colt, by Great Tom—Duchess, W. Walker, New-York	700
Chestnut colt, by Great Tom—Addie Hart, L. C. Bruce, New-York	600
Bay colt, by Mariner—Tom Bay, Dwyer Bros.	600
Brown filly, by Iroquois—Boulatte, B. McClelland, Kentucky	550
Chestnut colt, by Great Tom—Mosalie, F. M. Hall	550
Brown filly, by Iroquois—Brunette, Dr. Carter	550
Chestnut colt, by Parondolo—Tambourine, A. H. Warnke	525
Bay colt by Mariner—Sallee, F. M. Hall	500
Bay filly, by Iroquois—Bandanna, J. Sanford	500
Bay colt, by Iroquois—Buttercup, F. M. Hall	500
Bay colt, by Iroquois—Marlene, W. Walden	500
Chestnut colt, by Iroquois—Wire Grass, C. McClelland	500
Brown filly, by Iroquois—Marchioness, Dr. Carter	500
Brown filly, by Iroquois—Hope Gown, F. M. Hall	475
Bay Colt, by Long Taw—Bounce, M. Hogan	475
Chestnut filly, by Enquirer—Mahla, J. A. Gray, New-Jersey	450

The Grazier and Breeder.

Barn Basements.

Eds. Country Gentleman—I have read Waldo F. Brown's remarks on Barn Basements on page 462 of your paper for June 18. He often presents good and useful suggestions on barn building, but here falls into the error of making, from limited experience, general rules to apply everywhere. He objects to tile-drains for basement, because the rats will choke and spoil them. This strikes me as a singular objection, and would apply equally well to any kind of tile-draining, in-doors or out. I have drained gardens, farm fields, and the basements of buildings, but none of my neighbors ever told me beforehand: "That work will do no good, for the rats will stop your drains and spoil them." Where the work of rats has been feared, there has been no difficulty in excluding them by copper grating, broken stone outside, or broken glass; and the expense of placing three or even four parallel lines of pressed tile around a barn, has been less than drawing earth from a distance to make the embankment which Mr. Brown recommends. Had he adopted either of these modes, and carried them out efficiently, I think he would not have been troubled with rats.

It may be well, as he recommends, to put a cistern under a drive-way to utilize the space: but as the drive-way is inclined and becomes lower away from the barn, and some additional room is required for the arch of masonry, and a sufficient depth of earth to exclude frost, the space would become considerably crowded.

The objection made to extending the barn-floor lengthwise with the barn, that space would be lost overhead, is easily remedied by adopting the use of moveable frames or platforms extending across the floor overhead, and which may be filled to the peak of the roof, as has been practiced in other barns.

There are different modes for arranging the basements in their stalls and passages, all of which may be made light enough with windows, of which there is ample room when the embankments are at the ends only; but it is not a good argument against any plan itself to cite the careless management of some inefficient farmer, as Mr. B. has done, where he speaks of the "high, narrow mangers," so deep that he could not reach the bottom, &c., and where there was a foot of mouldy half rotten chaff in the bottom of each. Badly constructed mangers and badly kept stables are no argument against general plans, and it is not very well to give such examples of carelessness as proofs against plans which may be adopted under different circumstances, with unobjectionable details, and with general neatness in management. I am sorry that Mr. B. resorted to such insufficient reasoning, although the rest of his article has some very good suggestions. X.

From Central Ohio.

Eds. Country Gentleman—The season has been remarkable; March and April more like May and June, but very dry, and March weather came in May—continuing dry but cold and cloudy, with sharp frosts as late as 23d. The first rain of any consequence fell on the 29th, and since then we have had frequent and abundant showers, with warm weather, which has put all our crops in fine condition. We now have good promise of wheat, oats and corn—the meadows are in the poorest condition, being rather short, and the old meadows are full of weeds.

All kinds of live stock are low, cattle especially, as you can judge by the prices made at the dispersion sale of Messrs. Jones & Son's Short-Horns on the 6th inst., which averaged only about $65. I started the 35th Duke of Airdrie at $300, supposing he would fetch from $500 to $1,000, but there was no advance; so he is now in my stable, and will be used in conjunction with the son of Judge Jones upon a few cows remaining on the two farms. This was the highest price. Next highest was $260 for the Wild Eyes Barrington cow, bred by us and purchased for Mr. A. S. Logan of Dover, Del. Her calf, about 9 months, went to same party at $160. These were great bargains.

The sale of horses here keeps our farmers from going to the poorhouse—from two to four carloads of grade draft horses being shipped from here every week; purchased at $150 to $250, at two to five years of age. I suppose our county is the best in the State for this trade, there being from 75 to 80 imported draft stallions standing here. They are principally of the French and Clyde breeds, with perhaps eight or ten of the English Shires. There are also a number of standard-bred trotters used here, and a few of the English Cobs.

Hogs bring fair prices, and fat sheep of mutton sorts. The wool trade is scarcely opened yet, the cold weather of May retarding shearing. Farmers want about 35c., and those who can hold will be likely to get it. Our flock of Shropshires is in fine condition; have now 130 lambs from 90 ewes; 10 to 15 lost; weighed about 20 lbs. the 1st inst., three months old—the rams averaging 71 lbs., the ewes 65.

There is good promise for fruit of all kinds—apples, pears, peaches, plums, grapes, cherries, &c., with splendid strawberries retailing at 10c. per qt. I have never seen finer potato crops than are growing—the pestilent beetle makes no impression upon them so far as noticed. In my garden the blackbirds are fattening upon them; this is the only bird I have ever seen eating them. Some years since I tried a lot of ducks, which I had been told would eat them, but this was a mistake; they would pick them up, but immediately spit them out.

Delaware, O., June 17. C. HILLS.

Care of Well-Bred Live Stock.

Eds. Country Gentleman—Why is it that there are so very many farmers who do not appreciate well-bred animals? They get them into their possession, and for want of proper care fail to make any profit out of them. We see this in every neighborhood, and it is practiced by men who have the reputation of being good farmers and careful men.

Last February one of my neighbors purchased a flock of South-Down sheep, and with the flock a Cotswold ewe. This man had been used to keeping Merinoes, and had a flock of good ones and took good care of them. He was advised by a South-Down sheep-breeder that it would not do to let the South-Downs go without shearing until June, as was his custom with the Merinoes, but that it would be best to shear in April without washing. He did not heed this advice, and one day, about the middle of May, he found one of his best ewes lying on her back, dead. The sheep had become very warm and was rolling (as they will do to scratch their backs), rolled into a low place and could not turn—therefore died soon. On the last week in May, his sheep were suffering from heat, and the wool on the Cotswold was so cotted as not to be worth anything. The sheep were shorn the first week in June, and the wool is not in good condition. He will condemn the sheep; he is not satisfied with the wool.

He and others like him will condemn the South-Down sheep; but is it the fault of the sheep? These sheep have given the greatest satisfaction where they have had proper treatment, and the treatment which suits them best is to let them roam over the fields the entire year, with a privilege of pure water, and to run to good hay in winter time; but here in Ohio they must be shorn in April, and in summer time, during hot weather, they want the privilege of running into a darkened shed during the day time to get away from the flies.

This want of care is noticeable in all kinds of live stock. Well bred animals require more care, or different care, than the natives do, but they pay well for the care thus bestowed. I do not believe that they will eat any more than inferior stock will, but they pay better for the feed so provided; and it is for want of proper care and feed that so many well bred animals fail to give satisfaction to their indifferent owners. A great dairy cow will fail to produce a fine quality of butter if not properly fed. The remark which we hear sometimes—"My cows do not eat much in winter time; they get a little corn fodder and pull at the straw stack, and eat out all the straw and cornstalks from the manure pile at the horse-barn"—is a very good reason why so many people of our towns say that the butter bought at the grocery is not good. How can it be of good flavor? The fine dairy cow in such hands will soon produce inferior butter, because she is not appreciated. It takes good feed in abundance to produce a good quality of butter.

When I hear any farmer cry down improved live stock, I infer that there is something wrong with that man; he does not appreciate his best interests. The men who introduce and endeavor to improve good live stock are not appreciated; they give the best of care and attention to a business which necessarily involves capital; the care given is what makes the capital invested pay dividends of value. One reason of the depression in prices of cattle to-day is the lack of interest taken in well-bred live stock. We see so very many inferior looking animals, that the desire to eat meats is less than if all live stock were of fine quality.

Franklin County, O. H. W. PHELPS.

Pigs—Breed for Intelligence.

Care and Attention.

I believe that there are distinct traits of character or disposition in animals, just as much as in the human race. There are as many or more strains in each particular breed of animals as there are different breeds of any kind of animal. Take swine, for instance. There are, we will say, six leading breeds—Berkshire, Yorkshire, Chester White, Poland-China, Suffolk and Essex—the most of the pigs raised in the United States coming largely from the first four varieties, and from crosses of the same or grade sows. Each of these breeds may be again divided into a large number of different strains, which, though very much the same in general appearance, and possessing the same characteristic markings, yet may and do differ in many ways, especially in their dispositions and habits. This is brought about by different breeders following their ideas, and nature does the rest.

For instance, a friend of mine in an adjoining town visits my place occasionally to swap ideas (much more profitable to both than swapping horses, as both parties get a bargain), and he says: "I don't see how you manage to keep your sows and boars so gentle and kind, and how it is you don't lose more pigs at birth. My sows are ugly, and I would not go into the pen with my boar for anything."

This man has just as pure-blooded Berkshires as I have or any one else; is a neat, careful farmer, feeds well and intelligently, and raises large crops; but neglects to pet, scratch, or brush his pigs, and seldom goes into their pens to handle them. His help follow his example, and instead of a pig securing a scratch, a little rubbing or kind talking to, they are pushed out of the way, driven here and there, yelled at and scolded. This has been his course for years, and as a consequence he has developed his strain of Berkshires, which are wild, pig-eating mothers, and all disposed to be cross; and it would take quite a number of years to breed these traits of character out of them. They have become established; each pig is born ugly, and if it escapes being eaten by the sow, it grows up with just this peculiarity.

Another farmer breeds for size—fat pork, regardless of everything else, except of course to keep his stock pure-bred. That makes another strain. Another breeder aims to produce and establish a small strain—I mean of course a small Berkshire as compared with the average animal. Still another will try to establish a shorter strain, and still another a longer one. But it seems to me that few breeders are trying to establish a strain of kind, *intelligent* animals, *combined* with shape, size and form.

From careful observation for a number of years, and much association with my pigs, I am strongly impressed with the fact that the pure-bred hog is disposed to be a remarkably intelligent animal, and that careful breeding in that direction would in time develop a strain that would possess as much sagaciousness, intelligence and affection as our best breeds of dogs, and that with these characteristics there would be a corresponding increase in value in their growth, shape and size, and especially in their breeding qualities and as mothers.

We breed dogs for traits of intelligence and affection, and we produce them in them. Why not the pig?

Lots of people will exclaim: "What would be the object? We want dogs for companions, but not pigs." All right, my friends, but you would perhaps breed for these traits of character and disposition in the pig, for a very different reason. For a number of years I have been breeding Berkshires with these objects in view: To produce a medium-sized, well-shaped animal, not too short, with all the proper markings, &c., combined with *intellect, affection* and a *disposition to produce large litters.* My experience in this direction shows most emphatically that it can be done.

"What do you gain by breeding for intelligence in a hog?" Just this—success. Affection, gentleness, kindness and sagacity generally accompany intelligence in the animal, and only have to be developed by kind and attentive treatment on the breeder's part. When your breeding hogs have these traits firmly established in themselves, it will surely follow in their progeny, and as a result, the breeder has gentle and attentive mothers to their litters, in place of the pig eater, boars that they can visit in the pen without being chewed up, and pigs that can be moved and handled with ease. All your drove being good natured and quiet, will grow rapidly and with a third less food than is required for the ugly herd. They can be easily taught to mind your word, and will obey, and they invariably produce larger litters, and not two or three, as the "scared-to-death" sow will do, who is restless from lack of kind attention while carrying her young. After a sow that has been bred for such traits, and has them established, has given both to her litter, and been properly fed and cared for, her youngsters can be put with her at once, and they will be kindly and affectionately received—at least such is my experience.

Breed for fine shaped pigs such as may suit your taste and your trade, but at the same time breed for intelligence, and you cannot but be gratified with the ultimate results from so doing. George Q. Dow. *North Epping, N. H.*

Bath and West of England.

Eds. Country Gentleman—This year the Bath and West of England Agricultural Society has paid a visit to the charming county of Devon, redolent of cream and junkets, and as I write is rejoicing in the lovely weather which has fallen to the share of England this year. Twelve months ago a gentleman from New England, who had been here about three weeks at the time I met him, early in July, asked: "Do you ever have any fine weather in this country?" And well he might. Were he with us now the matter would be apparent, for we have had the most charming weather known during recent years. Exeter has put forth her best efforts in giving a welcome to this old society. Thus it is not at all surprising that, up to the time of writing, the attendance has been in excess of recent years. The show itself is larger than at Newport in 1876, which, in face of the fact that exhibitors are undoubtedly holding back for the show at Windsor a fortnight hence, is surprising. The two sections which show a falling off are Short-Horns and draft horses.

Horses.—In the agricultural sections there are only 31 entered, and of these 7 were absent, so that the appearance was very meagre indeed. Still, there were some good representatives. Mr. T. Chapman's Blagdon Bangup had an easy win. He is not an attractive-looking horse, but has admirable qualities, good substance, his chief fault being strange color. His sire was the Ellesmere Esquire out of Venture by England's Wonder. Two-year-old stallions found Lord Wantage's bay shire horse Just in Time 7475, by Maharajah, to the fore, he here adding to several wins made last year, and to his second prize more recently at Oxford. In legs and hindquarters he is excellent. Lord Arthur, by Salisbury out of Lady Byron, also owned by Lord Wantage, wins in yearlings, here adding to his London victory, but he does not look like doing much. This horse has been favored by fortune. Whether his luck will continue is doubtful. Mares are poor and three-year-old fillies fair. In the latter class a Clydesdale holds the pride of place. This is Blanche, bred by Lord Londonderry and owned by Mr. Hodgson, a daughter of Go Bang, but is small. The best in the section is the winner in two-year-old fillies, Lord Wantage's Beatrice, by Harold out of Sally, which brought so high a price at Mr. Pole Gell's sale last autumn, and she has every appearance of making a grand mare.

Light horses make a larger show than last year, but the quality was not very wonderful, although some of the winners stood well out. The pick of the section was found in the four-year-olds, where Mr. H. W. Thomas's Nimrod stands well out, and he is all through a magnificently formed hunter, pleasing in appearance as in action. Mares and foals are a good lot, and the pick of the females. A mare that has already seen 17 years stands at top, in Mr. Mann's Baroness; she carries herself and her years very well indeed.

Cattle.—When a show is held in Devon

we naturally expect to find the breed of that district in the place of honor, and strong in numbers, nor are we disappointed in either one or the other. There are 64 specimens in all, and the quality is very level indeed. Old bulls are a good lot, but the prize was rightly given to Marmaduke, of Mr. Perry's breeding, owned by Mr. J. C. Williams. He is by Bravo out of Mouse, and is good all through. The best class of the section is that for yearling bulls, in which there are 10 exhibited out of 13 entered. Mr. J. C. Williams wins both first and second prizes with two good youngsters, owning Duke of Flitton XVII as their sire. Females are on the whole excellent, yearling heifers standing well to the fore, and they were by no means an easy lot to decide upon. The winner is Friendly III, bred and exhibited by Sir W. Williams, by Foreman II out of Friendly II. She is perhaps rather small, but in shape and character stands well ahead, and is indeed a beauty. Short-Horns make only a small section, but fair in quality. The females are the better, and Mr. C. W. Brierly wins several prizes. Herefords are excellent for a show ayont the Severn, and Lord Coventry wins well in two-year-old bulls with White Boy, by Good Boy out of White Rose, and in yearlings Mr. A. E. Hughes exhibits a fine animal in Endale, bred by Geo. Yeld, by Hilarity 8734 out of Franlein Wilton by Lord Wilton. Females of this breed are also very good indeed, and Lord Coventry wins well in three-year-old and two year-old heifers with Rosewater and Lady IX respectively, the former by Rare Sovereign 10499 out of Rosemary, and the latter by Prince Imperial 5516 out of Lady W. Both are level and of good type. Sussex came well to the fore, especially the cows, and the 48 exhibits are all of a good average. The section for Channel Island stock is the largest in the show, but the quality is not quite so good as the quantity. In Jerseys the best are found in females, and the pick of these is seen in yearlings, which are very strong indeed. First goes to Lord Londesborough for his Suzanne by Marius, which bull is victor in his own class. The second is almost as good—Beauty 6th, owned by Mr. Budgett. Guernseys show an improvement on previous exhibitions, but are not very wonderful.

Sheep are fair, the strongest sections being the Shropshire, South-Downs and Devon Long-Wools. Pigs are a pretty good lot, the Berkshires predominating. S. R. *June 6.*

The Poultry-Yard.

Hens Eating their Eggs.

Eds. Country Gentleman—My experience with egg-eating hens has led me to believe that it is not so much a bad habit as a craving for material of which egg shells are made. I used to be annoyed with my hens that they were so determined to eat their eggs, and still more annoyed and perplexed that they laid so few when I took such extraordinarily good care of them. They were fat the year round, were fed bountifully, had a clean, comfortable house, and my only recompense was a very few thin-shelled eggs.

Finally some correspondent of your paper wrote about pounding up oyster and clam shells for his hens, and of the abundance of eggs that were the result. I have forgotten the writer's name, but his suggestion has been worth a good deal to me. I obtained a barrel of shells from a restaurant, had it rolled into the hen-house, and near it a thick heavy stone. With an old ax I began operations, and you ought to have seen the hens fly off the perch and crowd round, devouring the bits of shells as fast as I could crush them. After that, I kept a quantity pounded fine where they could help themselves. It was not many days before the number of eggs was increased, and the fowls showed no more disposition to eat their eggs.

Frequently I find an egg on the hen-house floor that has been scratched back and forth, but never a mark of a hen's bill on it. When the chickens are large enough to eat grain, I notice that they eat freely of the pounded shells too, and I think the pullets lay earlier and more abundantly for having their appetites satisfied in this direction.

Some have recommended charred bones and shells for producing an abundance of eggs. I have tried these, too, but think the fresh crushed shells are much better and less trouble. I would strongly advise R. S. R. not to sacrifice his hens until satisfied that plenty of egg-shell material is a failure. Mrs. J. D. D.

Hammondsport, N. Y.

Fattening Foods for Broilers.

A few weeks before the chicks have grown to a size suitable to be used as broilers for the family table, their rations should consist of the most fattening foods the housewife can command.

At this age they are more disposed to grow than to fatten. Nature works first for size and maturity and then for beauty and symmetry. Fat is reserve fuel which the animal, (I mean all animals), lays by in various places in the body to be called into use for making heat in the event that the regular supply should be wanting, and growing animals do not think this is their time to lay by this reserve, so they appropriate all the spare nutriment which their food contains to growth. But it is possible to feed half-grown chicks as well as all other animals so plentifully upon fattening foods that they are compelled to fatten more or less. And here the various foods furnished by the farm, garden, dairy, kitchen, dining-room, and the neighboring mills, divide themselves into the two classes heretofore alluded to; the one more disposed to fatten, and the other tending to promote growth.

It is the fattening foods that we are now looking for. At the head of the list stands Indian corn, in all its various preparations as food for man, as well as the lower animals. Corn leads even wheat in quantity and cheapness. America has given it to the world, and I notice that within the last few months there has been a largely increased exportation to the eastern continent. Whoever is unacquainted with the origin of maize should go straightway and read Longfellow's Hiawatha, and ever afterward the plain corn meal hoe-cake will have a richer and more delicious flavor.

The farmer estimates his latent resources by his corn crop; a full corn crib is to him what a large bank account is to the merchant—something to invest in order to bring in more. He knows that an abundant supply of corn keeps his work-stock strong and able, puts the beeves ready for early market, and makes fat hogs in the fall. And all this should teach his wife that corn will have the same effect upon her young chickens. But corn, whole grains, parched or crushed, made into bread or mush, should be supplemented with such other fattening foods as she can supply.

Rice also ranks very high in this list, being composed mostly of starch. All foods having a preponderance of starch or saccharine matter are very fattening in their tendency. A small quantity of cheap molasses used for this purpose would have a good effect. Of course all table scraps are the legitimate property of the fowls. And I have used in this direction quite a lot of very fine peachblows this spring, cooking, mashing, and mixing them in with other foods more nitrogenous. For foods poor in one element should be supplemented with others that would help to make of the whole a well-balanced ration.

When the chicks are left to scuffle and forage for their living, at one time they are nipping the grass, and at another scratching for worms and bugs. The theory of the "survival of the fittest" has full opportunity to develop itself here, and it would seem that a splendid race of fowls would be produced, for only the most vigorous are able to live, but unfortunately these few are so busy warding off starvation that they have no time either to grow or to get fat. And while the active little birds bear the semblance of chickens, providentially covering themselves with feathers very early in life, they seldom acquire a respectable size or are profitable to their owner either for the table or to be kept for breeding purposes.

While grass is the most healthful food an animal can feed upon, it is about the poorest; being only an intermediate stage between the mineral and the grain formation, it has not the fattening quality of the grain, just as in this respect the grain is inferior to the fats and oils, both animal and vegetable.

But the busy country housekeeper, who has no time to study agricultural and animal chemistry, cannot go amiss if she will give her chicks intended for the table all the variety she can lay her hands upon; and then she will not ask the question I heard a lady ask a few days ago. She was spending the day with one of her neighbors, and noticed that the baked chicken at the head of the table was so large that it quite filled the dish, and was sufficient to help each plate liberally all around the board.

"Why is it," she asked, "that one of your chickens goes nearly as far as a turkey, while it takes two of mine to do the same work?"

"I feed my chicks early and often," her neighbor answered, "while you feed yours occasionally, and whenever it is convenient to do so, and although I do not put out nearly so many chicks during the season as you do, yet I take care to push them along and keep them fat and make them grow fast at the same time."

One of these ladies appreciated the value of a fat juicy young chicken, and reasoned that it would take less time to dress one for the table than two. The other argued that it was more economical to put out a greater number of chicks and compel them to do the work of making their own living. That this is not a good plan to follow in the long run, is proved by the fact that adult fowls degenerate in size very fast, and the young chicks have to be so old before they are large enough to eat that they are skinny and long-legged, and their meat is tough and tasteless. Then too, there is a steady complaint of scarcity of eggs, and the housekeeper always declares that her hens are the latest to begin to sit in the spring of any in the neighborhood.

So we see that our domestics in the poultry yard, as well as those in the stock barn and pasture fields, are just what we choose to make them. A Farmer's Daughter.

The Dairy Department.

A Tioga County Conference.

Eds. Country Gentleman—In Tioga county, New-York, there is a county dairyman's association. F. C. Lowman, a well-known Short-Horn breeder, is the president, and G. M. Griswold is the secretary. The headquarters of the association are at Owego, the county seat, where Mr. Griswold lives. The association makes it a rule to hold special dairy meetings in the various towns from time to time. To-day was the turn for Spencer, and a meeting has been held under the direct arrangements of a member of the association residing here, W. H. Holdridge. All of these enterprising dairymen are subscribers to your valuable paper, and they look to it as the leading organ of the dairymen of New-York.

The meeting was to have been a picnic and institute combined, and held in the grove near by, but a heavy rain storm, which began in the early morning, compelled the convening in the commodious town hall. Mr. Lowman presided, having driven 28 miles through the rain to be present. Mr. Griswold, the secretary, was also in his place, driving 16 miles. With such earnestness and zeal, there can be no doubt of the good influence and intelligent efforts of this association. A few ladies were present who had braved the storm and come "to learn," as they said. An interesting paper was read by Frank Witter, a dairyman from Tompkins county. He described his barn, built in an octagon form, thereby requiring less length of timber and bracing. He gave an account of the successful management of his dairy, which was made productive in the winter. An instructive discussion followed, during which the fact was brought out that, in this section of the State, Hungarian grass is quite extensively sown for a summer food for cows, and as a supplementary hay crop. It is considered more succulent than millet, and cows eat it better. From two to four tons can be grown on an acre. It was pronounced better for producing milk than timothy hay. Cows would increase their milk yield when fed on it after eating timothy. Sixteen quarts of seed is sown per acre and rolled in. Mr. Curtis said he had read that in Kansas farmers were giving up the growing of millet because the cattle came out weak in the spring. For this reason he would recommend feeding bran and linseed or cottonseed meal with the millet or the Hungarian grass. They were not complete foods, and it was a waste of food to feed them alone, the same as it would be to feed cornstalks or straw alone. It would be better for the animals and more economical for the owner to feed less of these foods, which contained an excess of carbohydrates, and add to them some of the protein, or muscle-forming foods. If one feed each day could be clover hay, it would help to balance the foods.

The Tioga dairyman were not backward in asking questions or in giving opinions. It is certainly refreshing to meet such a class of farmers. The closest attention was given to another address, the subject being "Dairying in New-York." An effort was made to show where and how mistakes had occurred, and to point out how improvements could be made. At the end of this talk there was a free interchange of views, and many reasons given for conditions and results connected with dairying in New-York. Application is to be made to Dairy Commissioner Brown to hold in the autumn a series of butter conferences in Tioga county. There are dairymen in this county who are determined to get at the head of the procession of progressive farmers. They must certainly have the inspiration of a beautiful country and many natural facilities on which to base a laudable ambition, and to erect foundations of complete success.

Spencer, N. Y., June 8. F. D. Curtis.

Some Points in Milk Production.

Eds. Country Gentleman—Prof. Babcock is the authority for saying that the food consumed by a cow, if liberal, will not, by changing, have any definite influence upon the quality of the milk, but will materially influence its viscocity. This leaves one to infer that changing the ration, or even adding to it oil meal, oats, &c., does not increase the butter yield, but only makes the milk a little less viscous, and we get more fats out of it by creaming and churning. This also explains another recent discovery more fully. The food influences the viscous or sticky quality, but does not add to the amount of fats. This goes to prove that the now asserted independent source of butter fats is true; that milk is made direct from elaborated blood, and the fats are filtered through into this emulsion as the incomplete milk passes through the last glands, and there taking with it the fats, is discharged by the milk flow into the pail—complete milk. This will also explain in part why the strippings are richest. The fats can only be formed—whatever the process—and discharged into the milk as it passes through the glands, and as the drawing of the milk proceeds, there is a smaller quantity of fluid passing through the glands, which gives the same time for fats to be released as when the flow was faster; hence the increased amount of fats to the fluid last drawn, often amounting to 8 and 9 per cent., when the first few streams may contain only 2 per cent. of fats. But it is asserted that the first and last milk is equally abundant in cheese and sugar, these last being constant, the fat only being the unstable element.

The question is often asked why so many native cows are good milkers, often excelling pretentious breeds, when quality of milk is put alongside of quantity. The only answer is that by having no particular influencing line of breeding, and the beef form being subordinate, the trait of large maternity predominates. If one takes notice of a extra good native, she will show the same lines of milk form that are prominent in the thoroughbred milk breeds. Small bony head, bright eye, sharp back bone, large pelvic arch, and udder with large attachment, exhibiting much absorbing surface. These are the outward signs of a good dairy cow. To be sure about it, one needs to know the care of this cow, as calf and heifer, and how she was cared for and milked her first season; for let a heifer calf be bred and fed as she may, the care, feed and first season's milking may be her ruin, in which case, all signs fail to the stranger buyer.

In the management of the patron creamery, whether the sample, shake churn, or Short's oil test is used, one rule about feeding grain should be observed alike as near as possible—i. e., when bran is fed, or mixed grain, all should feed if possible, so as to keep the character of the cream as near alike as possible. At best, and let as great uniformity prevail in feeding cows and setting milk, there will be some variation of cream delivered, but notice can be noticed where no regard is course. All uniformity grade of butter, and the in his own light who, heat, but does injury to his

ferior grade of cream with the common gathering of the rest, and where two or three, often more, are careless and indifferent, the injury becomes visible, and some means or power should be brought in along with "moral suasion" to compel patrons not only to work for their own good but, indirectly, the good of others.

It would be well if some of our experiment stations could give us accurate data about the actual gain made by the process of deep cold setting over a good plan of open setting. Does the extra amount of cream forced up by ice-water all prove to be churnable fat, or is it largely a mucilaginous substance that is of no butter value? Will this go into the butter in part, and is this unremoved substance the cause of so much of the creamery and fancy butter refusing to keep for any length of time, not always keeping fresh while a family consumes a five-pound crock of it. What does analysis show to be the difference in the butter made from open pans and deep-setting cream—what, if any difference, is there in the recovered butter fats of each? And also, what is the difference in the amount of "fibrin" in the two classes of cream? Taking a lot of mixed milk, and putting gravity, deep setting, and the centrifuge at work on each third, how would the "whirligig" deliver its cream and final butter—as free, or less so, of mucilaginous substance than the other two?

I do not think an excess of milk in cream is any great objection in churning, provided the churn starts at the first stage of acidity in the cream. It is much better to do so than trying to churn thick cream. Water is far preferable, however, to milk to dilute cream with, as the latter is only after all very *thin* cream, and is charged with the very albuminous matter that we churn cream for the purpose of separating from butter or fats. Water absorbs and dilutes the elements we wish to dispose of, and is carried out in the buttermilk. The spoiling of butter is due to the unremoved particles of albuminous matter and sugar, and never to the decomposition of the fats themselves, which are practically indestructible, save by direct action of fire. The more nearly butter is rendered pure by the action of weak brine the better, but it is almost an impossibility to remove all the caseous matter from butter, when the butter grains visible to the eye are made up each of 10,000 or more fat globules, and as cheese and sugar are yet fluid, they are encased in the interior of these granules to a certain extent, and when chance offers, they get up a ferment, and we call the butter "off flavor," when it is the off flavor of the cheese and sugar coming to the surface. About the only rule is to make butter the best one can, and to suit the market—not what you or "old butter-makers" think—and sell it as fast as possible. It does not longer pay a live dairyman to hold butter for a rise. Butter has fine and rank qualities. Luckily it is possible to make butter and have it eaten before the latter has time to manifest itself. If it were the other way, it could keep out foreign butter by its own unaided strength. J. O.

Western Reserve, O.

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association

NAME.	SELLER.	BUYER.
Adah's Prince, B G Packard, J W Sloss		
Astartia's Aggie Netherland Prince, A G Wilcox, H Hartwell		
Billy van Slooten, F W Witte, M S & S W Greer		
Boland, S F Sholes, H J. Rose		
Byron of Bango, W S Vanderip, A E Adams		
Dairy Maid Prince, Whitacre & Boyd, A W McAlpine		
Dan Akker, D G Merrihew, W Stock Co		
Dandy Boy, C F Gilliman, M Grove		
David Crockat, J C & G H Strong, Hamilton & Wood		
De Vries Prince of Twist, W F Whitney, Mrs Peter Tribble		
Doctor Adams, C L Crowell, A H Shaw		
Dorrance, Lackawanna Breeders Asso, J C Manger		
Duff Elkwood, J E Miller, H Goodwin		
Duke of Fair Haven, L J Jordan, C Daniels		
Duke of Palo Alto, L Stanford, M S Hall		
Duke of Tarbrook, H Tyng, G Nicolaus		
Ellen's Mink Prince, W S Gurnee, C S Underhill		
Henry the Eighth, T S Strong, F B Pennis		
Jellje K's Lad, Humphrey & Davis, J E Jones		
Jewel 2d's Onondo Echo's Prince of Wayne, E S Stevens, Home Farm Pine Stock Co		
John Keyers, J W Stillwell & Co, A Garber		
Kniffer's Prince, T Yates & Son, T S Hoy		
Lord Lyle, H Seifert, W Thomason, Jr		
Merle Dutcher's Harry, J B Dutcher & Son, G Hotchkiss		
Meadow Lee Monk, N F Sholes, H C Ackley		
Mechthalde's 2d Sir Henry of Maplewood, F C Stevens, H F W Breuer		
Millet Keyes, A Bradley, N A Allyn		
Nahob 2d, G A Pierce, M Van Slooten		
Netherland Excelsior, Smiths, Powell & Lamb, E B Hill		
Netherland Wroe, A Bradley, H Cushman		
Ottawano Chief, A Devendorf, F J Dingman		
Phillenopher, Sir, H Seifert, S S Walker		
Pin Daw, C W Horr, H J Day		
Ponce de Leon, C L Crowell, E A Powell		
Princes of Springdale, D Hollinger, J F Wade		
Prince of Wiehrun, D Hollinger, J S Meyers		
Regis' Netherland, H Stevens, N Hall		
Rokeby, F H McGraw, T Carlow		
Rolla Netherland, W L McCleary, B L Crow		
Sabra Veeman's 2d Lad, A F Cole, Storrs & Haskell		
Sam Davis, G F Davis, A Noel		
Sailor, C E Hall, D D Tracy		
Sir Robert, D D Tracy, C M Hall		
Sir Jacob 2d, J M Ham, E W Vail		
Sir Rodolph, J Page, Danvers Lunatic Hospital		
Snowdrop 2d's Cedarside Boy, W A Pratt, C Kahler		
Statlaz, C W Horr, J Coulter		
Tiksma 6th, Smith Bros, J Prain		
Tumbro Amerigo, A Harrington, W H H Phillips		
Aggie Bertha, G V DeGraaf, G Reneau		
Aggie Josie 2d, Mrs M S Barney, J J Martin		
Aggie of Iowa, E D Whitmore, H H Withington & Son		
Aggie Rosalind M, J W & M S Shallcross, G A & E A Stanton		
Aggie Uplands, Mrs M S Barney, U S Underhill		
Adaline J, N F Sholes, H C Ackley		
Annie Pauly, A Garber, H Seifert		
Antje Broens 2d, A F Neal, Lashbrook Bros		
Antje Wiersma, I H Butterfield, E Phelps		
Belle Roslyn 2d, A F Neal, Lashbrook Bros		
Bessie G, Mrs M S Barney, C S Underhill		
Birkie's Lass, Chenango Valley S B Asso, H Stevens		
Boquette and Boquette 2d, E Hendrickson, D F Whipple		
Brech Jo 2d, W A Pratt, J H Reiter		
Catawba Belle, Western North Carolina Insane Asylum, D H T Robinson		
Columbus Girl's Beauty, N F Sholes, H C Ackley		
Coriander, J B Wilcox, W L McCleary		
Dolly Murrey, H F W Breuer, H W Thompson		
Dowager May's Hartog, H Stevens, N Hall		
Eleanor, W D Crandall, N F Sholes		
Elida, J N Robins, J J Martin		
Elvira 6th, J N Robins, C F Farley		
Flavona, J W & M S Shallcross, W A Findley		
Forest Maid, J W & M S Shallcross, G A & E A Stanton		
Gold Pence, J N Robins, J J Martin		
Grizzie Kyle Maid, W A Pratt, C Kahler		
Hiska, J H Butterfield, E Phelps		
Hiskie 2d, H Bollart, H Mott		
Islip Maid, Estate of W L Breese, J J Martin		
Kathy, D T Dunmead, H H Withington & Son		
Lady Anabel 2d, D Hollinger, J S Meyers		
Lady Lothian, H Vanderzip, M E Adams		
Linnie Lock, E D Whitmore, H H Withington & Son		
Lorna Doone of Islip, Estate of W L Breese, C S Underhill		
Miss Pickell G A Pierce, M A Pickell		
Netherland Pride of The Valley, A Bradley, N S Curtis		
Orelia, Mrs E S Barney, J J Martin		
Penelope Dean, Western North Carolina Insane Asylum, D H T Robinson		
Peerie Bell, C L Crowell, E A Powell		
Petronel of Thorndale, H W I & S Asso, University Farm		
Princess of Stanstead, G A Pierce, M V B Pickel		
Princess of Timber Point, Estate of W L Breese, C S Underhill		
Queen Durkje, Chenango Valley S B Asso, H Stevens		
Queen of Oakland, I H Butterfield, E Phelps		
Reine 3d, H Bollart, E Mott		
San Luis Obispo Maid, G B Polhemus, W H Taylor		
Sebije Veeman 2d and Seventh Durkje Veeman's Ruby, Chenango Valley S B Asso, H Stevens		
Sixth Unadilla Twink, N F Sholes, Reed Bros		
Spook of Uplands, Mrs M S Barney, J J Martin		
Tennessee Princess, J C & G H Strong, Hamilton & Wood		
Thanksgiver, G A Pierce, M V B Pickel		
Tryntje Kleyne 2d, G B Polhemus, W H Taylor		
Vanbo C, N F Sholes, H C Ackley		
Xenana 2d, J N Robins, C S Underhill		
Zibiah, Chenango Valley S B Asso, H Stevens		
Zwartje Vrow 2d, G B Polhemus, W H Taylor		

Iowa City, Iowa. T. E. WALSH, Sec'y.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Abe of Mignon, J M Harrison, W D Thorpe		
Adirondack Boy, J S Gale, Oatman & Tucker		
Athens' Prince, A Cockroft, C A Marsh		
Beggar Boy, C H Phinney, J W Chaffee		
Blusher of Rockland, H E Smith, J M W Allen		
Buff Willy, J G Weis, L Oppenheimer		
Burgomaster, C M Beach, W W Huntington		
Cinder's Rooneo, J M Trosper, Z T P Hill		
Clifton Weimona, H Graham, Jr, E Walter		
Col George of Phillina, K S Lannon, J D Houston		
Crusher, W Z Hileman, Mrs J E Watson		
Deer's Royal Duke, J M Trosper, G C Tiller		
Duke of One Pine, L H Pinecque, T Sanford		
Edgefield Herr, W A Moritz, J O Herrin, Ast		
Ethicel Combination, J M Trosper, T C Adams		
Fairview Jap, H Graham, Jr, E Rogers		
Kitka's Noble, F J Cogswell, W S Cobb		
Fairfield Pogis, J C Motley, B Humphrey		
Flounce's King Koffee, W Gettys, S L Hough		
Gladeo, W Brown, F D & D H Wiginton		
General Lincoln, W T Meacham, C W Price		
George of St Lambert 4th, C E Hill, C C Sisson		
Gigantic, Est of H L Briggs, S Try		
Golden Destinan, M Cone, A Manahan		
Gordon's Tormentor, Maury Jersey Farm, H H Douglass		
Gothic, Richardson Bros, G O Hilton		
High Rose of Hillside, A L Latimer, C B Curtiss		
Holly's Pride, R F Holly, E Thompson		
James of Meeklenburgh, J M Harrison, W G Steel		
John Bloger, Richardson Bros, W M Pike		
Jodie's Pogis, J H Clark, R F Holly		
Kattie's Prince, M C Campbell, J A Ward		
Lad of Maplewood, S B Budd, T Robinson		
Lad of St Lambert, J M Ladd, G Ashley & Son		
Lambertina's Duke, J M Clark, A J Clark		
Logan Limmore, E H Henderson, S B Bishop		
Lord Wolcome Pogis, H L Charlson, C W Stump		
Lottie's Prince, J M Bethany, W L Springfield		
Lucky Pogis Hugo, W B Montgomery, A Cooper		
Morjoram's Signal 2d, J S Allen & Son, W Jones		
Opponent, Richardson Bros, W M Pike		
Orthogon of Stratford, A C Lewis, T Low		
Pogis Alphea, W G Upchurch, L W Jordon		
Pogis Lad, W A Logan, L Schneck		
Pogis Noble, J H Clark, R F Holly		
Prince of Athens, C A Marsh, A Cocroft		
Quackanud, Richardson Bros, J L Savage		
Ramapo Chieftain, S H Grant, J Acken		
Rex Horicon, I Carrier, E B Henderson		
Rex of Maplewood, S B Budd, T Robinson		
Riderwood Duke, C F Rabenstein, Kane & Bleser		
Riot Act, Richardson Bros, R H Norton		
Rumson of Georgia, J B Hudson, Argo & Bagley		
Ruby's Pogis, J H Clark, R F Holly		
Signal of Deerland Park, Porter & Wylie, Mrs C A Hinds		
Stoke Pogis Prince, T B Van Horne & Co, Belmont Jersey Cattle Co		
Telford, L D Neel, W H Heston		
Teltee 9th, The Columbia Jersey Cattle Co, A W Harris		
Victor Pogis Baroness, R L Clarkson, I E Lacy		
Warren King, G L Williams, M C Sheehan		
Zither's Pogis, J H Clark, R F Holly		
Aces's Bonnie Rose, T B Van Horne & Co, Belmont Jersey Cattle Co		
Albert D Rex, A T Dempsey, Belmont Jersey Cattle Co		
Alphea Pearl, Est of H L Briggs, C E Hill		
Alphea Flower, Mrs A Yowell, H Bissell		
Amber of Lagonda, A T Dempsey, Belmont Jersey Cattle Co		
Anna Mink, W B Montgomery, J W McCarty		
Annie Armadale, J S Allen & Son, H G Ruhark		
Antwerp, C A Marsh, A Cocroft		
Aperient, Richardson Bros, W M Pike		
Arawana Hilcrest, Green Mountain Stock Farm, Co, G B Leighton		
Bacco's Butterfly and Beane's Creamer 3d, J G Mitchell, Belmont Jersey Cattle Co		
Bandanna, R E Winans, A M Fulford		
Bang Up Rose, W G Rogers		
Belle Crow, T A Courtner, J G Caldwell		
Belle of Kerrlake 2d, W A Logan, L Schneck		
Belle of Parkwood, L D Neel, J M Bour		
Belle of Pineside, C C Capron, H F Bellows		
Beryl of Ala, Mastermer, T H Beard		
Rose of Rosedale, W H Grover, R A Grover		
Betty Pringle, W A Logan, L Schneck		
Blanche Dew Drop, H W Ware, J W Miller		
Blanche L 3d, White River Jersey Cattle Co, T H Brown		
Blyman, Richardson Bros, R H Norton		
Bowery, J S Allen & Son, J Brown		
Brenda Blane, W T Wright, E B Hill		
Broadway Girl, Est of H L Briggs, C E Hill		
Burleyne Pet, A T Dempsey, Belmont Jersey Cattle Co		
Bute's Sultana, J D Wing, O Thorne		
Camelot, Est of H L Briggs, C E Hill		
Calla of Coal Hill, T B Van Horne & Co, Belmont Jersey Cattle Co		
Catsopo's Beauty, J D Wing, O Thorne		
Chief's Lady Lewis, J G Mitchell, Belmont Jersey Cattle Co		
Clara Rain, J S Allen & Son, R A Whitford		
Clara Spatka, W A Logan, L Schneck		
Claudine 3d, M Cone, L C Wilson		
Claudius 6th, M Cone, J A Morrow		
Clopidon, M Cone, H Elliott		
Clover Beauty, J A Ward, J Boden		
Clover Bloom's Niece, T B Van Horne & Co, Belmont Jersey Cattle Co		
Compeer's Beauty, H M Baum, J J Jarvis		
Commerosa, Richardson Bros, R H Norton		
Cora's Little Beauty, Mrs M O Stephens, W J Lacy		
Cortlem's Maggie, S H Grant, J Acken		
Countess Rena, J E Anderson, N K Simmons		
Countess Goldedust, J G Mitchell, Belmont Jersey Cattle Co		
Countess Harriet, T B Van Horne & Co, Belmont Jersey Cattle Co		
Duke of Norebec, M Mahorner, W G Beard		
Elaine 2d, J S Allen & Son, J Short		
Elenola 2d, W Conely, T Penrose		
Ditadee, M Cone, J A Morrow		
Dixie May, J S Allen & Son, W Pawson		
Domestic, O S Holcomb, E F Wyman		
Dora Norton, J G Mitchell, Belmont Jersey Cattle Co		
Dorlisa El, C W Davis, F Mansford		
Dornthy C, M Cone, H N Turner		
Dot of Wellwood, J G Mitchell, Belmont Jersey Cattle Co		
Duchess Cleero, H A Huntington, S N Warren		
Duchess Sarah, J G Mitchell, Belmont Jersey Cattle Co		
Elmira, J L Shallcross, J G Caldwell		
Emily Hayes, O S Holcomb, E F Wyman		
Empress M. Caldwell Bros, Mrs E A Drake		
Epicure's Beauty, F M Morrow, E Woolley, Jr		
Era G, G P Simmons, Mrs F J Weckman		
Esteem, Richardson Bros, R H Norton		
Espedalia, M Cone, W E Platter		
Eyelet's 2d, L N Trammell, P H Trammell		
Fannette Kalphen, W Montgomery, M Eastland		
Farmer's Maid 2d, E B Hill, D C Jenkins		
Fay Temptation, Richardson Bros, R H Norton		
Fifer's Fairy, N H Palmer, J Morse		
Fir Shade Hebe, A C Fairweather, H Townsend		
Fir Shade's Pet, Est of T B Baldwin, L Schneck		
Flora M, W B Montgomery, J W McCarty		
Frear's Beauty, C Frear & Son, T H Wilson		
Frisk, Richardson Bros, W M Pike		
Gabriella, S H Dickinson, S J Banks		
Garnet La Belle, and Garnard Lady, W A Logan, L Schneck		
Gayons, Est of T J Potter, F T Parsons		
Gilt Edge Daisy, J S Allen & Son, W Middleton		
Gipsey Ivon 2d, C Frear & Son, T H Wilson		
Gipsey Lass, W Coney, T Penrose		
Gold Dresden, M Cone, J A Morrow		
Golden Polly, P A Gruver, R A Gruver		
Grace Sherwood, White River Jersey Cattle Co, R W Monroe		
Greenwood Duchess, Richardson Bros, W M Pike		
Greta of Vernon, T B Van Horne & Co, Belmont Jersey Cattle Co		
Harrella Pogis, M C Campbell, W M Cheairs		
Hattie D Rex, A T Dempsey, Belmont Jersey Cattle Co		
Hattie N, H A Huntington, S N Warren		
Herald, Richardson Bros, W M Pike		
Hopeotti, J S Allen & Son, J Pugh		
Hyacinth Pogis, M C Campbell, H A Hemington		
Ida Mink, W B Montgomery, J C Hutcheson		
Ida's Fawn, M C Campbell, Matthews & Hume		
Ida's Grace, M C Campbell, L T Baxter		
Ida's Own, M C Campbell, S A Appleby		
Ida Star, Mrs E A Holmwood, J S Weber		
Imperial Fancy Pogis, and Imperial Signalia, W A Logan, L Schneck		
Impreza, Richardson Bros, W M Pike		
Inez of Texas, I Sellers, M S Sellers		
Infallible, W Carpenter Jr, D W Moore		
Irma of Thurlow, R Peters, Jr, W F Dowdall		
Iron Valley Gem, A T Dempsey, Belmont Jersey Cattle Co		
Jaquita 2d, J D Wing, O Thorne		
Jest, M Overton, J M Thompson		
Jewel Rex, Est of H L Briggs, C E Hill		
Judith Bencaddi 2d, J S Allen & Son, G Pawson		
Jessa Bloomfield, S B Budd, T Robinson		
Kitty Quick, J G Mitchell, Belmont Jersey Cattle Co		
Koffee's Annie B, R Brewer, W Hibbs		
Kushaqua Queen, Est of J O Gallup, H C Williams		
Lady Crow, T A Courtenay, J G Caldwell		
Lady Rex, M Cone, J A Morrow		
Lady Grinella 3d, J D Mitchell, Belmont Jersey Cattle Co		
Lakeview Vaney, W P Johnson, J B Willson		
Lanse A, J S Allen & Son, J W Sharts		
Lauralia, W A Logan, L Schneck		
Lidie Linmore, Est of M E Carrier, E B Henderson		
Lili 2d, J S Allen & Son, J Umsteter		
Lily Eye 2d, W A Logan, L Schneck		
Lisetta La Roe, W Coney, T Penrose		
Little Fanny's Eve, J H Edelen, J W Polk		
Little Minon, Est of J Washington, Miss A B Carrington		
Lucky Flower, C Frear & Son, T H Wilson		
Lucy Latimer, H C Hills, W H Wall		
Lulu Holly, R F Holly, E Thompson		
Madame Fayvrak, H F Fisher, L B Maynard		
Magnolia Cranck, J W Stewart, S C Wason		
Manger's Beauty, M Cone, A J Sheward		
Maid of Garfield, Hemphill Farms, A Tredway		
Marchioness Ada, G H Holcomb, E F Wyman		
Martha Rain, J S Allen & Son, J M Bunn		
Mary Anne of Orrville, D J Lockhaw, W H Sauter		
Mattie Alphea, W A Logan, L Schneck		
Mattie Pearlette, Maury Jersey Farm, J H Dew		
May Rose Hester, Green Mountain Stock Farm Co, G B Leighton		
Mercy Marcus and Miami's Pride's Belle, W A Logan, L Schneck		
Mildred C, J G Mitchell, Belmont Jersey Cattle Co		
Mildred of M, W J Watson, F T Parsons		
Miss Callico, J G Mitchell, Belmont Jersey Cattle Co		
Miss Chicora, S H Grant, J Acken		
Miss Finda, Est of J Washington, Miss A B Carrington		
Miss Flopie, W A Logan, L Schneck		
Minnie Rioter's Gem, Mrs P D Hickey		
Miss Minsta, T S Webb, W H Murphy		
Miss Rioter Valean, W Coney, T Penrose		
Miss Serenade, Richardson Bros, W M Pike		
Miss Thistle-down, D H Barrick, W Nanevilker		
Miss Yankee St Lambert, J A Wilson, H H Wheatgrass		
Mrs Candle, T B Van Horne & Co, Belmont Jersey Cattle Co		
Nadjy, Richardson Bros, R H Norton		
Nebraska Maid, J W Jacobs, W G Darrell		
Nellora, W Coney, T Penrose		
Nelly Quinton, W H Gruver, R A Gruver		
Neon Eyre, Richardson Bros, W M Pike		
Nicholas Pogis, J G Mitchell, Belmont Jersey Cattle Co		
Nicolette Pogis, Est of H L Briggs, C E Hill		
Noble Cicero's Pet, W Morrow, A C Johns		
Noble's Pride, R Brewer, W Hibbs		
Oklahoma, Richardson Bros, W M Pike		
Ollie of Maplewood, S B Budd, T Robinson		
Onondonk's Yellow Pearl, J F Mockabe, Mrs M L Onderdonk		
Opera, J D Wing, O Thorne		
Pansy Davis, J M Harrison, J M Davis		
Pansy of Aranwan, H H Willsie, J H Miller		
Pearl Cosgrist, J S Allen & Son, J Reynolds		
Perfect Vandella, S H Grant, J Acken		
Petra Pogis, W B Montgomery, W M Fly		
Plantain 3d, J S Allen & Son, M Patten		
Poetry 2d, J D Wing, O Thorne		
Pogis Fancy, G V Green, M M Gardner		
Pogis Waif, Est of T A Stewart, Mrs D M Draper		
Policy, Richardson Bros, R H Norton		
Porter's Beauty, T B Van Horne & Co, Belmont Jersey Cattle Co		
Portilda, Richardson Bros, W M Pike		
Presting, J D Wing, O Thorne		
Pridona 2d, F W Dunton, J D Cutter		
Princess Grace, W H McCurdy, W J Rattle		
Princess of Kroadmoor, J E Anderson, N K Simmons		
Pyramid, Richardson Bros, R H Norton		
Queen of Tamora, J S Allen & Son, J N Shanholtzer		
Ralphen Adelette and Ralphen Pogis, W B Montgomery, A Cooper		
Resone, W M Hynds, E M Clarke		
Reta Babb, T B Van Horne & Co, Belmont Jersey Cattle Co		
Ridie Watkins, A A Carter, C F Chevallier		
Ringgold, J S Allen & Son, G Pawson		
Rioteen, W Coney, T Penrose		
Rioter Alebel, W Coney, T Penrose		
Rioter's Lady Fern, J D Wing, O Thorne		
Rioter's Nan, S H Hatcher, H Dew		
Rioter's Pandora, J S Allen & Son, G Manson		
Rioter's Rita, J D Wing, O Thorne		
Rioter's Vandolia, S H Grant, J Acken		
Rollo's Rosebud, W Carpenter, Jr, H Bassett		
Rose Potter, J G Mitchell, Belmont Jersey Cattle Co		
Rose Cody, W Coney, T Penrose		
Rosalie Marie, T B Van Horne & Co, Belmont Jersey Cattle Co		
Royal Valerie, W B Montgomery, J W McCarty		
Ruby P, W B Montgomery, A Cooper		
Ruthlocee, T B Van Horne & Co, Belmont Jersey Cattle Co		
Ruth of Lagonda, A T Dempsey, Belmont Jersey Cattle Co		
Saffron Beauty, H G Arnold, W H Russell		
Sandwich Girl, W Carpenter, Jr, H Bassett		
Sarita Victoria, Richardson Bros, R H Norton		
Scepter's Beauty 2d, Maury Jersey Farm, J H Dew		
Selline and Selline 2d, J D Wing, O Thorne		
Signal Beautrilla, W A Logan, L Schneck		
Spinet, J D Wing, O Thorne		
Spotted Kate, J G Mitchell, Belmont Jersey Cattle Co		
Squanto's Ruffle, C N Gilbert, H N Bodwell		
Starmo, G P Simmons, Mrs F J Weckman		
Sue Bacon, J G Mitchell, Belmont Jersey Cattle Co		
Sunbina, J B Allen & Son, F Woolf		
Susan Knight, S P Carpenter, W Carpenter, Jr		
Tear Drop, M Overton, J M Thompson		
Tillie Toulon, T B Van Horne & Co, Belmont Jersey Cattle Co		
Tritsica, C A Marsh, A Cocroft		
Ultimate, Richardson Bros, R C Taylor		
Upper Ten, Richardson Bros, R H Norton		
Valley Lass, J D Wing, O Thorne		
Vic Pogis, W A Logan, L Schneck		
Violet of Glen Rouge, B Sinnue, A Pollard		
Voracity, Richardson Bros, W M Pike		
Wedmo 2d, Green Mountain Stock Farm, G B Leighton		
White Stocking, C W Van Deusen, H L White		
Willsina, Est of H L Briggs, C E Hill		
Wynton, Richardson Bros, R H Norton		
Zelnah, T B Van Horne & Co, Belmont Jersey Cattle Co		
Zola, G P Simmons, Mrs J Shoemaker		

1 & 3 Broadway, New-York. F. W. WOMER, Sec'y.

Record of the Times.

Review of Passing Events.

Prohibition in Pennsylvania.—An earnest and exciting State canvass on a constitutional amendment prohibiting the manufacture and sale of liquors closed June 18, with an adverse vote of 180,000. Party lines were ignored and the issue made between prohibition and high license. The women took an active part in the canvass and at the polls. Miss Kate Field made a series of speeches in favor of high license. The day was quiet, no liquor sold, and the contestants were good-natured, some liquor dealers in Pittsburg helping the ladies to tack up placards, or giving the use of their deadwalls. No money was offered for votes.—On June 20 Rhode Island repealed her prohibition amendment by 18,585 majority. It was adopted three years ago by a majority of over 9,000.

Commencement Notes.—At West Point Gen. Sherman addressed the graduating class of 48, and portraits of Sherman and Sheridan were presented by Geo. W. Childs. Columbia graduated 127 young men and two young women, one a sister of Miss Hankey, the first female graduate, who died two years ago. At Princeton there was a graduating class of 170, and a bronze mural statue of ex President McCosh, by St. Gaudens, the gift of the class of 1879, was unveiled in Marquand chapel. A farm has been given to the college, and five new buildings will be erected on the campus. Cornell celebrated the 21st anniversary of the graduation of her first class, and gave 157 first degrees. A game of base ball was played by the professors and the university nine, in which the former were badly beaten. At Rutgers the corner stone of Winants Hall was laid, and General Fisk addressed the societies on "Memories of the War and the Future of the Negro." Miami University, Oxford, Ohio, conferred the degree of LL. D on President Harrison and Secretary Noble, both graduates. Smith college graduated 53 young women. The senior class performed the Greek play of Electra, by Sophocles. The Moody schools at Northfield, Mass., graduated 13 boys and 16 girls. President Cowles of Elmira (N. Y.) Female College retires after 30 years' service. Prof. E. B. Andrews of Cornell has been appointed president of Brown University. Hampton Institute, Va., for negroes and Indians, held its 21st commencement the last of May, and graduated 14 young women and 24 young men—six Indians. Gen. Howard gave a history of the work for the negroes since the close of the war.

From Abroad.—Andrew Carnegie gave a dinner to Mr. Gladstone at the Hotel Metropole, London, June 18. Minister Lincoln was present. Mr. Carnegie has since gone on a cruise to the North Cape.—English admirers will erect a memorial to Father Damien on Molokai.—In the case of the Armagh railroad disaster, five employés have been found guilty of manslaughter.—Irish evictions have continued on the Fossomby estate, and a battering ram was used to effect entrance to the cottages.—Destructive floods have occurred in France, especially in the department of the Meuse; many houses have been destroyed and crops and vineyards ruined.—The Shah of Persia arrived at the Hague, Holland, June 21. The ill health of the king prevents his personal entertainment of his guest.—The marriage of the Grand Duke Paul Alexandrowitch and Princess Alexandria of Greece, took place in the chapel of the Winter Palace, St. Petersburg, June 16.

Minor Items.

The Pennsylvania road resumed its full traffic, June 24.

General Simon Cameron has had an attack of paralysis at his home, Donegal Springs, Pa.

A Massachusetts rifle team of 16 sailed last week to compete with English volunteer riflemen.

Boston has set apart a "playstead" for children, and 10,000 took possession of it last week.

John Gilbert, the veteran actor of New-York, died at Boston, June 17, aged nearly 80. From 1863 to 1886 he was a member of the

Wallack stock company, and was unrivaled in his impersonations of old English comedy parts.

A fire in Heyer Brothers' firework factory, Boston, June 21, cost three lives and $50,000 worth of stock.

George Vanderbilt of New-York has bought 5,000 acres of land in Buncombe county, N. C., for $25,000.

Mrs. Hayes, wife of the ex-President, was stricken with apoplexy, June 21, at her home in Fremont, Ohio.

June 19 was the 25th anniversary of the battle between the Kearsarge and Alabama off Cherbourg, France.

Hammonton, N. J., has shipped 850,000 quarts of strawberries this season—more than double that of last.

The Boston statehouse is to have a large rear extension for which the legislature has appropriated $2,500,000.

The trouble with the Chippewa Indians is now reduced to the killing of one man by a drunken young warrior.

Yale beat the University of Pennsylvania in a boat race on the Thames, New-London, Conn., June 21, by four seconds.

The Louisiana State Lottery has offered to assume the State debt of $12,000,000 for a fifty years' extension of its license.

Colonel Emmons Clark, for 28 years at the head of the Seventh Regiment, New-York, has resigned his commission.

A hop-grower of Lowville, N. Y., recently sold 18 bales of '84 hops at 2¾c. a pound, and 18 bales of '85's at $1 per bale.

The town of Phelps, N. Y., held its centennial anniversary, June 19. Lieutenant-Gov. Jones unveiled a monument.

The trial of Dr. T. B. McDow for the murder of Capt. F. W. Dawson, editor of the News & Courier, is in progress at Charleston, S. C.

Howard, the electric-sugar swindler, has been convicted of the larceny of $6,500, and sentenced to State prison for 9 years and 8 months.

Huyler's candy factory, a six-story building, Irving Place and 15th Street, New-York, was burned early June 18; loss over $75,000; insured.

The Oregon and Transcontinental election at Portland, June 17, resulted in favor of the Villard party, they voting 217,000 shares against 130,000.

A society lady of New-York uses 2,000 cards each season in order to discharge her social obligations, and yet look after her seven children.

William E. Chandler was reelected senator by the New-Hampshire legislature, June 18, both houses voting—Senate 18 to 6, House 165 to 137.

"Bunker Hill day," June 17, was celebrated at Boston by the unveiling of two bronze tablets and the reading of an ode by Dr. T. W. Parsons.

Heavy rains and the bursting of a dam swept away the village of Uniontown, west of Fort Scott, Kansas, June 16. Many other places were flooded.

By a decision of Judge Rightor of New-Orleans the American Cotton Oil Trust is perpetually enjoined from doing business in the State of Louisiana.

Cardinal Gibbons of Baltimore ordained to the priesthood, June 21, Charles Randolph Uades, a colored man, for mission work among the southern negroes.

A Washington gentleman is said to have bought 1,500 acres of land at Appomattox Courthouse, Va., including the spot where General Lee surrendered.

The Chicago wheat market was excited June 17 by the unloading of 2,000,000 bushels of July on a rising market, by "Old Hutch," and prices dropped from 80¾ to 78¾c.

The steamer Bothnia left New-York, June 19, with 800 delegates to the World's Sunday School Convention at London, July 1. Every State in the Union was represented.

The United States ship Constellation with 130 cadets from the naval academy, Annapolis, went ashore inside of Cape Henry, June 18, but was floated off without loss of life.

In the Cronin case Martin Burke was arrested at Winnipeg for complicity in the murder and recognized as Williams who rented the Carlson cottage. The New-York suspects were released.

The body of John Sevier, first governor of Tennessee, buried in Alabama, was reburied at Knoxville, June 19, with imposing ceremonies. A $30,000 monument will be erected over it.

Capt. Hamilton Murrell of the Missouri, on his return trip to Philadelphia, was presented with a gold medal by Mr. Childs, the gift of Joseph Pulitzer, and the crew received medals from the city.

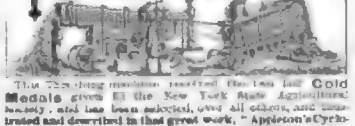
The lawyers and doctors of Worcester, Mass., played baseball for the Johnstown sufferers, and leading lights sold peanuts, lemonade, cigars and score cards and returned no change. Rain stopped the game; receipts were $500.

Two car-heating companies of Detroit and Portland, Me., have combined, with capital of $2,500,000 and control of 100 patents. Robert C. Pruyn, president of the Commercial National Bank, Albany, N. Y., is president.

Gov. Hill has vetoed the capitol appropriation, factory inspectors', normal schools and armory bills, and 79 items of the supply bill; has signed bills for improvement of the New-York Museum of Art, and Peekskill State camp, purchase of Creedmoor rifle range, canal improvement ($600,000), and street car motive power.

In trying to make up lost time a mail train on the Panhandle section of the Pennsylvania road was run a mile a minute on a down grade and reverse curve near Cumberland Junction, Ohio, June 19, and three cars were thrown from the track, killing four men and injuring eight.

At Johnstown 65 bodies were recovered from the wreckage last week, among them Mrs. Bates of Wisconsin, a passenger on the day express, three children of Jonas Clark, and six members of one family. A recent careful estimate places the dead at about 4,200. A strike took place among the workmen, and a large number left. The flood commission has authorized the purchase of 500 ready-made houses. The Cambria Iron Company has 3,500 men at work; the Gautier Steel Company 950—about three-fifths their former number. Hungarians in New-York held a mass meeting, June 21, to protest against the charge that their countrymen in Johnstown robbed the dead. Belfast, Ireland, sent $2,500 to relief fund; Wild West Show performance, Paris, $1,-066 67; sultan of Turkey, $1,000.



The Two Leading Machines awarded the two last Gold Medals given by the New York State Agricultural Society, and has been selected, over all others, and illustrated and described in that great work, "Appleton's Cyclopædia of Applied Mechanics;" thus, establishing it as the standard machine of America. Straw-preserving Rye-Threshers, Clover-hullers, Ensilage-cutters, Feed-mills, Fanning-mills, and Wood Saw-machines; all of the best in market. The Fearless Horse-powers are the most economical and best Powers built for the running of Ensilage cutters, Cotton gins, and general farm and plantation use. For free Catalogue, address

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Special Announcement.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work *free* by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL Co., ENOSBURGH FALLS, Vt. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years—a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time. jan7-tf

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Best of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. my26tf

Beecham's Pills cure bilious and nervous ills. [3

When people are bilious and dyspeptic, they need a laxative medicine. In such cases Ayer's Pills give perfect satisfaction.

Saved.—A fine family of children were all afflicted with scrofula. Two died early; the rest would soon have followed, but for the timely and persevering use of Ayer's Sarsaparilla, which built them up into a healthy and vigorous manhood.

Farm Produce Markets.

Albany Markets—June 24.

FLOUR.—The Argus says: Prices have been well maintained, with fair trade and average receipts.

	June 22.	June 18.	June 20.
Com. State	$3.40@4.00	$3.30@4.00	$3.30@4.15
State Extra	4.10@4.60	4.10@4.60	4.15@4.60
Amb. State & W	4.30@4.80	4.30@4.80	4.40@4.85
O., Ind. & Ill. X's	4.30@4.80	4.30@4.80	4.40@4.85
Winter W. Ext	4.30@5.00	4.30@5.00	4.15@5.00
Minn. "Bakers"	4.60@4.75	4.60@4.75	4.60@4.75
Sp'g W. Pat., new	4.90@5.25	4.90@5.25	4.90@5.25
Sp'g W. Pat., old	4.20@4.50	4.20@4.50	4.10@4.25

Rye Flour fairly active at $3.75@4.00 per bbl.; Graham, $4.00@4.50. Oat Meal doing moderately well at $4.50@4.60 per bbl. Corn Meal in good demand; fine family, $2.50@2.75 per bbl.

GRAIN.—Corn in fair demand and stronger; No. 2, 48½@49c.; No. 3 mixed, 47½@48½c. Oats steady with good demand; No. 2 white, 33½@33c.; No. 3 white, 30c. Rye slow with light offerings at 55@56c. per 56 lbs. for State, and 54c. for western.

HAY AND STRAW.—Fine hay scarce; demand good. Straw quiet and dull; receipts light. Timothy, best, 85@90; medium, 80@85; clover, $70@75; mixed, $75@80; rye straw, best, $12@13; oat straw, $8@10; wheat straw, $8.

HOPS.—Choice difficult to obtain.

N. Y. State, 1888, choice	30 @35
N. Y. State, 1888, common to good	25 @28
N. Y. State, 1887, all grades	20 @25
Pacific Coast	25 @30
German	40 @42

Albany Street Market—June 24.

BUTTER.—Good to choice, 17@18c. per lb.

EGGS.—Near-by and new laid, 12@13c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@9c. per lb.; forequarter, 5@6c.; mutton, hindquarter, 9@10c; forequarter, 7@8c.; lamb, hindquarter, 10@12c.; forequarter, 8@10c.; veal, hindquarter, 10@11c.; fore quarter, 7@8c.

POULTRY.—Fowls, 11@12c.; chickens, 12½@14c.; turkeys, 18@19c.; ducks, 15@16c.

FRUIT.—Apples, $3@7 per bbl.; Cranberries, $1.75@3 per crate; Strawberries, 10@12c. per box.

VEGETABLES.—Asparagus, 8@10c. per bunch; Beets, new, 5@6c. per doz. bunch; Cabbage, new, 25@50 per crate; Cauliflower, 10@15c. each; Cucumbers, $1.50@2 per crate; Green Peas, $2.50@3.75 per crate; Lettuce, $1 per box; Onions, new, $1.25@1.50 per crate; Potatoes, old, $1@1.50 per bbl.; new, 50@75; Radishes, 15c. per bunch; Spinach, 25@30c. per bbl.; String beans, $3.50@4 per crate; Squash, $1.25@1 per bbl; Tomatoes, 10@15c.

New-York Markets—June 22.

BEANS—Marrow, 1888	—	@	2.10
Medium, 1888, choice	—	@	2.00
Pea, 1888	1.80	@	1.85
COTTON—	Deposits.		N.O. & Gulf.
Ordinary, per lb	5¾@ —	@	6¼
Middlings	11 @ —	@	11¾
Fair	12¾@ —	@	13
EGGS—State and near-by, per doz	—	@	15
Western and Southern	14½@	@	14¾
FLOUR—Spring Wheat ext., per bbl.	4.15	@	5.00
Winter	3.60	@	4.00
No. 2 extra State and Western	3.40	@	4.00
No. 1 extra	3.90	@	4.00
Minnesota clear	4.10	@	4.35
Straights	4.60	@	4.90
Rye Flour, superfine	3.75	@	4.10
Corn Meal	2.80	@	3.70
FRUIT—Blackberries, Del. & Md., qt	10	@	13
Cherries, fancy, per qt	10	@	15
Fair to prime	6	@	8
Sour	4	@	5
Currants, cherry, per lb	8	@	10
Gooseberries, per box	1.25	@	1.50
Huckleberries, N. C., per qt	5	@	10
Jersey	12	@	14
Peaches, Ga. and Texas, per crate,	60	@	2.25
South Carolina	1.00	@	1.75
Plums, wild goose, Ga., per crate	1.75	@	2.25
Raspberries, Md., per qt	9	@	10
Up River	4	@	5
Blackcaps, Jersey	4	@	5
Strawberries, Jersey, per qt	4	@	8
Up River	8	@	13
Staten and Long Island	8	@	14
Watermelons, Fla., per 100	15.00	@	27.00
Dried—Apples, sundried, per lb	2½@3	@	3½
Evaporated	5½@6	@	6½
Peaches, sun-dried	5	@	7
Evaporated	8	@	13
Plums, Southern	3	@	4
Cherries	10	@	14
Blackberries	4	@	—
Raspberries	—	@	19
Huckleberries	10	@	11
GRAIN—Wheat, State white, per bus	91	@	93
Ungraded spring	80	@	87
No. 1 red, winter	90	@	91
No. 2 red, winter	84½@	@	85¾
Corn, No. 2, white	47	@	48
No. 2, mixed	45¾@	@	46
Oats, No. 2, white	—	@	—
No. 3, mixed	27	@	28
Barley	—	@	—
Rye, State and western	47	@	50
HAY—Timothy, per 100 lbs	80	@	90
Shipping	70	@	75
Clover	60	@	65
Straw, long rye, No. 1	70	@	—
No. 2	60	@	65
Oats	45	@	50
HOPS—N. Y. State, 1888, choice, per lb	23	@	—
Good to prime	20	@	22
Best, 1887	7	@	8
Pacific Coast, 1888, best	21	@	23½
Pacific Coast, 1887	6	@	7
German	30	@	32
POULTRY—Live fowls, per lb	12	@	—
Spring chickens	18	@	19
Turkeys	9	@	10
Ducks, per pair	50	@	60
Geese	1.00	@	1.20
Dressed fowls, per lb	12	@	13
Phila. springs	17	@	21
West. broilers	10	@	15
Turkeys	8	@	10
Ducks, spring, per lb	14	@	17
PROVISIONS—Beef hams, per bbl	15.00	@	16.00
India mess	12.00	@	12.50
Hogs, dressed, per 100 lbs	5.00	@	6.10
Lard, per tierces	6.00	@	6.10
Pork, new mess, per bbl	12.50	@	13.00
Short clear	11.00	@	12.00
Family	11.50	@	12.00
VEGETABLES—Asparagus, Colossal per doz. bunch	1.75	@	1.00
Prime	75	@	1.00
Beets, Long Island, per 100 bu'ch's	2.50	@	3.00
Cabbage, Southern, per bbl. crate	50	@	—
L. I., per 100	2.00	@	2.50
Cauliflower, L. I. & Jer. per bbl	1.00	@	2.00
Cucumbers, Florida, per crate	50	@	1.00
Savannah and Charleston	75	@	1.25
Green peas, Long Island, per bag	75	@	1.50
Onions, N. O., new, per bbl	—	@	3.00
Md. and Va	2.25	@	2.75
Bermuda, per crate	—	@	1.50
Potatoes, Southern, per bbl	2.50	@	4.00
New-Orleans	2.50	@	3.00
Old, prime	1.25	@	1.50
Spinach, Norfolk, per bbl	—	@	—
String beans, Md. wax, per crate	75	@	2.00
Norfolk, round	50	@	75
Squash, Flor. & Nor., per bbl	1.00	@	2.00
Savannah	75	@	1.00
Tomatoes, Fla., per crate	1.00	@	2.00
Savannah	1.25	@	2.00
Chicago, per case	1.50	@	2.00
Turnips, Jersey, per 100 bunches	2.00	@	3.00

Cattle Markets.

NEW-YORK, June 22.

BEEVES.—Receipts, 12,210 head. The week opened with a steady tone, which did not prevail on Wednesday, when values declined 10c. per cwt. Friday values were off 10c. per cwt. on a liberal supply. The beeves generally ranged from poor to good. Choice selected for export ranged from fair to good. Steers direct from the Plains were of poor quality; so, likewise, were the greater proportion of the still-fed beeves.

[Per cental, net.]	This week.			Last week.		
Good beeves	$5.00	@	—	$5.00	@	—
Fair	4.60	@	4.85	4.60	@	4.80
Coarse	4.25	@	4.50	4.25	@	4.50
Poor	3.75	@	4.00	3.75	@	4.00
[Per cental, gross.]	This week.			Last week.		
Good beeves	$5.00	@	—	$5.00	@	—
Fair	4.36	@	4.70	4.15	@	4.60
Coarse	3.90	@	4.10	3.90	@	4.10
Poor	3.50	@	3.80	3.50	@	3.80
Oxen	3.75	@	—	3.50	@	4.00
Dry cows	1.90	@	3.75	2.75	@	3.75
Bulls	2.25	@	4.00	2.50	@	3.75

MILCH COWS.—Receipts, 32 head. On Monday last no sales were effected. The following Wednesday the markets improved; 13 cows sold at $35@45 per head; two cows for $100. No further sales were reported.

VEALS AND CALVES.—Receipts, 2,311 head. The week opened with a decline of 1c. per lb. followed on Wednesday by a further falling off of ½c. per lb. Thursday values declined ½c. per lb. The market closed unimproved on Friday. The calves offered are most miserable in aspect. The veals ranged from poor to coarse. Range of prices: Calves, buttermilk-fed, $1.12½@1 per cwt.; calves and veals, in mixed lots, 6@6c. per lb.; veals, coarse and lean, 4@5c.

SHEEP AND LAMBS.—Receipts, 26,673 head. On Monday last sheep declined ½c. per lb., and lambs were off ½c. per lb. Wednesday the tone improved and values recovered ½c. per lb. Thursday sheep were steady and lambs firm. Friday the markets closed unchanged. The best sheep arrived from Ohio, the best lambs from Maryland. Range of prices: Sheep, $4.25@5.40 per cwt. Bucks and ewes in mixed flocks, 3½@4½c. per lb.; culls and sheep, 2c.; lambs, 6@6½c.; culls and bucks, 3@4c.

SWINE.—Receipts, 24,389 head. Trade on Monday last was extremely dull. The feeling improved on Wednesday, when values had an upward tendency. The markets closed steady on Friday. During the week 54 State hogs sold in small lots at 6¼@6½c. per lb.

BUFFALO, June 22.

BEEVES.—[Per cental, gross.]	This week.	Last week.
Extra steers	$4.30@4.40	$4.30@4.40
Best butchers'	3.90@4.15	4.00@4.20
Second quality	3.25@3.60	3.50@3.75
Fair to common	2.75@3.00	2.90@3.25
Stockers, light	2.50@2.60	2.60@2.65
Stockers, good to choice	3.00@3.25	3.00@3.25
Bulls	2.25@3.25	2.25@3.25

Receipts, 12,200 head, against 16,200 last week. Market dull and very unsettled. Grass cattle are coming in, Texas being offered here this week. Butchers prefer the latter to fat cows; sales were within the range of $3.25@4.10 for 1,050 to 1,350 weights. Prime heavy steers were all taken early, but other grades were weak and lower, with anxious sellers at the decline, and closing with a heavy supply in the yards. Prospect are for an irregular market for some time to come. Stockers quiet. Bulls steady, fair supply of choice.

VEALS.—Good demand; receipts fair; good to choice, $4.75@5.25.

MILCH COWS.—Firm for good to choice; common dull; extra, $50@60; good to choice, $35@45; common, to fair, $15@25.

SHEEP AND LAMBS.—Receipts, 23,200. Good to choice sheep fairly steady; supply light; common plenty; decidedly dull and weak. Best 90 to 100-lb. sheep, 5@5½; fair, 70 to 80 lbs., 4 to 4½; common, $4.25@4.75; culls, $3 to $3.75. Lambs—Light grass stuff, a drug at any price, selling down to $4.50; good to choice, $5.30@5.50; yearlings, 75 to 85 lbs., $4.75@5.25.

SWINE.—Receipts, 23,500. Active at opening—10c. to higher; declined about 10c. when the demand fell off, closing steady. Medium and mixed packers, $4.50@4.65; Yorkers, $4.40@4.75; roughs and culls, $3.90@4.25.

Dairy Markets—June 24.

ALBANY.—Light variations in Butter. State creamery, choice, 18@19c.; Western creamery, fine, 17@18c.; State dairy, 16c.; fair to good, 15@16c.; Western dairy, choice, 15c.

Cheese in fair supply and demand. State factory, full cream, new, 10@10c.; fair to good, 9@9½c.

UTICA.—The cheese market took an upward turn last Monday, and improved 10c. on transactions of very large amount. The total was 24,145 box at 8@9c., the ruling being 8½c. Little Falls also disposed of 10,000 box. at 8½@8¾c., the bulk going at 8½c. It was understood at Utica that this was the flush of the season, the sales being about 1,000 box. larger than ever before. Competition for the stock was fairly good, and 1,200 box. sold at 9½c., as well as 300 at 9¾c. It was noticed, however, that only two buyers paid 9¾c., while others standing out and refusing to pay over 9½c. for their pet lots. The result has shown that they were wise, for although the price advanced to 9¾c., nominally, the first of the week in New-York, it rapidly receded later on, and closed at 9½c. for as desirable lots. There was only one steamer sailing Saturday on which freight room could be had, and freights were advanced in consequence. The exports for the week are therefore light, and considerable stock is held over. The views of dealers vary considerably as to the final outcome of present dealings. The prevailing opinion seems to be that prices must come down, but cheese has been sold in the interior of Canada this week as high as 10c. It is difficult to form any judgment from such conflicting rumors and sales.

Butter remains unchanged. Utica sold 90 pkgs. of creamery at 17@18c., and Little Falls 70 pkgs. of dairy and 5 creamery at 16@17c. The New-York market is well stocked, but, while there is no present prospect of an advance, it is believed that the market can be held where it is, without further decline.

NEW-YORK.—Butter in moderate receipt, and steady for low grades. Receipts, 14,564 pkgs. Eastern creamery, fresh, 18@19½c.; Western creamery, fresh, 16@19c.; State dairy, choice, 16@17½c.; Western dairy, 13@15c. Western factory, choice, 12@13c.

A break in Cheese. Receipts, 73,500 boxes. Factory, best, 10@10½c. per lb.; light skims, 6@8c.; Ohio flats, 7@9c.

BOSTON.—Western creamery, extra, 19 @19½c.; extra State, 19@19½c.; factory, 18@19c.; Vermont, extra, 19 @20c.; dairy, choice, 16@18c.; Eastern creamery, good to choice, 19@19c.

Cheese, northern choice, 10½@10½c.; western, 9½@10c.; sage, 9@10c.

Wool Markets—June 24.

ALBANY.—Holders firm; sales 13,000 lbs.

No. 1, Pulled	34@35	Medium Fleece	32@33
Super Pulled	32@33	Fine Fleece	29@30

NEW-YORK.—Ohio XX, 29@30c.; Indiana 28c.; delaine, 30c.; unwashed western, 20c.; pulled, 33@34c.; Territory, 31c.; scoured, 50@55c.; Montana, 30c.; Oregon, 19@21c.; scoured, 40c.; Texas, 19@24c.; pounded, 24 @25c.; California, 19@21c.; scoured, 45@50c.; Colorado, scoured, 45c.; Australian, 50@55c. Montevideo, 19c.

BOSTON.—Sales, 1,164,000 lbs. domestic and foreign; Ohio and Pennsylvania, 29@30c.; Michigan, 28@29c.; combing and delaine, 29@31c.; scoured, 50@52c.; pulled, 31@33c.; unwashed 24@30c. Territory, 16@34c. Texas, 19@24c.; California, 19@21c.; Oregon, 19@21c. Australian, 50@55c. Montevideo, 24@25c.

Boy.—Mother, since I have been using *Wolff's Acme Blacking* my shoes wear longer than ever before, and I never get my feet wet, but I do not think they look as smooth as when I first used it.

Mother.—Indeed, my son, I am sorry you are so careless. You forget that even a good thing is only good when properly used. You have not even looked at the directions, for they are yet around the neck of the bottle. Now you must read them, and they will get you out of your trouble. Your father and I keep our shoes in elegant order by its use. I use it about once a month and pass about once a week.

Wolff's ACME Blacking

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Try it on your Harness.

WOLFF & RANDOLPH, PHILADELPHIA.

The Fireside.

When Language Fails.

There is an hour when language fails,
When speech is powerless to impart
The depth of grief and wretchedness
That agitate the heart:
The lips are closed in dumb despair;
A shadow on the face appears;
And through the silence breaks alone
The eloquence of tears.

There is an hour when language fails
To tell the joy that stirs the blood,
And sends it rushing through the veins
Like to a spring-time flood;
Tears for the mastery contend,
And wrestle at the gates awhile,
But gladness triumphs in the end
With its expressive smile.

O more than words are smiles and tears,
And sighs, that from the heart's deep well
Arise, and to the attentive ear
Their tale of sorrow tell:
For as, when shaken by the storm,
Each flower its perfume sweet exhales
So does the sympathetic heart
Respond when language fails.

—*Josephine Pollard, in N. Y. Ledger.*

Goldenrod or Arbutus?

Reply to Question on Page 466.

For a national flower it seems as if the goldenrod was by far the more suitable of the two. The arbutus may be more of an individual favorite, but is it emblematic of our country? It is a timid little flower, hiding its head beneath a coverlet of leaves, attracting attention and admiration only when it is sought or brought.

The national flower should be a more universal one than arbutus, which is found only in a few localities, and then in small quantities. A foreigner would not be likely to know we had such a flower from his own observations.

No; not arbutus for us! Let some little land transplant and adopt that if it will—child of our beautiful country—and our great land, for the sake of the sweet flower, will not forget the smaller one.

I am reminded whenever I see those blossoms, hidden deep under thick beds of dried leaves, that they teach us a beautiful lesson. We may pass along and trample on what we suppose to be nothing but withered leaves; but not so. God can see beautiful flowers. He put them there. Let us always look deep enough and work patiently, and beneath a most uninviting surface, a dark present, a doubtful future, we shall find the sweet bud of promise and the blossom of fulfillment.

What can we say for the goldenrod? Its beauty perhaps speaks first—if not that, its universality. There are in this country about seventy-five distinct species, and in other countries only three or four, making it strictly an American flower, for our common kinds are not, I understand, the ones found abroad.

If, as we suppose, the sun gives color to the flowers, this indeed must be a special favorite of his. If your "fancy takes flight," seeking a brilliant trio, take a scrap of sunset, an oriole on the wing, and a bunch of goldenrod. I think there is some relation between them. Now, surely, beauty is a type of this country, and the power of universality is another. Everlasting is another of the goldenrod's qualities. Its splendor has departed when we find it in the spring, after defying winter's storms, but there it stands, the blossom perfect, only the color has flown.

Does it not, too, represent brotherly love? It may be a mere fancy of mine, but I have often thought that it had a noticeable way of nodding its head in a very graceful bow to all its associates. A cheerful and almost affectionate look it bestows upon the flowers beneath it. I doubt if there is one under its sway that would voice the sentiment of one of Uncle Sam's little subjects, who sang—

"the land of the blave,
The home of the free,
For everybody but the heathen Chinee."

After saying so much about goldenrod, I have a few words to offer in favor of our own *Indian* maize. Indian corn was unknown before it was found in this country, and here it now grows most extensively. With the exception of rice, it is eaten by more people than any other grain. Besides furnishing better material for growth, it is more adapted as a food both for human beings and animals. More than ten years ago the imports into Great Britain were valued at over $60,000,000.

Perhaps we have not given it credit for being beautiful, but it must be, if this is the case, that we have not looked at it appreciatingly, for it is truly a beautiful thing. We may be too much accustomed to the sight of the stalk crowned with its clustered spikes of blossoms to recognize its stateliness and subtropical appearance. It is frequently seen growing in different parts of Europe as an ornamental plant.

"A song for the plant of my own native West,
Where nature and freedom reside,
By plenty still crowned, and by peace ever blest,
To the corn! The green corn of her pride!
In climes of the East has the olive been sung,
And the grape been the theme of their lays;
But for thee shall a harp of the backwoods be strung,
Thou bright, ever beautiful maize!"

C. I. A.

—— Why not select the laurel? It flourishes from Maine to California, its perennial green relieving the desolation of our country landscapes in winter, and its white and rosy bloom decking the hillsides with beauty in early summer. It also symbolizes fame and heroism, and surely as a nation we can justly lay claim to both. The trailing arbutus is exclusively the Pilgrims' flower, and the goldenrod too suggestive of the worship of mammon, which is our national sin, and being an autumn blossom, it points to death and decay.

The laurel grows also in Oregon, and at the foot of Mount St. Elias in Alaska. It combines the beauty of the rose, the green of the shamrock and the hardiness of the thistle. English, Irish and Scotch are incorporated in our population, and transformed into Americans.

Many other reasons could be urged in its favor, and the admirers of the Mayflower can consistently change their vote, arbutus belonging to the laurel family.

On sentimental grounds, then, let us have the laurel. It speaks for itself. Will not the COUNTRY GENTLEMAN popularize it and boom it for our national flower? HELEN R. FITCH.

New-London County, Conn.

Children's Day in Brooklyn.

It may prove interesting to some of your readers to have a review of the sixtieth anniversary of the Brooklyn Sunday School Union. This anniversary is popularly styled the "May Walk," but which all the same comes some time during the first week in June, being postponed to this date so as to insure mild, fair weather for the children. This fifthof June was all that could be desired, being clear and bright, although a little cool, but this last was utterly ignored by the children, so great was their delight as they exclaimed enthusiastically, "but it does'nt rain!" All Brooklyn took pride in her children and showed it in many ways. From the City Hall and all public buildings floated the national colors, as well as from the steeples of the churches, and private residences were profusely decorated with bunting, the whole city presenting a truly gala appearance.

Imagine if you can 60,000 children dressed in festival attire, carrying handsome silken banneretz, large and small, with appropriate inscriptions upon them, waving flags and cheering as they marched to the inspiriting music of many bands, the windows, balconies and door-steps crowded with thousands of happy spectators, and you will have some faint idea of children's day in Brooklyn. Of course so great a number of children could not all be accommodated in one place, and it was necessary to arrange them in divisions and these in sections, while a grand marshal and his aids presided over each, and so perfect were the arrangements that there were no tedious delays.

At 11 o'clock the City Hall bell together with the church bells rang out a merry peal telling the eager children that the festivities would begin. From 1 o'clock to 2, the streets began to present a brilliant panorama. Children singly and in groups hurrying to their several churches, where they were arranged according to their classes and where the exercises were held, and from whence they marched together with their teachers to the places appointed for them.

The Prospect Park division was the largest, and consisted of 30 schools and 14,000 children. The beautiful park was given up to the children. The reviewing stand was erected just under a lovely hill at one end of the common, and which faced the large archway at the entrance to the park. The common was enclosed by a galvanized wire-fence, inside of which were placed stakes surmounted with red and yellow signal flags to mark the route of the procession, and in the centre a tall flag staff from which floated the American colors. Mr. L. Costerno's band gave a concert of half an hour in length while the different sections were getting in order, and being placed at their several entrances. Suddenly the band turned their faces toward the lower end of the common, and marched quickly to the centre of the immense green, followed by the different schools, all keeping perfect step to the inspiring music. It was a sight long to be remembered. So many thousands of happy children formed a most beautiful picture, as they marched and counter-marched over the bright grass, with the magnificent old trees stretching out their branches of tender June leaves over them. They were reviewed by the mayor and other notable people.

The Clinton Avenue division, numbering 10,000 children, was reviewed by Ex-President Cleveland and other noted guests, who were escorted by a company of Sunday school cadets to the reviewing stand, which was gaily decorated with flowers and bunting. The Heights division, numbered 19 schools and 8,000 children, the first section of which was composed of Plymouth church Sunday school, which is a sight in itself. The Eastern Division numbered 16 schools and 7,500 children; Carroll Park Division, 15 schools and 5,000 children; Ocean Hill, 3,000 children; New-York Avenue, 3,500; Tompkins Park, 6,000; Bedford Avenue, 7,000; South Brooklyn, 1,800.

A lady from New-York said: "I did not know there were so many children in Brooklyn," and when told that next day, June 6, the Eastern District of Brooklyn would hold its annual anniversary, with 20,000 children in line, her astonishment was unbounded, and also that all the schools were not represented. After the parade was over, all returned to their respective churches, where a feast of ice-cream, cake, strawberries, bananas and other good things were dispensed to the children, who, tired, but thoroughly delighted with their May walk, then wended their way home.

AUNT ADDIE.

A Novel Scheme.

An entertainment recently given here was certainly unique. A short description of it may interest the readers of the COUNTRY GENTLEMAN, especially those who desire to make money for church societies, literary clubs, or organizations of any kind.

Seventy-five young ladies and misses took part, each girl personating a business firm of the town—her dress decorated with articles taken from the stock of goods sold by the gentleman she represented, and rehearsing a few lines which further explained and advertised the particular line of goods in which he dealt. These little speeches were mostly of a comic cast and kept the large audience in a good humor throughout the evening. The affair was full of pleasant surprises for all, the kaleidoscopic changes (no two dresses or speeches being alike) showing the fertility of resource of the performers.

The grocery girls were trimmed in nuts, fruits and candies, one having a girdle of lemons, potatoes strung together and slung over one shoulder, and a breast-plate of gingersnaps. The black dress of another was festooned with cranberries, covering the entire front, arms and neck decorated with the same rosy fruit, which glowed like corals. Another girl had her hair dressed with cute little red radishes, a fringe of crimped lettuce around her skirt, and young onions for bracelets.

A saddlery girl looked charming in a huge white horse collar that surmounted her pretty face like a unique Elizabethan ruff, her dress made of carriage robes and carrying a whip.

The young ladies representing the clothing stores were completely metamorphosed in their plug hats, shining shirt fronts, coats, vests, neckties, &c.; a gentleman's costume entire, except the pantaloons. The dry goods ladies had a wealth of material from which to draw, as might be supposed, as did also the millinery girls.

The photograph galleries were well gotten up, one whose name is King being represented by a young lady robed as a king, wearing a crown and bearing instead of a sceptre, a camera. Another had the front panel of her skirt made of large photos, a tall cap surmounted and edged with card photographs. A bakery girl was strung with chocolate drops and biscuits.

One of the furniture stores which make a specialty of upholstering, had a representative regal in plushes, brocades, portiere goods, and elegant cords and tassels. A handsome double chair, upholstered in blue and gold, was pushed in ahead of her, and on it she seated herself while reciting her speech.

A fine vocalist represented the Singer sewing machine, and delighted the audience by singing her advertisement, which had been set to a popular air.

Time will not permit a detailed account of the costumes of the drug store girls, with their sponge epaulettes, wall paper dresses and bottle trimming; the hardware girls, resplendant in cutlery and musical with jingling sleigh bells, nor the scores of miscellaneous firms, printing offices, flouring mills, carriage factories, &c. To be appreciated one must see them.

It is one of the least expensive entertainments, speedily gotten up, and draws better than any other home affair. The society cleared $100.55, and could have made another evening out of it had they given more firms a chance to advertise.

If any society contemplates getting up such an entertainment, and wish the little speeches and directions for managing, they can be furnished by applying to Mrs. Virginia S. Patterson, Bellefontaine, Ohio, who originated this part of the performance. S.

FROM NANTUCKET.—Last fall a man was tried for petty larceny, and sentenced by the judge to three months in jail. A few days after the trial, the judge, accompanied by the sheriff, was on his way to the Boston boat, when they passed a man sawing wood. The sawyer stopped his work, touched his hat, and said, "Good morning, judge." The judge looked at him a moment, passed on a short distance, then turned to glance backward, with the question, "Why, sheriff, isn't that the man I sentenced to three months in jail?" "Yes," replied the sheriff, hesitatingly—"yes, that's the man; but you—you see, judge, we haven't any one in jail now, and we thought it a useless expense to hire somebody to keep the jail for three months just for this one man; so I gave him the jail key, and told him that if he'd sleep there nights it would be all right."—*Harper's Magazine.*

ENGLAND, BISMARCK AND THE UNITED STATES.—England's fall, indeed, would be the severest blow that could be inflicted, not only upon the Anglo-Saxon race, but upon mankind in general. The consequences of such a calamity would, under the present circumstances, prove fatal just now, when Eastern and Central Europe—threatened by the black clouds of mediæval feudalism, and tempted by a statesman whose luck is equal to his astuteness, to tread the gloomy path of retrogression—have only England, the nearest beacon light of liberty, to look up to. Heaven forbid that the waves should close upon this pharos, for the light of the Great Republic across the ocean reaches but feebly the old mother continent, and the time is as yet far off when "the power of the English-speaking race will outweigh that of all the rest of the world"—as is said by an enthusiastic writer in the April number of this magazine.—*Forum.*

THE COUNTRY COLLEGE.—It is not the country college, but the university college, which has most to fear from the growth of the universities. The country college will continue to fit nine-tenths of her graduates for professional and business life, as she has done. The other tenth she will prepare for the universities; and the college which in these days fails to send from five to ten per cent. of its graduates on into university work is false to its students and false to the cause of education. The best use in furtherance of higher education in New-England to which $350,000 could be put to-day would be the establishment of 25 fellowships in the country colleges of New England, enabling one or two in each college class to enter upon university studies. The stimulus to the colleges and the support to the universities arising from such system of fellowships would be invaluable; and it would impress students with the true and real relation of the college to the university, as no amount of mere explanation and exhortation can impress them.—*Atlantic Monthly.*

THE PRESENT GOD.—The same temper of mind that would leave God behind us in the past, would persuade us, also, to banish Him to distant space. He is not *here*, but *there*. We look for Him above, beneath, around us. In majesty He broods over the abyss; benignly He gazes from the stars. He is under the ocean, in the desert, on the mountain top. But how seldom we recognize that He is *here*. Our surroundings are vulgar; and to associate God with the poor, common things of life seems little less than profane. But this was not Paul's view of the divine. In the tentmaker's workroom at Corinth, where the canvas and the tools were lying as he entered upon his morning task, lo, God was there! His bodily eyes saw only the plain, common-looking man who worked with him, but a keener sight beheld the spiritual presence of the divine Workman, who was great enough to fashion the world, and humble enough to toil once at St. Joseph's bench. The lane in which the apostle lived may well have seemed

ten days for anything beneath) to enter. Let it be, for the time being, child's play and hobby genet. He loved his discipline, and would not have him overburdened. When Paul passed down into the hold of the Mamertine prison, he found Luke already there. In ministering the holiness the world has always presented the Master; for He cannot desert His own. To all believers in all time He has published the promise in the letter: I will not leave you comfortless, I will come to you. He hates, hates, to part. So we, His children, are great distances to find Him. We say He is at the centre of the universe. And so He is; and so is every one of His creatures. The centre is everywhere. Where the Lord wears you stand, and you are there.—*American Magazine.*

FOODS AND DRINKERS.—In the present condition of the Mississippi valley, foods and drinks seriously affect the tidiness of man. Take the case of the cotton planter, whose great sons of toil work hand together on the river banks. The alluvial lands are in all cases regularly inundated at the inconvenient season after annual ways of transportation, the valley is a network of bayous, and the construction of the great extension of railway systems. In the present condition of these valleys, the food of the people is largely pork, which is especially distressing for both the value of food and in periods of drouth they are reduced to the use of cornmeal. Moreover, in the flood periods, the streams are a very settled condition, and the water is not fit to use until along the river banks. As yet, we have only seen the beginning of these evils; for notwithstanding the extensive settlements in the Mississippi valleys, more than half their original area remains unoccupied. The result will be a rapid increase of typhoidal troubles, which will become so thoroughly entrenched in the mass of the people, that, as in Europe, we have yet great ills to apprehend.—*Scribner's Magazine.*

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Last, Wayne County, Ohio, Dec. 16, 1876.

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THE CULTIVATOR AND Country Gentleman

Albany, July 4, 1889.

Two Troublesome Plants.

The Goldenrod--Orange Hawkweed.

EDS. COUNTRY GENTLEMAN—The originators of the idea of making a national flower out of the goldenrod must be unacquainted with the character of the plant. Here with us it is a pest of a bad kind, and its stately beauty does not detract much from its troublesome qualities. Its single stalk grows from one to three feet high, according to the condition of the soil. It delights in taking possession of headlands of fields and places difficult for the plow to reach, and here its growth will be wonderful. It has a long tap-root, generally running straight down into the ground, and it requires a strong pull to get it out without breaking. The root is covered with fine rootlets, which, if left in the ground, will quickly send up another plant.

It requires pretty thorough work to subdue it in a field under cultivation, and it will often spring up with the grain crop sown on seeding down to grass. As the grass runs out, as we say, in a field, the goldenrod will take its place, and it makes but a sorry substitute, as it is good for nothing in the hay. In such cases plowing and thorough cultivation is the only alternative or remedy. In some pastures it is very troublesome. Mowing once or twice a year before blossoming is advisable, as also early pasturing with cattle.

We have a small pasture that had for some years been occupied with horses. Here the goldenrod made its appearance, and produced a wonderful growth. For a while it was mown once a year, and this diminished the growth somewhat. One spring some young cattle were turned in early.

We suppose they must have eaten the young plants and kept them down, as they made very little growth that year, and have not since. When horses were first turned into the pasture it would not be until after spring work was completed and these plants had gotten quite a start—too much so to be palatable as food, if, indeed, the horses would eat them at all. I think this weed does not flourish very well in cattle pastures.

I should say there is no necessity of "adopting" this plant as a national flower, at least in this part of the United States, for in too many cases it is adapting itself to the country, and with such persistence as to make it an emblem of unmitigated evil, and the question is, "What shall be done with it?"

While on this subject, I wish to say a few words in relation to another weed that is likely to prove very troublesome. It is here known as the "lady's paint brush." The stalks grow about a foot high and produce from one to three double flowers, about the size of the common pink and of a deep red color. It is but a few years since these weeds were first noticed by the roadside, and they are spreading very rapidly, some portions of pastures and meadows being red with them, as they are now in full blossom. As they must mature their seed by the time haying is being done, there would seem to be no limit to the spreading. Where in mowing fields, it would be best to cut the grass early, before the seeds mature, if possible, and then the ground should be plowed and devoted to cultivated crops in order to get them out of the soil.

But where the land cannot be plowed, what shall be done with them? Cutting off the flower stalk might keep them back, but can they be destroyed in this way? Can the COUNTRY GENTLEMAN afford any help in this matter? It is supposed that this pest was brought here as a flower; if so, then in this case it proves the old adage, that "a flower out of place is a weed."

From choice I should rather undertake to exterminate the goldenrod than the lady's paint brush, and both are certainly bad enough.

Franklin County, Pa. E. R. TOWLE.

"Lady's Paint Brush" is apparently a local name applied to *Hieracium aurantiacum*, the "orange hawkweed." The character ascribed to the plant in question applies well to this hawkweed. It is in some places called "Red daisy." There is little doubt that it was introduced into this country as an ornamental plant. It has now become well established, and in some places is a troublesome weed. It has been known as a weed in this State for twelve or fourteen years. It thrives especially in upland or hilly pastures or meadows where the soil is gravelly and inclined to be cold and wet from lack of underdrainage. It is not often seen in low, rich or well drained land, or alluvial bottoms. It grows rapidly, and forms a close carpet of radical leaves and runners, which nearly exclude all other vegetation. It bears rather a dense cluster of flowers at the top of the stem. These are compound, like those of the ox eye daisy, but the rays are of a bright orange red or sometimes yellowish-orange, and the appearance of the cluster might well suggest the name used by Mr. Towle.

The plant spreads both by its seeds and by runners. If mowed early, before the seeds are ripe, the plants soon send up another flowering stem, and unless mowed again, will soon perfect a second crop of seeds.

It has now become so well established in bush lots, rocky places and waysides that it is hopeless to try to exterminate it by mowing. An abundant sowing of salt over it will kill it, but at the same time it will kill such other vegetation as may be growing with it. It may be successfully kept in subjection by plowing it up, enriching the soil and planting such crops as require and receive thorough and frequent cultivation. We suspect that a buckwheat crop would also be a good agent for subduing it, provided the land is well prepared before sowing the buckwheat. C. H. P.

Notes from Southern Ohio.

Making Clover Hay in the Rain.

EDS. COUNTRY GENTLEMAN—The weather still continues wet, and most of the time quite cool for the season. Since our drouth was broken, May 11, it has rained nearly every other day, and three-fourths of the time the weather has been cloudy. This has given a wonderful growth of grass and small grain, and the prospect is now good for a heavy hay, wheat and oat crop. A new pest has appeared on the wheat and while we cannot as yet notice any damage, it gives some anxiety. It is a green louse, apparently the same that we find on rose bushes and house plants, and it seems to be on every head of the wheat, in many cases so thick as to be fairly packed between the grains of the head. I mail samples of it this morning to our experiment station, and am anxious to hear what our entomologist has to say about it. I have read of this pest for a week or two past, but did not discover it here until Saturday the 15th. I wish others would report what they have learned about it.

I am having quite an experience in making clover hay in the rain, and think I have had wonderful success considering the weather. I started the machine, June 6, after a week of rain, and thought I had a good prospect of drying weather. We cut about three tons in the evening on Thursday, but Friday and Saturday it rained in torrents, and the clover lay in the swath until Monday. I found that only the top was wilted, Monday, and turned it and got it dry enough to cock, and notwithstanding the time it was out, I put it in the barn on the sixth day after cutting, in about as good order as I ever had clover hay. I have as much more out now, which has gone through a similar experience and yet will come to the barn in good condition if we get a few hours of good hay weather to-day. We have had the advantage of a strong breeze with a bright sun several afternoons when the forenoons was drizzly, and the hay would make rapidly. I have a new Whitely machine which has the wheels wider apart than the old style machines, so that they do not run on the cut grass at all but straddle the swath, and the grass board is so arranged that the grass is left in good shape to turn the rain, and it can take a large amount of rain with little drainage. After the rain is over and the top of the swaths dry, we turn them up on edge. I have no hay tedder, but two men with dung forks will turn over an acre an hour. If the weather is good we get it turned before dinner, and by 1 o'clock start the horse rake and rake it into small winrows. Then the men follow and loosen and shake out these winrows so as to have them well open to sun and wind. Two men can keep up with the horse rake in doing this. At from 3 to 4 o'clock, being governed by the weather and the amount of hay to handle, we begin putting up in small cocks, and allow it to stand until the outside is perfectly dry the next day, when we open the cocks and dry for two hours when it is ready for the barn.

I have no silo, but intend to try making ensilage in a stack. Secretary Bonham tells me that he saw excellent ensilage last fall that had been made by building up the clover without curing in a stack perfectly square and straight, to the height of say eight feet. Then cover the top with straw and weight it down with earth. I shall put up one stack in this way, and will report my success or failure with it to your readers.

Early planted corn is looking fairly well, and will average over a foot high, but there are thousand of acres of corn that was put in about the middle of May that has not been worked at all and is quite small. It is, however, changing color, and if cleaned out soon and we have good corn weather, there is time enough for a good crop, for July and August are the months that make the corn crop. It is a rather unusual thing and greatly in our favor that, with all the excess of rain that has fallen, there have been no freshets, no washing of land, and the fields have really not been packed and heavy. This is due partly to the fact that the land was so dry as to take up an enormous amount of water, and partly to the fact of the rain falling in such a long succession of showers with intervals of a day usually between them. While we have been kept out of the fields for more than half the time for a month almost, no damage has been done to crops.

Butler County, O. WALDO F. BROWN.

Fairs in the Southern Tier.

The New-York and Pennsylvania Show.

EDS. COUNTRY GENTLEMAN—Last Friday closed the first experiment of the Chemung County Agricultural Society with holding its fair in June instead of the fall, and it proved a complete failure. The society had heretofore been unfortunate in respect to weather, and hoped a change to June might prove more fortunate. The floods and calamities of the past few weeks are not chargeable to that society; yet there are some old wheel-horses in the line of agricultural education who feel that it is not deserving of much sympathy. A fair at this season cannot show the productions of the soil, for they are not yet grown. It can, so far as agriculture is concerned, be only a showing of live stock and implements. To attract the crowd and interest the people there must necessarily be more dependence upon the side-show element. They had a balloon ascension, a beauty contest and races—a thing this society's hands had before been clean of—and a couple to be married, with a prize bedroom set as a bridal present from the society. In this instance the dealer who had promised to furnish the bed-room set proved to be only a fair-weather giver, and the booth assigned for the display of this set, and also furniture from his store, was conspicuous for its emptiness. Hearing of this misfortune, Mr. Geo. M. Robinson (secretary of the Inter-State Fair to be held in September) sent five truck loads of elegant furniture from his store, and also made good the promised bed-room set for the couple that should wed. The society are $500 out of pocket, and the members feel discouraged.

The new Inter-State Fair Association seems to be very flourishing. The plans for its buildings are completed, and work will be commenced at once. The main building will be in the form of a Maltese cross, each of the four wings 200 feet long and 60 feet wide. It will be two stories high. The live-stock stables will be very much on the plan of the buildings at Buffalo, built in a hollow square, so that a visitor may go through the whole without stepping into the open air. The race track is an entirely separate enclosure, so that there is no reason why one may not see all the "menagerie" without any of the "circus," if so inclined. The premium list, which will be out this week, offers very large prizes for fruit, especially grapes, for flowers and floral designs, dairy products, and tobacco, in which lines especial efforts will be made. The officers of the association are—

President—JUDSON H. CRANE.

Vice-Presidents—D. B. Whipple, Cuba; T. R. Proctor, Utica; John L. Taylor, Owego; F. G. Babcock, Hornellsville; George Brand, Elmira; C. L. Patterson, Elkland, Pa.; O. H. Lowell, Troy, Pa.; Geo. O. Holcomb, Troy, Pa.; Colvin A. Ilues, Canton, Pa.; Walter Tracy, Towanda, Pa.

Treasurer—D. C. Robinson, Elmira.

Secretary—Geo. M. Robinson, Elmira.

Assistant Secretary—C. C. Thacher, Elmira.

C. C. T.

English Notes by T. Bowick.

A Bath and West of England show without rain would be a strange phenomenon; and this year its old character is well maintained. Not with rain only, but with thunder storms of unusual severity and marked gloom has the first week of June visited us. I was out late in the S. E. district of London on Thursday, and never witnessed more beautifully defined forms of ribbon-lightning than on that occasion; it was well worth the drenching which accompanied it. Up and down the country we have accounts of dwelling houses struck by lightning, of horses, cattle and sheep destroyed, and of people being rendered insensible. Happily there is little hay cut yet, save in the neighborhood of the metropolis, though great damage has occurred to low-lying meadows which have been flooded and silted to a large extent. To-day a clearer atmosphere prevails, and it looks as if the storm had spent itself.

Wheat crops are promising on well drained land, but on clay, fen and wet soils the prospects are dubious. Weeds, chiefly thistles and charlock, show up to a tremendous extent, as they always do in a dripping season. Potatoes look well, both in fields and gardens, and the Channel Islands' stuff is most abundant in the retail shops, moderate in price, but more watery in quality than is agreeable at table. A country clergyman is advocating the planting of the crop as late as midsummer. "I first (says he) saw the experiment tried near Cambridge, about forty-five years since, and for the last ten or twelve years have made a point of relying on the June and July planting for my main winter supply, of course growing enough early ones for the summer and autumn use. The consequence, has been that, during all these years, I have scarcely lost as many potatoes from disease, even when my neighbors have suffered most severely. Besides which, I reckon to have a heavier crop and fewer small potatoes, from the June and July planting than from the earlier ones. Potatoes only require three months to develop the crop and they thrive better during the summer and autumn months—indeed up to the middle of October—than when the growing tubers are subject to the drenching rains and steaming heats of our English midsummer."

Swede sowing is little more than begun, but mangolds are showing up well, despite the activity of the slugs which abound to an unusual extent. The new farm machine "The Strawscomber" claims to be able to deal with insect pests in a manner not before attempted. Certainly, it is worth attention; for whether in the spreading of liquid or of pulverised matters, in big or small quantities, its results are quite phenomenal; while easily drawn by one horse it will broadcast 30 to 40 acres of barley a day, will spray the same area of turnip land with paraffin or other insecticide, covering every leaf and blade with a fine dew, will work equally well through a hop plantation, throwing clouds of spray twenty feet into the air, and will distribute soot, and especially powdered lime, over a great area and with superhuman precision and evenness.

There is every probability that the clip of wool this season will be heavy, and it is pleasant to add that prices are the turn in favor of the buyer. No less than 400,000 bales are entered for the Colonial sales, which open on the 18th inst., and it is fully expected that the whole will change hands, and that the results will cheer the hearts of our friends on the other side of the globe. The New-Zealanders whom I have lately met are all in better spirits than I remember to have seen them, though of course their colony, which has been well named the "Great Loan Land," will need many good seasons to enable it to balance its outgoings with its incomings. From Australia there is less record of the rabbit pest than for some time back, while the great interior does not appear (after explora-

tions) so forbidding as we have been accustomed to consider it, for a generation back. Local federation, which is bound to come sooner or later (I would rather see Imperial federation) is engaging the attention of our friends.

Breadstuffs are not the only articles that have come down in price during the past quarter of a century; a parliamentary return just issued shows a drop in nearly every raw material. Thus: Wheat is 40 per cent. lower; rice, 42 per cent.; wool, 33 per cent.; cotton, 27 per cent.; timber, 50 per cent.; refined sugar, 55 per cent. With reference to the latter article, which of course is receiving great attention in all circles, owing to the bounty-fed controversy, it is noticeable that the consumption has increased enormously of late years, namely from 16 lbs. per head in 1840 to 74 lbs. last year. This does not mean that every man, woman and child consumes on an average 74 lbs. each throughout the year—though the present consumption has vastly risen—but rather that the article now enters into the market in the shape of sweets, confectionery and beer, to an extent that can hardly be conceived. The price, also, is but one-third of what it was 30 years since, half of this reduction being due to the repeal of duty, and the other half to the fall in value. *London, Eng., June 8.*

Small Farms Defended.

The article from which Mr. H. H. Stoddard quotes (page 389) was written as a defence of the hired man against the charge of careless, filthy habits that should exclude him from the home of his employer. That the *large* farm affords superior opportunity for machinery is true, but with the implements and motive power now in general use, the advantage is not great, and is more than counterbalanced by other considerations. Such devices as are mentioned by Mr. Stoddard are alike applicable to large farms or small. Great improvements may be made in farm machinery, but the labor of the farm can never be performed automatically to the extent that is practicable in manufacturing establishments. Neither are the advantages arising from a division of labor available in farm operations. The man who follows the plow must also mow, reap and thresh each in turn whether the farm is large or small.

Some men will work well for others but never accomplish much for themselves. Others are able and willing to work, but lack ability to so direct their labor as to secure thrift and prosperity. It is better that the energy of such men should be expended under the oversight of those who have more brains and better judgment. But while a considerable number are thus deficient in ability, a greater number are fully competent to form and execute plans of their own, thereby securing independence and comparative wealth. The rural districts of our country are full of such men. They may be owners of only small farms, but they are self-reliant and energetic, and of untold value in communities.

The farms in Northern New-York vary from 30 to 300 acres, with a few larger ones. I have not accurate data at hand, but think the farms in this vicinity will average perhaps 130 acres. Suppose that, conforming to what Mr. Stoddard terms a "tendency to greater capitalization in farming," twenty of these farms should be merged into one, with the most able man among the twenty farmers as owner and manager. It is far from certain that the 2,600 acres would be made to produce more than they now do. Certainly no such owner or manager would expect to accumulate capital if from the proceeds of the farm and labor of the present occupants he had to support his own and the nineteen other families in the comfort and luxury they now enjoy, together with facilities for recreation, education and mental improvement.

The change from hand labor at the private bench of the mechanic to the use of power in the factory was not distasteful, but ask these owners of small farms if they would like to change their condition for one in which they would receive monthly or yearly wages for constant labor, and you will soon learn that they place a high value on the comparative independence in which they now live. Many of these men saved money for part of the purchase price of their farms while working by the month or year before marriage, but probably no one who has had such an experience would expect to support and educate a family while employed as a common farm laborer. Happily, farming on a very large scale has not proved a financial success in this country, and under our laws the day is far distant when the large farm, with its tenant houses occupied by families of life-long farm laborers, will take the place of the twenty small ones—the homes of independent owners of the soil. It may be true that in Nebraska the tendency is toward larger farms and the concentration of capital, but in New-York attention is more particularly directed toward large farming on few acres. The farms here are not as large as they were twenty years ago, and through the introduction of the silo and a system of partial soiling, will probably continue to decrease in size.

At the risk of repeating part of the discussion contained in the COUNTRY GENTLEMAN last year in relation to the size of farms and cost of farm machinery, I will briefly present some points relevant to the subject. A farm of 150 acres of tillable land is large enough to employ profitably nearly all machinery now in use for the cultivation and harvesting of crops. Wagons, plows and harrows, a cultivator, grain drill, mowing machine, hay loader, manure spreader, potato planter, feed cutter and horse power may all be owned and used profitably on this small farm. Several of these implements will find as full employment during the season for their use as they would on a larger farm. Others are not costly, and will last a lifetime with proper care. A twine-binder is not needed except where wheat is the specialty. Oats, peas and barley can be secured better without binding. There is no difficulty or disadvantage in hiring the threshing done by those who make this their business in its season.

It is true that many do not use all the machines above mentioned, as they consider the cost too great, but there is a remedy that appears to me far better than the consolidation of several farms. If the farm consists of 150 acres, worth $50 per acre, let the owner sell 20 acres, and with the proceeds furnish a complete outfit for the remaining 130 acres. A few such sales will make room for another granger, and a little better farming will secure more net income than is now realized. In this way means may be had to buy improved harrows, a manure-spreader, a grain-drill, a potato-planter, a reaper, a hay-loader, and a horse-power and feed-cutter, and also build a tool shed for storing the same. If tools are housed and cared for as they should be, the depreciation in value resulting from their use is not great. It is true that the misuse and exposure of machinery on the larger farms of the West have contributed to the building up of the manufacturing interests of the country, but this argument in favor of large farms was not adduced by Mr. Stoddard. It is also true that ownership and pecuniary interest will secure better care and management of implements than they will receive when left entirely in the hands of hired laborers.

In my view, the ideal farming community is one with comparatively small farms, where the interests of ownership and labor are united, where mental activity prevails, and where men are found useful alike in the field, the grange, or the farmers' club or institute. C. S. RICE.

Lewis County, N. Y.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *June 24.*

Since the violent thunder storm of the evening of the 20th—a storm covering an area of a hundred miles north, as far south, and how much farther east and west I do not know—the weather has been cool and cloudy. Then this, after such heavy rains, nothing could be better for wheat, oats, grass and potatoes, and nothing worse for the corn crop. Having lived in Illinois since 1857, I have never seen anything equal to the present bad condition of the corn crop at this date. For 40 counties, the average growth is not over six inches; not over half has been plowed, and half of that half is either green with grass or just emerging from the overflow of water.

Recent experiences have taught that when the earth is overflowed and the ground supersaturated with rainfall, the water in tiles refuses to flow—in the same way that liquids refuse to leave closed vessels except by jerks, unless a vent of some kind is provided. The result, therefore, has been that the water is very slow to leave well-tiled lands, and consequently great losses by drowning and scalding. There is now in sight ten times as much corn drowned out as I ever saw before, and I think that this is a common opinion among those so long here as to remember the flood years of 1844, '51, '65, '75, &c.

The agricultural situation at present is a grave one, and a curious and interesting feature of it is, the official crop reporters and the commercial press appear to have no just conception of it. According to these authorities, everything is lovely and the farmer's sky is clear. After the old corn now in first hands is put on the market, we shall be treated to estimates of the crop of 1889 that will put it below any previous one for the last ten years. If Gen. Rusk, the Secretary of Agriculture, could now go over Illinois from Chicago to Cairo, 365 miles, and add to that another ride of 250 miles from Danville to Quincy, he would be able to form a pretty clear notion as to the value of the estimate of his official reporters.

The aggregate of rainfall between May 29th and June 21st was a trifle less than 12 inches, according to my measurement and that of the Urbana University. The clouds look like rain this morning, but the barometer says "No, not much." However, the mercury is falling, having been at the dizzy height of 30.43 three days ago. R. F. J.

Northeastern Ohio.

EDS. COUNTRY GENTLEMAN — Farm crops generally in this section of the country are looking remarkably well. Wheat, where not winter-killed, has headed out well; but where the ground is in rich condition, it has made such a strong growth that it has lost over, and in some places the recent severe rain and wind storms have caused it to tangle up in bad shape. Meadows look well, and the hay crop promises to be heavy, but in many fields weeds of all kinds are so abundant that the quality will not be the best. Owing to the cold spell of weather at and after corn-planting time, corn did not make a very good start, but with plenty of moisture and heat it will soon get ahead. Many fields are getting weedy, the ground having been too wet to work.

Potatoes are making a strong and rapid growth, having so far kept ahead of the bugs. If the prices are not higher than last year, but little encouragement will be given farmers to plant many another season. During March, plenty of them were sold for 15 and 20 cents per bushel, and the best of them for 25 cents. Hay is the best paying crop for the farmer to raise around here; being close to good markets, a good article always brings a good price. It is a crop that requires less labor in raising than almost any other. A large acreage of oats has been sown, which at present looks well. Eggs are selling for 10 and 12 cents per dozen, and butter at 12 and 15 cents per pound.

Garden crops which do well in a cool, moist climate, are doing well now; but such as melons, cucumbers, lima beans, egg plant, &c., are not making much headway. The first two weeks in June, when the seeds of these kinds were put into the ground, being cold and wet, a good many of them rotted, and what did germinate came up in a weakened condition, and have not yet made a vigorous start. The large numbers of striped beetles on the melons and cucumbers, which attacked them at their first appearance through the ground, still further retarded their growth. The small jumping beetles, which used to attack members of the cabbage family only, have been more abundant this season than I ever saw them before, and not only have they destroyed a large per cent. of the late cabbage in seed-beds, and early varieties after being set out, but they have also been destructive on tomato plants and flowering annuals of the *cruciferæ* family. Following the flea beetle, the cabbage-fly has been doing considerable damage; in fact, some fields have been completely destroyed. Insects of all kinds have been abundant, with the exception of the rose-bug, none of which have appeared in this locality this season. What has become of them I know not; hope they are gone not to return.

Blight on apple and pear trees has been very destructive in some places this year, especially on apples. No particular variety, however, appears to be affected—one kind being attacked as badly as another. Fruit of all kinds is plentiful, except peaches. Strawberries, while not of the best quality, are plentiful and of good size. Young plantations are doing well, many of the newer varieties being set out. Where fruiting, this is a good season to test the comparative qualities of the different kinds.

Competition in the growing of flowers, fruits and vegetables is now so close that, in order to make both ends meet, and have a little extra besides, care has to be taken to raise the crop at the least possible expense. In order to accomplish this, the highest state of culture is the way of manuring and tilling of the soil has to be maintained, and this done with the most improved implements. Good culture can be done cheaply only with good implements, and so arranged that most of it may be done with horse labor. The horticulturist, in whatever branch of the business he follows, must keep ahead of his work and not allow it to get ahead of him. Weeds when just appearing above the ground, can be destroyed with at least one-fourth the labor that they can after they have attained a size of four or five inches; besides the amount of nourishment taken from the soil in making this extra growth, which should be used in supplying the crop planted. Another thing to be studied is the articles which are most needed in the market for which we are growing, and then to grow such things as can be readily sold. There are many men in the business who are good hands at raising good crops, but apparently do not have a good method of placing them on the market; their products are not put up in an attractive form, perhaps they are not sufficiently cleaned, nor are the bunches put up in a neat manner. I have heard just such men, over and over again, wonder why their neighbor, with an inferior quality of goods, but put up in an attractive manner, could sell out quicker and at better prices than they could. It was all in how they were placed on the market. M. MILTON.

Mahoning County, June 24.

Southwestern Michigan.

EDS. COUNTRY GENTLEMAN—The weather has at last settled into sultriness, which indicates that the extreme coolness prevailing thus far for the two months of May and June, is coming gradually to an end. Corn to date (June 25) will not average more than four inches high—looks sickly and frail, as if unable to respond to the reviving energies which a warm, moist earth seems ready to furnish. It is very commonly waist high on the fourth of July, but if it gets to be a foot high at that date this year it must do remarkably well from this time on. Those imbued with pessimistic views insist that there is not sufficient time now, during the two corn months of July and August, to perfect the crop from the present stand. The outlook is certainly not a cheerful one for those who have a large stock of hogs on hand, or other stock, that are intended to be fattened for the market. Oats, however, never promised a heavier growth. Winter rye also bids fair to yield well, and is rapidly approaching maturity. Wheat bids fair to be a splendid crop.

The scare during the last few days over the little green aphis, which has thronged every green growing crop, and especially on the wheat and rye heads, filling all the space between the kernels, is now nearly over. Two or three warm, sunny days have rapidly developed the insects into a winged creature, and they have flown away, and can now only be found in the late heads, where belated broods still find a lodgment. I cannot discover that they have caused any marked change in the kernel, to make it shrink, as was feared a few days ago. I think they swarmed in the head because the interstices furnished a convenient lodgment for them. They were in immense numbers on June grass heads and on the leaves of the oat plant, and one farmer reports that they covered the glass of his barn windows, developing from eggs that were in some early cut orchard grass, which he drew to the barn, for hay. I have examined wheat heads to day, where, three days ago, the insects swarmed in countless numbers, and not a solitary specimen could be found. Some later heads, as I said before, have a few scattered specimens sheltered in them. Whatever the outcome is, it awakened a wide-spread apprehension of disaster to the wheat product so nearly mature. We shall soon get, doubtless, from the entomologists of the experiment stations, the natural history of the insect, and the results of their study into its habits, manner of living, and duration of life, with the possibilities of danger to crops from their invasions. The peculiar character of the season has doubtless favored the reproduction of the species, but a repetition of like elemental conditions may not occur again in a lifetime.

Wool is being marketed at a lively rate at 30 cents as a basis for average X wool, but running from 28 to 31 cents as the extremes of poor to extra. There is beginning to be more distinction in the price, corresponding to real values of wool, than formerly, and there is now also more pride in the clips offered for sale. Thirty-four cents means real value now, and not the result of contending purchasers, who bid up to run out a carpet-bag buyer. Rain to date for the month 4.90 inches.

Van Buren County, June 25. A. C. GLIDDEN.

The Grain Plant-Louse.

It appears that the grain aphis (*Siphonophora graminis*, or more properly *S. avenæ*), which is prevailing at an alarming rate all over Indiana as already noted, is about as bad in Ohio also. Entomologist WEED of the Experiment Station of that State has just issued the following circular:

One of the most notable insect outbreaks that has occurred in Ohio for many years is now taking place in the grain fields. The insect is one which has long been known as the Grain Plant Louse, having originally occurred in Europe, from whence it was probably introduced into this country early in its history. It has only occasionally ravaged grain fields here, and so far as our present information goes, has seldom been injurious in Ohio. The insect is now present, however, in destructive numbers over a large portion of the State, having already seriously injured the wheat, and is now threatening an equally serious injury to oats and other grains. Last year it was present in many of the northern counties, not becoming sufficiently abundant to attract notice until the oats were nearly ripe.

This insect is closely related to the "green fly" of house plants, rose bushes, etc. It is a small, greenish, or in some cases brownish insect, with or without wings, infesting the leaves and heads of plants of the grass family. It obtains its food by inserting a pointed beak into the leaf or stem and sucking out the sap. As the wheat gets ripe, it migrates to the more

succulent oats, and when these ripen, will go to various grasses. It brings forth living young, and its rate of multiplication is very great, it being estimated that a single louse in spring may become the ancestor of many millions before autumn.

Fortunately this insect has a great many enemies which prey upon it, and are now doing immense good in decimating its ranks. These are of various kinds, and in some places are mistaken for foes instead of friends of the farmer. The one which is causing the most apprehension is a peculiar dark colored, six-footed insect, generally with spots of a brighter color on its back, looking, as one person expressed it, "half worm and half bug," which is very abundant in the infested wheat fields, crawling about over the heads. These are the young or larvæ of various species of lady-bugs, or lady-beetles, and instead of attacking the wheat, as many farmers believe, are really feeding upon the lice themselves and destroying them by thousands. Another insect that is doing immense good is a very small four-winged fly that deposits an egg within the louse. This egg hatches into a grub that develops at the expense of the louse, destroying it and emerging again as a four-winged fly. The dead lice "struck" by these parasites become dull brown in color, and adhere to the leaf or stem upon which they were feeding.

Besides these, various other enemies are attacking the lice, and the indications now are that the outbreak will be so checked by the end of the season that there will be little danger of a repetition of the attack next year.

The presence of English sparrows in the wheat-fields led some to believe that they were feeding upon the lice, but an examination of stomach contents of a number shot while on wheat, showed that the grain itself was what they were after, no more lice being eaten than was necessary to get the grain.

As yet no practical artificial remedy for the grain plant-louse is known. At the station we have found that kerosene emulsion will destroy them, but the difficulty of reaching them with this substance when they occur on the under surface of the leaf or imbedded in the chaff of the head, makes the remedy hardly practical.

The injury to the wheat will be manifested by the shriveling of the grain due to the extraction of the sap necessary for its perfect development.

The Challenge Pumping Windmill.

Our illustration shows the Challenge Pumping Windmill. This is a sectional windmill and has fewer joints than other wheels of the same style, and while getting all the advantages of a sectional wheel it does away with the one great defect of such mills—that of having so many joints to get out of order, causing trouble. It is self-governing and regulates itself perfectly, thus preventing injury in those winds that are so damaging to some other mills. It is made by the Challenge Windmill & Feed Mill Co., of Batavia, Ill., who will gladly send full information, not only in reference to their pumping mills, but also of their single header geared mills, and their double header geared mills, grinding mills, shellers, &c.

Buckwheat, p. 444.—So far as I have had experience, two crops can be grown in one year if the season is favorable *and the soil enriched accordingly*. I have often mowed a crop of hay the last of June and then sowed buckwheat, removing the crop and sowing rye and seeding to grass in the fall—in Eastern New-York. I never failed but once to get good crops. The land must be rich and everything done right. On a large area, with the ordinary force, it would be difficult. For some reason, crops are not as good which follow buckwheat. It is a good crop to clean ground and to mellow a hard, lumpy soil, and does not seem to exhaust it; at least it will grow and do better on a very poor soil than any other crop. But in some way it affects the land so that succeeding crops are not as good as where oats, corn, rye or potatoes are grown. I have seen this in all kinds of soil on my own farm and others, and have frequently heard others speak of it. Rye seems to be affected the least by it and oats the most, so far as my experience is concerned. It thrives best in a cool, moist soil, rich in vegetable matter, but will do well anywhere, and is generally a remunerative crop. It is grown quite largely in South-central and Eastern New-York. Our time there for sowing was when the chestnut was in blossom. It is shipped as flour in large quantities to the West, even here in Kansas, where it retails much higher than wheat flour. The coarse flour is an excellent milk food, but should be fed with corn, or the milk will lack in richness and quality. D. S. H.

Poison Ivy.—So many suffer from ivy poison that I think good may be done by agitating the question a little more. Although chewing the leaves seems a very strange remedy, still I am not wholly prepared to condemn it. Those who have advised me to do it are persons whose integrity I would not question, and who have furnished very strong evidence that they were badly poisoned until they used this preventive. Now I know they can work in it all day without suffering the least inconvenience. If such a simple remedy will bring about such grand results, I am sure hundreds would be glad to know it, but undoubtedly they, like myself, would like still more evidence, some of which shall come from educated men, physicians if possible. I am more inclined to give credence to the idea because it is the principle upon which homeopathy is based, except in this case it is used as a preventive, not a cure. Have not some of your readers heard of this specific and known those who have had the courage to put it to the test? P. H. P. *Newton, N. Y.*

Weather, Crops and Prices.

Meteorology for June 24-30.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			.....	30.47 inches.
Lowest	do.	do.	.....	30.04 do.
Mean	do.	do.	.....	30.18 do.
Highest temperature	do.		.....	88°
Lowest	do.	do.	.....	50°
Mean	do.	do.	.....	69°

One clear day; three fair; three cloudy. Two days on which rain fell; total precipitation, 1.97 inch. Prevailing wind, S.; maximum velocity, 18 miles per hour, on the 26th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day.....	24th	25th	26th	27th	28th	29th	30th
This year...	61°	64°	70°	74°	74°	74°	78°
Normal.....	73°	73°	71°	73°	73°	71°	70°

Total excess for the week, 13°.

General Review of the Week.

The week ending June 29th has been cooler than usual in all agricultural districts, except Dakota, where the temperature has been above the average for the week. In the Ohio valley, the Lake regions, and the Middle Atlantic States, including the tobacco regions of Kentucky and Virginia, the daily temperature ranged from 6° to 9° below the normal, while in the cotton region and in the Missouri valley the temperature ranged from 3° to 6° below the normal. In New-England and on the Pacific coast about the average temperature prevailed. The seasonal temperature, from Jan. 1 to June 29, differs about 1° from the normal in all districts from the Lake region southward to the Gulf coast. Generally throughout the Northern States there has been a gradual decrease in the excess of temperature which was reported in the early part of the season; this condition applies to the central valleys, where the thermal conditions are now about normal. In New-England, New-Jersey and Eastern New-York the season is about one week in advance, and the daily temperature has averaged 2° above the normal. The season is also about one week in advance in Dakota, Northwestern Minnesota and Northern Nebraska.

There has been an excess of rainfall during the week generally on the Atlantic coast from and including New-York southward to Florida, in the Ohio valley, and in the southern portions of the cotton region, extending from Southern Georgia to Texas. The rainfall along the South Atlantic coast generally exceeded 4 inches. Light showers occurred in the States of the Lake region, and in all other States except Arkansas, Eastern Iowa and Northwestern Illinois, where fair weather continued during the week. The rainfall for the season continues in excess along the Atlantic coast from New-York to Florida, and from the Missouri valley southward to the west Gulf coast. Over 75 per cent. of the seasonal rainfall has occurred generally throughout the States of the Mississippi valley and in the cotton region, excepting in the southern portions of Alabama, Mississippi and Louisiana, where only 45 per cent. of the seasonal rainfall has occurred. The recent rains, however, in this section doubtless occurred in time to improve the crop conditions. There is a large deficiency in rainfall, amounting to about 50 per cent. of the normal, in Northwestern Minnesota and Northeastern Dakota. Showers, however, occurred in this region during the week. Well-distributed rains occurred on the Pacific coast from San Francisco northward to Washington Territory, the rainfall in the grain regions ranging from one-fourth to three-fourths of an inch.

The weather has been favorable for all growing crops throughout the central valleys and Northwest, except in Dakota, where drouth has caused some injury to wheat, oats and barley, but corn is reported as fine and growing rapidly in this State, and generally throughout the corn-belt. From Minnesota reports show that all crops were improved, but more rain is needed in the Red River valley country. Reports from Nebraska, Iowa, Illinois, Indiana, Missouri, Kansas, Kentucky and Arkansas show that the conditions for the week were especially favorable for corn, which made rapid growth. Harvesting is in progress as far north as the fortieth parallel in the central valleys. Threshing is in progress in Tennessee, and the damage to wheat from excessive rains has been over estimated. Reports from the tobacco regions of Kentucky, Tennessee and North Carolina show that this crop is doing well, and was improved by the favorable weather of the past week. Favorable rains occurred over the cotton region. In Alabama, Northern Louisiana, Arkansas and South Carolina the cotton crop was improved by seasonable weather and well-distributed rains. In Mississippi this crop was not injuriously affected. Texas reports cool weather, little sunshine, and too much rain for crops generally throughout the State during the week. In Southern Louisiana the rice and sugar crops were improved by abundant rains, but a week's dry weather would still further improve the crops. In the Middle Atlantic States, New-England and Ohio some injury has resulted from continuous rains and the absence of sunshine. Although the crop prospects continue good in these sections, dry weather is needed for the harvesting of cereals and hay. Reports from Southern New-England show that all crops, including tobacco, were improved and in fine condition.

New-York.—The following is summary for week ending June 29, as given by the State Weather Bureau:

With the exception of counties in the Hudson and Mohawk valleys, the crop prospects for the State are less favorable than at the date of the preceding report, owing to the continuance of the rainy weather. Grains that have high lands are in good condition, but otherwise turning yellow and have a spindly growth. While the quality and quantity of grass have been less affected by the unfavorable weather than is the case with other crops, the quality of the large amount of hay cured during the month is seriously injured by continuous rains. The prospects for the potato crop are substantially as reported last week, while fruit has suffered in many cases. The apple crop will be a failure. Potato bugs and apple-tree worms are doing serious damage.

Palermo, Oswego County, June 24.—The mean temperature of May was 59°—4° above the May average for the last 26 years. The mean temperature of the spring was 47°. This has been the warmest spring during my record of the above time. The weather has been so rainy all through the month of June that farmers are much discouraged with their work, and it has been almost impossible to cultivate or hoe crops; very few pieces of corn or potatoes have been hoed. Fruit prospects not good; apples almost a failure, tent caterpillars have stripped some orchards of all their verdure. Produce low; wheat, 90c. per bu.; corn, 45c.; oats, 35c.; potatoes, 40c.; beans, $1.80; butter, 18c. per lb.; cheese, 9c.; eggs, 14c. per doz. Pastures good; dairy products very low. E. S. B.

Lawyerville, Schoharie Co., June 27.—Land was in condition to work, ten days to two weeks earlier than usual. Weather dry and cool, very favorable for putting in spring crops. Since 1st of May—time of preparing the land to plant corn—more or less rain, which delayed the planting. From that time to this, rainfall almost unprecedented. Early start at farm work is nearly, if not quite, lost. Growth of spring grain and grass far above average, and if present conditions continue will make crops of very little value, as very much grass is now lodged, and oats will be in same condition before heading out. Many pieces of rye and wheat are down badly, implying yield of grain not in proportion to the straw. Corn planted on low ground rotted, and since then the ground has been too wet to do any work on it; consequently weeds make more show than corn. That planted on high ground looks better, but no indications of a great crop. More than usual amount of buckwheat will be sown, and that is all that can be said about this crop at present. All that is needed now is dry weather to insure the greatest crops known here for years of wheat, rye, spring grain and hay, but if rain continues the cost of harvesting will eat up the crop. No improvement in the price of products. I butchered a calf a few days since, the meat of which weighed 110 lbs; sent the skin to a grocer who deals in them; 30c. was the price; sugar was worth ten cents! How a farmer can get ahead under these circumstances is more than I can say. With a little more protection, a pound of sugar would be worth more than a pound of butter. J. V. W.

Pawling, Duchess Co., June 26.—The hay crop here will be good—quite above the average, upon all good, dry soil; on some low lands it has been too wet. Early planted corn looking unusually good, while some other pieces on low land will be almost a failure. Pastures abundant, and cattle doing well. Potatoes grow very fast, and never was there a better prospect for a full crop. Orchards in many cases were entirely neglected, and the tent caterpillar was allowed to have his own way, and succeeded in stripping the foliage from many of the trees. The crop will not be above the average. The cool, wet nights caused many of the blossoms, and fruit soon after forming, to drop off, in some instances entirely, while some of the hardier varieties, and somewhat sheltered, retained a fair burden if they stay on until they ripen. A good outlook for berries, especially the blackberry. I. W. H.

Connecticut—*Hartford County, June 24.*—The weather was quite rainy through the first half of the month, affording tobacco growers the best time for getting their fields set that has been seen for a number of years. The crop was all set before June 20, and is now hoed out and growing nicely. The past few days have been quite cool and pleasant, and haying has begun; the crop is more than an average one with the exception of old grass land. Potatoes are looking fairly well, but the potato bug is as busy as usual. Oats and rye are growing nicely, and bid fair to be a good average crop. Corn is doing well on dry land, but has been injured some on low ground. Sales of winter cows are quite common; prices range from $35@38; veal plenty at 5c. per lb.; beef, 6c.; pork, 6c.; dressed fowls, 16@18c.; chicks, alive, 20c.; eggs, 20c. per doz.; creamery butter, 23@25c. per lb.; dairy, 18@20c.; potatoes, old, 60c. per bu.; new, $2.50@3 per bbl., grown south; young pigs, 6 to 8 weeks, are in good demand at $3 each. A. S. W.

Ohio—*Mechanicsburg, June 25.*—Weather cloudy and cool; indications of rain. Farmers are cutting clover. Nearly all crops promise to be excellent. The rains have brought out everything wonderfully. The hay crop will be larger than expected. Corn and oats are doing finely; wheat will be immense, there are many little insects working on the heads, but do not think they will hurt the kernels. Old potatoes 75c. per bush.; eggs, 11c. per doz.; butter, 8@10c. per lb. E. W.

Irondale, Jefferson Co., June 26.—Harvest is here, clover is ready to cut, and almost every farmer has some down, but the weather is from bad to worse. Last week was cool and cloudy, did not rain much. This week is warm and has rained every day except Monday. Wheat is about ready to cut, and is in very good shape. The green midge is on the oats, and it will be apt to suffer damage. Corn is doing well and on high ground is well worked. I think it will pass July 4th in good shape for a crop. S.

Indiana—*Greencastle, Putnam Co., June 20.*—Farmers have been alarmed at the presence of the small green insect in the wheat and oats. They can do no damage to early wheat, as they subsist by absorbing the substance from the chaff, not disturbing the grain, but will probably damage the oat crop. The big scare about the destruction of the crops has been worked for all it is worth by the bull operators. Corn prospect fair. T. C. O.

Wisconsin—*Janesville, Rock Co., June 25.*—During the week cold has prevailed—only one warm day. The mercury has ranged from 54° to 67°, excepting one day. The nights have been quite cold, nearly to a frost upon two nights. Still, excepting corn, everything looks green and thrifty; even tobacco is doing well. We have never, in our tobacco history, had so good a planting time. The ground is cold, but very little moist. This has saved many dollars of the usual planting cost. So far as I can remember, with one exception, water has had to be carried into the fields to water each new plant. This has not been required at all. There will be a heavy acreage of the sarcotic this year, I think the largest in our tobacco planting. Wheat is down; cattle firm; hogs off. Strawberries of the largest kind plentiful; cherries will be a good but ordinary crop; potatoes have not got a favorable start, they need a drier ground; all the cereals seem to be doing well, except corn, and it may yet come out a fair crop, but cannot be a large one, it is too far behind. Wheat, 87@70c. per bu.; rye, 40c.; barley, 40@48c.; poor, 26@30c.; clover, 28c.; oats, 24c.; potatoes, new, 60c.; old, 35c.; butter, 10@11c. per lb.; eggs, 10c. per doz.; cattle $2.40@3.50 per cwt.; hogs, $3.75@4.05; hay, 4@7.50 per ton; bran, $10. W. H.

Tennessee—*Double Branches, Lauderdale, Co., June 23.*—A month ago, nothing was heard among farmers except lamentations over the dry weather. "Cotton will not come up, corn cannot grow, oats are a failure, wheat will fill poorly, pastures are dried up, &c." The drouth was broken by abundant rain May 28, and some fields have been so sodden that there has been no work there since. Consequently, grass and weeds seem to have full possession, and any one that has a crop has a crop in the grass. While dry, we had very cool weather, temperature dropping as low as 50°. Since the rain, very warm, as high as 93°, in sheltered places. Produce low; butter, 10@17½c. per lb.; eggs, 6½c. per doz.; cattle, 1@2c. per lb.; hay, 30@50c. per 100 lbs.; corn, 35c. per bush.; wool, 8@10c. per lb.; chickens, 8½@10½c. per lb., according to size and condition. Harvest about over; threshing will begin in a few days. Wheat somewhat damaged by excessive wet, cloudy weather; great difference of opinion as to probable yield. Stock generally doing well. A. F.

Horticultural Department.

Editorial Notes and Comments.

Grass under Trees.—An inquirer asks for the best grass to grow on a lawn under the shade of trees, or what else can be used. Answer—The best of the fine grasses is the Kentucky blue grass, which, after it is once established and the ground is fairly rich, will hold its place and maintain a good turf in a rather thin shade without difficulty. Orchard grass holds its place quite as well, but is too coarse for a lawn; it may be employed in certain restricted and separated spots, if kept constantly well shaved. There are other plants which will hold their place in shade, but which will not present the smooth surface of a lawn, but will give a green surface under trees, such as the periwinkle and the English ivy. The latter may be trained over a large space, and although not hardy enough to hold its place on the walls of buildings at the North, is quite uninjured by winter when trailing over the earth's surface.

Spraying Fruit—Pruning.—The subject of spraying the different kinds of fruit was discussed at the April meeting of the Alton Southern Illinois Horticultural Society. Mr. Browne gave a caution against making the liquid too strong. He recommended only one pound of London purple for 300 gallons of water. He found that spraying water would not answer for the peach, to exclude the curculio. He sprayed a peach tree last year and it is barely alive. Mr. Jackson sprayed peach trees last year, causing all the leaves to drop, and killing the ends of the small twigs. Mr Browne said that others in Southern Illinois had sprayed their peach trees with London purple at the rate of a pound to 150 gallons, causing a part of the leaves to fall.

Bagging and Spraying Grapes.—At the same meeting, the experience of members was stated on bagging grapes. Mr. Pearson said that he had found that it did not pay to bag grapes for market. The bags will preserve the grapes, but they render the skin so tender that they will hardly bear handling. They are adapted to family use only. He intended to spray his grapes for the rot. He had procured a $25 pump for the purpose and intended to use the Bordeaux mixture. If he could save his entire crop for $30 or $35, it would pay well. He found Moore's Early and Worden the best market grapes. The white grapes do not sell so well.

Small fruits, it was stated, would be a large crop, and the only question would be where to find a market.

Changing the Bearing Year.—The superabundance of fruit in the even years, and its scarcity in odd years, have led to attempts to change the abundant year, or to divide the crop between years. At a meeting under the Connecticut Board of Agriculture, Mr. Meech said he tried the experiment on a yellow Siberian crab, the trees of which bore the same year. He removed the blossoms from one with success, but after the second year it returned to its old habit. A. W. Cheever removed all the blossoms from a Gravenstein tree which bore even years. The next year it had a good crop of blossoms and of young apples, but they all dropped when half grown. The trouble was that the insects all poured into that one bearing tree among the barren ones, and destroyed them. When all the trees are changed by a sudden freeze, the insects divide their attacks, and the change is often permanent. Five years ago we sheared all the blossoms from a Greening tree which bore heavily even years, and now it bears moderately alike every year. More experiments are needed on this subject.

Discussion on Small Fruits.—At a convention held at Danbury, under the auspices of the Connecticut Board of Agriculture, and reported by the board, the following in substance were the remarks made by different cultivators on the merits of various new and old small fruits. The name of the best strawberry was inquired for. Mr. Chapin said it was the Crescent. Mr. Seeley said that some persons at Danbury prefer the Sharpless, others thought the Jessie better, but it required high culture, and he placed the Henderson best in quality, adding that its quality without sugar was equal to other berries with sugar. Mr. Morris thought the Henderson the very best berry in quality, but "you want a ten-acre lot to get a mess." He could raise more from the Sharpless than from any other berry. Mr. Meech said the Parry, May King and Seth Boyden were equal to any in quality. Mr. Augur said the value depended on circumstances. In many places the Sharpless is a poor bearer. The Gold is one of the best for quality and home use. Mr. Olcott said the Champion would flavor more sugar than any other berry he knew of. It is good where sugar is cheap. Mr. Augur said we could not make out a list for everybody.

With raspberries under discussion, Mr. Augur named Cuthbert for red and Souhegan for black. The Gregg is later.

Fruit Injured by Poisons.

Eds. Country Gentleman—I have about 1,000 peach trees than which, in the early part of the season, it would have been hard to find healthier looking, with more encouraging promise for a big crop. I estimated it at not less than 1,000 bushels of choice fruit. Having purchased a force-pump for spraying, I had a preparation made of one teaspoonful of London purple in an ordinary water-bucketful of water, with which barrels were filled. I ordered my man to go through the entire orchard and spray apple, pear, plum, cherry and peach trees. The spraying was thoroughly done, a very fine spray being used, May 21-22. The foliage on the apple, pear and cherry trees is unaffected, with an occasional exception, but the peach trees—alas! wherever the poisonous spray reached, nearly every leaf was destroyed, almost as if a fire had passed through them; boughs and branches are now bare, except at the topmost limits, where a fringe of green leaves makes the destruction the more apparent. Wherever the poison touched the fruit (which at the time of the spraying was about the size of a small sparrow's egg), every peach has fallen, or dried and withered on the tree, making a now prospective crop of about ten bushels in lieu of 1,000. I also notice that the wood of many of the trees is turning black and spotted, and many of the leaves, coming out on the young growth, spot and fall. Will the trees be permanently injured?(?)

Although the foliage of the cherry trees has not been materially hurt, I cannot find a single cherry—they, too, having all fallen off, except on some of the Duke varieties.

My object in having the peach trees sprayed, was with the view that it might militate against the damage of the curculio and other insects detrimental to that fruit. My unfortunate experience may be useful to others. I should like to hear from those, if any, who have used arsenical poisons on peach trees, and what has been their experience.

—— Since writing above, I find that the black rot, or what I suppose to be such, has attacked my grapes, and I estimate the loss at fully 90 per cent. Upon these vines I have used the Bordeaux mixture twice—the first time just as the fruit was forming, the second time after blossoming, which was about a week since. It is now a hard matter to find a single perfect bunch of fruit in the vineyard, except on a row of vines set out two years ago, and fruiting for the first time this season. Upon these vines, at the present time, the loss does not appear to be ten per cent. My vines are pruned on the Thomery system, and all the fruit had been cut off but two bunches to each arm. The vines appear to be healthy and are mostly making vigorous growth, but nearly every grape has fallen off nearly every bunch.

The season with us has been a most exceptionally wet one, the rainfall for May having been 7¾ inches, and we had in June (to the 19th) 11 days on which rain fell, with a fall of over 5 inches. So far this year our rainfall has been 14 inches in excess of the normal. Can this wet season account for the virulence of the disease, and the non-efficacy of the mixture, washing it off before it could have full effect (it was applied on dry, and sunny days), for it most certainly has had no beneficial effect?

How do you account for the exemption of the younger vines? They all appear to be equally vigorous. (2) J. R. M.

Baltimore County, Md.

1. The peach tree is much more sensitive to poisons than most of the other trees, and is more easily injured by the application of tar and oils, peach orchards have been wholly destroyed by oily substances which have not injured apple trees. There is no question that the mixture of London purple in water was several times too strong, one pound in 200 gallons of water, or in five or six barrels, being enough. In using this or any other poison, it is always safest to apply it first very weak on a few trees, and then gradually add to its strength on other trees until the extreme point is reached. Whether the trees will entirely recover from the effects of the spraying can be determined only by time, as we cannot otherwise know the degree of injury they have received. There is no doubt that the unusually wet season has given the shoots of trees a more succulent growth, and made them more liable to injury than otherwise. The older and better ripened grapevines escaped better than the younger and more succulent. 2. It is difficult to account satisfactorily for the difference in the hardiness and endurance of some trees and vines, as compared with others, which are more tender, although much may be seen in the influence of rank and unripened growth; in varying soils; different treatment in cultivation, and other external influences. We cannot explain the effects mentioned on the grapevines, without more knowledge of the various causes which may have operated on them.—Eds.

Florida Fruit in Drouth and Frost.

Eds. Country Gentleman—It begins to look as if the orange is the hardiest fruit we have after all. Peninsular Florida has been suffering from the drouth for over seven weeks, though within two or three days it has been broken by slight rains in scattered places; and the young oranges have fallen off very largely in the drier sections. But they did not begin to drop so soon as the LeConte pears did, and have not fallen off so heavily by 25 to 50 per cent. In Lawtey at least 90 per cent. of the pears have fallen, but not over 50 per cent. of the oranges, so far as my observation extends. In other words, the pears will not yield a tenth of the crop (in this settlement), while oranges will yield half a crop if no other calamity overtakes them. The pear, in a drouth, drops its fruit and keeps its leaves; the orange drops its leaves and holds its fruit. But in well cultivated and well fertilized orange groves the loss of leaves has been slight, though in other sections it is stated that many trees have lost all their leaves and fruit too. Many trees in my grove have not lost 2 per cent. of their leaves; I think the whole grove will average below 10 per cent. in loss. It is chiefly the trees that were mistakenly planted on high, sharp ridges that have "rolled" worse. Peach trees are holding their fruit and leaves measurably, but both are a good deal withered.

Now as to frost. It may or it may not be known to your readers that the orange fruit-buds are not formed in the fall; no indication of them whatever can be seen until January or February, when they begin to push out, generally from the last year's wood, but frequently, on old, vigorous trees, from wood of two or three years' growth. Jan. 30 I noticed buds for the first time; some of them were already pushed out on stems an inch long. On that day my thermometer indicated 27°; there had been a cold northwest wind for several days. All peach buds that were opened were killed; a very few terminal orange buds on the extreme tips of limbs on the northwest sides of the trees were blackened a little on the outside, and an occasional one killed. (They were not yet opened, being only whitish-green pellets, about twice as large as pin heads, and their stems about as thick as a pin.) Feb. 7 and 8 the mercury stood at 26° both mornings, and made nearly a complete finish of the Peento and other early peach blossoms, there being very few blossoms yet to open. But the oranges still kept closed, and were unhurt.

All through February and March the weather was miserably raw and cloudy, with the exception of about a week in the middle of February. For eight days ending Feb. 27 there was a steady northeast wind from the Atlantic, cloudy and cold. But this saved the Honey family of peaches, which are the second in earliness, blooming intermediate between the Peento family and the natives. It also saved the pear blossoms, measurably. All this time the orange blossoms sensibly lay low. We grew weary of waiting to see them open, and it was not until March 13 that, after so long waiting and watching, we discovered the first open blossom. It was five weeks before the last one opened, so extremely deliberate is the orange in its movements. The native Floridians say—and it begins to look as if they were right—that the orange is about the hardiest fruit blossom we have. The reason seems to be that it is so leisurely in opening. A grower who has been here twenty years tells me he has never known orange blossoms to be hurt by frost to amount to anything. Cold injures the trees by killing the wood, and that chiefly in a cold north wind. It gave me much pleasure to see blossoms this spring (and there are now oranges as large as hickory nuts) on two trees which lost their entire tops down to within four feet of the ground, in the great freeze of '85-'86. I think that they would have bloomed before this, only they grew with such extraordinary rankness in reproducing their tops.

We finished shipping strawberries nearly a month ago. The yield was heavy on well cared-for beds, despite the excessive rainfall of last winter. I shipped 332 bushels from 2½ acres. When the picking season did open—it was much delayed—it came with a rush, being more like a northern season than a Floridian.

Bradford County, June 3. S. Powers.

A Woman's Garden—IV.

In Rose Time.

In one of the hill towns of Western Massachusetts, swept by pure and sweet winds and watered by bright springs of perpetual coolness, lies a broad, grassy farm, including within its ample area the almost illegible traces of several early homesteads. At one point, in a field partially grown up to dwarf birches—nature's own graceful fringe of unstudied shrubbery—on a summer's day, a few years ago, an old man with white hair and furrowed cheeks was discovered, sitting by the half-filled, grass-grown depression that marked what was once the cellar of a little home. "Here I was born; here I lived for twenty years," he told us, while the slow, difficult tears of old age ran down his hollow cheeks; "I have walked ten miles—I have come a hundred miles to look at the spot." The serene blue sky, the lovely hills, were the same; all that showed human occupation was gone. No, not all, for at a little distance might still be seen the mossy trunks of a few gnarled and broken apple trees, and almost at his feet, peeping out unharmed amid rank-growing grasses and tangled briars of the blackberry, still red and sweet with all the color, all the odor of the rose, were a few scattering flowers of the old, semi-double, red damask rose. The pale, wandering eyes had caught their beauty: "My mother's rose-bush!" he murmured, and the scanty handful of sweet, old-fashioned roses was the only token he carried away as the guerdon of his patient journey.

It was easy to believe that in that persistent, solitary rose there lingered something of the spirit of a home—something of the influence of a life. The woman who makes a garden to express herself and gladden others—who plants with joy that she may make joy to increase, and give her mite to perpetuate the uplifting influence of a perfect beauty—will never neglect the June roses. There is nothing so exquisite that is so cheap. An hour's labor—a dollar—or perhaps some neighbor or friend has shared her prodigal offsets—from this small beginning may spring the stem of a climbing rose that shall curtain a cottage from foundation stone to dormer window, or a stocky bush of that beautiful, hardy white rose which adorns with equal fitness the bliss of the bride and the blessedness of the last sleep.

The true country garden, where there is room and opportunity, ought to be liberal and inclusive; it seems to need a good many roses. Of course the rose-grower, the specialist with a superb collection, has competent authorities; these hints are hints only, and meant for the modest worker—the average taste. This does not demand anything like completeness. A few well-marked types will furnish contrast and variety, and give a vast amount of genuine pleasure, which passing years will serve to increase rather than diminish. There are now so many reliable growers of roses, whose catalogues furnish trustworthy descriptions of the newer and finer varieties, as well as of the old favorites, that information so easily accessible will not be offered here.

In some very old gardens the pretty little white Scotch rose is still as innocently charming as ever, and I remember, in the Eden of my childhood, a very tiny little pink rose, known to me then by the insignificant name of the button rose—identical, as I remember it, with the dainty, free-flowering polyanths or fairy roses now offered by the florists. The early yellow Banksia rose has something in its pale golden color and delicate crispness that

speaks to the heart in a language of its own. Eglantine and sweetbriar can be brought in from the woods and pastures; they are as well worth transplanting as the feathery ferns, against which they will relieve so well. The moss rose, pink and white, will never lose a certain modest dignity and gentle elegance; it is a little like the high-bred gentlewoman—slightly old-fashioned, but always delightful. If the best climbing roses are not still the old ones, the fact remains "not proven," to use the borrowed phrase of the cautious Scotch verdict.

Though the splendor of rose-time depends chiefly upon the hardy varieties, there are many of the more delicate teas and fine, summer-blooming monthlies, that are almost indispensable, outrivaling most of the families of bedding plants. These, as well as the perpetuals, should be cut back freely after blooming—an assertion which may be made to read: Cut your roses lavishly, and with generous, long stems. Since June is the month of reward rather than of care, it is not the best time to plant roses, but to study roses—the time to observe, for observation is the seed-corn of a woman's garden. To appreciate the loveliness of rose time is to desire to appropriate it, and, in gardening, desire and execution go hand in hand. The roses that woo me this year will bloom for us next, if we so listen to their sweet solicitation as to do our part in forming the companionship. May we live together, and, as the poet bids, the woman soul shall—

"Pray to live
So fair and innocently; pray to die,
Leaf after leaf, so softly." DOROTHY.

The Entomologist.

Cicada in North Carolina.

ED. COUNTRY GENTLEMAN—The seventeen-year locust made its appearance in this section about the first week in May, at once took possession of the country, and has held it ever since. It is an ugly creature, and appears to be proud of it. Its voice is harsh, penetrating, very disagreeable, and its vocal powers unlimited. Its repertoire of music is not extensive, its song being simply a prolonged whe-e-e-e-e, which, when kept up from "morn 'til noon, from noon 'til dewey eve," without cessation, by a million or two of Cicada, becomes monotonous.

This sound is made only by the male locust, and is produced by a very thin membrane stretched over a cavity under each wing, just above the thighs, which is made to vibrate with inconceivable rapidity, either by exhalation or muscular contraction.

The female Cicada deposits her eggs in the small shoots and branches of trees and bushes, and for this purpose is provided with an instrument somewhat like a chisel slightly curved, attached to the under part of the body near the middle, and which, when not in use, shuts up like the blade of a knife, fitting into a groove running lengthwise the body and reaching to the hinder end. I enclose a sketch of the locust in the act of depositing her eggs,

and, attached to the paper by mucilage, the little instrument by the aid of which this is accomplished. It is about ⅝ inch in length, round, except at the cutting edge, which is flat like a chisel, hard, and resembles a small piece of whalebone. This little instrument is forced by slow degrees through both outer and inner bark down into the wood at a somewhat acute angle, its full length, and the egg deposited through an opening on the under side of the egg depositor, and just above its edge. It is then withdrawn, again inserted, and another egg deposited, until the wood is punctured for a space of about two inches in length.

Where the branch thus punctured is not larger than a lead pencil it generally dies. If it is a fruit tree, the weight of the fruit causes the branch to break. No danger of trees overbearing when the locust is around; for prompt and effective summer-pruning it cannot be excelled. The apple and peach crops have already been cut off one-fourth at least by its work. In my vineyard the loss has already reached enormous proportions. I cannot account for the fact that out of eighteen varieties of grapevines, the Ives and Worden are the only sufferers. Wherever the vines have been punctured, they have died from the point of puncture up to the terminal shoots—never below.

When the locust emerges from the ground in the spring it is quite feeble, and its first act is to crawl up the sides of trees and bushes, shed its underground wear, and await developments in the shape of wings. If the land has been cleared of all growth since the locust took his header into the ground as a larva seventeen years ago, and there are no means for shelter, the hot sun kills it quickly. In a piece of rye stubble, on land which had been cleared of forest three years ago, I found the young locusts lying dead in countless thousands.

They seem incapable of any prolonged flight, but confine themselves to the trees and bushes immediately over the ground from which they emerged. Where hogs and chickens had the run of orchards, they have done but little damage, as they were devoured almost as fast as they appeared; in fact, the hogs were rooting for them weeks before they began to appear. I do not know the extent of territory in which they are found this summer. They are in one or two adjoining counties north and west from this, and extend over into East Tennessee. The limits of their boundaries are sharply defined. On the road leading from Asheville south, and a short distance beyond the Swannanoa river, there stands a prominent tree marking a corner in the boundary of the domain recently purchased by Mr. Vanderbilt, and already known as the "Vanderbilt tree." Approaching this tree, going south through the thick forest, the noise of the locusts is almost deafening; the tree passed, and at once you are in a silent and deserted forest.

At this date, June 18th, the locusts are dying rapidly, and the hope is held out that they will soon disappear, when we will have the consoling thought that seventeen years must elapse before these destructive pests come again.

——Since writing the above I have given my vineyard and young orchard a more thorough looking over, and find the destruction even greater than I have described. A description of this insect and its destructive habits would have been of great benefit to me could I have read it before the advent of the locusts. I have never read a publication of anything whatever about the locust, and doubtless there may be many more of your subscribers similarly ignorant. I also enclose piece of apple-tree switch containing eggs of the cicada, and showing how fatal the punctures are.

Buncombe County, N. C., June 11. JOHN E. HOYT.

Domestic Economy.

The Sunday Meals.

The farmer's household is generally a very busy one from the time the farm work commences in the spring until the crops are stowed away in the fall. What with the extra farm help to provide for, the raising of the young poultry, the preservation for winter use of fruit and vegetables, and the care of an extra supply of milk and butter, the housekeeper finds her hands very full, indeed. It is almost impossible for her to gain any respite from labor only on the Sabbath. And if this day is made one for feasting and receiving company, as it is in many country homes, it brings no rest for the housewife.

In a farming community in which I once lived it was a custom to serve elaborate meals on the Sabbath. The custom had traveled downward from generation to generation, and had become a fixed habit in the people's lives. No matter how hot the weather was, or how hard the previous week's work had been for the housekeeper, when Sunday came that "good dinner" was expected. The female members of the house had no Sabbath rest. While the men were recruiting from their week's labor, the wives and daughters were sweltering over hot stoves, cooking tempting dishes. In no place have I seen women so prematurely broken down as there. They became yellow and wrinkled when the bloom of youth should still have lingered on their cheeks.

Removing in time from that place, we located, at a great distance, in another rural neighborhood; and upon learning the ways of the people, found that it was a generally adopted plan to make the Sabbath a true day of rest. Substantial but simple meals were served on that day. The fathers and sons ate their plain meals in happy content, since it gave freedom and rest to the mothers and sisters. In the home of one well-to-do farmer there was an almost perfect cessation of labor on the Sabbath. Everything on his place that toiled during the week was given an opportunity to rest on that day. Even the comfort of the farm horses was strictly attended to. There was an understanding with all, hired help included, that plain meals were the rule for Sunday; and the Sunday night supper of bread and milk during the summer was an established institution in the home.

If the husbands and sons rest on the Sabbath, it is but just that the wives and daughters do the same. Humanity, to say nothing of love, should prompt every husband, father and brother to be willing to live on simple fare one day out of each week, that the wives, daughters and sisters may have a brief rest from the unending, tiresome work of cooking and cleaning up. There is something lamentable in the thought that this world contains so many gourmands. The chief aim of many in life is to eat, eat, eat. Deprive them of their choice viands, and life loses its savor. Mothers and wives bake and brew, and fry and stew, to pander to gross appetites. I have often wondered if men ever think how monotonous the work of cooking becomes to one who must prepare three meals a day, year in and year out.

In order to have the Sabbath as uninterrupted as possible from domestic labor, it is a good plan, while the Saturday work is in progress, to roast a piece of beef, or any other meat desired, to eat cold for Sunday dinner. A good supply of bread should also be on hand, not omitting the graham. A plain cake might also be baked. Add to these fruit, either fresh or in sauce, and butter and milk, and it is a Sunday dinner suitable for anybody. If the president himself should happen to drop in about dinner-time, give him a cordial welcome, but make no apologies for the dinner. NELLIE BURNS.

How to Bathe a Baby.

"I always dread the hour for my baby's bath," said a young mother with whom I was spending the day recently, "and I am quite sure the poor little fellow dreads it as much as I do, for he cries and struggles so, that I am almost tempted to omit it whenever he is a little unwell, or I am unusually tired. I feel as if we were neither of us equal to it."

Now no baby naturally dislikes being washed, and I knew there was something wrong somewhere. A baby is like a horse, quick to respond to the mood of the one who is handling him. The mother's fear transmitted itself to the child, and so both had a sad time of what both should have enjoyed. I have never forgotten the lessons of the dear old nurse who laid my first heaven-sent darling in my arms, and in the hope of helping some frail mother whose joy in the possession of her first-born is tempered by the consciousness of her inability to care for him properly, I will give some of her rules.

Choose the time in the morning when he is the most wakeful for the first bath under this new régime, and afterwards always give the bath at that hour. After a few days he will naturally keep awake until the same hour. Most babies take an early morning nap; the bath should come after this, and at least an hour after his breakfast. Get everything in readiness before you begin in order not to make him nervous by delays. Fill the tub two-thirds full and be sure that the water is exactly the right temperature. If it is too hot or too cold, he will shrink from it ever afterwards. It should be a little more than blood warm, and your hand, which is much less susceptible than his tender body is no test. Plunge your elbow in, but a safe rule is one part boiling water, and five of cold. A half teaspoonful of borax will make him clean and sweet, and in hot weather a small handful of sea salt, which comes in boxes ready prepared for the bath, will strengthen him. A silk sponge, a piece of scentless soap—Ivory is good—towels, and all his little, clean clothes must also be in readiness. Lay a large piece of old blanket with a piece of rubber cloth under it on your lap, disrobe his baby majesty, lay him on his stomach, and sponge him all over quickly, being very careful not to let soap and water get in his eyes, or ears. Wet and soap the sponge, and wash carefully in the creases of his neck and arms, and under his arms, lathering the stomach well to get up a circulation. Now lower him gently into the tub, and amuse him by letting him splash the water with his hands while you sponge him rapidly all over the body for four or five minutes. Many young mothers are clumsy, and awkward, and baby, who knows a great deal more than you give him credit for, feels that he is not treated properly, and resents it in the only way possible to him, by a free use of his lungs. Lift him out on a piece of dry blanket, cover with a soft Turkish towel, and dry thoroughly; then rub chest, back, armpits and the entire body well with an old piece of gauze flannel. All this takes longer in the telling than in the doing. Plain rice powder is the safest and best. By the time baby is arrayed in his dainty, clean garments, he will be tired and ready for his next meal, after which a healthy and properly brought up infant will take the long nap that gives mamma time for the thousand and one duties that she cannot always perform in his waking hours, or for her own much-needed rest.

I subjoin a few other invaluable maxims:

Do not dose baby with paregoric or gin every time he has colic. Your own physician does not give you laudanum every time your liver is out of order. Tie up a lump of sugar with two or three drops of peppermint on it, and if he has not been too much overfed he will soon drop asleep. Mothers frequently lament the fact that their babies have what is called "the nine-months' colic." All superstition, my dears. If you would treat your baby properly he would not have even a nine minutes' colic. It is related of a celebrated physician that a patient once said to him, "Doctor, something is wrong with my stomach." "Oh, no," replied the doctor, "your stomach is all right. The Lord made your stomach, and he never makes a mistake. It is the way you treat it that is wrong—the way you stuff it and tamp it down." Half the mothers I know who are obliged to take care of their own babies give them the bottle or some sort of food every time they cry or show sign of uneasiness. If babies did not sometimes have sense enough to refuse this perpetual refreshment, or if their stomachs were not so constituted that they can throw off an over-supply, infant mortality would be far greater than it is.

Especially in hot weather baby is often restless for the want of a drink. Try him with a teaspoonful of cold water several times a day. Sometimes bathing the hot little face and hands with a soft cloth will act as a nervine, and quiet him. Do not give baby more than one entire bath in a day, as too much bathing is weakening. Even in the hottest weather let him wear flannel next to his skin, but burden him with as few other clothes as possible.

MRS. TIMOTHY HAYSEED.

Potpourri.—A quantity of freshly opened rose leaves with the yellow stamens, and an equal quantity of lavender blossoms, put in a large earthenware bowl, with half a pound of orris root; then to every two pounds of the mixture, add two ounces of bruised cloves, and the same of cinnamon, allspice and table salt. This must be allowed to stand for two weeks, thoroughly turning it over and mixing it with your hands; then it is ready for use, and makes the most lasting perfume of any potpourri I have ever tried. AUNT ADDIE.

Poison Ivy.—One susceptible to this poison, after working among it, should bathe himself thoroughly, especially the exposed parts of the body, with strong salt water. Do this at once, as a preventive, before the poison is manifest. After the poisoning is advanced, copperas water or sulphate of iron, applied by bandages wet with it, is an excellent remedy. It will dry up the sores. Allow it to come into contact only with what you are willing to stain, for it is well-nigh a fast color. A. F. H.

Cucumber Pickles.—Can any reader let me know how to prevent the softening of cucumber pickles? How long should they stay in the brine before putting in vinegar? How are they greened in the factories? Would sugar in the pickles make them soft? Can pure cider vinegar be too strong, or can it be weakened without injury? M. E. T.

Charlottesville, Va.

Netting.—Will Lily Lee, who speaks of knotting and netting on page 435, please give directions for the latter? Are the old time netting-needles still procurable? The work is so pretty and picturesque for tennis dresses and sea-side hats that I think many readers would be glad to learn the art. DORÁS.

New Advertisements.

Box M.	*Stock Ranch.*
Box H.	*Weeding Farmer Wanted.*
Box 604.	*Jersey Herd for Sale.*
Cloud, Dr.	*Scotch Cattle Bitch.*
Coulson, D.	*Dairy Partner Wanted,&c.*
Carryl, P. M.	*Cattle, Sheep and Dogs.*
Dimon, John	*Jersey Bull Calf*
Eun, Frank	*Farm for Sale or Lease.*
Foote, Dr. N.	*Situation Wanted.*
Gear, A.	*Improved Horse Power.*
Gray's Sons, A. W.	*Stock Pigs, Bull Calf.*
Graff, S. C.	*Veterinary College.*
Gill, H. D.	*Milk Aerator.*
Hill, E. L.	*Clark's Cutaway Harrow.*
Hagemann M'f'g Co.	*Men Wanted.*
Hollecker, Jas. E.	*Farms for Sale or Rent.*
Jones, J. E.	*Butter-Maker Wanted.*
Jersey Butter	*Farm for sale or Exchange.*
Lamb, E. T.	*Holstein-Friesians.*
Mitchell, W.	*Gold Powder.*
Moore Bros.	*Farm for Sale.*
McCleary & Co., Everett.	*South-Downs.*
Neil, Jas	*Hampshire Down Lambs.*
Roberts, Horace	*Manager Wanted.*
Shepard, J. H.	*Self-Cleaning Stable.*
Stewart Bros.	*Draft Horses.*
Shearer, J. B.	*Harmony Stock.*
Smiths, Powell & Lamb.	*Jersey Cattle.*
Snow, Louis	*Newfoundland Pups.*
Smith, J. D.	*Cure for Piles.*
Tuttle & Co.	

Pamphlets, &c., Received.

CLIPPER MACHINE WORKS, *Knox, N. H.* Circular of Mowers; see advertisement, p. 469.

GREEN, CHAS. A., Secy American Nursery Association, *Rochester, N. Y.* Advance Sheets of Papers read at Chicago Convention.

HOECH, H., 215 *Market St., St. Louis, Mo.* Circulars of Poultry, Pheasants and Pet Animals; see advertisement, p. 480.

ROSS & Co., S. W., *Springfield, O.* Circular of Binders and Fodder Cutters; pp. 20, illustrated. See advertisement, p. 504.

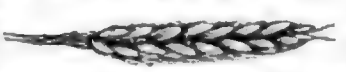
VINTON & Co., 9 *New Bridge St., London, Eng.* "Live-Stock, Sports and Pastimes"—Summer Number of Live-Stock Journal, Agricultural Gazette and Sally's Magazine; pp. 48, quarto, with woodcuts and colored plates; 1s.

Inquiries and Answers.

Seeding with Wheat.—Last fall, on land with wheat, I seeded timothy, orchard and blue-grass seeds at the rate of one peck, two pecks and two pecks per acre, respectively. The fall being favorable for the growth of the grass seed it took good hold, and now at harvest it has so taken possession of the land as in places to crowd out the wheat almost entirely. The timothy is heading out, and would in spots cut now at the rate of one ton per acre. The land is designed for a permanent pasture, and I write to ask whether it is better, after removing the wheat, to pasture, cut where there is grass worth cutting, or allow to remain as it is with what growth it will make this summer, until another season before cutting or pasturing? P. W. *Charles County, Md.* [It often happens when timothy is sown with winter wheat, and the land is rich and the following spring and early summer are unusually wet, that the timothy will make a rank growth, and lessen the wheat crop. This is prevented beforehand by sowing the grass two or three weeks after the sowing of the wheat. It would be better for the timothy to use the mowing machine on it, or rather a reaper which will cut the grass several inches or a foot high, to prevent the seed ripening and exhausting its roots. This course will likewise give it a thicker growth. It should be done early in the season before the seed of the new grass has ripened.]

Planting Strawberries.—I have just occupied a new place, and I wish to set out a good plantation of strawberries. Please inform me when is the best time, and how I shall do the work, and also which are the best kinds. A YOUNG READER. [The best time is early in the spring, just as the plants are beginning to start vigorously, and when they will take strong hold of the soil. But you cannot afford to wait till next spring, and the next best time is about the present midsummer, after the plants have borne a crop of fruit. The bearing has checked the old growth, and the new plants will soon be ready to make a second start. You may therefore begin the work at once, and if well done, you will have vigorous plants by another year in your new plantation. Select well rooted young plants, or see that good ones are chosen if you procure them elsewhere; cut off all the old and full-grown leaves, and set out the plants by spreading out the roots, covering them two or three inches deep, and press the earth compactly over them, not covering the crown. If the soil is dry, see that it is finely pulverized before planting. To keep them moist during the heat of midsummer, cover the ground after setting for a foot or two about each plant with an inch or two of fine manure. Should it become necessary to water them, this manure will prevent the soil from crusting. These are the leading requisites for success. Other particulars may be added, such for example as securing beforehand a piece of rich mellow ground; planting long rows three feet apart for horse culture, for if the cultivation is to be done by hand, you will probably have the bed infested with grass and weeds by another year. The varieties which have proved best in nearly all localities, and which will probably afford you the best satisfaction, are the Crescent for the earliest, to be followed by the Cumberland and Downing. There are several other good kinds, but they are not adapted to all localities, and you may try them or not, as you like. A good well managed plantation yields on a large scale at the rate of about two hundred bushels an acre, but calling the crop a hundred and sixty bushels, it would be a bushel to a square rod, and four square rods would afford a family supply of one hundred and twenty quarts or five or six quarts a day for three weeks. With poorer cultivation, the amount might be half as much or three quarts daily.]

Defective Wheat Heads.—I send samples of wheat heads. You will see there are several kernels (spikelets) at the bottom of each head that failed to fill. It is not confined to any one kind of wheat nor any one farm, but is so all over this section of Wayne county. There are three different kinds of wheat in the bunch of heads. If you could explain it you would confer a favor on many of your readers in this county. P. S. A. *Palmyra, N. Y.* [This defect exists in other regions, and appears to be the result of unusual wet weather, causing a rank growth of the leaves and stalks at the expense of the grains. There are usually from five to ten abortive spikelets at the base of the head, and one or two at the apex. So far as examined, the crop is not so much lessened by this defect as would at first appear, as the



rank growth causes a greater number of stalks from the stool. If this were not the case, about one-fifth of the crop would be lost by the failure to fill. We give a sketch of one of the heads sent by our correspondent.]

Canada Thistle.—Is there any sure way of eradicating the Canada thistle from a farm? I found a space in a neglected field about 20 feet square, and it covers it so well that grass cannot grow; have cut it off, and used mackerel salt very freely. Can you suggest a sure cure? A. R. M. I. *Chester County, Pa.* [See page 180.]

Pumps and Engines.—Is there a pump-engine that would be cheaper than using an engine and pump separate? What kind of engine is best; that is, what kind would be cheapest for irrigating, as it would be used only once in a while? D. H. *Nelson County, Ky.* [There are two ways of raising the water—by a steam pump, which will cost from $150 to $600 or $600; and by a rotary pump driven with a common steam engine, the rotary pump costing from $50 to $100. The advantage of the latter is in the powerful stream of water it will throw, and the other purposes for which the engine may be used. Our correspondent may obtain much information in detail by addressing O. Spencer, Union Springs, N. Y.]

The "Best" Hay Press.—Can some correspondent inform me which is the best portable hay-press? D. H. *Nelson County, Ky.* [We shall be pleased to have the experience of readers, but would meanwhile advise our correspondent to address D. B. Hendricks, Kingston, N. Y., and the Whitman Agricultural Co., St. Louis, Mo.]

Elm-Leaf Beetle.—Please tell the simplest plan to stop the ravages of the insect that threatens to destroy our elm trees. The trees in my yard for shade and ornament are so large that spraying them with any poisonous decoction, as I see recommended, would be difficult and expensive if not impracticable. I am seventy miles from a chemist. I enclose some of the leaves and worms. T. S. W. *Medlock, Va.* [The insect is the elm-leaf beetle, *Galeruca xanthomelana*. The only known method of arresting its attack is by spraying the trees with Paris green or London purple in water. It is not impracticable. It may be somewhat difficult to properly spray a large tree, for the liquid would have to be carried up in the tree to the large branches and sprayed from them. It would, of course, be somewhat expensive if a large number of trees require to be sprayed. Perhaps the best method of lessening the injuries of the insect in future years would be to box about the trunks of the trees for catching and confining the larvæ as they descend the trunks for their pupation when immense numbers can be quickly destroyed. This, however, would give but partial prevention, as the trees thus cared for would be exposed to restocking another year by beetles which have hibernated in dwellings and elsewhere, and may fly for some distance for oviposition. In infested localities all should unite in efforts to prevent the ravages and increase of this pest. If satisfactory results are to be obtained. This beetle has been often discussed in the COUNTRY GENTLEMAN, and those desirous of learning more of it may do so by referring to the indexes of the volumes for the past few years. J. A. L.]

Clover.—I send grass which has spread over one of my meadows. Please inform me what it is, and give an opinion as to its value for feeding as compared with timothy and red-top. H. D. C. *Orange, N. J.* [It is the common clover, *Trifolium vesiculosum*, a grass of very little agricultural value, and one generally regarded as a weed. It was formerly supposed by some, who were ignorant of the botanical distinctions between the two, to be a degenerate form of wheat, and it has thus afforded an interesting example of what absurd notions may become prevalent among thoughtless and unlearned people. C. H. P.]

Milk Ration for Development.—I am milking two cows, a grade Jersey 7 years old with calf 4 months old, and a "scrub" heifer 3 years with calf 2 months. They have good pasture, and are fed each a gallon of bran upon cut clover hay twice a day. I make from them a little over 2 lbs. of butter daily. Preparatory to testing their butter capacity, I have commenced to increase their feed. The ration selected is: 8 lbs. cut hay, 5 lbs. wheat bran, 5 lbs. corn meal, 2 lbs. cottonseed meal. Would you advise any change? J. C. H. *Oxford, N. C.* [J. C. H. states clearly what he has fed each of his two cows up to the time of his increasing their feed, but when he gives the increased ration he does not say whether it is for one cow or both cows, and he does not say whether it is a day's ration or only a feed. If he means that he gives each cow twice per day 8 lbs. cut clover hay, 5 lbs. wheat bran, 5 lbs. corn meal, 2 lbs. cottonseed meal, it is quite too much; but if given as a single feed to both cows on pasture, it is about right, provided they are vigorous eaters and good digesters. This would be 12 lbs. of concentrated food mixed with 8 lbs. of cut clover hay per day to each cow—a good round ration for an ordinary sized cow on pasture. It should not be any more. It is a great mistake to feed testing cows more than they can easily digest. H. appears to be developing his cows, which is all right, but he should make no addition to this ration till he is certain that they can stand it, and maintain perfect health. It is not probable that these cows can fully utilize more than this ration for several months to come. The development should be gradual. The combination of food is all right. E. W. S.]

"Gas Water."—Does not C. R. B. B. (p. 478) mean the so-called ammonia liquor in which the gas is washed to free it from the ammonia that is mixed with it? This ammoniacal liquid is a weak solution of ammonia gas in water, and is often worked up into sulphate of ammonia to be used as a fertilizer; but for the greater part it is washed and run into the rivers, sewers or drains from the gas-works. It is a very valuable fertilizer, but is usually too strong for use as it is made at the gas-works. It is therefore diluted with water, and spread over such crops as may be conveniently run over with a water-cart; or it is composted in various ways, being then of about the same value for the nitrogen as animal urine. If this is the gas water referred to, your Nova Scotia correspondent might use it by moistening the manure or compost heaps with it, and any other absorbent matter that would take up urine might serve his purpose. As ammonia is the most costly of all fertilizers, and the nitrogen contained in this gas water is quite available, and thus worth 15 or 16 cents per pound, this waste substance is certainly worth using; and for grass lands, applied in a diluted condition, would doubtless double the yield of hay. E. S.

Acknowledgments.

Communications for publication have been received during the week ending July 1, from C. C. Thacher—Stephen Beale—John M. Stahl—John S. Parmly—J. W. Ingham—Prof. Chas. H. Peck (2)—H. L. Coy—Thomas Bowick—S. F. H.—A. S. Wells—Mrs. D. H. R. Goodale (3)—E. B. Bartlett—T. S. Terry—Geo. Ball—Mansfield Milton—Edwin Wing—A. C. Glidden—Prof. R. W. Stewart—Elmer R. Summey—Wm. Horne—John Gould—H. J. Martin—Henry Stewart (2)—B. F. J.—Attwood Pierson—James MacPherson—O. W. J.—J. V. W.—C. O. Newton—I. W. H.—Prof. J. A. Lintner—F. H. P.—F. D. Curtis—Brant County Farmer—Dr. G. Archie Stockwell—A. A. Crozier—W. F. Brown—A. Jaffee—J. W. A.—Prof. R. W. Stewart—Phil. Thrifton—M. Walton (2)—E. S.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, July 4, 1880.

Back Numbers Wanted.—Any reader who can supply, in whole or in part, the first four volumes of the COUNTRY GENTLEMAN (being the years 1853 and 1854) will do well to let us know at once.

We also need, to complete a subscriber's set, copies of the issues of March 11, Nov. 25 and Dec. 2, 1880. Cannot some reader furnish them?

"Cattle Breeding."—This is the comprehensive title of a book by a good authority, Mr. WILLIAM WARFIELD of Lexington, Ky., consisting largely of matter already published in periodicals but well worthy of permanent preservation in the present form. Mr. Warfield writes largely from the Short-Horn standpoint, and his enthusiasm for that valuable breed carries him occasionally to rather extreme views of their merits, as where he claims unreservedly that their breeders have "always" sought to develop them "by careful selection to a high excellence as beef and dairy cattle, neglecting neither meat, milk, butter nor cheese-making qualities, and carefully guarding against the atrophy of any desirable quality." An impartial observer can see clearly that dairy points *have* been disastrously neglected by a good many Short-Horn breeders—a neglect which has assisted largely in paving the way for the great and growing popularity of the distinctively dairy breeds. The author's strong Short-Horn partiality, however, does not really detract from the practical value of his work, which certainly deserves the attention of breeders generally. It is published (at $3) by the J. H. Sanders Co. of Chicago, and may be ordered through this office.

Road Legislation.—An able and interesting treatise on this very important topic, by Prof. JEREMIAH W. JENKS of Knox College, is issued in pamphlet form (with an elaborate tabulated digest of the road laws of every State and Territory) by the American Economic Association—Richard T. Ely, secretary, Johns Hopkins University, Baltimore. The price is only 75 cents, and we hope it will have wide circulation. An entire overhauling of our whole system of road management (if it can be called a system) is pressingly demanded by the necessities of the times; and this book will be found a valuable counsellor by persons endeavoring to bring about the much needed reform.

Obituary.—We regret to record the death of the wife of one of our regular Ohio correspondents, Mr. EDWIN WING of Champaign County. "She was a lover of all dumb creatures and flowers," Mr. Wing writes us, "a most successful poultry raiser, and was with me many times in the field while at work."

—— Our correspondent "Aunt Addie," Mrs. A. B. ACKERMAN of Brooklyn, N. Y., died suddenly, June 18, in the 61st year of her age. We have still one or two of her articles on file, which will probably appear shortly.

Self-Cleaning Stables.—Many recent inquiries for Prof. STEWART'S admirable device bearing the above title (which everybody who has tried it seems to like) will observe that it is advertised this week by Messrs. Stewart Bros., Lake View, Erie Co., N. Y., who write us:

"People seem to be afraid of them—that is, *the people that have never seen them in use.* All

that have tried them are more than satisfied with their good qualities. The COUNTRY GENTLEMAN is the best advertising medium for us in the country. The larger part of the papers are of no earthly use. The 'common' farmers will not buy."

American Florists.—The next convention of this society will be held at Buffalo, Aug. 20-22.

African Insects.—We are indebted to Miss ELEANOR A. ORMEROD, consulting entomologist of the Royal Agricultural Society of England, Torrington House, St. Albans, for a copy of a book which she has just published, entitled "Notes and Descriptions of a Few Injurious Farm and Fruit Insects of South Africa." The volume is a duodecimo of 116 pages, with 32 illustrations.

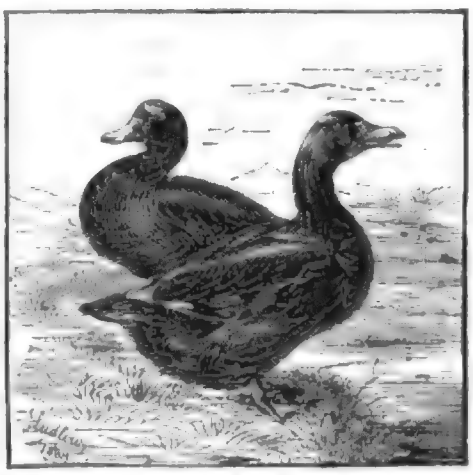
Aerating Milk.—Mr. E. L. HILL, West Upton, Mass., (who has a new advertisement of his milk aërator this week,) writes us: "Your paper brings me the most intelligent and appreciative class of buyers."

Destroying Live-for-ever.—Some years ago we noticed a matter which came before the Elmira Farmers' Club, and which was reported in the Husbandman, in relation to an easy way to destroy the persistent weed known as Live-for-ever, through the agency of a disease with which the plant is inoculated. We observe in a late account of the proceedings of the club, additional statements of the efficacy of this simply remedy. The disease affects no other plant. W. H. Maricle, of Cincinnatus, N. Y., who has given it a full trial, says "it takes a year from the time of planting the diseased weed before you will see any working of it; then it spreads rapidly. We have destroyed many patches. It is safe and sure, but must have time. Many of our neighbors bought it of us last year. June is the time to apply it. We had about six acres of nice meadow about ruined with it—now it has nearly all disappeared." Chauncey Wade, of Guilford, N. Y., says "It has proved a success with me. In my opinion it is the only practical way of totally eradicating the pest. I will send the diseased plants to parties desiring them, with the directions."

Excellent Horsepowers.—We take pleasure in calling attention to the advertisement of Messrs. A. W. GRAY'S Sons, Box 91, Middletown Springs, Vt. Their powers are widely known, and seem to give general satisfaction. Persons in want of such machinery will do well to correspond with them.

Successful Underdraining.—T. A. Stanley related at a meeting of the Connecticut Board of Agriculture, an experiment performed on a piece of land which he obtained for $100 an acre. It was plowed, manured and sowed to corn fodder. It received the usual cultivation, but the moist soil prevented the work from being done in the best manner. There was not half a crop, hardly enough to pay for the labor. It lay idle one season, and was underdrained. It was sown last year to ensilage corn. The draining had already done so much good, that although naturally wet, this land could already be worked much sooner after a rain than any other part of the farm, high or low. "At harvest," said Mr. Stanley, "such a field of corn I never saw. Evenly throughout the whole field, the corn stood from 13 to 14 feet high." A single drain was put in another field, and the whole field planted with corn fodder. When it reached maturity, all the corn was a foot higher over and near the drain than in the west of the field. Mr. S. says that draining has more than paid ten per cent. on the sum it has cost. Our own experiments have told a better story. Of the many miles of tile-draining which we have laid, the whole cost has been paid within three years by the increase of the crops, to say nothing of the increased value of the land.

California vs. French Prunes.—The Commercial Bulletin of New-York notes the growing influence of American dried fruits on the foreign product. The industry on the coast has made rapid progress; prices have receded, bringing the fruit within reach of a larger number of persons, and so stimulating consumption that no stock has been carried over for two years. The California prune crop of last year was unusually fine, while that of France was inferior, giving opportunity for controlling the market that was fully availed of. But the French growers will not give up without a struggle. They are fully alive to California competition, and the inroads into their trade. The various commercial bodies have taken up the subject and shown the growers the necessity for low prices if the industry is to be continued. Throughout Lot and Garonne, the great producing section, immense orchards already exist, and the cost of raising the fruit is small. The trees are well trimmed up, and the soil they stand in annually cropped with vegetables and grain. Having the trees, which are heavy bearers, and their fruit so much gain, the French farmers will undoubtedly market their prunes for whatever they will bring, and the California growers will be obliged to meet them on a low scale of value, which at least will benefit the consumer.



CAYUGA DUCKS—*Engraved for the* COUNTRY GENTLEMAN *from Drawing by Ludlow*—See article on page 515.

The Fowls Paid for it.—I subscribed for your paper in January, and in the first lot sent me saw an ad., and sold Cochins enough to come to more than twice the amount paid for my subscription. COUNT R. FERRIS.
Smyrna, N. Y.

Ox-Eye Daisy, p. 478.—Mr. Hoag says it makes good hay. I may add it is relished by some animals in the green state. I had never thought of the pretty flower in connection with its food value until I noticed one of our cows devour every daisy in her pasture lot. She is a superior animal and it may be some of her merit is to be attributed to her esthetic taste for flowers. J. B. P. *Oceanic, N. J.*

Rack for Cornstalks.—I send drawing of a corn rack that I made for my wagons last year. When made, take the reach out from

A A, 14 *feet*; B B, 20 *feet*; width, 3 *feet*. *Pieces*, 2×4 *by* 3 *inches*.

your wagon, place the forward wheels over the front or left end, and draw the kingbolt (made for the purpose) up through the axletree, with a nut on the upper side. Then place the hind wheels over the hind end of the rack; put an iron clasp through each corner of the rack and around the axletree, and you have it ready for business. It carries the load about one foot from the ground. The pieces for the rack are 2¼ by 8 inches. Place stakes at each corner of the rack, front and rear of wheels, to keep the stalks off from the wheels. The length of the cross pieces is 5 feet (the width of the wagon), all bolted together. By the time it is loaded breast high, you have a load. It saves a man to load and unload, and makes it much easier than walking up a plank at the rear end of your wagon, as has been recommended by some of your writers. J. W. GALL.
Erie County, N. Y.

Dry Ensilage.—In August, 1887, there was an article by the writer on what Prof. Stewart seemed pleased to call a new kind of ensilage—that is, dry shock corn cut and stored in silo. I am equally well pleased after two more years' use, and I think I shall keep on, as I have not seen or read of anything better. Prof. Stewart requested that I cut a quarter-inch long. So I purchased a cutter claiming to do it, but I found it cut all lengths, and many ears would go through with scarcely any cutting. That has been my experience with cutters—they cut too long and not half as fast as is claimed for them. My five years' experience with ensilage was enough to satisfy me that I could not afford the loss by mould and rot, and then I can cut as many stalks of dry corn as green, and can elevate it much easier, as it is lighter, and a silo is not necessary—simply a wooden box tight enough to hold the grain. It is not best to cover and weight it. I have tried "Cylinder" cutter with four knives, "Doctor" with three knives, and "Tornado" with four knives to the inch; it cuts finer and better but takes more power and cuts slower. I have found it best to keep hogs to work over the manure. Even with mature ensilage I find a large percentage of waste, and with dry corn considerably more. J. T. S.
Cedar Rapids, Iowa.

Brain Aiding Muscle.—I felt discouraged last January, but the Aspinwall potato planter and Prout's horse-hoe put new courage into me. It is wonderful about American machines. I have thirty acres of potatoes growing; barely a day's work of hand labor in planting and caring for each acre; some land will require no hand labor; other a very little. A fine piece of five acres (now blossomed out) has had three days' hand labor to date, not including putting on Paris green; "quacky" pieces require more. I continue to feed grain by the carload, but begin to see that I must charge some of the cost of grain to the manure pile. Manure, like blood, will tell. Milk, potatoes and draft horses are my hopes for profit.
Washington County, N. Y. C. L. A.

What Others Say.—We regard the COUNTRY GENTLEMAN as the leading agricultural journal of this country.—*Clifton Springs (N. Y.) Press.*

—— You should not try to run your farm without the COUNTRY GENTLEMAN. You need the instruction contained in its columns. A single copy is often worth the price for the whole year. To succeed in farming, one must use brains.—*Norfolk (Va.) Cornucopia.*

—— The standard agricultural weekly of the world. Every good farmer should have it, and no poor farmer *can afford* to be without it.—*Birmingham (Ala.) Age-Herald.*

—— The best weekly agricultural paper is acknowledged to be the COUNTRY GENTLEMAN.—*Morgantown (W. V.) New Dominion.*

—— The COUNTRY GENTLEMAN is par excellence *the* agricultural newspaper of the country, not so much on account of its age (more than half a century) as the careful and able manner in which it is conducted.—*Garden City (Kan.) Imprint.*

Hudson River Fruit.—The Kingston Freeman of June 27 has the following review of the situation:

The strawberry and cherry crops along the Hudson Valley have been marketed. Wet weather injured the yield from one-third to one-half. The strawberries were unusually large in size, but they lacked the flavor of former seasons.

The huckleberry, currant, raspberry and early peach crops are about ready to ship, and all of them are above the average in point of quality and quantity. The peaches generally are beautifully colored. The late peach crop, which matures between Oct. 1 and Nov. 15, will be the largest ever grown between Cornwall and Catskill, a distance of over 70 miles.

Pears, apples, apricots, plums and quinces are vigorous and average yields will be marketed.

The great fruit staple, however, of 1889 is the enormous tonnage of grapes now growing in the vineyards along the Hudson river and for a distance of from 1 to 15 miles inland. Careful estimates made yesterday and to-day show that the 'longshore product will exceed that of last year by nearly 15,000 tons, and that was a phenomenally large one. Nine-tenths of the yield will be composed of Concords. Hundreds of new acres will come into bearing for the first time in September, and what the growers will do with them all is a puzzle. The largest increase of Concord grape acreage is due to the fact that this fine quality of fruit has never failed the producers. Peaches and strawberries and other small fruits frequently fail to yield full crops, the Concord never. It has not failed once in the 25 years that it has been grown along the valley specially for the New-York market. This fall large quantities of the fruit will be shipped to points north, south, east and west, though New-York City will be the great centre as in the past.

Arrangements are being made to manufacture wine extensively. The vintage produced from Concords has a very fair body, is cheap in price and is rapidly becoming popular as a table wine. It is only a question of time when portions of the great grape growing section hereabout will become noted for the extent of the output of its wine. In that respect it will be the California of the East.

Every summer fruit growers at Highland and at other points announce that they intend running opposition steamboat lines, special care in handling and lower rates for the carriage of fruits being the main inducements offered. Brass bands are hired, cannons fired, but not a single opposition line has ever materialized to date. Two lines of boats have been started on paper this month, but as a matter of fact not even a tug has been hired or will be.

Farm-Yard Notes and Items.

The members of the American Jersey Cattle Club have voted (175 to 34) to reduce the registry fee on imported animals, either sex, to $25; also (184 to 28) to provide that no name can be caveated for a longer period than two years, unless the claim be renewed during that time.

Holstein breeders will join us in regretting the death of the celebrated cow Jamaica (112 lb. 2 oz. with second calf), which occurred—as we learn by a note from her owner, Mr. W. Mitchell, Meadowbrook, N. Y.—from milk fever, after dropping a c. c. to Ethelka's Coronet.

The remarkable heifer Belle Madeline, whose portrait we gave on p. 481, has again carried off the female sweepstakes Short Horn prize at the Royal show in England. She is a roan; was got by Beau Benedict 42769, out of Madeline Butterfly by Major Benedict; and was bred and exhibited by Robert Thompson of Ingleswood, Penrith. In the Hereford class, a similar honor has this year fallen to a daughter of the Earl of Coventry's Rare Sovereign, whose portrait appeared in the COUNTRY GENTLEMAN for 1887, p. 239; her name is Rosewater. Lord Wantage's grand stallion Prince William—portrait published March 28, 1889, p. 231—gets the sweepstakes award in the Shire department.

A report to the Royal Agricultural Society of England states that 23 fresh outbreaks of pleuro-pneumonia were reported in Great Britain during the five weeks ended May 29, and 82 cattle had been found affected. In the corresponding period last year there were 50 fresh outbreaks and 144 cattle attacked. In Ireland 15 outbreaks had occurred during the same period, and 34 cattle were attacked; whereas in the corresponding period last year there were 34 Irish outbreaks of the disease and 60 cattle affected. The healthy cattle slaughtered in consequence of contact with the disease numbered 767 in Great Britain and 137 in Ireland.

Mr. E. T. LAWE, Brockport, N. Y., writes us that his four-line advertisement on p. 401 sold the registered Holsteins. Cost of advertisement, $1.60; value of cattle, ——?

A lamb with six legs has been dropped by a Stornoway crofter's ewe. The lamb is quite strong, and though it can move about comfortably on the four legs, a fifth one is occasionally used. So says the North British Agriculturist.

A female Bull pup was sold for $750 at a dog show in London in June.

A telegram from Lexington, Ky., June 28, says:

The celebrated brood mare, Miss Russell, dam of Maud S. 2:08¾, Nutwood, 2:18¼ and Cora Belmont 2:24¼, has just foaled a bay filly at Woodburn stud by the famous California stallion Electioneer. With the exception of her full sister, the yearling Rustique, this filly is considered the highest bred trotting youngster now on the American continent. She is Miss Russell's seventeenth foal.

The Grazier and Breeder.

Pig Meat—How Shall We Have It?

Eds. Country Gentleman—Why should not pig meat be good food when the pigs are born and reared on the green grass, and fed on the same foods on which mutton and beef are produced? I admit that pig meat often has a disagreeable flavor and smell. Why should it not be thus tainted when the conditions under which the pigs are grown are such that it could not be otherwise? I will explain. The pig must be more or less like its conditions. If kept all of its life in a filthy pen, and never breathing a breath of pure air, its blood cannot be pure. If fed fever-producing foods, heat and fat-forming, all its life, there must accumulate in its blood impurities, taints, fever or disorders, which will affect the condition of the blood, and this must from necessity carry these conditions of the blood into the flesh, as the flesh is nourished and built up by and from the blood.

Farmers know that their pork is sometimes quite rank in smell and flavor. When we fed our hogs nothing but corn, they were frequently in this state. Now, we know that this food being deficient in muscle material, and containing an excess of heat and fat, does not develop the kidneys sufficiently, and often causes them to be diseased, and also the liver. All of the internal organs, composed largely of muscle, will be deficient in size, and of course unable to perform the work they should.

In the case of the kidneys, the impurities of the blood cannot be fully eliminated, and these impurities must be continued in the circulation, and be re-absorbed into the system. This should not be. We should feed all of our animals so as to develop all of their functions, and to keep the blood in a most perfect condition. To do this there must be pure air—no manure-reeking stables or pens. How can it be otherwise than for the flesh of a pig to be like its surroundings and food, because its body must be made from these things? It is not a pleasant reflection to anticipate eating, in the autumn or winter, a nasty pig-pen or the accumulating odors arising therefrom. This is about what the pork-maker does who rears his pigs under such conditions. It is not wise to feed an excessive amount of nitrogenous foods, as they will throw upon the kidneys more work than they can perform.

This is my point—we should never gorge or stuff any animal with any one kind of food, and especially a food excessive in one element. It is better to feed a balanced ration. If corn is to be fed, make half of the weight of the pig's meal bran. With this proportion, there will be more gain of meat, and far better meat. Now take away half of the corn and bran ration, and allow the pig to eat all the grain it wants, and you will get as much gain in flesh as before; and you will get flesh fit for kings, whereas the all-corn meat is not good food. Grass is as much king with hogs, or should be, as with cows. It is a natural food and will keep the system in perfect order. I never had a sow do badly, in any way, when she had nothing but a diet of grass to make her pigs and to furnish them milk, but I have had many sows do badly when fed nothing but corn. This last fact every farmer of observation knows is true. Is it reasonable to expect that any animal gorged with rich foods all its life, and its system clogged, will or can make good food?

I am now pleading for the consumer as well as the pig. Both deserve a better fate. The same line of argument leads me to deprecate the making of baby beef as well as bimbler pork. It is the duty of every farmer to make meat as palatable as possible, as in this way he can increase its consumption. I know that the average consumer swallows a world of credulity with his other victuals, and gives very little heed to his food beyond his own table. If there were not so much blind swallowing of foods it would be easier to prevent frauds in foods, and the adulterator of foods would soon get his just deserts. Now and then a man stops to inquire concerning the source of the foods he eats, and seems to awaken to the fact that purity and healthfulness have some importance. How is it with the farmer who feeds simply to sell? Does he not come short of his duty? Let us feed to make wholesome real food, and not so much for an early sale, or an early so-called maturity. This new line of feeding has also the real merit of being actually cheaper as well as better.

Kirby Homestead, N. Y. F. D. CURTIS.

The Essex County Show in England.

This week was held the Essex County Show, the real inauguration of the summer county show season. From the fact that Essex is so close to the metropolis that within its borders are so many fine estates, and that it is the most important county show in the south, the gatherings of this society are always regarded with especial interest. This year it has met in Colchester, and the gathering is one of the best ever held under the society's auspices, especially in the cattle section, where have been gathered a splendid entry of Jerseys and Guernseys. The totals shown are: Horses, 335; cattle, 206; sheep, 87; pigs, 28.

Horses are not quite as numerous as last year, but the falling off was almost entirely in the light section. This was scarcely to be wondered at, for the great June horse show in London was held at the same time. The feature of the horse classes was found in those devoted to Suffolks, and here was a fine collection of really first-rate animals. This is seen in the fact that the champion award for the best draft horse in the show was to a Suffolk, Mr. Walton's Emperor—a good mover, short on the leg, and a wide, massive frame. This exhibitor was also the breeder of several other winners. Emperor is a four-year-old, and won first in the aged class. In two-year-olds, a colt that did a lot of winning fulfils his promise. This is Pratt's Crawley Cupbearer, which wins; he and the second also are sons of Cupbearer III, and are wonderfully equal. The mares made a good class, with Mr. Byford's Bounce in the premier position.

Shires did not shine in quality. Whether owners are holding back for the greater contest at Windsor a fortnight hence is not improbable. The pick of the lot was Mr. Thoday's Blackbird, winner in mares, and also of the championship for females. She is of huge size, with well-formed limbs, sound in legs and feet, and withal a good mover. Light horses call for no special comment.

Short-Horns made an excellent section, but there was nothing new, and most of the winners are well known. The champion prize for Short-Horn bull was given to Mr. C. W. Brierley's Aristocrat, winner in the over three-year-old class. He has great size, looks well in front, carries a good head, and has a capital back. The same exhibitor wins in the two-year-old heifers, with a pretty animal in Rosedale Graceful, winner also at Exeter last week. But the pick of the females is the champion, Mr. T. Stokes' Gladys' Rose, who occupied a similar position at the Oxfordshire Show. She is a lovely animal all through, excellent in form and build, and with a good skin.

But as already stated, the pick of the section was the classes for Jerseys and Guernseys, of which there were 155 in all. The challenge cup for the best Jersey cow bred in England was secured by Hine (Hon. Mrs. Cecil Howard's), a well-known winner, very good in style and a pretty grey. This cow won first in the old class. Both two-year and one-year-old heifers were excellent, and in the former the Bath and West of England winner, Mrs. Parkin's Trifle, occupied the same position here. In bulls may be specially noted Mrs. Hopwood's Chestnut Boy and Mr. Simpson's Bessie's Boy and Bacchus. In Guernseys, the principal prizes went to Mrs. Bailie Hamilton and Mr. Christy. S. S.

Cattle Feeding in Texas.

Eds. Country Gentleman—Texas has been noted for its long-horn cattle and wild, reckless cowboys. But the long-horns and dare-devil type of cattle herder is well nigh a finished chapter in Texan industrial history. The vast areas of unsettled prairie grass lands have been, or are being, rapidly occupied by farmers, or stock-raisers of an advance type. The once wild plains of beautiful mesquite grass are now, to a large extent, under good wire fences, and cattle raising is conducted upon an entirely different basis from that of our forefathers. They raised long-horns for beef alone; and, considering their stock was entirely grass fed, they made excellent meat. On many large Texas cattle ranches, milk and butter were untasted, and almost unknown luxuries. The old ranchman's idea was that cow's milk was intended only for a calf, and man ought to be above robbing a poor dumb, calf of his lacteal ration.

Look at Texas to-day! Without entering into tedious statistics, I will only remark that the advance Texas has made in neat stock raising during the last 20 years is immense. Yet this is not to be wondered at when we consider our great resources in this direction. We have every natural advantage we could ask for profitable stock raising. Our climate is so mild that cattle need shelter less than one-fourth of the year, and our pasture facilities are so great that they supply food for at least nine months in twelve. In a large part of the State the pasturage is the natural carpet of rich native grass, set out and tended by the free hand of bountiful Providence alone. In addition to this natural growth of nutritious grass, our soil is capable of producing in greatest abundance nearly all the domestic grasses indigenous to North America, while several products of the Eastern Hemisphere find this a congenial home.

Among our forage plants may be named lucern, or alfalfa, Japan clover, Johnson grass, and a half dozen or more other varieties of non-saccharine sorghum, our native Texas blue-grass, mesquite, gamma, Texas millet, Bermuda grass and rescue grass. Even the much abused crab grass is a valuable hay and pasture plant. In Southwestern Texas the prickly-pear cactus is an important cattle food, and is highly prized as such.

A number of other grasses are grown to a greater or less extent in Texas, but the above will suffice to give a fair idea of our resources for hay and pasturage.

Texas also raises sweet potatoes in large quantities (yet not one-hundredth as large as she could and should do)—one of the finest cattle foods in the world, and also one of the cheapest. Stock peas, too, occupy a front rank as cattle food, and have few superiors. Our wheat-growing counties supply bran, while oats, rye and barley can be grown anywhere. As to turnips, carrots, &c., we can grow them in abundance, but our people are rather negligent in this direction.

I have not yet mentioned one of our principal cattle foods, namely, cottonseed. This is one of the best relished foods, for winter use, our cattle have. When fed with turnips or other roots, few things are superior for making rich milk, while the great cheapness of cottonseed (usually about 10 cents a bushel) makes it accessible to all.

It is stoutly argued by the oil-mill men that cottonseed meal is better for cows than either the unhulled or hulled seed. I do not accept this idea, because I cannot see how an oleaginous kernel can be as good after the oil is extracted as before.

All in all, there is no portion of this great Union better suited to profitable cattle-feeding than is Texas, and for profitable butter-making few countries have equal facilities.

Harrison County. T. B. BALDWIN.

The Breed for Butter-Making.

Eds. Country Gentleman—When it is considered that the milk from which the most and best butter is made costs no more in its production, pound for pound, than other milk, lacking the proper elements for making good butter, it would seem an easy task for the butter-making dairyman to choose the breed best adapted to his purposes. It is not important to constitute her a good and profitable butter cow that she should give the largest quantity of milk; this is rather a disadvantage than otherwise, for heavy milkers are rarely rich milkers. The best Jersey cows are, as a rule, small milkers, but the milk is heavily laden with butter fats. Such cows are specially adapted for butter-making, and will return a large profit on the investment of food and care; a cow of another breed giving double the quantity of milk is kept in the butter dairy at a loss, because the cost of producing, say 50 or 60 pounds of milk from the same animal per day, is proportionately greater than would be required to produce 25 or 30 pounds from another; at the same time the cow giving the smaller amount of milk, if she is of the right breed—which means the Jersey—is the most profitable.

Jersey milk, in comparison with the milk from other breeds, is much richer in fats, and consequently less of it is required to produce a pound of butter; the milk is specially adapted for conversion into butter, inasmuch as the cream separates more readily and thoroughly, the butter globules are larger, churning is easier, and at every step indications prevail that Jersey milk is specially designed for making into butter.

The cow herself has been long bred and fed with this object in view. Her stature is not large, and nature has so directed the order of her digestive and assimilating machinery that the food she consumes takes a direct and unerring course into the manufacture of rich milk, and not to flesh upon her back. For these and other similar reasons the Jersey is the most profitable cow for the butter-maker's herd. A sharp watch on the expense account, and a comparison between the yield and cost thereof of the big milker and the little Jersey standing by her side, will astonish the dairyman in most instances, and demonstrate to him the fact that best results from his business depend very largely upon the breed of cattle he employs in conducting it.

There are good and inferior cows in all breeds; but this does not preclude the possibility of any breeder of dairy stock attaining the highest success with almost certain results—by employing judgment and care in selecting and mating his breeding animals. A few generations of this sort of breeding will produce a class of animals that can be depended upon to transmit their good qualities without a failure, and a breed so built up will return to the owner ample recompense for all his outlay of time and money—this will be in the form of increased product, and a reasonable guarantee that the finer qualities for which he has labored will be inherited by all the offspring, and better prices will readily be obtained for such animals as he may desire to sell. When that time shall come the butter dairyman's task will be made less difficult even than now, because then a fair assurance will be given him that all Jersey cows will be good and profitable cows. These popular features make any breed of animals valuable in the eyes of practical men—and promote largely the adoption of their use for special purposes. For profitable butter making it is established beyond controversy that the Jersy leads far away all other breeds, and the wise butter-maker will therefore choose her for this business.

Morton County, Ind. GEO. JACKSON.

Duroc-Jersey Swine.

Eds. Country Gentleman—I have been very much interested in the discussions in your columns about pigs, and particularly in the points recently brought out by Mr. Stahl and Col. Curtis respecting the Duroc-Jerseys. Mr. Stahl says that they are the most prolific pigs known, and Col. Curtis declares that seven Duroc-Jersey sows had 96 pigs this spring, "all smart"—one of the litters actually amounting to 18.

And yet there is not a line about this breed in Harris "On the Pig"—not even in the revised edition, which is supposed to be brought down to the present year. How is such an omission to be accounted for? Has Mr. Harris never heard of the breed, or does he not think it worthy of mention? Yet, if seven sows produce 96 pigs at a litter, the breed is not, in common parlance, to be sneered at. And if the young pigs are not so fine or so early maturing as some other breeds, would not that drawback be remedied, so far as the production of pork is concerned, by a good cross? Would not a good Cheshire boar with Duroc-Jersey sows give porkers that would be every way satisfactory?

In my neighborhood (100 miles from New-York) we want to raise pigs that at five or six months will weigh about 200 pounds, and the more pigs we can raise at a litter, of course, the better. How would the cross suggested meet this demand? My sows are nearly all Chester Whites, pure or grades, and my best litter this spring numbered 13, an unlucky number, and so three of the young ones soon took their departure. The rest have been already disposed of to neighbors at prices not altogether unprofitable. Still I think it might pay me and other farmers similarly situated to introduce the Durocs. What would Col. Curtis or other breeders recommend? D. Davis.

Columbia County, N. Y.

Early Castration, p. 464.—I have castrated a large number of colts and horses at all ages. I always endeavored to have farmers castrate at one year at farthest. I always was opposed to going two and three years. There are many serious objections to it; not one to early castration. The best developed pair of geldings I ever saw (they took first premium from weanlings to eight years old) belonged to Mr. H. P. Fales. I castrated them, one four days old, one two hours old. The only danger (if any) with older animals, is, the velum is thin and delicate, and much struggling might cause rupture. These animals never seemed to know they had been hurt beyond the holding of them upon a pile of straw. I have castrated the moment the colt was free from the apron. Just before weaning is perhaps the best time to castrate a colt; then the system is in a healthy condition. Wm. Horne.

Janesville, Wis.

The Poultry-Yard.

The Cayuga Duck.

This handsome variety (*Anas boschas var.*) has never on this side the Atlantic received the favor which it so well deserves, and which at one time might have been reasonably hoped for. Several attempts have been made to increase the number of breeders, but without much success, and hitherto the classes given for them, at some of the leading shows, have been but poorly filled. This is much to be regretted, as the Cayuga would well repay cultivation, both for its exhibition and economic properties. It is a splendid duck for the table, though not as large as some of our other breeds. This can be remedied by crossing, where size is an important consideration, as in the case of ducklings to be marketed. The darker colored flesh and the fine flavor enabled it to take the place of the wild duck, and this alone should win for it popularity. I have never yet tried the cross of the Cayuga with the Aylesbury or the Rouen, but that with the Pekin produces fleshy, rich birds, and rapid growers.

The name Cayuga rises from the fact that it was bred for a series of years, and probably first so bred, by Mr. J. S. Clarke, on the Cayuga lake in New-York State. The theory is that the variety originated in a cross between the Mallard and the domestic duck, but of what variety there appears to be no record. It is not impossible that the foundation black duck was due to England, for at one time this color was very common in some parts of the country. The late Mr. Richard Teebay wrote in Cassell's Book of Poultry:

"I do not believe we have now here (in Lancashire) any true-bred black ducks; but in Preston market twenty years ago they were very common, as were two other quite distinct breeds that have disappeared. The black ducks were very large, and bred true to color. There were also blue ducks, nearly the color all over of an Andalusian hen, and the drake the same, except being rather darker on his shoulder coverts and head; these also bred true color and were very slender and tight feathered in their general appearance. The third variety were called "duns;" they were of a yellowish dun color throughout the whole plumage, the drake being rather darker on his back than on the rest of the body. These last were the largest, but required more attention, and were more sluggish than the others, but did not need so much water. I also remember a breed parti-colored, with immense top knots. For several years now, however, all the young ducks that are brought to Preston market are Aylesburys, or crosses from them, as they are bought chiefly for the Liverpool poulterers, who will give more for them than for the others. I recollect asking a gentleman who had spent many years in America trapping and shooting, about the Cayugas, and he appeared to know them well. He too, said that they were so similar in appearance to the English black duck that it was hard to tell the difference. He seemed to think that the breed had at some time been taken from England, and that the difference in favor might easily be accounted for by the change in climate, but especially by the difference of food and water plants. * * * Whether the Cayugas were taken from England or not, if they prove as good as the old Lancashire Black Duck they will be very valuable."

Of course there is no proof that any of the old Lancashire breed of black ducks were taken to America, but these things are often done without any record being kept, and with the constant communication between Lancashire and the United States, there is just a possibility of it. If not, the resemblance between the one and the other is not a little remarkable.

Some time ago Mr. W. J. Riley, Hon. Sec. of the Waterfowl Club, wrote that the Cayugas are very hardy indeed, and come quickly to maturity. Probably in time, by judicious breeding, they might be made to pull the weights of the Aylesbury or the Rouen, but at present they cannot be said to be large, standing more than midway between the heavy breeds and the ornamental. Six or seven pounds are very good weights as things stand at present. The shape bears a strong resemblance to the two breeds mentioned above, there being the same fine, tapering bill and long head. Of course the size is inferior, and they stand longer on the leg than either the Rouen or the Aylesbury. The plumage of the Cayuga is black throughout, and ought to be free from brown feathers as far as possible. The head and wings show a brilliant green lustre, which gives the bird a striking appearance. This lustre appears in greater perfection on the drake than on the duck. Brilliancy of plumage is wanting in most of the specimens we see, and recourse has been had to the dazzling black East Indian, but it has been done at the expense of size. Black fowls are very apt to show white feathers with the increase of age, and so it is with the Cayuga. The second or third year they generally show a few white feathers about the base of the bill, breast or shoulders, but even then they are perfectly right to breed from, and the ducklings should come black enough. The bill is a deep blue-black, running rather light at the edges, but there is nothing very definite on the point. The eye is jet black, the legs and feet a dusky orange.

A lady who is a great admirer of the breed, wrote a couple of years ago to one of our poultry journals giving her experience of the Cayugas:

"I have kept Cayugas for five years, choosing the breed because they do not wander so far as the others. They are capital layers and very hardy. My ducks have laid since January, with only two breaks of a week each, and they are laying now (July) after the second break. They are very delicate eating, and one of my friends will have no other on the table. * * * I consider want of size the only drawback to the Cayuga, but we should keep clear of the East Indian, which is used, I think, to produce finer plumage."

These remarks indicate the value and merits of this breed of ducks, and I hope that it may increase in popularity. That the question of size is receiving the attention of breeders there is no doubt, and if they can eradicate the Black East Indian influence there will not be much difficulty in the matter. Brilliancy of plumage is very good, but it should not be obtained at the expense of other and more necessary characteristics. STEPHEN BEALE.

N——, England.

See engraving on page 513.

The Dairy Department.

Ice for Cooling Milk.

EDS. COUNTRY GENTLEMAN—I should like information in regard to using ice for cooling milk. Is it better to cool by putting the ice into water, or to depend on cold air? Would it be practicable to use a large refrigerator, with an ice-box large enough to require filling say once a week, or to use deep cans and set them under the ice-box, allowing the water to drip over them, and perhaps have a few inches of water for cans to stand in? C. S. C.

North Manchester, Ind.

It seems to be conclusively demonstrated that the can of milk, to get the best creaming results, should be set in cold water—the water on the outside coming up as high as the inside milk. Air is a poor conductor of heat and cold beside water, as the latter absorbs heat several times faster than air. Dr. Babcock's recent and exhaustive investigations in milk-setting have upset many theories about why we set milk, and how, and among them the effect of cold upon milk to induce superior and fast rising of the fats. It is not that the action of sudden chilling of milk changes so much the difference of the specific gravities of the fats and cheese in the milk, but rather from the fact that sudden cooling retards the formation of fibrin clots in the milk, which prevents perfect rising of fats, for cream is only very rich milk. As the cooling of milk in cold air takes longer, the creaming will be less perfect, as the time gives the fibrin opportunity to exert its influence on the cream. Nor is it wise, even if putting the cans in cold water, to have the water too cold. A temperature that will bring the milk down to 40° or 42° is all that is required, and is preferable to a lower temperature.

Again, it was found that a can 8 inches in diameter and containing milk to the depth of 18 inches, cooled rapidly in ice-water at 40°, gave the best results. Dr. Babcock also thinks that this early and rapid cooling has other beneficial influences, for milk that has been allowed to cool somewhat before setting, then put in the tanks, will not yield up its cream perfectly. The now general idea is that when milk is *first* drawn, its viscosity (sticky quality) is less than at any other subsequent time, and this is why sudden cooling of the milk to 40°, faster than it is possible to do with cold air, pays in the extra amount of fats recovered. The setting of cans of milk in a refrigerator, with the ice overhead, and allowing the melted ice to drip over the can, was the invention of L. S. Hardin of Kentucky, but the later plan of putting the cans into water, and then later on submerging them, proved so superior that the colonel was out-distanced in the contests. If a stream of ice-water sufficient in volume could be poured over the can so as to envelop it, the same results would be arrived at as is now accomplished with the Cooley and other systems of deep, cold setting, but that would prove too expensive a plan when a small amount of ice in a tank of water will do the same thing.

This answer is under the supposition that the milk is to be used for butter-making purposes, but as Mr. C. does not so say, the cooling may be for the purpose of getting milk to market in the best shape. In this event, ice is not needed, or refrigerators. If for transportation, milk should not be cooled to a low point with ice, but rather aerated by dipping or pouring, so as to reduce the temperature only a few degrees, and then ship in cans, with ventilation to some extent. As milk spoils by some kind of a ferment, and the usual souring—lactic acid—is not to be looked for under about 24 hours, under ordinary circumstances, aeration of the milk, to get the free oxygen of the air to every part of the can, to retard a different kind of ferment, that produced by vibriones—so called by Prof. Robertson of Canada—is now regarded as the best way.

Thoroughly aired milk will keep much longer than ice-cooled milk, for as soon as the influence of the ice is removed, and the temperature goes up, the germs that produce lactic acid manifest themselves at once, and the milk sours very quickly, and even when milk is cooled, it should first be given a thorough aeration. Milk, to keep well, should not be brought much below 70°, and kept at that point as nearly as possible. I think that Mr. C., if it is cream that he wants, can get it much the best and cheapest by setting the milk cans in ice water and covering them against the outside air, and then holding the milk as nearly as possible at 40° or 42°. J. G.

The Walton Butter Conference.

EDS. COUNTRY GENTLEMAN—There must necessarily be more or less sameness in the lessons taught at the butter conferences and in the manipulation of the cream, and in the churnings. Each time, however, these lessons and the practical work are new to those present, and hence the interest is continued and the value of the conferences is not diminished. Where there is the most intelligence and the greatest measure of success among the dairymen, there the people evince the greatest interest; and where there are the poorest results in the dairy industry there seems to be the least interest, and more of a disposition to carp and fall back on preconceived notions, old traditions and practices which ought to be done away with. "When ignorance is bliss 'tis folly to be wise." What a heap of comfort there is in ignorance! The wiser a man is, the more he yearns after learning.

Notwithstanding these seeming drawbacks, the work of holding the dairy conferences is going on with many inspiring and satisfactory surroundings. The women folks are the sunshine and soul of these meetings. They do not possess the conceit so liable to shut the ears of the men, and then they do not have the prejudices which characterize the average man. Never in my life did I address an audience which showed in expression and manner more responsive appreciation to an earnest effort to do good than was manifest on the ladies' side of the conference at Walton. The men were attentive, thoughtful and all right, but the halo was on the other side of the platform, where those were seated who after all have more interest and pride in the success of the dairy than any others. More than half of the audience were ladies. I dwell on this gratifying feature of the Walton conference because of its suggestive character. I want the farmers *never to fail* to give their wives and daughters every opportunity to attend all the agricultural and dairy meetings. Where only a few men gather at meetings of this kind, it argues narrowness of views and lack of scope in operations.

Nestled in the little rich valleys of Delaware county are the homes of this appreciative people—the homes of some of the best dairymen in New-York. I do not think that any other county excels Delaware in the quality of its butter. The grasses are specially adapted to the purpose, and the water is of the best. The county dairymen's association has pushed ahead, as far as it could, a competitive spirit, and diffused through its meetings and discussions much valuable information. These people do not hug any dairy conceits, but reach out after better methods if they can be had. The fact that here about fourteen and a half pounds of milk, in June, made a pound of butter, is a sermon in itself. It was a fitting result and climax to the argument made before the churning, that there was immense importance in the careful breeding and selection of cows for a purpose, and in feeding them for a purpose. Dairymen everywhere should carefully note the facts connected with the Walton churnings. It is a marked fact, brought out at each conference so far, that the butter breeds of cows afford the best results; and that where there have been large yields of butter from noticeably small quantities of milk, the cows have been fed extra food, and food adapted to producing rich milk. Another fact has also been determined—that cooling the milk with ice, in the different creamers, has produced the most cream. In other words, to win in the dairy, the cows must be right; the food must be suited to the purpose and there must be more than that required simply for maintenance; the milk must be set in a form to insure the getting of all the cream possible, and that way is undoubtedly by the deep setting in a creamer, where it can be cooled with ice and controlled. Of course there are other minor considerations of importance, but the three great underlying propositions are cows and food for the purpose, and effective cooling. How long, oh, how long, shall the dairymen of New-York hang on to old notions, old cows and old incomes?

An interesting feature connected with the Walton conference was the presence of Mr. Irwin, one of the editors of the daily N. Y. Tribune, who was sent up here to see what sort of a thing "a butter conference" might be. This reminds me that there are two ends of the butter business. One is here among the hills, and in the hands of this earnest people, who are a glory to any land, and the other end is down where the tall tower of the Tribune casts its shadow. If there could be a closer union between the curbstone and the dairy-house, it would be better all around. If the brown-stones of the city would respond with becoming appreciation to the dairy fields, there might be added to the latter the charm of a suitable remuneration for additional care. I wonder if the average city man believes the corner grocery is the goddess who provides the golden butter? If the metropolitan press shall, as I hope the Tribune may, extend the vision of the city consumer beyond the grocery and the market to the dairies in this great State—where deft hands and tired toilers, too often with unrequited effort, try to turn the fragrant grasses of the fields into butter—so that the consumer can see and feel some of the pulsations and discouragements in the dairyman's home, it seems to me there would be a closer union of interests and better prices for the dairy output.

Hiram G. Olmstead, an untiring worker and one of the managers of the State Dairymen's Association, was made chairman, and the veteran editor, W. A. White, whose ready pen has done so much to further local interests, was made secretary.

W. A. Gilbert opened the conference by stating its object. The cream for churning was tempered by Mr. G.'s churn, the Gifford, a square churn; cream furnished by Elias B. Howland, Walton, milk 900 lbs. from grade Jerseys; temperature of milk when set 94°; set in Cooley creamer in water about 48°, for 12 hours; ripened at a temperature of 64°; 24 hours to time of churning. Temperature of of cream when churned 64°; time of churning, 19 minutes, 46 revolutions a minute; butter in granules—washed in five waters—one with brine; temperature of water to wash butter, 48°; salted about an ounce to a pound; worked immediately after salt was added; 13½ lbs. salted butter; 14 8 lbs. of milk for a pound of butter. Cows fed in addition to grass, 2 lbs. shorts and 1 lb. cottonseed meal a day; salted twice a week; water free of access to the cows. Level, gravely, dry land, and some low, swampy land.

For the afternoon session Mr. Wm. G. Thompson of Walton furnished the cream from 17 cows. Pasture upland, stony and rocks; no grain fed. Cows had free access to spring water; were salted three times a week; low grades of all kinds—some Jersey blood. Cream from 900 lbs. milk; temperature of cream 62°, not ripe enough; 36 revolutions a minute; milk raised in creamery cans, with water running round cans; temperature of spring 50°; milk

creamed in 24 hours; churned in 16 minutes; 7¼ lbs. butter; 26¼ lbs. of milk for a pound of butter.

Hon. Geo. D. Mead was in attendance at the conference, and spoke of the importance of farmers keeping accurate accounts. This rule he thought was a necessity for dairymen. The conference was held in the large hall on the fair grounds of the Walton society.

F. D. CURTIS.

Bottled-Milk Delivery.

To THEO. A. STANLEY—*Dear Sir:* Your excellent letter on the above subject (p. 481) leads me to write for information. I am about to embark in the milk business. Have land 10 minutes' drive from this city, and thought of using the bottle system of delivery. (1) What do you get for milk per quart? (2) Average yield of cow per year? (3) Deliver but once a day? (4) Whose bottles do you use? (5) Would registered Jerseys pay in milk, and breed to sell registered stock? Milk here is delivered at 6c. per quart in summer, 7c. in winter, from large cans—no one uses bottles. Could I get 8c. per quart for Jersey milk in bottles? (6) There are three or four Jersey herds 13 miles from here that pay in butter-making, averaging 2 lbs. each per day—25 and 30c. per pound year round. One man told me his herd averaged him only 3 and a fraction cents a quart for milk as made into butter, and he would gladly sell milk at 8c. per quart, and could then make money. Shall be pleased to receive any suggestions that you think would be beneficial to a beginner. R. G. L. *Callicoche, O.*

[Answer by MR. STANLEY.]

From my limited experience I may not be able to give full answers to these very practical questions, but any lack can doubtless be supplied by others.

1. I get 6c. in summer and 7c. in winter.

2. My cows average about 2,300 quarts per year of 12 months; not as high as I want them, but changes in a herd of thirty and more is slow unless capital is used.

3. As stated in my previous article, I now deliver all my milk in the morning.

4. A. V. Whiteman's flint glass bottles, with name thereon.

5. I should say yes, providing your Jerseys are good milkers and do not cost too much at the start.

6. You ought to get 7 and 8c. per quart bottle of Jersey milk. If I had all Jersey cows, I should not sell the milk for any less, and I believe I could get those prices with little or no trouble.

On the whole I think Mr. L. has a fine opportunity for doing a first-class retail milk business. By using bottles he gets the name of delivering first-class Jersey milk in the neatest possible manner; and can command the patronage of the best class of customers. With judicious management L. can make a success of the milk business.

Hartford County, Conn.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

WARTS.—Is there any practical way of removing warts from cows' teats? C. T. L. *Roanoke, Va.* [See p. 194.]

RECURRENT ABORTION.—A nine-year-old cow has aborted for three years. She is now dry, in fine condition, and runs in a good pasture. We have no veterinary doctors, or medicines, except drugs usually found in a drug store. J. C. H. *Oxford, N. C.* [Use Moore Bros.' anti-abortion treatment.]

BUNCH IN TEAT.—A three-year-old heifer had a bunch that felt like rubber form in the front teat, almost up to the bag, a few days after calving. Lately I noticed that in the opposite teat a similar bunch was forming about half way up the teat. When pressure is applied to the teat in milking, the milk is apparently forced back into the udder by these obstructions. G. A. C. *Thorsen, N. Y.* [The teats should be opened by the use of an instrument for the purpose; then keep a lead probe in for a while.]

SWELLINGS ON THROAT AND FLANK.—A calf five months old has a large swelling under the throat—very likely an enlargement of the glands—which has continued to increase for several weeks. General health apparently not affected, but it is getting to be quite a deformity. (1) A cow had a swelling like a wen or tumor come on her flank; grew hard and solid and was getting quite large. Had a seton put in, and it mostly ran out and healed nearly up; has broken and discharges again. Cow is apparently healthy and giving a fine mess of milk. Should this be sold with that from the rest of a large herd for shipping, and how should the cow be treated? (2) W. *Preble, N. Y.* [1. Apply golden blister to the enlargement and repeat in two weeks. Feed 15 grains iodide of potassium twice a day. 2. The abscess should be probed and freely opened, then examined for foreign body. If it is a simple abscess, inject twice a day some of the following lotion: Tincture of aloes and myrrh, spirits of turpentine, linseed oil, of each 3 oz.; mix. The milk may be used or sold.]

FAILURE TO BREED.—A 10-year-old cow has repeatedly failed to get with calf. It is over two years since her last calf was dropped. She is dry and quite fat; not been giving any milk since last September; is in best of health and comes in regularly every month. She was served by bull March 10th, last. A. C. G. *Cadiz, O.* [You should first determine whether cow is still barren, and in the mean time try to reduce her flesh by exercise and short rations; then if she is not in calf, use Moore Bros.' injectio vaginæ.]

BUNCH ON JAW.—A five-year-old cow has had a bunch on her lower jaw for two years. It is about the size of a hen's egg now, but has been twice that size; is hard and adheres to jaw bone, a portion of which is three times its natural thickness. The swelling recently broke at one end and discharged bloody matter; has now closed. J. *Selkirk, N. Y.* [In back numbers of the COUNTRY GENTLEMAN you will find in the Veterinarian a vast amount of information on this subject—tumors on jaws, actinomycosis, &c.]

VAGINA INFLAMED.—A three-year-old mare was served the 4th, and afterwards the 6th of June, by same horse. She now has inflammation of the vagina, supposed to be contracted from the horse in service, as horse is under treatment. A. C. S. *St. John, N. B.* [Inject with a hard rubber vaginal syringe some of the following lotion twice a day: Powdered acetate of lead, 2 oz.; sulphate of morphine, 1 dr.; tincture of opium, 3 oz.; fluid extract of belladonna, 1 oz.; water, 2 quarts; mix. Give one of the following balls every four days: Powdered barbadoes aloes, 2 dr.; powdered sulphate of iron, 1½ oz.; powdered gentian, ½ oz., and sufficient quantity Venice turpentine; mix and make into three balls.]

PIGS DYING—WART ON FOOT.—A sow farrowed May 19; pigs were strong and thrifty until three weeks old when they appeared droopy for a day or two with high fever; then their feet and legs would swell up, and finally they became prostrate and died; would be ailing from a week to ten days (1). A cow has something like a wart on hind foot on the back part when hoof divides; it discharges a very offensive matter, and is in size about as large as a small marble (2). C. L. P. *Calhoun, Ga.* [1. They should have had doses of epsom salts and sulphur twice a week, and six drops of the following three times a day: Fluid extract bryonia, 1 oz.; tincture aconite root, 4 dr.; glycerine, 3 dr.; mix. 2. Clean wart with damp sponge, then apply some of the following, daily: Castor oil, 3 oz.; spirits turpentine, 4 dr.; carbolic acid, 2 dr.; mix.]

DEATH OF COLT.—A mare after going 11 months, 12 days, dropped a colt very weak and poor; could not stand for eight hours and then only on ankle joint. Had to feed him with spoon at first; he gained strength gradually and next day with dam was turned out to grass. About noon he seemed ailing and we fed him milk and a little whiskey, but he grew colder and weaker and died after living 24 hours. His heart measured 12 by 14 inches. He had no teeth. Mare was fed wheat bran and ground oats with a little oil meal mixed, and good timothy and clover hay cut fine. Was worked every day till she foaled. Was carefully watched for two weeks and chill taken off water. When colt was sick the mother seemed to know it, and two or three days after its death, when being led to grass she stopped, whinnied and seemed to wish to get back to barn. Did she know colt was dead? C. W. B. *South Onondaga, N. Y.* [There is no evidence to guide me in making a decision as to cause of death. Undoubtedly the mare knew that her foal was dead.]

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association

NAME.	SELLER.	BUYER.
Aaggie 5th's Prince,	T G Yeomans & Sons,	A B Hardisch
Basil of Grand Pre,	C Annand,	S Chipman, Jr.
Belva Ann's Walker Scott,	J B Fort & Son,	J B Settle
Boy of Lessburg,	S A & L Hoxie,	I O Arms
Clothilde Lincoln,	Smiths, Powell & Lamb,	T S Porter
Creek,	Estate of Mrs Betty Pulliam,	W M Mayo
Dreda 3d's Sir Henry R,	F C Stevens,	E W Clement
Duke of Hickory,	C L Campbell,	J A Middlewaine
Duke of P,	W A Russell,	W B Foster
Edna's Josephine Prince,	M H Moore,	H H Miller
Gaitzke's Sir Henry Beatus,	N F Sholes,	P P Parsons
Goodenough,	Smith & Garber,	Prugh & Harris
Hokie,	A F Greenbeck,	A C White
Jacob Artis of Randle,	H W Austin,	W F Hunt
Junto,	N H Brown,	H G & W H Cameron
La Grand Netherland,	Smiths, Powell & Lamb,	R Hamilton
Marie 3d's Mahomet,	T B Wales, Jr,	S Nauman
Medel Prince,	Stevenson Bros.	H G Taylor
Netherland Ashtaroth,	D Emery & Son,	B F Mosier
Polly Boy,	French Bros.	H E Weeks
Prince of Martinhurst 2d,	T W Figuers,	W C Morgan
Prince Thetis,	Home Farm Fine Stock Co,	J W Fowler
Protection,	W J. McKenzie,	F Dow
Royal Archer 2d,	W A Russell,	G W Sargeant
Boyn Butter,	W A Russell,	H F Hood
Senhoor Wit,	W A Pratt,	M S Campbell
Sidney,	W Gearing,	S S McClure
Sunderland,	J W & M B Shallcross,	Sapinsky & Steinberg
Titus Prince,	F H McCrea,	A McCartney
Tom Lovell's 8th,	H Bevery,	G A Hobkirk
Trustee's Harm,	A Rasmus,	T Hoeppner
Valhalla's Best,	N F Sholes,	S W Trexler
Victor of Sarcoxie,	J W Haggard,	D S Tatum
Vienna Duchess Prince,	G W Gibson,	W Gearing
W Bud,	G Hood,	J Auer
Xenophon,	E Huidekoper,	W H Work
Aaggie Rose Belle,	Taylor Bros.	H W Clement
Aaltje Posch 2d,	S B Lord & Son,	M M Allen & Son
Barnyard Blossom and Canary B,	H Bevery,	G A Hobkirk
Captain 3d's Beta,	A F Beal,	Lashbrook Bros
Castor's Isabella,	F F Woods,	F C Pierce
Clarinda Zinclaria,	A F Beal,	Lashbrook Bros
Corn Flower,	J W & M B Shallcross,	G Wood
Covington,	Hillside Stock Farm Co,	C I Leach
Daisy Aaggie Wayne,	J W & M B Shallcross,	Sapinsky & Steinberg
Dorlinda's Princess Netherland,	Taylor Bros,	H W Clement
Duchess of Wayne,	T G Yeomans & Sons,	A B Hardisch
Emma Hoekstra,	J Reber, Jr,	J Reichert
Fleck D,	H Bevery,	G A Hobkirk
Georgie 3d's Princess and Georgie 8d's America,	T G Yeomans & Sons,	A B Hardisch
Harmke,	H C Moore,	W S Carpenter
Hiemke 3d,	S S Lord & Son,	M M Allen & Son
Hoshje Pinkama,	J Reber, Jr,	J Reichert
Jemaba A,	W A Russell,	H P Hood
Juhlanste 3d,	W A Pratt,	M S Campbell
Juliana Abbekerk,	P C Stevens,	E W Clement
Juliette of Shadeland,	J W & M B Shallcross,	S Casseday
Juno of Grand Pre,	C Annand,	S Selfridge
Lactress,	Hillside Stock Farm Co,	C I Leach
Lady Doralice of Aaggie,	H H Crump,	Nance & Donaldson
Lady Jessie 2d,	H Bevery,	G A Hobkirk
Lady of Oneida,	A Edmunds,	Martin & Drake
Lady Paris,	H Bevery,	G A Hobkirk
Maria,	Hillside Stock Farm Co,	C I Leach
Minnie Dongiaas,	C Robinson,	H G Cameron
Mossy Abbekerk,	P C Stevens,	E W Clements
Mrs Hanger 2d and Mrs Hanger 3d,	H Bevery,	G A Hobkirk
Sana,	A Edmunds,	Martin & Drake
Palmyra,	E Huidekoper,	W H Work
Petrea 3d,	T B Wales, Jr,	S Nauman
Poema 3d,	H C Moore,	W S Carpenter
Princess Louise 3d,	J W Haggard,	D S Tatum
Rosenna,	Mrs Betty Pulliam,	W M Mayo
Sophie Vroomkaas,	J Reber, Jr,	J Reichert
Somerhook,	H Porter,	F H Miller
Thyra,	W A Russell,	E W Battis
Well Enough and Wymbert,	Hillside Stock Farm Co,	C I Leach
Zulie's 3d Pet,	U H Miner,	M A Hallock
Iowa City, *Iowa.*		T. E. WALES, Sec'y.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Augusta Princess' Son,	C E Davis,	J H Jeffries
Aurora Chief,	K K Tabor,	H Mason
Chasin Broadrick,	J R Learned,	H W Oakes
Cielo Stoke Pogis,	W T Tinsley,	J W Shotwell
Cicero Tormentor,	S Lilley,	S H Goodman & J W Perkins
Commassie,	J C Sherley,	S M Smith
Dick Taylor,	W E Grigg,	M M Gay
Gilderoy's Royalist,	C H Peckham,	Rhode Island State Farm
Glynllivn Boy,	D S Dewolf,	P M Shaylor & Son
Holly's Pogis,	S F Holly,	L M Smith
Hugo Sheldon,	G Blanchard,	W M Libby
Iowa Duke,	H B Kellogg,	C M Butts
Lord Pogis 2d,	W H Anderson,	S S Benedict
Pasalphpedro,	C A Harley,	J Rusatis
Peggy's Royal Signal,	W M Clark,	J B Housel
Pogis Hillman,	J Buttenhouse,	J P Folger
Pogis 2d,	W Vail,	J W Tyson, Jr
Prince Magnet,	H B Fish,	M H Church
Rioter's Editor,	W L & W Rutherford,	H M Ramsdell
Sir Pogis,	M C Campbell,	W C Carter
Silver's Vertumnus,	J W Campbell,	D Nixon
Tormentor's Landseer,	W Morrow & Son,	J V Green
Alice Beauty,	J L Lewis,	R A Potter
All Cream Pogis,	J Rittenhouse,	J P Folger
Alphea Maxima,	Est of O A Simonds,	D E Simons
Amy of Lakeside,	E W Bemis,	W C Clark
Anaconda,	W D & Z T Mayo,	Taylor
Apex and Asbestos's Vera,	C E Hill,	H H Stoddard
Bargone,	T S Van Horne & Co,	Belmont Jersey Cattle Co
Beautiful Blonde,	C B Bloodhead,	W Niles
Beauty of Loudonville,	J A Ward,	M Howe
Beechwood's Belle,	S McKeen,	W H Dignam
Bessie Rusatis,	C A Harley,	J Rusatis
Bessie Ware,	W S Lyne,	E Hopkins
Birthday Belle,	A H Mills,	L J Towne
Bonny Theo,	T W Morris,	W M Hepburn
Castola Clover,	A H Gregory,	Dowagiac Stock Farm
Champion's Rosalie,	T Tunis,	J Cooley
Closeo's Viola 2d,	W Morrow & Son,	E M Knox
Cricket 2d,	W H Lee,	M Lothrop
Cubuna Le Broeq,	J L Jackson,	Mrs E M Bostick
Corinth's Maud Lee,	J O Couch,	M H Wickiane
Countess Orloff 4th,	J Carroll,	Dr J Ferguson
Daisy Daphne,	T Tunis,	J Cooley
Dandelia,	A H Gregory,	Dowagiac Stock Farm
Dido of Clover Lawn,	H Kingman,	G F Andrews
Divanea 2d,	W A Conover,	F Losser
Dorinka,	T T Turner,	C F Vail
Drama,	C E Hill,	J W Henderson
Easter Tide,	C E Hill,	H H Stoddard
Ebona,	T Tunis,	J Cooley
Edrinta,	T T Turner,	C F Vail
Elma 3d's Jessie,	D E Goucher,	W Doebbler
English Elm 2d,	W Morrow & Son,	M Lothrop
Everglade 2d,	F M Morrow,	H Polk
Fancy Cloquet,	W D Oates,	Oates & Neelis
Fermino's Rosalie,	W Morrow,	W Morrow & Son
Frankie Allen,	W B Montgomery,	G H Gray
Gipsy Lorna,	J Carroll,	J Ferguson
Girl Goldie,	D Cahill,	Mrs B L Simmons
Harry's Flora,	W D & Z T Mayo,	E M Knox
Ida Torment,	W Morrow & Son,	J C Steiner
Julia of Edenside,	W A Conover,	F Losser
Kapp's Rosalie,	A M Hills,	L J Towne
Katie Goldskin,	J Rittenhouse,	J M Folger
Ki-Ki-Ida,	W D & Z T Mayo,	J Taylor
Kitty Keafer,	T Tunis,	J Cooley
Kitty Mitz 3d,	J O Couch,	M H Wickiane
Lady Faga,	W D & Z T Mayo,	J Taylor
Lady Fame M,	J Hayes,	T L Harrison
Lady Gertrude,	A H Gibson,	H Turrell
Lady Pequita,	T Tunis,	J Cooley
Lady Worthea,	F L Gaston,	Mrs J G Grimsley
Landseer's Favonia,	W Morrow & Son,	M M Gardner
Laughing Maid,	C D McKie,	W Morrow
Maquilla 2d,	W Morrow & Son,	M M Gardner
May Stuart of Carolina,	S S Jones,	J H Holland
May Orange Bud,	T Tunis,	J Cooley
May Pamela,	J O Couch,	M H Wickiane
Miss Nellie Ford,	A M Hills,	L J Towne
Mollie Davis,	J Stokes,	W Stokes
Monmouth Duchess 8th,	W A Conover,	F Losser
Mrs Hambleton,	M S V Krum,	D F Barber
Nancy Lovelock 2d,	W Morrow & Son,	W W Lipscomb
Nellie of Spring Hill,	I Marston,	A McVittie
Nell Pogis,	Miller & Sibley,	S D Bradley
Nerghella 3d,	Webster & Morrow & Son,	W Morrow & Son
Orange Bud,	T Tunis,	J Cooley
Orange Bud's Arline,	T Tunis,	J Cooley
Pasie McCabe,	H L Sanford,	J L Hargis
Pedra Sheldon,	G Blanchard,	W M Libby
Pomfret Queen,	W W Vail,	J W Tyson, Jr
Princess Anna Althea,	A M Hills,	L J Towne
Princess Rochcliffe,	R Beard,	R L Higgins,
Rosecona Maid,	A C Stevens,	J White
Rioter's Denise 2d,	W Morrow & Son,	W S Larkin
Ruth of Spring Hill,	I Marston,	A McVittie
St Martin's Lass,	C W Anderson,	J A Miller
Stella,	R Washburn,	F Chapman
Ste Tucker,	J T Moffitt,	A Buckingham
Stocking's Goldsm,	A P Hins,	H G Klein
Susan Knight,	W Carpenter, Jr,	J M Moore
Sweet Rosebud,	C V Gay,	A Coffman
Toltec's Beauty,	W Morrow & Son,	W W Lipscomb
Tossing Girl 2d,	W Morrow & Son,	Manry Jersey Farm
Toltec's Malice,	W Morrow & Son,	J C Steiner
Turpentia,	A P Hins,	H G Klein
Viola Landseer,	W Morrow & Son,	E M Knox
Walt's Legacy,	A Howe,	G Q Cannon
Worthy Beauty,	J L Lewis,	R A Potter

1 & 3 Broadway, New-York. F. W. WICKS, Sec'y.

Record of the Times.

Review of Passing Events.

The Great Oil Deal.—An excitement in oil, June 24, sent the New-York market up ten cents, with sales of 4,910,000 barrels; in Pittsburg the advance was from 84 cents to $1 03 per barrel, dropping to 90½c. Dissatisfaction with Russian oil on the part of European traders was one assigned cause; increased valuation of over $2,400,000 on merchantable oil held by the National Transit Company, another. On the 28th the Standard Oil Company closed out an old deal with the Pennsylvania producers, and 3,500,000 barrels held in trust were sold to redeem at 91½ cents per barrel. The great depression of last year, when oil was about 60 cents, led to the deal. The producers reduced stocks about 15,000,000 barrels; the Standard agreeing to give them 4,000,000 barrels at 62 cents, with cost of carrying, &c. The sale nets about 7 cents per barrel to the producers.

Commencement Notes.—Yale graduated 126 and has received $85,000 in gifts besides $150,000 for the new gymnasium, and $125,000 from S. B. Chittenden for the new library nearly completed. The new recitation building is the gift of Mrs. C. J. Osborn of New-York. Harvard graduated 217, and entertained nearly 1,000 alumni; gifts amounting to $300,000 have been received. Williams, 53, and reported fund for Hopkins Memorial building nearly raised. Syracuse University, 68, and adopted memorial resolutions on John Course who gave $500,000 for a college for women now nearly completed. Dr. Bradford P. Raymond was installed President of Wesleyan University, Middletown, Conn. Michigan University had 488 graduates, 115 taking degrees, with Yeijero One, a Japanese, in the lead. Wellesley has 686 students, 77 graduating, making 505 in 11 years. Over 500 applications for next term, but not one-half can be admitted. The Shakspere Society gave an open-air performance of "As You Like It," June 24. Mount Holyoke graduated 49 and received her new President, Miss Mary A. Bingham. The Normal School at New-York graduated 291; at Albany, 83.

Deaths.—At Donegal, near Lancaster, Pa., June 26, Gen. Simon Cameron, aged 90. In early life a printer, he afterwards engaged in railroad construction, was elected to the United States Senate in 1845, and again in 1856; became secretary of war in Mr. Lincoln's cabinet in 1860; minister to Russia in 1862; senator again in 1866, to 1872.—Mrs. Rutherford B. Hayes, at Fremont, Ohio, aged 58. During the war, in which her husband and two brothers were engaged, she was unwearied in work for sick and wounded soldiers, and was one of the founders of the Ohio Soldiers' and Sailors' Orphans' Home. At Washington her discharge of social duties in the White House won praise from leading men of both parties.—Maria Mitchell, the astronomer, at Lynn, Mass., June 28, aged 71. Assisting her father, William Mitchell of Nantucket, in astronomical work when 11 years old, she discovered a comet in 1847, for which the king of Denmark sent her a gold medal. In 1858 she visited Europe and met leading astronomers; in 1865 was appointed professor of Astronomy at Vassar, where she remained until 1868. She was the first woman elected to the American Academy of Arts and Sciences, was a member of various scientific societies, and received the degree of LL. D. from Harvard and Columbia.—At Paris, June 28, Carlotta Patti, the well-known singer, and sister of Adelina Patti, aged 49.—George L. Brown, the eminent landscape painter, at Malden, Mass., June 28, aged 75. His most important pictures are "Bay of New-York" and "Crown of New-Haythorne" (both owned by the Prince of Wales), "Niagara by Moonlight," and several Venetian scenes.—James H. Fowler, at Rose Bay, Fla., recently. A New-Hampshire man, in 1862 he organized the 1st South Carolina Volunteers (the first southern colored regiment), which Col. T. W. Higginson commanded, and of which Mr. Fowler was chaplain.—Rev. William H. Beecher (eldest brother of the late Henry Ward) at Chicago, June 24, aged 87. He was for many years a home missionary on the Western Reserve, Ohio.

From Abroad.—The Royal Agricultural Show at Windsor was opened with a religious service in the show-yard, June 23, which the Prince of Wales and his family attended.—Announcement is made of the engagement of Princess Louise of Wales, daughter of the Prince of Wales, to the Earl of Fife; also that of her eldest brother, Prince Albert Victor, to Princess Victoria of Prussia, sister of Emperor William.—The Springfield cotton mills at Oldham were burned June 27, with loss of £30,000.—The French chamber of deputies passed the Panama relief bill, June 28, by a vote of 388 to 58.—The Woman's Congress opened in Paris, June 25. M. de Raismes delivered an oration.—Portugal has cancelled her concession to England to build a railroad from De-

lagoa Bay, South Africa, and much feeling has been aroused.—Since Switzerland expelled a German official sent to look after Socialists, the question of proper dealing with refugees has been widely discussed, and the State council has decided to form a public prosecutor's department to act in concert with the police.

Minor Items.

Kingston, N. Y., Academy celebrated its 116th anniversary, June 26

A fire in Vancouver, W. T., June 23, burned four business blocks; loss $70,000.

The amended ballot reform bill of Connecticut has been signed by the Governor.

A Chinese theatrical company from San Francisco is performing in New-York.

A Labor congress has been in session at Hartford, Conn., and visiting factories and mills.

The Ohio State Republican Convention at Columbus, June 26, renominated Governor Foraker.

The New-York State Press Association held its 36th annual meeting last week at the Hotel Kasterskill.

A sale of stray logs was held at Williamsport, Pa., June 27; prices obtained were about half the usual selling price.

The traffic department of the Chicago Milwaukee and St. Paul railway is to be removed from Milwaukee to Chicago.

Michael Rizzollo was hanged at Wilkesbarre, Pa., June 25, for the murder of two Lehigh Valley railroad paymasters in October last.

A rowboat with seven young people was run down by a tugboat near Albany, evening of June 25, and all but one were drowned.

A triple collision of freight trains on the Pennsylvania road near Latrobe, June 26, wrecked 30 cars and caused the death of 10 persons.

Colonel Emmons Clark of the N. Y. Seventh regiment, was brevetted brigadier-general at the State camp, Peekskill, June 28, by Governor Hill.

A verdict has been rendered in favor of Frederic Prentice of New York, who claimed a half interest in property in Duluth worth $6,000,000.

The 120th New York regiment monument was unveiled at Gettysburg, June 25, with address by Gen. George H. Sharpe and poem by Will Carlton.

A monument to Major John Mason, the hero of the Pequot war, was unveiled at Mystic Bridge, Conn., June 26, with oration by Isaac H. Bromley.

A statue of Dr. Thomas H. Gallaudet teaching his first deaf-mute pupil, Alice Cogswell, was unveiled at the National Deaf Mute College, Washington, June 26.

Mysterious wreckage has come ashore at Vineyard Haven, Mass., pointing to some steamer disaster, but as yet nothing has occurred to throw light upon it.

The water of Seneca Lake, N. Y., rose 9 inches suddenly about 8 o'clock P. M., June 21, receding in 20 minutes. Some ten years ago a similar rise of 12 inches was noted.

Mrs. Sarah J. Whitaling, who poisoned her husband and two children for insurance money, was hanged at Philadelphia, June 25—the first execution of the kind in the county.

At the hearing in the Kemmler case, Auburn, N. Y., June 25, Judge Day decided that testimony must be taken as to the effects of electricity on human life. Case adjourned to July 30.

The New York schoolboys, 4,189, who marched in the centennial parade, were given diplomas, through their captains, by Gen. Butterfield, June 24, and a gold medal was presented to the corps.

A base ball team composed of the Harvard and Yale University nines will sail for England, July 6, to teach the game at schools and universities, their expenses being paid by English friends.

Secretary Tracy has issued an order making radical changes in the Navy Department in the direction of economical management. The personnel of the navy will be under the control of the bureau of navigation.

The Chicago, Milwaukee & St. Paul railroad has given a mortgage of $150,000,000, covering all property but land, to the United States Trust Company of New York, to secure lower rate of interest, about 4 per cent.

The limited express from Boston, June 20, was thrown from the track near New-Haven, Conn., and three persons killed, including Miss Mary A. Brigham, the newly elected president of Mount Holyoke College.

A delegation of colored Republicans waited on President Harrison, June 26, with an address adopted at the Jackson, Miss., conference, expressing confidence in the President's policy towards the colored people of the South.

C. P. Huntington, president of the Southern Pacific railway has subscribed $50,000 for a railway from Congo Falls to Stanley Pool, Africa, 262 miles. This is a project of the King of the Belgians to which over $4,000,000 has been subscribed.

The United Glass Company, capital $1,000,000, main office at Syracuse, N. Y., has lately been incorporated. The object is to control the glass factories of the country, most of those in New York and some in Pennsylvania and Ohio being already so controlled.

De Rane, defaulting cashier of the National Park Bank, New-York, ($95,000) has been sentenced to five years and six months in State prison. Same day and place, August Goldstein, for stealing clothes valued at $90, was sentenced for three years and six months.

At the New-London, Ct., college boat races on the 27th, Harvard freshmen beat Columbia, and Cornell University beat Columbia and Pennsylvania. The Columbias fainted after the race. On the 28th, Yale beat Harvard by six boat lengths in a four mile race; time 21:30 and 21:55. Yale was coached by the veteran "Bob" Cook.

In the McDow murder case, Charleston, S. C., seven negroes were on the jury. The testimony of the Swiss maid (to protect whom Dawson had remonstrated with McDow), and that of McDow himself, was taken. Dr. McMichael testified that the course of the ball indicated a shooting from behind. McDow was acquitted June 29.

In the Cronin case extradition papers were made out for Martin Burke and John F. Beggs, senior guardian of Camp 20, Clan-na Gael, was arrested. A member of this circle is said to have told the State Attorney that it tried, convicted and sentenced Cronin for being a British spy. The grand jury has indicted seven suspects, not including Alexander Sullivan.

A fire broke out in Johnstown, June 24, destroying 26 buildings. Dynamite discharges have brought to light 23 more bodies. The local committee calls for outstanding monies to be sent in. The cost of clearing up is estimated at $500,000, and rebuilding and furnishing 1800 houses, at as much more. The local savings bank has about $800,000, much of it belonging to the drowned.

Commissioner W. W. Phelps, just returned with the Samoan treaty, has been appointed minister to Germany; Frederick Douglass of the District of Columbia to Hayti; John L. Stevens of Maine to the Hawaiian Islands; George Money of Tennessee to Paraguay and Uruguay; John M. Crawford of Ohio, consul-general at St. Petersburg; Captain Wm. M. Meredith of Chicago, chief of the bureau of engraving and printing.

Choice Guaranteed 6% Per Cent. Bonds.

In amounts from $500 to $1,000, interest payable semi-annually.

Secured by First Mortgages on Improved Farms in Eastern Kansas. Negotiated and for sale by THE EASTERN KANSAS INVESTMENT COMPANY, Osawan, Labette County, Kansas.

Send for Investors' Hand-Book, and name amount you desire to invest.

Best of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. myl61

Special Announcement.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing, same) to Dr. B. J. KENDALL CO., Enosburgh FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years—a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time. jy27-3t

Until the blood is cleansed of impurities, it is useless to attempt the cure of any disease. Rheumatism, which is traceable to an acid in the blood, has been cured, in numerous cases, by the use of Ayer's Sarsaparilla, external treatment being of no avail.

Ayer's Ague Cure is warranted to cure all malarial disorders, when taken according to directions. Sold by all dealers in medicine.

BEECHAM'S PILLS cure sick headache. [6

A Revolution in Sugar Making.

The Champion Evaporators, manufactured by the C. H. Grimm Mfg. Co. of Hudson, Ohio, have caused a complete revolution in the process of Maple sugar making. They produce a superior article at half the cost and labor of the old method. The Champion Evaporator is also peculiarly adapted to the manufacture of Sorghum Molasses, and as an Evaporator for Cider and Fruit Jellies is unexcelled. Every person who had occasion to use an Evaporator should send at once to the C. H. Grimm Mfg. Co. for their Descriptive Catalogue.

Farm Produce Markets.

Albany Markets—July 1.

FLOUR.—The Argus says: A good feeling continued, with average receipts and trade.

	1889. June 28.	1889. June 27.	1888. June 29.
Com. Brands	$3.10@4.00	$3.10@4.00	$3.10@4.10
State Extra	4.35@4.70	4.10@4.60	4.15@4.60
Amb. State & W.	4.40@5.10	4.10@5.10	4.15@4.90
O., Ind. & Ill. Ex.	4.40@5.10	4.10@5.10	4.15@4.90
Winter W. Pat.	5.10@5.60	5.10@5.60	5.15@5.60
Minn. "Bakers"	4.60@5.75	4.60@5.75	5.10@5.75
Sp'g W. Pat., new	4.60@5.75	4.60@5.75	5.10@5.75
Sp'g W. Pat., old	4.75@5.60	4.75@5.60	5.10@5.75

Rye Flour fairly active at $3.60@3.75 per bbl.; Graham, $4.25@4.50. Oat Meal dating moderately well at $5.40@5.60 per bbl. Corn Meal in continued good demand; fine family, $3.50@3.75 per bbl.

GRAIN.—Corn firm but demand slow; No. 2, 45½c afloat; No. 2 mixed, 45c. Oats steady, closing dull; No. 2 white, 31½@32c; No. 3 white, 30@30½c. Rye firm and advanced at 58c. per 60 lbs. for State, and western 56c. per 56 lbs.

HAY AND STRAW.—Hay firm; receipts light. Straw unchanged. Timothy, best, $18@19; medium, $15@16; clover, $10@11; mixed, $12@13; rye straw, best, $13@14; oat straw, $8@10; wheat straw, $12.

HOPS.—Market quiet; crop reports good.

N. Y. State, 1888, choice	20 @22c.
N. Y. State, 1888, common to good	15 @18
N. Y. State, 1887, all grades	9 @12
Pacific Coast	18 @20
German	18 @20

Albany Street Market—July 1.

BUTTER.—Good to choice, 18@19c. per lb.

EGGS.—Near-by and new laid, 13@14c per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@9c. per lb.; forequarter, 5½@6½c.; mutton, hindquarter, 9@10c; forequarter, 7@8c.; lamb, hindquarter, 10@11c.; forequarter, 8@9c.; veal, hindquarter, 9@10c.; forequarter, 7@8c.

POULTRY.—Fowls, 11@12c.; chickens, 11@16c.; turkeys, 12@13c.; ducks, 12@13c.

FRUIT.—Apples, $3.50@7 per bbl.; Cranberries, $1.75@3 per crate; Strawberries, 12@18c. per box.

VEGETABLES.—Asparagus, 50@60c. per bunch; Beets, new, 50@75c. per doz. bunch.; Cabbage, new $1 per crate; Cauliflower, 15@25c. each.; Cucumbers, $1.25@1.50 per crate; Green Peas, $2@2.25 per crate; Lettuce 25c. per box; Onions, new, $1.25@1.50 per crate; Potatoes, old, $1.25@1.50 per bbl.; new, $3.50@4.00; Radishes, 10c. per bunch.; Spinach, 20@40c. per bu. String beans, $1.50@2 per crate; Squash, $1.25@2 per bbl; Tomatoes, $1@1.50.

New-York Markets—June 29.

BEANS—Marrow, 1889	3.20 @	3.25
Medium, 1889, choice	3.10 @	3.15
Pea, 1889	2.85 @	2.90
COTTON—	Cents.	N.O.& Gulf.
Ordinary, per lb	9½@ —	@ 10¼
Middlings	11 @ —	@ 11¾
Fair	12½@ —	@ —
SUGAR—Standard near-by, new dos	14½@	15
Western and Southern	14 @	14¾
FLOUR—Spring Wheat pat., per bbl	5.40 @	5.90
Winter	4.75 @	5.25
No. 2 extra State and Western	3.25 @	3.45
No. 1 extra	3.50 @	4.00
Minnesota clear	4.25 @	4.60
Straight	4.35 @	4.90
Rye Flour, superfine	3.75 @	3.85
Corn Meal	3.00 @	3.70
FRUIT—Apples, Southern, per bbl	2.00 @	3.25
Blackberries, Del. & Md., per qt	4 @	5
Wilsons	12 @	16
Cherries, prime to fancy, per qt	6 @	8
Sour	4 @	6
Currants, cherry, per lb	4 @	6
Small	3 @	4
Gooseberries, per bus	1.00 @	1.50
Huckleberries, N. C., per qt	10 @	12
Jersey and Md	10 @	11
Peaches, Ga., per crate	2.00 @	4.00
South Carolina	1.50 @	2.00
Plums, wild goose, Ga., per crate	1.50 @	2.00
Raspberries, Antwerp, per cup	3 @	4½
Up River Marlboro	3 @	4½
Jersey and Md. per pint	4 @	5
Blackcaps, Jersey	4 @	5
Strawberries, Jersey, per qt	5 @	10
Up River	10 @	15
Western New-York	10 @	15
Watermelons, Ga., per 100	25.00 @	35.00
DRIED—Apples, sun-dried, per lb	2½@	4
Evaporated	5 @	6½
Peaches, sun-dried	4 @	5
Evaporated	5 @	6
Plums, Southern	3 @	4
Cherries	10 @	14
GRAIN—Wheat, State white, per bus	93 @	94
Ungraded spring	88 @	91
No. 1 red, winter	94 @	95
No. 2 red, winter	— @	—
Corn, No. 2, white	44½@	44¾
No. 2, mixed	44½@	45
Oats, No. 2, white	33 @	33½
No. 2, mixed	29 @	30
Rye, State and western	58 @	60
HAY—Timothy, per 100 lbs	80 @	85
Shipping	70 @	75
Clover	70 @	75
Straw, long rye, No. 1	75 @	80
No. 2	60 @	70
Oat	50 @	55
HOPS—N. Y. State, 1889, choice, per lb	20 @	22
Good to prime	17 @	19
Best, 1888	7 @	10
California, 1888, best	11 @	12
Pacific Coast, 1887	5 @	7
German	20 @	22
POULTRY—Live fowls, per lb	10½@	11
Spring chickens	12 @	20
Turkeys	10 @	11
Ducks, per pair	60 @	75
Geese	1.00 @	1.25
Dressed fowls, per lb	10½@	12½
Phila. springs	21 @	27
West. broilers	18 @	21
Turkeys	11 @	11
Ducks, spring, per lb	18 @	20
PROVISIONS—Beef hams, per bbl	14.00 @	14.50
India mess	13.00 @	13.50
Hogs, dressed, per 100 lbs	6.12 @	6.50
Lard, per tierce	6.75 @	6.90
Pork, new mess, per bbl	15.75 @	16.00
Short clear	15.50 @	15.75
Family	14.50 @	14.75
VEGETABLES—Asparagus, Colossal, per doz. bunch	1.50 @	1.60
Prime	75 @	1.00
Beets, Long Island, per 100 bch's	1.50 @	2.00
Cabbage, L. I., per 100	1.50 @	2.00
Cauliflower, L. I., 1 doz per bbl	1.00 @	2.00
Corn, Hurlington, N. J., per 100	1.00 @	2.50
Cucumbers, Florida, per crate	75 @	1.00
Savannah and Charleston	50 @	1.00
Green peas, Long Island, per bag	75 @	1.00
Onions, N. O., new, per bbl	1.00 @	1.75
Md. and Va	2.00 @	2.50
Potatoes, Southern, per bbl	2.00 @	3.00
New Orleans	1.00 @	1.50
Old, prime	1.00 @	1.25
Spring beans, Md. wax, per crate	1.00 @	1.50
Norfolk, round	50 @	75
L. I. per bag	1.00 @	1.25
Squash, Fla., Nor., per bbl	1.50 @	2.00
Tomatoes, Fla., Sav., per crate	75 @	1.00
Chicago, per crate	75 @	1.00
Turnips, Jersey, per 100 bunches	2.00 @	3.00

Cattle Markets.

NEW-YORK, June 28.

BEEVES.—Receipts, 12,187 head. Trade opened on Monday last with a dull feeling; the markets improved and closed steady. Wednesday trade was extremely dull, and values were weak. Friday the quality of the herds offered was fi per cent. better than on previous days; still values 6@8 not advanced; the tone was weak. The aggregate of the herds now coming forward are lean and coarse; they are stillfed native steers. The few fully fed native and grade steers that come to hand are bold for export.

[For carcass, net.]	This week.	Last week.
Good beeves	7.00 @ 7.75	7.00 @ 7.75
Fair	6.50 @ 6.75	6.50 @ 6.87½
Coarse	5.75 @ 6.25	5.75 @ 6.37½
Poor	5.25 @ 5.50	5.75 @ 6.00
[For carcass, gross.]	This week.	Last week.
Good beeves	3.50 @ —	3.50 @ —
Fair	3.10 @ 4.00	3.10 @ 4.00
Coarse	2.75 @ 3.00	2.75 @ 3.00
Poor	2.50 @ 2.75	2.50 @ 2.60
Oxen	2.50 @ 3.75	3.75 @ —
Dry cows	1.75@2.00	1.00 @ 2.75
Bulls	2.00 @ 2.50	2.25 @ 2.60

MILCH COWS.—Receipts 71 head. The tone was dull at first but as the week advanced, the feeling improved, and sales were effected; 80 cows sold at $32 @$43 per head; 5 selected cows, $50@$55 per head.

VEALS AND CALVES.—Receipts, 5,439 head. The week opened with a recovery in values of ½c. per lb., followed on Wednesday by an advance of ½c. per lb on calves and ½c. on veals. Thursday veals advanced ½c. per lb; calves unchanged. Friday veals declined ½c. per lb.; calves remained steady. The quality continues to be indifferent, with a few heads of fair aspect. Range of prices: Calves, buttermilk-fed, 5@6½c. per lb.; calves and veals, in mixed lots, 3½@5½c.; lean veals, 2@4c.; veals, poor medium to fair, 5@6c.

SHEEP AND LAMBS.—Receipts, 26,315 head. The week opened with a steady tone in trade. This improved, and on Wednesday values advanced ¼c. per lb. Thursday sheep were steady, while lambs closed weak. Friday the tone was steady. Range of prices: Sheep, 4@5½c. per lb.; rams, 3½@4c.; call sheep, 3c.; lambs, 5½@7½c.

SWINE.—Receipts, 26,295 head. The offerings have been small, numerically, and the tone steady with an upward tendency. About 30 State hogs sold in small lots at $5.20@5.30 per cwt.

BUFFALO, June 28.

BEEVES—[Per cental, gross.]	This week.	Last week.
Extra steers	$4 10@4 40	$4 10@4 40
Best butchers'	3 70@3 90	3 80@3 90
Second quality	3 40@3 60	3 50@3 60
Poor to common	2 50@3 25	2 50@3 00
Stockers, light	2 75@3 00	2 75@3 00
Stockers, good to choice	3 00@3 40	3 00@3 25
Bulls	2 25@3 00	2 25@3 00

Receipts 14,900 head against 12,900 last week. Market opened fair with a good supply of all grades, but owing to the weak feeling prevailing the bulk was shipped out in first hands. The offerings remaining were mostly sold at the best bids. Chances rattle were in the yards all week, but a fair clearance was made before close at very easy prices, altogether it was an unsettled market, and from present indications there is little hope of immediate improvement. Stockers dull; fair supply. Bulls quiet and weak.

VEALS.—Higher; good demand; receipts light; good to choice, $4.25@4.75; heavy fed, $3.25@3.50.

MILCH COWS.—Lower, especially for common to fair of, which the receipts were liberal. Extra, $ 50@54; good to choice, $ 4 @45; common to fair, $20@30. Shippers report heavy loss on last week's trade.

SHEEP AND LAMBS.—Receipts, 20,000. Supply light; everything sold readily, and the demand for choice not half satisfied. Good to choice, 90 to 100-lb. sheep, $4.50@4.75; fair, $4@4.25; common, $3.75@4.00; yearlings $4.50@4. Kentucky spring lambs, 45 to 50 lbs., $4@4.25; good to choice western, $4.50@4.75.

SWINE.—Receipts, 25,400. Market opened active and higher, but declined 5@10c., closing strong, with a good demand. Mediums and mixed packers, $5.65@5.70; Yorkers, $5.25@5.30; pigs, $5.25@5.40; roughs and stags, $4@4.25.

BOSTON, June 28.

BEEVES, NORTHERN.—Good ones, dressed, 6½@7c per lb; fair to good, 5½@6; second quality, 5@5½c. WESTERN, Alive—Extra, $4.60; good to prime, $4.30; light to fair, $4@4.25.

MILCH COWS.—Good supply at $35@45 per head.

CALVES.—About 2,000 at 2@4½c. per lb.

SHEEP AND LAMBS.—Over 11,000 Western lambs; in lots at $3@5.25 per head; spring lambs, 6@7½c. per lb.

Dairy Markets—July 1.

ALBANY.—Butter receipts liberal, state dairy accepted. State creamery, choice, 18c.; Western creamery, 17c.; State dairy, 15@16c.; fair to good, 13@15c.; Western dairy, choice, 15c.

Cheese steady to slightly easier. State factory, full cream, 9½@10c.; fair to good, 9@9½.

UTICA.—While the market here was ½c. lower last Monday, transactions were also smaller, and the sales was slightly off. The marketings were 19,500 bxs., at a range of 9@9½c., two lots grading at the latter price, and ten lots at 9½c. The ruling was 9½c., at which 2,300 bxs. were sold. Little Falls disposed of 90 off bxs. at 9½@9½c., the largest number going at 9c. Later in the day, on more favorable advices from New-York, the market at 1 then became quite active, and prices were made about ½c. higher than had been anticipated earlier. During the week prices have fluctuated within a range of 9@9½c.; and closed at the best figure on account of active foreign buying. The probability is that the interior markets will realize rather more next week than they did this week, in which case there will be another big shipment.

In Butter there were sales of 26 pkgs. of creamery at Utica for 19½@19½c., and for 45 do. at the Falls for 19@19½c. Also of 27 pkgs. of dairy at 16@17c. Receipts in New-York have been heavy during the week, and although pointed questions have not changed, the tone is somewhat easier. Top price for creamery pails is 18c., and for dairy tubs 17c.

NEW-YORK.—Butter receipts free, with moderate outlet. Receipts, 71,331 packages. Western creamery, finest, Western creamery, 16@17½c.; State dairy, choice, 16@17c.; Western dairy, 15½@16c.; Western factory, choice, 13@13½c.

Cheese moving in moderately. Receipts, 72,154 boxes. Factory, best, 9½@9¾c. per lb.; light skims, 6@7c.; Ohio flats, 9½@9¾c.

BOSTON.—Western creamery, extra, 18@18½c.; extra firsts, 16@17c.; factory, choice, Vermont, extra, 18@20c.; dairy, choice, 16@17c.; Eastern creamery, good to choice, 18@19½c.

Cheese, northern choice, 9@9½c.; western, fancy, 9@9½c.; sage, 9@10c.

Wool Markets—July 1.

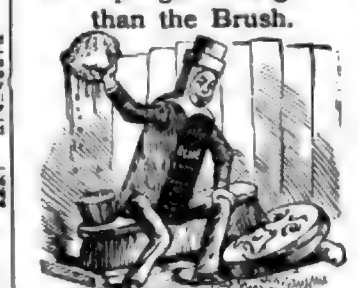
ALBANY.—Market firm and advancing on new wools; medium, 26@28; fine, 24@26.

No. 1, Pulled	32@34 | Medium Fleece 32@33
Super Pulled	30@31 | Fine Fleece 28@30

NEW-YORK.—Ohio XX, 30@31c.; Indiana, 29@30c.; delaine, 30@31c.; unwashed western, 20@21c. pulled, 32@34c.; Territory, 31c.; scoured, 60@65c.; Montana, 32c.; Oregon, 29@31c.; scoured, 55@60c.; Texas, 18@22c.; scoured, 50@55c.; California, 18c.; scoured, 55@60c.; Georgia, 30c.; Australian, 60@65c.; Montevideo, 29c.

BOSTON.—Sales, 2,300,000 lbs. domestic and foreign; Ohio and Pennsylvania, 30@32c.; Michigan, 31c.; combing and delaine, 32@33c.; scoured, 62@65c.; pulled, 32@35c.; unwashed, 22@24c.; Territory, 30@31c. Texas, 19@24c.; California, 30@31c. Oregon, 19@24c.; Australian, 60@65c.; Montevideo, 29@30c.

The Sponge is Mightier than the Brush.



THROW AWAY THE SHOE BRUSH

and use a Sponge and water, which will keep your SHOES BRIGHT and CLEAN if you use

Wolff's ACME Blacking

The women know a good thing and will have it, and the men ought to.

It preserves the leather and gives a brilliant polish. Water and snow slip off it as surely as off a duck's back. Men's shoes require dressing ONCE A WEEK—women's once a month, that's all. Worth trying, isn't it? It is also the best dressing for harness, on which it lasts THREE MONTHS.

WOLFF & RANDOLPH, Philadelphia

The Fireside.

The King's Dust.

"Thou shalt die," the priest said to the king.
"Thou shalt vanish like the leaves of spring.
Like the dust of any common thing
One day thou upon the winds shalt blow!"
"Nay, not so," the king said; "I shall stay
While the great sun in the sky makes day;
Heaven and earth, when I do, pass away,
In my tomb I wait till all things go!"

Then the king died. And with myrrh and nard
Washed with palm-wine, swathed in linen hard,
Rolled in naphtha-gum, and under guard
Of his steadfast tomb, they laid the king.
Century fled to century; still he lay
Whole as when they bid him first away—
Sooth, the priest had nothing more to say;
He, it seemed, the king, knew everything.

One day armies, with the tramp of doom,
Overthrew the huge blocks of the tomb;
Arrowy sunbeams searched its chambered gloom,
Bedouins camped about the sand-blown spot.
Little Arabs, answering to their name,
With a broken mummy fed the flame.
Then a wind among the ashes came,
Blew them lightly—and the king was not!

—*Harriet Prescott Spofford, in St. Nicholas.*

A National Flower.

Edr. Country Gentleman—I have just read a paragraph in your paper (page 466) having for its subject one that has long interested me—that of a national flower. And as you ask what readers think, I feel encouraged to offer, not my own views, but those of a far higher authority—the late Dr. William Darlington of Pennsylvania. He was an acute and learned botanist, the author of "Flora Cestrica" and other kindred works, and the friend and correspondent of Sir William Hooker, Gray and Torrey. It was he for whom the *Darlingtonia californica* was named.

I heard him, many years ago, express a decided opinion on this matter. He thought it very desirable that some plant should be chosen as an emblem, and that nothing could be better than our tulip tree, *Liriodendron tulipifera*—a magnificent tree, he said, whose wood was valuable, that was beautiful in form, in bark and foliage, and so distinctive in leaf and flower that it could never be mistaken for any other. It grows over the greater part of our country, and is indigenous to it only, I believe.

I have often wished that this preference of the valued botanical friend of my girlhood, might receive the sanction of the public; and offer it for the decision of your readers.

Wilmington, Del. L. B. T.

What Makes Enemies.

In any place in life, a good, just neighbor is a great blessing—doubly so with those who live in the country. Owing to the nature of the farmer's business, and the isolation that a life in the country imposes on the farmer's family, country neighbors bear an important relation toward each other. A man in the country with his land adjoining that of others, if he is indifferent to his neighbor's rights and feelings, and has no sense of justice in his dealings with his fellow-man, can make life a series of annoyances to those living near him.

There is a class of men who have just one idea in life—to forward their own interests, regardless of the interests or feelings of others. Some of these are so intensely selfish that they become blinded to everything except their own side in the case; and others, through their exceeding carelessness, cause much injury to befall their neighbors. The annoyances that rise from poor fences through which cattle escape, from sheep-killing dogs, and similar grievances, breed an endless amount of hostility among country neighbors.

We once lived neighbor to a man whose land for a long distance adjoined our own. According to law it was his duty to build and keep in repair half of the fence. But this man was a person of habitual slackness in all his ways, consequently his share of the fence was always in a rickety condition. The harm became doubly great since his land was a pasture and ours a field. The annoyance endured from that neighbor's cattle breaking through and destroying crops was incalculable.

Year after year it continued. Each spring the man would patch up the old fence, and each summer the trouble would be repeated. On one occasion a fine cabbage crop was one of the productions in our field. Hundreds of fine, early heads were just ready for market at a good price. One night a number of this man's cows broke through the fence, and trampled all through the growing crops until they found those cabbages. The condition of them the next morning was enough to arouse all the ire in any man's nature. There were but a few heads left untouched. Many had just a bite taken from them, but were spoiled for sale.

Some one will say: "Go to law with such men and make them pay damages." Resorting to law is unsatisfactory. Many times the damages received do not cover the loss. Neither does it make restitution for injured feelings, or for the blighted hopes of the farmer.

Another man I know was of a most parsimonious nature. Any opportunity for him to save a penny never went unimproved. He had an old horse that for shrewdness of character was excelled only by its master. A local law permitted animals to run in the public highway. This man would rise between three and four o'clock on summer mornings and turn the old horse into the road to get its breakfast. The farmhouses were near together at that point, and this horse would find its way into fenceless dooryards, trample over flower-beds and break down shrubbery. He would jump over low fences and stone walls in order to reach good feed. The entire neighborhood had to guard against the depredations of this old beast, and when one day it happened to get on the railroad and its meddlesome career was ended, no one grieved except its owner. The owner of the horse well knew what a mischievous animal he was; yet, in order to save a little feed, he would turn it out to become a nuisance to his neighbors. The man became an object of universal dislike just on account of such inconsiderate action toward his neighbors.

Perhaps no other one cause has produced more hostility among neighbors than that of farmers having sheep killed by neighbors' dogs. This is really so universal and serious a calamity that, for one, the writer would be glad to see the law step in and place so heavy a tax on dogs as would do away with the entire dog creation except the needed valuable ones. There are thousands upon thousands of the most worthless curs throughout our agricultural districts that every year cause a great loss to the farmers. They are kept by men not interested in sheep, and in their indifference to their neighbors' welfare they persist in keeping these worthless animals.

Occasionally the loss from this source is so great as to quite balance the profit on a small farm. A neighboring farmer and sheep-raiser keeps no dogs himself, but has several neighbors who own dogs. In one season he had nearly a hundred dollars' worth of sheep and lambs killed by dogs. He was unable to designate the guilty animals, and as usual each dog-owner defended his dog against the charge. In such cases it is impossible to get redress in any measure, and the sheep-raiser is compelled to endure the wrong and suffer the loss.

In one instance a farmer found his neighbor's dog chasing his sheep in the day-time. Hastily procuring his rifle he killed the dog. Even under such circumstances the shooting of it caused hostile feelings between the two families, who had hitherto been on the most amicable terms. The owner of the dog claimed that it was simply in play that it was after the sheep.

Occasionally a man is found with sufficient justice to enable him to see both sides of a case, even though he is a concerned party. An acquaintance once purchased a valuable Newfoundland dog, and paid express on it for a long distance. After the dog's arrival several sheep in the neighborhood disappeared. The neighbors were loth to believe that so noble-looking a dog of so noble a breed would be guilty of such a deed. But finally his guilt became unmistakable, and the owner took its life. The good will of his neighbors and their interests were of more value to him than the keeping of a dog merely as a matter of pleasure.

In this great human family it is impossible for people to live wholly to themselves. There are times when individual feelings and fancies should be sacrificed when they conflict seriously with the justice due to a fellow-man. The person who chalks out his career in life, yielding neither at the right nor the left in consideration of the rights and feelings of others, may be very sure that he will have plenty of ill-will showered upon him as he goes through life. Among the choice things in literature that will never become obsolete is the familiar rule: "Do unto others as you would that they should do to you."

NELLIE BURNS.

Finding Underground Streams.

Edr. Country Gentleman—The article on page 484 prompts me to give my experience.

Three years ago we had a very dry time, and it became necessary to dig a well to furnish water for our cattle. About 40 rods from the barn was a spot where the variety and growth of weeds led us to think we could find water near the surface. Wishing to give this matter a fair trial, I employed Fred. W. Kenyon of South Argyle, Washington Co., to look the ground over. The stick used by him on this occasion was plum. On walking over the ground, he found two places where the stick would point downward. I had him try it a number of times and then *blindfolded him* so that he could not see a thing; then turned him round several times and led him round crookedly, so that he had not the least idea where he was, and at same places as before the stick would turn every time, without varying six inches from the original spot!

The "old farmer" can see that in this case we followed his simple test, and with better result than he would expect, for in one of the two places marked by Mr. Kenyon I dug a well ten feet deep and found an abundance of water. The other place was over a ditch in which was a small stream of water.

Mr. Kenyon wishes me to state that he is willing to show his faith by his works at any time. H. L. Coy. *Cossayuna, N. Y.*

The Owls of America.*

Equally romantic in its habits and surroundings, and little inferior in size and strength, the Snowy Owl rivals the great *eiseus*. It is a huge bird, measuring 4½ to even 5 feet across its great wings, and the body is nearly two feet in length. The strong bill is almost buried in the frontal feathers, and even the claws are hidden in the shaggy foot plumes. The ground color is pure white, which is spotted and barred in varying degree with brownish-black markings. As there are not wanting instances of this bird having swooped down upon and carried off domestic poultry, even in Southern New-England, it is perhaps more deserving of notice than some of the more harmless species.

Throughout the boreal regions of both hemispheres the snowy owl (*Nyctea scandiaca*) is rather common. During the winter, especially through unusually severe seasons, it migrates southward; every winter individuals are seen and shot in our Northern and Middle States, and it has even been observed so far south as Texas. The *Nyctea* can scarcely be called a nocturnal owl; it "hunts abroad in the day-time as readily as any hawk," and has been seen to dash upon a flock of poultry in bright sunshine. However, it seems to prefer cloudy days or the twilight, and is said to be most active on the wing just before a storm—possibly then seeking a hearty meal to tide itself over the time when hunting is impossible, even to the snowy owl. Being often sore pressed by hunger through the boreal winter, this species has learned not to be dainty, and is known to feed on almost all forms of flesh. Fish, whether cast dead on the shore, or more rarely, captured alive in shallow water, seem to be its favorite food. Let not the reader be skeptical as to the ability of this white fisherman because he is ill provided with fish-catching weapons. In the summer climate of the United States its fishing would be a hopeless undertaking, indeed, but very different are the conditions during the Arctic summer. Schwatka tells us—along with many other explorers—that a fish of the herring family, called by the natives *Cossua-Sliock*, is frequently so numerous during their "run," that they may be, and are in great numbers, *raked* from the shallow water with a wooden rake. And the capelin (*Mallotus villosus*) is well known to go in such shoals that they are often actually *shoveled* on shore, and numbers may be picked up stranded on the beaches, or gasping for oxygen in shallow pools, robbed of life by their crowding fellows. So bountiful is the fish supply and so easy the fishing in many parts of the Arctic, that the Esquimaux dogs habitually support themselves by fish-catching during much of the short northern summer. (The skeptical reader is referred to Schwatka's "Nimrod in the North" and the reports of the U. S. Government on the "Fishery Industries.")

The white owl has thus no difficulty in filling its crop with its favorite food, but small mammals and game birds, sick or wounded sea fowl, and even on occasion dead and semi-putrid animals, all serve to stay its hunger.

The flight powers of the snowy owl are of a high order, being both rapid and majestic; it has been seen to chase and capture the active white snow bunting—those great white snow-flakes which whirl into our borders "on the wings of the storm," and which from their activity and protective coloring are difficult quarry for feathered murderers, be they owls or hawks.

The nest of this owl—a rude structure of moss—is built on rocky cliffs, and the birds are as brave and savage in its defense as the peregrine falcon. The eggs are laid often at considerable intervals—a habit shared by other owls—so that fresh eggs may be found in the same nest with those half incubated and a young bird or two. This owl is as shy and watchful as any hawk, and although fairly common, is seldom seen in any but first-class museums and private collections.

Another cosmopolitan member of the family *Strigidæ* is the hawk owl, bearing the somewhat suggestive name of *Surnia funerea*—the funereal bird. But there is nothing slow or solemn in the habits of this handsome and spirited owl; it is the least nocturnal of its tribe, hunting abroad in full daylight for its prey, which consists mainly of field mice and such small rodents. The hawk owl also quite frequently preys upon birds, and one author mentions his securing one while it was tearing and devouring a woodpecker it had captured; thus showing chase-powers equal to those of any hawk, the rapid, *galloping* flight and artful dodging of the red-headed family making them most difficult quarries for falcons, and their unequalled powers of slipping around branches and tree trunks, when not on the wing, are well known. This is quite an abundant bird in Northern North America—often migrating far south, like others of its family, in hard weather, or again enduring the worst rigors of the Arctic winters. The nest is built indifferently on trees, rocks or stumps, and its breeding habits are those of the owls generally. The complicated coloration of this day owl is best described as being a general bistre-brown, darkest on the head, profusely spotted with white dots and splashes. The length is about 15 inches, and the extent 33 inches.

The shy and strictly nocturnal members of the genus *Nyctala*—the saw-whet owls, so called from their thin, grating voices—are too rare and too seldom observed, even where common, to call for more than mention here.

The gnome owls (*Glaucidium*) are bold little elfs of the far Southwest, almost unknown to the farmer and the sportsman, never molesting the poultry of the one or the game of the other. This genus contains the smallest representative of the sub-order, and the least of raptorial birds—the elf owl (*Micrathene*) being but six inches long, which is just about the length of the common snow-bird, and a trifle shorter than the song sparrow. The wings measure some 13 inches from tip to tip. Small as they are, however, the gnome owls are bold and predaceous little fellows, frequently preying on birds and small mammals as large as themselves; their general food consists of insects. They are mostly day or twilight prowlers, none being specially nocturnal.

The curious little burrowing owl (*Speotyto*) completes the list of night hunters which come under the observation of the American farmer or sportsman. In habits it differs widely from all other American *Strigidæ*, as it also does in structure. The tarsi (legs) are extremely long—these tall, thin legs giving the bird a very peculiar and most unowl-like appearance. The general color is greyish brown, spotted with white; a good specimen measures about ten inches in length. The burrowing owl is a common resident of parts of Western North America; as a rule, it is found only in the treeless plains, abounding in the regions inhabited by the various burrowing marmots. As spoken of by me in my papers on the prairie dogs, this little owl inhabits the deserted burrows of the small quadrupeds, as well as those made by badgers and foxes. The species is resident, being able to endure extreme cold weather. The eggs may number as high as ten, and are laid in burrows sometimes six or eight feet from the entrance. A variety of the burrowing owl is found in colonies in Florida.

It would seem that there is something in the *expression* of the sub-order we have been considering, or else in their generally weird and nocturnal habits, which among all people has caused them to be venerated either as emblems of wisdom or of the unknown. The inseperable companion of Pallas Athene, godess of wisdom, was an owl, and among the aboriginal races of America there are not wanting

* Concluded from page 474.

legends and traditions concerning these haunters of the twilight. By the Aztecs and other American peoples the owl was regarded as sacred to the Lord of the Dead, and was renowned for wisdom. The antithesis of the owl was the *quetzal* bird, a species of parroquet of gorgeous coloring, which was associated with the God of Light and Air. The Chippeways believed that the north wind was made by the wings of the owl, and the south wind by those of the butterfly—a superstition as quaint and poetical as any to be found in history. Also the Creek priests carried the stuffed skin of an owl as a sign of their learning.

With the owls ends our catalogue of feathered brigands which belong to the order *Raptores*, and in leaving the order some notes on a recent observation tramp made by the writer will perhaps best illustrate what an important bearing on the numbers of our game and song birds the hawk population has.

Last Thanksgiving day, in company with a friend, I started off while the frost was yet white on the grass, to "view the land" and perhaps pick up a rabbit or a rascally crow on the way. I carried my favorite weapon, a 32 calibre Winchester repeating rifle—which is stocked and sighted to suit myself, and my friend had a good "double barrel." As we scrambled up a steep rise, not 400 yards from the house, a Cooper's hawk dashed past over the brow of the hill, and although the shot-gun banged, went on swifter than the best carrier of Antwerp, and was soon lost to view in a neighboring piece of woods. A quarter of a mile farther on, suddenly a great racket commenced, and a hundred yards or so ahead of us a large, red-tailed hawk, in full adult plumage, flew from a gnarled old tree, pursued by a band of mobbing crows, which were cawing and swearing and dashing in turn against the detested enemy at a great rate, evidently to his extreme disgust. He flew over us high up in the blue, the crows deserting him as he approached. Crack went the merry Winchester. *Ker-klut-sek!* Crack! crack! Three shots almost as quick as one could count; but although he dodged so low, to escape the hissing bullets, as to make the shot-gun speak, though at extreme range, the bold robber sailed off untouched.

Not four fields farther on I tried to stalk another red-tail, still in the grey plumage, which was perched in a tall, dead tree, commanding a view a quarter of a mile in every direction, watching for prey, but long before I was within rifle shot he had flown into the horizon line. Three more hawks, belonging to the larger species, did we see and try to circumvent in vain that day, and this within 20 miles of Philadelphia, and in a section where most of the game and half of the songbirds were exterminated years ago. Not one of those feathered robbers but would kill, at the very least, five or six good-sized birds and young rabbits or squirrels every week, and the calculation as to how much harm those half-dozen big hawks would do, in one small district, in a year, is an easy one for any schoolboy. Also, as the Winchester is accurate at 200 yards and beyond, and I have carried guns and still-hunted hawks a good many years, it is mildly suggestive that hawk-hunting is not very easy sport, and requires good weapons and a certain degree of skill. It might be mentioned incidentally, too, that wing-shooting with a rifle is not a very successful method of bagging hawks, even though the weapon be in the hands of Dr. Carver of fame.

However, while hawks can be stalked when perched, the rifle will bring down—in good hands—a score to the shot-gun's one, for almost never will any of our larger hawks fight within 150 yards of any cover that would hide a man. But I have frequently crawled up to within that distance of big fellows perched on some high dead branch in fancied security, and there ogled them with field glasses, or sent a ball spinning through their ribs (or through the twigs alongside), according to the weapon I chanced to be carrying, which on such trips is, 19 times out of 20, a United States signal service binocular.

E. W. SEIBS.

Poverty in England.—A recent debate in Parliament with respect to the incidence of taxation for the poor in different districts of the metropolis brought out some very striking facts. The object aimed at was to equalize the poor rate, and to make the wealthier parishes, which have practically no pauperism, share the burden that at present rests so heavily on their weaker neighbors. Remembering that half of our five millions of population lie to the east of London Bridge, and that the wealth of the West End is largely gained from the toil of the East, it is cheering that the defeat of the measure was gained by a very small majority. There is another point that comes up incidentally, when the pauperism of London is spoken of—the increase or decrease of state-aided poverty in the country at large. Generally speaking, London may be regarded as a microcosm, increased or lessened figures here being responded to by similar fluctuations in the country. We have one in every thirty-five of the population at present receiving relief as paupers, one-third of the number being indoor, the remainder outdoor. Nearly thirty per cent. are children under sixteen, who certainly have not a happy look-out for the battle of life. Unfortunately the number of the insane, and of acknowledged vagrants, is steadily increasing. T. B.

London, Eng.

Jim Fisk's Monument.—After dinner at the hotel our friends started out for a stroll through the town, and ultimately found themselves in the cemetery which is located upon a hill a little south of and overlooking the depot. Here, as they wandered among the tombs of this charming resting-place of the dead, culling bits of wisdom from the various inscriptions, all reminding them of their end, they came rather unexpectedly upon the monument of "Jim" Fisk, the financial hero of Black Friday. It is an imposing and beautiful structure of white granite from the quarries of Dummerston, a little way up the river, and was erected by his widow at a cost of nearly $200,000. It consists of a shaft mounted upon a square base, at the four corners of which are life-size figures of Commerce, Finance, Banking and Railroading, all charmingly conceived and admirably executed. Æsthetically considered, it is a rare and beautiful piece of work, but what a commentary upon the truthfulness of monumental fame!

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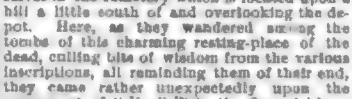
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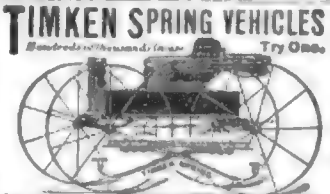
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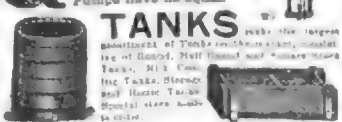
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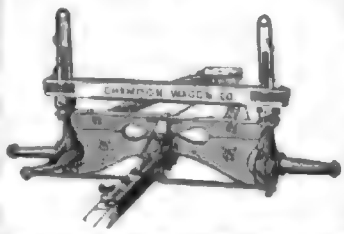
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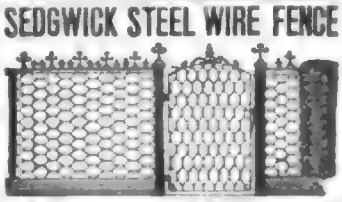
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Will be held at Hempstead, L. I., on the 19th, 20th, 21st, and 22d days of September, 1882, under the auspices of the Queens County Agricultural Society. Premiums will be awarded in Classes for Horses, Cattle, Sheep, Swine, and Poultry. Entries will be received up to noon of the fourth day of the Fair. Premium lists will be ready for distribution by August 15th. Entry blanks and all other information can be obtained by addressing the Secretary, Hon. JOHN HICKS, Hempstead, L. I. Entries will be made free of charge. Entry blanks must be filled out and sent to the Secretary before the day of the Fair. No entries will be received after the day of the Fair. No entries will be received after the day of the Fair. No entries will be received after

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COUNTRY GENTLEMAN

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New Advertisements.

OFFICE OF
The American Jersey Cattle Club,
No. 3 Broadway,
New York, June 20th, 1889.

Members of JERSEY CATTLE CLUB.—Under Article 4, Section 1, of the By-Laws, the Annual Meeting of the Club will be held at the Office of the Secretary, No. 3 Broadway, New York, on the first Wednesday in August, being the 7th day of August, 1889, at 11 o'clock A. M. By order of the President.
JOHN J. DILLON, Secretary.

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Office, Switch, Signal, Semaphore, Turntable, Roundhouse, Car Shop, Engine Shop, Machine Shop, Foundry, Blacksmith Shop, Tool Shop, Carpenter Shop, Paint Shop, Upholstery, Tinsmithing, Plumbing, Gas Fitting, Steam Fitting, Electric Fitting, Electric Lighting, Electric Motor, Electric Railway, Electric Car, Electric Bell, Electric Clock, Electric Watch, Electric Pen, Electric Pencil, Electric Engraver, Electric Printing Press, Electric Typewriter, Electric Sewing Machine, Electric Fan, Electric Massage, Electric Belt, Electric Medicine, Electric Cure, Electric Quack, Electric Fraud, Electric Swindle, Electric Humbug, Electric Nonsense, Electric Rot, Electric Bosh, Electric Slush, Electric Trash, Electric Rubbish, Electric Stuff, Electric Flapdoodle, Electric Bunkum, Electric Buncombe, Electric Claptrap, Electric Balderdash, Electric Poppycock, Electric Moonshine, Electric Gammon, Electric Spinach, Electric Taffy, Electric Molasses, Electric Candy, Electric Soap, Electric Lard, Electric 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COWS—Middleboro Beauty 9651, dropped Oct. 15, 1879, sire Prince's Bridgewater, dam Nellie 2d; last calf Jan. 20, 1889—served by Victor St. Lambert June 6, 1889. Stoke Nellie 16582, dropped Feb. 3, 1887, sire Duroyal of St. Lambert, dam Gem of Massafras; last calf Sept. 14, 1888—served by Victor St. Lambert Feb. 15, 1889.

HEIFERS—Paquette 6573, dropped April 16, 1888, sire Sachepo Pogis, dam Lucie's Lorenzo; Heifer, subject to registry, dropped Jan. 10, 1889, sire Victor's St. Lambert, dam Middleboro Beauty.

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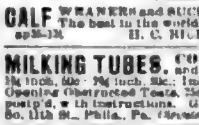

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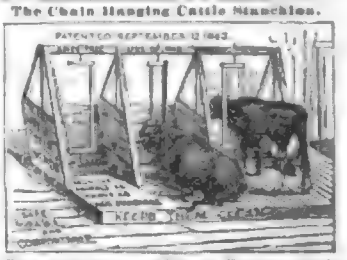

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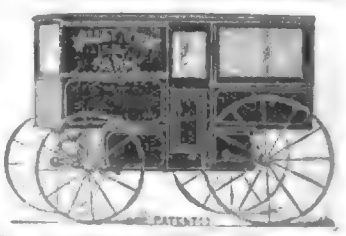

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THE CULTIVATOR AND Country Gentleman

Albany, July 11, 1889.

A Defence of the Wooden Silo.

ED. COUNTRY GENTLEMAN—After reading the various letters called forth by "C.'s" description of his failure with ensilage (p. 323), especially that by Mr. Rice (p. 405), I feel like adding my experience and defending the wooden silo.

Several years ago I wished to build a silo, but was deterred by the expense of building one of concrete, which I could not afford. At last I read of Mr. Brown's ten-dollar wooden silo in the proceedings of the ensilage congress held in New-York, and I determined to go and do likewise. With the assistance of my hired man, I built a silo in my barn with a capacity of thirty tons. The construction was of the simplest; the sills were laid upon the clay floor, and the studs, of 10 by 2 scantling, were simply "toe-nailed" to the sills and plates. The first layer of boards was nailed to the inside of the studs horizontally and the second layer nailed over this vertically. I did not even put tarred paper between the courses. Never having seen a silo, my ideas were rather crude.

My first crop of ensilage corn was put into this silo five years ago, and, having read Dr. Bailey, it was cut in the silking stage, put into the silo as rapidly as possible and tramped continually during the filling process. Boards were laid directly upon the ensilage the moment the filling had ceased, and then weighted with brick at the rate of about 750 lbs. to the square yard. The result was sour ensilage with a decidedly rummy flavor. The first six inches next the boards was spoiled; the rest of the ensilage was sound and kept perfectly.

In the following year I ensiloed a rye crop. This was treated precisely as the corn had been, with the exception of tramping. The result was sound, but sour ensilage. The cows apparently did not object to the acidity. Another crop of corn was ensiloed, and this time was tramped only around the edges and corners. Again sound but acid ensilage was the result. A third crop was put in, mixed with cow-peas of the "whippoorwill" variety. The corn was cut when the ears were beginning to glaze over, and the ensilage was covered with six inches of cut-straw before the boards were laid on. This time I weighted with only 300 pounds to the square yard. When uncovered, the ensilage was sound to the very top; the straw was partially rotten. This ensilage was also acid and would spoil after a few hours' exposure. I determined to stick to heavy weighting in the future.

With the fourth crop of corn, I tried for sweet ensilage. The corn was cut when the ears were well glazed over, and suffered to wilt upon the ground before being hauled to silo. Seeing my silo would not hold the crop, I dug right down into the hard clay eight feet, making the wall as smooth as possible. The corn was put into the silo on alternate days. The weather was rainy part of the time, but the corn was put in wet or dry just as it happened to be at the time. The filling completed, the corn was leveled and the straw covering and boards not put on until the third day. This time I weighted with 18 inches of earth. The result was perfect ensilage, but still slightly acid. This time the corn was cut into inch lengths; previously it had been cut half-inch long. I shall not cut it one inch long again; it doesn't pack so closely. The ensilage kept as well in the pit as in the upper part with wooden walls; it was somewhat sweeter, of darker color and contained more juice. Lifting it out of the pit was somewhat inconvenient.

This ensilage, grown on five acres of freshly cleared land which I am preparing for grapes, has fed six milch cows three feeds daily since the fifteenth of last November. I have also given it once daily to a bull and five yearling heifers during that time; it has been given three times a week to two horses and has entered largely into the daily ration of six hogs, and there is yet enough to last until the middle of this month, June.

Three acres of this land was seeded to rye as soon as the corn was cut off it last October. This rye was put into the silo—my silo has two compartments—during the first week in May, cut into ¾ inch lengths, covered with 12 inches of cut straw and weighted with earth. I opened it yesterday, June 4. It was cool, not a sign of mildew, or mould, and as sweet as molasses. This rye ensilage was also suffered to remain three days in silo before being covered.

I do not wish it to be understood that my silo has kept the ensilage absolutely without loss. Along the sides and in the corners there are always some spots of spoiled ensilage to be found, but the quantity thus lost has been so trifling as not to be worthy of mention.

This is what the wooden silo has done for me. It has enabled me to feed my stock, as above mentioned, on corn ensilage from middle of November until middle of June, and on rye ensilage from June until my corn is again ready; and all this from five acres of stiff clay upland. Those same five acres are now busy with another crop of corn. Pretty heavy cropping for light land, of course; but then, my father was not a farmer before me, and so I have no precedent to fall back upon, and am so ignorant about farming that I save every pound of the manure, liquid and solid, and haul it out on the land; and, somehow, it seems to improve steadily. JOHN K. HOTT.

Buncombe County, N. C., June 5.

The Farmer's Condition.

Answer to Questions on page 410.

1st. *Are farmers in your community as prosperous as they ever have been?*

No. This answer I think will apply to all the counties of Branch, Calhoun, Jackson, Barry and Eaton, comprising our third congressional district. For this opinion there are several reasons:

1. Exhaustion to quite an extent of the fertility of the soil by too continuous cropping and too little attention to fertilizers.

2. An increasing frequency of dry seasons. For last two years crops in the five counties were probably at least 15 per cent. below the normal average, caused directly by lack of rainfall.

3. In Eaton county an exhaustion of forest products, which twenty years since produced a large revenue.

4. A constant reduction in price of the main agricultural staples caused by increasing competition in the world's markets with like products of other countries.

This really answers query No. 5—"Will a bushel of wheat or a barrel of corn buy as many necessaries of life as thirty years ago?"—though I would object to the period of thirty years, as it is unfair to rate to-day with 1850 to 1860, the appliances for production and transportation now in hand having revolutionized the methods of the earlier date. As fair periods of comparison, would select 1865 to 1880 with 1885 to 1890. In this grading, the later years are decidedly to the disadvantage of the farmer. The farmers are, however, in some measure themselves responsible for the falling off in their prosperity, arising to a limited extent from too liberal purchases of farm machinery, carriages and wagons, but mainly from too conservative habits. The practices of at least three-fourths of our farmers are but slightly changed in twenty-five years. Dairy processes are frequently slovenly, and of course unprofitable. That solution of the farming problem, the silo, is unknown, or at least not regarded as of any practical utility.

But the main reason for the decline of the prosperity of the farmer, overshadowing all others, is found in the answer to inquiry No. 4—"What effect does the tariff have on their condition?" Its only effect is to burden us; until it is lightened, the farmer's condition cannot but grow worse.

To the inquiry, "Do farmers take less or more interest than formerly in economic discussions?" I would say that they do not now (and as a rule never did) take any interest in or care for the subject of economics. The progressive, intelligent thinkers or investigators among them are the exception.

"*How they lost or gained social dignity as compared with other classes?*

Numerous careful observers think that their social position has improved in the last ten years. Have certainly in this congressional district lost nothing. Socially our farmers have nothing to complain of. M. J. M.

Vermontville, Mich., June 10.

Rain and Cold in Western New-York.

ED. COUNTRY GENTLEMAN—To day closes a cold and excessively wet June—being so wet and the temperature so low that corn has made little growth within the last thirty days; consequently is much behind in maturity, compared with former years. The result will be a great loss to the agricultural interests of our county on this cereal alone, aside from losses caused to other crops. Many fields of corn will not receive any cultivation whatever, and none will be thoroughly worked; so the loss will not only apply to the present season, but to the year following, in the rank growth of weeds, &c., as haying and harvest time will soon be here, and then all cultivation will have to be abandoned.

This unusually wet season will reduce the barley yield one-half, if not more. Many pieces will hardly pay for harvesting, especially on undrained land. Never have the beneficial effects of underdraining been so apparent as at present. The yield on soil well drained will be a full crop, if not above the average.

The oat crop seems to have suffered less than other spring grains, and an ordinary crop may be anticipated if favorable conditions follow from this time out.

Wheat bids fair for a full crop—much better than last year, although later in maturing. The hay crop will be a little under the average, caused by dry weather in the month of May; yet has thickened up some of late.

Owing to the great surplus of water and low temperature, much of the potato seed decayed, and not a little had to be replanted, causing an advance in the price of this edible.

The prospects at present indicate a very light apple crop for the county, and the small fruit will yield lightly, owing to the heavy frost the last of May. The frost destroyed the grape, except in the vicinity of our lakes, as not only the the fruit but many of the vines were killed that were planted away from this influence, and all beans above the ground before the frost had to be replanted; therefore, on the whole, the outlook for the tiller of the soil the present season is not favorable. The wool clip has done better this year than last, the price being from 5 to 10 cents per lb. higher—the only product that has made any advancement in price. W. A. S.

Ontario County, June 10.

Central New-York.

Baling Hay—Feed Fertilizer—Daisies.

ED. COUNTRY GENTLEMAN—An experience of twelve years in baling hay for market enables me to say that hay baled before it is well cured and dry will not keep, but will when open be either musty or mouldy. To keep well in the bale, to retain its color and sweet odor, hay should not be baled until it has gone through the second curing process in barn or stack, which usually takes ten to twelve weeks. Hay baled before that must be used at once or it will heat and spoil, but baled after second curing it will keep for weeks if kept entirely free from moisture. I have known hay, otherwise dry, baled in damp, wet weather, become musty in the bale, simply from the moisture it gathered while being baled.

Some years ago I tried the experiment of baling clover hay and sound corn. I cut them in forenoon, let them wilt for three hours and then baled them. In baling, the pressure was so strong that when I baled the corn stalks the juice ran from the bale in streams. The bales weighed over 500 pounds each. I put them one side in my hay barn for about six weeks; afterwards I found all entirely spoiled. I have taken thoroughly dried hay from the field and mixed it half and half with old hay, then cut it fine and baled it, and found that it kept well, the old hay absorbing the moisture of the new so that it kept from heating. Coarse timothy hay will spoil if rained on after it is baled, as the water will penetrate the bale far enough to cause heat and must. Western native fine hay, if pressed hard enough, might stand being wet in the bale without harm, but I should doubt it.

Corn, so far this season, has not done well; great quantities of rain, with very cool weather, has kept it back, so that much is small and yellow. An experiment I tried with one field shows success so far. After plowing a piece of land in good heart from previous manuring, I sowed 200 pounds of phosphate to the acre and harrowed it in; then I put in a small handful of feed—a mixture of ground corn, oats and bran—to each hill, dropped my corn into it and covered. A shower, the same day, wet the ground thoroughly. The whole piece is far ahead of any adjoining fields, and the rows wherein I put the feed are larger, and the plants have a darker color, than the other part of the field. The cost of the feed was about one-half of good quality phosphate, and so far shows itself to be as beneficial as any phosphate I have ever used in hills.

For some reason white daisies, this year, seem to have taken possession of nearly all grass land; acres upon acres, in all directions, show nearly as white as with winter's snow. In years past only one year has equaled this in its daisy crop. Farmers who for years have uprooted every stalk of daisy from their farms, and have taken pride in being able to say that their land was free, look appalled upon this year's growth in their heretofore clean meadows. Whence comes this uncommon growth? No one explains. Some think it is brought in western-grown seed. However, daisies are not all evil; cut early and cured well, ton for ton, for winter feeding, they are worth more than any hay. This remark I do not make of my own knowledge, but I have heard many say so who have fed it out.

Undismayed by the small prices realized for last year's potatoes and cabbage, the acreage of both this year will be quite as large. Many farmers are planting an acre or two of cabbage for fall and early winter feed for cattle and sheep. Cabbage fed ewes bring forth and raise lambs of superior size and strength, and cows largely increase in flow of milk and become sleek and fleshy. C. O. NEWTON.

Cortland County, June 11.

Southeastern Virginia.

MESSRS. EDITORS—The past 60 days have been very busy ones indeed. The cabbage and pea crops have been moved; the berry crop handled, and the regular farm work going on, such as cultivating corn and potatoes, cutting hay, &c. Of all the busy months of this very busy section, May and June are the busiest. The potato crop is now moving northward at the rate of at least 20,000 bbls. per day, from the immediate vicinity of Norfolk. The price for good stock ranges from $3 to $4.50 per bbl.

The weather during the past 60 days has been very fine indeed. For 30 days ending June 15, the records of the signal service station in this city show 6.18 inches of rain. This liberal supply fell on 15 days, an average of a little less than ½-inch at a time, and during the 30 days the longest time between showers was three days. This is what may be called a liberal and well-distributed supply of rain. The greatest fall at any one time was on June 5, when 1.2 inches fell. This section has suffered no damage by the heavy storm that swept over the country about the first of the month.

The hay crop is fine this year and those who have a few acres in clover, or clover and timothy, or orchard grass, are in trouble for lack of sufficient storage. There are many fields turning off fully two tons to the acre.

On our farm we had to stop in the midst of haying, buy a press and bale up and sell several tons in order to make room for the remainder. It goes against the grain to sell a pound of hay off the farm, but the price received ($15 per ton wholesale, baled and sold direct from the field) operates as a soothing syrup for lacerated feelings, as $15 now is fully as good as $17 or $18 by and by.

The ensilage corn, as a rule, is all planted, looking well and making a very rapid growth. Some will be planted, however, as late as next week. In fact it may be planted as late as the 20th of July, and last year one piece of ensilage corn was planted the first day of August. This is tempting Providence however, as it were, and will not always do, although last year it did very well.

Winter oats are now being cut, and as a general thing are good. It is customary here to sow oats and clover together in September or October. When the oats are ready to cut, the next June, the young clover is found all

the way from one to three feet high. Some times the mower is put in, and both oats and clover cut and cured together for hay; or the reaper must be run as high as possible, and after about 30 days the mower put in and the oat stubble and clover cut and stored for hay. In this case another cutting is made in October. Clover does as finely here as in any other section of the Union. The area sowed to clover is increasing each year. Between 6,000 and 10,000 tons of hay are handled in this city annually, produced in the northern, eastern and western States, and shipped here long distances by water and rail.

The trucker complains of getting poor prices for his produce, but goes contentedly home with a bale or two of hay in his wagon, costing him at the rate of $18 per ton. At the same time it is a problem with him how he shall keep the pesky white and red clover, crab grass, and other pests out of his land, and the roadside is literally covered with the tame grasses that have sprung up from the seed scattered from the bales of western hay as it was being hauled out to the farms. Our truckers must diversify their farming, grow less truck, raise more hay, oats and corn, keep more stock, use more stable manure, and buy less fertilizers.

The morning telegrams from Boston report potatoes as selling at $4 to $4 50 per bbl. If the price could be kept up to this it would be a grand good thing for those of our farmers who have from 50 to 300 acres in potatoes. It is a general impression on all sides that trucking is overdone. The same thing may be said of most farm produce if prices are to be taken as indications. The remedy in part lies in covering less land and doing the work better. Decrease the quantity, increase the quality, mix in other crops, lessen the expense, fuel every soil possible and keep close to the shore.

Hay is selling at $15 to $17 per ton; butter, 35 to 50c. per lb.; eggs, 18 to 20c. per doz.; dressed chickens, 12 to 18c. per lb.; dressed turkeys, 25c. per lb. A. JEFFERS.

Norfolk County, June 28.

The Season in Monroe County.

Applying Paris Green.

EDS. COUNTRY GENTLEMAN—The first few hours of June 1st were devoted to active precipitation, the rain falling in torrents, making a finish to an almost continuous down-pour of thirty-three hours' duration, with a total of 2 91 inches of rain. This deluge, following so closely upon the disastrous frost of the 29th of May, did not tend to revive the drooping spirits of growers, and as rain has fallen on twelve days since, giving us 4¾ inches more rainfall, matters are not much improved. There are many fields of corn hereabouts whereon a foot has not been set since they were planted, about the latter part of May, and several of them are still under water. So late as the 26th we had 1.80 inches of rain. A destructive thunder-storm, with 1.49 inches of rain, visited us on the 9th, and in some towns east of Rochester the hailstones, which were unusually large, did considerable damage, the glass in many green-houses being completely shattered, while all tender crops were destroyed. Altogether the weather of the past six weeks will be apt to linger in the memories of most farmers, fruit growers and market gardeners in this vicinity for some time to come. Yet the last day of June was one calculated to make all nature feel joyful, so we must hope it is only a forerunner of a propitious season. The mean temperature of June in 1886 was 61°; in 1887, 64°; in 1888, 66°; this year, 63°.

The soil, to the depth of a foot at least, has now reached a uniform temperature, which, I presume, will probably be preserved during the summer. It will be noticed that for the last three weeks it has been gradually becoming equalized, which, I think, would have happened sooner had it not been for the frequent heavy rainfalls. One can understand how potatoes are liable to rot in a wet, hot season when they have even such a temperature as 65° all around them.

Depth.	June 1st.	8th.	15th.	22d.	29th.
4 inches	60°	67°	71°	67°	64°
6 do.	59	64	69	61	65
8 do.	58	63	68	61	65
10 do.	58	59	68	60	65
12 do.	58	60	68	61	65
Mean tem. of air	62°	71°	80°	67°	69°

Of course every opportunity for working the cultivator and hoe has been eagerly seized, but, with haying upon us, many crops must suffer from the present rampant growth of weeds. Wheat, as yet, does not appear to be affected with rust, so that with continued fine weather we may venture to hope that the splendid crop will escape what two weeks ago seemed inevitable. Much potato land has also been inundated on account of which the crop will probably not be as great as was predicted from the large acreage planted. The hay and oat crops will be much increased by the abundant moisture they have received; indeed, were it not for the sorry appearance of the corn fields and the uncertainty of the weather, growers of ordinary farm crops have no reason to be otherwise than satisfied. Since many of them regard their apple orchards as of little or no benefit to them they are not included in the list. The raising of barley appears to be coming into favor again in this neighborhood, as many fields in fine condition are to be seen scattered round this season. Fifteen or sixteen years ago it was a very popular crop here, and I remember, in particular, a grand one grown by Mr. Joseph Harris of Moreton Farm in 1874, which he sold for $1.37 per bush.

The fruit crop varies with the locality. The market in Rochester has been well supplied with strawberries, principally Wilsons of medioere size and quality. At some few stands might be purchased well grown specimens of Manchester, Triomphe de Gand, Jessie or other good variety, but they were the exceptions. There is a good supply of fair cherries so far, but the tendency of this fruit to rot this year will make the season a short one. The pear crop was not damaged by the frost as much as was anticipated, but a good deal of it is uneven in size and spotted; the same may be said of the apple crop. In this section the labor of picking plums, peaches, quinces, grapes and black raspberries will be spared us this season, but there is an abundance of red raspberries as well as red currants; the latter are ripening fast, and will be in market in advance of last year's date, which, with me, was July 10th.

The venders of Paris green evidently pay little heed to the quantities recommended by our entomologists as proper to be used in making a liquid mixture of the poison. A firm in Rochester, which retails large quantities of the pure article every year, has a printed label of directions upon each box wherein it is advised to put two tablespoonfuls of Paris green into a pail of water, and, after stirring, to sprinkle the vines—meaning, I suppose, those of the potato—with a small whisk broom. Now, I have a potato patch exactly 250 yards long, on which I apply Paris green as follows: A barrel of water is taken to one end on the stone boat together with a pail for dipping out the water, a box of poison and a teaspoon; also a waterpot with rose attached, in which the holes are just large enough to admit an ordinary pin, and a stick to stir with. We put a moderate teaspoonful of poison in the pot, fill it with water, stir, and then walk, sprinkling as we go, as fast as the state of the ground will allow, half way across the patch (ascertained in this case by the number of apple trees planted); then stir again and return. The process is repeated at the other end. We find that a waterpot, holding 11 quarts, will perfectly sprinkle 250 yards of potato vines and the quantity of Paris green used, if pure, is quite sufficient to destroy every bug. As the task of walking fast, carrying a pot of water in a certain position, is by no means a light one, the job of filling and mixing for every bout enables one to gain a little breathing time. Where two can be spared, so as to relieve one another, it is the most expeditious plan on a small scale that I know of.

I have had an experience, new to me, with crooknock squashes this year. Just after the first planting we had a very heavy rain; a hot sun then baked the surface so hard that I was not surprised at the non-appearance of the plants, and did not wait long before planting again. From this one only a plant here and there came up, so that I made an examination and found that nearly every seed that had failed to germinate was occupied by one or more white maggots similar in size and appearance to the onion and cabbage maggots. I have kept some to see if I can find out if they are the same.

Wheat is quoted lower than last report, being 90 to 92c. per bush.; oats, 33 to 34c.; State corn, 42 to 44c.; barley (six-rowed) 70 to 75c. Hay has declined, the price now being from $14 to $16 per ton; oat and wheat straw still brings $10 to $12; rye, $15. Old potatoes which were fed to stock so freely during winter and spring owing to their cheapness, are now scarce and bring 45c. a bushel. Peas, which are coming in freely, sell at from 80c. to $1 per bush. Beets, 60c. per doz bunches; onions, 15c.; radishes and pieplant 20 to 25c.; spinach, 30c. per bush.; strawberries, 8 to 10c. per quart; cherries 4 to 6c. per lb.; butter, new dairy, 16 to 18c per lb.; eggs, 14c. per doz.

Monroe County, July 2. J. H. C.

Hay Caps of Wood Pulp.

EDS. COUNTRY GENTLEMAN—This being my third year's experience with the Pulp hay caps, manufactured by the Symmes Hay Cap Co.,* I thought a few hints to those who are about using them might not be ill-timed. My plan for distributing and placing them is to send the boy and horse (as soon as they have finished raking the hay into windrows) for the hay caps previously placed in two piles on an ordinary stone drag, the boy dealing them out right and left as the horse walks between every alternate row of cocks (or windrows if the men have not had time to do the cocking), the men also placing them firmly in position while the boy and horse are free to continue raking elsewhere. This occupies but a few minutes, and although the caps are strong it saves them from being broken, as when pitched on and off from a high wagon. The following day, as soon as the chance offers, the same boy gathers up the caps on his drag, and either moves them to another field at once or leaves them in readiness for future use.

As to tying them on, practically I find it not necessary, for when they do blow off they seldom go far, and there is usually a lull before the rain sufficiently long to enable their being replaced. One hundred caps can easily be made to cover five tons of hay, and the saving in time and quality of the hay is of inestimable value. In making and curing clover in the cock, it has brought the operation to so simple and safe a method as to relieve one from all anxiety, and when haying and harvesting are over, I still continue using them in protecting piles of potatoes and other root crops from sun, rain, and even frost; and in piling apples and other fruit in the orchards before barreling, they insure their safe keeping, even though the rain and frost may be severe.

As I write, the third rainy day has set in upon my first cut five tons of timothy, and as I watch the water running from the fluted sides of the pulp hay caps, as it has done on and off for the last 48 hours, I can most cheerfully enjoy the thought, "What glorious growing weather this is for the root crops."

Sherbrooke, Q., Canada. W. A. HALE.

* Advertised in the COUNTRY GENTLEMAN of April 26.

Crops in the Hudson River Valley.

EDS. COUNTRY GENTLEMAN — Some time since I sent you a few points regarding the Hudson River fruit crop, suggested by an article copied by you from the Kingston Freeman. Your last issue contains another extract as glaring and erroneous as the first was. As I prophesied, the strawberries proved one-third of a crop. Raspberries are good where any canes are left, but many patches were worthless, and plowed up in the spring. I have never seen plum and cherry trees so badly infested with the black-knot as now. Cherries were not one-fourth of a crop, owing to wet weather. Plums will be nothing; they have rotted and fallen off. Currants are an average crop.

The writer referred to shows his want of knowledge in speaking of the early peaches being already finely colored. Our earliest peach is the Mountain Rose, and will begin to color the middle of August; now they are the size of hickory nuts, and perhaps the color he refers to is green. The trees dropped much of their fruit, but have enough to bring good quality and save thinning, but the crop must be small, owing to the fact that 50 per cent. of the trees standing in this county six years ago are gone now, and very few have taken their places.

The most absurd statement the writer makes is regarding the grape crop. I repeat that it is unusual for two heavy crops to come in succession, and last year's was generally very good. Other obstacles have operated against the grape this year. First, heavy rains during period of blossoming washed the pollen and left the bunches very open and scraggly, while in many low spots late frosts took everything. But what the grape crop suffered most from is mildew and rot, aggravated by hot and excessively moist weather. My vineyard shows 25 per cent. of the fruit covered with white mould or rotted, and I am no worse off than my neighbors, so that instead of the heaviest grape crop in Ulster county, I claim the coming fall will bring the poorest in quality and quantity that we have had since the culture of the Concord grape has become general here.

It strikes me that the careful estimates made for the Freeman are collected in the streets of Kingston and not on fruit farms. J. A. S.

Marlborough, N. Y., July 5.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, July 2.

The past week has been hot and humid—hot because of the season and humid because the late heavy rains having supersaturated the surface, a volume of vapor fills the lower atmosphere and blankets the earth, as it were, under which we work and sweat. In fact, it is the normal and regulation "corn-crop weather," for which Illinois black-soil prairies have long been noted and celebrated. But corn is in a very bad way—how bad I will leave it for a brief summary of the report of the State Board of Agriculture of July 1st to say; though two weeks later than it should have been, it states one feature of the agricultural situation better than any single correspondent could do:

"An alarming condition of the Illinois corn crop is reported to the State Board of Agriculture, which has returns from its regular correspondent in every county in the State except Grundy and Hardin. It is impossible to estimate the damage done to the corn crop by the rains of the last six weeks, and the overflow of thousands of acres of river bottom lands in the central and southern portions of the State."

It is an instructive and interesting commentary on the tile-drainage craze, that immediately after the putting down of 95,000 miles of tiles and open ditches to match, there occurs a greater disaster to the corn crop from rainfall and floods than ever before known in the agricultural history of the State. Hurrying the water off the high and middle lands floods the low lands, with the results we see. This is a parallel to the mistakes of the fruit growers, who, having set their faces against the old varieties of apples and introduced new, were suddenly confronted by crops from the old sorts, equal to anything before known.

With light rains only in these latitudes, and local thunder storms here and there for the past ten days, all crops but corn have been coming on famously. Oats never looked better and never showed less disposition to lodge and suffer weeds to overgrow and smother them, and if short in straw make up for that deficiency, if it is one, by length of head.

As to wheat, upon which the harvest began yesterday, it is thin on the ground, and here and there a field has more copper color in its complexion than gold, while the straw, though short, bears long heads and shows no disposition to lie down, even on the richest soils. The meadows have disappointed the general expectation, in the rapid growth the grass has made since the late floods, and in some of the best fields timothy has attained a height of over two feet, and now carries a color so dark that it is nearer blue than green. Of course, when meadows do so well, pastures make a corresponding advance.

As to the condition of the corn crop, it is bad in every way. I doubt if at this date, the second of July, the average height over 40 counties exceeds eight inches, when it should be three times that for the average year. I suppose one-fourth of the acreage has never been cultivated and never will be, and another fourth will not make ten bushels to the acre. Thousands of acres have been ruined by starting the cultivator too soon after the rains, the result being the certain firing of the crop later on. If the rains had continued, nothing but good would have followed, but when the black soil is stirred wet, and dries immediately thereafter, it bakes and clods, becomes impenetrable to the roots of plants, and refuses to feed them. Corn in small patches and gardens has made an average growth, and I suppose we may have roasting ears by the 4th of July. I saw a small field of the common corn yesterday of exceptional high color, that has made a growth of fully four feet, and not stretch the blades up to measure it.

As bad as the present outlook is, I suppose we may get half an average corn crop, and those who have a surplus to sell may receive as much money for it, as if it were double its quantity. Still, those who raise the least will have the greatest need for it, and suffer most from the deficiency. If we are fortunate enough to have a favorable harvest season and secure without serious damage the enormous

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That Alfalfa Patch.

On the main portion, the first growth of the season was cut June 21, and stratified and stacked with second quality timothy hay the following day. The first swath across the lower end of the piece was cut May 15, and the second growth on that part is now in bloom and ready to be mown the second time. At the opposite end, five days later, two swaths were cut, and here the growth is at least 18 inches, with signs of bloom that may be full in a week or ten days. The growth of alfalfa is anomalous and very puzzling, seeming to be governed a great deal by temperature and other causes not understood; as for example, a swath may be cut across a piece, and under certain conditions of the weather the growth of the herbage will be slow and turn yellow, and show signs of bloom when from ten to twelve inches high, after the manner of the first swath. Under other certain conditions, another swath may be cut a few days later, alongside the other, and in three weeks outgrow and overtop the first.

If it were permitted me to advise "J. W. J." of Bowling Green, Ky., page 478, I should say, cut the crop just as soon as the herbage turns yellow. Farther, keep live stock off until the plants are at least four years old, and then do not graze beyond the "three acres to the steer" limit. In case the herbage cannot all be fed green, cure after the manner of red clover, and then stratify with light oat or wheat straw, using two straws to one alfalfa. I find that in the small stack I experimented with, the stuff is moulding and mow-burning, and will be a partial loss in consequence of the dry hay deficiency.

During the heat and drouth of last summer, and the drouth of this spring, the appearance of my experimental patch—something over the third of an acre—was not very encouraging, but since the late rains and under the pressure of Illinois corn crop weather, the growth of the herbage has been so rank, rapid and vigorous that I do not find it difficult to account for the enthusiasm of Colorado and California ranchmen, stockmen and farmers who esteem it as the best and most profitable crop for their country.

And here I should like to call the attention of horsemen to the large amount of ash in dry alfalfa. It is almost 8 pounds to the hundred weight. Nearly half of this is lime, with a due proportion of the phosphates and magnesia—the constituents of bone. With these facts in mind, it is not difficult to account for the size of the bone of imported Norman horses, and easy to see how California horses attain as much size and weight in two years as Kentucky and Illinois bred in three. And perhaps phenomenal Spokane may owe quite as much of his success to Montana alfalfa as to having been sired and foaled in Illinois. Farther, and in conclusion, the 8 per cent. of ash in alfalfa may possibly supply the deficiency in Indian corn and blue-grass, and when all three are fed in connection, furnish a complete ration for young stock of all kinds.

July 8.—Thunder storms all round the sky yesterday afternoon; rain in the night and showery this morning. E. F. J.

Frog Culture.—Please give me information about frog culture either through your paper, or by recommending some author on the same. J. B. P. *New-York,* [Can some reader comply with this request?]

Paris Green.—Where are they selling a good tool to apply plaster and Paris green mixed to potatoes? W. H. A. *Orange County, N. Y.* [See pages 311 and 400; or address A. Tyler, 123 West Dominick St., Rome, N.

Cockleseed in Bran.—In most samples of bran and middlings sold here there is more or less of a black substance like the shuck of some seed (some call it cockle), which appears to be very bitter, or at least bran or middlings in which much of it is found tastes very bitter. I have had some that some of my cows would not eat at first. Is it likely to injure the color of the milk or the butter? In other words is bran or middlings in which there is much of it, worth as much to feed cows in milk as bran or middlings free from it? W. H. M. *Oxford, N.*

Horticultural Department.

Removing the Suckers.

While riding through different parts of the country, we often observe the neglected condition of some of the orchards, and among other indications are the suckers which are allowed to spring up from the base of the stems (fig. 1).

Fig. 1.

When the trees are young, and these suckers are only a year old or less, they may be pulled off without much labor, and the trees preserved in a neat and thrifty appearance (fig. 2).

Fig. 2.

But if neglected, they become large and thick and are difficult to remove, and they draw largely on the strength and vigor of the trees (fig. 3). The owners then attempt to get rid of

Fig. 3.

them, but they are too strong to be pulled, and as a resort they are cut away with knife or axe once, leaving the stubs. These send up more new suckers and the condition of the trees is worse than before. Timely removal of these sprouts is easily performed, and a neat and handsome symmetrical shape is preserved. If done while the trees are in a thrifty state of growth or some time during midsummer, they are much less liable to sprout again than when performed while the trees are dormant. If the suckers have not been allowed to become too large, they are easily pulled off by seizing the upper ends with both hands, placing the boot between sucker and tree, and giving a sudden pressure with the foot and a sudden jerk with the hands. This gives a clean removal, and they will not sprout up again as when short stubs are left by cutting them off.

It will not be forgotten by intelligent orchardists that the removal of any growing part while the tree is growing, tends to check its vigor; but in the case already mentioned, the removal of the suckers, which are drawing so largely on the strength of the tree, is the smaller of two evils; and it is better to get rid of them at once without danger of their springing up again, than to have them ruin the beauty and symmetry of the trees.

Marketing Fruit.—As the season for gathering and marketing fruit is approaching, it cannot be out of place to repeat a few of the general rules which should be observed by cultivators and shippers. 1. Send no fruit to market but the best in quality; reject all imperfect specimens; and the man who becomes known for always furnishing only the best, will in time lead the market. 2. In picking and packing, do not touch, rub or chafe the fruit with the hands; preserve its bloom and freshness; handle only the stems, as nearly as practicable. 3. Avoid the adoption of the absurd fallacy that "good fruit must sell the poor." 4. Pack with strictest honesty, and with as fine a quality in the centre of the package or at the bottom as at the top, which will not prevent you from giving a smooth, handsome surface to the packages. 5. Thus by furnishing only the very finest fruit, you can afford to stencil your name on every package; and in this way your name will become a synonym for the finest in all the market.

Garden Walls.

It is a great mistake to think that extensive grounds and large space are necessary for any attempts at what may be called ornamental gardening. There are various ways in which unsightly objects may be screened from view and the necessary division fences turned into objects of beauty.

One of the most simple and least expensive of these screen walls, and one that was much admired by all who saw it, was built of brick (fig. 1.) The wall was three bricks wide. Two rows of brick were built to the desired height, leaving the space of one brick between. The space thus left was filled with rich soil to within the width of one brick at the top; on this the centre row of bricks was laid, with here and there a brick left out. At regular distances squares five bricks wide were built

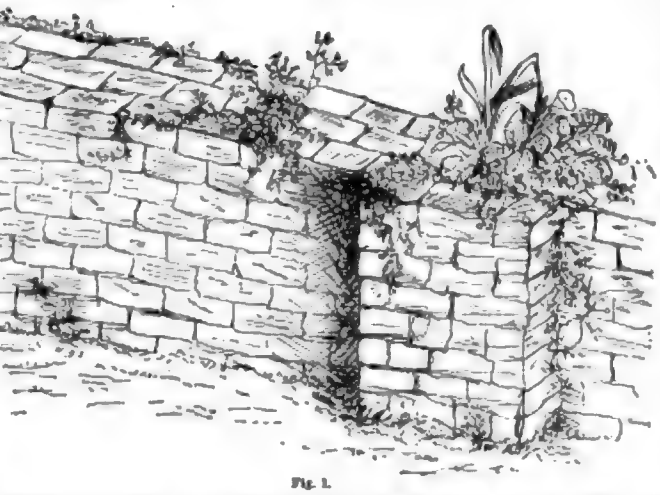
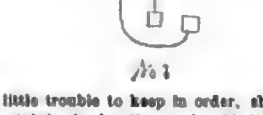


Fig. 1.

No 2.

into the wall. These were filled with soil in the same way as the other part of the wall and left entirely uncovered at the top.

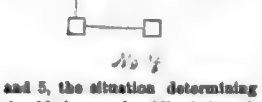
In the spaces left in the centre of the wall and in the squares were planted vines and different kinds of blooming plants. It was



No 3.

very little trouble to keep in order, shut off an unsightly back alley, and added much apparent space to a small garden.

A friend who wished to build a wall of similar design on a much larger space and who found it necessary to have various openings through, employed the designs shown in figs. 3,



No 4.

3, 4 and 5, the situation determining which one should be used. All of them had one point in common, an opening through the wall without spoiling its purpose as a screen.

In selecting vines and plants for this wall attention must be given to the amount of sun and shade they will receive. When the wall is in the shade many varieties of ferns can be used, the tall brakes for the squares and lower-growing kinds for the wall between.

Trailing plants are particularly effective and suitable for growing in or on these garden

No 5.

walls. The following list names only those that will grow easily and in almost any situation:

German ivy, Kenilworth ivy, mountain fringe, madeira vine and Virginia creeper. Where blooms are wanted, petunias, geraniums and nasturtiums will always give satisfaction.

MARGARET HYDE.

Hints on Strawberry Growing.

Eds. Country Gentleman—The wide-awake fruit grower cannot fail to learn some things of value each year, and I think there are no secrets among small-fruit growers for they seem always willing to impart what they have learned by experience to others. I believe that every farmer should be a fruit grower to the extent of keeping his family supplied abundantly for as long a season as possible. This will not require much time or land if the fruit garden is wisely located and well cared for. By a wise locating, I mean that it should be on good well drained soil. The drainage may be either natural or artificial, but it must be land not liable to overflow or to become heavy and water-soaked. It is well also to select a clean piece of land, particularly for a strawberry bed, as with the runners pushing out in every direction it takes a large amount of hand-work to keep a bed clean, and if the land is full of foul seed it will be almost impossible to keep the bed profitably, a second year. I have seen on clean land very fine crops of strawberries gathered from a four-year-old bed, and my best yield this season is from one three years old.

Plant strawberries in the spring. Fall plantings are liable to freeze out, and they will not bear a crop the ensuing spring, and summer plantings require more care and skill than the ordinary farmer is likely to bestow. Strawberry plants can be set in April without losing one in a hundred if proper care is taken in putting them out. They should not be allowed to fruit the first spring, as they will not be sufficiently rooted, and it will reduce their vitality too much; besides, the fruit will be inferior and dirty.

Do not undertake to plant new varieties—leave that to the amateurs and nurserymen—but let the farmer learn from some grower what is the best for him to plant, and set that. In my locality this would be the Crescent, which being a pistillate variety will require a staminate or perfect-flowering variety to fertilize it. I plant with the Crescent every sixth row of some variety which will fertilize. If you buy your plants (as you should) from some successful grower, he can tell you what is best to buy better than I can.

I have learned this spring that strawberries can be made a week or ten days later by mulching quite heavily, and leaving the mulch on until late in the spring. This will enable the farmer to prolong the season of fruit if he will uncover a part of his bed early, and the remainder ten days or so later. I think by following this plan it will enable you to have berries on the table just about a month. I believe it to be best to plant in rows four feet apart, and form a matted row about 18 inches wide, and leave the rest of the land bare of plants. In covering for winter protection, cover the rows quite heavily (a strawberry plant is not easily smothered), and then in the spring, before uncovering the rows, work the space between deep and mellow, and move the covering from the rows on to this mellow strip. If there is not enough of this mulch to keep the fruit clean, you can add straw or any material free from seed in the spring.

Proper winter protection is one of the most important things in the management of the strawberry. I believe the best mulch the farmer can use is made by bedding his horses with corn fodder waste, cut to lengths of less than a foot. Keep it under the horses until it is well crushed and saturated with urine and mixed with dung, for the rains of winter will carry this fertility down to the plants, and bleach and wash the fodder clean. This material is light, will not blow off easily, contains no seed of any kind, and can be had on every farm where corn is grown. The best time to apply the mulch is the first time the ground freezes to bear a wagon.

To insure a liberal supply even in years of short crops, I would recommend to plant about two square rods for each member of the family. This will give you in good seasons quite a surplus, which can be canned, preserved, sold, or given away, as you see fit. From a bed of Crescents this year, containing 12 square rods, we picked about 50 quarts at a time, and in two weeks' time have sold four bushels, besides supplying a family of seven all they could use, and the bed promises to hold out two weeks longer. When farmers tell me, as they often do, that they can buy strawberries cheaper than they can grow them, I know they are telling the truth, for the one who buys them will furnish his family about two quarts at a time, three times in a season, but the one who grows them furnishes them in abundance every day through the season. In my family it is not unusual for us to average a quart to each member of the family at the three meals of a single day.

I believe the free use of acid fruits to be conducive to health, and wish that every farmer's family might be supplied with them. If you have not clean land, it will be cheaper to plant a new bed each spring, and plow under the old one as soon as the berries are gone, than to attempt to clean out a bed and keep it to grow a second crop. I have usually done this, and I plant my old bed in sweet corn, and grow a full and profitable crop when planted by July 4. A few years of this rotation will give very clean as well as rich land, for the strawberries will receive a large quantity of manure in the mulch alone, and when this and all the growth of vines are turned down to rot, it makes the land light, lively and rich; and as no seeds are allowed to ripen, in a few years foul land can be made so clean that the bed can stand two or more years if desirable. In many localities, the farmer who learns how to grow good berries can work up a profitable trade, for home-grown fresh berries will always sell better than stale ones shipped from a distance. Waldo F. Brown.

Butler County, O.

Taking Care of Fruit.—The men who succeed best in marketing fruit—who obtain the best prices, and who receive returns every year, and not such as occasionally have a good year—are those who take the best care of their trees and of the crops which grow on them. They do not shake off the fruit in gathering, nor allow it to become small and wormy. They treat their orchards as well as they do their corn and potatoes—manure them as freely, cultivate them as carefully. They do not allow apples to become small and scabby from overbearing, any sooner than they would allow a field of corn to fail by planting three times too thick. The same required care should be even more carefully given to pears, badly grown specimens of which will not sell for one-half as much as when well grown.

well selected and carefully put up. Poor pears can hardly be sold for fifty cents a bushel; the best, put up in the best condition, often bring from three to five dollars, if marketed at the proper season.

A Woman's Garden—V.

Flowering Annuals.

Looking out this morning at the first bright flowers of the nasturtiums, which now cover the two round beds, where in early spring the daffodils and jonquils were nodding, I suddenly realized that among the essentials of the complete garden, we must not fail to recognise the flowering annuals. Within certain limitations there is nothing more perfect. In the garden, as in life, we take an almost undue satisfaction in one who fills a definite place completely, and accomplishes the entire amount of results expected. This, under favorable conditions, the flowering annuals will certainly do. Take these nasturtiums for instance. There can be nothing richer or more beautiful in color, ranging as they do, from palest cream yellow to a blackish maroon, through all the varying shades of gold, orange, and fiery red. Form and marking are fine, the foliage is attractive, the spicy odor is very pleasant, and the profusion of flowers, without further care, from the latter part of June until the frosts of autumn, is certainly a lavish return for the planting of a handful of seeds, which one may gather freely every year! It is sometimes recommended to give the nasturtiums a poor soil, but I think this is a mistake. In my experience the ground that has been extremely rich with well-rotted manure has produced a quick growth and the freest and most constant flowering. Nothing is more satisfactory for filling a bed stocked with bulbs than the dwarf or low growing varieties.

Though not strictly an annual, the summer blooming pinks deserve a wide space in the easy, inexpensive, mixed garden. There are many varieties of the florist's pinks and summer carnations; the sweet-williams may well be included, and one may have such a symphony of color here in the rosy pinks and tender hues of white and red as will offset the nasturtiums—blonde beauty to rival the tropical brunette type. Many of them are biennials, blooming the first year, but earlier and more fully the second. Others will establish themselves as perennials and may last a lifetime.

Mignonette for sweetness is indispensable. Whoever has once grown it in sufficient quantity, so that the contents of a large bowl set in the hall to perfume the whole house will not be missed, and liberal handfuls can be mixed with every bouquet cut, will continue to sow it with an unsparing hand. It fills up all corners and vacant spaces nicely, makes a good border for roses or bedding plants, but likes a sunny exposure, and is thought to be sweetest in a sandy soil.

Clumps or screens of sweet peas may often be utilized to accentuate an uninteresting portion of the grounds, or to conceal some homely object of use. Planted deeply and thickly, as soon as the frost is out of the ground, and brushed in advance, they will grow tall and stocky, in a charming union of solidity and lightness. Free cutting prolongs the flowering season, and few flowers fill a vase more exquisitely than a bunch of sweet peas.

For a stately screen or dividing line, there is nothing quite so imperiously pretty as a row of hollyhocks. Not annuals, to be sure; and the forethought that sows seed in the spring for summer after next has need of faith, but with that faith and foresight it is entirely easy to have a grand show from the seed.

Poppies, which somebody calls "nature's millinery," come fluttering and flaunting in all their gay silky loveliness, with all speed. They should not be sowed until the ground is quite warm; then, in rich ground, they will show color in six weeks or less.

Marigolds, now so fashionable and always so bright and modestly pleasing, are among the easy, reliable annuals that come rapidly into flower and last a long time. There are many pretty old-fashioned kinds in ancient gardens, that perpetuate themselves—coming up, self-sown, very early in the spring.

There are many flowers that repay a little patience in this way. If the ground is watched for seedlings, leaving it, of course, without stirring the soil until the period of growth has well begun, various acquisitions may be gained. It is not uncommon for pansies and verbenas to multiply in this way, and a new seedling sometimes proves to be a real surprise. The very prettiest verbena that I ever saw, of a rare shaded pink and distinctly fragrant, originated in this way.

Few gardens have enough white flowers at all seasons. Not only are white flowers often in request by themselves, but for mixed arrangements of cut flowers, the effect is always better where there is a full proportion of white and green. For this purpose it is worth while to sow a quantity of candytuft and sweet alyssum. The fine white flowers may be raised with almost no trouble, in unlimited quantities; sweet alyssum, with its delicate fragrance, is almost as essential as mignonette.

These are all what may be called standard flowers, generally useful in broad masses. There are very many others, and some, no doubt, equally desirable and easy of cultivation. The aster, for fall flowering, could hardly be spared, and though it needs to be started early in-doors, it is very easily raised from the seed. Dahlias and many other showy florists' flowers are produced by the simplest means for the woman's garden also,—but it is sometimes the commonest things—those from which we expect least—that really give the most pleasure.

A few packets of flower seeds in May may represent a lavish, overflowing wealth at midsummer. DOROTHY.

Grapevine Mildew.—A mixture of sulphate of copper and slaked lime, is becoming a favorite remedy in France, for mildew in vines; and the question has been often asked whether there is any prejudicial result to the wine produced. Our consul at Bordeaux, in whose district the greatest distrust prevails, says that the result of various analyses proves that no prejudicial action follows the sprinkling of the leaves of the vine with the liquid referred to. Whether the flavor of the wine is affected, however, is at present an unsettled point, and it is not to be wondered at that the controversy waxes fierce on both sides. Sailing up the Garonne to that city a month or two since, I was struck with the vastness of the interests involved; as witness the extended ranges of wine storing and shipping places along shore, belonging to the leading export houses. So, when a disease broke out among the persons employed in some of the vineyards last autumn, it was at once surmised that "Bouillie Bordelaise" was the immediate cause; but this has since been proved to be without foundation. T. BOWICK.

London, Eng.

Domestic Economy.

Water and Fruit Ices.

Answer to Inquiry on p. 495.

Of all home-made desserts there is none more elegant, refreshing and inexpensive than a simple fruit or water ice, sometimes known also under the name of sherbet. They are so easily and cheaply made that it is a wonder that many more housekeepers, who possess a freezer, do not often put it in requisition for this purpose during the summer heats.

It is difficult to give exact directions for preparing water ices, since the chief point is to sweeten and flavor with skill, so that neither acid, sugar nor water shall be in excess, and it is evident that these proportions will depend very greatly upon the quality of the fruit. As every one knows who has made lemonade, the quantity of juice in a lemon, and its more or less intense acidity, are things not to be precisely foretold. So with other fruits; the degree of ripeness and other conditions make taste the only final test of the successful ice. Remembering that the freezing process has a tendency to destroy both flavor and sweetness, and making the unfrozen liquid both sweet and highly flavored accordingly, practice will soon teach a nice discrimination, and the fresh fruit of the farm garden will yield ices decidedly superior to those sold by the average confectioner.

Syrup, made by dissolving the best granulated sugar in a little water—half a cupful of water to a pound of sugar is enough; the quantity is unimportant, as it is rapidly evaporated in boiling—is preferred by experts for making ice, though sugar is often used. The boiled syrup gives a a little more body, it is thought, and perhaps greater smoothness. Boil to the blow degree—that is, until by dipping a skimmer in the boiling syrup and blowing through it, small globules will form on the other side. Flavor this syrup with the expressed juice of any desired fruit, add water until you have a thin, sweet syrup—half water is a fair general rule—and freeze, not too stiff. The beaten white of an egg to each quart gives a richer consistency.

LEMON ICE.—The juice of ten lemons, and the rind of three, steeped in boiling water to cover, and strained; a pint of syrup, a scant pint of water, and the white of one egg beaten to a stiff froth; mix thoroughly and freeze.

Another.—Ten lemons, rubbing the rind with cut sugar to extract the zest, upon which squeeze the juice; a pound and a half of granulated sugar, one pint of water; mix thoroughly, strain and freeze.

CURRANT ICE.—Crush in a large bowl either red currants alone, or currants and raspberries in the proportion of two to one, enough to yield a pint and a half of clear juice. Squeeze in a jelly bag, and add a pint of water and a pint of syrup. Taste and add more sugar if needed; freeze. Raspberries alone make a delicious ice; sometimes a little lemon juice is added to heighten the flavor.

Another mode of making fruit ices, as strawberry, peach, pineapple, &c., is to crush the fruit and add sugar, letting it stand for a few hours to draw the juice, then add water, sweeten sufficiently with either sugar or syrup, and freeze the whole. Grated pineapple makes a very nice ice in this way.

It will be seen that combinations and variations on these are easy and almost numberless. DOROTHY.

Seasonable Receipts.

A GOOD STEW.—Take a pound or more of lamb or veal cut from the best end of the neck. Cut this into small pieces, say an inch square or less, put it over the fire and let simmer a quarter of an hour, adding to every pound of meat a pint of fresh, green shelled peas and sufficient water just to cover them. When nicely done, season with salt, pepper, butter and cream.

SWEETBREADS MACEDOINE.—Parboil two sweetbreads, trim and skin them, putting them over to cook in boiling water, slightly salted; add to them half a teaspoonful of mixed spices and a tablespoonful of vinegar. Let them boil, slowly, three-quarters of an hour; then drain them. Put them on a hot dish and brush them over with a little beef extract, and place some mixed vegetables, boiled and cut into dice, around them.

MUSHROOMS WITH TOAST.—Rub the tops of your mushrooms with a piece of flannel dipped in salt. Have some butter heated in a saucepan into which put the mushrooms with salt, cayenne and ground mace; let them stew gently until the butter has almost disappeared, when add cream and the grated rind of a lemon. Set back where they will only simmer until quite done. Have toasted bread cut in rounds, serve the mushrooms on them, and put a squeeze of lemon juice over each.

OLD POTATOES.—A nice way to serve old potatoes is to pare them very thin, laying them into cold water for a time. Boil them and mash them very smooth, and while hot mix in them a good sized piece of butter, one tablespoonful of salt, a grate of nutmeg, the beaten and strained yolks of four (less will do) eggs and the beaten whites. Mould in any shape you choose, and fry in boiling oil or butter, over a moderate fire until they are of a pale brown, and exceedingly light. AUNT ADDIE.

A Medicine Closet.

This title may give the impression that the writer believes in dosing, but nothing is farther from the fact. The many simple remedies that our medicine closet contained, the excellent judgment with which they were used, and the good effects produced, have so impressed me that I am disposed to write of them for the benefit of others.

Many years ago, when my mother's children were small, she bought from time to time, as occasion required, simple remedies for children's ailments. These medicines were always properly labeled, kept under lock and key, and in times of sickness carefully dispensed by my mother, who was an excellent nurse. If only one can be at hand to relieve ordinary suffering, it might better be a good nurse than a good doctor. The good doctor visits his patient, prescribes and goes away, but if there is no nurse to carry out his instructions and do many other necessary things that he does not mention, the visit will have been made in vain.

When the mother does not thoroughly understand the nature of her child's complaint, she should invariably send for the doctor, but there are many cases in which the judgment of the mother is as good as that of the doctor. It was well for me children that we had a mother who believed in treating our little ills before they became great ones beyond her control, and who had the foresight to provide herself with such simple remedies as she might need. As we lived a long way from a doctor, and our maladies sometimes required instant relief, we might have died before the doctor could have reached us.

Croup was one of the ills to which we were all subject. We would go to bed apparently in our usual state of health, but before morning one or two of us would waken ourselves and all the others with that sound which suggests more terror to me than any other sound I know. It required no second note of warning to bring my mother from her bed, and, after thrusting her feet into warm slippers, and her arms into the sleeves of a dressing-gown that always lay within reach, she hastened to the medicine closet and took therefrom the bottle of syrup of ipecac, from which she poured the proper dose, varying according to the size of the child and the severity of the attack. After administering the medicine, she would take the sufferer from the bed and bolster him up (not lay him down) on the lounge near the sitting-room stove. There was always a kettle of water on this stove; if the water had not reached the required temperature, the fire was quickly arranged to supply more heat. In the mean time the foot tub was brought from the bed-room, the mustard box from the closet, and the child's feet were soon immersed in hot mustard water. Then a mustard paste was made (the white of an egg being used to prevent blistering), *warmed* and placed on the throat and chest as a counter irritant. If there was goose grease in the closet, that was rubbed on instead of the mustard. Sometimes a thin slice of pork was brought from the kitchen, sprinkled with red pepper, (which was always in the closet, and which never blisters,) and after *being warmed*, applied to the throat. (I emphasize the word "warmed" lest some one who has never been sick should be thoughtless enough to apply these things *cold*, thereby doing more harm than good.) In a few minutes the sufferer was relieved and the immediate danger past. Great care had then to be taken to keep the insidious malady from returning. The next morning the sick one appeared to feel as well as a child with an ordinary cold, and played around the house as usual, but my mother was careful to keep him away from the windows, allowing only the freedom of two adjoining rooms, which were kept at a uniform temperature. If there was constipation (as is very likely to be the case), the difficulty was removed by a little spiced syrup of rhubarb. In spite of all her precautions, the dread sound would sometimes awaken her on the second night, but this rarely occured.

I remember that one night the horrible sound rang through the house and my mother ran to the closet only to find the ipecac bottle empty. By some oversight, she had neglected to have it filled. Some one suggested raw molasses as a lubricator and nauseator. It was given, and instant relief followed.

If the cold settled upon the lungs, my mother's most successful remedy was an application of pieces of roasted onions sewed to a cloth to keep them in place, and sprinkled with pepper; this proved so quiet and soothing that the sufferer would stop coughing and fall asleep. Some simple cough syrup should be taken. Schenck's is very good, but if found too slow in its action, the druggist can compound something quicker in its effects.

"An ounce of prevention is worth a pound of cure," and I would suggest moderately warmed bed-rooms for children. We were never sent to sleep in cold rooms, and we always wore long nightgowns of canton flannel.

Another simple remedy that our closet contained was a covered bowl of common salt. A pinch of salt will sometimes cure a slight derangement of the stomach, a bad breath or an incipient sore throat. It is also said to give temporary relief from "worms." Some of our children had a habit of getting up in the night partly delirious and convulsed. My mother believed that worms came up in the throat and produced this effect. A swallow of salt and water seemed to "turn the worms down," as she expressed it; at any rate the stiff muscles would immediately relax, and the child would come to himself.

The closet also contained a package of powdered sage. After one of the attacks just mentioned the child was treated for worms by giving him a little sage tea for two or three mornings. A package of centaury was also among the treasures of the closet, and if the blood became weak or impure, a little centaury tea brought back clearness to the skin and vigor to the system. LILLIAN MAYNE.

New Advertisements.

Ames Plow Co.	Sanitary Cutter.
Ayer & McKinney	Jersey Bull.
Burpee & Co., W. Atlee	South Down Sheep, &c.
Box 3	Fruit Farm, &c.
Box 20	Man Wanted.
Burnham, A. C.	Jersey Cow.
Crook, Andrew	Duroc-Jersey Red Pigs.
Cogswell, F. J.	Jersey Bull.
Davenport, J. B.	Holstein Grades Wanted.
Dow, Geo. Q.	Composting Tools.
Elm Place Kennels	English Mastiff Pups.
Eno, Frank	Jerseys.
Ely, L. D.	Berkshire Pigs.
do.	Young Jersey Bulls.
Hutchins, Rev. C. L.	Fearless Two-Horse Power.
Harder, Minard	Threshing Machines, &c.
Howe, H. M.	Notice to Jersey Breeders.
Higgins, R. W.	Milch Cows.
Johnston, P. S.	Married Man Wanted.
J. Q. R.	Farms for Sale or Ex.
Lalor, F. E.	Canada Lakes.
Leandy, F.	Situation Wanted.
Monighan, James	Herdsman Wanted.
Palmour, R.	Jacks and Jennets.
Vandervoer, David	Mormon Horns.

Subscribers' Wants.

DANIEL SMITH, Mobile, Ala. Totman Feed Mill.

Pamphlets, &c., Received.

AMES PLOW CO., Quincy Hall, Boston, Mass. Illustrated Catalogue of Farming Implements and Machines; pp. 84. See advertisement.

ELLWANGER & BARRY, Mount Hope Nurseries, Rochester, N.Y. Descriptive Priced Catalogue of Strawberries.

FURNAS, ROBT. W., Brownville, Neb. Invitation to Be Exhibitor, to be held at Lincoln, Sept. 9-13.

HILL, E. L., West Upton, Worcester Co., Mass. Circular of Milk Aerator. See advertisement.

Inquiries and Answers.

Cultivation of Orange Groves.—My observation and experience so far with my orange grove have been in favor of shading the ground. Have tried this on a small scale by covering the whole surface with leaves from the woods, with good results, but it is rather a big undertaking for a 40 acre grove; and I have been thinking of sowing Bermuda grass, cutting the grass as often as needed, and allowing it to decay as it lies—fertilizing once a year, and working in the fertiliser with a cutaway harrow. Would the decaying grass return as much to the soil as the living grass takes away? If so, it would not matter if it did take the larger share of the fertilizer at first, as it would return it. What do you think of the plan? How much seed to the acre? C. G. W. *Rose Hill, Fla.* [This mode would doubtless succeed where all the controlling influences happen to be favorable. But the success would be modified by the wetness or drouth of the summer, by a light or heavy soil, and by the thoroughness with which the work is performed. Any benefit from the Bermuda grass would in some cases result quite as much from its operation as a simple mulch, as from any fertilizing power it might possess, and sometimes much more. Under all these varying conditions, it would therefore be safest to try the experiment on a moderate scale, a few years' testing of which would be of greater value than any theory on the subject.]

Getting all the Butter.—A small cow, 5 years old, Jersey and Devon, from May 15, P. M., to June 3, P. M. (19½ days), gave 343 lb. milk, 40 lb. 8 oz. butter, and furnished two small families and my own with milk. Her feed is 4 lb. fine corn meal, 1 lb. oat meal, and 4 lb. shorts, divided in two portions and given after milking, night and morning. She dropped calf Jan. 16, and is due to come in last of December. What change can be made to improve quality of milk? She cost $37 when three years old; has had three calves, and has all the points for a good one. She is very healthy, and can endure all kinds of rough weather. My wife does not get all the cream from the pans; there is a little left on the milk that runs through the skimmer. Will a change in the feed harden the cream so that it will not break and run through. J. F. O. *Schuyler's Lake, N. Y.* [G. has a very good cow. As she makes a little over 2 lbs. per day for 19½ days, on a moderate ration, G. should have stated the quality of her pasture, if she has any, and whether the ground feed is mixed with cut hay or fed alone. We must presume that he feeds the corn meal, shorts and oat meal, 4½ lb. at a feed, alone and dry. The cow will not as perfectly digest it when fed alone as when mixed with a small amount of cut hay. As this cow gives a large quantity of milk, considering the time since calving, she may, probably, be developed by careful feeding to yield 16 or more pounds of butter per week. But G. should be cautious and not over-feed her. After getting used to it she would probably do better on the following ration, given upon pasture: 4 lb. cut hay, 4 lb. corn meal, 4 lb. shorts, and 2 lb. linseed meal. The cut hay should be moistened, the meal all mixed together dry, and then mixed with the moistened cut hay. This divided into two portions and given morning and evening, as he does her present ration. G. can only improve the quality of her milk by steady feeding of a rich ration; and if this ration is increased, it should be done very gradually. Great care must be taken during two months before calving to feed moderately of cooling food. No corn meal should be given. Bran and clover hay, cut and mixed, is the best food at this period. The cream will be thicker if the milk, before setting, is heated in a water bath to 130° Fah. It will also churn easier. This heating may be done in this case by placing a common ten-quart pan on the stove, one-third full of water, with two thin strips of iron laid across the bottom. Now set the milk pail with the milk in it into this hot water, letting it stand on these strips of iron, so as to have hot water under the pail of milk. Then it cannot be burned. When heated to 130° Fah., strain the milk into pans for the cream to rise. The cream will all rise and make more butter. E. W. S.]

Tillering Wheat.—Is it not true that when wheat is planted under favorable circumstances it stools out and produces many more stalks and heads than one from each grain? I have had many arguments about this, and decided to leave it to you. All my *friends* aver that but one head comes from each grain. C. H. *Brooklyn, N. Y.* [It is known to farmers generally that the operation termed "tillering" is the multiplication of stems from one root—a most important operation in the production of good crops. The amount of this multiplication is variously controlled by soil, climate, depth of planting, thickness of seed, and various other influences. Klippart, in his work on wheat, states that by means of carefully and frequently repeated divisions of the different stems to promote tillering to a great extent, over fifteen hundreds grains have been obtained from a single seed. A depth of about two inches is regarded as the most favorable in planting the seed to promote this operation, and hence one reason that drilling in wheat quite uniformly at this depth is better than sowing broadcast and harrowing in at varying depths.]

Maple Leaf Insect.—I enclose leaf of a maple tree I have; you will notice some insect or worm has eaten it off where it has been attached to the tree. First one limb loses its leaves and dies, then another; soon the tree will be dead. What can I do to save it? S. O. S. *Hightstown, N. J.* [I do not know of any insect that eats off the foot-stalk of maple leaves where they are joined to the stem, nor have I seen any thing of the kind recorded. If there is an insect operating in this manner, watch should be kept for it that it may be caught in the act. But I doubt if the dropping of leaves is the result of their being eaten off. The single leaf sent me does not show the gnawing of an insect, but looks as if it may have parted from the stem from a lack of vitality or some other cause. J. A. L.]

Removing Large Trees.—I wish to remove some maple trees about 5 inches through, from a swamp to higher land. What is the best time to trim them up preparatory to removal, and the best time to transplant? W. W. A. *Spottsylvania, Va.* [Spring is the best time to remove them; and if they have been much shaded by other trees, and thus rendered less hardy against cold, it would be quite necessary to do the work in spring. If growing alone, they would be hardy enough to transplant in autumn. Trimming or pruning, to render the tops lighter, may be done at the time of removal; but we would advise the operation to be rather sparingly performed in autumn, as heavy pruning always makes a tree more tender for a time.]

What Ails the Wool?—I want to inquire if any one can tell me what is the matter with my sheep. They do not act sick, but the wool is very yellow and matted together, and cuts very hard, and buyers find fault with it, and want me to shrink it, as unwashed, &c. If some one can tell me the cause of it, and how to cure it, I will be much obliged. I feed them through the winter hay twice a day, morning and night, and at noon straw and grain, oats and corn—mostly oats. One man says they should be fed sulphur. Will it do to feed sulphur, and how much? J. T. *Lake Ridge, N. Y.*

Acknowledgments.

Communications for publication have been received during the week ending July 5, from Thomas Bowick—W. A. S.—Stephen Beale—A. B. Allen—Mrs. Alice Chittenden—H. B. Church—Jos. W. Allen—Marshall Cushing—Prof. C. H. Peck—Wm. Davies—E. W. Stewart—Ira A. Armstrong—J. H. Clark—J. Croll—H. O. Sno—Thos. B. Wales—Andrew Crook—C. R. M.—A. P. Kinney—F. D. Curtis—Rosa Autumn—Dr. W. Horne—A. M. Thomson—G. W. & A. C. Davis—G. W. Furbee—A. Jeffers—S. B. Strong—B. F. Johnson—P. D. Cottingham—S. A. F.—F. A. Hayes—F. W. Davies—S. Beale—Mrs. D. H. B. Goodale—S. B. Goody—J. A. Lintner—Henry Stewart—W. A. Hale—W. D. Salisbury—W. B. Plunkett—James A. Staples—John Gould—E. B. R.—T. S. Thompson—F. D. Curtis—H. G. Haviland—J. M. R.—W. R. Lasenby—D. W. C. B.—R. H. Smith—James Wood—Hortense Dudley—Henry Stewart—R. L. Dean.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, July 11, 1889.

Crops for Soiling.—Several crops commonly used for soiling are biennial or perennial, and the perennials must be provided in the previous years, such for instance as winter rye, clover and orchard grass, for early soiling; while the annuals, including Indian corn, Hungarian grass, sorghum, and barley, are used the same year that they are sown. The time is now approaching when the annuals may be started for autumn feeding. Corn is perhaps the most valuable of all, on account of facility in sowing, certainty to come up, abundance of crop, and the ready succession which may be secured with large and small varieties, and a long continued succession in sowing. At the North, it may be sown about the first of May, and good crops of green and succulent stalks have been obtained from seed sown in July, after the removal of early potatoes from the land, and it would doubtless do well following early sown and early cut barley. Barley has the valuable quality of enduring such frosts as kill corn and other tender plants; and on good soil two good crops may be grown and cut in a single season—the first as early as the soil will admit, and the second early in August. Being cut for soiling before the usual time for the ripening of the grain, the two periods required are reduced in length. Sown in August, it will furnish green fodder late in autumn, after the late frosts have cut the crops of corn and sorghum. A larger amount of seed should be used than for a crop of the grain. Winter rye, for spring soiling, should be sown early in autumn, and it may follow the later crops of potatoes. When the potatoes have left the ground clean and in good mellow condition, the rye may be sown without plowing and with only a free use of the Acme harrow. For ripening the grain the next season, or for a little later soiling in spring, it may be sown any time during September or October.

We briefly refer to these various crops, to remind those who might otherwise overlook the time, of the various periods when annual crops for soiling may be put in, and also such biennials as winter rye for spring use. Corn may be planted at midsummer if seed of the early or small varieties are taken; barley during the last half of summer; and rye throughout autumn. As a general rule, a larger amount of seed should be used than for the ripening of the grain.

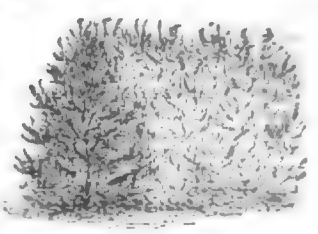
Practical farmers will make improvements or modifications of the course here suggested; our object is merely to call attention to the subject at the present time.

Lucern in New-Jersey.—The recent report of the Agricultural Experiment Station of New-Jersey, gives a detailed account of experiments made during the past two years, from which it appears that for that State lucern has the following advantages over red clover: 1. It is fit for soiling as early as the third week in May; 2. It may be cut three or four times in the season; 3. The second and later growths, if harvested at early blossoming, make excellent hay; 4. When well rooted, it resists both drouth and frost; 5. Under favorable conditions it will not "run out" for many years; 6. It yields on the College farm, at four cuttings, over eighteen tons of green fodder; 7. Analyses showed that the amount of digestible food in a ton of lucern hay, exceeded the amount in a ton of clover hay, as 20 60 exceeds 14.36.

Yet there are some formidable drawbacks, among which are: 1. The first growth is too early for good hay-making weather; 2. If older, the stems become too hard and woody for cattle to eat; 3. A good stand is often hard to secure; 4. The four cuttings during the year necessarily involve a good deal of labor; 5. The necessity for securing the crops at the right time, to prevent loss, appears to render it unsuited for common farmers, unless exclusively for pasturage.

It has been many years since its cultivation was introduced into different parts of the country, but it has not yet been generally adopted. Ten experiments, under the care of the station, were distributed among seven counties of the State. Of these, the one on the college farm was the only one successful. Portions of this crop were both drilled and broadcasted, the amount of the latter slightly exceeding the former. The drilled was cultivated three times during the season.

Pruning Screens.—When screens and hedges are in a state of rapid growth, it will do to prune or cut them back moderately at midsummer, especially if they are too tall and rampant, and the cutting back is done with a knife, shortening in irregularly the longest shoots or branches, and not shearing off to an even surface. A sheared screen has too stiff an appearance. One cut back with a natural surface has not only a natural appearance, but its continuous growth is preserved, and it has the external form represented in the accompanying engraving, instead of a stiff green wall,



which if sheared in summer checks the vigor of the trees so much as to do them permanent injury. A screen of Osage orange will bear a moderate and irregular pruning in summer better than some other feebler growers, and will spring up sooner with a second growth; and Norway spruce it less injured by cutting to a moderate extent than some other evergreens. But if the full vigor of young trees and screens is to be preserved, they must be pruned when in a dormant state, or else the protruding shoots are to be merely pinched back.

The Royal Show at Windsor.—Thus far the Royal Show cannot be pronounced anything but a most gigantic success. Favored with brilliant weather, except on the opening day, which was rather dull, threatening rain at many parts of the day, but fortunately content with threats; situate in the most magnificent place that could possibly be chosen for a show ground, namely, in Windsor Great Park, and basking in the smiles of royalty and nearly all the great land-owning dignitaries of the land, it would be a wonder if it were not a success. On the opening, 6,194 persons paid for admission 5s. ($1.25), and yesterday nearly 30,000 persons paid half that sum. With members, who are admitted free, and others, the total on the first day would be nearly 12,000, and yesterday 28,000. The area of the show is 120 acres, and there is no waste of space in this. There are some miles of shedding, so your readers may imagine when I say that there are 979 horses, 17 asses, 1,687 cattle, 1,089 sheep, 27 goats, 265 pigs, 863 poultry, 1,203 entries of produce and 7,446 implements. This is probably the largest show ever held, and the whole forms a magnificent display well worthy of the jubilee year of this society. One of the most prominent competitions has been for the various gold medals given by the queen to celebrate the jubilee and her presidency. These were divided among the horses and cattle, and the following is the list of awards of these medals and their winners:

HORSES.

Best Hunter—Capt. Fife's La Charite.
Best Coaching or Cleveland Stallion—Mr. W. Burdett-Coutts's Sultan.
Best do. Filly or Mare—Mr. Thos. Egleby's Patience.
Best Hackney Stallion—Mr. Miles's Excel.
Best Hackney Mare or Filly—Mr. Henry Moore's Frisk.

Best Pony Stallion—Mr. C. W. Wilson's Pomfret Wonder.
Best Pony Mare—Mr. C. W. Wilson's Snower.
Best Shire Stallion—Lord Wantage's Prince William.
Best Shire Mare or Filly—Mr. Freeman Mitford's Chance.
Best Clydesdale Stallion—Mr. John Gilmour's Prince of Albion.
Best Clydesdale Mare or Filly—Mr. David Riddell's Sunrise.
Best Suffolk Stallion—Mr. A. J. Smith's Wedgewood.
Best Suffolk Mare or Filly—Mr. W. Byford's Bounce.

CATTLE.

Best Short-Horn—Mr. Thompson's Belle Madeline.
Best Hereford—Lord Coventry's Rosewater.
Best Devon—Sir W. Williams' Flower 26.
Best Sussex—Mr. Waterlow's Elsa.
Best Long-Horn—Mr. W. Griffith's General.
Best Welsh—Col. Platt's Yadoo.
Best Red Polled—Mr. H. P. Green's Wild Boy.
Best Aberdeen-Angus—Lord Tweedmouth's Chah.
Best Galloway—Mr. J. Cunningham's Maggie of Tarbreoch.
Best Highland—Duke of Sutherland's Iarnghael of Sutherland.
Best Ayrshire—Mr. A. Mitchell's Nellie of Barcheskie.
Best Jersey—Mr. F. Le Breq's Castor.
Best Guernsey—Mr. W. H. Carrington's Rydale.
Best Kerry—Lord Clonmel's Paddy Blake.
Best Dexter—Aylesbury Dairy Co.'s Lady Lisbury 26.

By this mail I can only give a very brief summary of the quality of the Show, but will send more details by the next dispatch.

Short-Horns were very well represented, the total number being 293. Females are especially good. Herefords are a grand lot of 121, and I do not remember to have seen a better lot at any royal gathering. The queen wins in two-year-old bulls, and the great royal winner Maidstone is again to the fore. Devons are also exceedingly strong, and throughout they are first-rate, the yearling heifers being one of the best collections of the section. Welsh are good, but Red Polled are a little disappointing. The Scotch breeds are well represented, and the Aberdeen-Angus, of which there are 37, well to the fore. But the Channel Islands cattle are the remarkable feature of the whole. Of Jerseys alone there are 434, and of Guernseys 141. Both as to quality and numbers, these form the finest collection ever seen at a Royal Show.

In the horses, the light sections are up to the average, but Shires show a falling off. Of course Prince William wins the queen's prize, but the general quality is below par. Clydesdales are strong, and Suffolks exceptionally so for this breed. Sheep make an exceptionally good show, Shropshires being first with 212 entries. Pigs are not so good in numbers, but the Tamworths are a very fine lot. S. S.

London, Eng., June 25.

Just as we go to press we have an interesting letter from Mr. James Wood, giving an account of the Royal Show, but are reluctantly compelled to defer its publication until another week.

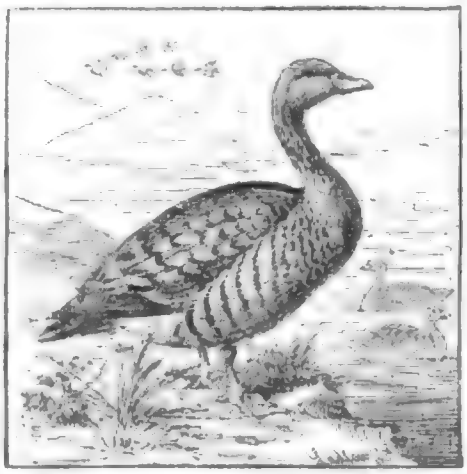
Hemp in Eastern New-York.—From a statement in the Troy Times, we observe that an effort was made this year to introduce the cultivation of hemp in the towns of Schaghticoke, Easton and Cambridge. Seed was supplied by Mr. E. A. Hartshorn (obtained, we infer, from Kentucky) to about thirty farmers, each of whom planted an acre or two for trial, making a probable aggregate of about fifty acres. The crop is said to be doing finely, and stalks are shown over eight feet in length. We quote the following extract:

The average yield is 1,000 pounds to an acre. The average market price is five cents a pound. This gives an income of $50 an acre. Flax only yields 300 pounds to the acre. The Cable flax mills at Schaghticoke and the Thompson mills at Valley Falls use 2,000,000 pounds of hemp a year, and there is a steady demand for it in New-York and eastern markets. Farmers who have heretofore devoted their ground so exclusively to potatoes, that low prices and slow markets have often made the growers suffer, are turning their eyes in other directions. And hemp offers to them an interesting and apparently profitable phase of agriculture.

The Century Dictionary.—We have received from the Century Company, New-York, the first volume of "The Century Dictionary: an Encyclopedic Lexicon of the English Language. Prepared under the Superintendence of William Dwight Whitney, Ph. D., LL. D., Professor of Comparative Philology and Sanskrit in Yale University."

At an early date we hope to notice this very elaborate and beautifully executed work more fully in accordance with its unusual deserts. Meantime the extent and character of the undertaking may be briefly stated. The volume before us is about 10 by 13 inches, and contains 1200 pages, with numerous and well executed illustrations. There are to be six volumes in all, comprising about 900,000 words—a much larger number than is usually included in vocabularies of the language—the object being to secure "a practically complete record of the main body of English speech, from the time of the mingling of the old French and Anglo-Saxon to the present day, with such of its offshoots as possess historical, etymological, literary, scientific or practical value." To this end the ablest collaboration was obtained in every department, and the amount as well as the cost of the editorial labor involved must have been something enormous.

The typography of the work is admirable, the binding unique and strong, and in these respects, as well as in contents, it is one of the most striking examples we have seen of recent progress in the enterprise and liberality of American publishers. Much would naturally be expected from the Company who issue the Century magazine and St. Nicholas, but any such expectations it is safe to say will be more than realized in the actual result.



The Wild Goose—Engraved for the Country Gentleman from Sketch made in England.
See article on page 531.

Canada Hardwood Ashes.—Mr. F. R. Lalor, Dunnville, Ont., this week renews his advertisement, and sends us reference as to his responsibility, showing that his customers may safely depend upon his representations as to the purity and character of the ashes he supplies.

Good Sales.—Please discontinue our advertisement of Buckeye Mower. We have been cleaned out of mowers for over a week and cannot fill our orders—the result we suppose of advertising in the Country Gentleman. E. P. Curtis, Sec'y.

Worcester, Mass., July 4.

Value of Feeds—Frauds Detected.—The Annual Report of the Connecticut Agricultural Experiment Station furnishes information of some very glaring frauds in the composition of cattle feeds which have been offered in market, and which the station has detected and exposed. A "concentrated food for cattle, horses, sheep, swine," &c., has been sold with some variation for several years in Connecticut, both as a feed and as a landed medicine for various named diseases of animals, with the recommendation that "nothing has been invented of late years which has proved such a blessing to all classes of domestic animals." The station has examined this wonderful "invention," and finds it to consist of a mixture of wheat and corn, with 13 per cent. of salt. It is offered at $100 a ton in three-ton lots, or $160 a ton in smaller quantities. Wheat bran would supply as much nutriment, and would cost about $20 50 a ton.

A "concentrated egg producer," made and sold in Boston, has been examined at the station, and is quite similar in composition and value to the concentrated cattle feed. Wheat bran contains, pound for pound, as much nutriment. It is offered at 50 cents a pound, or a dozen pounds for $4.00, which is equivalent to $660 a ton, and which is about one-thirtieth of its cost to the manufacturer.

Such gross attempts to defraud purchasers show the importance and value of experiment stations for their detection and exposure. On the other hand, most of the examinations made of feeds and fertilizers have given satisfactory results, and have indicated honorable dealing.

The following are briefly the results of the work of the station with some of the more common feeding stuffs:

Buckwheat middlings, costing $31 a ton, was found by "valuation" to be worth $34.93 a ton, and is pronounced one of the cheapest and richest feeds in market, and unsurpassed in favorable effect on the quantity and quality of milk yield. Apple pomace, free from straw—the "cheese" from a cider press—was found to contain as much of albuminoids, 10 per cent. more of carbohydrates, and four times as much fat as green corn fodder, and ensilaged would be a valuable winter feed. New corn was found to contain over 6 per cent. more water than old corn. The station makes new corn worth $1.45 a ton less than old corn. To this estimate we may add that we have found much variation in corn with the character of the season, new corn during long continued wet weather containing several times more water than in a prolonged drouth, not unfrequently as much as 20 per cent.; but the above is doubtless a fair average in most localities and in medium seasons.

Farm-Yard Notes and Items.

We learn from Mr. M. W. Dunham, Wayne, Ill., that the Brilliant family of Percheron horses, which is so largely represented in his Oaklawn stables, achieved a remarkable success at the great annual show recently held at La Ferte Bernard, France—twenty-nine awards out of a total of forty-eight in the stallion rings, and twenty four awards out of forty-two in the class for mares and fillies being taken by Brilliant's direct descendants. Mr. Dunham's extensive stud includes no less than one hundred sons and daughters of this famous horse, and the success of his get in their own country demonstrates the excellence of his judgment, and affords additional evidence of the great value of the stock in the breeding of which he has been so long and successfully engaged.

Messrs. Osborne & Ladd, Victor, N. Y., write us July 6th:

"Our flock of Shropshires never before looked as well as now; our lambs are splendid, many of them dropped in March are now weighing considerably more than 100 pounds each, and judging from the letters we get in response to our advertisement in your paper, the interest in the Shropshire as an improver of the mutton qualities of the common sheep of the country is increasing rapidly."

The card of Mr. Frank Eno, Pine Plains, N. Y., as a breeder of Jersey cattle, will appear regularly in our advertising columns hereafter. His herd is headed by the bull Lucy's Stoke Pogis 3d 19674, got by Lucy's Stoke Pogis 11544, dam Elsie of St. Lambert 25698.

A circular from C. R. Thomas, secretary of the American Hereford Cattle Breeders' Association, Independence, Mo., states that special prizes are offered by that body to be awarded on the Hereford cattle at several of the most prominent exhibitions of the year, as follow: At the Buffalo, N. Y., International Fair, Sept. 3-13, nine prizes of $10 each on individual animals, one of $50, three of $35, one of $30, and one of $15, on herds, as sweepstakes or otherwise. At the Illinois State Fair, Peoria, Sept. 26-27, one prize of $50, two of $35, one of $30, two of $15, and ten of $10. At the Minnesota State Fair, Hamline, Sept. 6-14, five of $30 each and one of $25. At the Iowa State Fair, Des Moines, Aug. 30-Sept. 6, one of $50, and five of $30 each, and the same at the Nebraska State Fair, Lincoln, Sept. 6-13. At the Kansas State Fair, Topeka, Sept. 16-21, five of $30 each, and one of $45. At the Fat Stock Show, Chicago, Nov. 13-21, one of $100, one of $75, seven of $50, and five of $30. If our figuring is correct, the aggregate of these proposed prizes is $1,925—an amount which speaks well for the liberality of the Hereford men.

Edr. Country Gentleman—We have a seven days' test of Lemon Fern 22140, A. J. C. C. to report. She dropped a handsome, solid colored heifer calf by Gold Coast 5321, May 29, 1889; had eaten no grain for two months previous, and one week after calving, when we commenced feeding ground oats and corn and she had good pasture night and day. Milked 223 lbs. from which was made 15 lbs. 1 oz. butter, well worked and salted ½ oz to lb. Lemon Fern is an imported daughter of Lemon Peel, 6 years old, with handsome udder and teats, and milks close up to calving—it is with much difficulty we can get her dry. She has had four strong and healthy calves since September, 1886. The ease with which this test was made, with no previous preparation, leads us to believe she is capable of a much larger test with the training which many breeders give their cows.

Port Jefferson, N. Y., July 3. G. L. & A. C. Davis.

Edr. Country Gentleman—I enclose a table showing the product for one week of both milk and butter of my Holstein-Friesian cow Lady Baker No. 1112, Holstein Herd Book, and as it is the largest record of the kind ever made by a cow of this breed, I feel sure it will prove of interest to your readers:

Statement of Milk and Butter Product of the Holstein-Friesian Cow Lady Baker 1112.

Date.	Milk. Morn.	Milk. Noon.	Milk. Night.	Milk. Total.	Unsalted Butter.
	lb. oz.	lb. oz.	lb. oz.	lb. oz.	lb. oz.
June 14.	30 8	21 10	20 8	72 10	4 9
15.	30 10	22 8	20 8	73 1	4 12
16.	30 8	22 8	20 8	73	4 10½
17.	30 8	20 12	19 10	70 10	4 11½
18.	31 8	23 12	20 8	75 12	5 11
19.	30 14	23 2	21 3	75 3	5 5
20.	30 14	20 6	21 6	72 6	5 14
			Total 7 days.	504 13	34 6

The affidavits of several persons who witnessed the test are too voluminous for you to publish, and I will simply say that the test was most carefully made, and is correct in every particular. The cow entered the test about four weeks after dropping her calf, and was in good condition, weighing 1,500 pounds. All conditions were favorable until June 20, when the cow unfortunately came in heat, which at once reduced the amount of butter obtainable over one pound in the twenty-four hours. The butter was well made, and was of good marketable quality. Thomas B. Walsh.

Iowa City, July 1.

Mr. J. B. Haggin's second annual sale of Rancho del Paso (Cal.,) yearlings took place, July 1, at Hunt's Point, N. Y., under the direction of Mr. William Easton, auctioneer, and was one of the most successful sales of thoroughbred horses ever held in this country. A Maud Hampton colt (a half brother to King Thomas, sold last year for $30,000,) brought $22,000, being purchased, it is said, for Mr. Marcus Daly's Montana stud. Ninety-six colts and fillies brought $113,800, an average of $1,185 42. The highest prices follow:

Bay colt, by St. Blaise—Maud Hampton, Scott Quintin, New-Jersey	$22,000
Brown filly, by Falsetto—Explosion, Geo. Hearst, California	10,000
Bay colt, by Ban Fox—Queen, Scott Quintin	6,000
Bay colt, by Ban Fox—Second Hand, Geo. Hearst	5,100
Brown filly, by Darebin—Lou Lanier, Dr. Carter, New-Jersey	3,700
Bay colt, by Sir Modred—Fortunina, S. Quintin	3,700
Bay filly, by Darebin—Miss Woodford, W. Waldon, Maryland	3,500
Brown colt by Darebin—Bavaria, H. I. Thornton, California	3,500
Bay filly, by Warwick—Cordelia Planet, Chas. Reed, Tennessee	3,300
Chestnut colt, by Joe Daniels—Faustina, Geo. Hearst	3,100
Bay colt, by Darebin—Flora, E. A. Buck, New-York	2,700
Chestnut colt, by Sir Modred—Tyranny, M. Jordan, Maryland	2,600
Bay filly, by Sir Modred—Lotois, Scott Quintin	1,600
Chestnut colt, by Sir Modred—Trade Dollar, W. H. Sands, New-York	1,500
Bay colt, by Ban Fox—Illusion, Scott Quintin	1,500
Bay filly, by Sir Modred—Parthenia, W. Waldon	1,500
Bay colt, by Darebin—Kiss-me-Quick, W. Waldon	1,500
Chestnut filly, by Sir Modred—Bonnie Kate, Scott Quintin	1,400
Bay filly, by Sir Modred—La Favorita, Scott Quintin	1,300
Bay filly, by Sir Modred—Wanda, Scott Quintin	1,200
Brown colt, by Darebin—Araucaria, S. Quintin	1,050
Bay filly, by Hyder Ali—Pandora, Scott Quintin	1,050
Chestnut filly, by Sir Modred—Lizzie Lucas, M. Jordan	1,000
Bay colt, by Darebin—Miletus, W. Waldon	1,000
Chestnut colt, by Joe Daniels—Miss Clay, John Hunter, New-York	1,000
Chestnut colt, by Hyder Ali—Delight, Chas. Reed	1,000
Chestnut filly, by Hyder Ali—Orestone, Geo. Hearst	1,000
Bay colt, by Prince of Norfolk, I. H. Dunham, New-York	900
Chestnut filly, by Kyrie Daly—Mora, W. Waldon	900
Bay filly, by Darebin—Bessie Perton, Scott Quintin	900
Bay colt, by Warwick—Lady Middleton, W. Gratz, Pennsylvania	900
Bay filly, by Himyar—Alice, Chas. Reed	900

The Grazier and Breeder.

Brewers' Grains for Milk.

Eds. Country Gentleman—Please give ration for winter, made up of hay (meadow), corn fodder and brewers' grains, with what other feed is necessary to balance it. I would like to feed some cottonseed meal or linseed meal. I feed for a large quantity of good milk. My cows are natives. Do you consider grains good feed for milk and for the cows? Max. *Sing Sing, N. Y.*

Max wants to feed native cows, but he neglects to tell us how much milk they produce so that we can get a definite idea of the class of cows we are giving rations for. It does not matter what the name of the cows is, but what they produce should be known in order to adapt a ration to their wants. Some native cows produce more milk and better than some thoroughbred cows. We shall have to give him a ration on guess.

2. Brewers' grains is good feed for milk if fed every day fresh, but it is a comparatively nitrogenous food, and very large quantities of it cannot properly be fed.

M. does not mention the price, but we will give an analyzed ration with 25 lbs. of brewers' grains, as follows:

	Albuminoids, lbs.	Carbohydrates, lbs.	Fat, lbs.
8 lbs. meadow hay	0.63	3.98	0.08
8 lbs. corn fodder	0.39	2.76	0.04
25 lbs. brewers' grains	1.20	2.63	0.80
4 lbs. corn meal	0.33	2.52	0.19
3 lb. cottonseed meal	0.70	0.44	0.13
Total	3.05	11.34	0.73

This has a nutritive ratio of 1 to 4.7, and with good cows will be a successful ration.

3. M. will cut the hay and corn fodder, then mix this with the 25 lbs. of brewers' grains. This may furnish water enough to moisten it. If not, a little more water will be applied. Now mix the corn meal and decorticated cottonseed meal together dry, and then mix this evenly with the cut fodder and brewers' grains. It may be divided into two feeds, given morning and evening; or, if he prefers, in three feeds, smallest at noon. This ration is well adapted to keep up the vigor and health of the cow.

The unfavorable opinion of brewers' grains originated from improper feeding. When brewers' grains was cheap, the city milkman would feed little else—in which case the cows would soon become diseased, as they would if fed too largely upon corn meal or cottonseed meal. But when brewers' grains is fed in the manner here indicated, it furnishes a healthful food. E. W. S.

Milk Production in Bermuda.

Eds. Country Gentleman—A cow 15 years old has just come in, but has very little nourishment; the front part of the udder is hard, and there appears to be no milk in it. I fed her on 12 quarts of bran per day for two months before she calved, and I noticed that she sprung milk in front part of udder about a month before calving. Is there anything I can do to bring back her milk? She has been a good milker and with the calf previous to this one she gave 16 quarts a day. I have bran, corn meal, pollard, cotton seed meal and oil meal. I do not give her hay as it is too expensive and the cows graze here all the year round. (1)

Another cow 8 months in calf about the 31st inst. (second calf) is now giving between three and four quarts daily. I am feeding her on 12 quarts of bran a day—6 in the morning and 6 in the evening. What can I do to dry her up? And after she calves, what ration of the above mentioned shall I give her? My object is a good flow of milk, and as much butter as I can get. (2)

Another cow about 12 years old, calf taken away 4th of February last, has given as much as 12 quarts per day, giving now about 8 quarts. What ration of the above shall I give for butter? (3)

A heifer calf, 6 months old 20 inst., I give 2 quarts bran, 1 pint pollard and 1 pint corn meal; am I feeding too high or not high enough? She is growing splendidly and many think by her size that she is older than 6 months. (4)

As I mentioned before, all the cows graze, and the principal grass is Bermuda crab grass. Can you inform me what manure, and how, to use it, I must apply in order to make it grow well? (5) B. *Ireland Island, Bermuda.*

1. B.'s 15-year-old cow was fed so well just before calving that the secretion of milk came in too large quantity to be left undrawn, and drying up by gradual re-absorption after the development of much heat, left the udder hard, and it is doubtful whether the normal action of the milk glands can be restored. The effort of the calf to get nourishment, and frequent working of this part of the udder with the hands, will restore it, if it can be restored. When a cow secretes milk strongly so long before coming in, she should be milked at least once a day, so as to maintain the udder in proper condition when she comes in. If this cow's udder does not respond to such treatment in a short time, she will not pay for keeping.

2. The cow mentioned as eight months in calf, is no doubt a persistent milker, and she should not be dried up while she gives the quantity mentioned. Such persistent milkers usually pay the best when the whole year is taken into consideration. Twelve quarts of good bran is rather a large ration for the last two months before calving; and yet it may not be too much for such a persistent milker, because the condition of the cow should be kept up, and plenty of nourishment given to grow the calf.

3. The 12 year old cow, which gave 12 qts. in February and gives 8 qts. now, should be fed to keep up a steady flow of milk, of a rich character. But as B. does not mention the real quality of the milk of any of the cows for butter, it is somewhat difficult to give a ration which shall be quite adapted to the case. But as the cows graze the year round on Bermuda grass, which is a rich nitrogenous food, what is fed besides may be composed of a good proportion of carbonaceous food.

It appears the they is not fed, and this is not necessary except to give bulk to the concentrated food. Hay is mentioned as scarce, but there must be straw and corn fodder. It will be found a great improvement to feed the ground part of the ration mixed with a little cut straw or corn fodder.

B. may feed the following ration to all the cows in milk as an addition to the pasture: 8 lbs. cut straw or corn fodder, 4 lbs. wheat bran, 3 lbs. corn meal, 2 lbs. pollards, 1 lb. oil meal. This is a day's ration, to be fed half at morning and half at evening.

Let the bran, corn meal, pollard and oil meal be all mixed together dry, and then mix this with the 3 lbs. of wet cut straw. Mix all thoroughly together. This should produce milk of good quality for butter if the cows are good. This will be a sufficient ration to feed winter and summer in that climate to ordinary sized cows. When a cow is dried up, about six pounds of bran mixed with the cut straw will be a sufficient daily ration.

4. The feeding of the heifer calf is all right; the large proportion of bran will give good growth of bone and frame.

5. Good stable manure applied at the beginning of the wet season, will be as good as anything for the Bermuda crab grass, and in addition to this, 200-weight of phosphate fertilizer applied every third year would be a great help and would give a fresh growth to this grass. E. W. S.

Breeds of Swine.

Berkshires—Yorkshires—Jersey Reds.

Eds. Country Gentleman — Mr. W. H. Bonner, p. 480, is mistaken. What he supposes were white Berkshires, were in reality large white *Yorkshires*. They got the name of Berkshire from a few having been bred in that shire. Windsor Castle, the seat of the kings of England, with its magnificent domain of parks and farms, is in Berkshire. George the Third was very fond of agriculture and live-stock breeding, which an admirer of his in Yorkshire well knew, and sent him some of the large white breed of Yorkshire swine, to help stock one of the farms at Windsor, the cultivation of which the king was personally superintending. He bred these swine with moderate success, and their progeny spread to some extent among the farmers around Windsor Castle.

The only importation into the United States that I have known from the above white Berkshires, was made about the year 1838, by a Mr. Williams, an English gentleman, who settled on a farm in the town of Flushing, L. I., N. Y. I believe he sold some of the progeny of these to farmers in different parts of the country, but as they did not prove near equal in merit to what is generally called the improved or black Berkshires, their breeding was not continued; and thus, I believe, they soon run out, as I have heard nothing about them for forty years past.

In October, 1841, I brought over from England, together with some of the Black or Improved Berkshire stock, a pair of large Yorkshire swine, which I procured direct from Yorkshire. On examining the swine there, I found that although all were of a large size, some few had been choicely bred, and were fine in all their points, with a pink skin, and soft, thin hair. Of course my choice was of this style of breeding. On getting home to Buffalo I did not care to keep them, and sold them to a farmer in Butler county, Ohio; but I think he had no success with the pair, and that ends the matter, so far as I know.

Mr. Bonner speaks properly of the merits of the true Berkshire, and deserves high credit, as his excellent father did before him in breeding and disseminating them over the Southern States. It has proved to be the best general breed, and the most profitable for fifty years past, of any other reared among us.

The swine known in the United States as Jersey Reds (also called Duroc), of which Mr. Bonner speaks, unquestionably came from what is now called in England the Tamworth breed, and that, I think, must have descended from the old original Berkshire, as English writers now describe it precisely like that. They are refining these Tamworth swine now, and I have seen a portrait of one in a late English paper that closely resembled, in good points, the Improved or Black Berkshire. A. B. Allen.

Profit in Progress.

A good cow-stable is as desirable for the revenue it brings, as for the comfort it affords both man and beast.

The financial profit would return in several ways. Indirectly a good stable tones up the business connected with it, in all departments. Here lies an indefinable profit.

More visible results will be found in the milk pail. Many experiments conclusively prove that cattle well sheltered, and made entirely comfortable will not only give more milk but richer milk than when their comfort is neglected. Here will be found another source of profit.

An equally large profit will come from the improvement in the manure in quality and quantity, provided its soluble elements are not leached out by the rains, when thrown out of the stable. This is assuming that in a good stable absorbents are used to save the liquid manure, and increase the total amount.

When we remember that one-half of the fertiliser in the stable is in liquid form, we see how expensive is the stable that saves only the solid manure. Only rich farmers can afford to own an old wind-penetrating and manure-leaching stable. Poor men must have good stables. Col. John B. Mead of Vermont publicly stated, after applying the urine in his stables to the land for five years, that the crops of his farm were doubled.

The liquid manure is needful to supplement the solid manure with elements in which it is deficient. Six-tenths of all the nitrogen and nearly nine-tenths of all the potash is in the liquid manure, as the following table shows:

	Nitrogen.	*Phosphoric Acid.*	*Potash.*
Solid	0.29	0.17	0.10
Liquid	0.26	0.03	0.40

This matter of saving fertilisers is one of vital importance, to eastern farmers especially. The recent experiments of Prof. W. A. Henry, Director of the Wisconsin Agricultural Experiment Station, were conducted with great exactness, and very decisive in determining the value of the fertiliser made by grain-fed milch cows. He found the daily value more than 7c. per cow. This would amount to $25 yearly. Probably five-eighths—i. e., $16 worth—of this amount is found in the stable where cows are in every night and during most of the winter days, and the other three-eighths are left in the field and yard.

Now, if an improved stable, using absorbents, saves one-half (the liquid) of this stable manure, we have $8 per cow saved yearly by the improvements made.

A good cow will make 200 pounds of butter yearly, worth $50 at 25c. per lb. So by absorbents, nearly one-sixth is annually added to the product of each cow. In a herd of fifteen or twenty cows, the aggregate becomes a considerable sum.

The writer built a stable such as is here referred to, last summer. It also has a tight floor over head for storing absorbents. The cost above the foundation was $15 per cow. The interest on this sum at six per cent. makes the cost per cow less than $1 yearly. This sum is saved several times over in the fertiliser gained, besides the better product in milk and butter. It is under all the circumstances the best investment made on the farm. It also adds pleasure and comfort. A lady may visit the stables without offending her eye or soiling her clothes, or taking ill odors away on her shoes.

The hired help are delighted with the change, and well they may be, for who can restrain their pity for the men, especially when, belated by showers or other causes, they explore dark and repulsive stables, or wade in soft barnyards to "do the milking."

Let poor men have good stables, for in them are the foundations of fertility and prosperity. *Ocean County, N. J.* C. B. Little.

Hired Hands Feeding Live Stock.

Eds. Country Gentleman—After deliberating over the question for about a week, I concluded, with much hesitancy, to give my hired hand notice that he could leave me or leave whiskey. He was not a drunkard, but a sort of "spasmodic drinker," and one drink usually knocked him out of time. His endeavor to appear all right on such occasions was a very striking illustration as to which should dominate, mind or matter. The man was attentive, industrious and respectful—so much so that I got in the way of leaving all the chores for him to do, as well as the care and feeding of my poultry, pigs, dogs, &c., giving the whole work only a sort of general attention and looking-after myself. Before giving him his notice, I thought the matter over a great deal, and dreaded to think of all the little chores and details that would fall to me to do in his absence—of the cold mornings, with the thermometer at zero, when I should have to pull out from a warm bed and build all the fires, and do a lot of chores before breakfast. This getting around in the morning troubled my thoughts more than anything, as cold weather and I never were on friendly terms, though we have associated for years. I am the off one; the weather is all right, overlooks my hasty and disagreeable remarks about it, and seems to cling closer to me every season, enveloping my whole body in its frigid embrace by its frantic efforts to have me feel its presence and realize that it loves me still.

But about this hired man and my duty. Well, notwithstanding my aversion to chores, I concluded that the morals and general character of my farm must be maintained, even at the sacrifice of comforts; so while the spirit of indignation was in me, I mustered up courage to ask the fellow in "to take something." Asked him what he'd have—whiskey, rum, a good home, wages, comforts, respect, gin and water, a permanent occupation with a little bitter in it? He was rather surprised at the variety offered, but as he never looked beyond present wants concluded to take the liquids instead of the solids, packed his duds and departed. There was nothing left for me to do but accept the situation, buckle on my armour and overalls and go at it, trusting to a kind wife's cooperation in the morning on the fire question.

Well, having every detail to attend to and everything coming under my direct observation, I found things somewhat mixed and out of plumb, which took me all my spare time the first two days to straighten up. I had given careful directions how I wanted everything fed and cared for, and in my general observation from day to day supposed it was being done properly, but at the same time I constantly remarked that the young pigs were not growing as they should; that some of the old cows had gone by and missed a breeding service when I wished; that my St. Bernard dogs did not look as flourishing as they usually do; that my capons were not taking on the growth I expected of them; and more than all that my hens had developed a wonderful antipathy to laying eggs, and I was hardly satisfied with a dozen eggs a day from six hundred fowls. There seemed to be a lack of energy somewhere, which, no doubt, if properly traced, would make a close connection with myself.

After a few days' caring for the animals, I discovered that there was one single cause for all this trouble, and that was lack of good plain North American *judgment* in feeding and caring for live stock. When one is breeding a variety of animals and fowl, and is using a dozen or more kinds of feed, he cannot instruct any one how to care for them, and especially how to feed them from day to day. This is a matter of judgment entirely. There are certain things that must be done every day and become a matter of routine. Among the most important are cleanliness, neatness and order. But there are a thousand and one

things that may be required one day and not the next, and this is especially applicable to feeding. A systematic change of food is not only desirable but essential to the health and welfare of your animals. Any one can make this change, but *when* to do it is the important element, and this is just the door where judgment enters.

Then again, *how much to feed*, is a matter that requires reflection. In all cases there must be taken into consideration the animal you are feeding, the condition of that animal, whether it is with young or not, how its last food agreed with it, whether it is a young, growing animal, or one that has matured its growth.

The condition of the weather is an important factor—whether it is extremely cold, moderate or warm, whether it is summer or winter, whether the animal has a young family or not dependent upon it for food, and whether you are trying to make an animal fat or only wish to keep it in good order. All these require the keenest judgment, which all breeders of fine stock should possess, and which is found in but very few hired hands.

I tried the experiment of giving my man an interest in the business (I will not say profits), by promising him a percentage of all the chickens produced, but it did not work. He had not the *judgment* required to raise them successfully. Hired hands we must have, but let them do such work as they may be relied on to do properly, or which, if they do not perform just as you would, will do no harm; but feed and care for your animals and poultry yourself, if you would have them prosper and flourish.

GEORGE Q. DOW.

North Epping, N. H.

The Poultry-Yard.

The Wild Goose.

In Europe the wild goose is a bird of passage only, and its appearance is the herald of colder weather. Toward the latter part of the year, these birds may be seen flying from north to south, coming from the colder places where they have been spending the summer, and their early appearance is taken as a sign that the winter is set in in the northern districts. Old Moubray says that during the autumnal flight of these birds, the order they observe is peculiar; if the flock comprises any considerable number of birds, they range themselves into two lines, each projecting a little in front, and laterally of the other, forming an angle of wedge-like shape, which they preserve with great regularity. If, however, the number is small, then there is only one single line, called a string, the order of which is maintained with equal regularity.

The name wild goose is given to several birds, all of course members of this genus, but each having distinct characteristics. In the most recent work on this fowl, that called "Ornamental Waterfowl," by "Hen wife," the names of fourteen are given, of which nine have been taken alive. The description there given of the general characteristics of the species is quoted from the works of Prof. Macgillivray, who says that the body of the goose is nearly equal in width and height, the neck slender, legs longer than those of the swan, the head small and arched, the feathers of the neck disposed in ridges. The bill is stout and short, much higher at the base than at the tip. The upper mandible has a series of ridges or plates at the edge; the throat is long and narrow; the stomach is furnished with an extremely powerful gizzard; the windpipe is uniform, without the enlargement observable in the swans; the eyes and ears are small; the legs are placed forward; the feet have four toes, the first small and free, a full web connecting the remainder; the claws are short and blunt. They are gregarious, fly rapidly and strongly, walk slowly and awkwardly, swim rapidly, but do not dive. Their food is entirely vegetable, consisting principally of grass. The nests are placed on the ground, generally near the water. The eggs of the Anseres are usually of a dull white color, from 13 to 16 in number, incubation lasting from four to five weeks.

According to the well known naturalist Yarrell, the grey lag goose is the progenitor of the ordinary goose of our farm yards, and it is certain that they bear the nearest resemblance to him of any other of the species. The term grey lag is supposed to be derived from the Italian *lago*, or the English word *lake*, as denoting their favorite haunts. Sometimes it is called the grey-legged goose, but this name is an evident corruption. Formerly the grey-lag goose was commonly seen in the marshes and swamps of the eastern and fen countries of England, and also in Ireland. In the former, at any rate, the progress of drainage and cultivation has so absorbed their usual resting places that now they are rare visitants. They are however, more common in Germany and Central Europe, and likewise in Northern Asia. In form the grey-lag goose is rather more elongated than the common domestic goose, and rather exceeds it in size; the general plumage is of a dark, ashy grey shade; the feathers on the head, neck and back being of a greyish brown, marginated generally with lighter grey edges; those of the wings and coverts are shaded with light and dark leaden grey; tail, tail coverts, and rump, very light grey or white; belly, and under and hinder parts white; bills, legs, and feet of a dull pinky flesh color.

The following are the names of the various members of the genus *Anser*, apart from the domesticated varieties: Grey Lag or Wild (*Anser cinereus*); Pink footed or Short-billed (*Anser brachyrhynchus*); Bean (*Anser segetum*); White-fronted or Laughing (*Anser albifrons*); Lesser, White-fronted or Little (*Anser erythropus*); Bar-headed (*Anser indicus*); Chinese (*Anser cygnoides*); Snow (*Anser hyperboreus*); Blue Snow (*Anser caerulescens*); Middendorf's (*Anser middendorfi*); Gambel's (*Anser gambeli*); Cassin's Snow (*Anser albatus*); Ross's (*Anser rossi*); Emperor's (*Anser canagicus*).

STEPHEN BEALE.

See engraving on page 529.

Care of Half-Grown Chicks.

Just after the chicks are weaned they need more attention than while following their mother. They are too timid to go off alone during the day in search of food, and at night when deprived of the protection of the mother hen they are much more liable to fall a prey to all kinds of depredators. Then too, as they are sensible that night is approaching they feel so keenly the loss of their mother that the chicks belonging to several little flocks are apt to huddle together into one coop and crowd each other so closely that they almost perish for fresh air. Again it often happens that an unusually motherly old hen will continue to adopt one brood after another as their own mothers throw them off, until at night her wide spread wings will not near cover them, and her coop is full to bursting. At closing-up time each coop should be examined, and if several of them are found empty you may know that the others are too full, and that the sleepy little flocks should be separated else they will surely become unhealthy.

Another thing that country people, in the South especially, are very careless about, is in not compelling the chicks after they are too large for the coops to roost in a safe place at night. They are permitted to perch on low bushes and rail fences where they become an easy prey to prowling darkies who watch the poultry-yards very closely, and often just before the owner decides that a certain brood of chickens is large enough to eat, it suddenly disappears. I have had them to carry off both the hen and her brood at the same time—suppose they thought the chicks too young to get on without her.

When about this size the chicks are also much coveted by foxes, minks and weasels. I remember one night, several years ago, we heard an old hen squawk, and on going down found three or four half-grown chicks in the coop freshly killed, with the warm blood still trickling from their cut throats. We removed the live ones from the coop, and put some strychnine on one of the dead ones and next morning the body of a full grown mink was found a few yards from the coop. It had probably been frightened away by the noise of our approach, and afterward had returned to finish his work. Minks do not carry away what they kill; they suck its blood while warm, eat its brains, and leave the rest. I have known one to kill as many as fifteen in one night, and in the morning the bodies of the chickens when opened would appear perfectly bloodless. They, like the negroes, do not care for chickens until they are broiling size, and just before this time we are careful to make the chicks go up every night into a house that has a tight floor and a secure lock. The mink is their worst enemy, though occasionally the foxes, coons and other small wild animals make a raid upon them.

The only other enemy of half-grown chickens that I dread, though in a different way, is the gapes. The best preventive is a few drops of turpentine mixed with their food once a day, and caring for them in such a manner as to keep them so healthy and strong that should they take the disease they will have vitality enough to overcome it. Forcing the affected ones to inhale the fumes of carbolic acid does some good when begun in time. We have a little patent arrangement for the purpose, a small wooden box with a hole in the bottom. A cloth is spread over the top, and a few drops of the acid held over the flame of a candle is placed beneath the aperture in such a manner that the fumes will second into the box where the little invalids are placed. The gas thus thrown off is very suffocating, and after a few minutes the chicks are allowed to have some fresh air, then another inhalation. After the treatment the chicks should be fed with bits of bread plentifully seasoned with lard and pepper, or bits of fat meat, as they eat very little of their own accord when affected with gapes, and die from weakness as well as from the disease. But when I find the chick is going to die anyhow, I always make somebody take it off to the woodpile and kill it lest the others become affected, and since adopting this plan gapes have almost disappeared.

Just after chicks are weaned they should be allowed more liberal rations than for some time previous, and as they have then no protector their food should be placed in feeding coops out of reach of the other fowls. Their food should never be thrown on the ground, but be placed on shallow pans or bits of board which may be easily scraped clean. Three meals a day is sufficient, for they will thrive better if compelled to go off between whiles and scratch. I find that I get better results from feeding chicks until one month old upon cooked food entirely. Once only, I gave some little ones raw dough made of corn meal—came home one evening and found no bread in the house. But next morning I was sorry I had not let them go supperless to bed, for half of them were dead in their coops and the rest were creeping around crying, with their poor little crops distended almost to bursting, full of hard sour dough in a state of fermentation. Seeing that they were all going to die any way, we cut open the crops of several of them and after extracting the dough sewed up the aperture, but they too went the way of the rest.

After one month old, however, the chicks may be taught to eat dry grains by degrees, though it should always be given them in moderate quantities, with some soft food at each meal. Cracked wheat is excellent, but they should never have enough of it to pack their crops tight, as it is liable, like the dough, to swell, ferment, and if not fatal at once, to bring on diseases akin to cholera. Crushed Indian corn is also good for both growing and adult fowls; this may be given either raw or boiled. When cooked, its bulk is greatly increased, and it is probably rendered more nutritious. Other small grains are no doubt quite as good, but I have never had the opportunity of trying them. Last year my father raised sorghum for the dairy cows, and gave me the seed for the chickens. They were remarkably fond of it, and it seemed to be very healthful for them.

Right here I wish to say something more in praise of milk, both as a food and a drink for fowls. Many persons declare it is unwholesome, and no matter how much milk they get, their fowls never have a single drop, but if they could see the quantity that mine consume I am sure they would change their minds. There are not more than 300 fowls on the place, little and big, yet they manage to drink 12 gallons a day, besides much of their soft food being mixed up with milk, or cooked with it. Still the flock has never known cholera, or in fact any other disease for years. Perhaps, though, the reason why the milk is so wholesome for them is that it comes from thoroughbred Holsteins.

A FARMER'S DAUGHTER.

Keep them Growing!—Fowls can be fattened readily and without much trouble, provided a little care is taken on the start. Our advice would be to always have them in good condition, from the fledgeling until they become fit for the table; this can be done with more profit to the breeder than to leave them to shift for themselves until wanted for the table or for market.—*Poultry Monthly.*

The Dairy Department.

A Jersey Milk Route.

EDS. COUNTRY GENTLEMAN—However adverse circumstances may appear at the outset of the enterprise, yet I think it may be safely assumed that it will in every case prove a paying business to introduce Jersey milk for private consumption in towns of say 5,000 population and upwards. Successful experiments are too numerous to admit of doubt on the subject. Even in villages of limited demand Jersey milk, as soon as its value is appreciated, will supplant ordinary milk. Many, in starting the business, have been content with the regular market price of ordinary milk, but in cities of any size there is no occasion to sell Jersey milk so much below its intrinsic value. It will readily bring two cents a quart above ordinary market rates, and at this difference in price it is the cheapest for family use.

Last fall I determined to start a route for the delivery of Jersey milk in Trenton at 10 cents a quart. We had many difficulties to contend with. The majority of the wealthy families of our city keep cows, and highly graded Jerseys at that, some registered; many residents have been supplied for years by the same farmer, and they were loth to change; besides, Trenton is furnished a very good quality of milk. The supply is mainly derived directly from the surrounding farms and delivered by the farmers. With corn at 50 cents a bushel, farmers find they can afford to feed well, and owing to the competition in the business and the vigilance of our sanitary inspector, they are obliged to furnish good milk. Our inspector frequently takes samples of the milk, without previous notice, and he very rarely discovers any milk not up to the legal standard of 12 per cent. solids. With the low prices ruling for grain, many farmers are engaged in making milk, and the competition is very sharp.

The business is usually started by buying a route. Routes average above 100 quarts a day each. We started without buying a route, but advertised our milk at 10 cents a quart, claiming it to be as rich again as ordinary milk. For the first two months our progress was very slow; my farm manager was discouraged, and was constantly insisting that I buy a route or put the price down to the regular market rate—8 cts. I declined to do either, but said he must get the delivery up to 30 quarts a day, then he would see it grow and soon reach a demand that we could not supply. We soon reached the 30 quarts a day, and its sequence was what I anticipated. Our business is now a complete success, and we could soon double it if we would consent to expand our route. In the retail milk business it is important to confine deliveries to as small a territory as possible. The wear and tear on horse and wagon is heavy, and you would be surprised if you figured it up how many miles one traveled in the four or five hours occupied in covering our deliveries. We notice farmers passing our farm returning home at 1 P. M., who have been in the city since 6 A. M. delivering 100 quarts of milk each, the close competition requiring them to traverse any and every part of the city to make sales, and they sell in quantities as small as half a pint. We deliver in glass quart bottles.

We have two or three stock arguments, or rather questions, that we use with buyers. We ask that the milk be set for cream alongside of ordinary milk, and we guarantee our milk will show double the quantity of cream. Let our milk set for twelve hours, pour off the cream and use it, and the milk will still contain sufficient cream to made it as rich as ordinary milk. In a word, we claim that our milk, as we deliver it, is as rich again as ordinary milk, hence is much the cheapest milk in the market for domestic use, even at the increased price—that is, we give more real value for the money than any milkman in the city. Among our most appreciative customers are those of moderate or very small means. We have many families, whose heads work in the factories, that take but a quart a day each, and they find it profitable to use our milk. A boarding-house keeper recently said it was the most economical milk she ever used; she uses it as a substitute for cream and butter in cooking. It has proved excellent even for infants with weak stomachs, as cream may be retained by delicate stomachs that reject ordinary milk. With robust children that take a great deal of

milk it is sometimes necessary to remove part of the cream, it is so rich in butter fats.

My experience confirms that of all of whom I have heard or read who have engaged in retailing Jersey milk. I think it is pretty generally admitted that the Jersey is the most profitable cow for the production of butter. I also insist that the American-bred Jersey is a most excellent milker. There is no trouble in establishing a herd that will average over 3,000 quarts a year; the characteristic habit of persistent milking makes even the smaller-milking Jerseys show good yearly records. If regard is had to the amount of food consumed, and that involves the question of actual profit, I doubt that any breed surpasses the Jerseys for production of milk, to say nothing of its quality. G. W. Fables. *Trenton, N. J.*

Oswego Falls Butter Conference.

Eds. Country Gentleman—The average farmer is slow to put into practice the progressive ideas he reads about in the press. He likes rather to hear the living witness utter these same truths and give the reasons for the faith that is in him. It is a happy combination of evidence when the living witness stands up before the people and gives his experience, in accord with the teachings of the agricultural paper, which may have spread the same facts before its readers, who happen to constitute the audience of the speaker. It is one of the most gratifying features of the butter conferences to have men and women say, as they frequently do, "We read about these things in our paper, and have thought a great deal about them, but did not get up to the point to put them in practice. We understand them better now, and are more convinced than ever." You see then, Messrs. Editors, there is room for all—an important place for what should be the farmer's agricultural Bible, his agricultural paper, and also a sphere of usefulness for the dairy missionary.

Another impression is forced upon the observing mind—that while the fields are white for the harvest, the laborers are few. I was delighted a few days since to meet at a railroad station Hon. Warner Miller, the old friend of the dairymen, and to hear him express himself so wisely and earnestly in favor of dairy schools. He said: "We must have them in New-York; at least four in convenient localities and in dairy districts. These schools should be maintained by the State and be free to every boy and girl to attend, for a longer or shorter period, where they could learn the *art* of butter and cheese-making. They could stay and get this instruction for six weeks, six month, or longer, as they could afford." Senator Miller is ready to go to the front any time to help establish this most desirable movement. Will the Country Gentleman make a note of the fact that the *dairy school* is the coming dairy idea? The bill for these schools last winter passed the assembly without a dissenting vote, and only for want of time it would have passed the senate. The friends of progressive dairying must be in the fore-front next winter, and meanwhile let the great body of consumers, who may be eating poor butter and cheese, get into the "amen corner" of this salutary reform.

The work of the dairy conference is most important as a present and intermediate aid. Its usefulness is not confined to those only who are fortunate enough to be present, but there is an immense radiation from these meetings. Whole towns are represented by some earnest and active dairymen, and they go home freighted with facts and wide-awake with the evidences brought before their eyes. The conferences held in Oswego and Jefferson counties were with a people quickened into an intense appreciation of the benefits of more food for their cows in summer and more succulent food in winter. This quickening was caused in greater part by the severe drouth of last year, which cut their dairies down to a disheartening basis. The conferences were conducted by W. H. Gilbert of Richland, N. Y., and E. S. Munson of Franklin, N. Y. Secretary Shull was present part of the time, as the devoted leader to exhort to a higher plane and to confirm the people in all good works. I shall report them all for your readers, and include those to take place later in the season, as they afford a practical basis from which the shaky dairyman can select the corner stones for a substantial foundation.

The conference of June 4 was held upon the Oswego Falls agricultural fair grounds. The president and officers of this society took a lively interest in this, the first butter conference held in that locality. The weather was bad, but much interest was manifested. No presiding officer was elected, and none seemed needed, as the idea was butter.

Cream for the first churning was from the high grades and thoroughbreds of C. C. Wilcox of Oswego Falls. Feed nothing but grass; milking done at regular hours, twelve hours intervening; milk set for creaming in deep cans, using ice and reducing to 43° to 45°, and skimming after twelve hours' setting; cream ripened at or a little below churning temperature, and churning usually done at 62°. The cream seemed in fine condition; it was from 315 lbs. of milk. Mr. Gilbert churned, using a churn revolving endwise. The quantity of cream was too large for the size of the churn, as the churn was found to be nearly two-thirds full. Cream 62°. After warming the cream by stirring warm water into it, the churning was done in 30 minutes by about 60 revolutions per minute. The churn was stopped when the butter was gathered to the size of wheat kernels. A quantity of salt was then thrown into the churn before the buttermilk was drawn.

Question—"Why do you put salt into the churn?

Answer by Mr. Gilbert—"I generally use brine for my first washing. I put in a pail of brine after one-third of the buttermilk has been drawn off. It makes a more complete separation of the butter from the buttermilk. I put salt into the churn to-day instead of using brine, but do not prefer it to brine."

Mr. Gilbert continued to wash the butter in the churn with cold water turned upon it, and stirred it with a ladle until the water ran from the churn nearly clear.

Question—"Has this butter been colored?"

Answer by Mr. Wilcox—"There has been no coloring used and no grain fed." In reply to further questions Mr. Wilcox said he "usually salted butter 1 oz to the pound, but many farmers salted more for their own taste."

Mr. Gilbert—"Analysis shows that only about ¼ oz. of salt to the pound will be taken up by butter. I use a hair seive for taking butter from the churn, and also for straining buttermilk, as butter will not stick to it as it will to tin. I stop churning as soon as all the butter has come. These butter granules are somewhat smaller than wheat kernels."

The butter was then taken out on a Cunningham butter-worker and salted by stirring salt into it with a butter shovel. Salting was done by the old guess rule as no scales were at hand.

In answer to numerous questions Mr. Gilbert said: "I pack immediately from the churn after salting and working. I work until the butter breaks to show grain like iron. If butter is to be held for later markets it should be worked more and to show a finer grain like steel. I prefer to pack at first working; for if kept later for second working there is more danger of injury to the grain. I use saltpetre sometimes in making brine for keeping butter."

The 315 lbs. of milk produced 21¼ lbs. of butter, taking 14 65-100 lbs. of milk for 1 lb. of butter.

At the afternoon meeting H. H. Merriam was elected chairman. Secretary Shull made some brief remarks relating to the objects and aims of the society, and public benefits expected to accrue from butter conferences, followed by E. S. Munson on same line. The cream for the second churning had in the meantime been put into the churn, and was being churned under the charge of Mr. Munson: The cream was from the dairy of Mr. O. J. Jennings. As the weight of milk producing the cream was not given, no special tests could be made, and less interest was taken in the results. The butter was washed in the churn and salted upon the worker the same as in the forenoon. In reply to questions, Mr. Munson said: "I prefer to let butter stand a few hours after salting, and before packing, if it is intended for long keeping. It may not be necessary to keep for a second working if all the work is done exactly right, but it seems safer, as a general rule, to practice a second working, if butter is to be held for a later market. In the matter of second working of butter, I take slight issue with my friend Gilbert, who packs immediately after salting."

Mr Gilbert was called out on the question of winter dairying. He said: "Feed ensilage and grain for winter milk. Cows must have warmer stables and better feed. They must have succulent food in order to get all the cream. Ensilage is one third cheaper for keeping stock than hay."

Secretary Shull called Mr. Wilcox out to explain the unusual yield of butter from his dairy's milk—the forenoon's churning. Mr. Wilcox said: "My cows are Jerseys and grades. Have fed at some seasons of the year 3 pints oil meal per cow per day, and also 12 quarts of equal parts corn meal and shorts mixed, per day, and fed at same time with the oil meal. Cows well cared for and carded, and bedded with straw; salt in the stables; feed three rations per day; drive one hundred rods to water in winter. Don't believe in feeding grain before ensilage. When I feed ensilage the cows will strive for it."

H. H. Merriam—"I would prefer 4 pounds feed with ensilage than 5 pounds fed clear. Have never fed grain with such good results as last winter."

Question by Mr. Gilbert—"Did you ever feed ensilage until last winter?" Answer—"No." Shull—"I think it has been proved that grain fed with hay or ensilage gives best results." Gilbert—"If grain is fed dry it must be mixed with saliva, which renders it the more easily digested. I am not so much an advocate of cut ensilage as some."

Mr. Pease of Oswego—"Will not dry meal become packed and pass to the 4th stomach?" Gilbert—"It would do the same if mixed with cut ensilage." In answer to further questions Mr. Gilbert continued: "I put corn into a silo 13 to 14 feet long. Did not cut ensilage last year and will not this. Can put it in with little more work, and get sweeter ensilage uncut. The corn should be ripe enough to cut for harvest. Pride of the North is a good corn for ensilage. Sow 10 quarts per acre. Plant generally 3 feet apart and cultivate it. Tread down in the silo. Lay it lengthwise and pack tightly. Put in the ensilage as fast as convenient. I was a month in filling mine last year. Cover with straw or mulch a foot thick. Weight with plank and some stones. The top of silo is the sweetest. Put it in dry, but don't care to wilt it."

The ensilage question was much further and generally discussed, and the conclusions were that there was a great deal of hope and profit to come out of the silo, and the number would be rapidly increased. F. H. Curtis.

The Veterinarian.

Answers to Correspondents.

By Dr. Edward Moore, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

Injured Teat.—Heifer with first calf, ten days old, has point of teat injured, and it has healed over so that no milk can be drawn from it. Is not feverish or swelled. A. P. S. *Industry, Pa.* [The teat should be operated upon so as to open the milk duct. Use an instrument for opening obstructed teats.]

Grease Heel.—Please advise for running sores on horse's heels, called grease. A. C. S. *St. John, N. B.* [Give the horse a dose of physic; then feed an ounce of Fowler's solution twice a day. Clip hair from legs, wash clean, then apply some of the following: Mercurial ointment, 2 oz.; fish oil, 2 oz; whale oil, 1 qt.; sufficient quantity of sulphur to make a thick fluid; mix. Each day rub off the legs with a dry cloth, and apply some of the medicine.]

Swollen Yard.—A young bull has end of yard very much swollen, and in consequences will not serve a cow. Has had no opportunity of injuring it of which I know, as he is kept close, and has done only a small amount of service. H. P. C. *Waterbourn, Pa.* [Give him a pound of epsom salts dissolved, as a drench. Apply some of the following lotion twice a day: Powdered acetate of lead, 8 oz.; sulphate of zinc, 6 dr.; tincture of opium, 4 oz; water, 8 qts.; mix. Feed a tablespoonful of the following powder twice a day: Bicarbonate of soda, 8 oz.]

Rupture of Vagina.—A mare has the division between fundament and vagina ruptured inside, about 1¼ inches from entrance of vagina. She gave birth to a large colt on April 25, and was split by the teeth of the colt. She was 6 years old 1st of May last, and is a valuable animal. She drops her dung through the vagina, but it does not appear to injure her. The fear I have is that in breeding her the penis of the horse might enter the rupture and kill her. Could a surgeon sew it up, or would you advise me to let her alone? W. H. B. *Calhoun, Ga.* [I do not think an operation, or any sort of sutures, will prove successful.]

Barbed Wire Wounds.—Two of our colts have received severe injuries on barbed wire. One has his off fore foot cut through inside quarter down to point of frog. The other has left hind leg cut just above pastern joint downward to joint on front side; cord is severed. Can these wounds be healed so as not to leave much of a scar? O. W. J. *Iowa Falls, Ia.* [Wash sores with soap and cold water mornings; after drying apply some of the following lotion: Spirits turpentine, 8 oz; linseed oil, 8 oz.; compound tincture aloes, 4 oz; mix. If sores are well attended to they will get along nicely.]

Hock Puff.—A carriage horse, over 16 hands high, sound, and free till now from blemishes of every description, two months ago threw out a small puff or soft lump on outside of hind leg, below the bend in front of the hock, and facing you as placed right opposite to leg on side. Is not sore to the touch, but has made him a trifle lame at times. Horse has done no pulling or heavy work. R. *Whitestone, L. I.* [I am of the opinion that this will never injure the animal practically, although it does not add to his value. If treatment should be decided upon, blister it, but I do not feel that it is necessary.]

Going Sideways.—A 15 year old mare has had two colts and is in fine condition. Two years ago, when out driving, she began to go sideways, and continued to do so, more or less, for remainder of season. The next spring she had the second colt, and was pastured with it all summer. Being away last winter, she was not out of the stable. This summer she goes sideways almost continually. C. L. B. *Bridgeport, Conn.* [You do not explain what you mean by "going sideways." If she pulls on one rein, it may be from bad condition of teeth or from some brain affection. But the writer's guess is of no value.]

Failure to Breed.—A fine brood mare, 18 years old, has raised six splendid colts, but the last three years has ceased to breed. She comes in heat regularly, and has been served several times each season by good stallions, but does not catch. A local veterinary pronounced her all right for breeding, as far as he could discover. She is kept for breeding only, runs out to pasture during entire season, and is and has been in excellent health, condition and vigor. R. *Sandy Hill, N. Y.* [Mares often breed beyond this age; hundreds die before they reach it. If Moore Bros.' injectio vaginæ will not restore her breeding functions, you may give up trying to breed her.]

Discharge from Nose.—Every time my driving mare is driven her nose discharges a thin fluid which becomes white when dry. She has no cough, eats well and feels well. At times she jerks her nose in to her breast, as a horse does that is stung by a fly. Have only noticed this the past two weeks. She has had the discharge for a year or more. Never any discharge when in the stable. B. *Grand Forks, Dak.* [Some horses have a white or frothy discharge from nose when driven or ridden, and which does not seem to be due to disease. You may inject some of the following lotion up nostrils daily: kreosote, 2 dr; glycerine, 4 oz; mix; then add soft water, 2 oz.]

Grubs in Tail.—For a year my mare has had the habit of rubbing her tail against her stall, wearing the hair off in one spot, about five inches from root. Some eight weeks ago she was feverish, did not eat well, and grew very thin. At the end of a week, a small white grub, one fourth of an inch long, worked out of the bare spot on tail; she immediately began to improve, and is now in good condition. These grubs continue to appear, however, ten or twelve having thus far come out. The spot where they come out soon heals, but no hair begins to grow on the bare place. Inquirer. [Sulphur, 4 oz.; fish oil, 1 oz.; mercurial ointment, 1 oz; crude petroleum, 1½ pts.; mix. Rub some of the above thoroughly into the dock every day for three days, then wash off, leave clean three days, and repeat.]

Lump on Foot—Drying Off.—A two-months-calf, when born, had a small lump on hind foot at the top of one side of hoof, extending under the edge of the hoof; was soft, and when opened bloody matter came out. It apparently healed up, but recently has returned, and looks like a bloody wart about the size of a hickorynut. (1) What can I do to dry a fresh cow off of her milk, as I want to fatten her; she is in fine health. (2) G. W. H. *Shelbyville, Ky.* [1. Apply some of the following lotion daily after sponging sore clean: Powdered alum, 2 oz.; chloride of zinc, 1 oz.; tincture of opium, 4 oz; water, 1 qt.; mix. 2. Give ½ lb. of Epsom salts, 1 oz. of powdered alum dissolved in quart of hot water, and allow to cool. This may be given every three days. Milk but ½, and after a few days only once a day. Feed hay. Give walking exercise.]

Death of Mare.—A 9 year-old mare, due to foal Aug. 1, was bought a month ago and put at light work. June 17, was kicked in left side by another mare; did not seem severe; June 22, was put in pasture with some mules and horses. At noon acted dull and stupid; was taken to barn; shivered, mouth and ears cold, neck sweating, died at 5 P. M. Examination showed bruised spot where 5th rib (from rear) unite; womb containing fœtus had corresponding bruise; intestines of mare were inflamed, and a smaller one had a hole in both sides through which undigested food escaped. Injury did not seem fresh, edges of orifice being slightly blackened. I think the intestine must have been caught between foot of kicking mare and some bony part of fœtus. A. P. *Dry Hill, Texas.* [You did wrong to turn mare in foal in pasture with other stock. Your theory as to injuries is probably correct.]

Record of the Times.

Review of Passing Events.

The Centennial Fourth.—It was a very wet one. Albany had her downpour in the forenoon, clearing up afterwards; New-York city had a wet afternoon; other places had it off and on all day. In New-York the Society of the Cincinnati held its annual meeting; Tammany Hall was addressed by W. B. Cockran, Senator Rustis of Louisiana, and Governors Biggs of Delaware and Wilson of West Virginia; and the post-office clerks received a stand of colors from citizen friends, with an address by Dr. MacArthur. A parade of 1,000 letter carriers and 450 clerks followed.—Newburgh had an old-fashioned celebration, with singing, reading of the Declaration of Independence, and an oration by Col. Fellows. So did Ocean Grove, N. J.—Cushing, Me., celebrated its centennial.—Williams and Mary College, Williamsburg, Va., held its commencement, according to custom.—Congressman Cox spoke to 10 000 people at Huron, So. Dak.—Generals Sherman and Swayne helped celebrate at Denver, Col.—The four new States held constitutional conventions. In North Dakota the Farmers' Alliance elected its candidate, C. B. Fancher, for president.—There was the usual chapter of accidents. In New-York 18 young men and boys were seriously injured by bursting guns, pistols and toy cannon, and several women were shot or seriously frightened. A little girl was killed by a bullet while standing at her father's knee.—In Brooklyn a feeble old man was so startled by cannon crackers exploded behind him that he swooned, and died before a doctor could arrive.—A Boston boy will lose both of his legs from a powder explosion.—A woman in South Troy, N. Y., gave birth to twins, and died before morning from cannon shock.—At Los Angeles, Col., some boys put a giant cracker in the open mouth of a sleeping vagrant and blew his jaws off.—At Philadelphia a storm burst upon thousands of picnickers in Fairmount Park.—Near Dubuque, Ia., a collision between a freight and an empty excursion train left 10,000 peo-

ple to spend a cold night out doors at Twin Springs.—At Winnipeg, on Red River, a steamer with 400 passengers was driven on the rocks and wrecked. The people were rescued in small boats.—At Oklahoma, I. T., a grand stand fell and 200 people were injured.

The President's Outing.—The 200th annual old-time celebration, given by Henry C. Bowen of New-York, at Woodstock, Conn., was attended by President Harrison and Secretaries Tracy and Noble. The special train from New-York, 3d, was met at Stamford by Governor Bulkeley and staff, Senators Hawley and Platt and Mayor Root of Hartford. At New Haven Justice Miller of the U. S. Supreme Court joined them; at Hartford a carriage ride was taken; at Putnam carriages conveyed them to Woodstock where Mr Bowen held a reception in the evening. In spite of the heavy rain next day the gathering in Roseland Park was large. Governor Bulkeley presided and introduced President Harrison who spoke briefly. Addresses followed from Senators Hawley and Hiscock, Hon. T. B. Reed, President Gates of Rutgers, and a poem by Will Carleton. On the 5th the President and party went to Newport, R. I., via New-London, and inspected the torpedo station, held a reception at the State House and returned to Washington by the steamer Despatch.

From Abroad.—Two British gunboats have been ordered to proceed to Delagoa Bay, and the government has informed Portugal that she will be held responsible for British losses.—The World's Sunday School Congress opened in Dr. Parker's temple, London, July 2, with 900 foreign delegates present, including 300 from the United States.—The Shah arrived in London, July 1, and was received at Windsor Castle by the Queen, next day.—The Massachusetts riflemen have beaten the English teams in several contests.—Michael Davitt has been testifying before the Parnell Commission. He believed that murders had been committed by members of the Clan na Gael, but without sanction of the leaders. He refused to divulge names without authority. On the 5th he opened his own defence.—William O'Brien was arrested at a proclaimed meeting, June 30. The crowd stoned the police who charged on them, injuring several persons.—At the sale of the Secretan paintings, Paris, July 1 and 2, Millet's "Angelus" brought $110,600 (Musée de France); Hooghe's "Dutch Interior," $55,200; Rubens' "Abigail Meeting David," $32,400; portrait by Hals, $23 000; "Breakfast," by Metser, $17,000; portrait by Van Dyck, $14,800; Canale's "Venice," $10,600; Cuyp's "Sketches," $8 200; Rembrandt's "Man with Armor," $4,600; Ruysdael's "Sluice," $7,400; Teniers' "Well," $4,300.—A replica of Bartholdi's Statue of Liberty was unveiled in Paris, July 4th.—An explosion of fire damp in a coal pit at St. Etienne, France, July 2, entombed 300 men and 60 horses.—Emperor William is on a tour in Norway.—Egyptian troops under Colonel Wodehouse had a battle with dervishes at Arquin last week, and 500 of the latter were killed or wounded and 500 captured. The Egyptians lost 70.—Hong Kong is said to have had a rainfall of 29¼ inches in 33 hours, May 29–30.—The Clyde steamer Ozama, Capt. Rockwell, for Gonaives, under the American flag, was stopped by Haytian cruisers and taken into Port-au Prince. Capt. Kellogg of the Ozaipee arriving, interfered and took the Ozama into Gonaives.

Minor Items.

The "L" road stations, New-York city, are condemned as unhealthful.

The Piscataway Baptist church at Stelton, N. J., recently held its 200th anniversary.

Primus Jones of Georgia has again delivered the first bale of new cotton in that State at Albany.

The Goodyear Rubber Company of Providence, R. I., has assigned, with liabilities of $716,000.

Amherst graduated her largest class last week—92, and has received gifts amounting to $80,000.

Paying-teller Hoyt of the Hoboken, N. J., First National Bank admits having lost $18,000 of its funds.

Several members of the 71st regiment were injured in a sham battle, July 5, at the State camp, Peekskill, N. Y.

The Indians at Lower Brulé Agency, Dakota, are signing the bill presented by Governor Foster and General Crook.

Bradstreet reports 8,000,000 bushels of wheat in sight in Wisconsin, Minnesota and Dakota. A year ago there was 17,808,000.

Martin Irons, the "dictator" in the great western railroad strike of a few years ago, is keeping a fruit-stand in St. Louis.

At the close of a firework display in Ellenburg, W. T., July 4, a fire broke out and ten blocks were burned; loss $2,000,000.

Abram Wakeman, postmaster in New York city under Lincoln and afterwards surveyor of the port, died there June 29, aged 65.

A passenger train on the Southwestern road rolled down an embankment near Geneva, Ga., July 3, and six persons were injured.

Hadje Hussein Ghroly Khan, Persian minister to this country, has resigned because the newspapers say sharp things of the Shah.

The gathering of ginseng root has become quite an industry in Forest county, New-Jersey. The price paid is $2.25 to $2.55 per pound.

Chicago has annexed 131 square miles of outlying districts, making her area 174, and her population increased from 900,000 to 1,100,000.

At a farewell meeting in honor of the Rev. Dr. Niles at Horseheadsville, N. Y., June 30, the Rev. Dr. Windsor fell dead in the pulpit while speaking.

A lighted paper started a fire in the basement of the Palais Royal dry goods store New-York, July 2, causing damage of $33,000. The fifty clerks escaped.

Thomas Shields, foreman of the track repairers at the point where the late railroad accident occurred near New-Haven, Conn., has been indicted.

A train on the Norfolk & Western road, plunged into a washout 50 feet wide near Thurton, Va., July 2, and 20 persons were killed, drowned and burned.

Rutherford Stuyvesant of Allamuchy, near Belvidere, N. J., some time ago set 4,000 English pheasant eggs under hens, and now has hundreds of little birds running about.

At Johnstown another flood has been experienced which covered part of the town and brought up six bodies from the wreckage. The force at work has been reduced to 500.

A fight occurred at Duluth, Minn., July 6th, between 1,500 striking laborers and police guarding 70 men at work: two strikers were killed and 25 wounded. Several police were injured.

At Minnehaha Driving Park, Minnesota, July 2, Axtell, a three-year-old, trotted a mile in 2.15¼, beating the record by 2½ seconds. It is said Robert Bonner offered $25,000 for him, which was refused.

John Hanks, a cousin of Abraham Lincoln's mother, died at Hickory Point, Ill., July 1. He helped build Lincoln's cabin, and introduced the rails in the presidential canvass. He was a shrewd, intelligent man.

Under a new school law in Indiana a company of capitalists, representing about $10,000,000, will undertake to supply the public schools with books at 60 per cent. below the retail price of text-book publishers.

William H. Edwards of Ohio has been appointed consul-general at Berlin; Augustus O. Brown of Rhode Island, at Rome; Eugene Schuyler of New-York, at Cairo. As Minister to Greece, A Lowdon Snowden of Pennsylvania.

The only level, arable and fertile tract of farm land, without negroes, in the Southern States, is Cullman county, Ala., there being only *fourteen* negroes in a census population of 15,000. The territory includes over 500 square miles.

Barnum & Bailey's circus and menagerie will sail for England in October for a winter season at the Olympia, London, which seats 30,000 persons. Three steamers will be required, and the cost of voyage to and fro will be about $500,000.

A fast express on the New-York & Long Branch road, running 40 miles an hour, struck a carriage near Little Silver station, N. J., and killed Mrs. Ward, mother of J. A. Ward, shirt manufacturer of New York, her son-in-law Mr. Keating, his little daughter and her nurse.

Arrangements for a prize fight between Sullivan and Kilrain, July 8, at a point near New Orleans, have been in progress for some months. The governors of Louisiana and Mississippi issued proclamations forbidding it on their soil. The fight took place at Richburg, Miss., Sullivan victor in 75 rounds.

Ex-President Theodore D. Woolsey of Yale died at New-Haven, Conn., July 1, aged 88. A nephew of the former President Dwight and great grandson of President Edwards, he became professor of Greek at Yale in 1831, and president in 1846, continuing till 1871. He was one of the New Testament Revisers, author of many valuable works, and in 1882 received a gold medal from the professors in commemoration of his 50 years' service in college.

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Beecham's Pills act like magic on a weak stomach.

Farm Produce Markets.

Albany Markets—July 8.

FLOUR.—The Argus says: With large receipts and a fair demand, the market has been well sustained and firm.

	1888. July 6.	1889. June 29.	1889. July 7.
Com. State	$3.10@4.00	$3.10@4.00	$3.10@4.10
State Brds	4.10@4.30	4.10@4.40	4.10@4.40
Amb. State & W	4.25@5.10	4.10@5.10	4.00@4.85
O., Ind. & M. L. Ex.	4.25@5.10	4.25@5.10	4.00@4.90
Winter W. Pat	5.20@6.00	5.20@6.00	5.00@5.90
Minn. "Bakers"	4.60@4.75	4.60@4.75	4.50@4.75
Sp'g W. Pat., new	5.25@6.25	5.00@5.25	5.00@5.25
Sp'g W. Pat., old	5.25@6.00	5.25@5.50	5.00@5.25

Rye Flour fairly good at $4.00@4.20 per bbl.; Graham, $4.00@4.20. Oat Meal doing moderately well at $5.25@5.50 per bbl. Corn Meal still having a good trade; values unchanged, and quotable at $2.60@3.75 per bbl.

GRAIN.—Corn firm with slow trade; No. 2, 47½c; No. 1 mixed, 47½c. Oats steady, with fair trade; No. 1 white, 33½@33½c; No. 2 white, 33½@33½c. Rye in limited demand with light offerings at 56@56c. per 56 lbs. for State, and western 56@56c. per 56 lbs.

HAY AND STRAW.—Hay firm; receipts light. Straw unchanged. Timothy, best, $19@19; medium, $12@16; clover, $10@11; mixed, $10@11; rye straw, best, $12@13; oat straw, 50@55; wheat straw, $10.

HOPS.—Market quiet; stocks light.

N. Y. State, 1888, choice	22	@25c.
N. Y. State, 1888, common to good	15	@17
N. Y. State, 1887, all grades	10	@12
Pacific Coast	18	@20
German	20	@27

Albany Street Market—July 8.

BUTTER.—Good to choice, 18@20c. per lb.

EGGS.—Near-by and new laid, 14@15c per doz.

FRESH MEATS.—Steer beef, hindquarter, 9½@10½c. per lb.; forequarter, 6@7c.; mutton, carcasses, 5 3/4@6c.; lamb, hindquarter, 10@12c.; forequarter, 8@10c.; veal, 7@9c.

POULTRY.—Fowls, 11@12c per lb.; chickens, 12@ 15c.; turkeys, 13@15c.; spring ducks, 18@20c.

FRUIT.—Apples, $1@2 per bbl.; Cranberries, $1.75@3 per crate; Cherries, $1@3 per bush.; Currants $1.50@3; Gooseberries, $1.75@2; Muskberries, $1@2; Peaches, $1@3.50 per crate.

VEGETABLES.—Asparagus, 25@30c. per bunch; Beets, new, 10@12c. per doz. bunch.; Cabbage, new $2 per crate; Cauliflower, 15@30c. each.; Cucumbers, $1.25 @1.50 per crate; Green Peas, $1@1.25 per crate; Lettuce 10c. per box; Onions, new, $1@1.50 per crate; Potatoes, old, $1.25@1.40 per bbl.; new, $5 @6.50; Radishes, 10c. per bunch.; Spinach, 35@40c. per bbl. String beans, $1.12½@2 per crate; Squash, $1.50@2 per bbl; Tomatoes, $1@2.50.

New-York Markets—July 6.

BEANS—Marrow, 100		2.40	@ 2.50
Medium, 100, choice		2.10	@ 2.20
Pea, 100		2.00	@ 2.05
COTTON—	Quotations.		
Ordinary, per lb	10@10	—	@ 10¼
Middlings	11@11	—	@ 11¾
Fair	12@12	—	@ 12¾
EGGS—State and near-by, per doz	14@15		—
Western and Southern	13@14		14
FLOUR—Spring Wheat pat., per bbl		4.80	@ 6.25
Winter		4.20	@ 5.10
No. 2 extra State and Western		3.25	@ 3.60
No. 1 extra		3.60	@ 4.00
Minnesota clear		3.75	@ 4.00
Straight		4.50	@ 5.00
Rye Flour, superfine		3.00	@ 4.00
Corn Meal		2.60	@ 2.75
FRUIT—Apples, Southern, per bbl		2½	@ 3.00
Blackberries, Dec. & Md., per qt		3	@ 4
Wilmers		3	@ 4
Lawtons, Jersey		6	@ 8
Cherries, prime to fancy, per qt		6	@ 12
Sour		4	@ 6
Currants, cherry, per lb		6	@ 8
Small		3@4	@ 6
Gooseberries, per bus		1.25	@ 1.50
Huckleberries, N. C., per qt		3	@ 4
Jersey and Md		3	@ 4
Shawangunks, per box		1.12	@ 1.37
Peaches, Ga., per crate		1.00	@ 1.50
N. & N. Carolina		1.00	@ 1.50
Plums, wild goose, Ga., per crate		1.00	@ 1.50
Raspberries, Antwerp, per cup		4	@ 6
Up River Marlboro		2½@3	@ 3½
Jersey, per qrt		3	@ 5
Blackcaps, Jersey		3	@ 4
Strawberries, Western New-York		4	@ 7
Watermelons, Ga., per 100		30.00	@ 35.00
Florida, small		10.00	@ 15.00
Dairies—Apples, sun-dried, per lb		3@4	@ 4
Evaporated		7½	@ 8
Peaches, sun-dried		3	@ 3½
Evaporated		8	@ 10
Plums, Southern		3	@ 4
Cherries		3	@ 4
Blackberries		3@4	@ 4
Huckleberries		10	@ 11
Raspberries		17	@ 19
GRAIN—Wheat, State white, per bus		86	@ 86
Ungraded spring		86	@ 86
No. 1 red, winter		90	@ 90
No. 1 red, winter		90½	@ 90½
Corn, No. 2, white		—	@ —
No. 2, mixed		47	@ 47½
Oats, No. 2, white		34½	@ 35
No. 2, mixed		32	@ 32
Rye, State and western		56	@ 56
HAY—Timothy, per 100 lbs		80	@ 90
Shipping		65	@ 70
Clover		60	@ 70
Straw, long rye, No. 1		60	@ 70
No. 2		—	@ —
Oat		45	@ 50
HOPS—N. Y. State, 1888, choice, per lb		20	@ 22
Good to prime		14	@ 16
Med. to fair		7	@ 10
California, 1888, best		13	@ 15
Pacific Coast, 1888		6	@ 7
German		30	@ 37
POULTRY—Live fowls, per lb		9	@ 10
Spring chickens		11	@ 15
Turkeys		8½	@ 9½
Ducks, per pair		50	@ 60
Geese		1.00	@ 1.37
Dressed fowls, per lb		10	@ 13½
Phila. springs		12	@ 15
West. broilers		11	@ 11
Turkeys		11	@ 11
Ducks, spring, per lb		15	@ 15
PROVISIONS—Beef hams, per bbl		14 00	@ 15 00
India mess		12 00	@ 14 00
Hogs, dressed, per 100 lbs		6 12	@ 6 50
Lard, per tierce		6.50	@ 6 7½
Pork, new mess, per bbl		12 00	@ 12 25
Short clear		12.50	@ 13.75
Family		13 75	@ 15.75
VEGETABLES—Asparagus doz. b'ch		75	@ 1.00
Beets, Long Island, per 100 bu'ch's		1.50	@ 2.00
Cabbage, L. I., per 100		1.50	@ 2.00
Cauliflower, L. I. & Jer. per bbl		1.00	@ 1.50
Corn, Burlington, N. J., per 100		60	@ 1.00
Cucumbers, Southern, per crate		25	@ 50
Green peas, Long Island, per bag		1.00	@ 1.25
Onions, N. O., new, per bbl		2.00	@ 2.25
Md. and Va		2.25	@ 2.50
Potatoes, Southern, per bbl		1.75	@ 2.25
New-Orleans		1.50	@ 2.00
Old, prime		1.25	@ —
Spring beans, Md. wax, per crate		50	@ 1.00
Norfolk, round		15	@ 70
L. I., per bus		75	@ 1.00
Squash, Southern per bbl		75	@ 1.00
Jersey, yellow, per crate		50	@ 60
Tomatoes, Fla., Sav., per crate		75	@ 1.00
Norfolk, Acme		25	@ 1.25
Jersey		—	@ 1.00
Chicago, per crate		50	@ 1.00
Turnips, Jersey, per 100 bunches		1.00	@ 2.00

Cattle Markets.

NEW-YORK, July 6.

BEEVES.—Receipts, 10,120 head. The week opened with a very dull feeling, which was not improved upon on Wednesday until near the close of business, when the demand increased and values assumed an upward tendency. Friday the arrivals were light and the market closed steady. The quality of the herds as above reported was, in the aggregate, coarse, being chiefly lean native steers, still fed; native and grade steers, fully corn fed, held for export, also several choice quality bulls.

[Per central, net.]	This week.		Last week.	
Good beeves	$5.00	@ —	$5.00	@ —
Fair	4.75	@ 4.90	4.75	@ 4.90
Coarse	4.50	@ 4.70	4.50	@ 4.70
Poor	4.00	@ 4.40	4.00	@ 4.40

[Per central, gross.]	This week.		Last week.	
Good beeves	$6.00	@ —	$6.00	@ —
Fair	5.75	@ 5.90	5.75	@ 5.90
Coarse	5.50	@ 5.70	5.50	@ 5.70
Poor	5.00	@ 5.40	5.00	@ 5.40
Oxen	5.00	@ 5.90	5.00	@ 5.75
Dry cows	3.50	@ 4.75	3.75@4	@ 4.75
Bulls	3.00	@ 4.00	3.00	@ 4.00

MILCH COWS.—Receipts, 98 head. The quality of the cows offered is so poor that trade is hindered; 30 cows were sold at $28@40 per head.

VEALS AND CALVES.—Receipts, 1,287 head. The week opened with a decline of ½c. per lb., followed on Wednesday by a better feeling and a recovery of ½c. per lb., and on Friday by a further advance of ½c. per lb. Range of prices: Calves, buttermilk fed, 3.75@4.35 per cwt.; calves and lean veals, in mixed lots, $3.50@4; calves, part meal fed, 6@6½c. per lb.; lean veals, 5@5½c.; veals of medium quality, $4.50@5.50 per cwt.

SHEEP AND LAMBS.—Receipts, 21,331 head. On Monday last sheep were steady and lambs weak; Wednesday sheep were unchanged, while lambs advanced ½c per lb.; Thursday was observed as a holiday, and trade was not reported; Friday, on a light supply, the markets closed steady. Range of prices: Sheep, 3½@5 per cwt., cull sheep, 3c. per lb.; rams, 2½@3½c.; lambs, 5½@6c.; cull lambs, 4½@5c.

SWINE.—Receipts, 22,784 head. The general tone has been dull, and values were not sustained until Friday, when the feeling improved. One hour, 400 lbs., 7c. per lb.; 4 cull hogs, 240 lbs and less, 5½@6c.; 3 State hogs, 327 lbs., 6c.

BUFFALO, July 8.

BEEVES (Per central, gross.)	Last week.		This week.	
Extra steers	$4.10@4.35		$4.15@4.40	
Best butchers'	3.75@3.90		3.70@3.90	
Second quality	3.25@3.50		3.10@3.40	
Poor to common	2.25@2.75		2.25@2.75	
Stockers, light	2.75@3.00		2.75@3.00	
Stockers, good to choice	3.25@3.60		3.25@3.60	
Bulls	2.25@3.00		2.25@3.00	

Receipts 10,500 head against 14,300 last week. Light butchers' fat cows, good heifers and country cattle were all wanted at strong last week's prices, while heavy and good steers generally dragged even at a decline on quotations. The outlook is poor for the latter grades. A prime drove of Herefords sold at $4.40, and a fancy selected lot of steers to a 1 call batch at $4.45@4.50. Shippers in light demand; receipts five loads western. Bulls dull and weak.

MILCH COWS.—Fresh cows, especially common, were very dull; springers due in a month were in fair request; extra, $45@50; good to choice $35@40; poor to common, $18@30.

VEAL CALVES.—Supply liberal; market quiet, weak and lower; fair to choice, $3.50@4.00; heavy, $2.25@3.

SHEEP AND LAMBS.—Receipts, 21,100. Supply light, demand fairly active except for common sheep and their yearlings; market strong and higher. Choice 90 to 96-lb. sheep $4.75@4.90; fair to good, 75 to 85-lbs., $4@4.50; common, $3.25@3.65; yearlings about the same as sheep. A few Canadian lambs sold at $6.50@6.90.

SWINE.—Receipts, 14,600. light offerings, everything taken readily at last week's prices until closing, when market weakened, closing medium, 6@6½c; Yorkers, $4.70@4.75; mixed, $4.65@4.70; pigs, $4.25@4.50; roughs and stags, $3.25@4.

BOSTON, July 6.

BEEVES, NORTHERN.—Good oxen, dressed, 9@9½ per cwt.; fair to good, 8@8½; second quality, 6@7½. *WESTERN, ALIVE—Extra,* $4.40; good to prime, $4.25; light to fair, $4@4.20.

MILCH COWS.—Light supply at $35@45 per head.

CALVES.—In overstock at 3@4c. per lb.

SHEEP AND LAMBS.—Arrivals over 16,000; in lots at $3@5.50 per head; spring lambs, 6@9c. per lb.

SWINE.—Western fat hogs, 6½@6¾c. per lb.; pigs, 6@6½c.

Dairy Markets—July 8.

ALBANY.—Butter unchanged, with fair demand. State creamery, choice, 19c.; Western creamery 13@17c. State dairy, inc.; fair to good, 16@18c.; Western dairy, choice, 15c.

Cheese slightly firmer. State factory, full cream, 9½@9¾c.; fair to good, 9@9½c.

UTICA.—Prices this week remained practically the same for cheese, although there was more stock sold at the highest prices, and the tone was rather better. The receipts for the week were 19,500 lbs., with 18c. ruling, but with 2,000 at 18½c., and 1,650 at 18¾c., and 2,105 consigned. Little Falls sold 10,000 lbs. at 18 3/4c., the largest number going at 18c. There was more confidence on the part of buyers than exists on the week before, but the course of the market since has not justified expectations. The occurrence of the national holiday, and a scarcity of freight room on steamers the latter part of the week, have combined to depress prices. In New-York the top is given to 9½c. for colored and 9¼c. for white, and a retail quotation is off as to 8½c. 8c. Besides, it is claimed that hot weather has affected the quality of cheese, so that a good deal of stock that is usually first class has to take only second rank. All these influences taken together make a weak market, and the outlook now is for somewhat lower prices.

There is but a to be said about Butter. Utica sold 91 packages creamery at 16@20c., and Little Falls 25 packages do. at 16c., with 61 pkgs. dairy at 15@15½c. For colored and 16½c. for white, and a retail quotation is off as to 45c. 46. Besides, it is claimed that hot weather has affected the quality of cheese, so that a good deal of stock that is usually first class has to take only second rank. All these influences taken together make a weak market, and the outlook now is for somewhat lower prices.

There is but a to be said about Butter. Utica sold 91 packages creamery at 16@20c., and Little Falls 25 packages do. at 16c., with 61 pkgs. dairy at 15@15½c. New-York still quotes creamery pails at 17@18c. but that seems a hard price to get, on account of the large quantities now arriving.

NEW-YORK.—Butter offerings large; sales slow. Receipts, 23,674 packages. Western creamery, 15@15½c. Western creamery, 15@15½c. State dairy, choice, 15@15½c. Western dairy, 13@15c.; Western factory, choice, 12@13c.

Cheese in fair supply. Receipts, 69,313 boxes. Factory, best, 9@9¼c. per lb.; light skims, 6@6½c. Ohio sale, 9@9½c.

BOSTON.—Western creamery, extra, 17@18c.; extra firsts, 16@16½c.; factory, 13@15c. Vermont, extra, 18c.; fancy, choice, 16@16½c.; Eastern creamery, good to choice, 15@16c.

Cheese, northern choice, 9@9½c.; western, 7½@8½c.; sage, 9@10c.

Wool Markets—July 8.

ALBANY.—Market firm but sales light; new medium, 19@20c.

No. 1, Pulled	32@34	Medium Fleece	30@32
Super Pulled	30@32	Fine Fleece	26@28

NEW-YORK.—Ohio XX, 34@35c.; Michigan, 32c.; delaine, 34½c.; unwashed western, 20c.; pulled, 25@29c.; Territory, 34@35c.; scoured, 42@45c.; Montana, 24c.; Oregon, 28@31c.; scoured, 45c.; Texas, 16@23c.; scoured, 35@40½c.; California, 18c.; scoured, 40@42c.; Georgia, 20c.; Australian, 39@40c.; Montevideo, 23c.

BOSTON.—Sales, 2,672,100 lbs. domestic and foreign: Ohio and Pennsylvania, 31c.; Michigan, 30@32c.; combing and delaine, 29@30c.; scoured, 38@50c.; pulled 32@42c.; unwashed, 16@19c.; Territory, 31@32c. Texas, 18@23c.; California, 18@ 24c.; Oregon, 19@24c.; Australian, 40@43c. Montevideo, 29@30c.

See Advt. elsewhere of the

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Minard Harder, Proprietor, Cobleskill, N. Y., for fully illustrated, descriptive and free Catalogue, showing "why ensilage pays."

The Fireside.

Recent Publications.

For Young People.—Messrs. Houghton, Mifflin & Co. of Boston have begun the publication of a most attractive series of books for boys and girls, to be called the Riverside Literature for Young People. History, biography, mechanics, travel, natural science, adventures and kindred topics, treated in a popular and pleasing manner, though some fiction is also to be included. The authors engaged are not for the most part writers who already have won attention, but the publishers propose to give a fair relative recognition to all who may have something worth saying to the young, and have the power to say it in good English and in an attractive manner. The volumes are to be not far from in style, 320 to 350 duodecimo pages each, strength and vary tastefully bound in dark blue cloth. The following are now ready:

"The War for Independence," by John Fiske.

"George Washington," by Horace E. Scudder.

"Birds through an Opera Glass," by Florence E. Merriam; and "Up and Down the Brooks," by Mary E. Bamford. The price is 75 cents each, and S. R. Gray is the Albany agent.

"Indoor Studies."—The same publishers send us a very pretty volume under this title, containing a collection of short articles on such ways in the always pleasing Jane Stranahan.

Among the topics treated are Lessons in Science and Literature, Science and the Poets, Wanderers about Boston, (on whom Mr. Hamerton finds "a malformed giant"), and several others. The price is \$1.75; sent by S. R. Gray.

The Manifold Cyclopedia.—Volumes 12 and 13 of this work have just been issued, from "Electricity" to "Fiord" inclusive. The price, bound in boards, is 75 cents each, in 75 cents per volume, which is very cheap, as we have seen nothing to equal it since the 25 cents bar published may be had still lower—\$1.00 for the 15 volumes. Published by John B. Alden, 393 Pearl St., New-York, publisher.

Fiction.—Messrs. D. Appleton & Co., 1 Bond St., New-York, issue three stories in paper covers:—"Love, a Mistake," by Paul Lindau; "Thorn," by the author of "A Drawer of Gems;" and "Dorothy," by Captain Novalis," by Edna Lyall, author of "We Two," "Donovan," &c., &c.

Periodicals.—It seems to us that the July monthlies are even brighter than usual, and particularly attractive to the reader in time of every-day interest. Scribner's Magazine, for instance, opens with a very attractive account of "the telegraph of to-day," which will give the non-professional reader simply a very clear idea of the modern operation of this perennial wonder; and passes on to a paper by Stanley on the man marvelous feature of all, the transformation of savage races over the same area within different directions at the same times. The Century has a very fine illustration of our modern river, lake and sound steamers, with original text by Mr. Kirk, the New-York, the Jurgen, and other noted vessels, and many very pretty and attractive short tales and sea diagrams. Harper's Monthly explains the glass blowing and other methods—and we think many readers will be surprised to learn how much artistic and even beauty distinct kinds of glass are now in actual manufacture in American institutions, the latter case, elucidating many points that are probably dark, to the non-professional foreigner, but to a great many people in this country are quite plain. It is to be hoped the work while for the general reader to take some pains to explain, even if to some extent, interest in these comebacks of the militant type. Lippincott has an interesting sketch of the career of "our greatest inventor," John Ericsson, and a sensible little essay on the curtesies of summer resorts, from which we clip a paragraph that is worth considering:

There is no institutions so patriotic as that which a stranger finds in the hotels of a people who know each other very well. Such hotels are rare in this country, and the best of them are not to be found in the watering-places, the resorts of pleasure seek life, needs only a hasty stranded forth, a meal, a bed, before all that the world, which a moment before seemed so small and so cold, has broadened out to him. The hotel-keeper is a citizen of the city, a place where the sun shines and the birds sing. It must be a woman's hand that is reached forth, for women are, to an almost unlimited extent, the arbiters of fate in social circles of the world. The hotel-keeper is generally the maiden of some stranger for the entire season. Being powerful, let them be generous! The spreading about them of a silent one hundred and thirty acres to give pleasant and cheerful atmosphere is one of the important social missions of woman, and in no way can she better do it than by extending to the lonely and unlikely, and, not unfrequently, by drawing together those with whom she is thrown for weeks or months to intend to board house, and thus creating what may most truly be called a home. The hotel-keeper is the keystone on much of the habits of the fashionable, and forms of life, speaks with humorous knowledge of the kindly deception written by some of the tiniest living creatures to hand down their species. The Century has a very interesting article on "Ants," illustrated in these interesting forms. It seems as if we who belong to the highest order of intelligence should find a positive delight in giving of our time and thought to the study of the lower forms created to harmony with their environment," which is the most comprehensive definition known to us, and perhaps the philosopher has yet been able to give us.

Royal Windsor.

Rev. Canon Fleetwood.—The great agricultural show at Windsor naturally calls attention to the surrounding historic locality in which the jubilee gathering is held. A good part of the history of forty days and more of June, since sobeall, the great range of the Chiltern Hills outlines everything it is a considerable extent. The chief heights approach within a few miles of the southern suburbs of London on the western shire, sloping gradually to the Thames valley, on which most of the Eton boys waters find their way. Windsor Castle, in fact, is almost an island, the river and park surrounded by a still clay; this clay to some parts of the Thames valley, and to some other parts of the crustacean beds. Consequently from the high ground to the south of Windsor a fine panorama of an extremely varied nature, from the chalk cuttings down to the river valleys, and the heavy downs which skirt these, or the barren ferruginous sands of Bagshot.

The castle itself, as it is, is not a view at the foremost of "the stately homes of England," but it is one which probably may be depended on, seeing that I have retained considerable portions of the original edifice in it. Mr. and Mrs. S. C. Hall's charming "Book of the Thames" tells us that the castle was built on ruin from its ascene—I mean long compare—by Edward the Confessor, and was completed—where I have seen it welling out at "the Queen's Gardens"—by Henry the Second, and has, at the back of the Cotswold Hills. Passing over the fact that the Romans had their villas on either side, the stream sweeps on through Oxford, even if its name was not in the time of William the Conqueror when the castle was only a strong fortress; or even further back, still when the Saxons were yet masters of the soil. To-day the locality is the emblem of strength combined with peace and prosperity, and it will remain to be the most important of our royal residences. During the reign of the present Queen, however, the home here and restored much the same atmosphere as it had in the days of Elizabeth. The royal farms at Windsor are well managed, and produce a large part of the supplies of the royal cooking forward for the various autumns and winter shows. Who the present managers are I do not know, the last of whom I had personal knowledge, being Mr. Tait, formerly at Buchanan Castle, the seat of the Duke of Sutherland, in the North.

The show, which all the world is going to see, is located in the Great Park, and needs about one hundred and thirty acres to give place the glorious floral queen occupies to the estimation of all.

No matter how roses are grown in our dooryards, whether climbing over trellises and windows or overhanging porches and doorways, whether standing alone or in clusters on a well-kept lawn, or growing in neglected luxuriance in corners, they are always objects of attraction; yet I can imagine that the order in which they are placed to some English gardeners would be an attractive feature in grounds of any proportions. We have had of the one sort, and by this I mean as a certain part of the door-yard to be set apart exclusively for the culture of roses planted in rows, between which is a walk, or side, as our French neighbors say. Certainly, nothing could be more delightful than a seaside drive like to-day, or a walk on a summer morning!

In riding through the country the other day, we passed a little burial ground, or "graveyard" as it is known in the rural districts, so quiet and sweet a spot as one would wish to be laid in. Only one tree was there, a large ash, and its sounds and noises too far away to interfere with the restful quiet which more of the plain "forefathers of the hamlet sleep." Beneath rosses and quiet it is not neglected, for living hands keep the grass from growing rank and wild. A few flowers in commemorating monument gleamed in the bright sunshine, but the rarer beauties are left to those who are almost hidden under their wealth of rose blossoms. Some of the rose trees are evidently of the rural custom, which demands only white, the emblem of innocence, and, with truth, innocence rests with retiest, jetty burnt mingled white perfumes with pale pink, deep red and white of various varieties. One little grave was merely a mound of white roses, sweet-scented jessamine. Will rose crept up from the ground, and the whole was covered with roses through the fence that surrounded the rustic sanctuary, and from the fence to every other flower. On either side were beech and maple trees, and over the road, that same road, to some not the road, fringed with basswood or linden. In this little cluster of trees, the birds, too, were at rest, but already the bees were hovering about their

sensibility, but some writers claim for it what it cannot claim for itself—that is, relationship to real talent, or *latent* ability.

In reality, according to the best botanists, it does not belong to this illustrious family. In real nature in Kabylia (*C. salvifolia*), in commercial cruciate of a Swedish botanist who classified it as of the order *ordines*. The true barrel, which was an emblem of nobility, victory and chivalry with the ancient Romans—all is still then confirmatorial to us—this barrel is a native of southern Europe.

I may be mistaken, but I think it is not so reformed as the Swedish. We are more apt to find the former, as the "Lounger" describes it, upon the wooded borders of the "winding drive," and the ancient of shade was cause thereby as a canary tone country, concurred with the canary way, is in this country. The Swedish is a native of the borders of the latter literary class.

Our native friend suggests the difficulty of distinctly appreciating the latent. Whatever there is adapted will be used, it is to be supposed. The "Lounger" says that it is a native. Then, "The Swedish" says that it is not. Supposed very successfully as the form of the latter drama has proclaimed in amateur being quite fortunate in gaining it true to nature.

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—I have not noticed any mention of the American Agriculturist, in all that has been written of late about a national flower. They have overlooked the fact that this flower is almost exclusively native to the lower south-eastern States, thus excluding that to which the Agriculturist is entitled to rank them. Its branches are crowded and scattered in one form, seen by itself, but en masse, with the perfuming abundance of rich green in the old leaves, and the slender shades in the new leaves.

—I shall be a thankful climber of laurel, but even in the charming presence I feel like saying my painting would be an ultimate flower, which, if it speaks of decay, also tells me—"Love, sorrow may flow, love's summer never set."

But enough the golden autumn mist I view the [illegible] of autumn summer put to.

—Allow me to call attention to the fact that the Agricultural Department is not the only one that has been at work for many years in the interest of farmers. Practically nothing has been done in Congress where they will threaten, thus saying that to—a difficulty, which has badly known and seeking it they had been receiving themselves I have been in the habit of sending to Congressmen bulletins and other matter, but I have found that it could not be looked for from such a source, and that result to be looked for from such a source, and that result to be looked for from such a source, and that result to

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Premium list now ready. Entries close July 15. Address Secretary, Hempstead, L. I., N. Y. Fair opens August 1st, and continues 5 days. Exhibitors will be required to start with a sufficient number of cows with which to make a public test of their milking qualities. Premiums will be offered for the best herd of cows, the best herd of grade cows, the best herd of heifers, the best herd of grade heifers, the best herd of calves, the best herd of grade calves, the best herd of bulls, the best herd of grade bulls, the best herd of sheep, the best herd of grade sheep, the best herd of swine, the best herd of grade swine, the best herd of poultry, the best herd of grade poultry, the best herd of ducks, the best herd of grade ducks, the best herd of geese, the best herd of grade geese, the best herd of turkeys, the best herd of grade turkeys, the best herd of guinea fowls, the best herd of grade guinea fowls, the best herd of pigeons, the best herd of grade pigeons, the best herd of rabbits, the best herd of grade rabbits, the best herd of dogs, the best herd of grade dogs, the best herd of cats, the best herd of grade cats, the best herd of horses, the best herd of grade horses, the best herd of mules, the best herd of grade mules, the best herd of asses, the best herd of grade asses, the best herd of oxen, the best herd of grade oxen, the best herd of steers, the best herd of grade steers

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FOR THE FARM AND THE FIRESIDE.

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Fifty-Ninth Year. | VOL. LIV—No. 1903.

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LIVE STOCK.

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BROAD VALLEY FARM.—High-class JERSEYS. Elegantly bred pure St. Lamberts. Service bull the pure St. Lambert Lucy's Stoke Pogis No. 8264. FRANK ENO, jy11-1y Pine Plains, Dutchess Co., N. Y.

FOR SALE—One fine young Black Jack and three fine fertile Jennets. For particulars, address M. PALMOUR, care 1st Nat'l Bank, Galveston, Ga. Pr. p'r Booth Bend Stock Farm, Breeder of Jones, Jennett, Jersey Cattle and Duroc-Jersey Hogs.

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Holstein-Friesians for Sale.

ETHELKA'S CORONET, son of Ethelka, 101 lbs., and sr. son of Neptune 7H, H. H. B. Also, SIR HENRY ARTIS 4th, H. H. B. son of Sir Henry 3d of Argyle and Bertha Art, daughter of Artis 2d, N. H. B.

The above superb sires are warranted sound and sure, and will be sold below their actual value. For particulars, address W. MITCHELL, jy4-3t Meadowbrook, Orange Co., N. Y.

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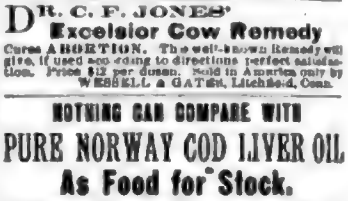

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Dear Sirs: I desire to give you testimonial of my good opinion of your Kendall's Spavin Cure. I have used it for Lameness, Stiff Joints and Spavins, and I have found it a sure cure. I cordially recommend it to all horsemen. Yours truly,
A. H. GILBERT, Manager Troy Laundry Stables.

EAST WINTON COUNTY, OHIO, Dec. 19, 1888.
DR. B. J. KENDALL CO.
Gents: I feel it my duty to say what I have done with your Kendall's Spavin Cure. I have cured twenty-five horses that had Spavins, ten of Ringbone, nine afflicted with Big Head and seven of Big Jaw. Since I have had one of your books and followed the directions, I have never lost a case of any kind. Yours truly,
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The Cultivator
AND
Country Gentleman

Albany, July 18, 1889.

Covered Manure Sheds.

Saving Summer-Made Horse Manure.

Eds. Country Gentleman—We had last week one of the terrible rains that we frequently get here at this season of the year. Four showers followed each other in quick succession, either one of them more than the earth could hold, on cultivated fields. Much damage was done. I think it safe to say that potatoes promise in this section a yield of one third less, on account of that fearful storm. The loss was not so much what were actually destroyed, or the soil that was carried away, as the packing of the ground almost as hard as the road. It can never be got into the condition it was before, until it is plowed again. One of my neighbors with 30 acres of potatoes estimates that he lost half his crop that night.

But this is only incidental to the matter on my mind. The third of these great showers came up just at dark. We were all out on the lawn watching it come, almost a wall of water. The rest ran into the house as it struck us; but your correspondent ran for the barn and stood under his covered manure shed. He could see out over the potato field, which looked, as the lightening flashed, like one lake of water. But while realizing the damage being done outside he felt a sort of grim satisfaction that he had been able to fix his barnyard so that no loss was taking place there. There was no highly colored stream of fertility running away into the lake of water. He was master where he stood at least. Again his thoughts ran on the fact brought out by Prof. I. P. Roberts, that 800 tons of rain fall on a quarter-acre barnyard, in the State of New-York, yearly—800 tons! How can a sane man expose valuable manure to such floods of water, when careful experiments at Cornell show that 60 cents' worth of plant food was carried away by each ton of water that went through manure in an open yard?

Prof. Roberts says that if he saw his farm growing steadily poorer and poorer, by such easily avoided losses, he would sell out for what he could get and set up a peanut stand. Well, as I stood there on my dry manure, not a drop of which could go to waste, and heard the roar of the rain on the tin roof overhead, I congratulated myself on not being one of those hit by the cutting sarcasm of Prof. R. But oh, on how many farms that cost will fit!

I have some friends who are farming and find it hard work to get ahead any—in fact are quite discouraged. Now, if I had their farms I would wear my old clothes a year longer (I have done just this thing, too), go without every possible thing I could that cost money, and work ten per cent. harder until I could get arranged to save the manure in the barn and yard from waste. I would do this because I know that when once done the investment would clothe and feed me better than ever. This and a reasonable amount of tile draining where needed would be done for all of any new hats, fine harness or going to the circus. I could name one of your readers who told me last spring that he was terribly hard up. In his barnyard was a filthy mass, wasting with every rain. It was not only a horrible, unnatural, uncivilized mess to wade through constantly, but it was the most losing management possible. I would have gladly given him $100 for what went to waste in that yard and barn in a year. He was a dairy farmer and had stock enough; but such stock keeping will never keep the farm up.

If one cannot draw the manure out fresh, or protect it by roofs, he can certainly use absorbents enough, and pile it compactly, so there shall be but trifling loss. This the writer did for years, but was never perfectly satisfied until he had a roofed manure shed that made extra care unnecessary and loss an impossibility. One of your readers who called here lately, coming from quite a distance on purpose to see that covered yard, was surprised that it was no larger. He said he had an idea in his head that it covered half an acre. You see he thought that a covered barnyard must be as large as open yards he had been used to. A yard large enough so the packed manure, spread evenly all over, will not become more than two feet deep in a season is large enough, and manure packed in this way becomes very solid, so one will get much more in a small compass than he will be likely to think for. A part of the stock only need be let out at a time, if they are watered in the yard. For our summer-made manure we find the covered yard just as valuable as for winter use. We keep four horses in the barn most of the time, summers. Their manure is all kept under this roof until fall, as there is nowhere that we can make use of it on the land during the summer. It is generally considered that horse manure will all burn up out-doors in the rain, and doubtless many will think that keeping it under cover would only make it fire-fang worse. But this is not the case as we manage. It is preserved perfectly, and we have some 50 loads of good manure to draw out in the fall.

This is our way: The horses are kept in box stalls that have floors cemented on bottom and up a little on sides so not a drop of liquid can get away, even to soak into a plank or board. Our straw stack is in the barn right over the stables. Straw is thrown down freely, so as to keep the surface always clean and dry. About a quart of land plaster is sprinkled over the straw daily, in hot weather, from a barrel standing handy by. In five or six weeks these stalls become so full as to be troublesome. Some rainy day my man throws off the dry surface and wheels the manure out into the yard, all dripping with urine. It is spread evenly all over. I, with a large sprinkling can of water, sprinkle and tramp it. There is some dry straw around the outside of stalls of course, and a good deal of ammonia in the air just then. The water, which is freely used, is good for both. With it I can catch about all the valuable gas. While my man is out I sprinkle the surface in the stall. As soon as the manure is all out I sow a peck or less of plaster over the yard and in the stalls. It then smells as sweet as out doors. The stables are then filled with straw again, knee deep, and the surface of yard is covered with dry straw, to make it clean to walk over, and our stable cleaning is done for six weeks or so. I use a sprinkler to put on water because I can be trampling the manure at the same time, although we have a force pump in the manure shed, which would throw water all over. I sometimes let the horses out and drive them around in the yard to tramp the manure. Treated like this it keeps perfectly. There was not a forkful fire-fanged last fall, except a very little at the outside next to the plank fence.

I have noticed that some men sneer at this idea of keeping manure under stock. One good farmer said recently in a well-known paper that it would be far better to teach people to clean stables three times a day. Well, that depends. With a lack of straw, plaster, and a watchful eye constantly around, I agree with him. With these one can have pure air, and as soft and clean a bed as can be desired. Any one doubting can come and see for themselves. I have no desire to teach; but I believe I never saw a horse-stable as free from bad odors in hot weather, as comfortable for the horses, and that made as little trouble to the owner as my own. And then, in addition, instead of a few loads of dry, fire-fanged stuff, in the fall, we have at least $30 worth of good manure. I do not figure this, either, on basis of what the same plant-food would cost in commercial fertilizers, but what it is practically worth to me to raise 30 cent potatoes.

Said one of your readers to me about a year ago—a refined gentleman he is, too—"Terry, let me beg of you not to preach *not* cleaning out stables daily any more. It is all right with you; but there are so many shiftless farmers who, if they undertook such a thing, would let their stock wallow in filth, that on the whole I think you had better not say anything about it." I feel the force of this kindly given caution; but yet, having found a good thing, long looked for, I cannot keep still. The leaky plank floors of the great mass of farmers' horse-stables, with the pungent ammonia escaping, strong enough almost to knock a man down, and the little pile of dry, worthless, fire-fanged manure outside, cry aloud for some reform that shall be more comfortable for the animals and less wasteful for the owner.

I assure those of your readers who are earnestly seeking for the best in this line, that cement, land plaster and straw will do just what I have said. It will double the quantity of horse manure, and again double its quality. It would doubtless be a revelation to hundreds of your readers to see the amount of good manure we wheel out from a tight, cement-bottomed stall every few weeks.

Let us hope that those who have not push and grit enough to carry out so simple a matter, but would omit, sometimes, the dry, clean surface of straw, and the odor-absorbing land plaster, may overlook this letter. This for the sake of the poor animals. T. B. Terry.

Summit County, O., June 25.

Notes from North Dakota—I.

Eds. Country Gentleman—For several days past I have been traveling through the great northwestern wheat belt. I have stopped and examined, with some care, the wheat fields and methods of farming at various points between Fargo and Bismarck on the Northern Pacific railroad. Those familiar only with the appearance of farms in our eastern States can scarcely imagine the contrast presented by those of the Northwest. The whole outlook is different. In size, method of farming, appearance of farm buildings and in general aspect, the farms of Dakota are as different from the farms of New-York and Ohio as a ten-acre corn-field is different from a good family kitchen garden. Picture to yourself mile after mile of perfectly level or gently undulating land, with no deforming fences, no shrubs or trees, simply one vast expanse of green, then a light yellow as it approaches maturity, and then a golden yellow as the straw and kernels ripen.

How rapidly our wheat-growing centres have been moving westward! Half a century ago the Genesee valley supplied most of the wheat or flour needed by the great commercial and manufacturing centres of the farther east; ten years later Ohio was the principal resource; another ten and Indiana, Michigan and Northern Illinois were the then noted wheat regions; another decade and a large portion of the wheat imported into New-England came from beyond the Mississippi, and Iowa, Minnesota and Kansas were each sending large contributions. To-day North and South Dakota are exporting more wheat than any other States. I do not mean that many of the States before mentioned are not still raising more than they consume, much less would I imply that they are unable to produce a large surplus. The case is simply this: Land becoming more and more valuable as population increases, the farmers of the States east cannot compete with the natural wheat lands of the far west where farms can be had for little more than the asking, and means of transportation approach so near to perfection.

How much does it cost an average Dakota farmer to raise wheat? I have just returned from visiting several farms in the vicinity of Jamestown, Stutsman County. Upon inquiry I found that on the average the following figures were regarded as approximately correct for this particular locality—referring to land that has been broken; of course it costs some more than this; others reduce the price until it is considerably less.

Preparation of ground and seeding per acre	$1 20
Seed per acre	1 25
Harvesting and threshing per acre	2 50
Total	$5 00

On the whole, fifteen bushels per acre is regarded as a fair average crop. This at 75 cents per bushel would yield a gross income of $11.25 per acre, or $6 per acre clear of expenses.

From what I can learn, the failures are usually the direct result of extravagance, or lack of skill in management. Unnecessary debts for machinery are often incurred, and sometimes causes beyond control, like untimely frost or hail, bring defeat instead of success.

The best farmers here, as elsewhere, are not depending entirely upon a wheat crop, but are beginning to raise sheep, cattle and horses, and to keep a few pigs and some poultry. From what I can learn, a farmer who makes an intelligent use of the varied opportunities here offered need scarcely ever fail of success.

I met a good example of a fairly successful farmer the other day who gave me the following facts: "I came to Dakota in 1880, having just enough capital to purchase three teams. I took up a quarter section and began raising wheat. I soon found, however, that there was much risk in depending upon wheat entirely, so I began to gather a few head of cattle and other stock, little by little, as I could afford it. I have now three-quarter sections of land nearly paid for, stocked with seventy five head of cattle, fifteen horses and mules, twenty sheep, besides pigs and poultry. I have a house which cost me $900, and a barn worth $400." All of this property has been accumulated during the past nine years, and is a good showing for a man who started with so small an amount of money capital. I might multiply illustrations and cite numerous examples of more signal success, but such might be misleading. I have no interest in this country except that of a painstaking observer.

Do I advise emigration? Yes, if you are young and just starting for yourself in life, and have no special inducements where you are; if you intend to make a livelihood by farming, and cannot pay for a farm in the older States; if you are laboring in some factory, mill or shop, at low wages, and with uncertain prospects—then I would advise you to "go west."

Pioneer life is not what it once was. Cheap land can now be secured without depriving one's self of good neighborr, good roads, good schools and good churches. I would advise no one to come here without some money. You cannot expect any increase the first six months, and you must live in the meantime. I should judge that no State in the Union has a greater proportion of farmers who own their own farms than North Dakota. It is preeminently an agricultural State. As I have intimated, there are some failures, but the beginner who has resolved to be a good farmer, the renter or tenant of the Eastern and Middle States who, by years of toil, has accumulated a small capital, has little or nothing to risk and much to gain. In my next I will have something to say of preemptions, homesteads and tree claims. William R. Lazenby.

Jamestown, N. Dakota, July 4.

Baling Hay from the Field.

Eds. Country Gentleman—I notice in your late issue remarks from one of your contributors, relative to baling hay from the field, and beg to say: We tried it this year with clover and orchard grass, cut from the middle to 20th of June. We found ourselves unable to store more than half our first cutting of grass, and as we could get $15 per ton for it wholesale, we baled up and sold six tons. We had hauled it in to the barn, and began at once to bale and haul off to town. The first two loads baled up (from the top of the mow—the last hay drawn in) warmed up in the bale; and for fear of trouble we laid off a couple of days and then began again and experienced no trouble afterwards.

We infer from this that we cannot safely bale from the field. That is, we cannot bale without having the hay heat in the bale. The question then arises does it hurt hay to heat in the bale any more than it does to heat in the hay mow?

Suppose the heated bale is laid away and not opened for several months—will the quality of the hay be as good as though it had gone through the heat in the hay-mow instead of the bale?

We would like to bale up and sell about 20 tons each year fresh from the field; as then it weighs well and brings a better price than afterwards. Consequently we would like to know all about this question.

In these latter years hay is not cured in the sun as much as used to be done. It is put in the barn in such shape that it all heats in the mow. Is not the best of the one the same as that of the other, providing both are undisturbed?

We have a late piece of clover and timothy now ready for the mower. It will yield fully two tons per acre and if we can get $15 per ton for it we want to haul it to town as soon as cured. Will some of the readers of the Country Gentleman give us light upon this point?

This is a fine market for hay. We could sell a thousand tons of good timothy hay for $18 per ton, or twice that amount of clover and timothy or clover and orchard grass mixed, for $15 per ton. The May Monthly Bulletin of our "Chamber of Commerce" shows that during the month of May 1,815 tons of hay was received in this city from

points north and west. This is at the rate of 20,000 tons annually. This large amount is consumed in this portion of the South, and yet at the same time we have hundreds of thousands of acres of the very finest grass lands lying idle.

The South is still "carrying coals to Newcastle." A. JEFFERS. *Norfolk, Va., July 2.*

Notes from Western Illinois.

EDS. COUNTRY GENTLEMAN—In this locality we have had an unusual season, putting to a severe test the foresight and good judgment of the farmer. March and early April were dry. The ground could be stirred in good condition almost every day, and as a result, oats and some corn were put in the ground unusually early. March was quite warm, but in April the weather changed to cold and wet, and for two to three weeks so remained. May was warmer, but wet, and during June very heavy rains were not infrequent. The past two weeks have been very warm and rather dry.

Oats sown in March, and treated to damp atmosphere until they approached maturity, and for a time to a cool atmosphere, have made a heavy crop. The straw is of good length, thick on the ground, and the heads are heavy. Each year shows me more plainly that one of the important points in raising big crops of oats is early sowing. Usually our climate is too hot and dry for this plant, which does better in the cooler, moister climate of England. By early sowing we get more moisture, and the crop is well along before the temperature stands high. We are also learning that oats do best in a firm bed—one in which the soil particles are not fused into considerable masses, but in which they, while distinct, are in close contact. Such condition is most favorable to the capillary rise of the water to the roots of the plants. Hence each year the plow is less used in preparing ground for oats, and the disc harrow is preferred. This saves labor and makes a better bed for this crop—compact below, looser on the surface. I very rarely see a field of oats drilled now. After giving drilling a fair trial, we have reached the conclusion that it is not so good as broadcasting. It may give better results elsewhere; if so, will some reader please report, giving peculiarities of soil and climate?

This season again demonstrated the superiority of the bar-share plow for the early cultivation of corn in wet (and especially in cold and wet) weather. The bar share makes furrows and ridges. The water drains from the ridges and is carried off in the furrows, and as this condition of the ground facilitates its drying, it also hastens its warming, for water heats more slowly than earth. The bar-share also exposes more surface to the sun and air, and it leaves the corn on a narrow ridge, which is soon dried and warmed. Corn on such a ridge will be of a good color and growing nicely, when corn on ground kept level with cultivators will be yellow and stunted. When corn is small, the bar share can be run quite close to it, and four inches deep, without material injury to the roots. With good team and good double bar-share plow, I can leave the corn on a ridge only five inches wide, and this is the best first working of corn when the weather is cold and wet; of course soon crossing the ridges with cultivator, to get some earth to the corn. If the weather continues cold and wet, the thing to use is the extra shovels (half bar share) now furnished for our two-horse cultivators. These are midway between the bar-share plow and the cultivator shoval, and put some earth to the corn, while leaving the ground somewhat ridged. Continued wet weather fuses and solidifies the ground, and it must be loosened before the corn can make a good growth. If we have used the bar-share, we can loosen the ground with much less damage to the roots and shock to the plant than if the ordinary cultivators have been used throughout.

For some years farmers were extreme in their use of the cultivator. Level cultivation, generally the better, was accepted to be always the better. Strange as it may be, the fact that the cultivators have wheels, while the bar-shares have none, was not a little responsible for the popularity of the former. This spring, when we told our help to get out the bar-shares, they "kicked" vigorously. One hand "would be durned if he used those old fashioned things," but the old fashioned things were used; and now, when our corn is compared with corn that knew only the cultivator, our help acknowledge that we did "hit it." Do not sell your bar-shares for old iron—you will need them, *for* there will be cold, wet weather just after the corn is planted some time in the future.

I own up to making mistakes, but we hit it on another thing—we allowed our sod ground to lie for three weeks almost ready for the planter, without planting. That ground was as full of cut-worms as a mule colt is of tricks, and we knew that as long as the weather was cool and damp the worms would cut off the corn about as fast as it got to the surface. Cool, moist weather makes the cut-worm active, hungry and happy, but when the weather is hot he curls up and deceases. As the sod was tough, allowing it to lie in the rain did not much reduce its condition, and we got it planted almost as soon as the weather turned, and had a good stand, while the cut-worms' season was about over when the corn began to show green along the rows. Those who planted while the weather was cool and wet, got a poor stand and the worms finished the job. They had the fun of planting again. When the cut-worms are numerous and the weather cool and wet, keep the planter under the shed.

I have never seen the wheat more uneven. Some fields are splendid; some were put in corn, and more should have been plowed up. On low, moist ground the wheat is the best. It is better on the prairie than on the timber land. The winter and early spring were too dry; and if the heavy rains had been two weeks later, the damage done by chinch-bugs would have been very heavy. I cannot remember having seen them in such force so early in the season. The exceptional winter and spring were probably responsible for it. Before corn planting was done they had swarmed from the wheat in the corn fields in places. Fortunately the rains were heavy and numerous through May, and it was once again demonstrated that the chinch bug cannot stand up against heavy rains. Nevertheless, some fields were seriously injured by this pest. Later, *Sphenophora cærea* appeared in force, but too late to do any considerable damage, except in a very few fields. Our greatest concern has been to get the wheat harvested. The ground was so soft that using the self-binder was exceedingly difficult, and during some precious days was out of the question. Though we put on enough horses to pull the machine through, its mechanism would not work. It seemed hard to go back to binding by hand, but a few did this rather than allow their grain to stand longer. I can drive our old Buckeye Junior dropper through places with two horses that six horses can barely get the self-binder through, and the reaper will work, while the self binder will not. The old reaper is another thing that it is well to give good care.

Wheat is short in the straw; timothy is a light crop; but I have never seen a heavier growth of clover in both pasture and meadow. From some pastures, which had supported the usual amount of grazing, from two to three tons of cured hay per acre was cut. The trouble was to get our clover cured. I must confess that in spite of all we could do we lost twenty acres of very heavy hay outright. Ten days after it was cut the winrows were hid by the new growth. We count on a heavy seed crop. In addition to the clover lost outright, much was put up in bad condition. The ground was saturated, the air moist, and we had scarcely a whole day without rain. White clover has sprung up as if by magic on the roadsides, in blue-grass pastures, &c., and the bees are having a pic-nic. Why does not some one argue that some grass or weed turns to white clover?

In June our corn was in a critical condition. The heavy rains had gullied the fields and washed much of the corn away. On account of the dry spring the weeds and grass were slow to start, but we had been kept from the fields so much that they were beginning to look threatening. Another ten days of rain and we could not have made more than half a crop at best. But fortunately the weather changed, and on our soils the recuperative powers of corn are wonderful. With favorable weather from this on, we shall have very near an average crop. As a considerable part of the corn is late, much yet depends upon the weather this month and during August. But I have seen two thousand bushels of corn, shelled, taken from forty acres planted July 3 and 4, and cultivated only once.

Quincy, Ill., July 8. JOHN M. STAHL.

The Season in Central Ohio.

EDS. COUNTRY GENTLEMAN — The recent rains have almost doubled the work of making clover hay. Tedders have been in demand, and notwithstanding the best appliances the crop has suffered considerably. The growth was very fair, though in many places the presence of the ox eye daisy detracted much from its quality. The stand of young clover was materially injured by the drouth of April. This also added much to the labor of preparing the ground for corn. Most of the corn, however, was planted in good condition and germinated well. The difficulty came with the cool weather of the latter part of May. We had a heavy frost on the 23d, which was a severe check to the corn that was up. After this the growth was retarded by both the wire and cut-worm. In this immediate section the season has been unusually favorable for cultivating corn. Notwithstanding the numerous rains of late, the ground has not been soaked, and cultivation could be resumed at once. It is remarkable that the cornfields here are freer from weeds and the soil more loamy than they have been for years.

It was my privilege to take a recent journey of 170 miles across the central portion of the State. From Mansfield to Columbus corn has suffered from excessive rainfall, and the weeds were fast getting a footing. The poor wheat fields were much more numerous than the good ones. Farther on, at Urbana, the wheat while in bloom had been blasted by a severe hailstorm which almost ruined the crop. If the wheat seen was representative of the entire country, there must necessarily be a shortage. The growth of white clover is almost phenomenal, and is delightful to the bee-keeper's eyes, as well it may be, since the past few seasons have been poor for honey. Every potato patch was growing luxuriantly. Oats were growing well, and in a measure were overcoming the back set by the drouth in the early part of the season.

Reaching Columbus, I spent a short time at the experiment station. This is located at the State university grounds. The soil has the disadvantage of being naturally very productive, yielding 30 bushels of wheat and 100 bushels of corn per acre without manure, so that some of the experiments with fertilizers are a little unsatisfactory on this account. The veterinary department has just undertaken some original investigations in regard to the swine plague. Rabbits are treated with the disease germ, and the progress of the disease carefully studied. Those who have the experiments in charge, hope to develop something different from what the Washington people have done. ROBT. L. DEAN.

Orange County, O., July 6.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *July 10.*

The present is the cataclysmal week for this region, but so far we have seen nothing of a cataclysm, nor anything resembling a thunder storm or rain. For those not familiar with the circumstances, or who have forgotten them, let me say that for the past four years this region has experienced a severe summer storm and rain on July 9th, and therefore we had some reason to look for one on that date this year. However, the Signal Service office at Chicago says that there have been heavy rains north, and they are coming this way, and we may get a deluge and a downpour the current week.

Except the corn crop, I do not know any other that would be better for a good rain. The present is hot, dry and seasonable harvest weather, and most of the winter wheat has been secured in good order. Rust has done little or no damage, and the midge scarcely more, and the yield will be 12 to 15 bushels of grain, the most of which will grade No. 2. Oats are putting on the color of approaching maturity, and are standing up unusually well, with here and there a bleached spot, showing the presence and work of the midge. Corn is improving over its appearance a week or two after the rain, but still I do not know that I ever saw it so backward and in so bad a plight as now. The stand on many pieces is far from full; on others the weeds have the upper hand; the indications of firing are not wanting in fields otherwise in good plight, and the best that can be said of it is two-thirds of a full crop average. Still, if Central Illinois farmers shall be fortunate enough to have harvest weather continue as it has begun, and the enormous oat crop be secured in good order, together with winter wheat and hay, they will be able to bear the loss of a third or a half of the corn crop without impending financial disaster. When at this season of the year No. 2 corn in farmers' hands will not bring, delivered, over 30c. for 70 lbs. in the ear, and when oats of the same grade do not command over 17 to 23c. for 32 lbs., perhaps a 30 to 40 per cent. reduction of the aggregate yield of the great cereal may not be altogether a misfortune.

LATER, 1.30 P. M.—The above was written between 9 and 10 o'clock this morning. At the latter hour a few clouds only were present in the sky, the barometer was steady at 30.21, the thermometer stood at 86°, and about the only indication of rain was a very oppressive atmosphere. At 10.30 masses of clouds formed in the northwest, at 11 it began to rain, and continued so freely for an hour that the rain gauge recorded a full inch of precipitation. During the downpour there was little thunder and less wind. The heat, an oppressive atmosphere and a steady barometer continue, and more and heavy rain is probable the coming twelve hours.

July 12.—Very close and sultry for two or three days. Heavy rain and thunder shower between 1 and 2 P. M. An inch of rain fell straight down in less than 30 minutes. R. J.

The Trucking Belt in Virginia.

EDS COUNTRY GENTLEMAN—We have just passed through one of the most trying seasons for many years. Commencing June 19th and ending July 5th, rain fell on 11 days out of the 17. The rainfall for this time (16 days) was 6.21 inches. These figures are taken from the reports of the government signal service station located in this city. The great trouble was that this heavy rain came just in time to stop the shipments of the potato crop which was just ready to go north. Potato digging was almost entirely stopped and full two weeks' time was lost to our truckers. The result is that now we are compelled to ship our potatoes north in competition with the Long Island and Jersey crop. This section is usually nearly four weeks ahead of the northern points named, but this year these points seemed to be ahead of time about two weeks, while we were behind about two weeks, so that the crops have clashed more or less during the entire season.

The rains ceased on the 5th of July, and on the 5th of the month (only three days thereafter) all the plows in the country were in motion to try to kill the weeds that will persist in growing whether anything else grows or not. One very fine feature here is the fact that we can go on our lands more quickly after heavy rains than in most any other portion of the country. The arms of the sea penetrating the land in every direction afford the finest natural drainage to be found anywhere—in fact there is not a farm in Norfolk county that is over three miles from navigable water. Many of our farmers are giving some attention to tile drainage with the very happiest results imaginable.

The weather seems to be settled now and the fine crop of clover that has been suffering to be cut, will be speedily put into the barn. A part of the clover and orchard grass was cut and saved before the rains set in, but the clover and timothy was late enough to get caught. June is usually the driest month in summer; which gives the farmer a good chance to get his corn well cleaned out, and his farm work well up. There is an old adage that "A dry June never bega bread." But June was very wet this season, so, if there is any truth in the adage the corn crop is to be short. We usually have from 70 to 80 rains (big and little) during our six months season beginning with April, or an average of about 13 rains per month. Now that we have had a large excess of rainfall early in the season we may look for a lack of rainfall later on.

We see that for the month of June, 1,662 tons of baled hay was received in this port. Those farmers here who have gone into hay raising are literally in clover; as they are able to sell their hay at prices ranging from $12 to $16 per ton. Bran sells at $18, ship stuff, $19 and middlings for $21 per ton wholesale. Oats 23 to 40c. per bush.; apples, $1.50 to $1.75 per bbl. wholesale. Potatoes about the same. Our farmers are getting 35 to 50c. per lb. for butter, and 15c. per doz. for eggs. To-day (July 9th) is the warmest of the season so far, the thermometer registering 90° in the shade

in our office. This warm weather and moist condition of the soil will hasten the growth of corn, but the drying time comes a few weeks later when the ears are shooting.

It is becoming painfully evident to our people here in this great trucking belt, that too much truck is being raised and something must be done. The amount should be reduced and the quality improved. It is so hard, however, to secure cooperation, that we fear they will go right on planting the usual quantity in the usual way, and suffer another defeat next year. This is not good business management, nor is it good policy to continue to buy from 1,500 to 2,000 tons of hay per month, when double this amount could easily be grown here in a single county. The South has always erred in these directions—the tobacco belt is all tobacco; the cotton belt is all cotton; the trucking belt is all truck. However, we see signs that the leaven of "mixed farming" is working slowly in some sections. There is great need of it here. Of what advantage is it to a man to raise a big special crop, and then buy back during the entire year all the staple articles consumed on the farm?

Norfolk, Va. A. JEFFERS.

The Season in Northern Illinois.

ED. COUNTRY GENTLEMAN—With the rest of the world we have had an undue share of rain this spring, and apparently it is not yet over, but so far it has done us but little damage. Corn is small for the season and rather weedy. Oats very tall and beginning to go down where the ground is rich; they are fairly well headed out already. Rye looks well. Wheat we do not raise. There is promise of a very heavy hay crop, greater even than that of last year, of which there was a considerable surplus left this spring on our farmers' hands, which they are now baling and shipping at $6 per ton. Two years ago we imported large quantities of baled hay. It is a crop which has been growing greatly in importance for some years. Farms being generally large and the stock of cattle too small to keep up their fertility, our people began to find that the more hay the more cattle, and the more cattle the more corn. For two years past the price of cattle has been so low that cows and calves have been almost unsalable, and in this way large stocks have accumulated.

This now proves to have been an advantage, for the Anglo Swiss Condensed Milk Company has just got one portion of their immense pile of buildings sufficiently advanced to begin manufacture, and they have contracted for the milk of about one thousand cows. Their full capacity will be about 6,000. They have two artesian wells yielding about a thousand gallons a minute. The establishment of such a factory here bids fair to revolutionize our present system of farming, and is the one ray of light in the Cimmerian darkness, which has been settling over all agriculture for some years past. They refuse all milk hauled in wagons a greater distance than five miles, and have invested road-making with fresh interest. Already that soulless corporation, the railroad company, has given us a way under instead of over their track, which we have been crossing for years to our great danger and delay. The contracts of the company are for an average of $1.10 the year round for 100 lbs. of milk, and are very particular as to cleanliness and feeding of cows—no turnips, cabbages, brewers' grains, starch grains, ensilage or sour feed of any kind are allowed. The company furnishes and washes the cans, and they also furnish a refrigerator—a utensil in which the milk, as it is strained, passes over a convoluted surface of zinc, which is cooled by running water fresh from the well through it. This takes off the animal heat from the milk at once, and should be a great aid in butter making. These are made in Baden, Germany, whence I believe the company gets most of its implements, for the manager told me that he found the charges of our combined protected manufacturers in Chicago so high that he would send abroad for most of their copper ware.

Whenever I find three or four farmers gathered together, they are sure to be discussing milk versus butter, some contending that butter-making is the more profitable, even at the present price of ten cents a pound; but there are generally more who claim that they make 3 pounds of butter to the 100 of milk, and value the skimmed milk at 20 cents per 100. It is stated that the average yearly yield of milk of the cows at Elgin is 6,897 pounds. This seems very high, for in the COUNTRY GENTLEMAN is given the report of New-York State Dairy Commissioner Brown, who gives the average yearly yield of milk of 407,810 cows at 3,054 pounds, with the great variation, which is hard to understand, of an average yield in Seneca County of 7,200 down to 1,419 in Genesee. Have those statistics any real value? Here we consider 10 quarts a day for nine months a fair average. This is about 5,500 pounds, which, at $1.10 per 100, is $60.50. This would be better than I have ever done per cow by butter.

Dishorning cattle appears to be growing in favor here. Wherever I go I see whole herds of apparently polled cattle, cows as well as steers. It is unquestionably safer in the case of bulls to remove the horns, and where large numbers of cattle are fed loose together, and still more watered at a tank, the stronger or ill-tempered ones can no longer keep the others from food and water. I saw a professor of the art at work a short time ago. His charge was ten cents a head and he was entitled to the horns, of which he seemed to make so use though they must have a considerable market value, and he told me he had operated on as many as a hundred in a day. He has a box stall on truck wheels. This was placed opposite the door of the shed in which the cattle were confined; a stanchion was at one end of the stall, the sills of which projected far enough to have a windlass mortised into them, to which was attached a noosed rope. The animal was driven from the shed into the stall and secured in the stanchion; the noosed rope passed over its head back of the horn and then around its nose, the windlass wound till the neck was at full stretch; thus it could neither move nor utter a sound. The operator then sawed off the horns (first the further one) at their junction with the hair; the time occupied did not much exceed a minute. Of the pain it was impossible to judge, voice being denied, but the eyes were turned up in the head and a great gaping hollow left from which it almost seemed one could see into the animal's brain. However, on being turned loose their altered appearance will generally cause a short fight and they fed at once, but weeks elapse before the wound ceases to run.

Two years ago several of my cows had lumps along the neck and jaws, some of which broke into running sores. There was a little of this last year, and this year some of the cows are lame in the feet, the sore being in the cleft and in the heels at the junction of the hoof and skin. We have washed with carbolic acid, and kept the cows in a river pasture when they stand in the water most of the day with good effect. I have connected all these ailments with impoverishment of the blood owing to the poor feed in our two years of drouth.

Essays by the thousand have been written on "How shall we keep our boys on the farm?" but I have seen none on "How shall we keep our old men on the farm?" and yet our "lean and slippered pantaloons," are moving in numbers into the towns. As they have little or no means beyond the uncertain returns from rented land, they can still practice the Spartan virtues necessary in farm life, closely calculate the outlay of every penny, and pinch a pleayune till the pillars are off. They have the mild dissipation of a grey beard farmer's club in which to fight their battles o'er again, and they have a chance by contact with their fellow men, to rub off some of the callosities of toil. Enforced idleness may bring about enforced reading which may enlarge their horizons, and teach them when all too late, on which side their bread is buttered. A good beginning in literature would be the report of the assessor of the State of New-York, in which he speaks of the fast growing deterioration of farm property in comparison with that in cities, and goes on to say that from the increasing indebtedness of farmers by mortgages, &c., it seems probable that soon none but tenant farmers would be found in the State. And from all accounts this is the case in most States.

Another instructive piece of reading is the report of the proceedings of the congressional committee with senator Culbom at its head, sent to inquire into the state of our commercial relations with Canada, in which answer to an inquiry as to whether the Canadian Pacific railroad was not competing with our roads unfavorably to them. Mr Chauncey M. Depew said that he really could not see why the country at large was not a gainer even if the British government chose to subsidize a road so as to enable it to carry our produce free. This, coming from the president of the New York Central, must have bewildered the committee—"*consilii at sex faucibus hæsit*." It stood agape, and its voice stuck to its jaws, at such a reply, which showed them how entirely they had lost sight of what should be the object of all legislation—not corporate, but public good.

Dixon, July 1. J. T. L.

English Crop Prospects.—Our correspondent, Mr. T. BOWICK, writes under date of London, June 29th:

"Real queen's weather has been associated with the visit of the Royal Show to Windsor. With a high day temperature, and drying breezes, we have had comparatively cool nights, and hence all cereals have been kept in a thriving, healthy state. Oats in particular show up well, while a full yield of barley is also expected. It cannot be said that roots are looking to advantage, but then the hay is all that can be desired, whether in bulk or in fineness of the season for making it. Hop intelligence is at the moment to the last degree promising; fly has disappeared, mould or honeydew is not at all troublesome, and there is plenty of time to secure a full crop. Many plantations have been 'washed,' which is evidently a good thing, whether for plant or animal; and, as previously mentioned, the new implement (which goes by the name of its Berkshire inventor, the Strawsconiser) has an evident range of usefulness that cannot be overlooked. Reports are also favorable from the Continent, and the outlook all round is as good as can be desired."

Weather, Crops and Prices.

Meteorology for July 8-14.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30.08	inches.
Lowest	do.	do.	29.80	do.
Mean	do.	do.	29.90	do.
Highest temperature	do.		89°	
Lowest	do.	do.	61°	
Mean	do.	do.	79°	

One clear day; two fair; four cloudy. Three days on which rain fell; total precipitation, 0.60 inch. Prevailing wind, S. E. and S.; maximum velocity, 15 miles per hour, on the 10th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	8th	9th	10th	11th	12th	13th	14th
Day	82°	90°	76°	69°	80°	79°	76°
This year	74°	80°	76°	69°	80°	79°	76°
Normal	72°	74°	75°	72°	72°	72°	72°

Total excess for the week, 9°.

General Review of the Week.

The week has been slightly warmer than usual from the Middle Atlantic States westward to the Missouri Valley, while the temperature has been slightly below the normal generally throughout the Southern States and New-England, the greatest departures occurring along the New-England and Gulf coasts, where the daily temperature averaged 3° below the normal. In the principal corn States of the central valleys about the normal temperature prevailed, while in Michigan, Wisconsin, Iowa and the southern portions of Minnesota and Dakota the daily excess of temperature amounted to about 2°. The thermal conditions for the season, from January 1st to July 13th, remain about as previously reported. In all agricultural districts of the central valleys, extending from the Gulf States northward to the lake region and Iowa, the average daily temperature differs less than 1° from the normal, while in Southern New-England, Eastern New York, Dakota and Northwest Minnesota the season has been warmer than usual, the daily excess of temperature ranging from 2° to 4°.

There has been an excess of rain during the week generally throughout Iowa, Wisconsin, Nebraska, Northern Kansas, and the greater portions of Dakota and Minnesota. A large excess of rainfall also occurred along the east gulf coast, including Southeastern Louisiana, Northern Florida, and southern portions of Mississippi and Alabama. Heavy local rains also occurred in Arkansas, Western Tennessee, Central Indiana, and Southern Virginia. The rainfall was less than usual in all other districts, although well-distributed rains occurred throughout the gulf States, Western Tennessee, Georgia, Texas, Kansas, and Southern portions of Illinois and Missouri. Only light showers occurred in New-England, the Middle Atlantic States, Ohio, and Lower Michigan. The rainfall for the season continues in excess from New-York southward to Florida, and in Texas, the west portions of Kansas and Nebraska, Eastern Iowa, Northern Illinois and eastern portions of Wisconsin. In the central portion of the cotton region the rainfall generally exceeds 60 per cent. of the normal. In the principal corn States of the central valleys the seasonal rainfall has been unevenly distributed, but the greater portion of the area has received about 80 per cent. of the normal rainfall. There is, however, a well-marked area in the Ohio valley, including Southern Indiana, Southwest Ohio, and northern portions of Kentucky, within which the seasonal rainfall ranges from 85 to 70 per cent. of the normal. The seasonal rainfall in Northwest Minnesota and Northeast Dakota amounts to less than 60 per cent. of the average for that region, although well-distributed rains have occurred in that section during the past two weeks.

The weather during the week has been generally favorable to all growing crops throughout the corn and wheat regions of the central valleys, extending from Tennessee northward to the lakes, and from Pennsylvania westward to Kansas, Nebraska and Dakota. The crops are reported as improved in the spring wheat region of Dakota and Minnesota, where harvesting is in progress in the southern counties. The weather has been favorable for harvesting in the winter wheat-belt, and the work of securing the crop is well advanced, the reports indicating an average yield. Reports from all corn-producing States indicate that this crop, which is in fine condition, was greatly improved. This applies not only to the principal corn-producing States of the North, but to Kentucky, Tennessee and Alabama. Excessive rains in the southwest have injured crops, especially cotton in Mississippi, Louisiana, Eastern Arkansas, and portions of Texas. In the last named State crops are improving, but too much rain is reported in localities. The weather was favorable for the rice crop in Louisiana, and for tobacco in Kentucky, Virginia and North Carolina. The weather of the week was a great improvement over that of the previous week in North and South Carolina. In the last-named State the crop prospects were improved, and some cotton is blooming. In the Middle Atlantic States the weather was favorable for harvesting, but much hay and some wheat were injured by previous rains; all other crops are doing well. Haying has been greatly delayed in New-England, and oats are reported as rusting, while other crops were improved, and the harvesting of rye is in progress in Connecticut. Reports from Iowa show that the weather of the past two weeks has greatly improved the hay crop in that section, and the yield is better than was anticipated during June. A late report from Nebraska states that the weather for the week was too wet for harvesting, but was very favorable for corn.

Maine—*Aroostook County, July 8*—Spring was uncommonly pleasant in Northern Maine, with much dry, warm weather, and few rainy days, enabling farmers to finish cropping earlier than usual. Potatoes are the main crop raised now, and the acreage is every year increasing—farmers depend more on commercial fertilizers and keep hardly as much live stock now as 15 or 20 years ago, but the potato crop in this part of the county will be a light one; the seed rotted in the ground in the south half of the county; many fields have been plowed up and sown to grain. On other fields the potatoes were allowed to remain with the prospect of half a crop. The only cause assigned was the hot weather and dry condition of the ground during planting time, with perhaps too deep covering. Twenty years ago potatoes were not generally raised as a farm crop; now the annual production is nearly 3,000,000 bushels. G. F. M.

New-Jersey—*Vineland Cumberland, Co., July 13*—The month of June ult. has been decidedly wet for farmers, though the Washington weather clerk here marks but 3¼ inches of rain for that month; eight rainy days and thirteen cloudy, some of which were drizzly. Old settlers born in South Jersey have remarked that we have a series of years of similar weather—steady cold winters, or warm and wet, then hot dry summers—and now it is certain we are in the second of a very wet season—a better growing one than last year, which was cold and backward. July opened with five rainy days, but pleasant, though several hot, cloudy days since. Our pear and grape crops were severely damaged by spring storms and the rose-bug. The sweet potato crop looks exceedingly promising. The cut-put has increased 40 to 50 per cent., many farmers having set 40,000, 60,000 and 100,000 plants, where formerly but half the number were grown. The corn and grass crops are remarkably good. Tame hay has sold as low as $6 per ton in field, $10@12 on the street; best tub butter, retail, 20c. per lb.; coal, delivered this month, $4.75 (ton) and $5 (stove) per ton; our blackberries are 6@8c. per qt., in New-York. C. E. C.

Ohio—*Mechanicsburg, Champaign Co., July 11*—Weather partly cloudy, mercury 92° in shade. We have had several days of hot oppressive weather, mostly fair. Glorious weather for the farmers for saving hay and wheat. There has been one-tenth of wheat cut, and many are done haying. In the spring when we had such a drouth many said there would be no crops. But everything has come out all right. Corn is growing rapidly, and early potatoes were never any finer; oats promise a good crop. Hay has turned out better than many expected it would, and the Ohio farmers should be truly thankful for the many blessings they receive. Indications of showers. Eggs, 10c. per doz.; butter, 10@13c. per lb.; new potatoes, 50@60c. per bush. E. W.

Missouri—*Kansas City, July 6*—June has been a splendid month, the mercury has gone only a little over 90° in the shade at any time, and the nights have been cool and comfortable for sleep. Some thunder showers. The farmers rejoice over the promise of their crops, which bid fair to yield the most bountiful harvest that has been garnered for years. Early apples and peaches are abundant, and black raspberries plenty. Red raspberries and blackberries are being cultivated, and in a year or two will be plenty. Market gardening is a great industry, and the supply of vegetables is hardly equal to the demand. Potatoes, new, are 35@40c. per bu.; beets and onions, 5c. per doz.; cabbages, 5c.; apples and peaches, 5c. per doz. (a nickel is the smallest coin in use); salt pork, 8c. per lb.; butter, 13@20c.; lard, 9@10c. S. E. B.

Wisconsin—*Janesville, Rock Co, July 9*—Now we are having just what all the corn raisers have been wishing for. The mercury has ranged from 68° to 98° in the shade. Grass in some places begins to look scared and brown. Rain is now needed. Indications of an electric storm near at hand. The crops still maintain a healthy, vigorous growth. Haying is well advanced, and excepting in one solitary case, so far as I know, the crop will be abundant—quite above the average. Tobacco growers are quite jubilant, they have never had a better prospect in Wisconsin than now for the tobacco. All cereals are in fine prospect. Corn is improving beyond all expectations, and is now expected to be a fair crop at least. We seem to have entirely forsaken clover seed, sorghum and broom-corn—one of these are mentioned even. Wheat, 65@80c. per bu.; barley, 30@45c.; rye, 40c.; corn, 30c.; oats, 28c.; potatoes, 60c.; hay, $4@7 50 per ton; butter, 10c. per lb.; eggs, 10c. per doz.; cattle, $3.40@3 50 per cwt.; hogs, $4@4 60; tobacco, 9½@3½c. per lb; fillers and binders, 11½c. W. B.

Horticultural Department.

Experiments with Hedges.

The merits of hedges having engaged the attention recently of several correspondents of the COUNTRY GENTLEMAN, it may be interesting to give some of the results and conclusions of forty years' experience with different hedge plants, under different kinds of treatment. It is well to state in advance that the conclusions reached from these experiments, are that hedges are not adapted to the wants of the majority of the farmers of this country, under the management which they can be induced to give them. But under certain circumstances they are found to possess special merits, and although barbed wire will be generally adopted, yet well-grown hedges in some places will be esteemed as possessing special value.

A leading and conspicuous reason why hedges are not more widely adopted, is the careless management which they have generally received after the plants have been once set out. Even where the planting has been well performed, the subsequent cultivation has been entirely neglected, and the young plants have had to contend with a hard or crusted soil, and been overgrown with weeds and grass. More frequently, however, badly dug and mutilated plants have been hurriedly set in a cloddy earth, and all that was left of

Fig. 1.

the intended hedge in a year or more, were the few stragglers among weeds represented by fig 1.

In the experiments which we commenced some thirty years ago, with the osage orange, a tile drain three feet deep had been previously cut for other purposes, about seven feet away from the hedge line, as a dry bottom was indispensable, and it should be far enough from a hedge to prevent the tile being choked by the roots. All previous experiments showed that the osage plants were more or less winter-killed on a wet subsoil; but with the treatment given they proved hardy on a dry bottom. The line being marked out, the strip of land eight feet wide was made clean and mellow with the plow and harrow. None but good, healthy, vigorous plants were set; all poor, imperfect or injured ones were cast aside. The four feet of mellow soil on each side was kept clean and mellow through the season with the one-horse cultivator.

Fig. 2 represents an end view of the young hedge under this treatment. Early the next spring the plants were cut down to within 3 inches of the ground, causing them to throw out numerous side shoots, and thus making a thick hedge on the start at the bottom. This cutting back was continued in successive years, each cutting being a few inches above the previous one, thus giving a thick growth of side shoots all the way up, and an end view of which is represented by fig. 3. While the hedge was young, and for several years, the usual cutting into symmetrical exterior (fig. 4)

Fig. 4.

was performed rapidly with a stiff scythe; but when the growth became older and stiffer, a heavier blade became necessary for this operation (fig. 5), requiring about twice as much

Fig. 5.

time and labor, a common laborer going over half a mile or more, on both sides, in a day. This work was usually done about the first of August, while the shoots were still green, soft and easily cut, and at a time when it tended to check and mature the growth. About four years were required to make the hedge a good farm barrier, and to render the use of the one-horse cultivator unnecessary for the future.

Fig. 6 represents an oblique view of the hedge when eight or ten years old, being kept in handsome shape by this annual cutting back. It has now been over twenty years after the completion of the growth of this half-mile hedge, without any further care than annual cutting-in of the exterior; but it has gradual-

Fig. 3.

ly increased in breadth and height, and it is now seven feet high, and about four and a half feet thick at the bottom, and tapering to a peak at the top. It is a perfect barrier against any farm animal.

But it is becoming too large; and it will be reduced by the same way that has been successful with a portion. During the latter part of winter or early in spring, before growth, has commenced, the necessary sharp tools, consisting of a light axe or hatchet, and some smaller cutting tools, are provided, and with these the height is reduced to four and a half feet, and the sides cut into about two feet at the bottom, and running up to a sharp edge at the top. Now shoots spring out, and the whole becomes a good, compact hedge, requiring only the annual cutting back of the young shoots. This hedge thus reduced, although only four and a half feet high, serves as an efficient barrier between a cattle yard and a garden, no animals attempting to pass it, the thorns with which it is armed serving a purpose similar to the barbs on the wire.

It may not be safe to reduce so low and narrow such hedges as have not been kept previously in proper condition, and five feet high would probably be better.

The preceding experiments were made before the introduction of barb wire—one of the greatest inventions ever made for farmers, and which has already saved them many millions in this country. Hedges and barb wire combined make a very efficient barrier, and enable farmers and landowners generally to use some good hedge plants, such as the barberry and buckthorn, which were too feeble without this additional element of strength—two or at most three barb wires included within the hedge, during its growth, rendering them impassable.

The Osage hedges which we made many years ago were set and cultivated in the manner we have described, the only hand labor being the setting of the young plants eight inches apart, which is quite near enough. The cost of the hedge the first four years, including plowing the strip of land, setting the plants, passing the cultivator several times, the same as for a row of corn, was 35 cents a rod for the first year, and less for the entire three subsequent years.

The following are eight reasons for the common failure of hedges for the last fifty years, and before the general use of barbed wire. 1. Selection of wet subsoil. 2 Planting on a narrow cloddy strip of ground. 3. Setting out good and bad plants intermixed in order to save all. 4. Want of cultivating a broad, clean mellow strip of land on both sides for several years. 5. Allowing grass and weeds to check the hedge plants. 6. Neglecting cutting back, with the mistaken intention of allowing the hedge to "grow up quick." 7. Pruning wide or square at the top (fig. 7,) causing vacant growth below, instead of to a peak at top as in fig. 6. 8. Trimming or cutting back young plants while in a growing state, checking or killing them, fig. 8, instead of pruning earlier, and giving a vigorous start.

Much discussion has occurred throughout the country relative to the injuries inflicted on horses and other animals by coming in contact with barbed wires, and many persons have repeatedly urged their prohibition by law. We have had occasion to use and to recommend the two well known remedies for removing all danger. One, adapted to stony regions, is the use of a small rip-rap wall under the lower wire, which will deter animals from

Fig. 4.

running against them; and the other is plowing a shallow open ditch close to the fence on each side, throwing the earth from these ditches under the wire. Animals will avoid plunging into the visible ditch and striking the invisible wire. We have never known this remedy to fail of its intended purpose. It is well adapted to regions destitute of stones, and has some additional advantages. The bank of earth being thrown up a foot high after the posts are set and before the wire is added, the post-holes need not be more than a foot deep, and shorter posts may be used. The open ditches, in many places will accomplish useful drainage. The third remedy against accidents from the barbs, is the use of visible hedges, which may receive the wires while growing, and which, if galvanized wire is used, will last half an age without repairs, the hedge plants holding the wires in position. Such plants as the buckthorn, which may be raised, planted, and grown to a close hedge with much less labor than honey locust or Osage orange, may be thus rendered impassable to all farm animals, and very little cutting or shearing of the buckthorn is required. It may often happen that hedges may be preferred to barbed wire on ornamental grounds, and both combined would be much better than barbed wire alone, to enclose fruit gardens, the hedge being seven or eight feet high.

How to Have Poinsettias.

Poinsettia pulcherrima is one of the brilliant plants which stands unrivaled for winter dec-

Fig. 6.

Fig. 7.

Fig. 8.

oration, having scarlet bracts from 6 to 12 inches in diameter, which, when cut from firm and cool-grown plants, will remain fresh for two weeks or more. The flower stem, which is not pinched back, but allowed to grow, is covered with alternating bright green leaves, with lighter colored veins. At the end of this a cluster of narrower, smaller leaves or petals of the brightest red, each having a short stem of its own, appears. In the centre of these is the regular flower centre; each petal is at right angles to the stem, giving the flower a flat appearance. They may be used separately for small work, or the whole flower cluster may be used, as when a bunch is taken for vase decoration.

They are best grown from cuttings made during July, and should bloom at Christmas. If started in the early spring, the plants will be fully grown by August; the bottom leaves are then likely to fall off, and the plants do not improve. Late-rooted plants cannot do this, for they will grow on in cold frames until late September; then placed in six or eight-inch pots in a warmer temperature, they have a freshness, both in foliage and bloom, which the early ones never possess. They require no special forcing to have them in perfection in winter. They require good, tufty loam, with some leaf mould and a little sand added. To prevent them from growing spindling, they should be grown close to the glass. The largest bracts will be formed in a very warm temperature, but these will not be fresh after being cut more than a couple of days. There is a white-flowering variety, *P. p. alba*, which is not so effective or as much grown as the colored, and is useful as a white flower only. The double flowered *P. p. plenissima* is the most desirable, keeping long in bloom, though the single variety is as beautiful as one can ask for. There are dwarfs and tall growers. I have had them, some 18 inches and others 6 feet in height. ELMER F. SUMNER.

Niagara County, N. Y.

Forcing Tea Roses in America.

The following directions, by an American correspondent of the London Garden, include some good practical suggestions:

Thinking our method of forcing Tea roses in this country would be of benefit to English growers, I will endeavor to give a few leading points. The plants are propagated the second week in February, potted in 2 inch pots and kept growing, a shift into other pots being given as they require it. By the first week in July they are good plants in 4 inch or 5 inch pots, from which they are planted into the benches in the houses, the benches being made to hold 5 to 6 inches depth of soil, which is composed of good turfy loam, and about one-fourth part of thoroughly decayed manure. The plants require all the air that can possibly be given them while at rest in the summer, and frequent syringing to keep them clean and healthy. During the autumn they receive the same treatment, only they are more closely watched, as cold winds are sometimes very destructive, and should not be allowed to blow in upon them. I am greatly in favor of ample ventilation, to let the warm, close air escape. Great care is needed in watering during the dark days of November and December, as if the soil once gets soaked with water the plants are injured. They should be kept at a day temperature of 60° to 65°, and a night temperature of 50° to 55°. Painting the pipes here and there with a paste made of sulphur and lime is a good way to eradicate mildew. To keep green-fly down, a good syringing is preferable to fumigating, as tobacco smoke is sometimes very destructive to the buds, depriving them of their color, as well as deforming them. The plants should not be given a top-dressing of rotten manure till spring, as it excludes the air from the roots at the very time it is most needed. If they want a little nourishment before that time, some bone meal worked into the soil will be found very useful.

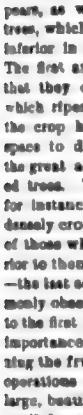
The varieties we grow are Lady Catherine Mermet, The Bride, Perle des Jardins, Pape Goutier, Bon Silene and Niphetos. They are all excellent roses, the last three being very free, while Lady Catherine Mermet and The Bride are the two most lovely roses in cultivation, being of superb form and great purity of color. A vase filled with some three or four dozen flowers of the last two named varieties, arranged loosely and artistically, is exceptionally beautiful. The plants are propagated from a single eye. Good solid wood, such as that from which a bloom has been cut, is the best. The cuttings are struck in clean sharp sand, in an open bench in the propagating house, with a top heat of 50° and a bottom heat of 65°; they root in about four weeks, and are potted when the roots are about an inch long.

Protecting the Peach.—In the colder regions of the West and Southwest, where the thermometer usually goes down in winter to a point fifteen or twenty degrees below zero, the fruit buds of the peach are destroyed, and this fruit cannot be grown there without special protection. At a late horticultural meeting in Illinois, G. W. Minier gave an account of a method which he had successfully adopted for several years. Late in autumn the earth was dug and thrown out at the foot of the tree on one side, then the tree was bent over and laid down on that side, and the branches which contained the fruit buds were well covered until the following spring. He had the satisfaction of eating peaches in this way from his own trees as long as he had practiced it. This mode answers well on young bearing trees, but old ones would be too stiff. When the young trees are set out, an oblong hole should be dug, so that the roots could be drawn out in two directions at right angles to the position intended for the prostrated tree, which will render the bending over much easier. We have known a modification of this mode, by planting the trees inclined nearly prostrate, so that a very slight downward movement would bring them in contact with the earth, when they could be easily covered with a foot or two of straw, cornstalks, or other protecting substance. The following spring they were raised a foot or two, and props placed under them to hold that position. In some well managed and successful experiments, nearly a bushel of fine peaches have been taken from a tree; and being freshly matured on the tree where they grew, they were much better in

quality than those brought by railway hundreds of miles from warmer regions. A third way is to plant an inclined row of peach trees at the foot of a sloping bank, so that the trees could be bent against the face of the bank for covering. All experiments in covering the trees when standing exposed and erect have ended in failure; they must be brought into contact with the earth, to receive its warmth.

Fine Flavor in Fruit.—As the period for the ripening of large fruits is approaching, it may be well to remind inexperienced cultivators of the importance of high culture for the development of the finest quality. Some years ago, two St. Ghislain pear trees bore fruit so unlike that they would not be recognized as the same variety. There was almost no similarity in flavor. One tree, bearing poor fruit, stood in a thick grass sod; the other, with excellent pears, was kept well cultivated. Early pears, as well as early peaches, on crowded trees, which ripen first on the tree, are much inferior in flavor to those which come later. The first are grown so thick on the branches that they cannot sufficiently mature; those which ripen later, after the early portion of the crop has been removed, have plenty of space to develop their fine quality. Hence the great advantage of early thinning crowded trees. Take the Summer Doyenné pear, for instance. Those which are first ripe on densely crowded limbs are about half the size of those which ripen last, and strikingly inferior to them in quality. So with early peaches—the last scattered ones on the tree are commonly observed to be greatly superior in flavor to the first which ripen. These facts teach the importance of good cultivation, and of thinning the fruit on crowded trees, both of which operations will always repay the grower in large, beautiful and excellent fruit, instead of small, knotty and flavorless specimens.

Ladder for Picking Fruit.—This may be made of 1-inch spruce or good pine, 16 feet long. It should be 20 inches from the upper end to the place where the sides part; 3 feet 6 inches from the end (*A*) put a 5 by ¼-inch carriage bolt, both ends let into the wood, so they will not mar the bark on the limbs; 20 inches below the bolt put your first rung, which should be 18 inches long. Now cut your lower rung 18 inches long, and the others so as to make a true slant from this one to the 10-inch rung and you have as nice a proportioned ladder as you could wish. We use these ladders of all lengths from 10 feet to 30 feet. They can be run up into a tree and under the limbs anywhere without injuring the tree or shaking down the fruit; can be set anywhere, are not so apt to turn, and will not split down the limbs when set in a crotch of the tree. In fact a person has only to use one to want more. They are something of our own devising, and so patent—so help yourselves.



Schuyler County, N. Y. L. A. POTTER.

Trees with Tap Roots.—It is generally supposed that such cannot be transplanted with success. Wanting a hickory to pot with maples for variety of foliage, I selected one growing on a steep hillside. During the summer of 1867 I dug under it, cutting the tap-root. I then put back the earth. There had been but little disturbance of the roots other than the one severed, and the tree did not appear to suffer. In the fall I dug around it leaving a ball of earth to freeze. By a rolling hitch with a chain I brought it to the top of the hill and placed it. It did not do well during the next spring, and of course the borer attacked it. I followed these worms up with a wire find clay, stopping all their holes. It took a good start at midsummer. The last spring it grew rapidly, and now the shoots are 18 inches long. Still the borer must be looked for though the tree is flourishing. I think it is now safe. The trunk at 3 feet from the ground is 4¼ inches in diameter, and the tree trimmed 15 feet high. W. H. M.

Stamford, Conn.

Fruit Culture in Missouri.—At the meeting of the Missouri Horticultural Society in June, several fruits were particularly recommended for their success in that State. Among apples, the Ben Davis and Jonathan were specially named among winter varieties. The Crescent and Cumberland strawberries are not yet driven out by the newer ones. The Snyder blackberry and the Hopkins raspberry, and the Cuthbert raspberry among the red varieties, are the favorites. The Yellow Spanish cherry is particularly successful in Southern Missouri.

The Entomologist.

Insects on Lima Beans—Squash Bugs.

EDS. COUNTRY GENTLEMAN—For two or three years most of our lima bean plants have been ruined by being eaten off just below the seed-leaves as soon as they emerge from the ground. I think the mischief is done by a small fly. Is there any preventive? Quite frequently the cotyledons remain and the plumule is taken, and the cotyledons are covered with black spots.

Is there any way of stopping the ravages of the striped squash bug, and the large black bug with nimble legs and a bad odor that comes later to destroy what plants have been saved from the striped bugs? For a good many years we saved the cucumbers and squashes by using frames covered with netting, but now the striped bug continues to work after the plants have outgrown the boxes, and the black bug begins its work several weeks earlier than it used to. I have tried Paris green, but it seems to injure the plants and not the insects. HENRIETTA B. CHURCH.

Monroe County, N. Y., July 1.

[ANSWER by Dr. J. A. LINTNER, *State Entomologist.*]

I do not think it possible to name the author of the injury above described from the statement given of its character. It should be sought for, captured, and sent for identification. It might be the work of some cut-worm, wire-worm, the larva of some species of fly, as suggested, or some other insect.

The ravages of the striped cucumber beetle, *Diabrotica vittata* Fabr., may be prevented by the persistent use of plaster of Paris. It may be conveniently applied from a common flour sifter, sifting it over the plants early in the morning when they are wet with dew, or after a shower, and as often as it may be washed off by rains. In a dry time, and in the absence of dew, the plants should first be sprinkled with water. Paris green largely diluted with plaster would not injure the plants, and would certainly kill the beetles fed upon the leaves. The reason why many persons who have used Paris green for this insect have lost confidence in it, is that although it kills all the beetles that partake of it, their places are being continually supplied by others that develop daily from the imago state during their season of appearance, which continues for several weeks.

In fighting this insect, the ravages of which are evidently on the increase, it will undoubtedly be the best policy to employ some insecticide that kills, as does Paris green or London purple, rather than a substance that simply repels or prevents feeding, and drives away to other unprotected crops, as does plaster of Paris, sand, road dust, &c.

The "large black bug" of which complaint is made, is, presumably, the squash-bug, *Anasa tristis* De Geer. This being a sucking insect, it cannot be killed by application of the arsenical poisons. The eggs, which are laid in clusters, should be looked for daily during the early part of July and destroyed. The bug may also be trapped by laying pieces of board on the ground near the hills and examining them morning and evening. Leaves plucked from the plants and sprinkled on the ground to wilt, are very attractive to the bugs, which will often collect in numbers under them to suck their juices, when they may be easily collected and destroyed. Corn-cobs dipped in gas tar and placed near the hills have been found to prevent, to quite an extent, the deposit of the eggs.

The Poultry-Yard.

Egg Pedigrees.

EDS. COUNTRY GENTLEMAN—For many years the Jersey cow was bred in this country for beauty. Of course her merit as a producer of butter was not ignored, yet her selling value consisted largely in her beautiful colors, shadings and markings, and she was generally spoken of as the pet of the lawn—the rich man's plaything. During the past ten years her real merits have been recognized, and the arts of the skilled breeder have been brought to bear to develop her in the line of butter production, and she has attained a position as a butter cow that has made her a marvel—so that now we have families within the breed noted for a habit of large yields of butter, and we speak of *Jerseys* with butter pedigrees.

It has occurred to me that the time has arrived for breeders of fowls to consider whether they ought not to direct their efforts to improving the laying capacity of the breeds most noted as perpetual layers, such as the Leghorns, Black Spanish and Hamburgs. Fowl fanciers have accomplished wonders in breeding for what are called by them "points of excellence," but as I understand it these points have reference to perfection of feather, style, comb, form and general carriage, without regard to egg production. It is well known that in all breeds of animals and fowls some are more productive than others of the same breed, and the natural method of improving capacity is by selecting and breeding from the best.

For the past twenty years I have kept about 800 White Leghorns in flocks of 150 to 160 each with unlimited range, and they average about 125 eggs per head for the year. As Jerseys are the principal interest of my farm the fowls receive quite ordinary attention; yet with this yield of eggs I find them very profitable. Now I have no doubt that many of these fowls lay 150—possibly as many as 200—eggs each during the year, while others do not lay as many as 100 each, and the poor layers pull down the average. We should in some way eliminate the poor layers and retain only the superior ones, and breed only from the best. How shall we do this? We cannot judge of their comparative merits solely by their looks. The only test of their actual merit is by practical experiment, just as Jersey breeders discovered which were their best cows for butter.

This is my plan: Erect a house, say 100 feet in length by 8 feet in width. Divide this into 50 sections, 2 feet by 8 feet in dimensions. To each of these sections attach a wire-screened yard, 2 feet wide by 50 feet in length. Now select 50 young White Leghorn hens of substantially the same age and the best of the flock, so far as may be judged by the eye. It would be better for future breeding purposes to select twenty five from each of two different strains of the same breed. Confine one hen in each section and keep an accurate egg account with each hen for the space of a year. Hens confined in such close quarters will not lay as well as though greater range were allowed, but as they are treated alike their relative merit will be discovered. At the expiration of the year select the twelve of the highest egg record from each lot of 25. Mate each pen of twelve with a good cock and breed from them, keeping the get of each pen separately. When the chicks are six months old select 25 from each breeding yard and subject them, by confining them separately, to a year's test, as in the first instance, and at the expiration of the year make selection of the twelve of each lot of 25 with the highest egg record, and breed them to cocks of the first year's breeding, and from the birds of the second year's breeding again make the selections for a third year's test, and breed from these selections as in the previous years. Cocks should be selected each year for the next year's breeding, from each flock, to be bred to the fowls of the other flock.

In three generations, by this process of selection, the egg yield will probably have increased fifty per cent. You will now have fowls with, so to speak, egg pedigrees. Thereafter it will only be necessary to breed cocks for the flock. This I would do by procuring a cock of a good breeder, and mating him with a dozen of your best looking pedigreed hens. The get of this breeding will, bred to the general flock, produce chicks that are 75 per cent. of the blood of the pedigreed stock. However, closer breeding than this might be practiced to advantage by selecting very vigorous young cocks directly from your general flock; yet the habit of large egg production will have been so firmly established in three generations, that the introduction occasionally of 25 per cent. new blood, by the plan I have suggested, will not materially decrease the production of your flock.

Now all this involves trouble; yet I believe that the market demand for birds thus bred would fully compensate for the trouble. I sell no fowls for breeding purposes, but keep them simply for the production of eggs; yet I would willingly pay $10 each for cocks of such a family. In fact, in founding a flock, I would consider it a good investment to pay $5 per head for hens thus bred, where eggs were the sole object in keeping fowls. Will not some breeder try the experiment of improving the egg capacity of the great laying breeds?

Trenton, N. J. G. W. FARLEE.

Selling Turkey Eggs.

EDS. COUNTRY GENTLEMAN—If all the people who write for eggs really intended to buy eggs, the supply could scarcely be equal to the demand. When my advertisement first appeared and the letters of inquiry began pouring in, it made me very unhappy to think I should be obliged to disappoint so many people, for how could my little flock of turkeys be expected to produce enough eggs to satisfy them? When I came to look over the letters, however, I discovered that not all of the persons who wrote them wanted eggs right away; the greater number only desired to ask a few preliminary questions, some of which were quite puzzling to answer. So remembering my neighbor over the way who has had much experience in the poultry business, I ordered my horse and rushed over to consult him. He smiled upon me benevolently, shook his head sagely, and informed me straightway that most of those letters were not worth a row of pins. "Real customers," he said, "do not spend their time that way. Their letters are short and to the point—'enclosed find P. O. order for so much, for which you will please send me so many eggs,' adding the address written plainly and distinctly, with a suggestion in regard to packing perhaps." Afterward he advised me how to answer their numerous interrogatories.

One man wanted to know whether my turkeys were the "black headed variety;" another wished to be informed whether they were pure bronze—as if I should have advertised them had they been otherwise, and were I untruthful enough to do so, was'nt it probable that I should hold to it? A third wanted to know if I could send him eggs that he could set under a chicken hen, as though they had to be a special kind for that purpose; a fourth inquired whether my stock was Mammoth Bronze. A fifth insisted upon knowing the height of my turkeys, which amused my friend greatly, and he laughingly told me to suspend an ear of corn by a string and see how high the old gobbler would jump to peck at it. So we went through the list and fixed up nice polite answers to them all, though sometimes it was hard work. None of these persons were customers.

Three or four grew very anxious to purchase adult birds very late in the season after all surplus stock was disposed of, wanted to know exact weights, ages, &c., and told me all about their stock. What surprised me most was that so many men, business men apparently, judging by their hand-writing, wrote so positively for eggs to be shipped at a certain time, and after I had replied expressing a willingness to do so, they quietly let the matter drop without another word. I thought perhaps they were after getting the eggs as the "traveling gentleman" did the turkeys last fall—"without money and without price." Here, however, I should like to inform my friends among the readers of the COUNTRY GENTLEMAN, who were so kind as to write me letters of condolence after that unfortunate occurrence, that the above mentioned gentleman did finally remit, after about six months had elapsed and irresistible influences had been brought to bear upon him.

I have heard from only one lot of eggs; a lady in Arizona to whom I shipped a basket has written to say that three eggs have hatched. "They are now five days old," she says, "strong lively little fellow, growing nicely, and I am more than satisfied with the result." I am going to send her some more eggs, for I do not call three a very good hatch, though as the eggs were eight days on the road, perhaps it was as well as one could expect.

My neighbor advised me early in the season not to guarantee the hatch, because so much depends upon the way they are cared for after their arrival. "I used to guarantee a fair hatch," he said, "but one year a man kept me sending him eggs until frost: he reported a poor hatch regularly every four weeks. So now I don't guarantee eggs for hatching any more."

Fortunately, all the letters I received were not like those I mentioned above, and the real demand was just equal to the supply, so that on the whole I am quite satisfied with the season's work. One thing I know I am the gainer by—a vastly increased knowledge of human nature. If people are at all whimsical their eccentricities are sure to crop out if they have anything to do with poultry. And although women have the reputation of being exceedingly changeable and unreliable, I find that in small business transactions they are quite as prompt and reliable as men. There is one thing they will not do however—tell you whether to address them as "Mrs." or "Miss." A FARMER'S DAUGHTER.

New Advertisements.

Box 14	*Gentlemen Wanted.*
Card, J. S.	*Trotting Stock.*
Carryl, F. M.	*Jerseys &c.*
Charleson, E. L.	*Jersey Bull*
Ellwanger & Barry	*Strawberries.*
Emerson, Joseph	*Notice*
Forest Kennels	*Game Hound, &c.*
Fleming, Cuthbert	*Trotting Stock*
Foster, Brown & Co.	*Lump Rock Salt.*
Garnahan, M.	*Celery Plants*
Gifford, Geo.	*Duroc-Jersey Pigs.*
Guidsborough, F. C.	*Oxford Downs.*
Herrick, Leander F.	*New-England Fair.*
Jones, Mrs. E. M.	*Sprouts.*
Kemp & Burpee Mfg. Co.	*Manure Spreader.*
King & Co.	*Hendemade Harness.*
Kulander, Gustaf	*Situation Wanted.*
Morse, Geo. E.	*Jersey Cows.*
Mutual Labor Sch'l Farm.	*Shropshires, &c.*
Mayne, J.	*Iron Chimney Caps.*
Morrison, James	*Golden Pheasants.*
N. Y. S. Ag'l society	*State Fair.*
Pierce, John R.	*Twenty-ten Homes.*
Roseland Plantations	*Dairyman Wanted.*
Sorley, J. D.	*Farm for Sale.*
Thompson, C. W.	*Holstein-Friesians.*
Whitney, M. R.	*Farm for Sale.*
Wheeler, C. J.	*Percheron Horses.*
Woods, Sam'l H.	*Farm for Sale.*

Pamphlets, &c., Received.

BOWKER, C. W. & J. B., *Worcester, Mass.* Circular of Beryl Hill Farm Guernsey Cattle and Plymouth Rock Fowls.

MOSELEY, EDW. A., Sec'y, Washington, D. C. Revised and amended rules of practice in cases and proceedings before the Interstate Commerce Commission: pp. 36.

SMITH, POWELL & LAMB, *Syracuse, N. Y.* Catalogue of Lakeside Stock Farm: pp. 130.

THE MAPES FORMULA & PERUVIAN GUANO CO., 155 Front St., *New-York.* Pamphlet of the Mapes Complete Manures: pp. 32.

THOMANS & SONS, T. G., *Walworth, N. Y.* Catalogue of Pure-bred Holstein-Friesian Cattle: pp. 66.

Inquiries and Answers.

Time for Sowing Wheat.—My neighbor, a miller of close habits of observation and large experience, tells me that the time at which wheat should be planted is comprised in a very few days. That is, in the case of two plantings, one within a week of the other, the last will probably not be half as good as the first, and that in the same locality. Wheat of all plantings should ripen in the same week, or in the same ten days at farthest. Is it possible that exactness is so important in planting and maturing? If it be, then, unless wheat is sown on strong land, artificial fertilizers are indispensable to forward the crop and cause the heads to "fill" at the exact date the season requires. Is the necessity for simultaneous planting and ripening so necessary, in your opinion? PIEDMONT. *Cliff Mills, Va.* [There have doubtless been instances where a few days' difference in the time for sowing wheat has had a large and exceptional influence on the success of the crop. This may have resulted from other causes than the exact time. Series of experiments have been made to determine the best time, by sowing at regular stated intervals, resulting in a gradual diminution in the crop from the latter part of September till early in November, the latter proving small and poor. The fertility and condition of the soil has a large controlling influence, and if finely pulverized, it will give much greater returns than in badly prepared land. Artificial fertilizers, and especially superphosphates, produce a great improvement on some soils, and on others they have produced too little benefit to pay cost. There is less difference in the time of ripening, from the fact that the weather at the period of ripening hastens the process rapidly, producing but little difference in most cases.]

Strawberries Wanted.—I am looking for a good early strawberry with the following qualities: Large size, bright color, earliness and firmness, rather inclined to be dry. You are aware we have a large extent of country in the Northwest, dependent on this lower coast for fruit supplies. I am a large grower and am extending my gardens; have had much trouble this year handling soft strawberries. My present varieties are Sharpless, Triomphe de Gand, Jucunda, Wilson, and British Queen. None of these carry to suit me. I manure very heavily, and think perhaps my fruit grew too large and luscious. Soil a sandy loam with a little gravel. My fruit is pronounced excellent, with the sole defect referred to above. Now, I know you have facilities for judging of the merits of the various strawberries now before the public, and will, I feel sure, give me the needed advice. I had some thought of planting largely of Jessie for main crop, and also some of the Cloud, as described by Mr. Green. I shall be influenced largely by your opinion, for I am free to state that I have ever found the COUNTRY GENTLEMAN sound on most subjects. T. C. *New Westminster, B. C.* [We regret that we cannot comply with your request. It would be impossible for any one to give a list of varieties in which you could have confidence for planting on a large scale. The results of planting and fruiting in different and remote localities differ greatly, and some varieties which have been pronounced by good cultivators as unexcelled in one place, have been denounced as entirely worthless in other places. We have before us a certain variety which has been very highly recommended by reliable cultivators, which in at least one locality has proved good for nothing. It would be too great a risk for you to make a large plantation of any strawberry, even if highly recommended by the best cultivators. The varieties you have named have generally a high reputation, and in order to add to and improve the list, we recommend you to procure others now offered to the public, and give all a full trial on your own grounds. The information you may thus obtain would be worth much more than any advice from others.]

Burning Over Meadows—Baling Hay.—I have a meadow from which I have just cut the first crop of timothy hay. I do not want to pasture it, nor do I want to save the second crop of timothy. Will burning it in December or January affect next season's growth? (1) When can I bale this season's crop with safety? Part is cured in barn and part in rick. (2) S. E. C. *Salisbury, Md.* [1. The second crop, if not too heavy, will serve as a mulch, will protect the roots of the grass in winter, and will give them an earlier start in spring. It would not be desirable, in this case, to burn off the covering. If, however, the lower portion of the grass plants continued green and would not be destroyed by burning, the operation might prove useful This would doubtless be the case if the second dead growth is so copious as to smother the grass. You must therefore examine the condition of the field and use your judgment in deciding between the requirements of the crop and the treatment to be given to it 2. Hay, for successful baling, must be more thoroughly dried than for common storing in barns. See the detailed account of experiments with baling, given by C. O. Newton, on p. 523 of the COUNTRY GENTLEMAN, for July 11, 1889.]

Churning Once a Week.—Can I keep cream submerged in water at 56° temperature for seven days and churn once a week and make as good an article of butter as to churn twice a week? Will it injure butter to submerge it in water of the same temperature for a length of time? S. S. T. *Lexington, Va.* [Cream cannot be kept safely at the temperature named longer than three days; so that semi-weekly churnings would be imperative in the summer. It will not injure the butter to place it in a suitable vessel and submerge this in the cool water, so long as the water does not come in contact with the butter. If salt is dissolved in the water in which the butter is submerged, the temperature will be reduced for a time; but this is scarcely necessary if so low a temperature as 56° can be maintained. The butter, however, cannot be kept long at that temperature without injury from inherent decomposition and the production of butyric acid, which causes the strong taste and odor of rancidity. Two weeks is as long a time as the butter should be kept in the way mentioned. If it is to be kept longer it might be packed in stoneware glazed jars covered with oiled paper. E. S.]

Fungus on Grapes.—I send you a bunch of grapes picked from a vine on my place. Will you be kind enough to let me know what the disease is that has attacked the fruit, and a remedy for it—also what the trouble is with the leaves I send, and what remedy I can use to prevent the spread of this disease? M. S. W. *Wilmington, N. C.* [The berries have the appearance of being affected by "anthracnose," *Sphaceloma ampelinum*, but the fungus is not yet sufficiently developed, if present, to make its identification certain. The reddish-brown spots on the leaves are produced by a fungus formerly known as *Phyllosticta labruscæ*, and sometimes called the "grape leaf spot disease." It was formerly considered a distinct species, but is now regarded as a form of *Physalospora bidwellii*, the fungus that causes the "black-rot" in grapes. It is equivalent to the *Thecæ uvicolæ*, a name applied to this form of the fungus when it attacks the berries. This form of the fungus usually appears on the leaves before it does on the fruit; sometimes three or four weeks earlier. It is a forerunner of the black-rot, and as soon as it is discovered measures should be taken to combat and prevent the black-rot. The best means of preventing the ravages of the black rot, at present known, consists in repeatedly spraying the vines with the "Bordeaux mixture." This is made according to the following modified formula, as recommended by the Agricultural Department at Washington: Dissolve 6 lbs. of powdered sulphate of copper in 16 gallons of water; slake 4 lbs. of lime in 6 gallons of water; when this has become cool, pour it slowly into the copper solution, stirring it thoroughly at the same time. Spray the vines with this mixture. Repeat the operation in ten days, or oftener if heavy rains intervene to wash off the mixture. This will not restore diseased leaves or fruit, but it prevents the germination of fungus spores in contact with it, and thus prevents the spread of the disease. C. H. P.]

Cultivating Corn.—The farmer of highest repute in our county practices this method: At the last working his corn is plowed with mould-board plow, throwing the earth against the corn, and returning in the same row, the shovel-plow going in the middle. What is the object sought to be gained by this? The general practice here is to use the shovel-plow exclusively. How do you recommend that corn should be worked, and is shallow cultivation better than deep with the shovel, so far as moisture is concerned? T. M. M. *Cliff Mills, Va.* [The object in throwing the soil against the corn plants is doubtless for covering the young weeds and giving a mellow surface. The shovel-plow in the middle adds to the mellow soil, but so far as it hills or banks up the earth against the plants, it is objectionable. Cultivating is always beneficial to corn, if near the surface, and is performed only when the soil is dry enough to become finely pulverized. If wet enough to pack, it does harm. Shallow cultivation is best, and tends to maintain moisture.]

Silo Walls.—In making a silo, which would be the better, 1½ inch matched hard pine flooring, thoroughly soaked with crude oil, or lath and plaster? It seems to me that the latter would crack, if frost got in, or the sides sprung at all, while the flooring would swell perfectly tight, like a barrel drying out when the silo is empty. Which is best? I. A. A. *Clifton, N. Y.* [Thoroughly soaking the pine with crude petroleum, and repeating the application every five years, would doubtless be better than a coat of plaster, which would be liable to crack in the course of years. It will be observed that the alternations of wetting and drying the wood occur after intervals of months in silo walls, and for this reason petroleum will give much durability to the wood.]

Jersey Herd Book.—I would like the name and address of secretary or compiler of the American Jersey Herd Book. I am located in the Foot Hills of the Cascade mountains, twenty miles east of Salem, the capitol city, in the big burn, where the old trees stand two to three hundred feet high, without a vestige of green on them. All kinds of tame grasses do well; my Jerseys are growing fat and saucy. L. M. M. *Silverton, Oregon.* [The standard work of the kind referred to is the Herd Register of the American Jersey Cattle Club—F. W. WICKS, Secretary, 1 Broadway, New-York.]

Bermuda Grass.—Mr. S. Powers of Bradford county, Florida, in your paper several weeks ago, said, among other things, that in turning under Bermuda grass, he thought the green matter caused the leaves of his orange trees to turn yellow. Down this way we are mightily afraid of this grass, and some think that its roots hurt his trees. His article was copied into our local papers here, so I would like to have him give us another, telling what he believes about the grass. I know one thing, it is hard to kill out. J. DE V. E. *Eustis, Fla.*

Power for Farm Use.—Being in want of a power of some kind to cut corn for my silo, I turn, as usual, to the COUNTRY GENTLEMAN for advice. Which is the best, a farm engine or tread power? I would like to hear from any readers who have used the Richards oil engine, said to have no boiler, or the Copeland or Shipman engines, for farm purposes, and will be thankful for any information on the subject. M. J. [*Hartford County, Conn.* [This inquiry was mislaid, and its publication has thus been unintentionally delayed.]

Acknowledgments.

Communications for publication have been received during the week ending July 13, from Jas Wood [2]—S. Beale—Alice Chittenden—E. W. Mathews—W. B. Hopkins—E. W. Stewart—Aunt Chloe—Mrs. C. I Allen—G. F. Merritt—W. C. F.—M. M. Friswell—R. B. M.—Thos. Bowick—J. M. Stahl—A. Jeffers—W. Horne—J. H. Hall—Mrs. S. H. Howell—C. Price—T. Cunningham—C. Snoddy—E. C. F.—Edgar Knapp—R. F. Johnson—Smiths, Powell & Lamb [2]—Mrs. E. M. Jones—F. M.—D. B. LaBar—E. Wing—J. D. V. H.—James MacPherson—J. T. L.—A. M. Doris—Nellie Burns—C. B. C.—E. H. Welling—Garry Owen Gaines—E. E. Sommer—S. M. C.—Stephen Beale—John Gould [2]—P. M. Springer—E. S. Brunson.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, July 18, 1889.

New-York State Fair.—From an advertisement in another column, it will be seen that entries for the coming exhibition of the New-York State Agricultural Society, at Albany, Sept. 12-19, *close on the 12th of August next.* Premium Lists, and any other desired information may be had by addressing the Society at this city.

New-England Fair.—As already announced, the 26th annual exhibition of the New-England Agricultural Society will be held this year in connection with the show of the Worcester Agricultural Society, at the city of Worcester, Sept. 3-6 Attention is directed to the advertisement on our first page, from which it will be seen that *Entries will close on the 10th of August.* L. F. HERRICK is secretary and treasurer, and will attend to calls for farther particulars.

Requirements for Good Farming.—The requirements for successful farming are the methods to be employed to raise READY CROPS. Cultivators who succeed best and who make the most money from a given amount of means—not necessarily those who lay up the most money—are those who obtain the largest product from the acre. A large crop is more economically raised than a thin one. The farmer who obtains 600 bushels of corn from 10 acres of land, raises it more cheaply and more economically than the farmer who occupies 20 acres to obtain the 600 bushels—the one at 60 bushels an acre and the other only 30. The 20 acres require twice the amount of plowing and twice the labor in cultivating; and the only work in which this disparity of labor decreases, is in harvesting the crop. Yet a heavy well grown product is more rapidly hurked for the same number of bushels, than a crop largely made up of small, green and immature ears. We give this as an example, although the contrast is not complete; for it is easier to plow and cultivate an acre of deep, rich, mellow soil than a hard, grassy soil, encumbered with clods.

A similar estimate may properly extend through the different departments of farming—to the different tillage crops which are raised, as well as to meadows, when a thin crop of hay costs more for a ton than a heavy one. All the work done, in raising animals as well as grain, may be more economically performed if within a small compass, than if widely spread; and the interest and taxes are heavier on a 200-acre farm than on one of half that area.

Taking for granted, therefore, that profitable, money-making farming consists in securing good crops, the question occurs, what are the means to be resorted to for attaining this end? The following will be admitted to be the main requisites:

1. Underdraining.
2. Manuring.
3. Mixed husbandry.
4. Rotation of crops.
5. Implements and machinery.
6. Sufficient and good buildings.

1. *Underdraining* is required on most lands in the country at large, to secure them from flooding in spring, and from drouth in summer, and to give the owner control of his fields at all times, particularly during the wet season of spring, thus often gaining two or three weeks in time, and making the turning point between success and failure—between a fine, mellow condition of the land on one hand, and clods, mud, and weedy crops on the other.

Acknowledgments.

Communications for publication have been received during the week ending July 13 from Jas. Wood—S. Beale—Allen Chittenden—R. W. Mathews—S. B. Hopkins—R. W. Stewart—Agent Chloe—[illegible] Allen—G. F. Merritt—W. C. F.—M. M. Fennessy—S. B. M.—Thos. Bowick—J. M. Stahl—A. Jeffers—F. Horne—J. H. Hall—Mrs. S. H. Rowell—C. Prentiss Cunningham—C. Snoddy—E. C. F.—Edgar Emery—B. F. Johnson—Smiths, Powell & Lamb—[illegible]—Ira M. M. Jones—F. M.—D. R. LaBar—R. Wing—[illegible] V. H.—James MacPherson—J. T. L.—A. M. [illegible] Nellie Burr—C. R. C.—R. H. Welling—[illegible] Gaines—R. R. Rummey—G. M. C.—Stephens Bros.—John Gould (2)—F. M. Springer—M. A. Brinkerhoff.

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New-England Fair.—As already announced, the 28th annual exhibition of the New-England Agricultural Society will be held this year in connection with the show of the Worcester Agricultural Society, at the city of Worcester, Sept. 3-6. Attention is directed to the advertisement on our first page, from which it will be seen that *Entries will close on the 1st of August.* L. F. Berrick is secretary and treasurer, and will attend to calls for further particulars.

Requirements for Good Farming.—The requirements for successful farming and the methods to be employed to raise the largest crops. Cultivators who succeed best and who make the most money from a given amount of means—not necessarily those who raise the most money—are those who obtain the largest product from the acre. A large crop is more economically raised than a thin one. The farmer who obtains 600 bushels of corn from 20 acres of land, raises it more cheaply and more economically than the farmer who cultivates 40 acres to obtain the 600 bushels—the one raising 30 bushels an acre and the other only 15. The 20 acres require twice the amount of plowing and twice the labor in cultivation; and the only work in which this disparity of labor decreases, is in harvesting the crop. Ten acres of well grown product is more rapidly handled than the same number of bushels, than a crop largely made up of small, green and imperfect ears. We give this as an example, although the contrast is not complete; for it is easier to plow and cultivate an acre of deep, rich, mellow soil than a hard, grassy soil, encumbered with clods.

A similar estimate may properly be made through the different departments of farming—to the different tillage crops which are grown as well as to meadows, where a thin crop of hay costs more for a ton than a heavy one. Also the work done, in raising animals and marketing grain, may be more economically performed within a small compass, than if widely scattered, and the interest and taxes are heavier on a 100-acre farm than on one of half that area.

Taking for granted, therefore, that profitable, money-making farming consists in securing good crops, the question occurs, what are the means to be resorted to for attaining this end? The following will be admitted to be the main requisites:

1. Underdraining.
2. Manuring.
3. Mixed husbandry.
4. Rotation of crops.
5. Implements and machinery.
6. Sufficient and good buildings.

1. *Underdraining* is required on more land in the country at large, to secure them from flooding in spring, and from drouth in summer, and to give the owner control of his land at all times, particularly during the wet days of spring, thus often gaining two or three weeks in time, and making the difference between success and failure—between a mellow condition of the land on one hand, and clods, mud, and weedy crops on the other. Some land is naturally drained, and does not require the regular laying of tile, but this is exceptional. Some whole States require tile-draining.

2. *Manuring.*—This includes turning under green crops, and the economical saving of every enriching product from the farm. It takes in commercial fertilizers only when actual trial has shown that the increased product they give exceeds their cost. To obtain a good supply of barn manure requires—

3. *Mixed Husbandry.*—Domestic animals furnish manure, and manure increases their feed in the crops which are grown, and thus a mutual increase is made between animals and crops to an indefinite extent.

4. *Rotation of Crops.*—This subject is so well understood as to need little comment. It answers an excellent purpose for eradicating perennial weeds, and excluding both perennial and annual weeds. It furnishes varying supplies of plant food and of fertilizers; and like a hungry guest at a feast prefers half a dozen dishes to a single article of food for his entire meal.

5. *Implements and Machines.*—A selection of simple, durable and efficient tools and machinery, is all-essential to preparing and pulverizing the soil for the reception of crops for their best cultivation; and for securing, harvesting, and reducing them to the condition of food. The young farmer will begin by procuring the simple and effective ones, and those which long use have proved valuable, and then select with more caution the newer and more complex and more expensive ones. Plows and harrows are absolutely necessary for putting the soil in the best condition for the reception of the seed; and mowers and reapers for securing the crops, although some of these machines are rather expensive.

6. *Farm Buildings.*—For securing and housing crops, protecting animals, and storing implements and machines, are a most important requisite, and no well-conducted farm can be without them.

There is no doubt that if farmers generally could more thoroughly observe the various requirements above enumerated, and could bring their lands to a condition more nearly resembling that of market gardens, omitting the more costly provisions, they would find a greater amount of profit, as their expenses would constitute a smaller amount in comparison to the returns.

Investigations of the Potato Rot.—The Experiment Station of Cornell University has issued the Bulletin of the Tennessee Station, prepared by F. L. Scribner, botanist of the last mentioned station, on the cause of the disease commonly known as "potato rot," with a full description of the parasitic fungus which produces it (*Phytophthora infestans*)—the result of the different investigations which have been carefully made by scientific men. This paper is the more valuable on account of the very clear and intelligible manner in which it is written, all unusual scientific words and phrases being fully explained. The spores of the parasitic fungus which causes the rot, are less than a thousandth of an inch in length; they light upon the dew-drops or other moist portions of the leaves, germinate and penetrate, and carry the disease to other portions of the plant, or to other plants, and under favorable conditions spread rapidly. These parasitic plants in the affected tubers are most active between 60° and 70° Fah.; at 40° the development is insignificant, while at 80° and upwards the vitality of the spores is quickly destroyed. It has been found possible to destroy the vitality of the parasitic plants themselves in infected tubers by keeping them a few hours at a temperature of 105° to 110°, without injuring the tubers for seed. In this way they may be thoroughly disinfected. If the spores can be prevented from germinating on the top, there will be little danger of the disease reaching the tubers. Spraying with sulphate of copper renders it nearly certain that the rot may be prevented. The Bordeaux mixture, made of lime and sulphate of copper, is particularly recommended—made by a mixture of 10 pounds of fresh lime in 5 gallons of water, poured slowly into 20 gallons of water in which 6 pounds of sulphate of copper have been dissolved. The soil recommended for planting potatoes is a light sandy loam, or a soil which has been well drained; and when the potatoes are dug, store them in a cool, dry place, and keep them dry. The soil appears to hold an important place in the spread of the disease which has been proved to descend through the

The Grazier and Breeder.

The Great Show in Windsor Park.

THE SEMI-CENTENNIAL OF THE ROYAL AGRICULTURAL SOCIETY.

LONDON, ENG., *June 25, 1889.*

A right royal show is now being held by the Royal Agricultural Society in the Royal Park at Windsor, under the walls of the royal castle. Of all the royal castles in the world, no other is so truly royal as Windsor; of all the royal parks, none surpasses in extent and magnificence that in the fertile valley of the Thames; of all agricultural societies, no other has accomplished so much for agriculture and earned a right to a royal title as that which this year has a sovereign for its president; and, of all agricultural shows ever held, the one that now interests all England is undoubtedly the largest, the best, and can most properly be called royal. The royal castle represents the power and wealth of England from the time of William the Conqueror; the park, with its 1,800 acres of perfect grass and superb trees, represents what English soil and English climate can do for vegetation; the society represents the best efforts of England's "country gentlemen," and the show represents the highest achievements of science and skill and effort and unlimited capital in the breeding of domestic animals and the cultivation of the soil. The society's semi-centennial year, and its connection with the queen's jubilee, have aroused the interest of all England, and have made this show the greatest ever held.

It is not my purpose to describe the show. You doubtless have correspondents who will do this for you better than I could, and the English papers will give you all the details you can desire; but I fancy that some general impressions rubbed into me by two days in the showyard, may perhaps interest those of your readers who have had some experience with American fairs.

The grounds enclosed are about 150 acres in extent, and they are as completely covered as is possible with allowing the necessary moving space for the multitudes of visitors. The whole exhibition is under canvas covers. The only building or structure with a roof of wood or metal, is the queen's pavilion. All structures for implements, cattle, horses, sheep, swine and farm products, are constructed just alike with a very simple frame, braced to withstand any strain of wind, and covered with eyeletted canvas, easily fastened to the plates. All are twenty feet in width, with eight-foot posts, and as long as may be required. For horses and cattle, ten feet of the width is given to the animals and the other ten to the spectators; while for sheep, swine, &c., double rows of pens run along the middle, with covered walks on either side. This plan is the result of long experience, and makes the structures serviceable, convenient, pleasant and attractive.

The charges for admission are arranged to suit the exclusiveness of the classes and the purses of the masses. Yesterday the price was five shillings, say $1.25, and 16,000 persons were glad to take the first day sight; for three days the charge is two shillings and sixpence, say 62½c., and then the crowd can come in at one shilling per day.

One imperative rule of the society might be adopted with great advantage by American societies. All judging must be completed on the opening day. This is a point of honor. Then, during all the subsequent days, the public can see the prize-winners, which is a matter of the first importance when the educational influence of the show is considered.

The judging of all animals is done in large, conspicuously labeled rings, and the work is very critically watched by great crowds of spectators. If the awards of the judges are approved, they are greeted with hearty applause, but if considered erroneous, they are severely censured with cries of disapproval. I yesterday saw several judges wince under this public criticism, and plainly show that they felt the censure keenly.

Fox-hunting is the great national sport of the wealthier classes of Great Britain, and its hold upon them was yesterday illustrated by the dense crowds that surrounded the ring in which the hunter classes were being judged. In recent times great attention has been given to breeding hunters, as the demand for good horses of this class, at long prices, is greater than the supply. To aid in this effort, the queen has offered prizes of $1,000 each for thoroughbred stallions of such substance as to produce hunters of sufficient strength, and the counties are divided into ten districts, with one or more of these prize stallions allotted to each. Twenty-one of these were shown together in the ring to-day, and a grander lot of horses for all purposes, except heavy draft, no one could desire to see. We have no demand for hunters in America, but that string of stallions would greatly benefit the country for nearly all uses in city or country.

While speaking of horses, I must mention the Suffolk Punches, as it is a breed to which no attention has been given in the United States. So far as I know, none have been taken there for breeding purposes. Some twenty-five or thirty years ago, when the Harlem and New-Haven railroad depots in New-York were at Twenty-Sixth and Twenty-Seventh streets, the passenger cars were drawn to and from Forty-Second street by horses. For shifting the cars in the station they had one Suffolk Punch horse, and I have remembered his work with great pleasure. He would be hitched to two cars, and would start and haul them alone, bracing himself to the effort, and never flinching a hair's breadth until the start was effected. The Suffolk class at this show is of remarkable excellence all through, and I wish our draft horse breeders could see them. To my mind they are the best of all the British heavy breeds. No other breed is so uniformly true to its type. They are all of a peculiar chestnut color, are very compactly built, have short legs of perfect quality, and without coarse hair about the fetlocks. Their feet are remarkably good. Their temper is quiet and reliable. In all the class there is not a stallion, mare or colt that is not of great excellence.

It is unnecessary for me to speak of the Clydesdales and the Shires; of course they are good—wonderfully good.

To Americans it is a matter of but little interest that the Prince and Princess of Wales and a lot of the royal family to-day visited the show yard, but to Englishmen it is a matter of the first importance. The queen will graciously lend her august presence later in the week.

To an American who by experience knows something of the vexations that seem to be necessary in the running a large exhibition, there is found a fiendish sort of satisfaction in seeing that even here, where the management is so complete and the situation and surroundings so perfect, there are some things that go wrong. Yesterday the official catalogues were not on hand, and great inconvenience resulted. The society's commissariat failed, and members of the council, judges and others could not get so much as a sandwhich. A hungry Englishman is not the most amiable creature in the world. The show-yard is two and a half miles from the railway stations, and as a matter of course, the transportation failed. All this distance up the long walk and down Queen Anne's drive the carriages formed a continuous line, but omnibus and hack service was necessarily inadequate for the crowds. Then the railways were overtaxed. Two great lines—the Great Western and the London & Southwestern—became demoralized, and the officials badly rattled. Two hours for doing twenty miles to London was hard for the passengers, but an English crowd is always good natured, however much of a growler the individual Englishman may be.

The fatigue from a busy day in the showyard forbids my now writing more, but perhaps after two or three days I may send you something else. JAMES WOOD.

The Value of Cottonseed Hulls.

The following paragraph from the Atlanta Constitution of June 9th, has been copied into various other papers, and was submitted to our associate, Prof. STEWART for examination. His comments on its statements are given below:

There is an astounding statement printed elsewhere to the effect that "the hulls of the cottonseed of the cotton States will produce more beef, butter, milk and cheese, more wool and mutton than all the clover and blue grass of Tennessee, Kentucky and Ohio." And yet it appears to be true. An Atlanta firm fattened 5,300 beeves last year on cottonseed hulls at a profit of $20,000. Two trainloads of these beeves were shipped from Atlanta to Philadelphia and sold there in competition with Chicago beef. This same firm will fatten 10,000 steers next winter. Mr. Joel Chandler Harris, an authority on fox hounds, bees and Jerseys, is feeding his herd on cottonseed hulls and says the result in milk, butter and beef is amazing. Southern Farm, Mr. W. M. Towers of writes of a test between corn, cottonsee and cottonseed hulls, in which the latt duced vastly better results. And yet year ago cottonseed hulls were used for engines or cast away as worthless.

Cottonseed hulls were analyzed Goessmann, and were found to cont following:

Moisture at 100 C	10.17	per
Dry matter	89.83	c
Crude ash	3.75	c
Crude cellulose	51.40	c
Crude fat	2.36	c
Crude protein	4.90	c
Other carbo-hydrates	38.50	c

When the probable digestible el based upon this analysis are figured usual way these cottonseed hulls ap contain the following: Albuminoids, 2 bohydrates, 30.2; fat, 1.5.

The value of this would appear to b $9 per ton. The hulls have a nutritive 1 to 15.5, which places this food as bett oat straw and equal to fair corn fodder.

A correspondent a little more thar ago, mentioned the use of these hull tening cattle at Memphis and New O but there was no pretense in that, t cattle were fattened wholly upon the hu was stated that they were fed from lbs. of hulls and 3 to 4 lbs. of deco cottonseed meal.

If we take a ration made up in th 30 lbs. of hulls; albuminoids, 0.69; hydrates, 9.05; fat, 0.45; 4 lbs. deco cottonseed meal; album., 1.40; carboh fat, 0.32, this would be a ration contain albuminoids, 2.04 carbohydrates, and having a nutritive ratio of 1 to 5.6, or balanced ration, slightly deficient in q

It would be very easy to make up fattening ration by using 25 lbs. of hull of straw or corn fodder, 3 lbs. corn middlings, and 4 lbs. cottonseed mea would, no doubt, be a successful ratio one might as well attempt to fatten catt a large scale with common corn fodder the cottonseed meal alone. The office hulls in the fattening ration is to t place of other coarse fodder. Somethi not come from nothing—as would be t If cattle could be properly fattened u ton seed hulls. E.

The Duroc-Jersey Reds.

ED. COUNTRY GENTLEMAN—Havin the Duroc-Jersey swine for the past years or thereabouts, and knowing so of their characteristics, I venture to Mr. D. Davis's inquiry on page 574 generally conceded and known, that thi as its name would imply, combin families of red hogs. One is the Jers bred specially for great weights, whic necessitate coarse frames and large which in moderate flesh present t hyena-like specimens, not at all prepos but when put on liberal feeding, wit or two for development, result in ex weights, second to none. The other the Duroc or Saratoga Red, possibly f same ancestry, but bred to another s or ideal, are more symmetrical in appe with finer bone, finer hair, in fact more every way; and yet reaching weights n to be ignored, by my feeding, from 2 lbs. dressed, at 8 or 9 months, and at t as high as 620 lbs., another 613 lbs., before the admixture of the Jersey str

My Reds at the present time are abou quarters Duroc or Saratoga Red, and mainder Jersey—about my ideal of neither too fine nor too coarse, fatte age—in short, if not neglected, ready scald at any time. They place their f good market, which is always available

As stated in Mr. Davis's article, t remarkably prolific. My largest litter now recollect, was 17, generally 10 to they can accommodate, which on a g diet, develop very satisfactorily.

I also breed the Chester Whites, re from the best breeders in Chester cou might give my experience with the d breeds of swine on the same feed at t trough, but I forbear. Suffice it to s Duroc-Jersey blood is good, where place it, and not at all improved b thinned. I am no friend to the amalg of races; breed each separate and disti you will nearly always find parties your surplus stock, at considerable m they will weigh. (An advertisement COUNTRY GENTLEMAN has always pro munerative to me, should customers

fine middlings ½ lb. This feed will need to be slightly increased each two weeks till the colts reach one year old.

At one year old the ration may be the following: 6 lbs. cut hay, 3 lbs. ground oats, and 3 lbs. of wheat bran, mixed together with ½ lb. linseed meal. This is the daily ration, and may be divided and given in three feeds. If the colts are large, and this proves to be too small a ration, add 1 lb. to the bran; but if the colts are only of medium size the ration will be quite large enough to produce a thrifty growth.

When two years old, the ration for the third year may be 8 lbs. cut hay, 4 lbs. ground oats, and 5 lbs. wheat bran, with ½ lb. linseed meal, mixed together. The cut hay is to be moistened, and the ground feed well mixed with it. The hay should only be moistened so much as is necessary to cause the ground feed to stick to it, so that hay and grain must be eaten together. This should be a sufficient ration for the third year to cause an even development of these colts—giving them full normal size for the breed.

The foods here advised are cooling, and will promote the growth of healthy muscle and bone, and the feet will be of a healthy and sound condition, and will be able to stand city pavements. E. W. S.

Ration for Young Bull.

ENS. COUNTRY GENTLEMAN—Please give ration from the best foods to fit a 13-months-old Holstein Friesian bull for the show ring early in October. *J. F. Medina, N. B.*

J. F. no doubt understands that the best judges do not rate a young bull by the amount of fat he has laid on. The young bull should be fed with the intention of producing an even development of muscle and frame. No specially fattening foods should be given. He does not say that this young bull is on pasture, but that may be presumed.

Of the foods most convenient for F., we should advise 2 lbs. wheat bran, 1 lb. pea meal, 1 lb. ground oats, and 1 lb. linseed meal. Mix these with 2 lbs. moistened cut hay or chaff, and give it to him in two feeds, morning and evening. This, on pasture, should be abundant feed to give proper development. The bran is especially the food for growing the bones, pea meal the muscles; the oil meal will keep his digestive organs in healthy condition.

If the young bull is not on pasture, then give him 8 lbs. cut clover hay, 3 lbs. wheat bran, 2 lbs. pea meal, 2 lbs. ground oats, and 1 lb. linseed meal; divide this into three feeds. If this should prove too small, add 1 lb. to the oat meal and 1 lb. to the bran. The general error in feeding bulls is in keeping them too fat. E. W. S.

The Dairy Department.

Bran in the Butter Ration.

ENS. COUNTRY GENTLEMAN—In Major Brown's 24 vol. of "Tests of Jersey Cows," he says that "wheat bran is almost valueless to the butter dairyman." He advises feeding almost pure corn meal. This conflicts so with Prof. Stewart's theory and that set forth by the last annual report of the Wisconsin Experiment Station, that it has washed me adrift again. I had pinned my faith to a *balanced ration*, made up of ground grain and some sort of finely cut fodder mixed and steamed together. I read of other "smaller fry" who advise feeding grain dry and separate from other fodder. Why is this? How do you men get what you write for us to read? Is it the product of your brain, or your hands, or both? It is no answer to say that "great minds differ," &c. There are facts about this matter, and when they are reached they should not be unlike. H. M. WILSON. *Salina, O.*

When Mr. Wilson's letter was received I had not seen the 24 vol. of "Butter Tests of Jersey Cows," and could not properly reply without examining the statement. I must confess that I doubted whether a man of such general good judgment as Major Brown could be the author of such a statement, and after getting the 24 vol., and carefully examining it, I find that it was not Major Brown, but W. J. Webster who made the statement referred to. Mr. Webster writes an introductory chapter on "Blood Lines," and when he undertook to write upon the office of foods, in butter production, he got quite out of his specialty. To show this I will quote his statement as follows: "We find bran worthless, except to make milk and this is done at the expense of butter. It draws on vital force that should be expended in making butter. We therefore believe bran does more harm than good in the dairy where butter is the object. We have used it for mechanical effect, and when this is done, corn bran is preferable, but oats better still; corn meal in some shape is best."

Mr. Webster is an expert on Jersey pedigrees, but from the quotation made above, it will be seen that he should study the composition of foods and the purpose for which they are given, before he undertakes to enlighten the public upon it. Does he really know what he means when he says, "it (bran) draws on vital force"? What is vital force? Does not the vital force of an animal dwell in the muscular, nervous and bony structures? If so, then that food which builds up these elements of the animal body, builds up and sustains vital force. He says, "Corn meal in some shape is best." Does corn meal contain an excess of the elements that build up the vital force? The elements that build up the muscle and tissues of the nervous system are nitrogenous, but corn meal is 66 per cent. starch and 4 8 per cent. fat. Does starch or fat build up the muscles and tissues? The muscle-forming food of corn is 8.4 per cent., and over 70 per cent. goes simply to keep up animal heat or lay on fat, while bran has 11 7 per cent. of muscle-forming and only 49 per cent. of heat and fat producing food. And when we examine the material to replace the waste and build up the bones (phosphoric acid), we find that corn meal has only 6 lbs. of this bone material in 1,000 lbs., while wheat bran has 32 lbs., showing that 1 lb. of wheat bran has more bone-building material than 5 lbs. of corn meal. Phosphoric acid is also found, in small quantity, in muscles and tissues. Again, corn meal has but 3½ lbs. of potash in 1,000 lbs., while wheat bran has 14½ lbs.

It is for these reasons that those who understand the nutritive principles of these foods, recommend a portion of bran in the diet of young animals, as being one of the best adapted foods for developing the muscular and bony structures in pigs, calves, lambs and colts. It builds up the vital system of these young animals, giving an even development of muscle, tissue and frame, and if it performs this office in the growth and development of the young animal, how appropriate a food, as a part of the ration, it must be for the milch cow, which is expending a large amount of vital energy in the production of milk—butter being simply one of the products of milk. Foods that supply all these wants of the animal system are never given more appropriately than to the milch cow.

And then, before pronouncing so strongly, Mr. Webster should at least have examined the tests reported on the first few pages of vol. 2. We will call attention to a few of these: Oxford Kate, who is said to have produced 30 lbs. 12 oz. in a week, was fed 4 qts. of wheat bran; Ethicel 24, 30 lbs. 15 oz. of butter, feed was one-fourth bran in weight; Izola of Riverside made 30 lbs. of butter, feed was one-third bran by measure; Landseer's Fancy, 29 lbs. butter, was fed one-fifth by weight of wheat bran; Dove Dee, 27 lbs. butter, was fed one half corn meal and one-half bran; Mother Cary, 27 lbs. butter, was fed 2 qts. corn meal and 12 qts. wheat bran. These references are quite sufficient to show the folly of W.'s statement, from his own book.

Mr. Webster says: "We have used it (bran) for mechanical effect, but when this is done corn bran is preferable." We mention this statement to call Mr. Wilson's attention to this testimony in favor of the mechanical effect of bran to give bulk to the food. It probably did not occur to Mr. Webster that it would be much better to use cut hay to give bulk to the contents of the stomach, or to separate the concentrated food.

Mr. Webster also calls attention to and endorses corn hearts, which he says is the "kernel of the corn pure." But it is, in fact, corn chits, consisting wholly of the corn germ, the most nitrogenous part of the corn, having over 19 per cent. of albuminoids, also having 5.5 per cent. ash, or three times as much as the whole corn. It has a large percentage of oil, and contains so much more nitrogenous matter that it is quite similar to bran.

We trust that Mr. Wilson will now see that he allowed his confidence in a well balanced ration to be too easily shaken. His faith in the "fitness of things" should withstand the crude opinion of one who has never studied the qualities of foods, and never made an experiment in feeding at all comparable to those set forth in the last annual report of the Wisconsin Experiment Station.

All experimenters are liable to possible errors, but not such errors as upsets foundation principles. Rations may be balanced in a great variety of forms, but it is not likely that any properly devised ration of the future will contradict the fundamental principles of chemistry and physiology. E. W. S.

Moderate Ration—Selecting Cows.

ENS. COUNTRY GENTLEMAN—I have about one dozen cows, mostly full blood and grade Jerseys. During the winter I fed them ensilage and heavy grain ration, namely 4 lbs. corn and cob meal, 2 lbs. wheat bran, 2 lbs. linseed meal, 2 lbs. cottonseed meal daily. They were kept in a warm stable and well watered in the stables, milk was set on stove till blood warm and then put in O. K. creamer. What troubles me is the fact that it took 22 8 pounds milk to make one pound of butter, on the average, for three months. On summer pasture and 2 lbs. bran and cottonseed meal. It takes 20 8 lbs. of milk to make one pound of butter.

I wish to ask Prof. Stewart if there is any better way for me to weed out the poor butter cows, than to raise the cream from each cow's milk for two days and churn same in a small churn—carefully weighing both milk and butter? If there is a more convenient and speedier method I would like to know it.

Ocean County, N. J. C. E. L.

C. E. L. evidently understands that if he is to make a pound of butter from a small amount of milk he must have cows developed to give rich milk, and it is pleasant to see that intelligent dairymen are everywhere, beginning to understand the situation that food, although constituted to produce rich milk, cannot produce the same result upon all cows. It is to be regretted that L. did not state the amount of ensilage for the food which he mentions; besides, the ensilage can hardly be called a heavy grain ration, and to show him the amount of food contained in it, on the supposition that he fed 30 lbs. ensilage, we give the following analysed formula:

	Albuminoids. lbs.	Carbo-hydrates. lbs	Fat. lbs.
30 lbs ensilage	0 36	3 69	0.15
4 lbs. crib meal	0.37	2.34	0 15
2 lbs bran	0 23	0 92	0.13
2 lbs. linseed meal	0 56	0 69	0.11
2 lbs. cottonseed meal	0.10	0.44	0 16
Total	1.13	7.87	0 64

This has a nutritive ratio of 1 to 4.3—a strong nutritive ratio, but the carbo hydrates are deficient. If no hay is fed it would require for a moderately full ration 50 lbs. of ensilage, and this with the other feed would give only 10.2 lbs. of carbo-hydrates. And it may be that summer pasture, with 2 lbs. of bran or 2 lbs. cottonseed meal, gives a larger ration of equal richness, and thus reduces the amount of milk required to make a pound of butter.

2. There is no better way for L. to learn the character of his cows than to set each cow's milk for two days, raise the cream and churn it to butter. This gives a practical test that is more reliable than any other in the hands of dairymen. But he should make the test at about the same time after coming in, in order that the cows may be properly compared with each other.

And when he has weeded out his cows, and selected those to be retained, he must remember that it is steady feeding that produces further improvement. This intelligent selection and good feeding for a few years will give L. a profitable herd, and one of which he may well be proud. E. W. S.

Various Butter Conferences.

ENS. COUNTRY GENTLEMAN—In this report I shall include the interesting results of several butter conferences. At a conference held at Fassett's creamery, Rodman, Jefferson county, Mr. Dean presided, and W. H. Gilbert and E. S. Munson were the instructors. In the forenoon Mr. Munson talked while Mr. Gilbert churned. The cream was separated by a centrifugal machine. It took forty-five minutes to churn, the temperature being 60°. This was the temperature adopted at the factory. The cream was 48 hours old, the product of 11 native cows owned by W. R. Devan, East Rodman. Weight of butter, 14¼ lbs.; 1 lb. of butter to 20 lbs. of milk, and 1 to 4 of cream.

Afternoon churning from 27 Jersey grade cows, owned by Jason Garlock, Smithville. He uses a Stoddard creamery. Cream 33 hours old, brought eight miles in a jacketed ice can. Cream 64°; churned in 64 minutes; granulated at 66°; 1 lb. of butter from 18.26 lbs. milk; 1 lb. butter to 4.5 lbs. cream. Milk stood 12 hours. Cows fed extra 8½ lbs. in two feeds. Food composed of 100 lbs. corn meal, 95c; 120 lbs. ground oats, $1 60; 150 lbs. bran, $1.85; 80 lbs middlings, 72c. Cost of ration, $1.15½ per 100 lbs., and daily ration, 4½c. Cows had water and salt handy.

Mr. Fassett is a pioneer creamery man, and is deserving of praise for his enterprise. There was a fine spread and a pleasant social time between the sessions.

During the working and packing of the butter a running fire of questions was kept up. Mr. Munson, in the afternoon, churned and worked the butter, and salted it in the churn, which is his favorite way. He guesses at the amount of salt wanted, and being an expert, usually guesses right. It is an easy way to work the salt in, but the novice could not guess so well. He had better weigh the butter.

The subject the farmers appeared the most interested in was ensilage, which was thoroughly discussed, and it was the conclusion of the conference that the silo was an important factor, and that a large number would be constructed this year.

Secretary Shull was present at the Richland Conference in Oswego county. This meeting was held in a grove on the farm of Mr. Gilbert, the churning being done in a large building. Henry Stephens was made chairman. He is an earnest and intelligent worker in agricultural interests. His address, on opening the meeting, was just the thing to give the conference a good start. Secretary Shull was inspired to make a practical speech, and in this educational form the forenoon passed away. In the afternoon, with better weather, a churning was started in a No. 3 Gifford churn. The cream was furnished by W. Ingersoll, who gave the following information: "My herd is composed of 11 cows, grade Jerseys. Am feeding 1 qt. corn meal and 2 qts. shorts mixed, per cow, daily; two feedings per day. Cows run to pasture; now average 27 lbs. of milk per day. The cream furnished is from 208 lbs. of milk. I set my milk in O. K. creamer, cold setting." Time of churning 16 minutes, producing 13½ lbs. of butter, or 15 lbs. of milk for one of butter. The churning was under the supervision of Mr Gilbert.

The second churning was supervised by Mr. Munson; cream furnished by Joseph Wyman of Orwell. Mr. Wyman said: "I milk 23 cows, consisting of natives. I feed one quart middlings per cow per day and pasture. Herd yields about 508 lbs. of milk per day, which is an average of 22 lbs. per cow. I use a Cooley creamer, using ice, &c. The cream here churned is from 254 lbs. milk." At 19½ minutes the churn was stopped, and butter found to be in the desirable granules. Two thirds of the buttermilk was drawn and replaced with weak brine at 50°, and a few revolutions of the churn made. The butter was then drained fairly dry, and the churn partially refilled with water and drawn off. This washing was repeated the third time, when the water from the churn was fairly clear from buttermilk. Fourteen ounces of salt was then thrown into the churn on the butter granules, and the churn slowly revolved from 40 to 60 times. The butter was then taken on the worker and slightly worked and packed; quality pronounced fine, and found to weigh 13 lbs., taking 19½ lbs. of milk to one of butter.

Mr. Wyman said, in answer to further questions: "I have seven shinkers and two farrow cows. I milk nine to ten months. Would prefer to have a cow dry two months; I think my experience shows it to be better. I think I can get as much from a cow as if kept longer in milk."

Mr. Gilbert said: "There is a big difference in cows. Some cows will not give milk a long time, others will. Mr. Powell tells of one cow which gave in a year 20,000 lbs. of milk, and another, which gave as much at the start, only gave 12,000 lbs. in a year. We should feed cows to give milk, but we should also breed cows to give milk a long time."

Mr. Stephens—"It is impossible to milk old cows longer than has been their custom to be milked. We must start right with the heifers, and milk them and feed them to hold out in their milk as long as possible."

It seemed to be the sense of the meeting, Mr. Gilbert agreeing, that the only sure way to get long milkers was to breed for that purpose.

Albert J. Potter: "Would salting cows make a difference in the time required to obtain the cream produced?"

Shull—"Prof. Robertson says it would. Cows must have salt, and regularly."

Remarks were made by Gilbert and Munson relating to the importance of ripening cream before churning. Mr. Gilbert said: "There is a waste if cream is not properly ripened. Unequally ripened cream should not be mixed, but if cream from different messes of milk is to be churned together the cream from the oldest mess must be kept cool until mixed with the newer cream, and then all ripened together."

Mr Munson substantiated this, and further enforced the necessity and importance of strictly adhering to the above advice in the preparation of cream for the churn.

Many other matters pertaining to the dairy were discussed by the dairymen present.

The conferences everywhere start a spirit of inquiry, and I have no doubt this feeling extends to your readers. Many dairymen will be spurred up to weigh the milk of their cows and to look more into the details of feeding and the care of milk. Many will see how it is that the average of $35 per cow comes about.

The conference at Sidney, Delaware County, was held in the Riverside butter factory. C. Coe, Esq., was made chairman, and E. S Munson, secretary. An address on implements in the dairy and the way to better results, was made by Mr. Curtis. There were two sessions, at

each of which a churning was had and practical remarks made by Mr. Gilbert.

Barney Dickenson, Sidney, furnished cream for one churning. He milks 18 cows, native stock; gets 400 lbs. from whole dairy in a day. Cream churned from 200 lbs. milk; strained milk immediately after milking; set in cream gauge pails, holding about 33 lbs. milk each; set in ice water at 40°; temperature of milk was 92°; skimmed in 12 hours; kept at 58° for 24 hours, then ripened 24 hours at a temperature of about 65°. The cream was only partially ripened. It would require about 12 more hours to be fully ripened. Cows a mixed breed, with some Jersey blood; begin to come in milk about March 1, and all by about April 1. Pastures are upland and stony—portions, wet lowland. No grain fed since pasturage; previous to pasture, gave 4 lbs. corn meal and 4 lbs. shorts each per day; salt three times a week. Cream put into churn at 62°—55 revolutions to a minute; when butter began to come, then temperature run up to 66°; water added to reduce to 60° just as butter began to granulate; time of churning, 33 minutes. Butter washed so all the milk color was removed, then salted one ounce to the pound. From 200 lbs. milk, 8¼ lbs. butter was made—23½ lbs. milk to a pound of butter.

At the afternoon conference the cream was furnished by Mr. George M. Bargin, Sidney. He milks 23 cows, Holstein grades, ¾ to ⅞ blood. Pastures upland, stony, some lowland. Water, springs to which cows have access; salt every day, in the morning. Milk regularly, 12 hours intervening; cows come in milk all times. Make butter the year round. Cows go dry about one month—some 2 months. Cream from 200 lbs. milk, submerged setting, at about a temperature of 42°; set right from cows; feed no grain; did feed grain till the cows were turned out to grass. The cream is taken off in 18 hours and kept in a temperature of about 42° till it begins to ripen, then at a temperature of about 56° till ripened, churned at 62° and rose to 66°, water added and temnules in 25 minutes. The buttermilk was drawn off and the butter washed till the water was clear. The butter was washed in a granu perature reduced to 64°. Butter came in granular state and the salt stirred in one ounce to the pound. There was 9¼ pounds of butter, or a pound to 21 lbs. of milk. F. D. Curtis.

Cooling Milk for Transportation.

Eds. Country Gentleman—In your issue of July 4, p. 515, J. G.'s answer to C. B. C., so far as it refers to transporting milk, appears to be misleading. J. G. says:

"The cooling may be for the purpose of getting the milk to market in the best shape. In this event ice is not needed, or refrigerators. If for transportation, milk should not be cooled to a low point with ice, but rather aerated by dipping or pouring, so as to reduce the temperature only a few degrees, and then ship in cans, with ventilation to some extent. As milk spoils by some kind of ferment, and the usual souring—lactic acid—is not to be looked for under about 24 hours, under ordinary circumstances, aeration of the milk, to get the free oxygen of the air to every part of the can to retard a different kind of ferment, that produced by vibriones—so-called by Prof. Robertson of Canada—is now regarded as the best way.

"Thoroughly aired milk will keep much longer than ice cooled milk, for as soon as the influence of the ice is removed, and the temperature goes up, the germs that produce lactic acid manifest themselves at once, and the milk sours very quickly, and even when milk is cooled, it should first be given a thorough aeration. Milk, to keep well, should not be brought much below 70°, and kept at that point as nearly as possible."

All the above may do for milk transported in cool weather very short distances; but it is hardly probable that any of the 25,000 40-quart cans of milk that are sent daily to the New-York market would reach its destination sweet. Milk for that market is taken from cooling springs from different localities, at different times; time being extended from 12 o'clock M. until evening, and it arrives in New-York after midnight; is then taken by the dealers, and supplied to the trade. It has been repeatedly demonstrated that this milk has to be cooled in water below 50°, and a large quantity of this milk is not aerated or stirred at all, but after the can is filled with new milk it is placed in a cold spring, and allowed to remain undisturbed until taken out for shipment. This, however, is very poor practice, as the milk treated in this manner will retain the cow flavor of the milk. The best manipulators place the can, when nearly full of new milk, in cold water and agitate until the animal heat is taken out, from 8 to 12 minutes in cold water. Proportionately few use patent aerators, which no doubt are extremely useful. A very simple device, and the kind used in our dairy, is a tin cup holding a little over a pint, which is attached to a handle long enough to reach out of the can when the cup is at the bottom, and is constructed the same as the usual measure used to measure milk from the can, except that the cup is reversed on the handle. This arrangement forces the air to the bottom of the can, and a slight motion relieves the air at the bottom and cools and aerates the milk very rapidly.

I would like to have some experiences, if there have been any, in shipping milk long distances at a temperature of 70°, or with a ventilator, as recommended by J. G. The writer does not consider it practicable to ship in a ventilated can, and if it is practicable it is doubtful if allowing the heated air to come in contact with the milk would be beneficial. There may be some points about these matters that we do not fully understand, and the object of this letter is to get information. J. G. and others having experience please communicate to the Country Gentleman.

Stanfordville, N. Y., July 10. EDGAR KNAPP.

Holsteins for Oswego County.

Eds. Country Gentleman—Among the recent events at Lakeside, is the sale to W. S. Names, Esq., of Phoenix, N. Y., of a fine lot of animals, individual merit, breeding, &c., considered.

After a very thorough and careful examination, Mr. Names selected to head his herd, Aegis Prince Netherland, a bull of remarkable breeding, and rare quality, and a son of Netherland Prince, (the acknowledged king of butter sires), and Aegis, a cow noted not alone for her exceptional individual merit, but for her enormous records in milk and butter, (16,698 lbs. 10 oz. of milk in a year, and 25 lbs. 13½ oz. of butter in a week—15 33 lbs. of milk making 1 lb. of butter), and her marvelous powers of prepotency, as illustrated through the records of "her several daughters and granddaughters, which records make this one of the best and most noted families of the breed.

Combining as he does the blood of these two great families, this bull cannot fail to add value to the Names herd, both through his own personal worth, and the value he will give to his offspring.

Mr. Names also wisely selected the beautiful cow, Netherland Queen 4th, a daughter of Neptune, the celebrated son of one of the most noted cows of the breed, Aaggie, whose record of 18,004 lbs. 15 oz. of milk in a year, made her, at the time, the great phenomenon of the day. The dam of Netherland Queen 4th, is Netherland Queen 2d, she a daughter of the great Uncle Tom and Netherland Queen, which cow, through her model form and great producing powers, is classed among the most famous of Lakeside Holstein-Friesians.

Another cow selected was Netherland Baroness 2d's Princess, a beautiful, deep-milking daughter of Netherland Prince and Netherland Baroness 2d, whose record of over 13,000 lbs., from three tests, proves her value as a dairy cow. Her dam was the noted prize winner, Netherland Baroness, whose butter record of 21 lbs. ¾ oz. in a week, proved her to be not only "a thing of beauty," but one of the great butter cows of the world.

These, with the cow Negress, a daughter of Netherland Prince, give Mr. Names the nucleus of a herd, that with proper care and handling may make one of the finest and best herds in the country. Smiths, Powell & Lamb.

Syracuse, N. Y., July 11.

The Veterinarian.

Answers to Correspondents.

By Dr. Edward Moore, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

Swollen Hock, p. 435.—Swelling does not diminish, and liniment is nearly gone. It has been tender to the touch for the last three or four days. Hock has same appearance as when I wrote you before; is soft to touch. A. J. B. *Allegan, Mich.* [Use the same liniment, but omit the alcohol. Report in two or three weeks.]

Death of Colt.—A three weeks old colt was turned into meadow with its mother. When brought up to stable it was noticed to be very much swollen on under jaw; tongue and gums half way down were milk white; saliva like white of an egg, and running all the time. Last night it died. It tried to suck, but we could not determine whether it swallowed. Mrs. C. M. S. *Vincentown, N. J.* [Your description is not sufficiently explicit to enable us to diagnose the trouble. The colt was either poisoned or injured, probably the latter.]

Eczema, p. 374.—May 20-21 mare stood about the stable and barnyard. On 23d I drove her twelve miles; she seemed disinclined to go, and somewhat stiff, especially in left hind leg; all of her legs slightly swollen; passed large quantities of clear urine at frequent intervals. Morning of 23d left hind leg badly swollen, but not much lame. In a few days a large swelling appeared on abdomen, extending forward to the breast. Soon after a large portion of skin sloughed from each swelling, giving rise to more or less hemorrhage and the discharge of yellowish serum, continuing at intervals a fortnight or more. Discharges were not offensive at any time. Bowels act naturally, appetite not good, though she has eaten sparingly all the time. Lost a good deal of flesh. Symptoms have all improved, swellings disappeared, sloughs dry and show signs of healing; appetite improving, and she gains a little flesh. Had not commenced treatment, p. 374, when this trouble came on, so have not used it at all. Eczema is the same as heretofore. J. H. *Avondale, N. C.* [Give 6 dr. Fowler's solution in feed twice a day for two weeks. Give one of the following balls and repeat in five days: Powdered Barbadoes aloes, 6 dr.; powdered nitrate of potass., 4 dr.; powdered gentian, 4 dr.; a sufficient quantity of Venice turpentine to mix and make two balls.]

Blood Poisoning.—A yearling colt was taken with cough, running at nostrils, swelling under jaw, and at side of head below ears; broke under jaw and at head, and ran freely. Had swelling also between hind legs at bag which on opening ran freely all matter. Before jaw and head swelling quit running, commenced to swell on both sides of throat, back of jaw, which hindered its breathing. I opened both sides, and in so doing cut a vein; it bled I suppose a gallon. I opened again in a day or two, when matter ran freely. Colt now has a large swelling on neck front of breast, also large one on rump close to tail; both swellings are hard; have not come to head. Had three others so affected, but not so badly—two three-year-olds and one yearling. Older horses have not taken it; other horses and colts in neighborhood affected. Called strangles by a veterinarian. In the first stages of the disorder I rubbed with camphor, coal oil and turpentine, mixed in equal quantities. W. L. M. *Moffatts Creek, Va.* [The colt should have one of the following powders twice a day: Sulphate of quinine, 6 dr.; powdered sulphate of iron, 6 oz; powdered colchicum root, 2 oz.; mix. Make 18 powders. Mix the powder with a gill each of water and molasses, and turn it down the colt. Give him fresh air and plenty of exercise.]

Barren Sow—Weak Colt.—A fine imported sow, about 18 months old, that so far as known never come in season, has been put with boar several times, but she resists and fights. The owner of the boar recently placed her in a crate and the boar served her; this was done with the hope it would bring her round, but it appears to have no such effect. (1) A colt, the progeny of an old sound driving mare and a blooded horse, came weak and crooked-legged. On one leg there is a curb and on each knee toward side there is a soft swelling similar to a bog spavin. (2) Breeder. *Ontario.* [1. In my opinion she is barren and a hopeless case. 2. You should have stated age of colt. I could not prescribe for a suckling colt the same as for a yearling.]

Eruption on Dog.—A small pug dog, three years old, is afflicted with a disease of the skin, not mange, however. Hair seems rough, standing up over his entire body, and he seems to suffer greatly on account of itching; is not, nor has he ever been very fleshy, is active, full of life, and has a good appetite. J. M. S. *Philadelphia, Pa.* [Sulphate of mercury, flav., 1 dr.; sulphate of quinine, 1 dr.; mix. Make 30 powders: give one daily. Some some of the following over the dog and in two hours wash off; repeat in two days, and so on: Fish oil, 4 dr.; oil of pennyroyal, 2 dr.; sulphur, 4 oz; mercurial ointment, 2 dr.; whale oil, 1½ pints; mix.]

Scrotal Hernia.—Referring to a recent inquiry on this subject, we once had a case successfully treated, by placing everything back, holding in place with finger, while a silk ligature was carefully run through so as to take two or three stitches through outer skin, carefully catching to inside—drawing same together and tying. In this condition it remained for four or five days, then the thread was cut, taken out and no further trouble experienced. Any careful man can take a crooked needle and silk thread and perform this operation without difficulty. S. S. *Garden City, Kan.*

Record of the Times.

Review of Passing Events.

Another Johnstown.—A cloudburst in Fulton county, New-York, near the junction of Cayadutta and McKean creeks, July 9, flooded the villages of Gloversville, Johnstown and Fonda, and carried away nine bridges, and several tanneries and skin-mills. A number of persons were standing on the Johnstown bridge, five of whom were drowned. The electric light plant was washed way. Near Fonda 500 feet of the Central tracks were washed out, and at Aiken 400 feet. Trains were sent around by the West Shore tracks.—The bursting of a dam in Upper Pittsburg, July 14, drowned two persons and injured three.

Various Conventions.—Last week was crowded with conventions of all kinds. The 27th convocation of the regents of New-York took place at Albany. The leading address was by Melvil Dewey, State librarian, on "University Extension," or the bringing of the higher education within reach of every man and woman in the State who seeks it—and the better utilizing of public libraries, museums, &c., as already done by the English Universities.—Chautauqua has taken up this idea, which is an extension of its own, and is forming a central committee to organize an association of students and lecturers for work in various communities.—The American Institute of Instruction held its 60th annual meeting at Bethlehem, N. H. President Andrews of Brown University spoke on "Historical Studies and the Teacher;" Dr. T. W. Harris of Concord, Mass., "Study of Natural Sciences;" T. B. Stockwell of Rhode Island, "The Political Functions of the Public School."—The American Philological Association met at Easton, Pa. Prof. F. A. March of Lafayette spoke on "The Metre of Paradise Lost;" Prof. T. W. Hunt of Princeton, "Open Questions in English Philology;" Prof. Garretson of Texas, "Shall or Will;" Prof. C. P. G. Scott of New-York, "An Unstable Idiom in English."—The 8th annual convention of Christian Endeavor Societies was held at Philadelphia, with attendance of 6,500, and report of 7,641 societies (membership 470,000), of which 1,387 are in New-York, 743 in Massachusetts, 541 in Illinois, 484, in Penn., 465 in Ohio, 241 in California, 87 in England, and 50 at mission stations. Secretary Wanamaker was present and spoke; President Harrison sent a message.—A two weeks' conference of college men at Northfield, Mass., under charge of Mr. Moody, for Bible study and Christian work was brought to a close, after sessions of great interest and enthusiasm. Delegates were present from Great Britain and Germany.—The Institute of Christian Philosophy opened at Key East, N. J., for a six weeks' session. President Deems, Bishop Fallow, Prof. Newcomb, Principal Dawson and Austin Abbott will take part.—At Niagara Falls occurred the first annual convention of American railway accounting officers; President, Marshall M. Kirkman; attendance, 200.—The candy makers of the country—otherwise the National Confectioners' Association—met in New-York and discussed the relation of the sugar trust to the recent advance in sugar, prevention of fires, and freight on candy in pails. About 63,000,000 pounds thus shipped last year paid first-class rates, while barreled is third-class.—Connecticut masons, 5,000 in number, celebrated the 100th anniversary of the formation of the grand lodge, at New Haven, July 10.—The Statehood conventions continue in session. North Dakota is opposed to a senate.

From Abroad.—Mr. Parnell has announced the formation of a tenants' defence league, whose object is to raise a fund to aid tenants against combining landlords. The plan is approved by Gladstone and Morley.—Snowden Mountain, Wales, has been sold for £5,750.—The arrest of Boulangiste at Anjoulesme led to disorderly scenes in the French chamber of deputies. On the 14th the police broke up a public meeting, and were roughly handled.—The centenary of the fall of the Bastile was celebrated on the 14th.—Uneasiness about the political future prevails at the Vatican, and by consent of the Spanish authorities, Valencia has been named as an asylum for the Pope.—While Emperor William was viewing the Baar glacier in Norway, a great piece of ice fell, knocking him to the ground. His injuries were not serious.—At Jaegermedorf, Austria, 4 000 weavers have gone on a strike.—Col. Wodehouse is following the dervishes, 5,000 strong, with his available forces, in steamers. Additional troops have been ordered to Egypt, and Gen. Grenfell has assumed command.

Minor Items.

Prof. Brooks of Geneva, N. Y., discovered a new comet, July 7.

The total output of the State fish hatchery this year is about 13,490,000 fry.

The first out-of-town boodle trial—that of McQuade, began at Ballston, N. Y., July 9.

The new directory of the city of New-York, contains 351,129 names—15,894 more than in 1888.

The Charleston, S. C., clergymen have signed a protest against the acquittal of Dr. McDow.

A strike occurred at the Carnegie steel works at Homestead, Pa., and 3,800 men went out. Attempts to bring in new men were met with

violence, and 100 Pinkerton men were sent to the place. A compromise was effected on the 14th.

John Kelly, who murdered Eleanor O'Shea near Geneva, N. Y., last November, was hanged at Canandaigua, July 10.

Colonel Enmons Clark of New-York, has been appointed consul at Havre; Roswell G. Horr of Michigan, at Valparaiso.

A boy in Astoria, L. I., was fatally wounded by running down a bank into a barbed wire fence while playing blindman's buff.

Charles A. Burt, a member of the Oneida Community, New-York, is seeking to have a receiver appointed and the property divided.

George Clark of Hyde Hall, once the owner of 75,000 acres of land in four counties of New-York, died at Richfield Springs, July 9.

The Cherokee Cattle Association, present lessee of the Cherokee strip, I. T., offers to pay $5,000,000 for a ten years' renewal of its lease.

Charles W Sanders, author of school readers of which 13,000,000 copies were sold between 1838 and 1900, died in New-York, July 8, aged 83.

Prof. D. P. Todd of Amherst College will head the government expedition to observe the total eclipse of the sun visible in South Africa, Dec 22.

Sixty New-York fresh-air children were endangered by a washout on the Central Vermont road near Brandon, July 10, which ditched the train.

Minneapolis, in 1884, had 500 saloons under a $100 license, paying into the city treasury $50,000 yearly. Now under a $1,000 license it has 280 saloons paying in $230,000.

Henry C. Bowen, proprietor of the New-York Independent, was thrown from his carriage at Woodstock, Conn., July 12, and seriously injured. He is 76 years old.

Secretary Rusk has organized an editorial division in the Department of Agriculture, and all bulletins and pamphlets will be digested and abstracts given to the press.

Charles Osbaus, a Philadelphia newsboy, who lost a leg from injuries by a traction company car, has, after an appeal by the company and a new trial, been awarded $40,000.

The verdict in the New York & Long Branch railroad accident, at Little Silver, N. J., was that the road was responsible for the death of four persons, having neither gate nor flagman at the crossing.

The coroner's jury in the Johnstown disaster has fixed the blame on the officers and members of the South Fork Fishing and Hunting Club. An estimate by the board of inquiry makes the total losses over $8,650,000.

S. M. L. Barlow, an eminent New-York lawyer, died at Glen Cove, L. I., July 10, aged 61. His fees in the litigation over the Erie road were $250,000, and his conduct of the case is said to have cost Jay Gould $9,000,000.

A report from the Pennsylvania flood commission, says the number of persons fed has varied from 31,950 to the present roll of 7,000; 400 portable houses have been put up; $500,000 will be distributed among verified claimants in the Conemaugh valley.

The State forest commission has placed signs bearing the words "State lands" on 50 of the 180 islands in Lake George owned by the State. The larger islands are to be named after Cooper's heroes and heroines. These lands cannot be sold or leased.

A decision in the supreme court of New-York which compels the owners of the steamer Walter Brett to pay $4,000 to the daughter of a deck-hand who drank freely at the bar and fell overboard, is making other boat owners think seriously about their bars.

The coming encampment of the G. A. R. at Milwaukee is threatened with failure, because the railroads refuse to yield to the demand of one-cent-a-mile fares, and nine department commanders urge the men to stay away. This rate has been given to other gatherings.

Miss Kate Field, who has been serving as lecturer at the East for the California Viticultural Commission in the introduction of native clarets and white wines, has resigned her position owing to the criticisms of Governor Waterman of that State. The commission decline to accept her resignation.

A new method of malting by pneumatic drums has been introduced from Germany, and the Galland-Henning company of Milwaukee will manufacture the machines. The process saves spreading the malt on floors, can be carried on all through the year, and the cost per bushel is reduced from ten cents to five.

Sullivan and Kilrain left New Orleans, July 9, for the North, unmolested by the authorities. Sullivan was arrested at Nashville, Tenn., July 11, on requisition from Gov. Lowry, but released soon after on writ of habeas corpus. He reached Chicago and is in hiding there. Kilrain is supposed to be in Baltimore.

Maurice B. Flynn, a well-known Democratic politician of New-York city, and an extensive contractor, died at Long Branch, N. J., July 9, aged 41. The appointment of Robin M. Squire as commissioner of public works, through Flynn's influence, led to exposures resulting in Squire's dismissal and Flynn's retirement from public life.

Mrs. John Tyler, widow of President Tyler, died at Richmond, Va., July 10, aged 69. She was the daughter of David Gardiner of Gardiner's Island, N. Y. In 1844 her father was killed by a gun explosion on the Princeton, while on an excursion with the President. The body was taken to the White House, and Miss Gardiner was cared for by Mr. Tyler, which led to their marriage.

LUMP ROCK SALT.

Every day the owners of Horses and Cattle are realizing more and more the benefits derived from salting stock with Lump Rock Salt, and every day its extensive application increases. It not only saves a great deal of labor, but it also is more economical, as it lasts four times as long as fine salt. Stock never purge themselves by its use, as having it always before them, they are not inclined to consume large quantities at one time, as is the case when fine salt is thrown in the pastures once in every few days. The Retsof Lump Rock Salt advertised on another page is a pure salt, free from lime, and thrown in the pastures or manger, suits stock in the most approved style. Almost every breeder of fine stock is using this salt to-day, and will endorse its advantages. We recommend our readers to try it for themselves, and they will quickly appreciate its value.

For a Disordered Liver try Beecham's Pills. 13

Farm Produce Markets.

Albany Markets—July 15.

FLOUR—The market has been firm and trade fair.

	1889. July 13.	1889. July 6.	1888. July 14.
Com. State	$3.10@3.60	$3.10@3.60	$3.10@3.15
State Extra	4 10@4.50	4 10@4.50	4 10@4.60
Amb. State & W	4 40@4.80	4 40@4.80	4 40@4.60
O., Ind. & St. L. Ex.	4 30@5.10	4 30@5.10	4 30@4.60
Winter W. Pat	5 00@5.60	5 00@5.60	4 60@5.10
Minn. "Bakers"	4 40@4.75	4 40@4.75	4 30@4.75
50% W. Pat., low	6 20@6.75	6 25@6.75	5 00@5.25
50% W. Pat., old	6 25@6.50	6 25@6.50	5 00@5.25

Rye Flour fairly good and prices steady at $3.10@3.25 per bbl.; organs, $3.25@3.50. Corn Meal dull and moderately well at $2.80@2.85 per bbl. Corn Meal still has a good trade at $2.90@2.95 per bbl.

GRAIN—Corn in moderate demand; No. 2, 60c. No. 3 mixed, 58½c. Oats in fair request at No. 2 white, 39½@39¾c.; No. 3 white, 39@39½c. Rye in light receipt and demand at 58@59c. per 56 lbs. for State and western basis; per bbl. $3.10@3.25.

HAY AND STRAW—Market steady with good demand. Timothy, best, $16@17; medium, $14@15; clover, $12@13; mixed, $12@13. Rye straw, best, $15@16; oat straw, $9@10; wheat straw, $8.

HOPS—Market quiet, with slight decline.

N. Y. State, 1888, choice	20	@22c.
N. Y. State, 1888, common to good	8	@12
N. Y. State, 1887, all grades	5	@7
Pacific Coast	12	@15
German	12	@17

Albany Street Market—July 15.

BUTTER—Good to choice, 16@17c per lb.

EGGS—Near-by and new laid 14@15c per doz.

FRESH MEATS—Steers cost and sides sell at 6½@7c per lb.; fore quarter, 5@6c.; mutton, carcasses, 6½@7c.; lambs, handquarter, 10@11c.; forequarter, 8@9c.; veal, 7@8c.

POULTRY—Fowls, 15@16c per lb.; chickens, 15@16c.; Western broilers spring chickens, 24@25c.

FRUIT—Cherries $1@1.25 per bush.; Currants, $1.75@2; Gooseberries, $1@1.50; Huckleberries, $1@1.25; Peaches, 40@50c per crate; Pears, $1 per bush.

VEGETABLES—Asparagus, 60@75 per dozen bunches; Beets, new, 10@15c.; Cabbages, new, $1 per doz.; Cauliflower, $1 per doz.; Cucumbers, $1.25@1.50 per crate; Green Peas, $1 per peck; Lettuce 15@20c. per box; Onions, new, $1@1.25 per bbl.; Potatoes, new, $2@2.50 per bbl.; Radishes, 10@15c. per doz. bchs.; Spinach, 40@50c. per bu.; String beans, 40@50c. per bush.; Squash, 75c.@$1; Tomatoes, $1.50@2 per crate.

New-York Markets—July 13.

GRAIN—Barley, 48lbs.		2.35	@ 2.40
Medium, 48lbs. choice		2.40	@ 2.45
Pea, 66lbs		1.40	@ —
COTTON—	Cotton.	Mid. Gulf	
Ordinary, per lb	9¼@ —	—	@9¾
Middlings	11¾@ —	—	@11¾
Fair	13 @ —	—	@13¾
EGGS—State and near-by, per doz		13¾@	
Western and Canada		14¾@	
FLOUR—Spring Wheat pat., per bbl		5.50	@ 6.25
Winter		3.75	@ 4.25
No. 2 extra State and Western		3.30	@ 3.45
No. 1 extra		3.80	@ 4.10
Minnesota clear		4.00	@ 4.50
Straight		4.25	@ 4.60
Rye Flour, superfine		3.00	@ 3.25
Corn Meal		2.60	@ 2.75
FRUIT—Apples, Southern, per bbl		1.50	@ 2.50
Jersey, Astrachan		1.50	@ 1.75
Jersey, Bougs		2.00	@ 2.50
Mar land, Harvest		2.00	@ 2.50
Blackberries, Del. & Md., per qt		5	@ 6
Wilsons, Jersey		4	@ 5
Cherries, poor to prime, per qt		5	@ 6
Carrants, cherry, per lb		4	@ 6
Small		2½@	@4
Gooseberries, per bus		1.25	@ 1.50
Huckleberries N. C., per qt		5	@ 7
Jersey and Md		6	@ 7
Shawangunk, per box		60	@ 75
Peaches, Ga., per crate		1.00	@ 1.50
S. & N. Carolina		1.00	@ 1.50
Pears, Ga., Le Conte, per bbl		4.00	@ 5.00
Md., Del		4.00	@ 4.50
N. J., sugar-top		3.50	@ 3.00
Plums, wild goose, Ga., per qt		5	@ 6
Raspberries, Antwerp, per cup		4	@ 5
Up River Marlboro & Cuthbert		5	@ 6
Jersey, per pint		3	@ 5
Blackcaps, Jersey		3	@ 4
Strawberries, Western New-York		4	@ 7
Watermelons, Ga., per 100		20.00	@ 25.00
Florida, small		10	@ 20
DRIED—Apples, sun-dried, per lb		3½@	@4
Evaporated		5½@	@6
Peaches, sun-dried		3	@ 5
Evaporated		5	@ 7
Plums, Southern		3	@ 4
Cherries		10	@ 12
Blackberries		3½@	@4
Huckleberries		10	@ 11
Raspberries		17	@ 20
GRAIN—Wheat, State white, per bus		80	@ —
Ungraded spring		80	@ —
No. 1 red, winter		80	@ —
No. 2 red, winter		80	@ —
Corn, No. 2, white		—	@ —
No. 2, mixed		41½@	@ —
Oats, No. 2, white		34½@	@ —
No. 3, mixed		31½@	@ —
Rye, State and western		58	@ 59
HAY—Timothy, per 100 lbs		80	@ 90
Shipping		75	@ 80
Clover		85	@ 90
Straw, long rye, No. 1		90	@ —
No. 2		80	@ 85
Oat		40	@ 50
Wheat		60	@ —
HOPS—N. Y. State, 1888, choice, per lb		20	@ 22
Good to prime		15	@ 18
Med. 1888		7	@ 10
California, 1888, best		13	@ 17
Prairie coast, 1887		1	@ 2
German		30	@ 37
POULTRY—Live fowls, per lb		11	@ 12
Spring chickens		18	@ 20
Turkeys		11	@ 12
Ducks, per pair		60	@ 70
Geese		1.00	@ 1.25
Dressed fowls, per lb		11½@	@ 13¾
Phila. springs		16	@ 21
West. broilers		16	@ 21
Turkeys		9	@ 13
Ducks, spring, per lb		13	@ 16
PROVISIONS—Beef hams, per bbl		14.50	@ 15.00
India mess		12.00	@ 14.00
Pork, dressed, per 100 lbs		6 00	@ 8 00
Lard, per 100 lbs		6 50	@ 7 75
Pork, new mess, per bbl		12.75	@ 13.00
Short clear		13.25	@ 14.00
Family		13.00	@ 13.50
VEGETABLES—Beets, Long Island, per 100 bunches		1.75	@ 2.00
Cabbage, L. I., per 100		1.00	@ 2.00
Cauliflower, L. I. & Jer., per bbl		1.00	@ 2.00
Corn, Burlington, N. J., per 100		25	@ 30
Cucumbers, Southern, per crate		25	@ 50
Long Island, per 100		75	@ 1.00
Green peas, Long Island, per bag		1.00	@ 1.25
Onions, N. C., new, per qt		2½@	@3
Md. and Va		1.25	@ 2.00
Potatoes, Nor. & E. States, per bbl		1.00	@ 1.25
Long Island, sloes		1.25	@ 1.50
Sprout beans Md., per basket		25	@ 50
L. I. per bag		50	@ 1.00
Squash, Boston tors per bbl		75	@ 1.00
Jersey, yellow per crate		50	@ 75
Tomatoes, Sav., per crate		75	@ 1.00
Norfolk, acme		75	@ 1.00
Tennessee		75	@ 1.00
Jersey		1.00	@ 1.75
Turnips, Jersey, per 100 bunches		2.00	@ 3.00

Cattle Markets.

NEW-YORK, July 15.

BEEVES—Receipts, 11,165 head. The week opened with a brisk demand and a recovery in values of 5c. per cwt. This was not sustained on Wednesday, when the quality of the herds offered was coarse and mounted to the heads of boys; on a dull feeling values declined 10c. per cwt. Friday steers of coarse and heavy were off 10 per cwt. Steers of a lean aspect unchanged to value. The best steers to hand were Pennsylvania, Maryland, Ohio and Western grass-fed natives. The heads for export were corn-fed grade steers. Texas steers, corn-fed, $4.15 per cwt.

[Per cental, gross.]	This week.		Last week.	
Good beeves	$5 20	@ —	$5 25	@ —
Fair	5 00	@ 5 15	5 00	@ 5 20
Coarse	4 60	@ 4 90	4 60	@ 4 90
Poor	4 00	@ 4 50	4 00	@ 4 50
[Per cental, gross.]	This week.		Last week.	
Good beeves	$5 00	@ —	$4 95	@ —
Fair	4 75	@ 4 90	4 80	@ 4 90
Coarse	4 40	@ 4 70	4 40	@ 4 70
Poor	4 05	@ 4 35	4 05	@ 4 30
Oxen	3 90	@ 4 40	3 90	@ 4 30
Dry cows	2 50	@ 3 15	2 50	@ 3 15
Bulls	3 00	@ 4 00	3 00	@ 4 00

MILCH COWS—Receipts, 49 head. Trade has been relatively fair for the week under review; 3 cows sold at $40 per head; 10 cows, $35 each; 7 cows, $30@45.

VEALS AND CALVES—Receipts, 2,441 head. The week opened with a steady feeling, which was fully sustained on Wednesday, although buyers were not satisfied with the quality of the offerings, which was coarse and lean. Friday the markets closed dull, values being 1@2c. per lb. Range of prices: Veals, buttermilk-fed, 7@8c. per lb.; part meal-fed, 6@7c.; calves and lean veals, mixed lots, 5½@6c.; veals of medium quality, 5@5½c.

SHEEP AND LAMBS—Receipts, 9,115 head. On Monday last trade was steady and on Wednesday no change was noticed. Thursday sheep remained steady while lambs closed ½c. per lb. Friday the markets closed dull and weak. Range of prices: sheep, 4@5c. per lb.; ewes, 3@4c.; lambs, 5½@6c. Quality of the stocks, poor to choice.

SWINE—Receipts, 28,136 head. The tone of trade has been steady; 3 cent hogs sold at 6 (15) per cwt.; 25 State hogs, 60c and 247 lbs., 6¾@7c per cwt.

BUFFALO, July 13.

[Per cental, gross.]	This week.	Last week.
Extra steers	$4 10@4 20	$4 10@4 20
Best butchers	3 90@4 00	3 75@3 90
Second quality	3 25@3 60	3 15@3 50
Poor to common	2 50@3 00	2 25@2 75
Choice, light	$ 2 90@3 10	$ 2 75@2 75
Stockers, good to choice	2 60@2 90	2 50@2 60
Bulls	$ 2 00@2 50	$ 2 00@2 50

CATTLE—Receipts, 16,000 head, against 16,351 last week. At the opening salesmen refused to lower prices of heavy steers and buyers, after bidding off until later in the day, took the bulk of the offerings at last week's prices, an advance being paid in some cases. Heavy export dull. Good handy fat butchers', fat bullocks and smooth steers sold easily at the advance, closing steady. Stockers weak. Receipts light; no Canadians. Sales dull.

MILCH COWS—Choice milchers and springers only were wanted. Liberal receipts of poor and common, and prices weak; extra, 2 cows; good to choice, $[illegible]; poor and common, $[illegible].

CALVES—Liberal receipts; demand light; good to choice, $ [illegible]; heavy, $[illegible].

SHEEP AND LAMBS—Receipts, 8,000. Supply very light, and with a good demand for all choice sheep the market ruled strong and higher. Choice to extra, 90 lbs. average $4.50@4.75; fair to good, 75 to 85-lb., $4.00@4.25; common, $4 head. Lambs, choice spring, $[illegible]; fair to good, $[illegible].

SWINE—Receipts, 24,000. Market steady throughout the week, offerings limited; medium and heavy, $4.60@4.65; Yorkers, $4.60@4.65; heavy, $4.70@4.75; stags and roughs, $3.50@; good mixed butchers', $4.65@4.70; pigs, $4.75@4.80.

Dairy Markets—July 15.

ALBANY.—Butter in steady demand; eastern in light receipt, western liberal. State creamery, choice, 18c.; Western creamery, 17c.; state dairy, 16c.; fair to good, 15@16c.; Western dairy, choice, 15c.

Cheese slightly easier. State factory, full cream, 9@9½c.; fair to good, 8@8½.

UTICA.—Cheese was off about ½c. last Monday, and the market was quiet but to try along at the decline. Buyers were willing to take everything offered, but wanted the stock at their own prices. This was natural, as they had lost money the week before, and did not want to duplicate that operation. They were also apprehensive of the results this week. Sales here amounted to 8,000 boxes at 8½c., with 9½c. for ruling price. Little Falls also disposed of 11,000 boxes at 9½c., with the bulk at 9c., and with the understanding that some cheese should be higher if the New-York market should warrant it. Prices began to decline the first part of the week, but the big wash-out at Fonda and Amsterdam on the New-York Central seriously delayed the arrival of mid-state cheese, and there was a comparative scarcity in the city in consequence. This gave more strength to the market, and as demand from abroad seemed to be sufficient to take up the stock in hand, prices remained steady the rest of the week, with fine to fair colored and choice to fair white stock.

Butter is actually ½c. lower in consequence of the heavy arrivals. For creamery packing the outside figure. While dairy tubs bring only 16c. in New-York in the country we did a little better than last Monday, Utica selling creamery at 17½c. and 18c., and Little Falls creamery at 17½c., and dairy at 16@16½c.

NEW-YORK.—Butter offerings free and tone weak. Receipts, 16,142 packages. Eastern creamery, 16@18c.; Western creamery, 16@18c.; state dairy, choice, 16@16c.; Western dairy, 14@15c.; Western factory, choice, 13@14c.

Cheese in full supply. Receipts, 14,688 boxes. Factory, best, 9@9½c.; part skims, 6@8c.; Ohio flats, 9@9½c.

BOSTON.—Western creamery extra, 17@17½c.; extra firsts, 16@16½c.; factory, 15@16c.; Vermont, extra, 18c.; dairy, choice, 14@15c.; Eastern creamery, good to choice, 18@19c.

Cheese, northern choice, 8½@9c.; western, 8@8½c.; sage, 9@9½c.

Wool Markets—July 15.

ALBANY.—Market firm with light sales.

No. 1, Pulled	34@35	Medium Fleece	32@33
Super Pulled	32@33	Fine Fleece	30@32

NEW-YORK.—Ohio X X, 36@37c.; Michigan, X c., delaine, 34½c.; unwashed western, 23c.; pulled, 37@39c.; Territory, and fine, secured, 36@38c.; Montana, &c., Oregon, 33@34c. secured, 35c.; Texas, 17@23c. secured, 25 @30c.; California, 17@23c. secured, 26@30c.; Australian, 36@38c. Montevideo, 19c.

BOSTON.—Sales, 2,257,000 lbs. domestic and foreign; Ohio and Pennsylvania, X c., 36c.; Michigan, fine delaine, unwashed, 23@24c. secured, 36@38c.; pulled, 34@36c.; unwashed, 24@26c. Territory, 36@38c. Texas, 24@25c.; California, 19@23c.; Montevideo, 19@20c.; Australian, 36@38c.; Montevideo, 19c.

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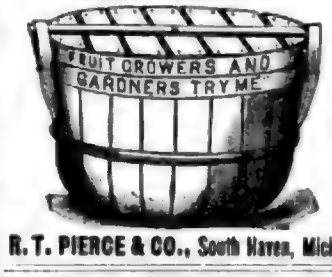

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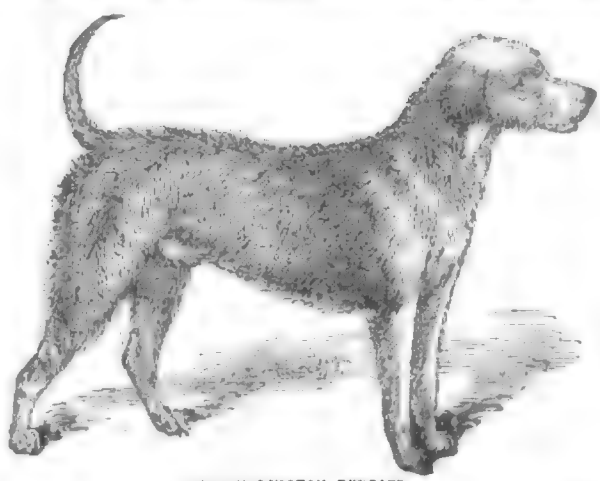
The Fireside.

The Bedlington Terrier.

The county of Northumberland has the credit of producing another breed of dog than the Dandie Dinmont, in the well-known Bedlington Terrier, which for the past two or three generations has been the favorite companion of the northern pitman, and was carefully bred by him long ere the days when the variety became to some extent fashionable. There has just appeared in the Stock Keeper some notes which seem to be from the pen of a leading breeder, and one who has studied the breed, in which the origin is fully defined. In this it is stated that the earliest record we have of the Rothberry Terrier (Rothbery Terrier), as the Bedlington was first called, and as Old Bill Hedley and other old fanciers maintain it should be called, is in the "Life of James Allan," the famous Northumbrian piper, published at the beginning of the present century, and compiled principally from the *vive voce* testimony of the famous piper himself. Allan was born in 1719-20, at a gipsy camp (a branch of the well-known Yetholm tribe) in Rothbury Forest, and was the youngest son of William Allen, whose ostensible mode of living was as a cooper, tinker, mugger, &c., but who was also an excellent piper and a keen sportsman. William Allan was much famed for his skill as an otter hunter, and was much in request among the Northumbrian gentry as a man who could always show them good sport, and for this purpose he kept a number of terriers of this breed.

The following is a description of old Bill Allan's domicile, which was a wretched hovel into which the wind and the rain had free access. The furniture consisted of a large fir table, some stools, and a few articles for cooking. Tinker's and cooper's tools ornamented the walls, with the stuffed skins of an otter and a favorite dog suspended from the roof, and not less than ten dogs besides galloways (ponies) and cuddies (donkeys), occupied one-half of the singular but happy dwelling. He owned two favorite terriers, Peachem and Pincher by name. He had taken particular pains in training Peachem, and such was his confidence in this animal that when once Peachem gave mouth on the trail of an otter, Old Willie would remark he would "sell the otter's skin." When much reduced in circumstances, a gentleman offered him fifty guineas for the dog, which he refused, showing he had a true love for the animal. Allan died at the Woodhouse in 1774-5, to which place he had removed from Rothbury several years before his death. The name Bedlington Terrier was not given to the breed until the third decade of the present century. This was done by Joseph Ainsley, a mason, who, we believe, lived at Bedlington, also in Northumberland, and possessed some of the best specimens of the day. His Young Piper was the first Bedlington Terrier, and his dogs laid the foundation of most of those seen at the present day. Following him there have been a number of skilled breeders, notably the late T. J. Pickett of Newcastle-on-Tyne, who really brought the breed to the fore, and was invincible in his day as an exhibitor.

The Bedlington is a terrier all through, and does not, except to those who know a good working animal, appear attractive at the outset. His hard, shaggy coat, rugged style, and dunky blue color are not just what seem most suitable for a pet, but where work is the object there can be no better dog, as he is game to the core and will rather die than succumb. The late Mr. Pickett, commonly known as the Duke of Bedlington, gave as his opinion of this dog the following statement in 1879: "The Bedlington is a light-made dog, with a bright, alert bearing, and whose cut and demeanor are indicative of fire and resolution. The head should be high and rather narrow, and when looked at from behind should be almost wedge-shaped; it should be surmounted by a fine silky tuft, and this, with the ears and tail should, in the blue sort, be of a much darker shade of color than the body. The eyes should be small and a little sunken, and the jaw long, quickly tapering and muscular. The ears should be long, should hang close to the cheek, and should be slightly feathered at the tip, while the neck should be long and muscular, and should rise well away from widely-set shoulder blades. The legs should be rather high, and should be straight,



THE BEDLINGTON TERRIER.

hard and sinewy. The body should be compact and well formed. The tail should be small, from 8 to 12 inches long, and slightly feathered. The coat should be rather wiry, and the color blue black, sandy, or liver. The dark-blue dogs should have black noses; the liver or sandy are most approved of with flesh or cherry-colored noses, but a sandy dog with a black nose would not be objected to if from a blue strain."

At the same time as the above statement appeared, another writer in the Newcastle Chronicle, when it must be remembered that the breed was scarcely known as a show dog, or in any way out of the Northumbrian district, said: "Although the Bedlington terrier is only a new comer, he has a great future before him, with regard to popularity and esteem. The breed can well afford to depend upon its merits to push its way to the front, and the more well-bred specimens are spread about, in the greater demand will the dog assuredly be." This prognostication has been literally verified, and now the classes for these dogs are almost always well filled, and what was also claimed for the breed has been proved to be true, namely, that few breeds can compare with the Bedlington terrier for stamina, fire, courage and resolution. He will knock about all day with his master, busy as a bee at foxes, rabbits or otters; and at night, when any other breed of dog would be stiff, sore and utterly jaded, he will turn up bright as a new shilling, and ready for any game going. He takes to the water readily, has a capital nose, is most intelligent and lively, and as a rough-and-ready friend about the fields and woods he has no equal. The Bedlington is as tenacious, as resolute, and as indifferent to rough usage as the professional gladiator; but he lacks the formidable jaw and the immense power of the bull terrier, and is not, like that breed, a fighting animal.

The following is the standard for this breed adopted by the Bedlington Terrier Club:

Skull—Narrow, but deep and rounded; high at occiput, and covered with a nice, silky tuft or top-knot.

Jaw—Long, tapering, sharp and muscular; as little stop as possible between the eyes, so as to form nearly a line from the nose and along the joint of the skull to the occiput. The lips close-fitting and no flew.

Eyes—Should be small, and well sunk in head. The blues should have a dark eye; the black and tan ditto; and the livers, sandies, &c., a light brown eye.

Nose—Large, well angled. Blues and blue and tans should have black noses; livers and sandies flesh-colored noses.

Teeth—Level, or pincer jawed.

Ears—Moderately large, well forward, flat to the cheek, thinly covered and tipped with fine silky hair; they should be filbert shaped.

Legs—Of moderate length, not wide apart and square set, and with good sized feet, which are rather long.

Tail—Thick at root, tapering to point, slightly feathered on lower side, 9 to 11 inches long, and scimitar shaped.

Neck and Shoulders.—Neck long, deep at base, rising well from shoulders, which should be flat.

Body—Long and well proportioned, flat-ribbed and deep, not wide in chest, slightly arched back, well ribbed up, with light quarters.

Coat—Hard, with close bottom, and not lying flat to sides.

Color—Dark blue, blue and tan, liver and tan, sandy, sandy and tan.

Height—About 15 to 16 inches.

General Appearance.—He is a light made-up lathy dog, but not shelly.

Weight—Dogs, about 24 lbs.; bitches, about 22 lbs.

The principal breeders of the present day are, Mr. W. E. Alcock of Sunderland, Secretary of the club; Mr. G. T. Maling, Jr. of Newcastle; Mr. Donald Ross, Glasgow; Mr. J. Smith, Montrose; Mr. A. E. James, Stonehouse; Mr. John Cornforth, and others.

STEPHEN BEALE.

The Lake Sturgeon—"Nishe-Nahma."

The halibut, *Hippoglossus maximus*, finds no place among the fishes of the inland seas of our continent, but his name has been usurped by a much more succulent species, the Great Lake sturgeon, *Acipenser rubicundus*, which, however, is related only by courtesy of classification to the monster that wallows about the estuaries and tide-ways of the Atlantic.

Science denominates him the "sharp-finned." And in the long-gone days when Mackinaw was *Mee-she-mee-mac nac* (the "Great Turtle"), and the abode of Algonquin deities—when the only craft rocked by the waves of *Kitche-mid-mide-gosh-kid*[1] were the tiny barklets that on calm days sped out from the coves, propelled by brawny arms of redmen—then the sturgeon was *Nishe-Nahma*, and was transfixed by copper and flint-tipped arrows, or entangled in nets of twisted bark fibre, as he sported at twilight among the shallows after the manner of his kind. But whether *Nishe-Nahma* also stands for him of the sharp fin, or is indicative of some economic trait, must be left to the masters of Indian dialects or some whilom delver in the gutteral mysteries of the Otchipus tongue.

Often attaining a length of eight or ten feet, with corresponding avoirdupois, the sturgeon is a creature of modest and retiring habits, and interfering neither with great or small is an excellent citizen of the aqueous commonwealth in which he dwells. Feeding exclusively upon invertebrate and vegetable forms of life, scrupulously neat, and moreover free from the disgusting parasites that are wont to infest more *gamey* species, his relations are all that can be desired of a food fish. Contrary to common prejudice, his flesh, though coarse in grain, is excellent, and when freed from superabundant oil and gnostically prepared, is with difficulty distinguished from the breast meat of fowls.

His most remarkable peculiarity, perhaps, is an apparent lack of youth. A young or adolescent sturgeon has yet to be discovered; and he seemingly springs into adult life all at once upon leaving the tiny eggs that are so plentifully distributed along the clay banks and shoals in June. Presumably the fry as soon as released from their membranous envelope, betakes themselves to hiding in deep water in the midst of subaqueous vegetation that, in some localities, is so abundant and rank as to be entitled to designation as marine forests.

But why "halibut?"

Toward the last of the "forties" a schism among the followers of Joe Smith at Voree, Wisconsin, led to the planting of a Mormon colony upon the larger of the Beaver Islands of Lake Michigan, under the temporal and spiritual leadership of one James J. Strang, a serigamous, pettifogging "limb," who arrogated to himself the titles of "king" and "saint," and established court at the hamlet that yet bears this title of his self-canonization.

Practically cut off from civilization, the main land contiguous yet a wilderness, and the island remote from the track of shipping, the "saints" on more than one occasion were brought to the verge of starvation. Finally the "king," who ruled with iron and absolute sway, conceived the idea of teaching his subjects to subsist after the manner of the red men, for the waters about teemed with sturgeon, and the latter caught him, and waxed fat and sleek thereon. Accordingly a revelation was had defining *Nishe Nahma* as the "Lord's own, especially designed to feed His chosen people," and Strang set an example by requiring sturgeon to be served thrice daily upon his own table. But, desiring to propitiate the delicate sensibilities of a favorite concubine, it was decreed that the fish should be known only as "halibut," and the "halibut" salads, stews, steaks and soups, and pickled and smoked "halibut" of his majesty, obtained no little celebrity among chance Gentile visitors, especially the epauletted gentry† of the U. S. steamer Michigan, which, in the routine of naval duty, called at St. James several times each year.

The revelation and mandate was not at first received with enthusiasm, as the prejudices of Anglo-Saxons generally taught that sturgeon was little better than carrion; but when the "saints" began to cure and smoke the fish, its superior excellences were quickly acknowledged. Thus was sown the seed that in late years has grown into a vast industry, and today the States of Wisconsin, Michigan and Ohio market more cured "halibut" (the *ova de plume* being preserved for obvious reasons) than New-England and the Provinces, and rival Scandinavia, Jutland and all Muscovy in the production of caviare. And whereas before Strang's time the spawning and feeding grounds of the species were avoided, they have become the scenes of busy tumult from May until November, when huge and struggling fish are drawn to the strand by seines, and lifted into wagons or small sailing craft for transportation to the ponds of the curing houses, for fortunately the fish survives long exposure without water—even fifteen or eighteen hours.

Four or five thousand sturgeon may frequently be seen huddled together in a single pond, affording excellent opportunities to study their habits; and here may be witnessed the mysterious motions that have led to the bestowal of the title of "hog fish" by the vulgar, and given rise to the absurd but widely-prevalent belief that sturgeon subsist exclusively upon "mud, water and air."

Possessed of a strong, blunt cartilaginous snout, the inner and spherical portion of which, owing to its elasticity, is in great request as a nucleus for the "la crosse" ball, they indeed grovel and root after the manner of the porcine animal; but unlike the latter, confine themselves to clean, fine earth, avoiding sphagnum and refuse. Loosening the clay, it is drawn into the mouth, and there pulverised, macerated and strained—the minute forms of life contained therein passing to the stomach, when the extraneous materials are rejected.

In winter, when seines are no longer available, spearing is in vogue, and this is the method formerly employed by the "Saints" and their aboriginal neighbors. Strewing an abundance of cedar or hemlock boughs about openings made through the ice, to serve as antidotes to frost, the fisherman reclines thereon face downward and at full length, his head and the opening alike shrouded beneath a heavy blanket, that excludes all light save as refracted by the water below; by this means, considerable depth and area may be scanned, while himself practically invisible.

The spear is a pointed steel rod half a yard long, with a series of barbs all on one side, set in a handle of wood heavy enough to easily penetrate the water, the two so loosely joined that any slight movement will disengage the former from its socket. By this means a cumbersome shaft, so essential to striking, is gotten rid of, and the fish secured by means of fifty or sixty yards of cotton cord carried in a coil in the left hand, its distal end knotted in an eye of the tyne, the proximate in like manner fastened to an iron ring clamped to the centre of the handle. An expert with this apparatus will frequently take one or two dozen of fish a day, varying from three to five hundred pounds each.

Port Huron, Mich. O. A. STOCKWELL, M. D.

[1] The "Great Lakes."

[†] To one who was an officer of the corvette at this time, I am indebted for information concerning Strang and his "halibut" industry. Said this gentleman: "I knew this halibut was very superior, but had no suspicion of the truth until enlightened by the 'king' himself."

Domestic Economy.

Blackberry Jam.

There is no fruit more delicious than the wild blackberry of the South. In flavor it is rich, sweet, and full of that indescribable essence perfected by the sunshine in all ri-

cultivated berries. The blackberry bush or briar adapts itself with enviable cheerfulness to all stations of life, choosing when permitted the rich loose loam of crooked old fencerows where it luxuriates on decayed rubbish and bestows an abundant blessing on the improvident farmer; again the briars will grow up tall and erect in some shady nook skirting the edge of a woodland, and though here they bear more sparsely, yet the berries are so large and luscious that they fairly melt in your mouth. Another colony perhaps, low in stature but compact in habit, takes possession of a bit of worn land and among the broom sedge and gullies brings a more bountiful harvest than the field ever produced in its palmiest days.

When we begin to enumerate the many good dishes furnished our table by this humblest of servitors we feel that we cannot value it highly enough. First and most delicious of all are the freshly gathered berries eaten with sugar and cream. What hot-house fruit could be more delectable? Then the canned berries for winter are almost as nice as fresh fruit served in the same way, or for those who like pastry made into pies and rolls; blackberry jelly too, seems specially suited to go with fresh meats, having considerable body and a very pleasant acid. And where can one find a more delightful drink than blackberry cordial—rich, sweet, and full of the fragrance of mingled spices? But in order to materialize the true essence of the blackberry, the very heart and soul of its goodness, it must be made into jam. What can be more inviting or more wholesome for an early country tea than nice thick blackberry jam, hot biscuit spread with golden butter, and a glass of milk so rich that you might as well call it cream and be done with it.

And now let us talk about the best way of making and keeping this same blackberry jam, for we want ours to be just a little bit nicer than any of our neighbors, and we will have to be very smart indeed for that, for Kentucky is full of notable housewives, lineal descendants of Virginia housekeepers, who, as all the world knows, are especially skilled in domestic lore. To begin with, we must have the choicest berries that can be procured; the earliest that ripen are to be preferred, as being larger, sweeter and better flavored. They should be gathered in the early morning, while cool and dewy, and as soon as possible after being brought to the house they should be put on to cook; first dropping them in cold water and stirring gently with the hand until all the stems, bugs and dried leaves rise to the surface, for in the hurry of gathering, a good many other things besides berries have found their way into the basket. When all the trash has risen to the top and been removed, then dip up the berries a handful at a time, holding them so a few minutes in order to let the water drain from them, while with the other hand we pick out the imperfect ones. After this they are carefully weighed and put over a hot fire to boil, either in a porcelain-lined, or a well scoured brass kettle. It is not necessary to put any water with them, as a sufficient quantity will settle at the bottom of the kettle to start them cooking. The fruit should boil rapidly and be stirred frequently until it becomes quite thick, then the sugar should be put in by degrees and stirred continuously until all is dissolved. The quantity of sugar requisite for blackberry jam should be regulated according to the sweetness of the fruit, which varies with different seasons. When the summer is hot and dry, the berries are smaller and sweeter and require only a half pound of sugar to a pound of fresh fruit, but when the season is cool and rainy three-quarters of a pound is necessary. It is better to have too much sugar than too little, as the sugar helps to preserve the jam. A good grade of brown sugar seems to suit blackberries better than the white granulated.

After the sugar is put in, almost continual stirring is required until the jam is done, otherwise it will stick to the bottom of the kettle and burn, and you will be obliged either to pour out the jam and thoroughly wash and scrape the kettle or make up your mind to put up with burnt jam. This is the most critical time, and the work of attending to the preserves should not be relegated to any but the most experienced. I always get some of the darkies to gather and wash the berries, for the stain it leaves on their hands is not very perceptible, but I either have to stir the jam myself or take my seat in the kitchen and see one of them do it. It is not a pleasant job by any means, to have the thick hot stuff popping out and blistering your hand and wrist before you can get it off. The best way is to swathe the whole hand and arm in a heavy towel.

We still adhere to the old-fashioned way of keeping jam in stone jars, which is so safe, so economical, and so little trouble, that I think every one ought to know it. In buying the jars, which should hold one gallon each, be careful to select those that are well glazed inside and out. After washing the jars, place them near enough to the stove to become thoroughly dry and hot, and get ready some thick boiled flour paste, several sheets of stiff white paper—foolscap is best—some pieces of strong white cloth, and a ball of cord. Fill the jar with the boiling jam to within a quarter of an inch of the top, cover the paper with the paste, spreading it on smooth and thin, and place it lightly over the mouth of the jar with the paste side down, smoothing it down neatly and tying it securely with the cord. Then cover one side of the cloth with paste in the same way, and tie it down over the paper, and set the jar away to cool before labeling and tying over all an outer wrapping of several thicknesses of paper.

A dry, cool closet is better for keeping preserves put up in this way than a cellar, as the dampness will penetrate the covering and dissolve the paste, so that air can penetrate and cause the contents of the jar to mould.

This spring I opened a jar of blackberry jam that had been sealed in this way and kept in a dark closet for five years, and there was not a particle of mould visible anywhere. The jam was so thick it had to be sliced out with a knife, and was pronounced perfect in every respect. There are three things necessary to keeping jam—put in sufficient sugar to preserve the fruit, boil until it is quite stiff, and seal it up boiling hot.

Raspberry jam is also very nice preserved in the same way; its flavor is remarkably fragrant and spicy, though being more delicate and easily destroyed, white sugar should be substituted for brown. HORTENSE DUDLEY.

Pickled Cucumbers.

It is something the same with pickles as it is with making bread—every one, nearly, has their own way, and yet some ways are better, and some best. First of all, one should be sure to procure good, firm cucumbers, be they large or small—and small ones are always considered preferable. Make a brine of two pounds of salt to one gallon of water, and keep them in it about two weeks, stirring them up from the bottom every few days. Then take them out of the brine and let them lie in fresh water a day, and they are ready for pickling—only do not put the vinegar on them when they are wet. Take them out and spread them till they are dry, or, if the number does not forbid, wipe them off. The object of this is to retain their crispness. Those that are not crisp when you take them from the brine should be discarded.

Use strong vinegar, and never dilute with water, as this softens them. The vinegar should be heated in a granite iron kettle, or unglazed earthen one, for salt and vinegar will dissolve the lead in the glazing of any article. Add to one gallon of vinegar a teacupful of sugar, three dozen peppercorns, two teaspoonfuls of cloves (whole), allspice, and a dozen blades of mace. Let these boil in the vinegar five minutes, and then pour over the cucumbers while it is scalding hot. Protect them from the air by having the stone jar full, so that putting on the cover will run it over, the same as in sealing canned fruit. The third day they should be taken out, and the vinegar again scalded and poured over them the same as before. Handle them always with a wooden spoon. This process should be repeated twice after this, with an interval of three days between. They may taste fairly good in a month, but will be far better in three months, and in fact time treats them kindly, as it does wine—when you have them right to start with.

Now a word about the color. It is very seldom that we see home made pickles a bright green, like some sold in the stores and purchased from large wholesale manufacturers. These are colored mostly with sulphate of copper. Some time if you see any particularly nice green ones (I do not say nice *pickles*), you can, by a simple experiment, see for yourself if this chemical is not used. Drop a little of the vinegar on a knife, and then drop a little sulphuric acid in it. Hold the knife over a flame and the vinegar will evaporate, leaving little particles of copperas on the knife—provided that was used. Our dear grandmothers used to make their pickles in brass kettles, to color them. Perhaps some of a later generation do, but I should not advise it, for it would seem as senseless as using poisonous coloring matter in confectionery. I have heard of cooking the green leaves of some harmless plant and coloring with this, but I can give no directions, and think the firmness of the pickle would have to be sacrificed to gain the color by adding such a water color as this would necessarily be.

In mentioning the condiments used in the vinegar, I did not speak of onion. This would seem quite a necessary thing to some, but if used, let it be sparingly, in mercy to your friends and enemies, who neither eat nor enjoy the fragrance of this most aromatic of vegetables. J. W. A. *Perryville, Ct.*

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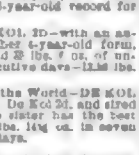

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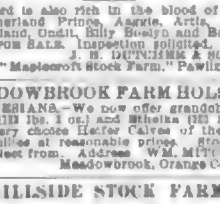

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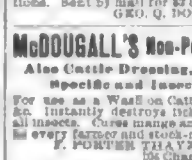

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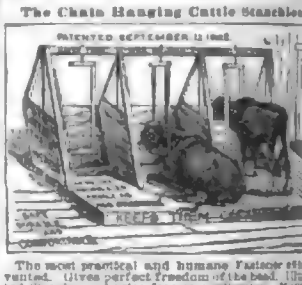

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Annual Fair List.

STATE AND GENERAL EXHIBITIONS.

Alabama, Birmingham ..... Oct. 31, Nov. 2
American Institute, New-York ..... Oct. 2, Nov. 30
Buffalo International, Buffalo ..... Sept. 3, 13
California, Sacramento ..... Sept. 9, 21
Canada Central, Ottawa ..... Sept. 9, 14
Colorado, Pueblo ..... Oct. 8, 9
Connecticut, Meriden ..... Sept. 17, 20
Dakota North, Grand Forks ..... Sept. 17, 20
Dakota South, Aberdeen ..... Sept. 25, 27
Delaware, Dover ..... Sept. 30, Oct. 5
Detroit International, Detroit ..... Sept. 17, 27
Georgia, Macon ..... Oct. 28, Nov. 1
Illinois, Peoria ..... Sept. 23, 27
Indiana, Indianapolis ..... Sept. 23, 28
Iowa, Des Moines ..... Aug. 30, Sept. 6
Kansas, Topeka ..... Sept. 16, 21
Kentucky, Lexington ..... Aug. 27, 31
Maine, Lewiston ..... Sept. 10, 13
Maryland, Pimlico ..... Sept. 9, 14
Massachusetts ("Bay State"), Boston ..... Oct. 7, 12
Massachusetts Horticultural, Boston ..... Sept. 17, 20
Michigan, Lansing ..... Sept. 9, 13
Minnesota, St. Paul ..... Sept. 6, 14
Montana, Helena ..... Aug. 29, 31
Nebraska, Lincoln ..... Sept. 6, 13
New-England, Worcester, Mass ..... Sept. 3, 6
New-Hampshire Grange, Tilton ..... Sept. 10, 12
New-Jersey, Waverley ..... Sept. 16, 20
New-Mexico, Albuquerque ..... Sept. 30, Oct. 4
New-York, Albany ..... Sept. 12, 19
New-York & Pennsylvania, Elmira ..... Sept. 16, 27
Ohio, Columbus ..... Sept. 2, 6
Ontario Provincial, London ..... Sept. 9, 14
Oregon, Salem ..... Sept. 16, 21
Rhode-Island, Providence ..... Sept. 23, 27
St. Joseph, Mo ..... Sept. 3, Oct. 5
St. Louis, St. Louis ..... Oct. 7, 12
South Carolina, Columbia ..... Nov. 11, 15
Texas, Dallas ..... Oct. 15, 27
Toronto Industrial ..... Sept. 9, 21
Vermont, Burlington ..... Sept. 3, 6
West Virginia, Wheeling ..... Sept. 9, 13
Wisconsin, Milwaukee ..... Sept. 16, 20
Wyoming, Cheyenne ..... Sept. 7, 20

COUNTY AND LOCAL—NEW-YORK.

Broome, Whitney's Point ..... Sept. 3, 4
Cattaraugus, Little Valley ..... Sept. 3, 5
Chautauqua, Jamestown ..... Aug. 28, 29
Columbia, Chatham ..... Sept. 10, 13
Delaware, Delhi ..... Sept. 17, 19
Delaware Valley, Walton ..... Sept. 10, 13
Erie, Hamburg ..... Aug. 27, 30
Essex, Westport ..... Sept. 3, 5
Franklin, Malone ..... Sept. 24, 26
Fulton, Johnstown ..... Sept. 9, 12
Greene, Cairo ..... Sept. 4, 6
Jefferson, Watertown ..... Sept. 17, 20
Livingston, Geneseo ..... Oct. 1, 3
Long Island, Huntington ..... Sept. 10, 12
Montgomery, Fonda ..... Sept. 3, 6
Margaretville, Margaretville ..... Aug. 28, 30
Ontario, Canandaigua ..... Oct. 1, 3
Orange, Goshen ..... Sept. 24, 27
Orleans, Albion ..... Sept. 19, 21
Oswego, Oswego ..... Sept. 10, 13
Otsego, Cooperstown ..... Sept. 23, 26
Putnam, Carmel ..... Sept. 10, 13
Queens, Mineola ..... Sept. 24, 27
Rockland, Spring Valley ..... Sept. 24, 27
St. Lawrence, Canton ..... Sept. 17, 19
Schoharie, Schoharie ..... Sept. 16, 19
Schuyler, Watkins ..... Sept. 10, 12
Seneca, Waterloo ..... Sept. 24, 26
Sullivan, Monticello ..... Sept. 3, 5
Tioga, Owego ..... Sept. 10, 12
Tompkins, Ithaca ..... Sept. 10, 13
Warren, Glens Falls ..... Sept. 3, 6
Washington, Fort Edward ..... Sept. 9, 13
Yates, Penn Yan ..... Sept. 25, 26

MAINE.

Androscoggin, Livermore Falls ..... Sept. 3, 5
Androscoggin Valley, Canton ..... Sept. 24, 26
Aroostook, Houlton ..... Sept. 25, 26
Aroostook North, Fort Fairfield ..... Sept. 3, 5
Franklin, Farmington ..... Oct. 1, 3
Knox, Camden ..... Sept. 18, 21
Lincoln, Damariscotta ..... Oct. 1, 4
Oxford Valley, Cornish ..... Sept. 3, 6
Oxford, Norway and So. Paris ..... Oct. 1, 3
Oxford West, Fryeburg ..... Oct. 9, 10
Penobscot West, Exeter ..... Sept. 25, 26
Sagadahoc, Topsham ..... Oct. 9, 11
Shapleigh and Acton, Shapleigh ..... Oct. 8, 10
Washington Centre, Machias ..... Sept. 18, 19
York, Saco ..... Sept. 17, 20

NEW-HAMPSHIRE.

Grafton and Coos, Haxen's Mills ..... Oct. 2, 3
Rochester, Rochester ..... Sept. 24, 27
So. Hampton Farmers', South Hampton ..... Oct. 8, 9
Upper Coos and Essex, Colebrook ..... Sept. 25, 26

VERMONT.

Champlain Valley, Vergennes ..... Sept. 16, 18
Franklin, Sheldon Junction ..... Sept. 4, 6
Rutland, Rutland ..... Sept. 17, 18
Valley, Brattleboro ..... Oct. 2, 3
Western Vermont, Fair Haven ..... Sept. 24, 27
Windham, Newfane ..... Sept 11, 12
Windsor, Woodstock ..... Sept. 24, 26

RHODE ISLAND.

Washington, West Kingston ..... Sept. 10, 13

CONNECTICUT.

Bristol, Bristol ..... Sept. 30, Oct. 4
Chester, Chester ..... Oct. 2
Clinton, Clinton ..... Oct 8
Danbury, Danbury ..... Oct. 7, 12
East Granby, East Granby ..... Oct. 9
Farmington Valley, Collinsville ..... Sept. 11, 12
Guilford, Guilford ..... Sept 25
Hartford, Hartford ..... Sept. 26, 27
Madison, Madison ..... Oct. 2
New-London, Norwich ..... Sept 24, 26
New-Milford, New-Milford ..... Sept. 10, 12
Simsbury, Simsbury ..... Oct. 9, 10
Southington, Southington ..... Sept. 11, 13
Stafford, Stafford Springs ..... Oct. 8, 9
Tolland, Rockville ..... Sept. 10, 12
Union, Huntington ..... Sept. 25, 27
Watertown, Watertown ..... Sept. 24, 26
Willimantic, Willimantic ..... Oct. 1, 3
Windham, Brooklyn ..... Sept. 17, 19
Wolcott, Wolcott ..... Oct 16
Woodstock, So. Woodstock ..... Sept. 10, 12

MASSACHUSETTS.

Amesbury and Salisbury, Amesbury ..... Oct. 1, 2
Attleboro', Plainville ..... Sept. 19, 20
Barnstable, Barnstable ..... Sept. 24, 25
Berkshire, Pittsfield ..... Sept. 10, 11
Blackstone Valley, Uxbridge ..... Sept 24, 25
Bristol, Taunton ..... Sept. 24, 26
Brockton, Brockton ..... Oct. 2, 3
Deerfield Valley, Charlemont ..... Sept. 12, 13
Essex, Beverly ..... Sept 24, 25
Franklin, Greenfield ..... Sept. 26, 27
Hampden, Westfield ..... Sept. 18, 19
Hampden East, Palmer ..... Sept. 17, 19
Hampshire, Amherst ..... Sept. 19, 20
Hampshire and Franklin, Northampton ..... Oct. 2, 3
Highland, Middlefield ..... Sept. 4, 5
Hillsdale, Cummington ..... Sept 24, 25
Hingham, Hingham ..... Sept. 24, 25
Hoosac Valley, North Adams ..... Sept. 17, 19
Housatonic, Great Barrington ..... Sept. 25, 26
Marshfield, Marshfield ..... Sept. 11, 13
Martha's Vineyard, West Tisbury ..... Sept. 3, 4
Middlesex, Concord ..... Sept. 25, 26
Middlesex North, Lowell ..... Sept. 24, 25
Middlesex South, Framingham ..... Sept. 17, 19
Nantucket, Nantucket ..... Sept. 4, 5
Oxford, Oxford ..... Sept. 17, 18
Plymouth, Bridgewater ..... Sept. 18, 19
Spencer, Spencer ..... Oct. 3, 4
Union, Blandford ..... Sept. 11, 12
Worcester, Worcester ..... Sept. 3, 4
Worcester North, Fitchburg ..... Sept. 24, 25
Worcester Northwest, Athol ..... Sept. 17, 18
Worcester South, Sturbridge ..... Sept. 18, 19
Worcester West, Barre ..... Sept. 26, 27

NEW-JERSEY.

Atlantic, Egg Harbor City ..... Sept. 21, 24
Burlington, Mt. Holly ..... Sept. 7, 12
Hunterdon, Flemington ..... Sept 24, 26
Monmouth, Freehold ..... Sept. 24, 27
Somerset, Somerville ..... Oct. 9, 10
Sussex, Newton ..... Sept 10, 13
Trenton Inter-State ..... Sept. 30, Oct. 4
West Jersey, Woodstown ..... Aug. 27, 29

MARYLAND.

Anne Arundel, Bay Ridge ..... Aug. 27, 30
Baltimore, Timonium ..... Sept. 3, 6
Cecil, Elkton ..... Oct. 10, 11
Frederick, Frederick ..... Oct. 15, 18
Harford, Bel Air ..... Oct. 8, 11
Montgomery, Rockville ..... Sept. 4, 6
Washington, Hagerstown ..... Oct. 15, 19

PENNSYLVANIA.

Beaver, Beaver ..... Sept. 24, 27
Benton, Benton ..... Oct. 2, 5
Berks, Reading ..... Sept. 17, 20
Blair, Hollidaysburg ..... Sept. 17, 20
Bradford, Towanda ..... Sept. 24, 26
Butler, Butler ..... Sept. 10, 13
Carbon, Lehighton ..... Oct. 3, 4
Columbia, Bloomsburg ..... Oct. 9, 13
Columbia North, Berwick ..... Sept. 4, 7
Crawford, Conneautville ..... Sept. 17, 20
Crawford Central, Cambridgeboro ..... Sept. 24, 27
Doylestown, Doylestown ..... Oct. 1, 4
Edinboro, Edinboro ..... Sept. 10, 13
Fayette, Uniontown ..... Oct. 1, 4
Hanover, Hanover ..... Sept. 3, 6
Harford, Harford ..... Sept. 25, 26
Indiana, Indiana ..... Oct. 1, 4
Jefferson, Brookville ..... Sept. 10, 13
Juniata, Port Royal ..... Sept. 17, 20
Lancaster, Lancaster ..... Sept. 9, 14
Lebanon Valley, Lebanon ..... Sept. 3, 6
Lehigh, Allentown ..... Sept. 25, 27
Mercer, Stoneboro ..... Sept. 25, 27
Milton, Milton ..... Oct. 1, 4
Montgomery Berks & Chester, Pottstown ..... Sept. 24, 27
Montour, Danville ..... Sept. 24, 27
Northampton, Nazareth ..... Oct. 1, 4
Northern Montour, Washingtonville ..... Oct. 15, 18
Northwestern, Corry ..... Sept. 10, 13
Oxford, Oxford ..... Sept. 25, 27
Petroleum, Parker's Landing ..... Sept. 17, 20
Pinegrove Farmers', Pinegrove ..... Sept. 17, 20
Ringtown, Ringtown ..... Sept. 11, 13
Tioga, Mansfield ..... Sept. 24, 27
Troy Farmers', Troy ..... Sept. 17, 20
Union, Burgettstown ..... Oct. 1, 3
Union, Canton ..... Sept. 3, 5
Union, Dallas ..... Oct. 2, 4
Union, Lewisburg ..... Sept. 26, 29
Wattsburg, Wattsburg ..... Sept. 17, 20
Waynesburg Central, Waynesburg ..... Sept. 24, 26
Western Pennsylvania, Washington ..... Sept. 17, 20
Westmoreland, Greensburg ..... Oct. 8, 11
Wyoming, Tunkhannock ..... Sept. 18, 20
York, York ..... Oct. 14

OHIO.

Allen, Lima ..... Sept. 10, 13
Ashtabula, Jefferson ..... Sept. 24, 27
Athens, Athens ..... Aug. 28, 30
Auglaize, Wapakoneta ..... Oct. 1, 4
Belmont, St. Clairsville ..... Sept. 3, 6
Brown, Georgetown ..... Oct. 3, 4
Butler, Hamilton ..... Oct. 7, 11
Champaign, Urbana ..... Aug. 26, 28
Clarke, Springfield ..... Aug. 27, 30
Clermont, Owensville ..... Sept. 3, 6
Clinton, Wilmington ..... Sept. 10, 13
Clyde, Clyde ..... Sept. 24, 27
Coshocton, Coshocton ..... Oct. 8, 11
Cuyahoga Chagrin Falls ..... Sept. 3, 6
Defiance, Defiance ..... Sept. 3, 6
Delaware, Delaware ..... Aug. 27, 30
Erie, Sandusky ..... Sept. 17, 20
Fairfield, Lancaster ..... Oct. 8, 12
Fayette, Washington C. H ..... Aug 27, 30
Fostoria, Fostoria ..... Aug. 27, 30
Greene, Xenia ..... Sept. 10, 13
Guernsey, Washington ..... Sept. 24, 27
Hamilton, Carthage ..... Aug. 30, 31
Hancock, Findlay ..... Sept. 25, 26
Hardin, Kenton ..... Sept. 10, 13
Harrison, Cadiz ..... Oct. 1, 3
Hartford, Hartford ..... Sept. 10, 13
Highland, Hillsboro ..... Aug. 6, 9
Holmes, Millersburg ..... Sept 24, 27
Huron, Norwalk ..... Sept. 10, 13
Jefferson, Smithfield ..... Sept. 25, 27
Lake, Painesville ..... Sept. 17, 20
Lawrence, Ironton ..... Sept. 25, 27
Licking, Newark ..... Oct. 1, 4
Logan, Bellefontaine ..... Oct. 1, 4
Lorain, Elyria ..... Sept. 24, 27
Mahoning & Shenango Valley, Youngstown ..... Sept. 3, 6
Marion, Marion ..... Oct. 1, 4
Mercer, Celina ..... Sept. 24, 27
Miami, Troy ..... Sept. 30, Oct. 4
Morgan, McConnellsville ..... Sept. 9, 12
Morrow, Mt Gilead ..... Oct. 1, 4
Ohio and Indiana, Hicksville ..... Sept. 24, 27
Ohio Valley, Gallipolis ..... Sept. 17, 20
Pataskala, Pataskala ..... Aug. 27, 30
Paulding, Paulding ..... Sept. 17, 20
Perry, New-Lexington ..... Sept. 11, 13
Portage, Ravenna ..... Sept. 24, 26
Putnam, Ottawa ..... Oct. 1, 3
Richland, Mansfield ..... Aug. 27, 30
Ross, Chillicothe ..... Aug. 13, 16
Sabina, Sabina ..... Aug. 19, 22
Sandusky, Fremont ..... Oct. 1, 5
Scioto, Portsmouth ..... July 30, Aug. 2
Shelby, Sidney ..... Sept. 24, 27
Somerset, Somerset ..... Oct. 15, 17
Southern Ohio District, McArthur ..... Aug. 6, 9
Summit, Akron ..... Oct. 1, 4
Tri-State, Toledo ..... Sept. 9, 13
Trumbull, Warren ..... Aug 26, 30
Tuscarawas, Canal Dover ..... Oct. 1, 4
Union, Marysville ..... Sept. 24, 27
Van Wert, Van Wert ..... Sept. 10, 13
Washington, Marietta ..... Sept. 18, 20

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THE CULTIVATOR AND Country Gentleman

Albany, July 25, 1889.

Closing Views of the Royal Show.

LONDON, ENGLAND, *June 29.*

ED. COUNTRY GENTLEMAN—The Windsor "Royal" closes to-day. All great things grow in our appreciation as we know more of them. It is so with this great exhibition. A full week's thorough study is not enough to give one a complete acquaintance with it all. The agricultural implements alone would require more than that time to do anything more than glance at them. To an American, the striking features of the show, as a whole, are its great extent and remarkably high quality, the admirable arrangement of the grounds and classification of exhibits, the simplicity and completeness of the structures, and the excellent discipline all the way through from beginning to end and from top to bottom.

In some of the classes I have seen quite as good animals at some of our American fairs. In many cases our breeders have indeed taken over "the best," but they have the blood and the skill here, and England is a perpetual fountain, producing and ever ready to send forth as good or better than she ever had before. It has long been a matter of great interest to me that England should have produced so many distinct breeds of all domestic animals, and that her breeders should have had the skill to develop them without the aid of foreign blood (or in any case but little of it) to such degrees of perfection. The Windsor show has increased this interest. This little island is indeed the wonder of the world. The show at Derby—the only other Royal I have seen—made a strong impression upon my mind, but that exhibition was a tame one in comparison with this.

There is but one entrance to the grounds. From it a straight avenue leads to the queen's pavilion, in the centre, while other avenues radiate like a fan in all directions. On the right and left we first came to the exhibits of the leading seed houses. They are of great interest, and I wish our American seedsmen would do likewise. We are very careless in the purchase of our seeds, while the English farmer is very careful and particular. These exhibits are admirably arranged, and in them the importance of grasses is fully recognized. English land is being laid down to grass instead of cultivated for grains, as the latter are no longer profitable.

All grasses are shown in various stages of growth, from the young plants to those in full bloom and on to the ripened seed. Dried specimens are also shown. These again are exhibited in pasture mixtures in vigorous growth. Prescriptions for mixtures for various soils, for both permanent and short pastures, are illustrated with plats of the growing plants. These are grown in boxes, which are easily transported, and when a number of them are placed together, a very interesting little field is shown. In one exhibit was a plat several feet square covered with turf taken from a pasture in the valley of the Kennett, known to be over a century old, in which the grasses were in full growth, and some of them in bloom. It was a capital study. About 15 per cent. was perennial rye grass. Beautiful miniature lawns are shown, illustrating the grasses recommended. Every variety of grain was shown in the seed and the complete plants. There were very interesting exhibits of cross-bred wheats and other grains.

Nurserymen make very attractive exhibits of ornamental shrubs and dwarf evergreens and other trees in pots. It is a capital arrangement for advertising their stock, and makes an ornamental feature on the grounds.

The exhibit of bees and honey was extremely interesting. In a tent enclosed in light netting practical lectures were given every few hours on bee management, illustrated with bee driving, artificial swarming and many other things about which most of us are very ignorant, and of which we have a lively fear.

Of all the multitudinous exhibits, I could not find one thing that is not directly connected with farm work. There is no stuffing anywhere. The horse shoeing contests were interesting illustrations of the scope of the exhibition. Large prizes are given to smiths who take a horse in farm and road classes, examine his feet, turn the shoes and make and finish them from the beginning, prepare the feet and nail on the shoes in the best manner and the least time. Comfortably seated stands surrounded the forges, and crowds of spectators watched the work.

Among the horses I have before spoken of the Suffolks. I now desire to speak of the Hackney classes, as they embrace a style of horse that we have very few of in the United States. The Hackney is a compact, "pony-built" horse, with very sloping shoulders, high withers, neck and crest, high knee action, active and light in all his motions, very toppy and very stylish. He may vary in size from sixteen hands down to a pony, though the true Hackney is about fifteen to fifteen two. They are driven to carts or ridden under the saddle. The exhibit was classed according to size. Their exhibition in the great showring was truly magnificent. If one hundred Americans had stood about that ring, I am confident that seventy-five or more of them would have said that this was the finest thing in all the show.

It is unnecessary for me to speak of the great cattle classes. Of course they were very fine. England's fresh interest in dairying was illustrated in the 434 entries of superb Jerseys, and the magnificent class of Short-Horns for the dairy, and her devotion to her own native breeds was shown in the fact that three poor Holstein bulls were all the representatives of that breed. The exhibit of Scotch Highlanders was very interesting, and contained many profitable beef animals, though in point of beauty the queen's herd, grazing in the park outside, or resting under the great spreading oaks, could not be surpassed. As the Highlander is the true native Scotchman, so the Kerry is the genuine Irishman. The exhibit of Kerries and Dexter Kerries was very large and very interesting, and contained many animals of great excellence. Some of the nice little cows in full milk look wonderfully like business, while their symmetrical little forms and glossy black coats made them really beautiful to the eye.

There was a large exhibit of Roscommon sheep from Ireland. Their quality was inferior. I think I have seen better specimens in Irish pastures when visiting the island. The Black-Faced Scotch mountain sheep were strong in numbers and quality. I wonder why the owners of mountain lands in Pennsylvania, Virginia, North Carolina and Tennessee do not introduce these hardy sheep and keep them throughout the year upon the mountain sides. They would give valuable returns in wool and mutton, and would cost almost nothing for their keep and care. The number of varieties of sheep furnished by England and Wales is truly surprising. The four Down breeds lead them all in the numbers entered. Of all the sheep in the pens, the aged Oxford classes were the most magnificent and impressive as superb animals for the show ring, and it is a great pity we cannot keep them in such shape in the United States.

I have been disappointed in the show of pigs. I have seen as good at American fairs. The Berkshires lead all others in numbers, and I think in excellence also. This show is held in their native county. There were representatives of many breeds including the Tamworths, of which I before never heard. They are an old Warwickshire breed, said to be noted for lean bacon. They are red enough to suit Col. Curtis, long enough for fence rails, and with a head like a rhinoceros.

In point of numbers and extent the agricultural implements and the machinery were the great features of the show. In mowing and reaping machines, lawn mowers, scythes, plows, forks, &c., a number of American manufacturers more than held their own with their English competitors.

The working dairy was an instructive feature of the exhibition, to which much prominence was given. Churning and butter-making con-

tasts were daily going on, for which large prizes were given, and illustrated lectures were made very instructive.

To attend and study this show was in itself a liberal education, and to any one who feels a broad and lively interest in agriculture in general and domestic animals in particular, a trip across the Atlantic was not too much to pay for it.

LONDON, July 9.

I saw Windsor again to-day. It looks deserted. The castle is there, with the richly quartered banner, denoting the presence of the queen, flying from William the Conqueror's tower; the park is there with its magnificent trees and grass and grazing herds, and the town with its quaint houses and winding streets nestles under the walls of the fortress, but the surging crowds of people are gone, for the great show is over and cleared away. But it is not over in the minds of Englishmen. It is everywhere the topic of conversation still. I have heard its praises reiterated and its awards discussed in the railway cars, in omnibusses, along sidewalks, in hotels and shops and private houses, at the church doors and the dinner tables that followed, and upon numerous farms where I have spent yesterday and to-day. All are perfectly satisfied. There could be no higher praise.

Of the many things connected with the show perhaps the weather has been the most remarkable and the most worthy of mention. English weather has a decidedly dark reputation. At last year's Royal it rained and snowed all the time. Now the weather from first to last has been as bright and fine as any clime can show. Not only has there been no rain but the temperature has been perfect. People have talked of its being hot, but they had never spent a summer west of the Atlantic.

More important than the benefit of the weather to the show has been its advantage to the hay makers. This is a great thing for English farmers. They usually have a sorry time in getting their hay, but during the past ten days they have made the most of their opportunities, and in coming from Liverpool and in going to and returning from Bristol the men, women and children, the mowing machines, the scythes and the rickles have all been seen busily at work, and the country has become an encampment of hay stacks. English farmers do not store their hay in barns as we do, but they build hay stacks square at each end and then thatch them for protection. Very few round stacks are seen.

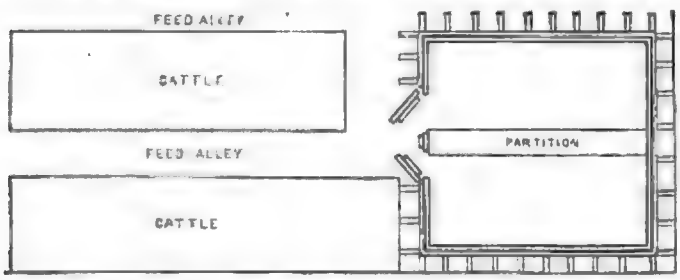
I wrote you of the Suffolk horse at the exhibition. I have since seen him in a new role. For draft and heavy work I have heard much of his excellence, but his blood has other uses. A gentleman invited me to spend Sunday at his beautiful place north of London. He came to my hotel and took me out in his own trap. It was heavy, as are all English vehicles. The horse was a blocky chestnut, and did not seem to mind the heavy wheels with three solid men above them. In an hour nine miles had been covered, and still there was no appearance of fatigue nor abatement of vigor. I began to inquire about the breeding of the horse, and was interested in being told that his dam was a pure Suffolk Punch, and his sire a thoroughbred. That is just the principle upon which hunters are bred. The Suffolk dam gave the size and bone and the high-bred sire the vigor and endurance. I have learned that Suffolk mares are extensively used in this way, and today I have seen great numbers of superb horses before coupés, or in the omnibus service that appeared to have had such an origin.

I have heard of many sales of stock made at the show, the largest one of Short-Horns to go to South America. The highest prices at which I saw sheep sold were $750 each for two Lincoln yearling rams. But the show of Lincolns were decidedly inferior, as compared with some other breeds, and they are not holding their own in their native district. The admirers of these huge creatures, however, are determined to die game, if die they must.

The next show to come promises to be a very interesting one to the admirers of the Chalk Down breeds of sheep. It is that of the Royal counties, and will be held at Horsham in the South Down country next week. I hope to see it. JAMES WOOD.

Plan of a Double Silo.

EDS. COUNTRY GENTLEMAN—I would like to tell you how our silo at "Lydia Stock Farm" is made, and how we feed from it. It is built in the corner of the barn, and is 30 feet long, 30 feet deep, and 27 feet 6 inches wide; is divided in the middle, lengthwise, by a partition 18 inches thick—practically two silos. It is made of two thicknesses of matched and dressed hemlock boards, with tar paper between. The outside studding is 3 by 12 inches, set 18 inches apart. The partition is 3 by 16 inch studding. We made it thus strong that it might stand the pressure should we fill one silo and not the other. The silos extend from the basement floor to 9 feet above the scaffold over the driveway floor. Our cattle stalls are on each side of a feeding alley 4 feet wide, in the basement. This alley ends directly in front of partition in silo. We have a series of six doors up from bottom to top of each silo, in the corner, next to partition, and trap-doors in scaffold over driveway, and in driveway floor. We cover our ensilage with tar paper and 2 inch hemlock plank.



In opening silo to begin feeding, we take off plank and paper enough for one day's feed when cut down to the bottom of the door that may be nearest the top. We open this door and throw the ensilage down through the trap-door to end of feeding alley. The ensilage is taken out just to the bottom of this door, and back far enough for the day's feed. We then lay the paper and plank on this new level, making a floor to stand on, and keeping the ensilage under it from the air. All that is exposed is the breast that you take from each day, which does not have time to spoil. After taking off this layer, we go back to the front and open another door, take a slice off the depth of it, and so on to the bottom. The advantages are that you do not have to raise or lift the ensilage at all; you have a plank floor to walk on all the time, and no ensilage is exposed for more than 24 hours. The breast measuring but 5 by 18 inches, enables you, if you have any stock at all, to take off quite a slice each day; and whoever does it is bound to take it off the whole face of the breast, in order to keep his floor straight, and the plank on top in front of him is also a guide. If you should set an ordinary farm hand to take 3 inches off the top of a silo, or even 6 inches, he would dig it out in spots and leave some exposed for a week at a time.

To the left of silo and cattle-stalls is a feeding-alley, in front of a range of sheep-pens now used for ponies. Our main barn is 110 by 45 feet, with an L for sheep and grist-mill 24 by 24, another L 40 by 30, with an extension at the end of the last L 40 by 27. Posts of main barn are 30 feet. Barn is on hillside, so we get a 9 foot basement. Our grist-mill is in basement of small L; in same room is our steam engine (8-horse power) and boiler (33-horse power). We intend to heat our dwelling house with steam from the boiler. We have a shaft running nearly the whole length of main barn, to which we can belt on to run ensilage-cutter, threshing-machine, or any machine we choose. Our yard is open to east and south. We have the credit of owning the best barn in Vermont. J. S. PIERSON.

Cattaraugus County, Vt.

Cottonseed Meal as a Fertilizer.—Will you kindly give me the fertilizing elements and relative value of cottonseed and cotton-seed meal, decorticated and undecorticated? Also in what market of the country the seed and meal can be bought to best advantage? It is for use in Florida, on light sandy hummock. G. H. W. *New-York Mills, N. Y.* [We infer that G. H. W. inquires as to the relative value of cottonseed and cottonseed meal, decorticated and undecorticated, as a fertilizer and not as a food. As a fertilizer, the large quantity of oil in cottonseed has no value, but as a food it has an important value. The following table shows the quantity of nitrogen (worth 16c. per lb.), potash (5c.) and phosphoric acid (9c.) in 1,000 lbs:

	Nitrogen, lbs.	Potash, lbs.	Phos. acid, lbs.	Value per ton.
Cottonseed	35	13.0	14.4	$15.71
Cottonseed cake, decorticated...	60	21.0	20.5	26.05
Cottonseed cake, undecorticated	30	20.1	22.9	13 61
Wheat bran	22	14.9	22.3	14.33

This will give W. the information he asks in the most definite form. We add wheat bran, because that is rich in the same mineral elements, and is often easily obtainable for a price less than its worth as a fertilizer, but it would be likely to bear too high a price near W.'s land. Raw cottonseed would not be so easy of application as the meal. Cottonseed meal should be purchased at the lowest rates in Charleston, Savannah or New-Orleans; but the raw cottonseed at smaller towns in Georgia, Alabama or Mississippi. ED. N. Y. S.]

Ice Keeping—Drainage.

EDS. COUNTRY GENTLEMAN—Your subscriber dating from Muney, Pa., inquires how I would secure good drainage from the ice-house. On the supposition that the ice-house is built entirely above ground, as all ice-houses should be, nothing could be more easily effected. If the house is built on ground that inclines one foot in ten, the sills at the highest side being placed 4 inches above ground, the lower side of the house would be, according to its width, from one to two feet above the ground surface. With all the space between the sills and the ground carefully boarded up, and the outside well banked with earth above the sills, there could be no difficulty from standing water, as the inclination of the ground would surely carry off all water made from melting ice. If the ice-house stands on level ground, a ditch two feet deep and two wide, two feet from the outer walls of the house, would receive all the water from the melting ice, and make as good drainage as one could desire. Thick walls are not necessary for keeping ice, but non-conducting walls. Wooden walls six or eight inches apart, well filled with dry pine sawdust are the best, while stone or brick walls, ten or twenty inches thick are the worst.

A friend of mine living in New-Jersey, who knew more of the principles of trade in New-York City than of the philosophy of ice-keeping, took much pleasure and cool comfort in building for himself and family what he called a model ice-house. It was built entirely of stone and brick, about two-thirds under ground. He plastered it within and without with good water-lime mortar, and when done it was as tight as a drum—no water could get in nor could any get out. A double door was put in about five feet from the floor. When winter came the house was filled to the roof with choice clear-water ice. In June he left a hot city residence for his cool country villa. His ice-house was more of a surprise than a comfort, for instead of ice he had a beautiful little lake of pure, clear, and rather warm water.

In building ice-houses for family use, I feel confidence in suggesting a plan which I adopted in building mine, which has been very satisfactory. It saves disturbing the ice, which besides involving considerable labor, wastes the ice by frequently uncovering it. Build a small pantry or store-room, about three feet wide, five feet long and three feet high in the side of the ice-house, having a carefully fitted double door, well packed like a refrigerator door. This store-room must be on the ground, low down, built of good two-inch plank, so as to bear without flinching all the weight you have a mind to put on it. Line it with good six-inch matched flooring. Put in two substantial shelves all around, the lower one about 15 inches from the floor. Cover the outside with close-fitting plank, and this with two thicknesses of tarred paper, and over all a covering of common boards, so that the tarred paper may not be disturbed.

On the floor of the ice-house place a few poles, three inches in diameter, about a foot apart, and cover with six inches of sawdust. Fill the house with good ice, packing it carefully all over and around the store-house, carefully fitting the blocks and filling the interstices with ice or snow. When the house is full and the mercury below zero, throw over a few pailfuls of water at intervals, which will convert it into a solid block of ice; then when you can catch the mercury at its lowest point for the winter, cover with two feet of sawdust. Then if your ice house is near the back door of the house, as it should be, the wife can deposit anything in it from the kitchen or pantry which it is desirable to keep cold. If she desires ice-cold lemonade, make it and put it in this store-room, and it will be ready in a few minutes. This is a capital place for butter, meat, fruit, &c. With such an equipped ice-house, there will be little occasion for opening the house and disturbing the ice. As the ice melts, keep the sawdust well tramped down so as to exclude the air, and keep the space above well ventilated. M. M. FREEMAN.

Lath-and-Plaster or Wooden Silos.

EDS. COUNTRY GENTLEMAN—A constant reader of your paper, in Tuscarawas county, O., writes me direct, to tell him whether to build a silo of lath-and-plaster facing, or double-board with tarred paper between, and paint with gas tar. He says that "with statements of Mr. Rice and others, he is getting muddled as to which is best."

Now while I have no controversy with Mr. Rice, who is positive that his kind of silo is only best, or with any other man or plan, I am so far inclined, after all that I have seen and heard from east and west, that I can best answer "Constant Reader," that I am, in building my new silo, pinning my faith on a double boarded silo, with tarred paper between, and shall paint the whole inside with gas tar and resin. I have never as yet run across a man who had a wooden silo who did not like it.

The whole matter is summed up in these few lines: Is a lath-and-plastered silo any better or more durable than one double-boarded and painted with hot gas tar? Who has got the figures on either side to prove the faith that is in him? The lathed and plastered silo must have a wooden outside shell. It must have a wooden lining on which to nail the lath. Now moisture will go through an inch of plaster quite as much, at a venture, as it will go through an inch pine board, the pores of which are saturated with hot gas tar and resin. Now which facing is the most durable to withstand moisture and frost? I canvassed the matter thoroughly and found I could not lath and cement plaster a silo for any such money as I could supply its place with $14 per M. surfaced pine lumber, and paint with gas tar at 3c. per gallon. When such a silo fails, it can be lathed and plastered or a ½-inch lining put on over, and 35c. worth of gas tar again applied.

One thing seems now pretty well settled about ensilage pits—that frost will not penetrate very much where there is no moisture in a wall for it to accept as a traveling medium to go through. This is well illustrated at the now famous Wisconsin silo of Prof. Henry's, a stone and cement silo, that refused to keep the ensilage in good order, but when it was lined up with two-inch strips, and called and painted with gas tar, it has since resisted both frost and the influence of the stone and cement to invite mould along the walls, which causes Prof. Henry to say emphatically: "Build the silo of wood by all means."

Suspecting that the damage of the stone silo was due to the excessively cold winters there, we were not a little surprised to find that Prof. Shelton of Kansas had the same trouble with the college silo, and found the remedy in a wooden lining, leading the professor to remark: "Our experience with a stone silo is most disastrous; it caused a yearly loss of 50 per cent. The same silo was then sheathed over with inch stuff, leaving a two-inch air space, and the silo now preserves its contents without loss." So it would seem that the stone silo is about the same, North or South, but I now apprehend that if these stone and cement silos when finished were well painted inside with gas tar and resin so as to make a thick coating of this moisture-proof material, that the loss would be inconsiderable, and if I had a stone silo I should try such an experiment before adding a wooden lining. M.

Hoyt, page 523, need not defend the wooden silo; it defends itself. It is the men with stone and cement silos who are now trying to defend their judgment.

Mr. Newton, same page, speaks of white daisies making good hay. Why would they not go into the silo when nearly in the bloom, and make a yet better ensilage? *If* it was found out that they had some value as a stock food, and *farmers* began to utilize them, I am sure they would disappear. But seriously, they are getting to be a great pest, and whole farms near me seem white with them, and I now can think of no better way than to utilize them as a crop for winter feeding, only be sure to cut early, so that the seeding from the manure will not become an unmitigated evil. *J. G. Western Reserve, O.*

The Willow as a Timber Tree.

Eds. Country Gentleman—The remarks of the London Garden in regard to the willow, quoted on page 419, undoubtedly refer to the white willow, *Salix alba*. This is a valuable timber tree, but is surpassed in usefulness by another species, *S. fragilis*. Both species are fine trees, growing to a height of 60 feet or more and making large timber for sawing. I have sawn logs of the white willow, 30 inches through at the small end, into plank for cart bottoms to be used for hauling iron ore to the railroad cars in the Michigan iron mines; and the timber has been used for the still rougher use of making ore cars for use on the railroads.

The Romans used willow wood for making shields, on account of its lightness; its weight is only 27 lbs. to the cubic foot when seasoned, and it is exceedingly tough and does not splinter, but wears woolly. Its freedom from silica makes it very easy to work, and fits it well for such uses as cutting-boards for tailors, shoemakers, &c. It is made into shoe lasts, toys, wooden shoes and soles for rough leather clogs, for a great variety of turned work, for hurdles, fence poles, and a great number of valuable uses. It is the timber used for the broad bats used in the English game of cricket, for which lightness, strength, toughness and elasticity are required. It is the *S. fragilis* which is used mostly for this purpose, and for others in which the salmon-colored shade of the wood is thought desirable.

I have seen hewed timbers of these trees used in France for frames of buildings, and, as when kept dry it is imperishable, and is tough and elastic as well as strong, and so light, it is much desired in that country for this use. It furnishes also a large quantity of fuel, the trees being pollarded, or cut back to the stumps of the limbs every third year for this purpose. The government roads in France are lined on both sides for many miles at a stretch, with willow trees, and the tri-yearly pollardings yield enough revenue to the government to keep the roads in repair. A very small bundle of fagots no more than 2 inches thick, needed in the rooms of the hotels for an occasional fire, always costs one franc (25 cents).

The wood of *Salix fragilis* is as pliable and as elastic as ash. It is used in Europe for building boats and small ships, and especially for fast sailing sloops, because of its lightness, elasticity and strength. The pretty color of this wood, a reddish yellow, gives it a value for cabinet work of several kinds and for furniture. It is often used for frames for machinery in cotton mills, and for the large bobbing used by the yarn-spinners. The tree has a habit of throwing out long, slender, straight branches, which are used for hop-poles, vine stakes, clothes props, when forked, and also for handles for tools and farm implements. The timber makes handsome and durable floors for houses, and when darkened by use and age and oiled and waxed, it much resembles cherry, and has an agreeable appearance.

A variety of *Salix fragilis* is *S. Russeliana*, which differs in its leaves chiefly, and another, *S. stellina*, a variety of *S. alba*, has the golden yellow branches. An objection I have to this variety is that it is very subject to the scale lice which kill the young branches, and these dying, litter the ground under the trees very disagreeably.

No other trees are more easily grown than willows. Some years ago I planted rows of willow stakes on part of the boundaries of my land, and every stake rooted and formed trees which when cut back filled the spaces with a net of branches that formed an impenetrable fence. As the willows are very hardy and will grow on any soil, such a use for these trees might be found exceedingly valuable. The readers of the Country Gentleman should be grateful for the notice of the willow referred to, and also for the calling of attention to the Norway spruce and its desirability for plantations. Few persons are aware of the fact, as noted in the business columns of the Country Gentleman (in which most valuable information is always to be found) that a thousand three year-old Norway spruce trees can be had through the mail for the small sum of $6. And what a profitable investment, not only for the money in it, might be made of $6 spent in this way and a few years' care of the trees! I have Norway spruce trees ten years planted that would bring one dollar each for the timber in them for firewood alone, and much more for various industrial uses.

AGRICULTURAL ENGINEER.

Hints from a Kansas Contributor.

Building Wire Fence.

Eds. Country Gentleman—I have often seen methods of building wire fence from different correspondents, and having had considerable experience in that line will give my method. In setting the posts I first lay out a row of stakes, then take a heavy crowbar with sharp point and punch the post holes the desired depth, 18 inches or 2 feet, working bar back and forth to enlarge the hole. After sharpening posts load them on to wagon with box on, putting posts in front end, and drive team over line of fence, stopping so that the post driver may stand in rear end of wagon box and drive the posts. I use a heavy iron maul. It is well to have one manipulate the post while it is being driven, working it back and forth and keeping it straight, and unless ground is very wet I pour a quart or two of water in post hole. Watered railroad stock and such like may not be a good thing, but a watered post hole is a decided success.

For a wire fence, posts set 16 inches deep are sufficient, and I prefer a driven post to one set with spade. The post being left full size at surface of ground where posts rot most.

In stretching the wire I brace end posts; put an iron bar (wood will do but not so well) through a spool and place bar across wagon box just in front of hind standards, and resting against them, take out tail gate, unfasten wire from spool, unreel a rod or two, and fasten wire securely to first post. Then drive slowly beside the row of posts. Let another man sit and hold crowbar, or fence post, one end resting on bottom of wagon box, other end leaning back and resting on the spool of wire, making a kind of break to keep the spool from revolving too fast and tangling the wire. Unreel, say ¼ mile or less, then if wire is all unwound fasten wire to hind axle of wagon, start team slowly, and just at the right time clap the break on good and tight; this will hold wagon in place, and your wire being stretched, staple to posts, but do not staple tight to every post, only occasionally do so. If wire is not all unreeled when I wish to stretch, I leave wire spool in place and bring wire out across side of wagon-box down in front and under hind bolster, this forms a lock for the spool, and then pull up team and put on break as before. This method beats any wire-stretcher that I have yet found.

Fence Staples.

A writer in a recent number of the Country Gentleman spoke of unsatisfactory staples, and says he uses iron nails; and for his benefit as well as that of others, I will say that I have used a staple that is in every way satisfactory to me, and will drive about as well as a nail. I am unable to give the manufacturer, however. Perhaps he would do well to advertise in the Country Gentleman. This staple has the appearance of having been bent over a square bar of iron, having a square end instead of being rounded.

Years of experience tell me that the single strand Gliddon wire is the best made—manufactured, I believe, by Washburn, Moen & Co., at DeKalb, Ill.

The Beef Combine.

This subject has been gone over quite thoroughly by advocates of both parties, and I will say that at present and late prices western cattle feeders and breeders must go out of business, and if here in Kansas, Nebraska, Iowa and Missouri we cannot make corn-fed beef, pray tell where can it be done? I doubt not that the combine have furnished butchers with very cheap beef, and at the expense of the feeder and breeder, and, may we not justly say, with the view of making their methods popular with the butcher? I believe this to be the secret, and by and by the butcher will find a very small margin and the consumer will pay well for his steak.

Bad Weeds.

We of the West are each year seeing more of those old acquaintances introduced from the East—cockle burr, jimpson, dock, &c.—and will say to our eastern friends that we have some bad ones, with which they may become acquainted, such as sand burr, Santa Fe burr—the latter a kind of nettle, the leaf and flower looking much like that of the watermelon. The sand burr is a kind of grass. They are two of the worst pests that I have ever seen. In purchasing grass and clover seeds, farmers should be very cautious about any strange seeds, and seedsmen cannot be too careful. *J. F. M. Pomona, Kansas.*

Gateway of Iron and Stone.

Eds. Country Gentleman—The gate I send you (designed by W. C. Hanna, Jr., 21 Barclay Street, New-York, and which I am about erecting) is quite original. Building gate pillars and farm-yard gate posts is of far more importance than is generally believed. Any mason imagines that he can erect a gate pillar; any man that can dig a hole in the ground thinks he can set a gate post, whereas not one

in a hundred can do it. Keep your eyes open in traveling through the country. If you have to enter a gate, you will be compelled to put your shoulder to the gate and lift it to its place. In stone pillars it is precisely the same. I have one now before my eyes, erected last fall by what is termed a first-class mason. It is two inches out of plumb; the main piers are 4 feet square, of cobble stone, 8 feet high; foundation just 3 feet deep, and same size as pillars—4 feet.

The plan of gate sent you rests on foundation 5 feet deep, 7 feet wide at bottom, the four corners projecting 18 inches from that. From this bottom is an iron rod, 1¼ inches in diameter, reaching up to top hinge. When the gates are hung, a plate goes on top that screws all tight, as per illustration. Let the very best Portland cement (English imported) be used for the whole construction.

Nothing I consider more unsightly than badly proportioned, pillars; in fact in this lies the whole appearance of the structure. Rustic stone makes a handsome pillar—white flint.

To show such an entrance off to perfection, it should stand 50 to 100 feet from the main road. Gate 12 feet; pedestrian, 4 feet 5 inches from the outside pillar. A grand sweep should be laid out by the eye. In this, as in laying out all avenues, no theodolite should be used; you need easy, graceful sweeps, no curves, as in railroad building. I laid out one of these sweeps some time ago. Two first class carpenters said they were not true, and spent four days and spoiled a lot of boards to get what they termed a true round. With all their notchings and cuttings to turn their boards, they had to come to my lock-spit—a mark or spit of ground turned over, after staking and lining. This requires a practiced eye.

If stones (the proper material) are used for this sweep, cobble or rough, so much better the effect, showing as little mortar as possible. Your wall (4 foot foundation) reaches one foot from top to outside pillar, running down to one foot. If ordinary field stone is used, let it be topped with the stone set (finishing) on edge, letting the one rise 6 to 8 inches above the other. This coping has a very pleasing effect. If pickets, let them run down in the same way.

How many of these entrances do we see with this sweep reversed, showing a huddled-up, condensed mass of imperfections! One I see constructing just now, where there is plenty of room—in fact 200 feet to work on, with a turn in sweep of 30 feet.

In sinking gate posts, same depth should be used, and five feet out. Small posts should then be driven down, what we term underground anchors—four of those smaller posts; then a board or a 2 by 3 joist spiked (when let in) to both; then fill in with *earth—do not use stones*—and every shovelful well tamped in. Bear in mind that anything that is worth doing at all is worth doing well, and will pay richly in the end; slip-shod work pays no one. Gerald Howatt.

Duchess County, N. Y.

The engraving shows one-half of the entire structure. It is drawn to scale, and indicates the correct proportional sizes of pillars and foundations. The iron tie rod referred to by our correspondent is shown at *A*.—Eds.

Notes at Kirby Homestead.

A Double Crop—Turnips in Corn.

We have a back pasture, not handy to till. The grass was getting thin, and it has been plowed up to re-seed. This is the plan adopted: It will be sown early in July with Japanese buckwheat, and at the same time with rye at the rate of a half bushel of buckwheat per acre and two bushels of rye. The land will be fertilized by sowing broadcast 100 pounds per acre of Canada unleached ashes, and 100 pounds of Bradley's phosphate, mixed with plaster—about 50 pounds of plaster to 100 pounds of phosphate. The buckwheat will be harvested and the rye left to grow. It may receive a dressing of barn manure next winter, spread on the snow. The ground for re seeding will be sown early in spring. If the conditions will admit, the manure will be put on in the winter, so as to help the rye and give the grass seed a good start. We have found that even a light sprinkling of manure on the surface will insure a good catch. Mr. David Smith, Glenville, N. Y., has an excellent field of rye, now nearly ready for the harvest, sown last July with buckwheat, as we propose to do.

We think this a most admirable way to restore run-out pastures. A farmer can afford to be very patient and painstaking in the tilling of an old pasture if he can thereby secure two crops and get it re-seeded with a rye crop. A rye crop is the most favorable way by which a field can be seeded. The wet spells of the fore part of summer can be turned to good account by plowing the land, and it is possible some manure could be hauled out. One thing is sure, we cannot afford to let old pastures go on from year to year with a light yield and growing lighter. If they are rough, they can be plowed and tilled and benefited, as we are doing.

The exceedingly wet weather has drowned out the corn in a number of places. These spots can be utilized by sowing turnip seed. The land will be cultivated when dry enough, and when well worked over, the seed will be sown broadcast, waiting for a friendly shower to cover it. The best of these turnips will be gathered, and the remainder left in the ground for autumn pasture. F. D. Curtis.

A Good Weed Crop—Late Grazing.

Eds. Country Gentleman—The season in some respects has been rather against us, not so bad as depicted on page 523, from Ontario county, N. Y., but the late cold weather and that suddenly followed by days of dry atmosphere and intense heat has rushed corn culture, clover cutting, wheat harvest and July 4th into pretty close quarters. Some field crops will in the rush be abandoned to the deluge of water and weeds—not many. This weed crop seems bound to flourish, and owing to circumstances has given the fields a greener look than is their usual wont. I never remember seeing the meadows so filled with all kinds of trash as now. The white-top weed seems universal even in the clover lots, and I have noticed them in great abundance on famous farms—some of them owned by Country Gentleman correspondents, and even they could not tell the why of their abundant presence or just when they proposed to quit the premises.

Old meadows are especially white with them, and I can think of no other cause than the common practice of allowing stock to run all

the fall on the meadows to get an "extra bite," that in reality costs the farmer a "dime a nip." The grass, when it should be growing as aftermath, is cropped close, the exposed roots are trodden on, and all such growth as weeds are rejected and become protected in a measure. Far better would it be to keep all stock off the meadow, and provide that "extra bite" from an acre or two of southern white corn, and if the feed gets too rank in the meadow, set the section bar of the mower up in the top notch so as to cut high, and mow off and save the feed and the meadows. This close gnawing gives the weeds a chance, for there is no liability of their being smothered, and they grow and grow. Such weed-laden hay cannot be of half feeding value, and it is this and other waste—waste, waste at every point—that keeps the farmer's car of prosperity so everlastingly creaking at its axles.

I now recall a county, a few years since, that from best estimates, imported a half million dollars' worth of hay and grain, in one winter, to carry through their stock, and that same county that year raised more acres of corn than it had cows, steers and horses. This was a county that did not believe that corn fodder was worth anything; only the grain was valuable. So they did not, except in rare instances, cut up the corn, but pulled the ears, and then turned in the cattle. At their institute I also remember the related experience of a little German farmer who the fall before had built and filled a silo with his field corn, and was being enabled to winter an animal for each and every acre of his poor, drouth-stricken corn, while his neighbors, with more corn and less stock, were buying his surplus hay at $21 per ton. This was an exhibition of, first, a waste of half a million dollars' worth of feed; then the spectacle of buying a half million dollars' worth of stock food to replace it. It is not wholly a matter of economy with those who raise crops in abundance with a demonstrated better way, for men yet go on adding value to a crop of corn by shocking, husking, grinding, and all its attending loss and waste at every point, to secure a result inferior to a plan that takes the hill of corn from the cutting knife, and puts it away, grain and stalk together, at one operation, and no further expense, and in a state far more acceptable to the stock than any other system or plan can secure. J. G.

Western Reserve, O., July 12.

Crops and Prices in Ontario.

A Wet Season but Good Crops on Light Land—Killing the Potato Bugs—Manuring Corn—State of Prices.

Eds. Country Gentleman—This part of the world, like most others, was visited by a season of very wet weather. Beginning on May 20th and lasting for four weeks, it rained about half the time; at one time for fourteen days, it rained more or less every day. Work was completely stopped on clay land, and nearly so on all other land. The frost at the latter end of May had killed nearly all the fruit in this vicinity, had touched the barley a little, but not to hurt it, and had nipped all early potatoes and corn then above ground. Clover was also hurt considerably, but the sky remaining cloudy and rain coming on soon after, it was not injured as much as it would have been had the sun shone very bright, although it was checked a good deal.

On gravelly land, as I am situated, the rain has done little or no harm, but has rather been a blessing. On clay land it was different, as upon it no work could be done for nearly three weeks, many never got their turnips sown, and what potatoes had been planted rotted in the ground. They had to be replanted, but will never amount to much, as it is very late and the ground is becoming baked.

With me it has done much good, saved the clover from ruin, and although rather much for timothy, it has taken a fresh start, and hay will be above the average. Barley, where not touched by the cut-worm (and very little of it has been hurt here), is a famous crop; it has the greatest growth of anything I ever saw in that line, is nicely headed, and stands up tolerably well. Oats are a grand crop also, except where the cut-worm has been at work. Here they have done their work thoroughly, especially upon sod land and where the soil is gravelly, whole fields having had to be either pastured or plowed up. While going across one of my fields on which considerable damage had been done by them, and which had been sown on spring-plowed sod, I noticed that wherever the grub was at work, there were numerous ants at work also, and very soon after I noticed them, the grub ceased to do any further damage. I sincerely believe that the ants made it, in some way, too warm for the worm. Have any of your readers any opinion on the subject?

Potatoes with us are doing well. I lost a very few by rotting in the ground, but the rest are doing well. I noticed an inquiry for some way to administer Paris green and plaster to the tops of potatoes to kill the bug. I use an old salmon can, punch small holes, longer than wide, and then fill half full of the mixture of Paris green and plaster; then hold the tin in the right hand and shake it backward and forward lengthwise of the drill of potatoes. In the left hand carry a small pail of the mixture, and when the can is empty, fill again, taking care never to have it more than half full, as it will not work well when too full. This method is far superior to applying the poison with water. It costs a little more, but is far more beneficial to the tops, and is quicker and nicer to apply than with water. The best time to apply it is early in the morning, when there is no wind and the dew is on. The bugs are very thick this year, but I settled my three acres in about that many hours.

Turnips, mangolds and carrots are doing finely. Though one could not sow more than an acre at a time, on account of the wet weather, yet the season has been so favorable that they grew from the start, and were ready for hoeing at nearly the same time.

Fall wheat is looking nearly 100 per cent. better than last year. Some has laid down, but the last week has been very favorable for it, and I think it will all fill well if the rust, which has made its appearance, does not hurt it. Spring wheat is very heavy, but very little of it is sown here.

I purchased some "R. & W." corn this spring from Barrell's Canadian agent. As it was late when it was sown, it is not very well advanced as yet, but is more even in its stand than the common yellow, which is generally sown here. I sowed them side by side to see if there would be any difference. I am also trying some experiments in applying manure. I spread some and plowed it in, in the fall; some I left in small heaps and spread in spring; some I hauled and spread in winter; some remained in a large heap until just before plowing for the last time before sowing, and was then plowed in. I shall give it all the same cultivation, and may report my success at some future time.

I have no silo as yet, but will have some day in the near future; they have not been introduced into this neighborhood. The model farm at Guelph had one a year ago, but it was burned at the time of the fire there, barn and all.

Prices were very good last fall for all farm produce except potatoes, but declined before Christmas, catching a good many before they knew it. Most of them expected a rise before spring, but were disappointed. Beef was fair at Christmas, but declined soon after, and never rose until near the middle of June.

Shipping cattle were sold the lowest for some years. Pork was at an exceptionally good price all winter, from $6 50 to $7 25 per cwt. Potatoes were the same all winter; a great many were fed to stock. The following are the prices, both fall and spring, for good samples: Wheat, $1.17, fall; 90c. now. Barley, 70c., fall; 50c. now. Oats, 35c., fall; 37c. now. Peas, 55c.; no change. Potatoes, 20 to 25c. per bush. Beef, 3¼c. in fall, 4c. Christmas, about 3½c. in May, and about 4c. now for butchers' cattle.

I am delighted with your paper and its contents, especially those articles on wind mills; also those on the best breed of swine. Hoping that many such articles of practical merit will appear during the coming year, I heartily renew my subscription. R. M.

Halton County, Ontario, July 13.

From Tidewater Virginia.

A Wet Season but Good Drains—Success with Corn and Beans—Shearing and Selling Wool—Vagrant Live Stock.

Eds. Country Gentleman—April, May and June, usually the three busiest months in the year for the farmer in this State, have passed, and unless other work than crop making was to be done they have seen many days of idleness. On more than half of these ninety days rain has fallen, and the ground has been in a sorry condition to work for a good share of the rest of the time. Rivers have run riot, all low lands have been inundated, and even on the higher portion water has lain in the fields. With what satisfaction we have watched the ditches, which we had cut, carrying off this surplus water! The large open ones, which are some 3 feet wide and 2 feet deep, were running full much of the time. We had no fear of them, but would the blind ditches be equal to the emergencies? This was a question of the first importance, as on the result depended the life of our crops, and to some extent the future of our farming operations on this level land. It is not necessary to look at the outlets of these drains, where the water is pouring out a stream the full size of the tile, for an answer.

Just walk into that corn field where a year ago water was standing a good deal of the time. It is now (July 10) of an average height of 7 feet without measuring the tassel, which is just showing above the dark green of the blades, and without stretching them up to their greatest length, simply taking the level above the ground of the growth of the stalks in the field. "And did you plant it as you would have done in the North?"—is often asked by passers-by along the road. Yes; we put in from 3 to 5 kernels, and secured a good stand the first planting, which the majority did not who dropped only one kernel in a place and scuffed a little earth over it with the foot. But we covered that ground over thick with sheep manure, plowed it with a two horse plow and fitted it perfectly; then planted with a hoe in squares 3 feet 8 inches apart each way. It is now said by nearly every one to be the best piece of corn they ever saw. It certainly is twice as good as any I have seen, and I have recently been up and down throughout Tidewater Virginia. Whether these stalks will perfect their ears when planted in this way, I will answer later on. But we can silo them at any rate, and get three or four times the feeding value from an acre above the average-grown corn crop in this section.

Of Marrow-beans we planted something like 15 acres about the middle of May. There has been no frost on them, as occurred in many places in New-York—consequently no planting over with loss of labor, seed and time. At this time most of them have pods of full length and good growth of vines, and we have managed to keep them clean. Now if we can have a few days of dry weather at harvesting time we ought to be able to get them to market four weeks ahead of New-York growers, and thereby realize a higher price.

We experienced much difficulty in securing sheep-shearers to take off our clip of wool. To shear 300 sheep would be an all summer's job, the natives thought, and to find four men who had ever handled the shears or, I had almost said, had ever seen a pair, was a task that for a time seemed to be almost impossible to accomplish. Then shears had to be secured from near and far, as one pair usually did service for a whole neighborhood, and such shears!—old, rusty stubs, that had been handed down through many generations. Merino sheep or their grades had never been shorn in this county, and although ours were the plainest, smoothest kind, the shearers made slow progress, taking off but 15 head per man a day.

The wool off and nicely done up, we then sought a market. At Baltimore no satisfactory price could we get offered. Then we tried Richmond, describing our wool as being Merino of light weight (about 5 lbs.), well washed, and free from tags or burrs. The dealer wrote us that such wool was worth from 27 to 29c., and that they would pay that net—no commissions or freight would be deducted; and as this seemed to be a fair offer, with no expense to us of going to a market, we shipped them the wool. In four or five days they wrote us that the wool had reached them, but on account of its being so poorly washed they could pay but 20c. This was a surprise, and we could not account for their action. I could see at once on entering their office in Richmond, where I immediately repaired, that the firm was composed of Jews, and probably had thought to take advantage of us by first getting the wool into their hands and then offering us 7c. less than it was worth. When I procured a dray and was about to remove the wool, they became very fawning and evidently saw their mistake, but it was too late. I took the wool to an honorable dealer and obtained a fair price for it.

Almost all wool grown in this State is of long open staple, free from grease, and is taken from sheep of Cotswold or South Down blood or their grades. A great deal of this wool contains a small burr which has to be removed by hand from the fleeces in the dealers' warehouses, this work being performed by negro women. Ticks are very troublesome to sheep in this section, and to human kind as well, and I would not advise a northerner to come south of Petersburg to buy land on which to reside.

Ticks may not be the worst drawback, however. To me the fact that stock of all kinds are allowed to run at large is the worst feature of life here. I could get along with having to fence against cattle, but when countless hogs and pigs of all ages and sizes are to be fenced against, it is among the impossibilities to make a fence that will turn them without enormous cost, and when they get in and mingle with your choice breeds, they surely will distribute cholera among them. Previous to this year this place has been exempt from this disease, but from some cause (presumably the fact that stray hogs have overrun our fields) this season it has appeared and has reduced our numbers of hogs one-half. Corn-feeding could not have caused it, as the hogs have had none, but have been fed exclusively on milk and slops, with good pasture to run in and plenty of pure water to drink.

Brown's, Va., July 15. J. S. FOWLER.

From Southwestern Ohio.

Condition of Field and Garden Crops—Value of Sweet Corn—Planting of Berries—Plowing for Wheat.

Eds. Country Gentleman—We are now in the tenth week since our drouth ended, and the rains are still copious. Fortunately we had a partial cessation of them which enabled us to finish wheat cutting, and many farmers who have barns to store it in have secured the crop, but the many who thresh from the shock will have to wait, as about three inches of water has fallen in the last three days. The farmers of this locality began cutting clover the first week in June, and are still at it, and there has been much of the hay put in in bad condition, and I pass fields in which the second crop is beginning to bloom on the side of the field cut first, while the farmers are still cutting the first crop on the other side. The prospect for a crop of clover seed is excellent on early-cut fields, as the growth is heavy and uniform.

Corn has made a wonderful advance in the last twenty days, for the weather has been hot and the rains frequent. It has not suffered and is now of a dark color and large growth, and is beginning to show the tassels. The prospect is good for a heavy crop, and if we have as good weather for the next month as we have had for the last, the crop will gain all the time it lost from the middle of May to the middle of June, and will be as far advanced by Sept. 1st as usual.

The year is a most prolific one for fruit and vegetables. My diary shows that we began using garden peas on the 23d of May, and we have had a constant succession since, from three plantings, and the last promise to hold out till August. I plant an early, medium, and late variety at the same time, and in this way a single planting will give us peas for a month. I have grown the Stratagem for the first time this year, and find it is the best late pea I ever used. It is large, with often as high as nine peas in a pod, and is of the very best flavor. The Telephone is nearly as good, but I think has not quite so sweet a flavor. The pods of either variety are so large, and they shell so easily, that not more than one fourth as much time is required to prepare enough for the family as of the small sorts. A quart of the seed planted March 18th and April 4th gave us a supply for ten persons for a month, the last being used July 10th.

Garden corn is just a week later this year than last, as we began using the Cory corn July 4th last year and July 11th this. I follow the same plan with corn as with peas, that is, to plant at the first planting an early, medium and a late variety. I made my first planting this year, April 11th, six rows—three of Cory, one of Moore's Early Concord and two of Stowell's Evergreen. These follow each other in succession, and for later planting up to July 1st I use Stowell, and this gives us green corn without a break for 100 days, unless we have an unusually early frost. To assure an abundance for the entire season requires at least five plantings and (for a large family) about half an acre of land, but this half acre furnishes enough cattle feed to pay the entire cost of growing it, and it is available at a season when the pastures are usually poor and the cows need extra feed. I think that most farmers do not appreciate the value of sweet corn, either for the family or the dairy, or they would certainly plant more of it. On the table it is wholesome, palatable and nutritious, is not troublesome to prepare, and can be cooked in various ways, making a dish acceptable to nearly every one. We succeed in keeping it perfectly in cans, by using an ounce of tartaric acid to nine quarts, and it is as good as fresh corn, but we have not been able to keep it without the aid of acid.

We have not been without berries a single day for eight weeks, and the blackberries promise to last two weeks longer, giving us seventy days of strawberries, raspberries and blackberries. Our plat contains about a third acre, and has furnished all we could possibly use in a family of ten, with quite an amount canned, and enough sold to keep us in sugar during the strawberry season, yet I have met intelligent farmers during the last week who said they could not afford to raise berries, but could buy them cheaper. So they can if they use two quarts at a time two or three times a week, as most farmers do who buy their berries, but when they are used twice a day for ten weeks, as we use them, they would have a large bill to pay.

We start the plow for wheat to day (July 16), with the land in excellent condition and the weather cool and clear. The land will plow as easily as it does in early spring, and the teams can work ten hours a day with more ease than they can six hours when the land dries out and the mercury reaches the nine-

ties. I think the chances for a good wheat crop are much increased when I can get the land plowed in July or early August, as this gives plenty of time to prepare a fine seed bed and yet to sow the wheat early. If wheat is to sell as low as it has for the past few years, we must grow twenty bushels or more to the acre to make any money from it, and I am intending to take more pains with my seed bed than I have been doing, and leave nothing undone that I can possibly do to insure a full yield.

Butler Co., Ohio. W. F. BROWN.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *July 16.*

After more than two weeks' heat and humidity we have it cooler, and the mercury down to 58° this morning at sunrise. The second week in July proved cataclysmal after all, having given us three heavy thunder storms and 3¼ inches of precipitation altogether. South, forty miles or more, 4¼ inches came in a down-pour on the 14th, and counties over the State were also deluged that day and in course of the week before. The rains, whether 2 inches or 6, benefited rather than injured the corn crop, but they were hard on oats, and disastrous to the clover hay crop, a vast acreage of which was in the swath. Wheat in the shock escaped serious injury; the threshers are at work, and most of the crop surplus is going on the market, now that the price is 70c. The quality is quite good and comparatively free of cheat, and most of it will grade No. 2.

Let me record here the remarkable exemption from cheat of the crop of the current year, a fact due to the winter and spring drouth, the cheat plant requiring as much moisture in the soil to do its best in, as the apple tree and the orange. Of oats, let me say that the straw is short and the heads long, and if they can be secured dry and in good order, the crop will be the largest, if not the best in quality, ever made in Central Illinois.

In a late note I reported the current price of oats at 22c.—2c. above the market for the crop of 1888. Dealers declare that the new crop will not command over 18c. for 32 lbs., while for new corn they say that the best price will be 18c. for 75 lbs. in the ear in November. I am inclined to think that these figures are exaggerations on the wrong side of the market for the farmers, and that if prices do open at the low figures named, speculators will step in and buy, store and hold, and probably advance figures to the average of former years. When common stock cattle sell for 3½c. a lb., live weight, second grade steers half a cent more, veal calves weighing 200 lbs. and fat, for 3c.—when old oats in July are not worth over 20c., and old corn not more than 30c., and the new crop will not bring more than the prices above named—certainly an era of agricultural depression for corn and cattle in Illinois has arrived. We have been promised good prices for agricultural productions if the country would consent to let the present tariff stand. It consented, and the result is as we see. Will some economic philosopher instruct us how much lower farm products would fall in price, were absolute free trade inaugurated?

And at the same time our philosopher might inform us how so wide a departure from the old order of things would affect the price of agricultural implements, sugar and other necessaries of work, life and living. It appears as if the discussion of the question, "Is the farmer prosperous or otherwise?" has not been begun too soon, and the result may be to throw some light on the causes that are inviting, seducing, or driving, as the case may be, farmers' sons and daughters, and the farmers themselves, into the cities and the towns.

That Alfalfa Patch Once More.

Now while the *first* crop of red clover is being cut and secured, the second crop of alfalfa, where the first was mown May 20th, is now coming into blossom, having made a growth of over two feet. The growth on the main portion, mown 20d of June, has attained a height of fully 18 inches, and is growing like Jack's beanstalk. To be sure, the soil is rich and deep, the manuring strong, the fertilizing high, the heat and humidity excessive, and the care and cultivation quite sufficient, a part of which goes to show that Illinois "corn-crop weather" suits equally well the alfalfa plant, and therefore may be justly considered the clover of clovers for the middle region black-soil prairie. From the character of the herbage, alfalfa will be found much less difficult to cure and handle than red clover, and if the first crop is lost in the curing, there is the second to fall back upon, with the third in reserve, and a fourth, may be, later on. I may say, in this brief report of the progress of the experiment, that if the third year's crops increase as much over the second year's as the second over the first, and if the weather proves favorable in the summer of 1890, the height of the herbage will equal that of the hedge on the west side; i. e., three and a half feet. And by the way, alfalfa, unlike red clover, is an upright grower, even when very rank, and stands up against the double pressure of heavy rains and high winds like a stone wall.

E. P. J.

Weather, Crops and Prices.

Meteorology for July 15-21.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.00	inches.
Lowest do.	do.	..... 29.68	do.
Mean do.	do.	..... 29.80	do.
Highest temperature	do.	..... 84°	
Lowest do.	do.	..... 54°	
Mean do.	do.	..... 73°	

Three clear days; one fair; three cloudy. Three days on which rain fell; total precipitation, 2.50 inch. Prevailing wind, N. W.; maximum velocity, 34 miles per hour, on the 20th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	15th	16th	17th	18th	19th	20th	21st
Day							
This year...	71°	81°	71°	69°	72°	71°	74°
Normal.....	74°	74°	75°	75°	75°	75°	75°

Total deficiency for the week, 21°.

General Review of the Week.

The week has been slightly warmer than usual in the States west of the Mississippi river, and in Mississippi, Maryland, Delaware, and portions of Pennsylvania, Virginia, and Alabama. About the normal temperature has prevailed in the South Atlantic States, the Ohio and the upper Mississippi valleys, while the daily temperature in New-England and the upper lake region, including the northern portions of Indiana, Illinois, and Ohio, has averaged about 3° below the mean for the week. The thermal conditions for the season have changed but slightly since the last report. In the States of the Mississippi and Ohio valleys and the lake regions the daily average temperature has differed less than 1° from the normal, while in Southern New-England, Eastern New-York, and in the extreme Northwest the daily temperature for the season has averaged 2° above the normal, and in Northern Dakota this excess amounts to 4°. Along the South Atlantic and Gulf coasts the season has been slightly cooler than usual.

There has been more than the average amount of rainfall during the week generally throughout the Northern States, the only exceptions being in Minnesota, Northern Wisconsin and Eastern Dakota, where only local showers occurred. The rainfall has also been in excess in Georgia and in portions of Alabama, South Carolina and Texas. Over the remaining portions of the Southern States generous rains occurred, although the amount was less than the average for the week, except in Kentucky, West Virginia and the west portions of Virginia, where the rainfall was in excess. Although the rainfall in Minnesota and Dakota was less than the average during the week, three-fourths of an inch of rain fell in Southern Dakota, over one inch in Bismarck, and over one-half inch in extreme northeast portions of Dakota, but only light showers occurred over Minnesota and along the eastern border of Dakota.

The seasonal rainfall, from January 1st to July 20th continues in excess from New York southward to Florida and from Texas northward to the Missouri valley, also in Northern Illinois and Eastern Wisconsin. Over the greater portion of the cotton region, and in the principal corn-producing States, the rainfall for the season generally exceeds 80 per cent. of the normal. The heavy rainfalls during the past week have reduced the seasonal deficiency of rainfall previously reported in the Upper Ohio valley, including portions of Ohio, Indiana and Kentucky, where about 70 per cent. of the usual rainfall is reported.

In Minnesota and Dakota the weather was favorable for growing crops and for harvesting, which is in progress as far north as the centre of Minnesota. Throughout the principal corn-producing States from Ohio westward to Nebraska the weather was generally favorable to that crop, which is reported in excellent condition, but excessive rains caused some damage to wheat and oats, and interrupted harvesting in some localities. In the southwest, including the States of Texas, Louisiana and Arkansas, the excess of sunshine and light showers proved very favorable to all growing crops, and cotton is reported as much improved. Kentucky reports the tobacco crop improving under the favorable weather of the past week, that the harvesting of a good crop of oats is in progress, and the corn was never in better condition. In Tennessee, Mississippi and Alabama excessive rains have caused some damage to the cotton crop, which is greatly in need of culture. In Middle Tennessee wheat was damaged and tobacco is growing well, but the weather was unfavorable for farm work. In the South Atlantic States and Virginia the weather was especially favorable for all growing crops, and the prospects are excellent. Harvesting is well advanced in the Middle Atlantic States, but somewhat delayed by rains in Pennsylvania and New-Jersey. In New-England the weather conditions were generally favorable for all except the potato crop, and the larger portion of the hay crop has been secured with but slight damage.

New-York—*Kingston, Ulster Co., July 17.*—Rain has caused hay being cured in the fields to spoil in localities in Ulster and adjoining counties. The farmers say the loss in the aggregate amounts to a considerable sum. The hay crop, however, is enormous. Raspberries yet to ripen promise fairly well. There are but few harvest apples in Ulster county. The trees made good showing of young fruit, but the most of them have dropped from the trees before maturing. The wet weather is given as the cause. The rain has ruined tons and tons of Concord grapes, yet the yield is in entirety will be one of the largest ever shipped, on account of hundreds of new acres of fruit coming in bearing for the first time this fall.—*Press despatch.*

Forestville, Chaut. Co., July 19.—Haying is fully two weeks later than common, on account of the continued wet weather. The yield of hay in this county is greatly in excess of what the farmers predicted soon after the frost. It will be safe to say that there will be as much, if not more, feed-stuff for winter use, then for several seasons past. The stand of corn is very poor. Potatoes are looking fine. Oats, the largest crop ever grown; there will be some difficulty in securing them, as they are lodging badly. Of apples we have a very few; pears, peaches and plums are a very light crop, and in the southern half of the county there are none at all. Instead of selling large quantities of fruit as usual, we shall have to buy. Pastures have been largely benefited by the wet weather, consequently our stock is in better condition, and we are getting a larger flow of milk than last season. Prices are ruling low for most kinds of produce. Cheese is doing the best of all, selling for 8@9c. per lb., while butter brings only 15c. per lb. On account of the wet weather the health condition is somewhat below the average.

C. M. P.

Geneva, Ontario County, July 16.—I took a ride a few days ago out among the farmers, and found them all busy getting up hay, of which there is a large crop. I think hay will be cheap. Several fields of wheat were cut, and the remainder will be cut this week. We have had very good weather for getting up the crops, and corn has improved much since July 1—that is on high or drained land—some in low land will not be worth much. Many oat fields look very rusty, also potatoes. The berry crop is good; many are drying, others taking to canning factory. I find the apple crop is light, some places not any; pears and plums are good in places; grapes a light crop.

J. W.

New-Hampshire—*Dover, Strafford Co., July 19.*—We are now in the midst of the hay harvest, and one of the largest crops for many years will be secured. Farmers are later than usual with haying, owing to cloudy weather during the first half of the month. Crops of all kinds are at present looking well. Early potatoes were never of better quality at this season—they sell for 60c. per bu. Corn is looking well, and grain will be good. Late potatoes have been badly infested with bugs, but a liberal supply of Paris green has conquered them. Apples will be a medium crop. Garden vegetables are doing well, with considerable damage done early cabbage by the maggot. Milk at the railroad station for the Boston market for July is 8½c. per 8½-qt. can.

J. H. H.

Maryland—*Forest Hill, Harford Co., July 17.*—Owing to very wet weather for several weeks past, haying and harvesting are much behind; much hay still uncut, and a few fields of wheat still in the shock. Much of the wheat that has been hauled into the barn, was badly grown, very little being secured in good condition, and as most of the fields of grain were heavy much of it was down which made the damage greater. The hay crop is very heavy, and most of it is being secured in good condition, though delayed by the frequent rains. Corn is looking fine and growing rapidly, much of it out in tassel, and promises to be a large crop, a large acreage having been planted. The potato crop up to a week ago, promised to be very large and fine, but owing to wet weather and hot suns coming out suddenly, the vines have become more or less rusted, which some growers fear may cut the crop off short, but examination shows that no damage has as yet been done, the tubers being already large and fine. Potatoes planted on low land came up very poorly, having rotted, and those who planted the land again have experienced the same result, as is also the case with late planted potatoes. Farmers are beginning to cut oats which appear to be a most excellent crop, large straw, and heads apparently well filled. At present we are having the best of harvest weather, clear and much cooler than for some time back, and farmers are rapidly improving it.

E. H.

New-Windsor, Carroll Co., July 18.—Wheat harvest over; oats nearly so. Wheat generally very inferior—thought to be damaged by wet; I believe a frost in May was the cause. The grains look like frost-bitten ones. Corn grows out of sight over night, some of it has never been worked. It does not make any difference to the corn. A party told me yesterday he could make hay in his corn field. I told him that would be all right; if it got dry it would act as mulch.

E. E. E.

Brighton, Montgomery Co., July 19.—Up to this time we have had much more than the average rainfall, which has interfered greatly with potato planting and harvest. The time for planting is about the 10th to 15th of June; but many of our largest growers were unable to finish their planting till about the 10th of July. About half of the wheat is still in the field. The crop is considered to be about one-third short of our usual average. Owing to the excess of rain the hay crop is unusually large, but much of it will be of poor quality. The dairy interest is now suffering greatly from a new kind of fly that made its appearance here last year. The fly is about half the size of the old style of the cow fly. They settle on the cows' horns in great numbers; cows are so much annoyed as to be nearly unmanageable. Corn, where early-planted, looks well; if the land was well drained, but many wet spots are to be seen, which never before gave trouble.

T. J. L.

Virginia—*Norfolk, July 16.*—Our rainfall for 30 days ending with July 15 was 6.43 inches. This is larger than usual. Rainfall on 17 days out of the 30, and the longest time between showers was 5 days. The lowest temperature during the past 30 days was 73°; the highest was 98°, on the 11th. By these figures one will see that we have had powerful growing weather, especially for grass, grain, weeds, and all crops that were free from weeds. Our truck farmers are now able to size up the trucking season for the year. It has been very disastrous indeed—"no money made this year in trucking" is the universal verdict. And yet the man out of debt, and who has kept well up with his work, has made some money, but nothing like the same usually made.

A. J.

Kentucky—*Indian Fields, Clark Co., July 18.*—We have had rather an unusual season here, being cooler than common and raining very frequently from the last of May till the present. Corn is very irregular; tobacco good where not washed out; grass good; wheat fair; trade dull. Stock low, except sheep. Weather mild for July.

F. M. B.

Tennessee—*Shelbyville, Bedford Co., July 17.*—Crops damaged badly by the continued rains. Much wheat remains out in the fields yet unthreshed. Prospect for corn crop good, on land not inclined to be too wet or subject to overflow. Many acres of grass remain uncut, and is being badly damaged. Pastures are excellent and stock doing well. Markets as follow: New wheat, 67½c. per bush.; corn, 40c.; oats, 30@35c.; hay, 60c. per cwt. c.

Indiana—*Greencastle, Putnam Co., July 16.*—With the extremely hot weather of the past few weeks prospects for a good crop of corn in this county have materially improved. Oats are looking fine, but fallen badly in some places. Hay will be an average crop, but the heavy rains just passed will damage much of it. The yield of raspberries and blackberries has been immense—our people are shipping out on every train, and in all directions. Wheat better than expected.

T. C. O.

Rockville, Parke Co., July 19.—Indiana this year is having a wet season. The last six days have given us six inches of rainfall; barometer to-day at 29.20, with wet and dry bulb together—what are our prospects for clear weather? Our farmers are slowly coming to the conclusion they cannot raise wheat. The crop this year will be about eight bushels to the acre. Corn is our crop, and with it hogs and sheep. Flax, either for seed or fiat, or both, would pay us, but we have never raised it, and do not know how. Oats a good crop, but the severe storm of last night I fear has badly used it. Potatoes doing well; a mammoth yield promised. Reiners would do well to sell early. One of our best crops to raise is berries. The crop this year was about one-half, and would bring much better figures if reiners would only insist on good prices for good berries.

A. C. B.

Illinois—*Vandalia, Fayette Co., July 16.*—Cloudy, threatening weather; 88° in the shade. It has been very hot for several days, ranging from 90° to 100°; raining almost every other day, just enough to keep the farmers from cutting clover, or spoiling that which they did cut, and damaging the wheat in the shock. Corn looks well; oats, if not spoiled by wind and rain, will be a very heavy crop. Wheat, 70c. per bu.; corn, 20c.; potatoes, 30c.; onions, 40c.; eggs, 10c. per doz.; chickens, 12c. per lb.; butter, 15c. Health of the country good.

E. A.

Kansas—*Kirwin, Phillips Co., July 16.*—Farmers happy; 7 inches of rain fell within the last week; small grain nearly all cut. Wheat, rye and oats are the largest crops we have had for years; the corn crop looks fine, early field corn in silk, pasture in abundance, stock of all kind doing well.

A. J. M.

Wisconsin—*Janesville, Rock Co., July 16.*—So far as I have seen, and can learn from others, corn is in a poor, sickly condition. In a run of three counties the outlook is about the same. The color is now good, but the stand is very poor indeed. There cannot be a crop of corn in Southern Wisconsin; all other things look quite good, much above the average. Hay is a heavy crop. Barley is the best grown for years; it is now being cut, and really promises a large yield. Potatoes, old and new, were never as cheap as now in the history of the country—40c. per bu. for new, and poor corn price for first-class old ones. Tobacco is largely invested in as an '89 crop, against all other products in Southern Wisconsin; never in its whole history has it been so well established as a paying crop as this season, should the harvesting be good. Horses are quite in demand; cattle and hogs keep steady. In Chicago, from May 1 to June 27, there were 2,010,000 hogs received at the stock yards. Wheat, 65@66c. per bu.; rye, 40c.; barley, 30@40c.; corn, 20@21c.; oats, 22@26c.; potatoes, new, 40c.; old, 20c.; eggs, 11c. per doz.; butter, 12c. per lb.; coal, $6.30@7.25 per ton; hay, $4@7. Sugar is in trust for the benefit of the poor; prices at the conscience of the trust. Business and health fair.

W. H.

Fond du Lac County, July 14.—Corn grew very slowly until about June 25, when the hot period set in, and with timely rains it has advanced quite rapidly, but still there is no prospect of getting more than half a crop. Wheat, oats and barley are of a very heavy growth, more particularly barley; I think it is the heaviest growth ever known in this State, and it is well that it is so, for barley must of necessity take the place of corn to a great extent. Barley alone is rather an inferior feed, but ground together with oats, half and half, makes a very good substitute for corn meal. Oats are a burdensome crop, and wheat is as good, so far, as we can ask. There is complaint of a green fly on some pieces, and joint worm in other pieces, but damage from them remains to be seen. Barley and oats are lodging quite badly, and in case we get high winds and heavy rains much damage will be done. Old meadows are very light, as are the marshes, but clover, last year's stock, is too burdensome for profit. The general estimate is three tons to the acre. Haying is nearly completed; barley is turning, and will be fit for the binder in about ten days. A frost rain yesterday, which will help corn and potatoes very much. In former years we have had green corn by this time, but now there is not a stalk fit to be cut.

E. H.

Horticultural Department.

Editorial Notes and Comments.

PEACH CURL.—A writer in the London Garden still holds the opinion that the curl in the leaf of the peach arises from the work of aphides, for which he recommends tobacco dust as a remedy, which he says disconcerts the aphides and makes them wriggle and tumble. No doubt he has seen the aphides, and doubtless he has made them tumble, but they are not the cause of the curl. More than thirty years ago, the present writer discovered by using a good achromatic microscope, that the curl came from an internal fungus in the leaf, which was visible in the young leaves before they had opened, and while yet less than a tenth of an inch in breadth. The only efficient remedy was good cultivation, giving a vigorous growth to the trees, so that they were but slightly affected by the curl.

THINNING PEACHES.—In answer to an inquiry—peaches when very thick on the branches should be thinned soon after they have set, but benefit will be derived from the practice if the thinning is performed at any time before the fruit ripens, but the sooner the better. The fact that the last specimens which become soft on the tree are better than those which ripen first and are picked off, leaving plenty of room for the late ones, shows distinctly the benefit of the thinning even at this late period. Skillful orchardists who succeed in raising the finest and most delicious peaches, make it a rule that none shall remain on the branches nearer to each other than three or four inches; while of some large and rare sorts, a distance of six inches has been the rule.

KNOWLEDGE OF WEEDS.—Prof. Baily remarks that he never saw a good gardener who knew much about weeds. They have very little chance to exhibit themselves if the soil is often stirred and kept clean and mellow at the surface. If the seeds have found their way into the soil, the sprouting plants are killed before they reach the light, by the hoe or steel rake, or by the fine one horse harrow. It is much easier to stir and pulverize the soil before the weeds have made their appearance, than after they have invested the surface with their tangling fibres. The crop will always be better, for having nothing to encounter but a clean mellow soil.

FLOWERS IN SUMMER.—C. L. Allen, who has had long experience in the cultivation of ornamentals generally, but more especially of bulbous plants, gives in Garden and Forest the names of a number of summer flowering bulbs, of which the following is the substance. The tiger flower and gladiolus succeed best in rainy seasons. If kept cool and dry till July, they will, if planted then, bloom the first of October. If planted early, so as to bloom in July and August, they should be kept cool by a cover. Lilies need mulching to keep the roots cool and moist, which in a few years will triple their flowers. The common white lily should be planted in July and August while the bulbs are dormant. Dahlias succeed best in a heavy, cool and moist soil.

PEAR BLIGHT.—The inquiry is made of us, whether any good remedy has been found of late years for the blight, or fire-blight, in the pear. The inquirer has heard that much investigation has been made by scientific men, and he has hoped that some royal remedy had been found for preventing the attacks of this formidable disease. While much has been learned as to the cause of the disease, and that healthy trees may be inoculated with the disease, cultivators are still compelled to go back to the remedy employed half a century ago—that of cutting back all diseased branches on the first appearance of the malady—cutting down at least a foot or two below the visibly affected part, so as to secure any hidden portion. This will effect a cure if any thing will, by checking any further spread of the poison. But it will not always succeed. If the disease is virulent and wide spread, the trees generally have to go. But it is better to cut them all away, and burn the limbs, than to have the disease destroy them and spread the poison. Some years ago, the malady attacked with great virulence many trees of an orchard of a thousand bearing standard pear trees, and the diseased limbs which were cut out made eight two-horse wagon loads; but most of the trees were saved, and those which escaped now constitute a fine bearing orchard.

Silicate of Potash for Asparagus.

To your correspondent who desires to know how much and in what measure the silicate of potash is to be employed, and where it is to be obtained, I have the pleasure to make the following statements: I had the stuff made on my own account, having learned its value as an asparagus fertiliser from a foreign publication. The manufacture is not at all difficult, and consists in fusing together in a crucible over a fire of sufficient high temperature to melt brass, ten parts of dry carbonate of potash, with fifteen parts of clean, fine sand and one part of powdered charcoal. See National Dispensatory, edition of 1879, page 1289, which details another method requiring a less degree of heat for the fusion. The salt is a deliquescent one, but not more so than common table salt, and is sometimes described as "soluble glass."

Having the silicate ready (about six pounds as near as I can remember) early in March, 1883, I dissolved it in about 20 gallons of rain water, and distributed the solution as nearly equally as I could, on 48 hills of asparagus. The plants were strong and good ones, obtained four or five years before from Moore & Co., Concord, Mass., and planted four feet apart each way, on rich, deep, black, prairie soil, previously heavily reinforced by stable manure, and phosphate and bone fertilizers, and not forgetting to mention the addition of a thick coating of tobacco stems. If my figuring is correct, 6 pounds are equal to 96 ounces, or 2 ounces to each hill of the dry silicate. I should have preferred double the quantity, and when I fertilize again I shall use that amount.

If Messrs. H. J. Baker & Bro., who write they know of no such article, and that it is unknown in the fertilizing trade, will now undertake the manufacture of it, put it on the market and advertise it (in the COUNTRY GENTLEMAN of course) they will find a ready sale for a reasonable quantity, since the correspondent to whom these lines are dedicated is by no means a solitary inquirer for the facts. S. F. J.

Preparing Land for Growing Fruit.

Fall Plowing and Subsoil Plowing.

EDS. COUNTRY GENTLEMAN—I have been greatly interested in the above question, as discussed lately in your columns by several practical men who have had such varying experience. Late last summer I bought a small piece of land upon which oats were growing, the soil being a strong loam, some parts mucky, and all fairly well underdrained. The subsoil is a clay of a very peculiar nature, in that when dug up it can easily be broken quite finely into regularly shaped lumps, the parts seeming to be divided by sandy veins, which permeate the clay in all directions; still it is a subsoil that gets very hard, and when broken as finely as possible and spread on the surface it seems almost like stone, until after several years it has become mixed with the soil, and is then all right.

Having decided to plant the land with pear trees and strawberries, I concluded I would see what effect fall plowing and subsoil plowing would have upon it for early working this spring, as I wished to plant the trees (which I had gotten from the nursery last fall so as to have them on hand when wanted) before the strawberries, as they were to go in between them. The middle of October I put two teams at work, the first one opening the furrow about six inches deep with a common plow; the second one following in the bottom of the furrow with a regular subsoil plow, which tore up the subsoil about 9 inches deep, thus breaking the ground up thoroughly about 15 inches in depth, but not throwing any of the subsoil on top. After the land was all plowed in this manner, it was allowed to lie in the rough state during the winter.

This spring I found, while it was a wet season, I was able to work my land before any of my neighbors could get on theirs. The part intended for strawberries I plowed again this spring, running the furrows in the opposite direction, but did not subsoil it. The land so treated worked up fine and mellow, in splendid condition for planting, and required not half the amount of working to get it in shape as land of the same character lying alongside but only spring-plowed.

The portion of land not plowed up this spring was thoroughly worked with the common harrow, disc pulverizer, roller, &c., but did not work up so nice as if plowed—still for tree planting it was in satisfactory condition, and the trees seemed to find it all right, for not a single one has so far died. I am satisfied that for me fall plowing was of decided benefit, and do not hesitate to recommend it to my neighbors who do not seem to have gotten in the way of working their land in this manner, although they have abundant leisure in the fall, while in the spring, of course, time is all too short, and in this would come the advantage of not having to spend so much spring time in fitting the ground if a little time were spent in the fall.

I am a firm believer in deep plowing, and do

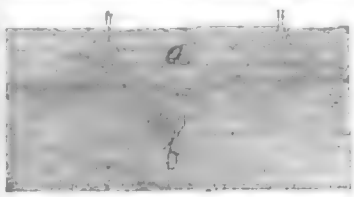


Fig. 1.

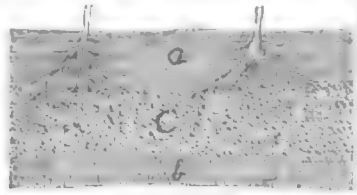


Fig. 2

not know of a better method than by using the common subsoil plow, built expressly for this purpose. Its action on the soil may be easily understood by a study of the engravings herewith shown, the idea for which I gained by carefully digging down by the side of several trees in different places, to study their root growth and the condition of the soil. At best naturally the sketches can give but an approximate showing of the true condition of the under soils, but such investigation is always of interest and value.

I do not pretend to speak broadly on the subject, for my experience has been comparatively limited, yet my soil has been benefited, and I trust that this matter has been so followed up that some general rules may be laid down. Of one thing I am convinced, that when having a wet season, water will not stand on the surface of land deeply plowed, as long as it does on that which only has the surface turned over. Fig. 1 shows the soil as left after the ordinary shallow working has been given, the plow going in from five to seven inches, and then worked down with harrow, roller, &c.; it will be noticed that the subsoil (*b*) remains nearly as solid as rock, and of not much more benefit to the growing crops than a floor of stone would be. In fact, with such a subsoil as mine, the farmer or fruit grower certainly, with the common method of plowing in vogue, gives his crops but little root room, and that they do as well as they do is somewhat surprising. Fig. 2 shows the effect of running the subsoiler along after the common plow, as shown by the light portion marked *c*, then being worked as in fig. 1. As is apparent, the roots of crops growing on land so prepared have a great advantage over the first ones, are not so easily affected by drouth, from being further from the surface, and are in much less danger of injury from the wind, because of having a stronger hold on the soil; so that altogether, working the ground deep tends to a stronger growth, and this, in most cases, to a liberal yield of whatever crop is grown. It may be urged that shallow growth is favorable to an earlier maturity, which may also be true, but this is not specially important with the crops ordinarily grown, with the possible exception of corn, for which the hot growing season might prove too short for its maturing properly in all sections.

Where one has not a subsoil plow, a fair job may be done by running a second time in the furrow with the ordinary plow, being careful not to throw up the subsoil too high. Some years ago there was a sort of craze in some of the Western States over what was termed subsoiling, but which meant a far different operation from that which I have described, for there they tried to throw the subsoil on top of the surface soil, and in consequence nearly ruined their farms, for nothing could grow in the fresh subsoil, as it contained no vegetable matter or plant food of any kind, and also would bake nearly as hard as a brick after each rain. This subsoiling is not held in much favor by some western men, as it took a number of years to repair the damage so thoughtlessly inflicted on the land. Such experience, however, does not reflect upon the proper doing of this work, for its value and beneficial action have been many times set forth.

I believe it is perfectly safe to estimate that where one works his land 14 inches instead of six or seven inches deep, he thereby doubles the productive capacity of his ground, for a strong and deep root system means a strong top growth, and this in time will cause a crop yield of large proportions. Hand in hand with deep plowing there also should go the matter of working the plowed land as deeply and thoroughly as possible by means of the roller, drag or harrow, then either with the Acme or disc pulverizer (one being better adapted to certain lands than the other, as for instance the first named has proved the best tool I could use on clover sod freshly turned, as it cuts it up well without raising the sod), then finishing with the disc harrow, which puts the land in the finest possible shape for any crop, and will promote a speedy germination of the seed.

Niagara County, N. Y. ELMER H. SUMMIT

A Columbia County Fruit Farm.

RAISING APPLES FOR EXPORT—SHIPPING AND STORING—CHERRIES, PLUMS AND PEACHES—GRAPES AND SMALL FRUITS.

EDS. COUNTRY GENTLEMAN—I recently had an opportunity to visit the fruit farm of Mr. GEORGE T. POWELL at Ghent, Columbia Co., which is, I have been told, the second largest of its kind in the State. It lies upon high ground east of the Ghent valley, and has good natural drainage. The soil is a gravelly loam on a slate foundation, capable of raising fair crops of rye and corn without manure.

Mr. Powell, who was just sending off his last picking of currants (handsome Fay's Prolific), led the way past his small-fruit plantation to the pear orchard, occupying the northern slope of a hillside and its broad, level top. Here were 1,900 trees in bearing, and beyond were 500 more coming on. The dwarfs, of which the main part of the orchard consists, were about 12 or 15 feet in height, and received only the ordinary orchard pruning. They were mostly changed into standards by gashing and banking up. The Seckels were well loaded with fair, good sized fruit, and the Bartletts were also looking well and promising a good crop. These were the principal varieties, though there were many Louise Bonne, Beurré Clairgeau, Beurré d'Anjou, Beurré Bosc and others. A number of Bartletts grafted on Kieffer, to make them later, are fruiting this year for the first time, and Mr Powell is watching the result with considerable interest and confidence. Heavy manuring and a liberal quantity of phosphates are employed with excellent results, particularly with Duchesse and Seckel, and a preparation of wood ashes, lime and salt is used about the roots of the trees to prevent blight. Of this disease little was seen, except upon the top of the hill, where it showed on some of the Duchesse. Here a more efficacious remedy was to be employed, namely, the knife and fire.

The apple orchard of 800 trees is probably as handsome a one as is to be found in the State. The trees are of good size, their tops almost interlacing, and the trunks kept smooth and clean by the use of the scraper. Mr. Powell has met with remarkable success in improving standard varieties by grafting, a notable instance being the Twenty Ounce on the Red Harvest, by which he makes a gain of sixty days in ripening the fruit, being, as he is told by his consignee, the only man who ships that variety to England in August. In all his shipping Mr. Powell has met with flattering success. Last year, as will be remembered, shippers in the western part of the State suffered heavy losses, their fruit arriving in most cases in bad order. His own fruit, of all varieties, arrived in good order, and sold on sight at the highest prices. Mr. Powell attributes this more to good foliage than anything else. If takes good foliage, he argues, to make good sound fruit. By scraping the trees, exterminating insects and the application of ashes he gets a hardy vigorous tree and good fruit. His shipping varieties are mainly Twenty Ounce, Greening and Baldwin. Rymbury Limits and Jonathan are favorites in London, the latter in size and color being a very desirable "hotel apple." Spitzenburg, Spy, Wagoner and Gravenstein are good sorts for the home market, a market of which Mr. Powell has a very shrewd theory that it pays to develop for fine fruit. Besides England, he also finds a good market in the West Indies.

Several new orchards will soon be coming

into bearing which are designed to carry out this idea, for Mr. Powell being a prohibitionist of a very pronounced type, is no believer in raising apples for the cider press. In shipping, a favorite method with apples and pears is the tight bushel box in which the fruit is shown to better advantage, and makes a very convenient package for family and hotel use. In shipping this class of fruit Mr. Powell has found it of great advantage to give a guarantee with each package. In this way the customer is sure of getting just exactly what is represented. There is no loss on "onside fruit." A cold-storage room in his stone barn serves to keep his fruit over the usual glut at certain seasons, and to enable it to be marketed when the best prices may be obtained.

The cherries were mostly young trees, small and thrifty, embracing the Black Tartarian, Black Eagle, Early Richmond, Napoleon Bigarreau, Downer's Late Red, Montmorency, English Morello, Windsor, Moselle and Elkhorn, the latter four being the favorites, the last being very prolific, the Windsor of fine quality, and the Morello bringing a high price, selling as high as 20c. per pound. Very little black-knot was observed.

Plums are one of Mr. Powell's favorite crops, partly, no doubt, because he has overcome the curculio pest. He has a thousand trees, all thrifty and well loaded with fair, handsome fruit. The principal varieties are Gueii, Reine Claude, Purple Egg, Quackenboss, Shropshire Damson, and small blue Damson. Mr. Powell is raising a seedling expressly for the Boston market. It is very early, large, green, and much resembling the Washington. The secret of his success in the curculio warfare is London purple, applied with a force pump from a cart. Mr. Powell says he used one pound to 200 gallons of water, but believed that he would get equally good results with the same quantity to 250 gallons of water.

Of peaches Mr. Powell had very few, not because he could not raise them successfully, but because they came on when his hands were full of other fruit. On a high northwest exposure he had raised fine Malocotoons that sold without any trouble for $5 a bushel. He had a thousand trees, and they literally bore themselves to death. He intended later to experiment with some late varieties.

Of grapes there were yet only about four acres in bearing, but the vineyard was being largely increased. The main varieties were Worden, Concord, Moore's Early and Niagara, with some of the Rogers' hybrids, and other newer varieties. The vines last year bore four tons of fine grapes, and this year will produce double that quantity. The system of training is the Kniffen, which to the uninitiated may be explained as a system in which the vine is pruned to two canes, tied up to two wires and allowed to hang over. It is not a "fancy" system at all, but appears to be practical.

In all his fruit Mr. Powell resorts to thinning out with great determination and perseverance, but nowhere are its good effects better shown than in the vineyard. Mr. Powell believes that with some varieties he has gained three weeks' time by thinning, and this may often be a question of crop or no crop. Last year, when an early frost destroyed immense quantities of grapes in this State, his crop was all marketed in perfect condition before the frost came. Another way by which earliness is obtained is by grafting on some strong-growing and earlier stock, for Mr. Powell is a strong believer in the influence of the stock upon the graft. He grafts the Niagara on the Champion, and so gets a stronger vine and a crop two weeks ahead of the same grape on its own roots.

In the small fruits, Mr. Powell finds much profit in the currant, for which his high, gravelly soil seems especially adapted, and he is now putting out 20,000 plants, from which he calculates to get a crop of 30 tons a year. Raspberries, both red and black, do well with him, and his varieties are Hansell and Cuthbert in the former, and Souhegan and Gregg in the latter. For a blackberry he likes the Snyder for its hardiness and good bearing qualities, though the fruit is smaller than many favorite sorts. Strawberries are not neglected either, his favorites being Crescent, Muy King, Charles Downing and Sharpless.

Mr. Powell is an observant grower and a shrewd experimenter, the ardor of the amateur being tempered with the practical experience of the man of business. He is constantly testing new seedlings of various fruits, and introducing those which he finds superior in quality or productiveness. He has a Concord seedling which has so far promised and performed well for earliness and profit, and he is propagating it extensively.

In connection with his fruit, which takes up the greater part of his hundred-acre farm, Mr. Powell keeps a number of fine Jerseys, and several hogs of an approved breed, his object in all cases being to produce something out of the ordinary run, and better. Being unable to raise much hay or grain, he has adopted the silo with great success, enabling him to keep the horses which his business requires, and an amount of stock which otherwise would tax the productive capacity of his whole farm if under ordinary tillage. In short, Mr. Powell has proved, among other things, that the average farmer, with the average farmer's capital, can change his farm from a hay and grain farm into fruit and dairy, and make it pay; that good fruit will always pay where poor fruit may not a loss, and that health and happiness, with material success thrown in, may be found, without going to the prairies of the West, among the beautiful hills and valleys of our own State. *J. T. R. Albany.*

The Poultry-Yard.

White Turkeys.

The white variety of the domestic turkey is by no means so rare as was at one time the case in Britain, and at nearly all of our leading shows there are some specimens to be seen. There does not appear to be any authentic

record as to their origination, but as many of the turkeys in their wild state have a considerable amount of black in their plumage, and can without very great difficulty be bred black, the transition to white is not very strange. All self-colored black fowls have a tendency to now and again breed white, and it is to this fact that we owe several of our white plumaged varieties of poultry, the spurt having been fixed and perpetuated. It would appear that this breed was first bred more especially on the Continent, for in one of the editions of Moubray we learn that on the Continent, in France especially, "the whites are very extensively bred, and held in high esteem, on account, as the good wives assert, of their being easier reared and sooner fattened than any other kind; in Languedoc, Provence, &c., they are very generally (almost exclusively) kept; but in the Dauphiny all kinds are equally esteemed, and turkeys of every shade reared. In our own country they are but seldom seen, as they are considered less hardy, and in every way inferior to the darker; but the wide-spread prejudice which exists here against all kinds of white plumaged birds of every variety, may probably have tended to discourage their being kept, without any sufficient reason or experience. All are agreed, however, that white turkeys, with their snowy plumage, red hood and frill, and black ermine tuft on the breast, are remarkably handsome fowls; and not, therefore, unworthy to be reared, if not for their value as poultry, at least as ornamental fowls for the park or pleasure ground. They are said to have been originally introduced from Holland, but whence our Dutch neighbors in the first instance procured them is not shown. Occasionally some inferior white specimens, streaked irregularly and slightly with black on the wings, back, tail, &c., are swept into the sub-variety called 'Cambridge Greys;' but these, as we have observed, appear to be only imperfect whites."

The prejudice here referred to has to a large extent died away, for it has been proved to be baseless. Darwin gave expression to the same view, but although some of the white fowls are undoubtedly delicate, there are others which can hold their own with colored varieties of the same breed. For instance, the White Leghorn is equally as hardy as the Brown, and the same may be said of White Plymouth Rocks, Wyandottes, Cochins, &c. The objection to white fowls is rather in the direction that they get so soon soiled, and show the dirt where darker-plumaged fowls would appear as usual. It may be and is probably true that the white turkey is not so hardy as the other varieties, and if what is stated in Wingfield and Johnson's Poultry Book be correct, namely that it is an albino, then this can be understood. The work in question goes on to say "that it is not a distinct variety is shown by the dark chicks and mottled ones being produced from parents of the purest white, and by black hens coupled with a white male never giving birth to any but chicks of their own color." In the same work mention is made of the crested variety of the white turkey, and it states that Mr. E. E. Wilmot, Hulme Saltfield, near Congleton, said that these crested birds were to be had near that town. He saw one cock about a year and a half old with a crest about 4½ inches in length; the feathers of the crest were long, bare quills, and a tuft of soft white down growing at the ends. In the work on poultry, written about thirty years ago by Mr. W. B. Tegetmeier, he spoke of the white turkey as follows: "The white are extremely elegant, and though very tender to rear, are not so in anything like the same degree as the white pea fowl. It is well known that most birds, wild as well as tame, occasionally produce perfectly white individuals of more delicate constitution than their parents. There can be no doubt that the selection and pairing of such is the way in which the breed of white turkeys has been established and kept up. However, with all care, they will now and then 'cry back' and produce speckled or pied birds, and so show a tendency to return to their natural plumage. It is remarkable that in specimens which are snow white, the tuft on the breast remains black, looking like a tail of ermine and showing as a great ornament. The head and caruncles on the neck of the male are, when excited, of the same blue-white and red hues as seen in the darker bird. Thus the creature, with small portions of black, blue and scarlet relieving his snowy and trembling flakes of plumage is truly beautiful, and some keep them in spite of the disadvantages attending them. One advantage they possess over the darker breed is that the fluff or the soft-plumed feathers of the thighs is valued by the plumassiers, and realizes a fair price in the ornamental feather market."

At the various Paris shows which I have attended there has always been a fair number of white turkeys, but the blacks have predominated, and the latter color are those chiefly bred and kept in France. STEPHEN BEALE.

Time to Caponize.

How about caponizing your young cockerels? Are you attending to the matter? You know that last winter many of you resolved that when the proper time came another season, you would surely perform the operation on a few at least, to satisfy yourselves as to its profitableness. Well, the time has now arrived for you to be about it, and from now until fall the chickens will be in proper condition to work on. Many of you who hatched chickens in February and March could have performed the operation earlier, but it is never too late as long as the fowl is a chicken, although I think that better results are obtained to caponize the birds pretty early—or when they weigh about a pound and a half or two pounds—for these reasons: At that age they are just beginning to make or build up a frame for their body, and as caponizing causes the bird to grow much larger, nature quickly conforms to the change in their condition, and immediately goes to work changing her plans, and proceeds to enlarge the frame of the bird every way. This she can much more readily do when she is starting to build a chicken, the same as a man who is building a barn and has only his foundation and frame to change a little to prepare for a larger building. After the birds get their growth, their bones become hard and set, their productive organs become very much developed by natural causes, they have established themselves as cocks, and the results of caponizing at that age are not nearly as satisfactory, and is rather difficult to perform. By doing it at that age, it will, however, improve the quality of the flesh of the fowl and add to his weight, but in a very much less proportion than it would if performed when the chick was from three to six months old. At this age the bird's ribs are soft, springy and very flexible, are set well apart, and are easily sprung open to get at the testicles. There is no flesh, and but a very thin skin covering them, which makes it very easy and simple to feel the ribs and make your cut, and if properly done, not a drop of blood will show itself. There are but few feathers developed over the ribs, which fact saves being obliged to pluck them out, and gives one a clean, smooth surface to work on. The film enveloping the intestines and testicles is as tender as tissue paper, and it quickly and easily picked open, bringing the testicles into plain view, and as easily got at with my improved tube and horse hair as it would be for you to pick a bean out of a cheese-box with your thumb and finger through a six inch square hole in the cover. I am often asked, "Can one get at the testicles readily?" and "Is it not a very difficult thing to take them away?" The cheese-box example just about describes the difficulty of the operation.

To try to pick the testicles out with tweezers, pincers, clasps, &c., or your fingers, and do it successfully, is out of the question. It cannot be done. By attempting it you may get one perfect capon in ten, but the other nine will be either "slips," cocks or dead birds. By their use one is sure to leave in a part of the organ, or else rupture the veins or artery. I tried all kinds of implements for this work without success, and then set to work and invented a tool of my own, that will do the work every time in less than a minute and without the slightest danger to the bird. It brings away the whole testicle, sac and all (which is absolutely necessary), every time, and makes capons of your birds—not "slips." A boy ten years old can operate with it.

I am not writing this to "blow my own horn," or anything of the kind. I have had quite a long experience at caponizing, and have observed carefully all the details connected with the work, and think I possess every variety of instrument that was ever made for performing the operation, and I can honestly say, without fear or prejudice, that none of them are adapted to perform the work quickly or successfully, and most of them are worthless. Worse than that, for they not only do not perform the work, but their use causes needless pain and suffering to the bird. One might as well try to pry a splinter out of his finger with a crowbar as to take the testicles out of a chick with one of these tools. The expense I have been to, and the time I have spent to find all this out, might just as well be saved to others. I want to make caponizing popular. There is money in it for the poultry-raiser. He might just as well receive 23 or 25 cents a pound for his surplus chicks as to receive 12 and 15 cents. He gains in weight, and also in price, making a big difference on twenty birds. There is a constant demand for the capon, and the market is never fully supplied.

These are my reasons for writing as much as I have about instruments, and the very fact that so many people have attempted to do the work (as I did) with instruments but poorly calculated to do the same, has caused them to become discouraged and give it up. I felt like doing so myself, but I was bound to succeed, and the expense I had incurred taught me what was needed; so I chucked all the tools I had into an old box, made some designs of what I thought one ought to have, went to a good machinist and had him get me up a set. After making a few slight alterations, I found I had just what was needed, and now I can go out and caponize twenty birds in an hour easily, and what is worth more than all, they all live, and turn up in the winter *capons*, and not *slips*. GEORGE Q. DOW,

Rockingham County, N. H.

New Advertisements.

Ellis, Nathan H.	Jersey Bull
R 2 10	Jersey Bull Wanted.
Briggs, C. H.	Jersey Bull Calves.
Burnham, A. C.	Pair Colts.
Box 14	Herdsman Wanted.
Box 14	Farmer Wanted.
Caldwell Bros	Men Wanted.
Davidson, Frank	Red-Polled Bull Calf.
Farrel & Co., Geo.	Hay Press
Grindall, J. J.	Farm for Sale.
G.	Jersey Bulls.
Hazard, Willis P.	Books on Cattle.
Ham, J. M.	Holstein Friesians.
Hartford Power Co.	Compressed Air Pumps, &c.
Judge, B	Situation Wanted.
Lucas & Vosburgh	Guernseys.
Murdock, Jr., Wm.	Milkmen Wanted.
Nicholson, R. G.	Dutch Pigs, &c.
P. O. Box 81	Gardener Wanted.
Stone & Fowler	Merino Rams, &c.
Smith, P.	Manager Wanted.
Scott, B	Corn-cribs.
Shofield, Miss Frances	Farm for Sale.
Spring Glen Farm	Fine Pigs for Sale.
The superior Drill Co.	Further Grain Drill, &c.
Tillinghast, L. A.	Jersey Bull.
Thompson, James	Cattle Pens, &c.
Wilcox, C. N.	Stallion Colt.

Subscribers' Wants.

W. S. WALCOTT, New-York Mills, N. Y. Who makes self-Acting Double Gates?

J. ALDUS HOUR, Lampeter, Penn. Best Spring-tooth Harrow for clay soil—Mediterranean seed wheat—pure Jerseys, not registered.

E. W. JESTER, St. George's, Del. Fourteen quart tin milk bucket, with oval sprint strainer and rubber connection from spout to bucket—bucket used as a seat.

Pamphlets, &c., Received.

ELLIOTT, J. A., Sec'y, Mansfield, Pa. Invitation to Tioga County Fair, Sept. 24-27.

HILLMAN, S. D., Sec'y, Minneapolis, Minn. Annual Report of the Minnesota State Horticultural Society; also proceedings of the annual meeting of the Minn. Amber Cane Association; pp. 477.

PAVILION HOTEL, Howe's Cave, Scho. Co., N. Y. "A Summer Home;" pp. 24 illustrated.

PETTEE, W. H., Lakeville, Conn. Circular of the "Hammer" Wheel Scraper.

Inquiries and Answers.

Budding Fruit Trees.—A young orchardist desires to know whether before inserting a bud into a stock, the thin slice of wood should be first taken out. He has heard or read much on both sides, and asks, which is correct? We shall not answer as we once heard a nurseryman reply to a similar question, "We leave the wood in when we think it will be best, and take it out when that is likely to be best." No further light was thrown on the matter. The proper course to pursue depends on the condition of the bud and stock. If the scion is rather soft or succulent, it will easily bend and fit the stock, from which the bark has been lifted, and the wood may be left in. In fact, it is better to leave it in, as it thus has more substance and will adhere better, and will not curl and die. This course is especially useful in early budding two-year shoots of young cherry trees. But if the wood of both scion and stock has become mature and hard, it will be necessary to take out the small shield of wood, to allow the bark attached to the bud to bend and fit the wood of the stock. This will frequently be found the case in budding quince stocks with the pear, the wood of both having become rigid late in summer when the budding is usually performed.

Soils Washing.—Our lands in this portion of Virginia (Piedmont) are for the most part heavy red clay soils, rolling and very much inclined to wash. Heavy showers often wash plowed ground so that in places nothing but a gully remains, and on pasture lands a path or road, unless on level ground, frequently produces a gully. Would underdraining help the matter any? D. *Bellevue, Va.* [Thorough underdraining would gradually render the soil more porous, and it would hold more water like a sponge, and cause less to run off and thus prevent washing to some extent. The copious roots of the good crops which well-drained soils would grow, would aid in this result. In addition, it may be well to make artificial open drains and pave the bottoms, in places where they will carry off heavy floods, and where they will not interfere with cultivation, such as along the borders of fields.]

Land on the Lake Shores.—I own land bordering on Lake Ontario, and my deed runs to high water mark. There is a piece of land between that and low water mark (the beach)—whom does this land belong to, and can I prevent people from going on it with a team? If not, can I get a government deed for it, as well as a certain distance out in the water, and if so, to whom must I apply, and what will be the probable cost? People go along with teams and boats, and take timber and dig stones from the bank and let it slide and wash away. E. W. M. *Sterling, N. Y.* [Owners of lands on the shores of the great lakes own only to high water mark. The lands below high water mark belong to the State. The district attorney can prosecute any one wilfully trespassing upon these lands. They may be purchased of the land commissioners in Albany by the adjoining owners (and by no others), upon proper application and good reasons, for a very moderate sum. The expenses will depend upon the work required, which is considerable, as the application, the survey and the required publication of six weeks must be in due form and require the services of a competent attorney. Our correspondent may obtain fuller information from Messrs. Stedman, Thompson & Andrews, lawyers, of this city.]

Better Specimen Necessary.—Herewith enclosed I hand you sample of a weed with which we are very much troubled, especially in our yards and along roadsides, and which we term, for the lack of a better name, "sheep-mint," though I don't see why, as nothing will eat it, not even sheep. It grows from one to two feet high, has, besides a long tap-root, which grows straight down in the ground usually, numerous small and very tenacious roots, and chokes out all kinds of grass. Is there any way of exterminating it other than digging it up with a mattock or cultivating the yard? D. *Bellevue, Va.* [The specimen sent for identification is but four of five inches high, and has a starved or poorly-developed appearance, and is destitute of both flowers and fruit. It has the appearance of a very poor specimen of the "horsemint," *Mentha canadensis*, but nothing definite can be affirmed from such a sample. C. H. P.]

Osage Orange Plants.—Will you kindly inform me where I can buy Osage orange sets for planting, and also whether it will do to set them out in the fall? R. C. P. *Belvidere, N. J.* [The plants are but little raised for sale at the present time, since barb-wire fences have so generally taken the place of hedges, and we rarely see them advertised. But if you will write to the nurserymen whose addresses have recently appeared in the COUNTRY GENTLEMAN they will doubtless give you the desired information. As the Osage orange is not entirely hardy, it would be safer to set them out in spring, although turning a furrow on them if the soil is naturally dry, to be uncovered early in spring, affords a good winter protection. Spring setting has the advantage of enabling you to assort the plants, rejecting all but those obviously healthy and vigorous, and placing those of equal size together.]

Pig-Houses.—Where can be found a simple and economical plan for pig-pens, adapted for breeding purposes, which will be convenient for feeding, and protected sufficiently from cold and stormy weather? Have any readers of the COUNTRY GENTLEMAN had any experience in erecting such? The material to be used must be wood altogether, and the plan a cheap one. J. H. *Haddonfield, N. J.* [You will find several designs for cheap or more expensive pig houses in RURAL AFFAIRS, vol. VII, pp. 36 to 37—some of them from structures made by the writer. Additional suggestions are given in vol. IX, pp. 191 and 304. By selecting such of these as may suit your requirements, you will doubtless obtain all the information desired.]

Roup—Disinfectant.—What is the best remedy for roup, and what is the best disinfectant to use about yards and house? A. M. S. *St. Louis, Mo.* [Kerosene is recommended by various practical poultry-keepers in early attacks, the throat being filled and fowl held so it cannot swallow. After the disease has spread, use bromide of potassium in water vessels, two grains to a fowl, or a stronger solution in milk, as a crop injection, in bad cases. Kerosene is also excellent to use on roosts, nests, &c., together with whitewash containing carbolic acid, burning sulphur occasionally, and perfect cleanliness.]

Geranium Mite.—The following inquiry comes to us from a firm of florists at Uniontown, Pa., through Messrs. J. E. & A. Murdoch of Pittsburgh:

We send you a sample of an insect our houses are infested with which is very destructive to the plants, especially geraniums. It is a very small, light-colored insect, hardly perceptible with the naked eye, and works on the under side of the leaves. The leaves curl and shrivel up. We are acquainted with red spider, mealy-bug and all such insects, but never saw anything like this before, or as destructive to plants. We will be under many obligations to you if you can give us any information in regard to them as to name and a remedy.

The minute living objects infesting the geranium leaves are a species of the spinning mites belonging to the *Tetranychidæ*. If apparently belongs to the genus of *Tetranychus*, and were it not that it is said in its habits to differ from the "red spider," *Tetranychus telarius*, I would probably have regarded it as a correlational variety of that common species, which sometimes is as pale-colored as those that are sent. It evidently is a closely allied species, and therefore the same remedies that have been found successful in the destruction of the red spider—the great pest of the plant houses—should be available with this, viz., soap washes and sulphur. Should it prove to be otherwise, and its injuries more severe and beyond control, I would be glad to receive additional examples for examination and determination of species. Those received were not in proper condition for study. They had been long in transit, and crushed in the letter in which the leaves were enclosed. They should have been sent in a box without pressure.

J. A. L.

French Merinoes.—Was there not an importation of French Merino sheep made into your State, within a year or two, by a Mr. Markham. If so, will you please give me his address? W. S. P. *Urbana, O.* [An importation was made in 1866 by W. G. Markham, Avon, N. Y., which is the latest we remember, and probably the one to which our correspondent refers.]

"Sundrops."—I send herewith for name, &c., specimen of a small plant which some of our farmers fear will prove a pest, as it seems to increase rapidly. J. P. W. *Hillsborough, Va.* [It is a small form of *Œnothera fruticosa*, "sundrops." This plant has not gained a reputation for being troublesome, and probably can be easily subdued by putting the infested fields under cultivation. C. H. P.]

Applying Plaster.—Your correspondent page 535, asks for a good tool to apply plaster and Paris green to potatoes. If he will take a fertilizer bag, cut out a piece from two to three feet square, put the plaster in the centre, gather the four corners in his hand and shake it over the plants, he will find it will do good work, with less labor, than most manufactured tools that are made for the purpose. H. S. B. *New-Britain, Conn.*

Coach Horses.—What would be the best stallion and mares for raising coach horses, and what, hunters? How would a cross of Hackney on thoroughbred mares do? Who can refer me to some one in England as a responsible breeder of Hackneys? If any in this country, who? R. T. B. *New-York.* [Coach horses are constantly advertised in our columns by several prominent breeders, with whom it might be well for our inquirer to correspond before looking farther.]

The Hawk Moth.—I send a box containing a worm (?) I have just found on a lodge upon my porch. As it is unknown to me, kindly inform me what it is. J. R. M. *Baltimore Co., Md.* [The insect is the caterpillar of the sphinx hawk-moth, *Thyreus abbotii*, which is a common feeder on the grapevine and virginia creeper (*Ampelopsis quinquefolia*). For a figure of it, and of the moth that it produces, and for an account of the insect, see the COUNTRY GENTLEMAN for August 9th, 1888, page 599. J. A. L.]

Dorset Sheep.—On account of the quantity of beef sent east from the great grazing districts, it is becoming necessary for the farmers in the Atlantic States to reduce their herds of cattle, and instead of beef, produce something more remunerating; therefore, as sheep husbandry in England, under different management, is a success, why not copy the systems in general use there, as nearly as climate will allow, and let wool and mutton take the place of beef? Doubtless there will be many leading agriculturists in England who will have seen the great numbers of sheep kept on almost every farm, without any exception, in the upland districts, and they will have noted by the way in which the flocks are managed how they are contrived to add to the fertility of the soil. Look, for instance, at the notice in your paper a few weeks since of 1,350 Dorsets on one farm, and at the numerous flocks of the many other breeds which are numerically present in such a thickly populated country.

From experience with Dorsets and the best of other varieties, the Dorsets are only superior to other breeds from their being naturally inclined to produce lambs at any time of the year desired, and also from being excellent nurses and very prolific. C. C.

Acknowledgments.

Communications for publication have been received during the week ending July 21, from J. T. Bramhall—Geo. Q. Dow—J. Hutchinson—S. Edwards Todd—Thos. Bowick—C. L. Allen—J. F. Kennedy—G. S.—T. Lewis—F. D. Curtis—Garry Owen Gates—H. Reynolds—D. W. Brattin—J. A. Lintner—R. W. Stewart—Mrs. A. S. Heard—W. Herrick—J. D. Smith—Henry Stewart—W. H. Bonner—A. Johnson—L. B. Pierce—C. C. H.—D. H. Tompkins—R. Haviland—C. W. G.—W. Horne—E. A.—T. C. Greene—W. F. Brown—J. S. Fowler—E. B. Rapp—B. E. Johnson—J. H. Bowman—D. Moore—G. Gardner—J. R. Mordecai—Ernest Norrish—J. E. Bivins—Hugh G. G.—A. J. Harris—Aunt Chloe—E. W. Stewart—J. A. Lintner—Fannie C. Tillam—E. Bodee—J. M. Hayes—T. Roberts—James Wood—W. W. Bostwick—R. Gallagher—W. C. Norton—John Smith—M. Farrington—Miss M. R. Gardon—C. H. Fletcher—W. B. Lasenby—P. K. Bush—W. F. Brown—W. E. Aston—T. J. L.—W. Campbell—A. C. Bates—A. C. Gibbden—T. B. Terry—J. M. Stahl.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, July 25, 1889.

Dairy Conferences.—There will be four conferences in Clinton county, Aug. 6, 7, 8 and 9. Conferences are also appointed at Geneva, where Dr. Collier will be an instructor; at Ithaca, where Prof. Roberts will act as instructor in connection with Mr. Gilbert, who will also aid Dr. Collier. Aug. 13 and 14 conferences will be held in Orleans county, and later three in Tioga county.

Agricultural Exhibitions.—On page 555 we publish our usual list of the State Agricultural Shows of the coming autumn, together with County and Local Fairs in the Eastern and other near-by States. For the largest part of this list has been obtained by direct correspondence with the officers of the societies concerned, and it may be regarded as fully authentic as far as it goes. We hope to receive additions hereafter as further dates are appointed, also due notice of any changes that may be made in dates now given.

The Bay State Fair.—The prize list of the third cattle show and fair of the Bay State Agricultural Society is now ready, and copies may be obtained from the secretary, Mr. F. H. APPLETON, 23 Court St., Boston, Mass. As already announced, the show is to be held at Boston from the 7th to 12th of October next—*entries closing Sept. 4th.* Liberal prizes are offered throughout the entire range of the exhibition, and the officers of the association include many of the most prominent breeders and agriculturists throughout the State, with Col. HENRY S. RUSSELL of Milton, at their head as president. Under such auspices the event is sure to attract wide attention.

The Coming Wheat Crop.—It may perhaps be fairly predicted that the over-production which has glutted the wheat markets of the world more or less continuously for a number of years, will not be of much longer duration. Advices received last week from various directions tend to strengthen this view materially. The New-York Times printed a cable despatch of July 15th, stating that although England and France both promise larger harvests than last year, and Spain, Italy and parts of Germany may not vary much from an average—to the eastward, nevertheless, the falling off in production will be very great. The "south parallel may be taken as fairly dividing the good from the bad. East of that line wheat crops have gone all to pieces. Two great exporting countries—Russia and Austro-Hungary—will this year find it difficult to feed themselves." It is the importing countries, in a word, in which the crop is good, and the great exporting countries in which it is a failure:

Russia, which had big harvests the last two years, and forced the market to get rid of all its grain in order to float loans, the last of which was concluded the other day, now confronts a rather serious situation. Her big granaries, like those at Odessa, have never before been so empty of wheat, and the present crop, in many large districts, is a complete failure. * * * The long drouth and then the cyclonic storms, which destroyed the wheat and oat prospects in Russia, have done the same for wheat, rye and barley in Austro-Hungary, Roumania and Eastern Germany.

To the above it must be added that the crop

of wheat in India, which has sometimes been an important factor in the world's supply, is stated in Bombay despatches of the 15th to be too limited to afford any appreciable quantity for exportation. And according to latest accounts the crop throughout Australasia is also a very deficient one.

Turning now to our own Pacific coast, we find in the paper above quoted a San Francisco despatch of July 17th, in which a prominent grain merchant of that city is quoted as saying:

We have over-estimated our surplus crop on this coast in the coming harvest. Exports from the Pacific coast will probably be no greater and probably not as much as last year. In explaining this statement, I would say that last year we had a surplus of 200,000 tons, while this year we have barely enough to supply the local mills—at least until they can use new wheat. Last year we had one-third more tonnage on this coast to carry our wheat away than we have at the present time. In consequence, if we had a large amount of wheat to spare, we could not ship it abroad. Chili and the Argentine Republic will have no surplus crop this year, and we already have orders on file here in San Francisco for wheat for South American States.

One item more: A Toronto despatch of July 18th states that the Manitoba and Canadian Northwest wheat crop is a failure beyond doubt:

Prominent members of the Toronto Board of Trade have received information that the total yield will be less than half of last year's crop, and the disaster is so widespread and serious that there are thousands of acres that will not be cut at all. Beyond all reasonable doubt, the damage is the direct result of drouth.

The Garden's Story.—Under this title Messrs. D. Appleton & Co., New-York, publish a charming little volume from the graceful pen of Mr. GEORGE H. ELLWANGER of Rochester. The preface states its design as being "to direct attention to the importance of hardy flower-gardening as a means of outward adornment and as a source of recreation. Some of the very many hardy plants, shrubs and climbers which may be advantageously employed are mentioned, and some hints are given with respect to their use and culture."

But this extract strictly construed gives a very inadequate idea of the book itself. The author's pleasant and scholarly style clothes the bare facts of garden culture in a new mantle of literary interest. His pages show that in the quiet of the library, as well as in the open and among the flowers, he has been a close observer of all that relates to his favorite plants. As the result we are led into the practical facts of horticulture through a very attractive path; and while a full index will enable the reader to turn readily to any particular point on which information is desired, he will be apt to forget, as he reads the "pleasures and trials of an amateur gardener," the more serious purpose of the narrative, in the enjoyment he derives from its wanderings among related topics—the birds and insects, and the flowers and seasons in the literature of the past.

The publishers have done their part in harmony with the author—the book being one of the neatest in typography we have recently seen. We heartily commend it to every lover of Nature, whether he have a garden to cultivate in reality or only in imagination.

Model Specimen Grounds.—A correspondent of Garden and Forest gives a more detailed account than we have seen before of the very interesting grounds of Mr. CHARLES A. DANA, on Deborts Island, off the Long Island coast, near Glen Cove. The pasture and forage fields of the place are on the main land, and the island, 45 acres in extent, is wholly devoted to horticultural and botanical gardens. The writer says:

A sea-wall is built all around the island, and it is draped and festooned with matrimony vine, our native bittersweet, a Japanese species of the same genus (*Celastrus articulatus*) and *Periploca graca*, which are planted on the top, and relieved by an upright growth behind them of eleagnus, tamarix and some species of prunus. On the banks, exposed to the lashing of storms, are set such sturdy trees as locust and red cedar, while the waxberry and beach plum have proved perfect shrubs for such a position, extending down to high-water mark, and hiding the dry sand and gravel of the bank with a mantle of luxuriant leafage. Within this trim circumference, in every shrub border and group of trees and flower-bed, the universal health and vigor of the vegetation bear witness to the skill and intelligence with which the garden is cultivated and cared for, and over all is the charm of perfect neatness and order that is absolute.

A list of the specimens contained in the grounds, it is stated, would be an almost complete catalogue of the ornamental trees and shrubs that flourish in this climate. For instance, of oaks there are 39 species and varieties; of hickories, 7; of walnuts, 6; of maples, 39; of magnolias, 15; of pyrus, 13; of prunus, 20; of lindens, 11; and in conifers, of pines there are 38 kinds; of spruces, 21; of firs, 23; of chamæcyparis, 17; of junipers, 16; of thujas, 20; of hemlocks, 10; and so on. There are also of aralias, 7; of cornels, 13; of euonymus, 13; of rhus, 8; of spiræas, 38; of viburnums, 20; of berberis, 12; while 2,700 plants of azalea indicate the abundant way in which many species and varieties are used.

The fruit garden includes 400 dwarf, espalier and cordon trained pears, with apples, plums and cherries trained in similar ways, aside from the general assortment of fruit trees, and many unusual fruits and nuts. There are two acres of vineyard, with sixty varieties of grapes, among which Rogers' Hybrids are favorites. About seven acres are devoted to tasting and raising vegetables. A mushroom cellar is 90 feet long, and furnishes a fresh supply from October to May. The greenhouses are extensive, and include a house expressly devoted to vegetables.

The whole has been for many years under the general charge of our occasional and always welcome correspondent, Mr. WM. FALCONER, the head-gardener, though Mr. DANA himself takes an immediate and personal interest in everything. Large quantities of fertilizers are necessarily employed, and mulching is very largely and systematically applied both in summer and winter, sea-thatch, forest leaves and the like being collected for the purpose.

Obituary.—We observe the death of Mr. A. N. COLE, July 14th, at his residence at Wellsville, Allegany Co., in the 69th year of his age. He is best known in the agricultural community as the author of what he termed the "New Agriculture," a system of irrigation, deep tillage, &c., by which he thought to revolutionize the farming of the world. We never doubted his perfect sincerity, but the enthusiastic claims and expectations he was fond of setting forth whenever opportunity offered, did not impress an impartial observer as of at all a practical character. We observe the following statement in the course of an extended obituary in the New-York Times, apparently from a friendly pen:

Mr. Cole's latest financial venture was the invention of the "New Agriculture." This method of farming was extensively tried at the "Home on the Hillside," the name by which Mr. Cole's home is known. The result of the experiments was not satisfactory. Several thousand dollars was sunk in the enterprise. Litigation followed, and one of the suits at least is still in court, an Elmira man being interested to the amount of $4,000.

As an example of Mr. Cole's letters on the subject, one of many of similar style and purport received from time to time at this office, was published in the COUNTRY GENTLEMAN of Jan. 14, 1886, page 26.

Delaware County.—The Delaware County Fair is to be held at Delhi, Sept. 17-19, and Gov. HILL has promised to be present on the 18th—much to the gratification of the officers and members of the society. A correspondent writes us:

Our County Fairs have not been very successful for a number of years. Various projects have been tried to make them draw, among them that of the "agricultural horse trot," but none of the efforts of the officers seemed to awaken much interest. At the last annual meeting what was called the "Boys' Ticket," made up of young business men of this village, was elected, and it was generally supposed it meant all horse trot, but to the surprise of everybody the "boys" resolved that they would have none of it, and have gone to work with commendable energy to make the Fair a success from the farmer's point of view. They have arranged for a better conference, and Col. Curtis has promised to be on hand. They have revised the premium list, increasing the premiums both in size and numbers, and pledge their word that they shall be paid in full. They are enlarging the accommodations for stock and other exhibits, and are certainly entitled to a great deal of credit for their efforts.

Conflicting Opinions.—At the late session of the American Nurserymen's Association, the new varieties of the plum came under examination. S. D. Willard of Geneva, N. Y., said that Moore's Arctic had been disappointing. It was tender and of little value, and it drops its foliage so badly that the fruit does not mature. E. G. Chase of Geneva, N. Y., said that in New-York it was tender. A member from Ohio said it was perfectly hardy there. These statements are worthy of examination, because Moore's Arctic plum has had the general reputation of being extremely hardy. Charles Downing, in his Third Appendix, said that it originated forty miles north of Bangor, in Maine, where unprotected and exposed to Arctic colds, it has for many years borne enormous crops, and is claimed to be the hardiest plum known. We see no difficulty in reconciling these conflicting statements. When the shoots of a tree are half grown, they are succulent and tender; and as the leaves dropped freely at Geneva, the shoots could not mature, and were killed by the cold of winter, a result we have often known to be the case when the leaves have prematurely fallen.

Victor Baling Press.—Attention is directed to the advertisement of Messrs. GEO. ENYEL & Co., Quincy, Ill., who are among the leading manufacturers in their line, and who will be glad to send full descriptive circulars to all applicants.

Glazed Sewer Pipe.—Attention is directed to the advertisement of Messrs. JACKSON BROTHERS of this city, long engaged in the manufacture of Draining Tile of the best quality, and who are now also the authorized agents in this locality for the Akron Salt-glazed Sewer Pipe.

Going to Australia.—A Washington despatch says that in December last the Department of Agriculture received from the Chief Secretary's office at Brisbane, Queensland, Australia, a communication requesting the Department to nominate to that government a suitable person to be appointed as instructor in agriculture. Secretary Rusk has now appointed Prof. Edward M. Shelton, of Manhattan, Kan., to the position, and so informed the Australian government. Prof. Shelton has for many years been professor of practical agriculture in the Kansas State Agricultural College. He has also been connected with the Michigan Agricultural College, and engaged in teaching and practicing agriculture under the auspices of the Japanese government.

About Advertising.—Enclosed find the amount due for advertising celery plants. Please give two more insertions. The results have exceeded my expectations. M. GANNAWAY. *Kingston, Pa., July* 11.

—— I keep a list of papers named by my customers, and find the COUNTRY GENTLEMAN leads them all. H. C. RICE. *Farmington, Ct., July* 15.

—— The COUNTRY GENTLEMAN is the most successful medium I have yet tried in advertising my ponies. W. F STEPHENS. *Maple Farm, Blandford, Mass., July* 19.

—— I think my advertisement in your paper will be a success. I have had six inquiries already. J. O. S. *Baltimore, July* 16. [It will be seen that our correspondent advertises seven Virginia Farms, which could if desired be converted into one, with live stock, implements and machinery, &c., making a very attractive offer—total 1,507 acres, in Westmoreland county, four miles from county seat.]

Improvements in Fruits.—The improvement in the varieties of fruits is always an interesting subject to cultivators, and in going back half a century we see the great changes which have taken place in the varieties of the peach and of the strawberry; but much less in the apple and pear. Men of middle age remember when Hale's Early peach took the lead for earliness, ripening at the North the first of August, and ten days or two weeks before any previous good variety. But more recently a still greater leap was made by the Waterloo, Alexander, Amsden, and several other varieties nearly a month earlier than Hale. Many are merely what would be termed chance seedlings, but greater progress will undoubtedly be made as more attention is given to cross fertilization. The late President Wilder was greatly interested in this mode of producing new varieties, and in the last years of his life expressed the desire, which however, he did not expect to see fulfilled, of witnessing the great achievements which would be made in future years.

Strawberries furnish great facilities for reproduction, for the seed of every pistillate variety, which has been fertilized by another sort having perfect stamens, is a distinct cross of the two. Hence the multitude of newly announced and landed varieties produced in this way. But a greater benefit and a more striking improvement could be made by selecting the larger fruits, as apples, pears and peaches; and the crossing may be effected by the artificial introduction of pollen to the selected flowers; or by the more general intermixture of the varieties by planting the trees in close contiguity with interlacing branches, as was adopted by Dr. Kirtland with the cherry, and by other propagators more recently with other fruits.

Farm-Yard Notes and Items.

Mr. W. JUNIOR SMITH of Syracuse has taken charge, as Special Agent, of the Brooklyn office of the U. S Department of Agriculture Bureau of Animal Industry, corner Greene avenue and Broadway.

Mr. JOHN W. AKIN of Scipio, N. Y., the well-known importer of Percheron and French Coach horses, is now in France, making selections for another importation, to arrive at "Elmwood" the latter part of August. People who attended the leading eastern fairs last fall will remember Mr. Akins' grand $50,000 exhibit of French horses, which made the great prize record of one hundred and eighteen premiums and gold medals at five fairs. We understand that Mr. Akin will exhibit extensively this fall.

Our London correspondent writes as regards a Sale, July 24, of Short-Horn cattle and South Down sheep belonging to the Prince of Wales:

The Prince of Wales has for some years taken the deepest interest in breeding stock, and the quality of that produced on his Norfolk estates is excellent, improving year by year. It is now three years since the last sale, and the result shows that the progress made has been very great. As might be expected, the attendance at the sale was great, and what is of much more importance, the prices realized were first rate. There were a number sold for South America, but I have not heard of any for the United States. The following are some of the best prices realized:

COWS AND HEIFERS.

May Blanche, roan, H. M. the Queen	$1200
Pleasure, roan, D. Mackenzie	800
Lady Kingscote Rose 4th, roan, Nelsons	525
Mistress Mary, red, D. Mackenzie, South America	700

BULLS.

Barrington Prince 4893, red and little white, D. Mackenzie	800
Dauntless 5611, red and little white, D. Mackenzie	1100
Rowfoot Prince, roan, D. Mackenzie	650
Prince Rupert, roan, A. A. Danger	600
Orient, roan, D. Mackenzie	540

The average of the 68 head was $357, and the total of the cattle sale $16,200. At the same time a sale of sheep was held, the top price of which was given for a shearling ram by Portsmouth. The price was $265, and the purchaser Mr. Murietta. The average of the sheep was $64.

Mr. HENRY WEBB had a Sale of South-Downs, July 31, of which S. B. remarks:

The Streetly Hall Sale of South-Downs formed the most important sheep sale of recent years, and the result must be regarded as eminently satisfactory. There were offered nearly 500 head, and the average was $57 50, or a total of about $28,700. The attendance was very large, and purchases were made by all the chief breeders, including the Prince of Wales, the Duke of Richmond, Mr. H. A. Brassey, Marquis of Hastings, Marquis of Bristol, Lord Bathurst, &c. The top price was given by the Duke of Richmond for Cambridgeshire, a two-year-old ram, for which $1,050 was paid.

The London Live Stock Journal says of the recent Royal Show:

Among agriculturists from distant countries who were present at the Windsor Show were Mr. Justice Mein of Queensland; Mr. E. J. Moffat, agent of the United States Department of Agriculture; Prof. Arenander (Sweden); Herr Lubben, president German Short-Horn Society; Prof. de Marbaix (Louvain); Herr Boysen, general secretary of Schleswig-Holstein Agricultural Society; Mr. D. L. Hughes (Melbourne); Mr. W. B Magee (South Africa); Prof. Cheesman, secretary and treasurer of the New-England Creameries Association; Mr. G. E Morrow, Dean of College of Agriculture, University of Illinois; Mr. J. H. Sanders, editor of the Breeders' Gazette, Chicago; Dr. Thiel, from the Berlin Ministry of Agriculture, &c.

Wind on Asparagus Beds.—I have seen an extract from the COUNTRY GENTLEMAN from some correspondent in Massachusetts, denying that heavy winds make asparagus grow crooked, and saying the crookedness is caused by some obstruction on its upward progress. I have raised asparagus fifty years and know he is mistaken. The high winds with us blow the sand against the windward side and bruise it so much that it ceases growing, and the lee side continues growing and turns the spear over to windward; also, worms bite one side sometimes, which makes the sound side grow over the other side, and makes a hook on it.

Monmouth Co., N. J. T. B.

The Grazier and Breeder.

[From our Regular London Correspondent.]

Live Stock at the Royal Show.

I was only able to send by the last mail a brief summary of the leading features of the Royal Show, and now when I face the question of writing a fuller one, it is difficult to know what to say, and what to leave unsaid. There are limitations to your space, and, therefore, I shall, per force, content myself with a touch here and there, for it would take many columns to attempt anything like even the shortest report. I am glad to say that the weather has continued glorious, with the result that vast numbers have attended the show. Yesterday and to-day, on both of which occasions the queen has been present, there have been great crowds, and to-day's record is that nearly 45,000 persons have paid at the gates, which means over 50,000, considering members and others free. This total has been largely exceeded at the two previous shows, namely, at Newcastle and Nottingham, but those towns had in themselves, and were surrounded by, great populations, which is not the case at Windsor, and the previous days quite compensated for the deficiency. Probably to-morrow, being Saturday, will find a greater attendance.

As already stated, it is an impossibility to attempt a report of the show, and I must just give a summary of some leading sections. In horses of the lighter sort, it is not necessary to linger, more than to say that Hunters are good, especially the two-year-olds, in which the winner is Capt. Fife's filly La Charité, a daughter of Huguenot—a grandly built animal. Cleveland Bays and Coach horses are classed together—an arrangement which is not satisfactory. Still the quality is excellent, but with a classification like this the awards are rather mixed. The two champion prizes are taken by Mr. Burdett-Coutts's lovely built and beautifully shaped Sultan for horses, the third time he has won here, and Mr. Kelsey's Patience, a true type of a Yorkshire Coach mare, as has been proved on a score of occasions before. In Hackneys there is an average show, and a sensation was caused by the judges placing the last champion, Rufus, below such stallions as Excel and County Member, which, though fine animals, and ones that have done good service, are behind a horse described as "one of the very best stallions that has been brought out for years." He also beats them in motion, and the general verdict is that a big blunder has been made in this award. A very fine yearling colt is shown in Mr. W. Burdett Coutts' Beau Lyons, which won at the Agricultural Hall last February, and the pick of the Hackney mares and fillies is the same exhibitor's Silver Bells, a three-year-old with magnificent action. As was stated in my last despatch, Mr. Burdett Coutts won both the queen's gold medals in Hackneys. Ponies make a very pretty collection, and Mr. C. W. Wilson, the Lords Cecil and the Marquis of Londonderry are the chief winners, Mr. Wilson being easily at the head, taking both the queen's prizes.

Coming to the draft horses we find Shires scarcely so good as on former occasions. Of course there are many of the leading animals here, and with Prince William present the section cannot be a poor one. But the Worsley Stud is conspicuous by its absence, for Lord Ellesmere has announced his determination to cease exhibiting, on the ground that the high condition necessary for prize winning is injurious to the animals as breeders. Whether there is any further reason I am unable to say. Prince William of course wins the championship, his splendid action carrying the day for him against Harold, who is no mean competitor. Lord Hindlip wins in two year-olds with Nell Stone Conqueror, winner in the younger class a year ago. In the class of mares in foal, Mr. Freeman Mitford's Chance won, and with something to spare. She is a grand old lady, and was rightly accorded the champion female-ship for her section. Clydesdales form one of the best collections ever seen at a royal show, although the classes for stallions were necessarily weak. Mr. Gilman's Prince of Albion is deservedly victor in his class, and is a good mover, with splendid frame, securing the gold medal for the best Clydesdale horse. In two-year-olds a couple of splendid colts win. These are Prince Robert (Mr. Crawford) and First Choice (Her Majesty the Queen), both of which should make a record. Mares are really excellent, and though Mr. D. Riddell's mare Sunrise, a well known northern winner, wins well the gold medal as well as first in three-year olds, she has no mean rivals in Mr. Paterson's Laura Lee and Mr. Walker's Sweet Briar. Suffolks are a splendid collection, and show that this valuable breed is coming to the fore. In the horses, Mr. Walton's Emperor is well-known, and has won championship honors, but these are denied him, as the gold medal goes to Mr. Smith's three-year-old Wedgewood, a young horse with an unbroken record. In yearlings, Mr. Wrinch's Nottingham is victorious, and is a large, well-built animal. The awards in females is not very much thought of, and there are many who think that one or two are as good as Mr. Byford's Bounce, the winner.

Short-Horns lead the van in cattle and make a strong section of 229. Mr. C. W. Brierly's Mario scores well in aged bulls, and there can be no question as to his right to this place. He is splendid in form, well fleshed, and shown in grand condition; of him it is needless to speak further. Of the other males the best are the yearlings, in which class the queen wins with New Year's Gift, a northern-bred bull from the herd of Lord Loval. He is a beautiful roan and well forward. Molly Millicent is victorious in aged cows, but the choice animal of the section is Mr. Thompson's Belle Madeline, to which is given the queen's gold medal, beating all the males for this honor. She is in grand form, very level, and as fresh as a youngster. As a class, however, that for 3-year-old heifers is the best of the Short-Horns. Here is a splendid collection, with several good animals from the royal yards at Windsor and Sandringham. After a severe contest the prize is given to Mr. Stokes' Gladys Rose, a neat, well made red, with as fine an outline as can be wished for. In heifers of 1883 the Duke of Northumberland wins with Fairy Rosebud.

Herefords make a very strong section indeed, and probably this is the best show of the society for six or seven years. Mr. Taylor's Maidstone is of course first in the old class, and rightly secures the $250 champion prize for the best Hereford bull. His nearest competitor was her majesty's Favourite, first in two-year olds, bred by Mr. John Price, and a most taking animal, but clearly beaten for the championship. Yearlings are also very strong, and here Mr. Jas. Rankin's Figaro obtains the coveted place. The queen's prize goes, however, to the ladies, and is taken by Lord Coventry's lovely cow Rosewater, winner in the old-cow class, and also taking the $250 championship for females. She is, indeed, a beauty. In two-year-old heifers the first place is taken by Mr. Hughes' Princess, a sweetly made animal. Yearlings are an excellent lot, and all through the breed is well represented.

Devons make an excellent show, and the quality is very high. In old bulls, Lord Falmouth wins with Lord Wolseley, the winner at Nottingham, and a deserving victor, as he is typical all through, except a little weak behind. Mr. J. Farthing wins in 2 year-old bulls with Robin Hood, and the rest of the classes were swept by Sir W. Williams, who was invincible. To his Flower 2d, winner in the old cow class, was given the gold medal over Lord Wolseley, but the award was not altogether approved of, although she is a level animal, very fine all through, but not quite so large as she might be.

I must pass over the other British breeds, which are, however, well represented, and come to the Channel Islands section. Here we find one of the largest displays ever seen. In Jerseys alone there are over 400 entries. The victor in aged bulls is Mr. Le Brocq's Castor 1840, a compact, well made, neat animal, well deserving his place. To him was also accorded the queen's gold medal and the championship for the best Jersey bull. Two year-old bulls are not so good, and that of yearlings fair. But this is seen in the section which represents quantity rather than quality. Cows are a nice lot with a few exceptions. The pride of place goes to Mr. Arkwright's Snowflake, a lovely cow, good in flesh and bone, and she fought hard for the gold medal. Of yearling heifers there are nearly 100, and the prizes both go to island-bred animals, Brebe 6th and Beancoin 33, first and second, for Mr. F. Le Bevag. Of Guernseys there are 140 entries, and the quality also is excellent. Here we find Mr. W. H. Carrington's Rydale, bred by the exhibitor, winning in old bulls, and also securing the gold medal and champion cup for males. Many, however, prefer the winning cow, Mr. Le Patourel's Pretty Dairy Maid, a well-made, shapely cow, strong in milk qualities, and a recent winner at the Island show. Kerrys and Kerry Dexters make a good show, and indicate that these breeds are coming to the fore. S. S. *June 28.*

What Ails the Wool?

The trouble with the wool of which J. T. complains (page 528), is in the feeding. Wool cannot be produced healthfully without a large quantity of yolk, and yolk contains a large quantity of potash, while the wool itself has nearly 4 per cent. of sulphur in it. Thus the food must contain both of these substances in it, and they cannot so well be given in any other form as they are not assimilated. When given alone sulphur acts medicinally, being laxative and diaphoretic, acting on the bowels and the skin, and thus passes off without going into the system. Hence, it would not help the case to give sulphur to the sheep in hopes to act on the wool.

J. T. says he feeds the sheep on hay; but there is hay and hay, and many kinds of it. Clover hay is, *par excellence*, the hay for sheep. It is rich in nitrogen and potash, and has some sulphur, but alone it has always, with me, produced an inflammatory condition of the skin, and corn and oats will increase this ill effect. All plants of the turnip tribe contain sulphur largely; rape has 16¼ per cent. of sulphuric acid in the ash, white turnips 14¼ per cent., and ruta bagas 8½ per cent. Sheep fed on these roots, or green rape, always do well, and without them, or good substitutes, as mangels, cabbages or sugar beets, there will be more or less trouble with the wool. Straw is very poor food for sheep, and should only be given as litter, of which a little may be picked out, but never as food. Unless for fattening, I would not give any grain food, except bran and oats, with a little linseed oil meal, with the clover hay and some cured rape, or—which are the best of this kind of food—turnips or cabbages. Some sheaf oats may do very well for a change. H. Stewart.

The Duroc-Jerseys—Corn for Feeding.

It is queer that Mr. Harris, in the re-issue of "Harris on the Pig," which, it is said, brings the pig question down to the present time, does not mention the Duroc-Jersey hogs. No wonder your correspondent, D. Davis, expresses his surprise. I can account for it in no other way than as an oversight on the part of the author, who is a man of extensive reading and intelligence; so it cannot be from lack of any knowledge of this breed.

It may be interesting to note that the Duroc-Jersey hogs are bred by the thousands, according to the standard of the association of breeders, and that records of pedigrees are now made in the third volume of the registry. They are now handsome hogs, and for utility are not excelled by any. As breeders and feeders, they will beat any other breed. They cross well with any breed, as they carry to such offspring constitutional vigor, lean meat and a remarkable digestion and power of assimilation.

Geo. T. Powell, Ghent, Columbia Co., N. Y., remarked, a short time ago, that his crosses of Duroc-Jerseys with Chester Whites and Berkshires were commended by every one who saw them. Mr. Powell is an extensive breeder of hogs for sale and slaughter, wisely combining pork-making with his large fruit business. The modern Duroc-Jersey pig will fatten at any age, and all the flattering tales of early maturity and big weights will apply to them, with the chance of adding, on cheap foods. They are the best foraging hogs in America of the improved breeds. The demand for Duroc-Jersey boars for crossing upon other breeds is rapidly increasing. These remarks will answer the questions of Mr. Davis in a recent number.

I do not attach as much importance to Prof. Shelton's experiments, bran vs. corn, as some do. Neither bran nor corn alone is a suitable food for any animal. For young pigs the bran alone would be the safest and best. For grown hogs, or for those quite well grown, the corn would of course show the best results in weight for a time; but in the end it would kill all the hogs, that is, if they were fed long enough. With the bran and corn properly mixed, they could be fed long enough to meet the requirements of a Chinese temple. The corn-fed hogs gained in weight 98 pounds more than the bran-shorts-fed lot. An interesting question arises: Did this excess of weight, which was fat, make 98 pounds more of real food or nutriment? We must not desert common sense in our haste to get under the shadow of King Corn. My experiments have been on the line of both bran and corn or rye, to make the most gain and the best meat. Doubtless the farmer who believes in all corn will be strengthened in the false theory that corn is also best for the rearing of his breeding stock. F. D. Curtis.

When to Castrate Colts.

A writer stated, in a recent number of the Country Gentleman, that a good time to castrate colts is when they are very young—only a few days old. I regret that such a statement was published, for the simple reason that it may cause much loss to those who raise horses.

All intelligent producers of valuable live stock will coincide with me in the assertion that castration tends to produce effeminacy. Consider for a moment the effect that castrating a calf has, by way of making the steer like a heifer. Instead of a bull's head, the thick and strong neck of a bull, and being deep and heavy in the fore part of the body, the steer and bullock will have a body, head and neck like a heifer or cow. Such developments of form and symmetry are the natural and certain effect of early castration. One of the sure results of castrating a young calf or young colt is to cause the animal to develop much more behind than before. Now, then, here is a fundamental principle which should always be observed when one proposes to castrate a colt. At foaling time, if a male colt is full and round behind, and rather narrow and light before, having a slender neck and small head, that colt should not be castrated until he is one or two, and perhaps three, years old. Why? By allowing him to run without emasculation, his neck and shoulders will develop deeper and broader, and the fore part of the animal will bear a just and desirable proportion to the rear part.

We frequently see valuable horses that are so narrow and light in the fore part that they have to be ornamented, on both legs, with disfiguring interfering pads to prevent cutting both legs. Such horses were castrated when they were quite too young. If they had not been castrated until they were two or three years old, the fore part would have spread out so as to throw the fore legs so far apart that the animal would never interfere. Reader, did you ever see a stallion four or five years old that interfered? I never did. On the contrary, we often see a horse so narrow behind, that both legs, at the fetlocks, are always stove up by interfering. Such horses were not castrated as soon as they should have been after birth. They were allowed, no doubt, to go uncastrated until they were three years old, in consequence of which the neck and shoulders developed much more (in proportion) than the rear part. Consequently, the hinder parts were so narrow that the hoofs were always banging the opposite legs.

If one is the owner of a male colt, he should study, understand and make a practical application of this important principle. If a young colt is light and narrow behind and heavy before, let him be castrated at once. He will then begin to spread behind, so that the feet will never interfere, and the entire carcass will develop more uniformly than if castration were deferred for a year or two. On the contrary, if a young colt is full and plump behind, having a narrow breast, slender neck, small head and a feminine appearance, defer castration until he is 2, 3 or even 4 years old.

I may be allowed to state, without appearing egotistical, that I have castrated large numbers of colts, stallions, bulls, calves and other animals, for fifty years past, and never knew an animal to die in consequence of the operation. I never had any more hesitancy in castrating an old bull, or a full-grown horse, than in emasculating a male cat. I have instructed scores of young farmers (always without any remuneration) how to castrate any male animal as well as I could do it. The surgical operation is a simple one. Any man of ordinary intelligence (if he is not afraid of a little blood) can castrate a colt, or stallion, or a large bull, as well as many professionals, some of whom are consummate quacks.

With a sharp knife of any kind, make an

incision into one of the testicles as it is held firmly in one hand. Never cut across the seam in the scrotum between the testicles. Draw the testicle out of the scrotum carefully, until the spermatic cord, the nerve and artery, can be seen. Thrust the knife-blade through the integument that holds the artery to the cord, and tie the artery with a small, strong string. Be careful to tie the knot so tightly that the string will not slip off. Do not leave the ends of the string so long that the animal can take hold of them with his teeth. As soon as the artery is tied, cut off artery, cord and nerve, an inch below the string. This operation is perfectly safe. No salt, pepper, tobacco, or any other nostrum is required. In hot weather it is proper to smear the skin around the wounds with coal-tar to repel flies. I have in mind a goodly number of instances in which flies deposited eggs in the wounds, when the animals were lying down in the shade. Before I was aware of it the scrotum was alive with maggots, but an application of warm tar, with a swab, destroyed every maggot in less than one minute, and at the same time cleansed the wound. The tar should be applied as hot as it can be, without scalding the delicate flesh of the animal. Coal tar or pine tar may be used. In case no tar can be procured readily, mix three parts of linseed, or cottonseed oil (either raw or boiled) with one part of spirits of turpentine, and with a small paint brush or swab remove the maggots, and smear the wound. Warm tar or diluted spirits of turpentine, when applied to a wound, will facilitate the healing process, and no insect or larva can live in such liquid for many minutes.

The chief danger of injury, or damage to an animal, after castration, will occur through undue exposure to cold. Let animals be properly protected from cold storms until the wounds are fully healed. I have not penned half the important facts touching this subject which every farmer should be familiar with, but will add one relating to lambs. Some owners of sheep castrate all their lambs at one time. If there are any tender and delicate little fellows my own practice always was to defer castrating such lambs until they were two or three months old. If castrated when they are so small and delicate in appearance they will never attain the size, the vigor and perfect development that will result from deferring castration until the lamb is older and stronger. SERENO E. TODD. *Orange, N. J.*

Value of Buckwheat.—Can you give me the feeding value of buckwheat? I find the values of most of the grains in the Connecticut and other agricultural reports, but do not find buckwheat. C. G. A. *Bucksport, Me.* [The average of eight analyses of buckwheat shows it to contain of digestible nutrients the following: Albuminoids, 7 70; carbo-hydrates, 49 21; fat, 1 84—estimated feeding value, 85 cents per 100 lbs.; while oats, as an average of 25 analyses, contain albuminoids, 8.05; carbo-hydrates, 46 11; fat, 3 94—estimated feeding value, 95 cents per 100 lbs. The extra value of oats comes from the greater quantity of muscle-forming matter and fat; these two are the most expensive elements of foods. But buckwheat has such a tough shuck that it should be ground before feeding. Some mills, in the manufacture of buckwheat flour, make buckwheat middlings, which makes a very strong feed, containing of digestible nutrients: Albuminoids, 23 06; carbo hydrates, 29 03; fat, 5.03—estimated value, $1.41 per 100 lbs. It is an excellent food to balance the milk ration. E. W. S.]

Ration for Sow and Pigs.—I have a Chester sow 8 months old; will farrow the 17 inst. I would like to have you give me a ration for him, also for the pigs. She has no milk; neither will the pigs. She has other slops, and runs in clover; is rather fat. Can get bran at 90c. per 100 lbs; middlings at $1.10. Will get oil meal or anything they should have to get the best growth, regardless of a few cents per 100 lbs. A. W. M. *Sterling, N. Y.* [This sow is very young, and will require very careful management at farrowing, and should be given only food of a cooling nature—no corn meal. A slop of cooked bran and middlings, and a little linseed meal will be as safe as anything. To 5 lbs. of bran and middlings add 1 lb. linseed meal. The feed, in this proportion, can be cooked into a slop. This will be good for both the sow and her pigs. Feed the sow very sparingly at first, letting her depend largely upon the clover. The pigs will soon learn to eat this slop, and it will assist them very much in growth, as it contains the food elements to grow the muscles, bones and frame. It will also cause the sow to give rich milk for the pigs. But bran and middlings should be purchased, at retail, for 75c. per 100 lbs., at Sterling, Ill. This feed will be good for the rapid growth of the pigs, till they reach a weight of 100 to 125 lbs., and then one quarter of the weight of the feed may be corn meal. If these pigs are to be fed for market, the corn meal should be increased till it becomes three-quarters of the ration. E. W. S.]

A Horn Re-set.—A Jersey cow knocked one of her horns off early in the spring. The accident was discovered before it became cold. It was put back in its place and tied fast. In a few days it grew fast, and is now the same as the other. Nothing was done except to pick it from the ground and put it in position while the blood was still oozing out of the stump. F. D. C.

The Dairy Department.

Large Milk Records without Grain.

EDS. COUNTRY GENTLEMAN—Often have we heard the assertion made, and have seen the statement in print, that the production of the cow depended more on the feed consumed, than upon her natural capabilities, or the breed which she represents.

Feeling confident that such statements are erroneous and misleading, that they tend only to retard progress in the dairy business, we have been testing a large number of our cows, to see what amount of milk they would each produce during the year, without grain feed.

The following cows were nearly all given a test for butter, of from one week to thirty days, when fresh, during which time they were fed a ration composed of one-third wheat bran, one-third ground oats, and one-third corn meal, of which mixture each consumed 13 to 15 lbs. per day, according to age, &c. After the completion of such tests, which in no instance extended beyond sixty days, all grain feed was withdrawn, and they were kept upon pastures and soiling crops during summer, ensilage, hay and a few roots in winter.

Our first test of this kind was made with Clothilde 4th, as a 3 year old. She dropped her calf the last part of March, and after the first two months, (during which time she made 23 lbs. 10½ oz. of butter in a week, and 93 lbs. 1½ oz. in thirty days), she was given no grain during the rest of the year. She ran with a herd of over 100 cows, and after the first few weeks she was milked only twice a day and received no extra care in any respect.

She gave 16,457 lbs. 9 oz. of milk during the year, which, taking into account the feed consumed, and all the conditions, must be considered the greatest 3 year-old performance.

In June of last year Clothilde 2d, dropped a fine heifer calf. Within two weeks we commenced a butter test, which resulted in 25 lbs. 6½ oz. in a week, and 104 lbs. 3½ oz. in thirty days. All grain feed was then dropped, and she was kept the same as Clothilde 4th, given above, until the middle of March last, when, as she was getting thin in flesh, 6 lbs. of grain (three-quarters wheat bran and one quarter corn meal) were added to her ration of hay and corn ensilage.

Her record closed in June last, and we find that during the year she gave 20,450 lbs. 5 oz. We were compelled to milk her three times per day during the first half of the year, but after the flow of milk had sufficiently decreased, she was milked but twice. Considering the feed consumed, and the care given, we fully believe these two records, by two daughters of Clothilde, will be considered by practical dairymen, of experience, to be the most remarkable yet made.

Clothilde 2d, as a 4-year old, gave 23,603 lbs. 10 oz. in a year, the largest record known for a cow of that age, but we consider her recent performance much more remarkable, and one which denotes greater natural powers.

The following cows made the records with which they are credited, during the years of '88 and '89, with no grain, excepting during the period of butter tests, as referred to above.

Maxamilx	16,053 lbs.	11 oz.	in 11 mos. 28 days
Artis Helen	15,[illegible]	10	in 1 year.
Mottled Beauty	14,[illegible]	3	in 1 year.
Lakeside Prize	13,[illegible]	11	in 11 mos. 28 days
Bonnaire Maid	12,[illegible]	5	in 1 mos. 30 days
Aaggie Cornelia 4th	12,[illegible]	5	in 9 mos. 29 days
Aggie 6th	12,[illegible]	14	in 1 year.
Adaide May	11,[illegible]	13	in 9 mos. 28 days
Pamela Fletcher	11,[illegible]	1	in 10 mos. 11 days
Ambromnetta	11,[illegible]	4	in 10 mos. 28 days

The entire list of twelve cows, although but half of them have completed the full year's record, averaged 14,003 lbs. 15 oz. of milk.

Nearly as many more are undergoing a similar test, with results which promise to equal the above.

It seems to us that these records should for all time settle the question that the milk production of cows depends more upon the natural capacity of the individuals, and the breed, than upon high feeding.

If dairymen and breeders can be convinced of this fact, it will be the beginning of a new era in the development of dairy cows, and greater progress will in the future be made.

We do not advocate keeping dairy cows, especially through the winter, without a grain ration, but we had an object in view, which we trust has been attained.

Syracuse, N. Y. SMITH, POWELL & LAMB.

Butter Conference at Deposit.

A VALUABLE LETTER FROM GOVERNOR HOARD OF WISCONSIN.

EDS. COUNTRY GENTLEMAN—Nowhere but there been a butter conference more marked for the interest manifested, and more red hot with questions and points, than at Deposit. This romantic town is situated near the borders of Pennsylvania, and claims paternity with both Delaware and Broome counties. The Delaware river divides the village, and the mountains surrounding it make the scenery grand and picturesque.

The conference was held in the dairy house and in the grove of A. Deveraux, Esq. Mr. Deveraux and his neighbor, Col. Geo. D. Wheeler, were the inspiring influences which caused the people from far and near to leave their hayfields and flock to the meeting. A number of farmers were present from the sister State, near by. Mr. Gilbert, in his epigrammatic and practical way of putting things, coupled with actual success—in fact, striking success—filled the demands of the forenoon. I did not keep count of the questions propounded and answered, but suffice to say they came thick and fast from both men and women. The cream churned was from the Jersey herd of Mr. Deveraux, from 300 pounds of milk, separated by a centrifuge, at a temperature of above 90°. The cream had been cooled at once to 50°, and so kept for 24 hours, and then raised to 62°, and allowed to ripen for 12 hours; churned at 60°, in a Stoddard revolving churn, 28 minutes; churn stopped when fine grains showed on the glass in the cover, and temperature found to be 57°. Buttermilk drawn off, and butter first washed in a strong brine, then with cold water. It was washed until comparatively dry, and then pronounced ready to be packed. There was 16 pounds, or one pound of butter to 19½ pounds of milk.

The most of the butter-makers differed from Mr. Gilbert's plan, as they waited from an hour till the next day before giving butter a second working. A test was made of the two systems, by setting this butter away, and using a lot made in the morning, and only partially worked. Mr. Deveraux said afterwards that Mr. Gilbert's butter was the best, showing no streaks, whereas his own did, being allowed to cool and then worked over again.

It is evident that if butter is washed clean in the churn, and then the salt is well mixed through it while in the granular state, and then rolled or worked until it is comparatively dry, or does not contain more than 12 to 15 per cent. of moisture, it will not be streaked or spotted.

The Orange County Farmer thus briefly summarizes Mr. Gilbert's remarks:

"Never mix sweet and sour cream together. If you do, the sweet cream will not be ripened. It may taste acid from contact with the sour cream, but sour cream is not necessarily ripe cream. By mixing a partially ripe mess of cream with a sweet mess and churning both together, even after standing twelve hours or so, he found by repeated experiments that he lost from one to two pounds of butter a day. He now keeps the night's skimming cold until morning, then mixes the two messes and ripens them together. There can be no better butter made, he said, than can be made in the old open setting way, but you cannot afford to make it in that way, you cannot get all the cream in that way. To get all the cream the conditions must be regular. This cannot be done in the old open pans—the different conditions of the atmosphere interfere with it—but when the cream is skimmed sweet, it should be placed in broad, open pans for ripening. The pans should be from three to four feet across and covered with a strainer, and the cream stirred frequently. No expert can make good butter, he said, from poor milk: the better the feed and care cows get the better will be the butter. A little feed pays even in the summer. It is profitable to give cow feed whenever they will eat it, but it must be properly balanced. A neighbor who feeds three pounds of corn meal a day to a cow wastes 1½ pounds because the cow cannot digest so much corn meal. Cows should also have free access to salt daily; it will not do to give them salt once or twice a week. Most people, he thinks, spoil their butter by churning too long. They get it all in a mass, and they are never able to work out the casein and buttermilk. Stop churning when the grains are the size of a mustard seed. Make more butter in the winter, and less in summer. Get that breed of cows and that individual of the respective breeds that will make the most butter for a dollar's worth of feed. Never use ice-water colder than 45° to wash butter."

In the afternoon more people came. The second churning was from the Holstein herd of Col. Geo. D. Wheeler & Sons, Deposit. Some of the cows were Holstein Jerseys. The 300 lbs. of milk had been set in deep coolers in a vat of ice water, 15 qts. of milk to a can. Milk set at 90°; water, 50°; set 24 hours and ripened in Mr. Deveraux's creamery the same as his; churned at 60°; completed at 64°; time 18 minutes. Process the same as the forenoon. Amount of butter, 16 lbs.; salt added, 16 oz.; butter when worked, 7 lbs., being 1 lb. of butter to 28½ lbs. of milk. There were a number of farrow cows and heifers. Cows got no grain. In May same cows with a ration of grain made 1 lb. butter from 10 lbs. milk. The butter was then as now made at the creamery of Mr. Deveraux.

The people being all seated in the natural grove surrounding the fine mansion, Col. Curtis made an address which was attentively listened to. He endeavored to set forth the principles embodied in the whole art of dairying, and to illustrate some of them by comparisons with facts and things familiar to all. The instructors exerted themselves to set forth by word and deed the art of butter making. At the close hearty applause and votes of thanks attested the efforts made and the good feeling. Both Col. Wheeler's and Mr. Deveraux's farms interested visitors. They are made up of valley and hill, the former for farming and the latter for pasture. Mr. D. has no fields, or fences on his plow lands, and the sweep of crops is uninterrupted and grand. There were many things about Mr. Deveraux's farm and farming which interested us. It all went to show that a successful business man can make a first class farmer, and keep abreast of the times. One of the most beautiful Jersey bulls we ever saw was working quietly in the yoke by the side of an ox. In this way he earned his keeping, was kept gentle, and was made better for service with the herd. A brother of Col. Wheeler showed us, with evident pride, a Holstein cow with a record of upwards of 23,000 lbs. of milk in one year.

It seems that the noted dairymen of other States have their eyes upon us of New-York. The following interesting letter from Governor Hoard of Wisconsin is inserted, as it pertains to an important feature, and its statements are valuable to us all. I was speaking of the summer care of stables, but no doubt plaster would be better than, as well as in winter. The readers of the COUNTRY GENTLEMAN will appreciate Gov. Hoard's interest in the universal dairyman:

FORT ATKINSON, WIS., *June* 24.

FRIEND CURTIS—Am passing the Sabbath in my old home here, and have just finished reading the account of the butter conference at Aurelius. I notice one statement you made concerning the management of stables, to which I wish to add a decided improvement. You stated that you dusted the floors every morning with lime. Let me suggest that in place of lime you use land plaster. Lime is not an absorbent of ammonia, but rather acts to disengage ammonia from all surrounding substances and set it free in the air. The presence of ammoniacal gases in our stables acts as a serious loss to the farmer in two ways: First, it is injurious to the health of the animals. We are obliged to warm our stables by the heat of the bodies of the animals; hence we must keep them close, and need to use absorbents, particularly one which has a close affinity for ammonia. There is no absorbent that equals, in this respect, gypsum. Second, this ammonia or nitrogen is worth 17 cents a pound as a fertilizer. If it is taken up by an absorbent like land plaster and held in the manure until put on the land, it will add fully 50 per cent. to the fertilizing value of the same manure. At least that is my conclusion after a long series of experiments. I have seen a most wonderful increase in the value of manure where the stables and gutters were well sprinkled each day with gypsum. I calculated that in a field of corn alone I received fully ten times the cost of the plaster in the crop of that year. There is a reason for this. All the other elements in the manure must have time to undergo decomposition before they can become plant food. Hence we get but little help from green manure the first year. But the ammonia or nitrogen which is

thus saved becomes plant food at once. Hence the immediate pay for the use of land plaster.

There is one more point that it is well to consider. Nearly all the ammonia is voided from the animal in the urine; through leakage, waste and evaporation nearly all of this ammonia is lost to the ordinary farmer. A liberal use of plaster in the cow, horse and sheep, as well as hog stables will, in the course of a year, more than double the value of the manure, and that, too, at small cost. Thus you see we secure two prime results by the use of plaster: 1st. Take out of the air of our stables an irritating and unhealthful gas; 2d Add fully 50 per cent. to the yearly production of fertilizing value in our manure. Do not use lime; do use gypsum, and that liberally. I pay $1.60 a barrel for it, and find it pays immensely. W. D. HOARD.

There is an inclining towards more winter dairying, and many inquiries are made at the conferences looking that way. It is Mr. Gilbert's opinion, as well as my own, that to succeed with a winter dairy there must be a warm stable and plenty of succulent food. Where the summer conditions can be brought about there can be success, and a proportionate relief from the almost—in New York—universal competition of a summer product. Our dairy will be changed to this basis as soon as possible. With a winter dairy, pork can be made with a better price and also veal. No one should aspire to be a dairyman in winter, with cold barns and no provision of succulent foods. F. D. CURTIS.

The Columbia County Creamery.

The following account of this new institution, from a correspondent of the Albany Evening Journal, will be read with interest. It is dated at Chatham Four Corners, July 6:

By a turn in the elm-shaded road about a mile or so northeast of this village I came upon what appeared to have been at one time a mill of some sort, but which now, smart with new paint and carpenter work, seemed to be devoted to some new industry. There was no litter by the doors, no heap of sawdust or ashes, and though there was a smoke-stack there was no noisy machinery. Beyond were the ruins of an older mill, a rusty engine upon a crumbling wall and a boiler in the cellar where it had fallen when a fire had destroyed the mill. The mill dam, too, was falling into dilapidation and decay, and the water seemed to pour gleefully over its sinking end and disport itself in glittering splendor against the afternoon sun, while the pond above, shady and smooth, slept away, as mill ponds do, gathering scum along the sides and careless whether its waters worked or no.

A CO-OPERATIVE SYSTEM.

The new building was the Columbia county creamery, which the Journal's holiday tourist had come expressly to see. Introducing himself to the manager, Mr. Bliss, that gentleman welcomed him cordially and conducted him over the establishment, not a very extensive one, but doing under one roof and management the dairy business of about 200 farmers. "Our system," explained Mr. Bliss, "is very simple, and is on a cooperative basis. The farmers, finding the labor of butter making and the expenses of marketing were in most cases eating up all the profits, cast about for a system which should at once improve the product, diminish labor and expenses and increase the receipts. They at length adopted this plan. A cooperative association was formed, of which George T. Powell is president and W. H. Ten Broek secretary and treasurer. The farmers in the association set their milk in tall cans submerged in water, and the cream is drawn off by the creamery collectors, who come daily, and give credit for the amount received. At the creamery it is made into butter by improved methods and a single agent attends to the selling. The treasurer has simply to deduct expenses at the end of the month and divide the proceeds among the members or patrons according to the amount of cream furnished."

THE CREAMERY.

The first room entered contained three large vats of heavy tin, holding 300 gallons each and surrounded by a still larger tank filled with running spring water. Into these vats is poured the cream from the collectors' wagons, each day's by itself. The cream after standing 24 hours (in winter 36 hours) to ripen, or to undergo a slight acid fermentation to release the butter globules from the surrounding casein, is run into the churn. This apparatus resembles somewhat the big "scap" of the German picnic grounds, and takes for a churning 80 to 100 gallons of cream, which stands at a temperature of 54° to 60°. The churn being ready, the belt is connected, and by a pitman a gentle swinging motion is communicated to the churn. In this apparatus there are no paddles to break and beat the butter out of the cream. The ends are cylindrical and the cream is simply thrown over on itself from end to end alternately. Two c's placed face to face will show this motion pretty plainly. The churning takes 45 to 60 minutes, and while it is proceeding we will watch the butter-worker.

WORKING AND PACKING THE BUTTER.

About 40 pounds of butter are turned on to the circular table at a time. This slopes toward the centre, where the whey runs out. Two V-shaped fluted rollers are fitted on one side of the table, pointing from circumference to centre, and under them the table with its golden freight revolves, while the attendant, with a paddle in a dextrous hand, turns and folds the butter so that it is all equally worked. The mass has received the salt while still in the churn, after the buttermilk was run off, at the rate of an ounce to the pound (the salt being measured and the amount of butter being known with tolerable exactness), and ten minutes' working, or less, suffices to mix the salt and extract the whey. Care is required, says the manager, to prevent overworking, of which there is more danger than of insufficient working, and the common plastering motion of the paddle is carefully avoided, as this is believed to break the butter globules and make the mass greasy. The butter is directly packed in ten, twenty and fifty-pound packages, or made into pound prints and set into the cold room, which has a temperature of 54°. The churn, working tables and floor are repeatedly washed down with cold water and are daily scalded, so that everything is as clean as a Hollander's kitchen.

POWER AND APPLIANCES.

When the butter has gathered in the lazily swinging churn the buttermilk is drawn off to an outside tank (bought by a farmer to feed his 160 pigs) and the butter is churned for a few minutes in cold brine to wash out the buttermilk. Power is supplied to the simple machinery by a six-horse power engine in an adjoining room, which also pumps and heats the water. The dairy machines are the make of the Vermont Farm Machine Company, and the Cooley creamers are used by all the farmers or patrons, uniformity of apparatus being a prime desideratum of the system. The 25 patrons with which the creamery began operations have grown to 200, and the product from about 450 pounds a week to about 4,000 pounds. As for market, the butter "sells itself," going to the best grocers and hotels in Albany and other cities, to New York and Brooklyn and to summer hotels.

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*)

CHECKING HORN GROWTH.—Do you know of any receipt which when applied to young calves' horns prevents them growing? C. M. J. *Oakville, Ont.* [I have seen such treatment advertised in one of the agricultural or dairy papers recently. I have no personal knowledge regarding the matter.]

LUMPS ON COLT, p. 835, 1888.—Medicines were administered with good results apparently, but within the last two weeks the lumps have again appeared in worse form than last summer. C. S. *West Fairview, Pa.* [Give the animal another line of treatment as before, and if that does not succeed we will put something else. We see nothing discouraging about the case as yet.]

PHYSIC FOR FOALS.—A little colt was costive, had no passage for the first three days of its life; should it have had a dose of castor oil, or would you let nature take its course? Some men say that it will come around all right without oil, others would give oil. There has been a great loss of new born colts this year from various known and unknown causes. I myself have lost four, but two came very weak, and one died of pneumonia. D. H. LA B. *Delavan, Wis.* [In the case described castor oil should have been given.]

CUT ON BARBED WIRE.—A horse was very badly cut, on a barbed wire fence, on the off hind leg. The tendons seem to be cut through and the bone slightly scratched. Wound is just below hock joint, and is very much swollen. Sore is open and discharges a small amount of thin matter. The local veterinarian, who had the care of the horse for 6 months, says I ought to shoot the animal. B. O. *Pittsfield, Mass.* [When was the injury done? What sort of treatment has it had? Is it a case of "open hock joint"? How lame is the horse? State fully the facts and appearances of case. In the meantime wash the parts clean, and then inject some of the following lotion daily: Compound tincture of aloes, 4 oz.; chloride of zinc, 4 dr.; water, 1 qt.; mix. Apply some golden blister around sore, using half a box when skin is clean and dry.]

PERSISTENT DIGGER.—Have a well-bred Scotch collie dog over a year old that gives us great trouble every summer by digging up the roots of vines, &c., particularly roses. Is fed twice every day, given bones at intervals, and gets moderate exercise daily. Has been punished frequently and taken to the spot and shown the roots, but continues to dig and tear away at the vines nearly every week, though it is a plain that he knows he is doing wrong. Should he be given any other than dog food? E. H. W. *East Greenwich, R. I.* [There is no evidence in your letter that the food is lacking. Bicarbonate of potass. may be given him; if that fails then put leather shoes on fore feet and he cannot dig, or else get rid of him and get another. Mine does not touch a flower bed, and he roams all about them.]

CUT ON WIRE—COWS DYING.—A yearling filly was badly hurt three weeks ago by jumping over a wire fence. I think she got astride of wire and fell over, hurting neck and shoulders badly. She could not at first put her head low enough to graze; now can do so, but cannot turn it to either side. The leaders of the neck seem drawn; withers look shriveled; breast seems very shrunken. (1) A neighbor had three cows die recently. Attack began with slight watering of eyes, slobbering and sudden shrinkage of flesh; second day showed a disposition to fight everything in sight but a man; by third day would bite off green leaves and spit them out, paw, bite the ground, bellow and run any living thing, even to a bug or butterfly. None were seen to drink water after the first day. They lived from three to five days. What was the matter? (2) J. W. J. *Bowling Green, Ky.* [1. Stimulate the parts by applying the following liniment daily: Tincture of iodine, 4 oz.; tincture cantharis, 5 oz.; tincture arnica, 6 oz.; alcohol, 1 pt.; mix. 2. Hydrophobia.]

PERSISTENT COUGH.—A five-year-old mare was taken last February with distemper, coughing and running profusely at nose; was very sick, and would eat but little for nearly two months; did not swell around throat. Turned her out to grass, but cough did not leave her entirely. Took her up a week ago and am using her a little, feeding new hay, oats and bran. She coughs quite hard, both in the barn and on road, but does not discharge at the nose. When driven fast she breathes a little thick, and glands of throat seem to be enlarged a little. No sign of heaves; appetite good; coat looks well, and she is in fair flesh. D. J. R. *Forestville, N. Y.* [Powdered Barbadoes aloes, 2 oz.; sulphur, 6 oz.; powdered nitrate of potass., 4 oz.; cream tartar, 4 oz.; mix. Give a tablespoonful of the above three times a day; put your thumb in roof of mouth from left side, and then push spoon well back into mouth. Dusty hay should be avoided; corn fodder is best. Whole flaxseed, steeped and fed as frequently advised in back numbers, would be a great benefit.]

SORES ON COLT.—Last summer all of my horses and colts had what we supposed to be distemper. Some of them, particularly the colts, broke out with running sores all over head and body. One colt died last fall, then 18 months old. Its mate, now over two years, has suddenly been taken in the same way, although it was as bad as any of them last summer. A few days ago it was apparently well, but to-day can scarcely stand; is very stiff; seems to strangle, and then coughs up through mouth and nostrils large lumps of yellow matter; slight swelling under jaw; left eye very dull and almost closed; corner of eye much inflamed, and the flesh part, or haw, much exposed; colt walks with difficulty; carries head high and straight out. The colt that died had sores inside of mouth to such an extent that it could not eat. J. P. E. *White Post, Va.* [Powdered wood charcoal, 4 oz.; powdered nitrate of potass., 3 oz.; powdered rhubarb, 3 oz.; cream of tartar, 6 oz.; powdered chlor. of potass., 4 oz.; mix. Give half a teaspoonful three or four times a day. Put well back into mouth. Rub throat with severe liniment night and morning. Give 15 drops of fluid extract of belladonna, and in two hours give 10 drops of fluid extract of digitalis, and so alternate these during the day for two days.]

FRIGHTS ON ROAD.—A valuable mare, while traveling at her natural gait, all at once comes to a sudden halt, and if I urge her on, she backs and shows signs of lying or dropping down. After standing quietly for a few moments she recovers and starts off at her natural pace, but in a short time repeats the same freak. After driving quite a while she stops oftener, and is going down hill plunges along as if she could not control herself; sometimes, however, coming to a sudden halt in going down hill, when she pulls all on one rein, and would bring up on the side of the road, if allowed to go where she pleased. Is in good condition, eats well, has not been worked hardly enough, weighs 1,100 pounds, and otherwise appears to be all right. W. H. C. *Weymouth, Mass.* [If the mare is very fat, has had but little work and is young she may come out all right. Have her teeth looked to and if sharp, irregular or otherwise out of order, they should be operated upon. Give her a dose of physic and two days of walking exercise only. Then use her moderately, and let her diet be very light. Mix in feed three times a day, two tablespoonfuls of the following powder: Bicarbonate of soda, 1 lb.; powdered wood charcoal, 8 oz.; powdered colchicum, 6 oz.; mix. Keep bowels fairly relaxed. Give 25 drops of tincture nux vomica three times a day on tongue.]

Record of the Times.

Review of Passing Events.

The Statehood Conventions.—The constitutional conventions of the new States are still hard at work with plenty to do for some time to come, apparently. The questions of prohibition, woman suffrage, religious tolerance, Sabbath observance, compulsory education, &c., are being pressed by their advocates. In South Dakota, prohibitionists have three-fourths of the delegates, labor organizations two-fifths, and woman suffrage a majority of the Farmers' Alliance, but divisions are on Republican and Democratic lines—61 to 94. The value of school land grants (500,000 acres to each State) is being looked into. Russian Mennonites petition for exemption from military duty. The two Dakotas have formed a joint commission to settle territorial assets and liabilities, and the boundary line.—Idaho is also holding a convention, believing that a good constitution will secure her admission next session of Congress. The chief question is that of suffrage, owing to the number of Mormons.—Wyoming will hold a convention Sept. 2, and New Mexico Sept. 3.—A territorial convention met at Guthrie, Oklahoma, July 19.

Deaths.—Count Leo Schwabe, "the soldiers' friend," at Beachmont, Mass., July 19, aged about 75. During and since the war he has expended a large fortune in aid of soldiers and sailors, furnishing hospital supplies, libraries, and individual aid. His services were highly esteemed by President Lincoln and other public men. He was of a noble German family, served in the Mexican war, and owned plantations and slaves in South Carolina, freeing the latter at the outbreak of the war.—Alexander Johnston, LL. D., professor of political economy and jurisprudence, at Princeton, N. J., July 20, aged 40. He was the author of several historical works of importance.—William H. Putnam, great-grandson of General Israel Putnam, at Brooklyn, Windham Co., Conn., July 17, aged 75.—Mrs. Elizabeth Wells, widow of Dr. Horace Wells, the discoverer of of anæsthesia, at Hartford, Conn., July 17, aged 71.—Catherine Gaffney, for 30 years a house servant, inherited $30,000 a year ago from a brother, and died July 16, at the Home for Incurables, Fordham, N. Y., aged 66.

From Abroad.—The English government accepts John Morley's proposal of an increased allowance to the Prince of Wales, to provide marriage portions for his children, in place of the proposed special grants.—Annoyed by long delays, Mr. Parnell, July 15, withdrew, with his counsel, from the commission of inquiry.—Another Whitechapel murder took place, July 16, within a few yards of the police, but no arrest was made. This makes the tenth of the fifteen the unknown proposed to commit before giving himself up. Two days later an arrest was made of a man who claimed to be the murderer, but falsely, it is thought.—Minister Lincoln and Russell B. Harrison dined recently with the queen.—The French chamber of deputies has passed a bill providing that no one shall be allowed to contest from more than one department at a time. It also approved a bill granting 58,000,000 francs for the building of war ships.—Boulanger is charged with embezzlement of 253,000 francs.—Millet's "Angelus," which recently brought such a high price at the sale of Secretan pictures, has become the property of the American Art Association.—The dervish leader, Nad-el-Juni, is defiant, and refuses to surrender to General Grenfell.—The emperor of Brazil was fired at in a theatre in Rio Janeiro, July 16, but escaped injury.—A waterspout in the Chan Ping-gee and Ping Yuen districts, China, June 2, flooded the country; seven villages were more or less swept away, and 6,000 persons were drowned.

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Minor Items.

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The car shed of the Lowell (Mass.) street railroad was burned, July 17, with 120 horses, 30 cars, 5 carloads of hay and straw and 400 bushels of oats; loss about $125,000.

The trial of boodler McQuade, at Ballston, N. Y., resulted in his acquittal, July 19.

New York city is vigorously discussing the question of holding a world's fair in 1892.

The Rhode Island House has passed a license bill in which the fees run from $300 to $400.

The North American Salt Company was incorporated at Albany last week with capital of $11,000,000.

Dr. McDow, the slayer of Captain Dawson, has been expelled from the South Carolina Medical Society.

John E. Burton, the Gogebic "iron king," has made an assignment at Milwaukee, with liabilities of $825,000.

The New-Jersey Prohibitionists have nominated George La Monte, a wealthy paper manufacturer, for governor.

The Pennsylvania road has reduced the rate on anthracite coal to Chicago from $4 to $3.50, said to be the lowest figure ever made.

Capt. Daniel Appleton, head of the firm of Appleton Brothers, publishers, has been elected colonel of the Seventh regiment, New-York.

On the farm of Joshua Warfield near Florence, Md., July 18, during a storm, three horses were killed by lightning and eight men stunned.

Several of the Sioux chiefs refuse to sign the new bill on the ground that the Government has, in the past, failed to fulfill treaty obligations.

President Harrison and family are taking a vacation at Deer Park, Md. Mr. Blaine is at Bar Harbor, Me., where the President will visit him in August.

Dubuque, Ia., has had an incursion of sand flies in such swarms that people had to abandon the streets, and wagons used to remove the dead bodies.

Reports of heavy rains and floods come from various points in the west. At Standing Rock agency, Dakota, two Indians were killed by lightning in their wigwams.

A passenger train on the Cairo & Vincennes road was thrown from the track down an embankment near Mt. Carmel, Ill., July 17, and 10 persons seriously injured.

A Brooklyn boy, Arthur Fairchild, spending the summer near Lake Mohegan, Westchester Co., N. Y., sunk into the forgotten shaft of an old silver mine and stayed there two days.

A train filled with miners on the Pennsylvania road was run into near Shamokin, July 17, by two freight cars running wild down a steep grade, and two men were killed and 20 injured.

A storm at Evansville, Ind., July 15, blew down and crossed electric wires which charged buildings and pools of water with electricity, and fireman and horses were knocked down and stunned.

Owing to rain-softened ground the seats of Bristol's circus at Milford, Mass., sunk at an evening exhibition, July 17, and 800 people were thrown to the ground. Many were hurt and some seriously injured.

A severe hailstorm at Lynn, Mass., July 17 so wounded horses that they bled. One dashed through a plate-glass window, others ran wild up and down the streets. Many windows and skylights were broken.

A large boa constrictor got loose in Mr. Charles Reiche's animal store, New-York, last week, and squeezed and swallowed a monkey fastened by a chain. In capturing the snake Mr. Reiche was struck in the hand by its fangs.

C. W. Rich of Richburg, Miss., on whose ground the recent prize fight took place, has been arrested, together with other abettors. The arrest of certain railroad officers is expected to follow. Sullivan arrived in New York July 19.

Cattle in large numbers will be shipped to Europe during the next few months, all the steamer room on lines running to London, Liverpool and Glasgow, from New-York and Boston having been taken up. Low prices here and shortage there, the causes.

Testimony has been taken in New York city in the Kemmler case, as to the effect of electricity on human life, and the witnesses differ materially. Two were produced who had either been struck by lightning or received 1,000-volt shocks without serious injury.

The French in New-York celebrated the centennial of the fall of the Bastile by a meeting on the 14th, and a parade on the 15th of 1,5[illegible] men, which was reviewed in Union Square by Mayor Grant (who received a large bouquet from two young girls), after which there were picnics and fireworks in the evening.

The people of Johnstown, Pa., have protested against the slow action of the flood commission. Gov. Beaver thinks Williamsport, whose lumber industry has been destroyed for a year, is in a more serious condition, the iron industries of Johnstown having been resumed. Five bodies were recovered, July 17. A diver reports many more on the river bottom held by tangled wire.

At an experimental trip of the Campbell air-ship (which has an electric moter to propel it) from Brooklyn, July 16, under charge of Prof. Hogan, the propeller fan was lost and the ship drifted toward the sea. It was seen drifting at sea towards night by a pilot-boat captain, but before he could reach it the balloon was torn from the car and whirled off. The car was not found.

The Fireside.

The Poodle.

The poodle is a dog that can hardly be taken seriously. He is up to so many tricks, and is generally shaved into such fantastic variations, that we look upon him as a sort of low comedian of the canine world. He is a "masher," or "dude," and those who have any serious object in life regard him as contemptuously as they do the dandy of either continent. This is, however, a very unfair way to look at the poodle, as he is one of the most intelligent of his race, and ought not to be regarded in this way because he is the sport of fashion. I shall try, before I have done, to show that he is a useful and intelligent dog, and one which deserves a better fate than has been his lot. Sir Walter Scott represents popular ideas when he says: "The *garçon perruquier* and his bare-bottomed, red eyed poodle, though they are both amusing animals, and play ten thousand monkey-tricks, which are diverting enough; yet there is more of human and dog-like sympathy in the wag of old Trusty's tail than if his rival Toutou had stood on his head for a twelvemonth." I do not wish to say a word against old Trusty, but the Wizard of the North, like too many of the present day, did not give justice to the poodle.

Some months ago an article on this breed, written by Count Henri of Rylandt, appeared in one of the French sporting papers. In this the writer claimed that the poodle is undoubtedly one of the oldest races of dogs; as early as the reign of the Emperor Augustus it was found, partly clipped, sculptured in bas-relief (it is curious how remote this fashion is). We find the first record of this breed in a book illustrated by Conrad Gesner (1555). It is also alluded to in the history and drawings of "Patient Griseld," by Pisturicchio (1454-1513). Martin de Vis (Paul de Vos [?] a celebrated animal painter of the Snyder school, born 80 years later, and specially famous for his painting of dogs), a painter of the 16th century, depicts him in his present form, in a picture called "Robin and his dog." Sir Edwin Landseer also immortalizes him as the type of sagacity. He makes a capital house dog, for his size, and is a lively companion with his diverting tricks. "Minuito, the professor of arithmetic, and the poodle of the Pont Neuf, are famous among others for their performances. Our ancestors employed the poodle as a retriever of water fowl—hence the Latin name '*Canis extrarius aquaticus*' and 'caniche' is derived from 'canard.' Very brisk and agile, fearing nothing, and able in case of need to defend his master, the poodle, nevertheless, sometimes cringes and becomes cowardly under the blows he receives in training. He is found in almost every country in Europe, only differing a little in build. There are two varieties of poodles, the corded and wooly-coated, similar in build, the coat being the only difference; the curls of the wooly-coated dogs are combed and puffed out, while the corded coated are kept as long as possible, and in the finest specimens they actually touch the ground. The colors are black and white."

The author of "British Dogs" thus writes on the qualities of the poodle: "On the continent (of Europe), particularly in France and Southern Germany, I understand the larger-sized poodles are used with the gun, especially in snipe and waterfowl shooting, and are found to be highly useful. There is no lack of reasoning power in the poodle, and his wide-spread olfactories seize the slightest particle of the tainted gale, and unerringly lead him to his prey; while the spaniel crosses, or even a rough terrier or a hound one, would improve his coat for marsh and river work, and give him more dash and go. In this country pure poodles are not worked, nor is his nearest English congener, the old water-dog, common in the beginning of the century, any longer to be found, unless it be in rare instances. The remarkably high intelligence of the poodle and his marvelous powers of scent mark him out to the sportsman as worthy of a higher destiny than to be compulsorily habited as the buffoon of the canine race, merely to pander to a frivolous taste. To three-parts shave a long, thick-coated dog, and in this climate exhibit him on a show bench in mid-winter is not right." Youatt, writing of this dog, says: "It should be remembered that he was not designed by nature to be thus exposed to the cold of winter, and that there are

no dogs so liable to rheumatism, and that rheumatism degenerates into palsy." The poodle is *par excellence* the "tricky dog;" a high intelligence, strong love for his master, a naturally cheerful temper, and a liking for fun, make him a bright and cheerful companion, and a very apt scholar, and innumerable are the tricks he may be taught."

The following are the points adopted by the English Poodle Club for this breed:

BLACK POODLES.—*General Appearance*—A strong, active and very intelligent dog; cobby in form and massively coated with long cordy hair. *Head*—Long; the skull large, with ample brain space; wide between the ears, and a broad occipital bone, and small peak forehead over the eyes, well arched, and the whole thickly coated with curly or cordy hair. *Muzzle*—Long, but not pointed, strong, deep and square; the juncture with the nose well defined, but not too much so, the teeth even, strong and white. *Eyes*—Small, dark and brilliant, with expression of great intelligence, set at right angles with the line of the face. *Nose*—Large and perfectly black, with wide nostrils. *Ears*—Very long, lying close to the head, and well covered with curls or cords. *Neck*—Well proportioned and strong, admitting a high and dignified carriage of the head. *Fore Legs*—Perfectly straight and very muscular, and set on "racing lines" long enough to raise the body well off the ground, but not "leggy." *Hind Legs*—Very muscular, fairly bent with low hocks. *Feet*—Large, strong and rather broad, but standing well on the toes, and well formed. *Nails*—Black, pad showing hard. *Back*—Short, with the body well ribbed up, loins strong, and muscular but lean. *Tail*—Carried at an angle of 45°, with drooping ringlets of cords. *Coat*—If corded, thick and strong and hanging in cords; if curly, the curls close and thick, and hair of good texture. *Weight*—Large, 60 lbs.; medium, 40 lbs.; small, 20 lbs. or less.

BLACK AND RED POODLES.—The above mentioned points are maintained for this class, with the exception of the following: *Eyes*—Yellow or wall-eyed (light blue), free from black rims round the lids. *Nose*—Red or liver-color. *Nails*—Red or pink. *Back*—Spots (or ticks) red or liver-color, and the whole body exempt from black ticks; only these three colors—black, white and red—are admissible, and should never be mixed. N. B.—*Clipping or Shaving*—We very strongly advise that only one third of the body be shaved or clipped, and that the hair on the forehead be left untouched.

STEPHEN BEALE.

The National Flower.—I have been much interested in the various unlike propositions for a national flower, some of which are the following: The Morning Glory, beautiful, but very evanescent—I hope not the characteristic of this nation; the Mountain Laurel, or Kalmia, also beautiful, but a deadly poison to some farm animals, and has thus killed hundreds of American sheep—hardly suitable for a national flower. The Golden-rod is admired by some, but has the name of a troublesome weed, known as "the Plain-weed" in many places, and difficult to eradicate. The Pumpkin blossom has been proposed, and has some good points. The large flowering Magnolia would have an imposing appearance, and is exclusively American. But why does every one skip over or omit the tassels of the great American corn plant, worth more a thousand fold than all those ornamentals, and giving to the American people two thousand million bushels annually? When the people all agree, there will be no difficulty in adopting the plant.

SUBSCRIBE.

Midsummer Blooms.

One of the pleasantest features of a summer drive through the country is to know just where to go to find the particular object one wishes to enjoy; to know that on this shady road we are sure to see the dark, rose tinted balls of the wild clematis linked in and interlaced through the rail fences for miles—that off in that direction stands a beautiful tulip tree, a striking object of the landscape, or back in those deep woods is a wealth of pure white trilliums which we may have for the gathering.

We grow to love these places just in proportion as we frequent them. They are invested with the interest that attaches itself to human friends, who are loveable, with whom we are associated, and it is a pure, refined pleasure that anticipates the getting back each succeeding summer to revisit these charming spots where we are near to Nature's heart.

The other day, behind the fleet-footed Betsy, we rolled along the gravelly pikes or across country "dirt" roads in quest of our last year's loves—the July flowers. Brilliant corn lilies, destitute of the rich black flecks that mark the regal tiger lily, blossomed in farmhouse dooryards, and bowed their golden chalices to the wind. These were private property and must not be touched, but the church altar on "Children's Day" need not lack for floral decorations when there was a whole acre of wild pink phlox from which to cull bright blooms to place in masses round the pulpit. In the corners of the fences and boldly growing to the edge of the roadside were tall stalks showing the flaming scarlet flower called Indian pink, twin sister to the delicate cypress in color and form. These would show up well against the white feathery fronds of an unknown plant that grew profusely on every road we passed. Delicate as a mist in its setting of dark green it beautified hill and plain, but withered early and lost its beauty when taken from its native home.

Near a certain old gate we knew we should find a generous supply of what my companion called red sunflowers, of the exact shade known in millinery as "old pink," which color harmonized well with the prickly centre of the flower, where later in the season its yellowish red is turned into a rich maroon. It belongs to the daisy family and gives color and beauty to the Kansas prairies, where it grows in splendid luxuriance. Coarse, brilliant and rugged, it partakes of the character of the wild West, and so, to distinguish it in future we agreed to call it the "Buffalo Bill daisy." Not very euphonious, it is true, but we were studying aptness rather than euphony.

In another place we stopped to add to our treasures great bunches of pink yarrow that reminded one of a bed of verbenas that had somehow strayed from some lady's garden and taken root on the highway, there to adorn the wayside and please the traveler's eye. So beautiful is this flower with its deep pink and tiny white circle set in the centre like a star, that I wondered it had not taken its place among the beautiful ones in our yards. Pungent, but pleasant in perfume, it seems fitted for companionship with more favored plants. Farther along we discovered quantities of the gorgeous "pleurisy root," as the country people term it, but which is dignified in botany by the name of *asclepias tuberosa*, its flame-colored clusters rising above the green-like fairy balls. It is hard to associate anything so handsome as this gay flower with racking pain and disease, and if we were disposed to moralize we might find here a theme.

Then we saw purple sage skirting the meadows, and green banks of sedge and low thickets of hazel, among which the brown coated thrushes sang, and, like Mrs. Browning's heroine, Aurora Leigh—

"Ankle deep in English grass I leaped,
And clapped my hands and called all very fair."

But when we came to the old fence on the Liberty road, which last year was glorified by the white bells of the bindweed, it was bare, its baldness showing up brown and out of tune with the day. The thrifty but cruel farmer had been the vandal who robbed the spot of its beauty; the picturesque had been sacrificed to gain, and its loveliness was gone forever.

Why will not farmers leave undisturbed a few—just a few—pretty wild things to gladden our hearts? Why must everything be brought down to the prosaic level of utility? It will not render the potatoes less palatable or the oats less wholesome, that the field has a graceful setting; and with all these broad acres of grain, surely a little spot may be spared to beauty only.

It is the custom in this little town to decorate the churches during summer with flowers provided by the young people of the congregation, and it is so divided that the pleasant duty comes to each set of decorators only once a month, and every Saturday the woods are merry with eager blossom-gatherers. This pretty custom must in time die out if the industrious tiller of the soil persistently roots out and destroys these lovely ornaments that fringe the fields. "Ob, woodman, spare that tree!"

GARRY OWEN GAINES.

Belle Jonda Inn, O.

More about the Poison Ivy.

ED. COUNTRY GENTLEMAN.—I have found a strong solution of acetate of lead, commonly called sugar of lead, to be an efficient remedy for the irruption caused by poison ivy, the lead-water being both healing and cooling in its nature. It is also very effective in alleying the irritation caused by the stings and bites of various insects, and in healing what is called sunburn, the blistering of a tender skin from exposure to hot sunshine. This remedy should be applied only outwardly, as it is poison itself when taken internally.

I should be very glad to have, through the pages of the COUNTRY GENTLEMAN, the receipt mentioned by the same correspondent for canning sweet corn. We have tried all the ways we ever heard of without success.

Asheville, Ky. H. B.

—— In answer to recent inquiries about the advisability of eating the leaves of poison ivy, to prevent the poison affecting the system, I have always been very susceptible to the influence of the poison, and when in my teens was induced to eat the leaves, in hopes I would be relieved from the misery I suffered from it. In a few hours my tongue and throat began to swell, until I could not swallow, and finally my whole body, until I could neither see nor walk and was a frightful looking object. The skin on my legs burst open and was running sores for weeks. My sound, perfect teeth very soon began to decay, and I have suffered untold misery from toothache ever since, and have not been free from the influence of the poison. Have found in later years that pure sweet oil rubbed on wherever there is the slightest appearance of poison, is a safe, painless and sure remedy. Also rubbed on the skin before going where one is liable to come in contact with it, will prevent evil consequences. I should be glad if every one knew the comfort of this simple remedy.

Mercer County, Pa. J. H. H.

—— Wherever the poison ivy grows, a sure and simple antidote also abounds, in the "deadly nightshade," or belladonna. Take the leaves and bruise them in cream until a thick green paste is formed, and apply this to the affected parts with a feather; it affords instant relief; apply as often as affected parts become dry. The nightshade is a dark green weed, the leaves being full of small holes; has at first small flowers, followed by small green berries. I give description from the fact that although a very common weed it is surprising how few people are acquainted with it. It is a rank narcotic poison, and care should be taken to keep the mixture out of reach of children or animals. Many persons are exempt from injurious effects in handling poison

ivy, while others are very susceptible to it. It may be possible for the former to chew the ivy and not be poisoned by it, but I would not advise them to try. The most horrible sight the writer ever witnessed was a young lady, who was poisoned by chewing it; her life was saved with difficulty by the use of the right shade, or belladonna, after all other remedies had failed. E. *Brazil, Ind.*

How to Make a Kaleidoscope.—A delightful entertainment for the children can be given by making a kaleidoscope of the piano and a few bits of different colored worsteds or theme paper, or both. Open the piano, then raise the cover that forms the front of the instrument when closed, not upright, but at an angle of forty-five degrees, and keep it in place by music books (or a board) placed the entire length of it, at the same angle.

Place a lamp where it is usually placed, at the left of the key-board; the light from it will then strike the two polished surfaces of the cover. Stand at the side of the piano before the triangular opening, and slowly move or entangle the worsteds or paper, taking care not to hold them so close to the opening that the light cannot strike the polished wood. Let the children stand at the other end of the piano and look through the opening. Listen to their exclamations of delight and you will feel repaid for whatever time and labor the display has cost. LILLIAN MAYNE.

THE WESTERN SOLDIER.—They assumed a right of criticism towards their regimental and company officers that was almost as free as that exercised by the average voter with regard to political officials. In some instances they did injustice, no doubt; but, generally speaking, their estimates were sagacious and proper. They had no patience with pretense of any description, and they were quick to detect it. Thus, if a colonel invested his headquarters with unnecessary pomp and formality, as a colonel was occasionally known to do, they would nudge one another in passing and exchange looks and comments that rarely failed to produce a change. On one occasion a lieutenant-colonel, riding out to battle, forfeited the esteem of his regiment by holding a picture of his wife in his hand and gazing fixedly upon it; but he afterwards restored himself to favor by a daring act that cost him two ugly wounds. Another officer of the same rank, on a toilsome march, gained a cheer by alighting from his horse and giving his place in the saddle to a limping soldier; but when the major at his side did the same thing there was no response. The first had performed a kindness without prompting, while the second was a mere imitator. It was by such distinctions that officers were notified of the sharp watch that was being kept upon them, and admonished that they were mortal as well as those who wore no shoulder straps. Now and then the instruction took a more amusing turn, as when a captain, noted for his conceit, undertook to lecture his company upon the necessity of increased respect for officers, and was checked by a droll fellow who said, with a grin and an extravagant salute, "Cap., I used to know you when you made harness."—*Century.*

OCEAN TELEGRAPHY.—Only the feeblest currents should be used on submarine lines, since heavy pulses which could be employed with impunity on land lines, if they did not soon destroy the cable-covering would, at least, tend to develop faults which otherwise might long remain latent. Defects in cable covering that otherwise may not lead to harm admit moisture, and hence, under the action of a strong current, oxides are quickly formed, destroying insulation. The necessary use, in ocean telegraphy, of the lightest currents has led to the development of a class of recording instruments remarkable for delicacy of action—notably the siphon recorder, which indicates the electric impulses by a wavy ink-line on a tape, and the reflecting galvanometer, which causes a spot of light to move from right to left in a darkened room. With these recorders and thirty cells of battery, messages sent across the Atlantic are telegraphically reproduced in ink at the rate of from 20 to 25 words a minute, each way, the cable being duplexed. But for electrostatic induction a single cell of battery would suffice for transmission from the earth to the moon, if those bodies could be connected by a wire of the size used in ocean cables.—*Scribner.*

THE OX AND THE PEASANT.—An Ox who had been worked rather hard during a rush of Labor made his complaints to the Ass and the Horse, and by them was Advised to demand his Rights. He therefore went to his Owner and said: "I have come to Demand Shorter hours of Labor." "Very well," replied the Peasant, and next day he gave the Ox only three-quarters of a day, but at the same time only three quarters feed. "Here, how is this?" Demanded the Ox as he surveyed his Rations. "I must Measure your Feed to Agree with your Work," replied the Peasant. "If you Work less, my profits are less, and I must cut down my outgo." "But what I Demanded was less Work and full Feed:" "Well, then, I'll have to close out and let you go. To lose both your Labor and your Feed would soon Bankrupt me."

Domestic Economy.

Canning Fruit.

As the summer advances and all kinds of fruit and berries are ripening in turn, the country housekeeper has her hands full making the most of each variety in its season. She knows that when the frost comes and nips every green thing in garden and orchard she will be wofully at a loss for something fresh and wholesome to set before her husband and little ones unless she has that most convenient of reserve funds—an abundant supply of canned fruit to fall back upon.

And when unexpected visitors arrive, just before dinner, as they often do in the country, how comfortable she feels when her mind reverts to the nice rows of canned fruit ranged on the cellar shelves waiting for some such emergency, with their line of labels turned toward the front, like files of little soldiers ready for service. Here without a moment's delay is a delicious dessert, supplemented with cream and sugar and flanked by a loaf of delicate home made bread, or, if it be too far from baking day, a plate of light flaky biscuit.

But the art of canning fruit like most a others founded upon scientific principles, must be thoroughly understood, otherwise the disappointed matron will find when she begins to inspect her store that the contents of this jar has moulded, that has become sour, and a third, though not exactly the one or the other, has turned watery and insipid and is totally unfit for use. Experience is of course the best teacher, for the exigencies of each kind of fruit require a different treatment; still there are a few general rules that one should always bear in mind.

The first is that the fruit should be perfectly sweet and in good condition in every respect when used; if raspberries for instance, are allowed to stand over night, they might just as well be thrown to the pigs or converted into vinegar. Strawberries should be gathered in shallow vessels in order that the ones first gathered shall not be completely crushed, while peaches, pears, and apples, must be picked from the tree by hand.

Another rule is to have all the jars freshly washed, wiped dry, and put near enough to the stove to heat gradually, having previously fitted a top and rubber to each jar. How many times I have filled a jar to the brim only to find that there was not a top on the place to fit, I should not like to admit.

A third requisite is that the jar should be quite warm, hot almost, when the first spoonful of fruit touches it; this will permit you to put in the fruit boiling hot without danger of breaking the jar. Another precaution, and one which can scarcely be too much insisted on, is that the rim of the jar should be wiped dry before the top is screwed down; be careful also to fill the jar as near the brim as possible without running it over, as the most important thing of all is that the air should be entirely excluded. For several days following try the tops every day, for it is not often you can get them really tight the first time. We have lost the contents of numbers of jars simply through neglect of this one thing.

Many persons advise canning fruit without sugar, declaring that the sugar adds nothing to its keeping quality, but our experience not only proves that fruit somewhat sweetened is much more likely to keep, but also that far less sugar is required to render it palatable when eaten. It is almost impossible to sweeten apples that have been canned without sugar, while peaches and pears have a certain vapid taste that is not at all desirable though they are not quite so sour. Nearly all fruit is nicer canned in such a manner as to preserve the pieces in their original shape, and this is best accomplished by making a thin syrup and having it boiling hot when the peaches are dropped into it. The fruit should then boil but a few minutes and that without stirring, except to press down those pieces that persist in floating on top. When all is ready, fill the jar with the pieces of fruit, dipping them up gently without breaking the others, and pour the syrup over it, taking care that all the tiny bubbles shall rise to the top and disappear. If any syrup remains in the kettle it may be strained and used the second time, as a very little sugar goes a long way in canning fruit.

A nice way to can tomatoes is to drop them in the jar as soon as they are peeled, pouring over them the juice that has run from them during the operation. Then place the jars in a large baking pan that has been partially filled with cold water, on the stove, first taking the precaution to lay a folded cloth in the bottom of the pan to prevent the heat from breaking the jars. Have ready some tomatoes in another vessel on the stove, for as those in the jars get hot they shrink considerably and need to be replenished from another source. After boiling for only a few minutes fill the jars to the brim, wipe dry, and screw down the tops. Canned in this way tomatoes retain their perfect shape and almost their delightful flavor, and when sliced cold and sprinkled lightly with salt and pepper can scarcely be distinguished from the fresh fruit.

When preparing apples, peaches, pears, and other fruit of that nature for canning, always have a vessel of cold water ready to drop the pieces into; the water not only keeps the fruit firm but prevents its turning dark. If you want your fruit to look specially nice, be careful to cut away all bruised portions, every particle of the core, and keep the pieces as large as possible.

A cool, dark cellar, where the temperature never drops down to the freezing point in winter, or rises to summer heat, is the best place for keeping fruit in glass jars; though if much light be admitted each jar should be enveloped in several thicknesses of brown paper, for it is believed that the action of sunlight causes fruit and vegetables to ferment. They will keep very nicely, however, during summer and early autumn in a moderately cool closet, remembering to remove them before the freezing winter weather, else both the jars and their contents will be lost, and in lifting them be careful to keep the jars in an upright position and to jostle them as little as possible.

After one understands the true method of canning and keeping fruit, it seems very simple, and not at all the mystery which the uninitiated complain of, while the pleasure and great convenience of having it always ready will fully repay even the busiest housekeeper for the time spent in mastering the art.

HORTENSE DUDLEY.

Can we Drive away the Flies?

EDS COUNTRY GENTLEMAN—Can you tell me, through the columns of your paper, if there is anything better to keep flies from the piazza and rooms of a country dwelling than fly-paper? The latter is a very poor remedy. Screen doors, while in use, are little protection. Is there any known substance to mix with paint, or something poisonous to eat, or certain plants which they dislike enough, to keep them off? F. M. *Albany, N. Y.*

[*Answer by Dr. J. A. LINTNER, State Entomologist.*]

Screen doors and window screens properly used will protect dwelling rooms from the entrance of the common house fly, which is usually so serious an annoyance during the month of August, and which this year, from the remarkable meteorological conditions, has made its appearance weeks in advance of its usual time. The house-fly, *Musca domestica*, is a product of the manure pile, in which its eggs are deposited to hatch in twenty-four hours, and in from ten to fifteen days thereafter to give forth the perfect fly. No sooner does it attain its dual winged stage than it betakes itself to our dwellings, to which it is attracted by the food to be found therein. We are told that it serves an excellent purpose in nature as a scavenger, and that an unusual abundance of flies indicates a healthful season, but these considerations fail to lessen the annoyance that its presence ever causes.

When, from the absence of screens, free ingress through open doors and windows and attractions offered by food, the flies have found entrance within doors in excessive number, they may be destroyed in the following manner. The windows and doors of the infested rooms having been closed, a few puffs from an insect powder bellows of pyrethrum powder (Persian insect powder) may be blown in different parts of the room, directing the bellows toward the ceiling for better distribution, or the powder may be simply thrown in small quantities from the hand. If the pyrethrum is fresh and pure its effect will be seen in a few minutes, first by an unsteady gait of the flies, then by their falling or turning over on their backs, and shortly thereafter dying from paralysis. If an undue quantity of the powder be not used, perhaps the only objection to its use in this manner, viz., the yellow dust that it deposits on the furniture will not be a serious one. It is decidedly preferable to the use of fly paper, which is quite unsatisfactory from its continually drawing fresh supplies from out of doors replacing the stain.

It is said that an effectual way of driving flies from a kitchen and adjoining apartments, is to burn a small lump of camphor gum on the stove, and that mosquitoes are even more quickly repelled by the fumes of camphor. In sleeping apartments the gum may be volatilized over a kerosene lamp or gas-burner.

I know of no method by which flies may be kept away from an open piazza. Possibly if the floors and walls were sprayed occasionally with carbolic acid or kerosene in water, the odor would prove repellant to them.

What Shall we Eat?

"Oh dear!" said Mrs. Grant to a lady friend that was calling on her, "I am so troubled to know what to get to eat this hot weather. Yesterday we had pork steak, and it made all of us sick, and I do not feel as if I ever could taste of another bit of fresh pork."

"And I never would, in warm weather," replied Mrs. Lee. "I think it is very unhealthful food; it is exceedingly apt to bring on sickness; I am not over-fond of it at any season. Indeed, I do not get much meat for my family of any kind in the summer months. Mutton and beef are the safest of fresh meats, but salted meats are safer still."

"You eat chicken and turkey at any time?" she asked.

"No, not in hot weather at all; I have seen some cases of colic caused by eating poultry."

"I wonder if that was what made Mr. Grant and the children so sick last Sunday! We had to call the physician; I thought they would die."

"Were you sick too?" inquired Mrs. Lee.

"No, I got so warm getting dinner that I could not eat anything, but the rest were very sick."

"I presume it was the chicken then; you made it rich, and they were hungry of course."

"Yes, I had dumplings and onions; the doctor said it was the vegetables that made them so sick."

"I should differ with him. Vegetables are the best diet that one can live on in the summer; I know by experience. I use all kinds, and they never sicken us. I avoid all kinds of grease; but we use a great deal of milk—and rice is healthy, also fresh eggs; cooked in various ways, they are more nourishing than meats, any way," said Mrs. Lee.

"Don't you use some salt meats?" asked Mrs. Grant.

"Yes, occasionally; I boil a bit of salt pork with my string beans or peas or cabbage, and once in a while fry a little quite crispy for Mr. Lee, but the children do not care for it; sometimes we have broiled ham, or dried beef with a cream gravy and salt fish. Oh, one can get on nicely without fresh meat for two or three months, if they only think so, and fruit, berries and vegetables are ever so much better. Good bread and butter, with a saucer of berries, is the only dessert I care for, and such simple, plain fare keeps the blood cool, and makes one feel better, too, and is less work. Just try it, Mrs. Grant, and I will warrant you will have no doctors' bills to pay, or cases of cholic, with the children. I am older than you, and have been through with lots of tribulation, with sickness, and have acquired wisdom by experience, and I find that the less meat we use in hot weather the healthier we are, and the less we suffer from heat. As the lamplighter says, 'it is 'cordin' to natur'."

"But Mrs. Lee, you use meat in cold weather?"

"Oh, yes indeed, lots of it, especially beef and poultry. We need it then, and it does us good, I think. Mutton and lamb are the healthfulest. I am too much of a Jew to fancy fresh fat pork; still we do use it some in winter, especially when made into sausage: we are very fond of it—but really, I have given you quite an essay, and I must run home and shell my peas for dinner."

"I am real glad I talked with you, for I think there is something in it, for some of us have been sick, nearly all the time, since May, and I do not think one of your family has had to call in a physician for a year," said Mrs. Grant.

"No indeed, we have been blessed with good health, and I do think what we eat has much to do with our health, comfort and happiness." LILY LEE.

Removing Stains.—I would like to ask some of your many readers, if any one can tell me what will take out the stain from a white counterpane, caused by a liniment made out of linseed oil and hartshorn. R. R. M.

Mt. Holly, N. J.

Transfers of Thoroughbred Cattle.

NAME.	SELLER.	BUYER.
Major Graham, 2d Bull	J H Saunders	Wm Graham
Lancaster, 2d Bull	Wm Graham	J H Saunders
Lancaster, 3d Bull	J H Saunders	Wm Graham
Lancaster, 4th Bull	Wm Graham	J H Saunders
Lancaster, 5th Bull	J H Saunders	Wm Graham
Lady, 7 Calves, 7 Heifers		
Lancaster, 6th Bull	Wm Graham	A B Lowe
Lancaster, 7th Bull	A B Lowe	C Reynolds, Jr.
Miss Wilson, 3d Cow & H. Rose and Heifer		
Miss Wilson, 4th Cow & Heifer and Heifer		
Lancaster, 8th Bull	Reynolds, Jr.	Elmore Smith
Lancaster, 9th Bull	Elmore Smith	C Reynolds, Jr.
American Ocean and 3d Heifer of Brookhill, J F		
Lancaster, 10th Bull	Reynolds, Jr.	Wm Graham
Lancaster, 11th Bull	Wm Graham	and Little Bull, C O
Fisher, 1 Calf		
Miss Wilson, 5th Heifer Bella, C C Fisher, C W Bail-		
ey, 1 Calf		
Miss Wilson, 6th Heifer Lancaster, C W Bailey		
Miss Wilson, 7th Heifer Constance, F W Lacy,		
Miss Wilson, 8th Heifer Minnie, Fowler, W		
Bailey, 1 Calf		
Miss Wilson, 9th Heifer Lancaster, C W Bailey,		
1 Calf		
Brooks, 71	J M. Winslow, Sec'y.	

American Guernsey Cattle Club.

NAME.	SELLER.	BUYER.
Antonia, Spicy Lee and Rogers, G H Gordon, W		
Brook, 1 Calf		
Bessie, 2d, W Brook	Wm Rogers	
Belgar No. 2, W Brook	E F Conrad	
Belgar No. 3, W Brook	E F Conrad	
Fountain's Daughter, Jersey Daughter and Fountain's		
Daughter's Daughter, Jersey Daughter and Fountain's		
Daughter's Daughter's Daughter, Jersey Daughter		
and Fountain's Daughter's Daughter's Daughter's Son		
of Agricultural, H Brooks, Jr, W Brook		
Lady Jane 2d of Nancy and Rose, E F Conrad, W		
Brook, 1 Calf		
Lady Jane 2d of Nancy and Rose, E F Conrad, W		
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Boyle Morris, J. H. Underwood, G. T. Green
Brooks Timothy, J. H. Underwood, G. T. Green
Brown Wm. H., J. H. Underwood, G. T. Green
Bryant Wm. C., J. H. Underwood, G. T. Green
Bryant Wm. C., Jr., J. H. Underwood, G. T. Green
Bryant Wm. C., 3d, J. H. Underwood, G. T. Green
Bryant Wm. C., 4th, J. H. Underwood, G. T. Green
Bryant Wm. C., 5th, J. H. Underwood, G. T. Green
Bryant Wm. C., 6th, J. H. Underwood, G. T. Green
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NEW YORK COLLEGE OF VETERINARY SURGEONS, 237 and 239 East 26th Street, between 2d and 3d Avenues. Session of 1889-1890 begins Tuesday, Oct. 1st, 1889. For Announcement, address, JAMES LAW, M. D., V. S., Ithaca, N. Y.

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ALBANY, SEPTEMBER 9 TO 20, 1889.
Entries Close August 19.
For Prize List and new Premium, address
A. J. C. SKINNER, Sec'y, Albany, N. Y.

NEW - ENGLAND FAIR
At Worcester, Mass.,
September 3, 4, 5 & 6, 1889.
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OF THE
New-England Agricultural Society,
AND
TWENTY-FIRST ANNUAL FAIR
OF THE
Worcester Agricultural Society,
$10,000 OFFERED IN PREMIUMS.
37th Exhibition of Stock, Implements, Machinery, Mechanical Manufactures, Fine Arts, Domestic Industry, Horticulture, Floriculture, Agriculture, Natural History, Etc.
HON. DANIEL WHEELER, Secretary.
JOHN W. LINCOLN, President.

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FOR SALE OR EXCHANGE—Seven Acres of Land, with House and Barn, on the Plank Road, four miles from Central Park, New York. Will exchange for Farm in Central New York. Address, JOHN, Box 1, Rochester, N. Y.

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FOR SALE—The old Gen. Lee FARM in Clarkson, Monroe Co., N. Y., 10 miles west of Rochester, on the Ridge Road. Contains 100 acres, 70 in meadow, 30 in orchard. Good buildings, and all necessary outbuildings. Address as a final offer, $6,000. Terms, one-half cash, balance on mortgage. Address, BOX 1, Rochester, N. Y.

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KILLS BEDBUGS.
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THE CULTIVATOR & COUNTRY GENTLEMAN

FOR THE FARM AND THE FIRESIDE.

Conducted Fifty-Ninth Year.

ALBANY, N. Y., AUGUST 1, 1889.

Conducted Conscientiously. Vol. LIV—No. 1908.

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TO BUTTER MAKERS AND CREAMERY-MEN.

FOR SALE—Second-hand Butter-Worker, in good condition, at reduced price. Also, a Second-hand Creamery Can, 1,000 gallons capacity. Address, THE BUTTER BOWL, Box 1, Utica, N. Y.

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FOR SALE—One of the handsomest MARES in Canada. Apply Hodgkinson, 9 Toronto Street, Toronto, Ont. [1910]

FOR SALE—Two Jersey Bull Calves, 6 months old. Address H. W. Jones, Box 1, Cedarville, N. J. [1910]

FOR SALE—IMPORTED HORNED DORSET EWES.

I expect to receive a large number of these sheep about the middle of August, and will be glad to book orders for them at the lowest prices. Address, JOHN H. SANBORN, Warren, Warren Co., N. Y. [1910]

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The above Jersey Bull descended out of my herd of registered cows. Solid color, solid horns, and of the registered type. Address,

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THE CULTIVATOR AND Country Gentleman

Albany, Aug. 1, 1889.

The World's Fair at Paris.

PARIS, July 8, 1889.

EDS. COUNTRY GENTLEMAN—Four days spent at the Paris "Universal Exposition" have enabled me, in some measure, to grow up to a comprehension of its vastness and its value. By its value I have reference to its completeness as a "world's fair," a representation of the products of man's labor and skill in all countries, a partial gazetteer of the world's material progress. The value of its influence upon France and other countries has yet to be seen. Doubtless it will not be small. Who can measure the value of our Centennial Exhibition in 1876 upon the United States? From it we date much of our advancement in architecture and other arts, our development in many manufactures, and a great enlightenment of our people.

Some of the readers of the COUNTRY GENTLEMAN, remembering the exhibits of live stock and in many other departments of agriculture at our Centennial, may suppose that they would find the like at Paris, but there are none such except the exhibits of agricultural machinery, grain and food products. If there are no domestic animals within the inclosures, the American will feel satisfied by examining the horses outside—those at work upon the street railway lines and in the heavy omnibus service, and also those upon the stylish Parisian carriages. The latter are often of the French Coach type, and are superb in every way—fit for their elegant service in this most magnificent city of cities. Those animals employed in heavy work are Percherons or Percheron-Normans. A Paris omnibus is an immense affair, carrying eighteen persons inside and as many more on top. Three stallions, or three mares, are hitched abreast and give a magnificent exhibition of animal power. Of course my readers know that horses are rarely ever castrated in France. The streets are noisy with their neighing, but beyond this little inconvenience is experienced.

The best exhibit connected with agriculture is the superb collection of models of farms and farm buildings, representing those of all countries. There is here much to learn. It is interesting to find, as might reasonably be expected, that man everywhere meets the requirements of his situation, determined by climate and soils, by such means as are adapted thereto. Yet each country has something which others might imitate with advantage.

There are six classes of horticultural exhibits, half of them belonging to the ornamental departments. The most interesting one to me was that of "orchards and fruit cultivation." The French people excel in the cultivation of many fruits, among them grapes, pears, plums, apricots and cherries. Their vineyard systems are not suited to American conditions. We already practice some of their methods with pears and plums. We might profitably imitate their *espalier* training of apricots, but not against the south sides of walls. In our climate the warmth of a few early spring days so pushes the blooms forward that later cold destroys them. Near New-York I have had good success in training them upon north exposures where the circulation is kept back, and no injury from late frosts results. For several years I have not missed a regular crop of excellent fruit.

French cherries are particularly fine. The Paris fruit stands are now loaded with many varieties of the choicest quality. Never before have I seen May Dukes of such surpassing excellence.

The organizers of the exhibition have wisely provided for international meetings on special subjects, to be held in the Palais de Trocadéro. This week is devoted to those on agriculture. I regret that my time has not permitted my attending them. I hear them spoken of as very interesting.

America's exhibit is greatest in the department of machinery and useful inventions. In our electrical exhibit we outstrip the world. Edison's inventions are always surrounded by admiring throngs.

France makes her greatest show in those manufactures which she sells to the rest of the world. Her works of art are almost numberless. Her sculptors and painters seem to delight most in scenes of carnage and destruction, and in representing the human figure in the state which the Frenchman considers glorious—in a wealth of nothingness of clothing. The Frenchman's ideas of war are peculiar. In one of the divisions is a magnificent building containing what is called an exhibition of the progress of civilization. It is in five departments, and the chief one is of military science. We might suppose that this has been a cause of retrogression rather than of advancement, and yet Hosea Biglow put some truth in the lines—

> "Civilization does git furrard
> *Sometimes*, upon a powder cart,"

An international peace conference has just been held in Paris. A resolution was offered calling upon European nations to reduce their armies. A prominent Frenchman advocated it, but said it must not apply to France; if it was intended to apply to her, he would immediately leave the hall!

I have greatly enjoyed a trip through Normandy. Her hillsides and valleys are the most fertile in France. Upon the former many promising colts were grazing, and getting the quality of wind and bone and feet which limestone hill pastures give to stock reared upon them. In the valleys and upon the broad plains no fences are seen. Cows are tethered upon the grass, and grain is cultivated to the roadside. The little patches of different crops give a crazy-quilt appearance to the landscape. This comes of the small "peasant-holdings" of the land. The French peasant not only gets a living for his family, but saves money, upon a farm of less than four acres, and sets a valuable example to all the world in using every inch of land and in practicing wise economies. I have seen three or four hundred acres with not more than a quarter acre of one crop together. Farmers rarely live upon the lands they till. Those of a large section of country live together in a village, and go out with their wives and children to their work. This has some conveniences, but the custom had its origin in remote times, as best suited to defence in time of war. It is the same in Germany. The wheat and rye harvests are now going on, but not a mowing or reaping machine have I seen in any field. A straight-snathed scythe and the sickle do all the work.

The French are truly a wonderful people, but in nothing else are they so wonderful as in their ability to live well—yes, elegantly—upon a smaller allowance, or with smaller opportunities, than would be sufficient for the bare subsistence of others. JAMES WOOD.

Restoring Meadow Lands.

EDS. COUNTRY GENTLEMAN—Two years ago, just after haying, I took up two pieces of what we term, "run-out meadow," by which we mean that the clover and timothy had given place to ox-eye daisies, June grass, &c. One piece, of about three acres, I turned down carefully, turning over every sod. I harrowed it down fine, sowed on timothy and red top, but put on no fertilizer, which I now see was a mistake, as a top dressing of two or three hundred pounds of phosphate per acre would have given the seeding a vigorous start, enabling it better to withstand the freezing and thawing of winter and early spring.

During the winter I top dressed the entire piece with barn manure. When spring opened I found the heavy frosts had destroyed much of the seeding, so I sowed it over again with a mixture of medium red clover, alsike clover and timothy, harrowed it in and rolled it down.

I think I promised about that time to give the readers of the COUNTRY GENTLEMAN the result of the experiment. Last season the grass we cut was fine and short, little more than a good aftermath. We have just finished harvesting the hay on this piece, and where two years ago we got three loads, we got this season thirteen of as fine quality of hay as I ever saw. The same fall, as soon as possible after haying, I turned over another field of meadow which had cut but a feeble growth of daisies and wire grass, being careful as before to have it well turned over.

The following spring this lot was very thoroughly harrowed, and sown to oats, with 300 lbs. of Bradley's dissolved bone to the acre, and seeded to clover and timothy. We harvested last season a heavy crop of oats and secured a very fine seeding. During the winter we top dressed this field with barn manure, except an acre or two where the snow was too deep to get around. This field is not yet cut, owing to the continued wet weather. A friend who is visiting us, passing through it declared it would cut at least three tons of hay to the acre. At any rate the crop is simply immense. I have a piece of some four or five acres, which is a little too wet for good oat ground, especially in a season like this, which I propose to treat in still another manner. I have seventy-five or more loads of hog manure in my "manure factory," as I call it—the product from the pig pens, calf pens, horse stables and hen houses—all of which is in a water tight vat under cover. I expected to use this manure the present season to grow a crop of millet or fodder corn, and began plowing a piece for this purpose, but the continuous heavy rains rendered it impossible to till the ground or even get the manure upon it. I propose to harrow thoroughly as soon as possible after haying, sowing to timothy, and spread on this hog manure and harrow in and roll down, seeding to clover in the spring. I will report the result of this experiment in some future article.

Very much is being said at present in favor of the silo and fodder corn, and some sanguine advocates even declare that the hay crop will soon be among the things of the past. While I have no doubt, upon dry gravelly soils specially adapted to corn growing, this may in a measure be true, I think much of our soil in Delaware county is much better adapted to grass than corn, and the hay crop will continue to be the staple, as it has been for many years. J. D. SMITH. *Delhi, N. Y.*

Crops in Western New-York.

EDS. COUNTRY GENTLEMAN—Since my communication of the 30th of last month, to your valuable paper, the agricultural aspect has changed somewhat in Ontario and other Western New-York counties. In this brief period, the hay crop has matured, the wheat ripened, and barley is nearly ready for the harvester. The barley crop has made rapid improvement of late, but is uneven in ripening, and consequently the sample will be imperfect as to color.

From careful observation, and the best data at hand, I learn that the oat crop in this section of the State is seriously affected with rust, which will not only delay the maturing of the crop, but cause great reduction in yield. In passing through Yates and Schuyler counties, I found the same conditions prevailing as regards this crop, as in Ontario; the early, as well as late sown, are alike rusted.

In Ontario we had no rain from the 6th of July, until the 15th, giving sufficient time for the securing of the hay crop; yet a few failed, but the greater part was secured before the rain came. Schuyler county was not thus favored, the wet weather continuing up to the 15th of the current month. But little hay had been secured, although quite an area had been cut, and lay as the mower left it, spread over the ground in a damaged condition.

The rye crop of this county is above the ordinary yield, but at the date above, was not harvested; the delay was owing to the excessive wet weather. Farmers in this county have plenty of business on hand, as their hay, rye and wheat are all ready to harvest at the same time, and with little help to aid them.

From present indications we conclude that the corn crop in Western New-York will prove nearly a failure, with the most favorable conditions from the present time to the end of the season, and should frost come as early as last year, the crop would be an entire failure. From the present outlook the apple crop will be very light, with little for export or commerce.

Potatoes on light or sandy soil give promise of a fair yield, but where planted on clay and compact soils the result will be different, as the extreme wet season has caused the soil to pack and harden, causing a condition most unfavorable for this crop; consequently we anticipate a light yield, in this portion of the State, of this important article of food and commerce. W. A. B.

Ontario County, N. Y., July 22.

Weedy Corn—Plow Early for Wheat.

Several of your correspondents speak of weedy corn fields. On account of the wet season an unusual number of corn fields are now foul. It is to be hoped that every farmer will have a "realizing sense" that a day spent in killing weeds in those fields now will save a week of weed-killing in future seasons. A little neglect now will foul our fields to such an extent that years will be required to get them clean again. The corn is small, and cultivation may be kept up past the usual season. Most farmers think it would well nigh ruin the corn to cultivate it after the ears have started, and the old fashioned deep cultivation at this season would do much damage. But very shallow cultivation, that will cut out the weeds and loosen and fine the surface, will do the corn real good, and will destroy many weeds. But it will not get the weeds in the hills and in out-of-the-way corners. You cannot put your best hand at more profitable work than using the hoe and scythe in the corn field just now. A boy could do the work if he would, and of course would be cheaper, but there are few boys so careful and reliable that they can be safely trusted to do this work, for weeds must not be missed. It is the missed weed that does the damage.

A little later the sheep may be turned into the cornfields. They will not injure the corn—will nibble off some of the lower blades, but this will not do any injury, and may be a positive benefit, as it will slightly hasten the ripening of the corn. The sheep, especially if of the Merino breed, will prove excellent weed destroyers. They crop so close that a weed rarely has the hardihood to start up again. Then the sheep's nose is sharp and will find weeds that the most careful man might overlook. The sheep will get feed that otherwise would not be utilized, and will not charge anything for cleaning up the fields. The value of the field work of sheep, as scavengers, is not fully appreciated.

It is probably an exaggeration that at this season a cockle-burr will start in the evening, grow during the night and mature seeds by 10 o'clock the next day, but they, and other weeds, do mature seeds after a very short season of growth during August and September, and, although cultivated crops have made their growth, we should not relax any of our vigilance. We must look at weeds with an eye to the future.

Seed Bed for Wheat.

Fineness and compactness are the prime mechanical conditions of a seed-bed for wheat. The ground must be crushed into small particles, and while these particles must not be fused into masses, they must be in close contact.

In ground having these conditions, moisture, air and heat are most generally and equably diffused; hence every seed is most apt to find the conditions essential to germination, and every plant the conditions essential to growth. There is the greatest capillarity, an important matter at a time when we must depend much upon the ground-water for the necessary moisture in the soil; food is most readily yielded to the plants—for division and also general diffusion of heat, moisture and air increase the supply of food available in form and location; the roots get firm attachments; absence of large crevices insures absence of excessive air; the conditions are against an excess of moisture, which, by its expansion in freezing, would heave up the ground and throw out the wheat; and the seed can be most evenly distributed and covered, and the best ridges be formed for the protection of the plants.

Knowing these prime mechanical conditions of the seed bed for wheat, we easily arrive at the advantages of early plowing. First, we stop in good season that growth of weeds which too frequently springs upon stubble ground, and that, if allowed to reach considerable proportions, will prevent the compacting of the wheat ground, although they are well turned under. Second, the work of plowing can be better and more easily done. August is usually dry and hot, and the ground, already dry,

hardens rapidly. If we defer plowing until the latter part of August or until September, the ground will be so hard that the work will wear fast the plowman, plow and team, and the ground will break up into lumps, and lumps hard to reduce; whereas if we plow early, the ground will be more easily broken, there will be fewer lumps, and they will not be nearly so hard. Third, the ground can be pulverized and compacted with less labor, partly because of the conditions just named; and also, sun, rain and air do most effective work in disintegrating lumps and compacting the particles, and these laborers exact no hire and board themselves. The earlier we plow, the longer their season of work. Fourth, plowing will bring to the surface, where they will germinate, the seeds of weeds and of grasses. If the plowing is done early the growths from these seeds will be destroyed by the work of fitting the seed-bed; while if the plowing is done late, much of this growth will come after the wheat is sown, and grass and weeds will choke and rob the wheat. Fifth, if we plow early, the manure may be spread after the plow, and as we fit the seed-bed the manure will be fined and incorporated with the upper soil. This is as it should be, for wheat is among the shallow feeders, and needs the manure most in the fall and early spring, while the plants are yet small. Sixth, soils gain fertility from the atmosphere and more from disintegration and decomposition within themselves; and both these gains are increased by plowing, which facilitates the action of air, sun and moisture; hence early plowing enlarges these gains of fertility.

Some make the very serious mistake of not following close after the plow with the roller and the harrow, and as a result the clods become all the harder in the sun and hot wind. If the clods are crushed and pressed down somewhat, they will gain moisture from below and will soften. Roller and harrow are at this time put over the ground but once, for if we use them more we cannot get the plowing done in good season; and also, the process of compacting the ground may be carried too far till it is seeding time. J. M. STAHL.

Quincy, Ill.

Education for Farmers' Sons.

EXPERIMENT STATIONS VERSUS AGRICULTURAL COLLEGES.

A recent newspaper notice of a bulletin soon to be published by the Experiment Station division of the United States Department of Agriculture contains the following:

"It is acknowledged that the purpose for which the agricultural colleges were established in the several States, and to which the government contributed by liberal grants of land and money, has not been realized. The colleges do not educate men for the farm, but for the professions, and the tendency of their teachings has been to draw young men from their farms instead of fitting them for work on them. The curriculum is in most cases too extensive for the average farmer's son to undertake, and in most cases also the expenses are too great for the average farmer's son to meet. The consequence is that the class for whom the colleges were designed have received absolutely no benefit from their existence."

Statements similar to the above, tending to exalt the work of the stations to the disparagement of that of the colleges have recently appeared in several other journals. Such statements I believe to be in the main untrue, and to tend in the end to injure both colleges and stations. The work of the stations will not I think to any considerable extent supplant that of the colleges. The purposes of each are essentially different.

Undoubtedly there is a demand for short courses in practical agriculture adapted to farmer's sons who have not the time or means for a full college course. Some of the colleges are endeavoring to meet this demand. But I fully believe that the condition of agriculture in this country is better to-day, and more hopeful for the future, from the fact that the larger courses have been generally adopted. The agricultural colleges have not only educated most of the officers of the stations, but they have furnished the leaders in almost every movement which has occurred within the last twenty years for the advancement of agriculture in this country. Had these men received their education in the ordinary colleges and universities they would have had no special interest in agriculture, nor been as able to appreciate its needs. Had they merely taken short practical courses they would not have acquired the ability to accomplish what they have done. There is still need for thoroughly educated men in these higher fields of agriculture. But the actual tendency of education in agricultural colleges to lead boys away from the farm is overestimated. More than half of the graduates of the Michigan agricultural college are engaged in agricultural pursuits, and the proportion is nearly as great in some of the other colleges. Perhaps it would seem that the proportion should be still greater; but it must be remembered that not all who enter these colleges come from farms, or expect to follow farming as a business. Not all of the graduates of law and medical schools follow law or medicine in after life. Then too, there is a constant tendency, not wholly to be regretted, for young people of the country to engage in city pursuits, and for this tendency the agricultural colleges are not at all responsible. Educated or uneducated, there is a demand in nearly every calling for men and women reared on the farm. If the agricultural colleges can help to furnish a better supply, while at the same time they make farm life more desirable for those who remain, they will be doing a useful service to the country. If they fail to educate the farmers' sons so that they make better farmers when they return from college, every farmer has just cause for complaint; but if a young man finds, upon completing the course, that he can be more useful in some other pursuit than agriculture, it is his duty to choose it. He may have made a mistake in entering an agricultural college if he did not intend to follow some branch of agriculture as a business, but he makes no mistake and wrongs no one in choosing the calling to which he finally finds himself best adapted; and neither himself nor the college is open to criticism because he does so.

Now, there is a vast difference between the education given by the colleges and that furnished by the stations. The teaching of the colleges is systematic. The facts learned in the school-room are not only valuable in themselves, but also for the ability they give to appreciate, acquire, and apply other useful knowledge. The graduates of the colleges will be the first to apply to advantage the information furnished by the stations. Systematic education is no part of station work. The business of the stations is to discover and publish isolated practical facts. To do this, it is necessary that the officers of the stations be scientific as well as practical men, but in the application of the results very much must be left to the knowledge and common sense of the farmers themselves. The teachings of the stations can be at best little more than hints for the use of intelligent men who already know something of the subjects treated. The higher the grade of intelligence developed by the colleges and schools, the more available and acceptable will be the work of the stations. A. A. CROZIER.

Ann Arbor, Mich., June 20.

Farming in Southwestern Georgia.

THE NEW SOUTH—RATHER A GLOWING PICTURE OF WHAT CAN BE DONE ON TEN-DOLLAR AN ACRE LAND—MIXED FARMING RAPIDLY EXTENDING.

EDS. COUNTRY GENTLEMAN—In your issue of June 20th, appears a letter from S. A. F., Cullman, Ala., on the "New South." I beg leave to say a few words on the same subject myself. S. A. F. was doubtless sincere in what he wrote, but his manner of handling the subject and his conclusions are by no means new. It was what we know as a "car window letter." I protest against the taking of a dilapidated and run-down Virginia plantation, with its worn-out lands and cheerless views, and holding it up as representative of the "New South."

Returning from the war, the planter found his lands depleted of stock, seed and implements; an appalling war tax stared him in the face; and the money and provisions wherewith the crop was to be made, at a rate of interest the like of which was never known. Money to be obtained only by the favored few at 30 per cent. per annum, and provisions on time at 75 per cent. Bound by force of circumstances and want of transportation to one crop (cotton), and with the cotton factor and provision dealer masters of the situation, is it a matter of wonder that failure and slovenly methods followed?

But the picture is brightening. Last week I visited a farm whose owner had been through "the rubs;" long had been his fight with King Cotton, and the King had nearly conquered, with the help of his allies the time merchant, and the usurer; but this farmer saw the inevitable and changed his tactics. He diversified his crops; a thing which would have been impossible fifteen years ago, for lack of transportation and markets. Then two crops (corn and cotton) grew on this farm, and there were a few apple and peach trees. Let us see what is now growing on it. First we will take the hay and forage crops; German millet, Pearl millet, Texas blue grass, Bermuda grass, Monroe grass (for soiling) native crow foot and crab grasses, peavine hay, Spanish ground peas, amber cane (for soiling) and last, but not least that grand forage and hay crop, which is destined to be a boon to our land, alfalfa. The oat crop had been harvested in May and the same land sown in peas; the peas will be gathered, and a fine coat of haulm will be on the ground to enrich it. A few acres of this farm is devoted to cotton, but it is a strictly surplus crop, and every acre brings its bale, worth $45 each, besides the seed, which of late years has proved so valuable, and of which Mr. Edward Atkinson said, that if the farmers of Massachusetts had a plant that would grow this seed alone, without the lint, they would consider themselves blest.

The corn on this place will make double the yield it would produce ten years ago, under better culture and manuring, and a rotation of crops. The rest of the farm is devoted to fruit and vegetables. In vegetables, early cabbage, Irish potatoes, sweet potatoes, tomatoes, peas and beans were the principal market crops. The fruit consisted of plums (several varieties) peaches, apples, pears, grapes, and the small fruits, strawberries and raspberries. Of these, peaches, pears, grapes and strawberries are the principal market crops. I must not leave out the delicious figs; a half dozen varieties, Brown Turkey, Ischia, White, Blue, Green, and the Celestial; he who has not eaten a plate of Celestial figs with Jersey milk and ice for his breakfast, has missed one of the gastronomical joys of this life. On this farm is also "a patch" of cane (Cuba or West India) some red for syrup and a smaller quantity of green, for "chewing" at the fireside after frost fall, and for the little ones, than which nothing is better to make them fat and bring the roses to their cheeks.

Speaking of grapes, let me say a word about one variety, a standard with us, the Scuppernong, good alike for table and wine, free from mildew, blight or rot. These vines grow to an immense size and age. Will your readers think I am stretching, if I say a neighbor of mine has a single vine covering three-quarters of an acre? Such is the fact, and for years has this grand old vine furnished its master with wine, and himself and neighbors with good grapes.

With the improved methods on this farm came better stock, cattle and hogs, and to-day as nice Jersey butter is made here as anywhere. Formerly, making good butter in summer at the South was out of the question, but, thanks to Yankee invention, artificial ice is made and delivered at our doors about as cheap as our northern brethren can have it.

So much for this farm; let me put down a few figures. Take the ordinary products of one acre last year: Planted in oats October previous year; oats taken off May 1; same land planted at once in cotton; crop, 60 bushels of oats and a bale of cotton. Value of oats and cotton, $75; cotton seed, $6, making $81; cost of crop, $35 (manure, harvesting and cultivation). Take another crop: Oats planted in October of previous year; harvested in May; yield, 40 bush.; sold for 50c. per bush.; followed immediately by peas, from which 10 bush. were picked and sold for 75c. per bush. Value of crop, $27.50, besides a heavy crop of vines (equal almost to clover in manurial value) left to enrich the land—and this on our ordinary grey loam land, with clay subsoil (the prevailing kind here), without any special manuring. Market value of this land from $8 to $10 per acre.

S. A. F. misses the neat cottages which dot the landscape of New-York and New-England. True they are not here, as there; but they are coming, and some of them are here. Fifteen years ago the South furnished a vast market to the West and North for corn, hay, meat, and I might say almost everything else in the shape of merchantable commodities, without our sending back in exchange anything except cotton; but times have changed. Northern capital has seen our natural advantages,

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and is coming to our aid; and now as I sit at my window, looking out over a field of waving grass, I see a magnificent new mogul, rounding a curve on a splendid new railroad, belching forth smoke from coal at a new coal mine, and drawing a long train of new cars, loaded with luscious watermelons (many of them great fifty-pounders) for Chicago, Kansas City and Cincinnati. Two months ago I saw these same cars loaded with early vegetables and strawberries; earlier still they brought oranges from our Florida friends, and now they are moving the watermelons, to be followed by pears and grapes.

Believe me, the South is moving, and what I have written is only the beginning.

American, Ga., July 16.

From Southwestern Michigan.

ED. COUNTRY GENTLEMAN — Our wheat is about finished at this writing (the 19th), and perhaps half of it secured. A shower of 1.45 inches during the night of the 17th and 18th has put a stop to hauling that which was cut and in shock at the time, but the grain is now so ripe that some are hauling as fast as the binder drops the sheaves. There is no danger of sprouted grain, if the present weather conditions hold—a high temperature with moist atmosphere. On the 12th we had two inches of rain, and at intervals of about two days we have had copious showers—enough to keep the ground in a suitable condition for the growth of crops, so that corn has been doing its "level best" to recover the loss sustained in the early period of its growth. The weather conditions which endanger wheat in the shock could be no better for the growth of corn. It is now on an average of three feet high, making rapid strides toward the tasseling period. It will be a neck-and-neck race to reach the goal of ripe corn before the chilling frost.

Farmers are feeling quite elated over the catch of clover from spring seeding. Since the grain was cut off the wheat fields, the growth is pronounced much better than was expected, and the seeding in oats is quite satisfactory. Farming without clover and making manure without straw are twin inconsistencies, and a failure to supply them will be disastrous, as it always has been. Some have ventured that rye may, in a measure, supplant clover as a renovating substitute, and be the pioneer crop for pasture in the rotation, to be plowed under when near maturity. Those who are investing on this read will surely come to grief. If continued, the next reliance will be buckwheat, and then come sand-burrs and the closing scene. It is surprising how quickly farms will run down under the misfortune of a loss of clover; the soil will fade and really turn poor under such a disaster, and the only safety lies in constant watchfulness to catch the propitious period for seeding at whatever part of the season it may occur.

I have this season sowed sixteen acres, on a recent purchase, to buckwheat, with clover and timothy, under the impression and with the faith that rains would be constant enough to sustain the plants through the trying part of the season. The seed has been sown three weeks, and the results, up to the present, equal my fondest hopes. The cut-worm period is past, and the grasshopper season will soon reach its worst before the clover plant will be beyond his power to destroy. The buckwheat will shade the young plants through a possible dry time in August, which cannot be very severe, as the earth is well saturated at present, and will sustain plants well on toward the time of fall rains without farther precipitation.

This plan will not work as a rule: the scorching heat of summer on dry ground is usually too much for young clover and timothy plants to endure. The field in question has been cropped with the rotation of corn, oats and rye, for fifteen years, with occasional abortive attempts at seeding to clover. Although naturally good soil, it is on the verge of barrenness from neglect. There are many and there a farm in every community showing a gradual decline for want of intelligent attention to its needs at the proper stage of cropping. "One more crop" has often been one too many—entailing more loss by the failures of the field than the one crop would compensate for.

An approximate estimate can now be made of the extent of damage to the wheat crop by the Hessian fly in the head. All the early varieties are comparatively exempt from damage: the empty heads from suckers are badly shrunken, even in the early wheat, so that all samples will show more or less shrunken kernels. Late wheat is shrunken probably one-fifth at least, so that the splendid prospect earlier in the season must be discounted 15 to 20 per cent. The milling quality of the wheat is doubtless injured to some extent, but no close estimate can be made as to the loss until threshing has begun, and the yield is measured with the promise in the straw. There will be much inquiry after early varieties of wheat to sow, in apprehension of a recurrence of the plant-louse scourge another season. That the parasites were getting in their work in good shape, is evidenced by the rows of skeleton aphides in the ripe wheat heads, with little holes drilled in their backs, through which they were sucked dry, as a retribution for their misdeeds.

"Big fleas have little fleas upon their backs to bite 'em,
And little fleas have lesser fleas, and so ad infinitum."

Weather cooled off a little this evening, with a promise of a fair day to-morrow.

Van Buren County, July 19. A. C. GLIDDEN.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *July 22.*

After a week of severe heat and oppressive humidity, we have it cooler this morning, a north wind and a moderate rain. The hay and the oat harvest is now on, and a considerable portion of the clover is yet growing and holding its freshness and bloom. Much clover and timothy hay and many oats have been badly damaged, and from present appearances the end of bad weather is not yet. Everybody, at least every farmer, is asking himself and friends "when are these excessive rains to hold up?" Judging from the past I conclude that they are likely to go on increasing as long as there is an increase of the sun's heat, whether direct from day to day or previously accumulated. That was the case, I believe, in 1865, and I know it to have been in 1875, two very wet years. The ground having received, according to location and latitude, from 15 to 20 inches of precipitation since June 1, there are several hundred thousand square miles of nearly level and saturated surface, giving off millions of tons of water in the shape of vapor, which rising forms clouds, and thereafter descends in rain. Thus so far as material for rain is required, there is lots of it, and we may therefore look for a rainy summer all through and perhaps a wet autumn and a mild winter.

Yet it must be admitted that the extensive drainage of former nearly perennial ponds and sloughs is pretty certain to shorten the wet weather season, and therefore the rains are not as likely to last through the warm and fair season as in '65 and '75. The temperature of the year has been very eccentric, now high, now low, and I am apprehensive of a cool August succeeding a hot July, and a partial arrest of the prodigious growth of the corn crop, and possibly an immature one, as under similar circumstances before. There are reports that the oats have rusted badly, and the grain therefore will be light, but it may be a false alarm like that of the damage done by the midge to winter wheat. B. F. J.

From a Climate of Extremes.

ED. COUNTRY GENTLEMAN—How the crops of the prairie West could ever be grown and harvested without the aid of modern implements and machinery, is a question difficult of answer. Our peculiar soil and peculiar climate are both unfavorable to the growing and harvesting of crops by the old-time methods. Much must often be done in a very short time. Our climate is a series of cataclysms—a succession of extremes. The floods of June consume three weeks of the very heart of the growing season, when corn should have received the best cultivation, and should have done its best in growth. This time was lost both to the crop and to the cultivator. Two weeks remained in which to do the work of five. As a result, we see much grassy, weedy corn, ground half cultivated. Some corn tasselled out two or three feet high for the July sun. It must "fetch" something, if it be no more than top with the middle left out. Of course there are some good spots, and now and then a good field—one that was rushed through from the word go, planted in April and plowed a couple of times before the floods came, and three times afterward—but as a rule the corn prospect is not good. With a drouth in August the crop must be light, as the soil is in no condition to stand drouth. With a favorable season from this on, it can only be fair.

Horticultural Department.

Editorial Notes and Comments.

FRUIT IN SOUTHERN ILLINOIS.—F. C. Riehl, secretary of the Alton Society, furnishes us a report of the recent June meeting, containing among other items of information an account of the 10-acre fruit farm of Wm. Hyndman, which in the course of a few years he has amply stocked with "all kinds of small fruits," and the place is reported to be a model of neatness and order. Several members stated that they were engaged in thinning their abundant apple crops. Among the newer strawberries, Bubach and Haverland were highly spoken of. Jessie, Belmont, Ontario and Monmouth were not productive enough. A good blackberry is yet desired. Rochelle is too tender, Kittatinny too liable to rust, and Snyder too small.

THE ORCHARD CATERPILLAR.—The old remedies, of cutting off and burning the eggs; of cutting off the young nests just as the caterpillars are hatching; of winding on poles or rods; of swabbing with lime or gas tar, are all efficient when faithfully applied; but more recently a better remedy consists in spraying with London purple or Paris green. Even a partial spraying will be effectual, for as these insects devour all the foliage on the branch they inhabit, they are sure to get all the poison which has lodged on the leaves, and equally sure to die. If performed early enough in the season, or while the caterpillars are yet small, the codling worm and the canker worm will be likely to share the benefit.

THE ANGOULEME PEAR.—This pear, among cultivators of dwarf orchards, is as widely known and as popular as the Bartlett among standards or as the Baldwin among apples. Its large size adds to its popularity, and its excellence in quality is increased by adding to its size by good cultivation. An intelligent cultivator assured us that when neglected so much that the specimens did not weigh four ounces, they were no better than a turnip. When weighing a pound they are delicious. The hardiness of the tree is one of its most valuable qualities. It is very rarely destroyed by fire-blight. We had a proof of its hardiness in examining a neglected orchard which had been irregularly planted with several different varieties, nearly all of which had died for want of care and culture, but whenever we came in the registered list to an Angoulême, we never failed to find a healthy and vigorous tree. It very properly stands at the head of varieties for propagation on the quince as dwarfs.

THE NAPOLEON CHERRY.—This large cherry, formerly known under the full name of Napoleon Bigarreau, is a fine specimen of a market variety on account of its size, beauty and productiveness. It is not first-rate in quality, and the flesh is rather too hard to be entirely agreeable, but these defects do not lessen its market value. Samuel Miller of Missouri states in a late number of the Rural World, that from one tree he has picked 4¾ bushels, with at least one more bushel remaining. It had escaped the birds pretty well, probably on account of its hard flesh. Other varieties were robbed by the birds. Mr. Miller remarks that as the Napoleon commands at least $2 50 a bushel, "it would be a nice thing to have a hundred trees." Last year the crop of this tree sold for $10. He adds, as a proof of its accessible and heavy crop, that "one might lie flat on his back on the ground under some of its loaded branches and eat the cherries which nearly touched the ground." This must have been an exceptional growth, as the Napoleon is usually rather upright in form.

MOVING A LARGE TREE.—We have on former occasions given illustrated descriptions of the mode of moving large trees, or such as were three or four, or even seven or eight inches in diameter, without commending the practice except in rare instances with certain favorites. The operation is always an expensive one, and years are required for the trees to recover their vigor. A late number of the Prairie Farmer gives an account of the removal of a much larger street tree, which we briefly notice as a curiosity. The whole weight was fifteen or twenty tons, and the removal was performed by a house mover and tackle. The mass of roots was over thirty feet. Strong timbers were placed below, and jack screws slowly did the lifting. With a chain and windlass it was moved on rollers. City permission was required for blocking the street while on its way. The account states, "it is now putting on its leaves, as it might as a youngster have done in 1789."

Varieties of the Rose.

Every cultivator of ornamentals wishes to have at least a few roses, and for out-door culture he will choose a number of hybrid perpetuals, both on account of their greater hardiness than the hybrid China, Tea, Bourbon, &c., and for the occasional blooms which they afford through late summer and into autumn. The great splendor of some of the varieties is a strong attraction. Those who do not make roses a specialty, or give ornamentals a wide space on their grounds, will want a dozen or two of the finest hybrid perpetuals, while others will not be at all satisfied with so meagre a list. Alfred Smee, in his interesting work entitled "My Garden," says "the best plan for the amateur is to commence with at least two hundred good kinds, and afterwards to add single specimens as his fancy may dictate." Yet in a collection of one fourth this number, an inexperienced person would probably find many in which he could discover no distinction in appearance. The number of fine varieties however, is continually increasing, as new favorites are constantly coming before the public. Henry Ellwanger, in his excellent little work published a few years ago, described 956 varieties, largely hybrid perpetuals, although many of the less meritorious were omitted; and we see it lately announced that three thousand were to be expected in bloom in the grounds of the International Exposition at Paris.

In the above notice, Hybrid China varieties and June roses generally should not be omitted, although they bloom but once in the year, and do not produce such magnificent flowers. But the profuse display of bloom which some of them present during the early portion of summer, is unequalled by any other roses, and as most of them endure without injury the hard winters of the North, this adds to their value. Many cultivators who cannot give the necessary care to other more tender or more feeble varieties, may enjoy for a time the bloom of such excellent sorts as Madame Plantier, Magna Charta, Emma Hall, Paul Verdier, Paul Ricaut and others. To do them justice and to develop fully their beauties, they must be well cultivated in a deep and enriched soil.

The Rhode Island Greening.

If the R. I. Greening, in the estimation of consumers, stands second in merit to any other of common varieties, the first place would or should be awarded to the Newtown Pippin. As a grower, the Greening is a strong and vigorous tree, with large but not excessive foliage—a feature of all good bearers—and under fairly favorable conditions, bears heavy crops the *on*, and more than half crops the *off*, year. The fruit is large, smooth and regular in shape, and in quality has the many merits of being first-class for cooking and drying in the early part of the season, and in the late, for long keeping, and the highest reputation as a dessert fruit. But in western regions, the soil and climate do not often suit it, and it is open to the reproach of being a shy bearer under some circumstances, and under others of starting a full crop the first of the season and dropping it the last half. Besides, under average circumstances, when the fruit stays on the tree till it is thought to be mature, it proves to be a fall rather than a winter apple.

Now why does the Greening drop its fruit and what is the explanation of advanced maturity? The ready answer to these questions will be, "the climate is too warm for it." That is no doubt a part of the explanation, but not all, nor sufficient, for under certain circumstances, like those prevailing in 1888, the tree makes a full crop and the fruit keeps as well as the same variety grown in New York and Michigan. The heavy rainfall in July, 1888, and the after summer, revealed the secret of what must be the conditions of success with this apple, in common with the old and popular eastern varieties, and that secret is, providing for sufficient moisture during the growing season. The variety under notice drops its fruit when half grown, because of insufficient nutrition, and if it holds them later on and they prove to be like fall varieties, it is still the deficiency of moisture that prevents the prolonged growth which makes the winter-keeping apple. What is true of the Greening is also true of the Roxbury Russet, the Baldwin, Yellow Bellflower, and a host of other varieties originating in comparatively low and moist climates, and especially true of the Newtown Pippin, which, experts in Albemarle county, Va., report to us, reaches the highest point of perfection with its roots in the cool springs of the eastern slopes of the Alleghanies, and its tops in the fogs half of the summer season. If Eastern, Middle States and Western fruit-growers and orchardists were to ascertain the facts of soil and climate of the Albemarle Pippin region in Virginia, read up as to the features of the river valleys of Western Oregon and post themselves concerning the peculiarities of the soil and climate of King's county, Nova Scotia, where the apple crop is developing into vast proportions, we of the West, would get better and clearer notions of the conditions of success in fruit-growing.

Champaign, Ill. B. F. J.

Small Fruits—Choice of Varieties.

EDS. COUNTRY GENTLEMAN—Your answer to T. C., page 544, in regard to strawberries, interested me. It was sound and sensible, although perhaps T. C. might like it better to have had you tell him just what to set out. I have often noticed at our farmers' institutes that people did not appreciate a careful answer—in substance, that they must work out their own salvation—but were inclined to like best the man who could always tell them just what to do and just how to do it, without ifs or ands.

But in the fruit garden, as well as on the farm, it pays to devote a little time each year to experiments, so as to learn what is best for our soil and our method of culture. Our little family fruit garden occupies only 100 rods of ground. There are three rows of red raspberries—one of Turner, one of Marlboro and one of Cuthbert. The Cuthberts were altogether the largest, finest and most productive with us; the Marlboros were almost a total failure; the Turners were about half way between the two. But friends who had been very successful with each of these latter varieties advised me to plant them. I should have had bushels more of berries this year if I could have known, and set out all Cuthberts.

Again, the Shaffer berry has done wonderfully well with us. Our two rows, some six rods long, have given us berries by the bushel, of very large size. Every plant set out grew and did extra well.

We have four varieties of black-caps, and I would give $10 if I could change my Gregg and Souhegans into Hilborns. The last mentioned gave us lots of berries, of good size, and a fine, even growth. The other two kinds do not seem to feel perfectly at home with us. Some plants have failed entirely, and others are sickly. I am sorry that the Gregg behaves so, as the berries we had were very large.

We had the same results with our strawberries, which were in between the rows of raspberries, blackberries and grapes, in our fruit garden (a place I would never put them in again). Quite a number of varieties were tested on purpose to find out which would do best for us. It is easy to see now that if they had all been Bubach, Haverland and Sterling, with a few Downing and Jessie to fertilize them, and had they all been grown in narrow matted rows instead of hills, there would have been at least 20 bushels more berries. We had about a bushel a day as it was, but we might have had two just as well, if we could only have known in advance which would take most kindly to our soil.

By the way, the article of friend Brown's on page 526 is admirable, from beginning to end, only his family does not like strawberries as well as mine. He says: "In my family it is not unusual for us to average a quart to each member of the family at the three meals of a single day." Well now, they were just as free as water with us, and what my family *did* average, at every meal for three weeks, was a quart to each person at *each* meal. There were lesser doses before and after, extending the season to nearly four weeks. We did not sell a quart, but have 81 quart cans filled for future use. Mr. B. says the *free* (italics mine) use of acid fruits is conducive to health. They do me good, I know. My wife said I grew better natured every day strawberries lasted.

The worst of our strawberry experiments is that we had to set out a new bed this year before fruiting time; so it will be 1891 before we can fully profit by our experience this year. Meanwhile we may learn something more

bility is an important consideration. If the bloom is wanted at mid-summer the planting should be made, in rich soil, as soon as the frost is out of the ground. By delaying more or less, the gladioli will lend their charms to the borders from any time on until frost threatens again. The spikes of this flower also show best in the mass, and it should always be planted in groups of three or five, if not in larger ones. It is especially desirable in a mixed border against a background of shrubbery.

The iris is of a more refined type, with more delicacy and sentiment than this showy but rather soulless rival. It is also well calculated to become a permanent feature of the garden, improving in beauty with every successive year, when once established in a secure position. The striking beauty of some of the newer varieties has brought the iris into prominence as a "florist's flower," but it has all the solid merits that entitle it to affection and support in the woman's garden. It is one of the flowers that we may plant with confidence for those who come after us. The older varieties are cheap and perfectly hardy; there is great variety in color; and some of the newer sorts have, in form and marking, a strange beauty and charm only comparable to that of the orchid. One might easily do worse than to make a collection of the best varieties of the hardy iris as the special permanent attraction of a small garden. Too comparatively brief time of flowering is the common drawback of all bulbs and bulbous-rooted plants.

The funkias or day lilies are so well known as to need little comment, but the somewhat ornamental foliage adds to their value and makes them specially suited to a place upon the lawn. Where an occasional break in the turf is desired, and not a continuous bed, few things are more useful.

Where there is plenty of room and large effects are wanted at some little distance, the herbaceous peonies make exceedingly fine plants. Their massive beauty and lovely color will conquer the prejudice against them if they are given a position that sets off their proportions. Indeed, this one condition holds in itself half the secret of good gardening. The peony is perfectly hardy, and may be naturalized in the grass or among shrubbery.

As all these specialities are dependent upon autumn planting for the best beginning, there is plenty of time now for deliberate choice and preparation. The lily is very tractable and may be planted successfully in fall or spring, and the time of blooming may be protracted by a careful selection of varieties, to cover two or three months. The old favorite white lily, the candidum, is, however, an exception; being impatient of transplantation, it must be moved in August or September, its period of rest after flowering. There are few gardens in which a marked improvement may not be effected by the adoption of some of the lilies and late-flowering bulbs. DOROTHY.

Poison on Fruit Trees—Grape Rot.

EDS. COUNTRY GENTLEMAN—Referring to my communication as to the application of arsenical poisons to peach trees, and Bordeaux mixture to grapevines, published in your paper of July 4, I add for the information of others, that the peach trees have largely made new foliage, but where the application of London purple seems to have been heavy, that part of the tree is wholly dead.

Since writing my first article I have made another application of Bordeaux mixture to my grapevines, but seemingly wholly without effect. I may truly say the fruit crop is absolutely a *total* failure, there not remaining a perfect bunch among a thousand. I doubt if a single perfect bunch could be found.

So far, I regard the spraying of the apple trees, and possibly the pear, as decidedly advantageous. I observe no difference in the fruit on those trees which were sprayed only once, and those sprayed twice. I esteem it, however, vitally important that the first application should be made *early*, just after the fruit has assumed its decided fruit-form. I would also qualify my remarks as to only one application, by saying that I would be governed by the state of weather for a few days after that application was made.

In the issue of your paper containing my article on spraying peach trees, I note remarks on the same subject, in a discussion at a meeting of the Alton Horticultural Society. The parties having had somewhat similar experience with my own, for the benefit of your many readers, let me unite with them in sounding the note of caution—*experientia docebit*. J. H. M.

Baltimore County, Md., July 17.

Shortening a Tree.—A correspondent of the American Garden tells how a Chicago florist shortened a 30-foot yucca from the bottom. In July, when the sap was descending, he cut into the body, ten feet from the ground, making two tongue like cuts, wedged them, slightly splitting the trunk, and left it so for two weeks, when the sap had partly calloused the cuts and splits. Then he fitted a small tub, made in two parts, and filled with mixed moss and soil, embracing the tree over the cuts, and kept the filling moist. In four weeks new roots had formed, the old roots and 10 feet of the trunk were cut away, and the tree lowered to the ground and planted as before, removing the tub without breaking the ball of roots.

The Entomologist.

The Grain Aphis.

The insects upon the heads of rye sent us by C. C. H., Stone Ridge, N. Y., are the grain aphis, *Siphonophora avenæ* (Fabr.), which this year has been reported as unusually abundant in large portions of Illinois and Ohio, and in localities in Indiana. This is one of the occasional years of its abundance, and it has undoubtedly occurred in many other parts of the United States, although not in sufficient number to excite any alarm. It is somewhat strange that this is the first time that it has been reported to me in the State of New-York, while so near to us as in Ohio its injuries have been quite severe. Entomologist Weed of the Ohio Agricultural Experiment Station has recently prepared and distributed a circular in regard to it, in which he refers to its presence as one of the most notable insect outbreaks that has occurred in Ohio for many years. "It is now present," he states, "in destructive numbers over a large portion of the State, having already seriously injured the wheat, and is now threatening an equally serious injury to oats and other grain."

In the heads of rye sent, considerable injury has been inflicted, as appears in the shrunken condition of the kernels.

It is gratifying to find in the material submitted, evidence of a formidable parasitic attack. Of the seven examples of the grain aphis enclosed with the heads, each one has been parasitized, as is shown in their brown, shining body, distended to a globular form by the parasitic insect contained within. I hope to obtain the parasites from them, and to see whether they are the two species that were bred from the insect many years ago by Dr. Fitch. The species that attack it so efficiently in Europe have not been observed as infesting it in this country.

For a brief notice of this grain aphis, the COUNTRY GENTLEMAN for June 27, 1889, page 496, under the heading of "Insect Depredations," may be referred to. J. A. L.

Maple-Tree Borer.

EDS. COUNTRY GENTLEMAN—What shall I do to save a maple 13 inches in diameter? The worms are under the bark on one side, but the tree has been so flourishing since being transplanted, as to have covered the stub of the limbs cut off. I have fine white clay.

Stamford, Ct. W. H. H.

[*Answer by Dr. J. A. LINTNER.*]

The insect injuring the maple is probably the grub of one of the long-horned beetles known as *Glycobius speciosus*. It is one of our most beautiful beetles, being over an inch long, conspicuously marked in the strongly-contrasting colors of black and orange, with spots and bands and lines, prominent among which is a W-like character over the base of the wing covers. It is extremely pernicious to maples by running its burrows around the trunk, often in such a manner as to girdle and consequently kill the tree. Fortunately it is rather a local insect, and has not as yet become generally destructive.

Its usual place of attack is from about the middle of the trunk upward into the base of the principal limbs. Painting these portions of the tree in infested localities, at intervals during the months of July and August, at which time the eggs are deposited, with a strong wash of soft soap and crude carbolic acid, would tend to prevent the deposit of the eggs. Where this has not been done, or even in connection with it, the trees should be examined during the above named months for the first operations of the young burrowing grub. This may be known, it is said, "by a rusty discoloration of the bark about the size of a cent, and especially by the 'frass' or castings, which, to the length of an inch or more, are attached, like a broken corkscrew, to the bark." By cutting into these spots, the grub may be found and killed. Throughout the autumn and winter the grubs work beneath the bark, and it is not difficult to follow them with a knife or with a flexible wire, as is done for the apple-tree borer, and crush them. If allowed to remain until the spring, they then burrow into the solid wood, where they may not be so easily reached.

See Dr. Packard's remarks upon this insect, descriptive of its burrows, &c., in the Report of the U. S. Commissioner of Agriculture for the year 1864, page 388. Dr Packard thinks it such an easy matter to find the young larvæ, that "there seems no reason why valuable shade maple trees should not be saved by a few hours' close observation and removal of the young grubs, say in September or October."

I think it quite probable that the presence of the young grub beneath the bark may be quite as readily detected during July and August, by sap exuding from its place of entrance, before it has attained a sufficient size for throwing out its frass. The apple-tree borer is discernible by this means. The little wet patches should be easily seen.

A coating of the fine white clay mentioned would of course prevent oviposition, but it would be rather unsightly; and further, prevention of insect attack is never as desirable as the destruction of the insect.

The Cow Fly.

EDS. COUNTRY GENTLEMAN—It is fly time. The pest is very troublesome this year. Among them we have the buffalo fly or a species of it. Farmers and cow owners here have very erroneous ideas in regard to said fly's attacks upon their cattle. Please enlighten them. B. B. *Freehold, N. J.*

[*Answer by Dr. J. A. LINTNER, State Entomologist.*]

The insect of which some information is asked is probably the one which was so troublesome to cattle in New Jersey and portions of Pennsylvania last year, and which under the name of the "horn fly," "cow fly," or "Texas fly," was noticed in several issues of the COUNTRY GENTLEMAN of last year (see pages 703, 729, 779, and 893). I have never before heard the name of buffalo fly applied to it.

As stated in the articles above referred to, much unnecessary alarm was felt at its appearance in large numbers on cattle, and statements were made of death resulting from maggots which proceeded from the flies that gathered about the horns of the animals, burrowing into the skull. These reports, and the alarm felt, were found to be groundless when the true character of the fly was ascertained. Upon sending samples of it to Germany, it was learned that the fly, which was new to us in this country, had long been known in Europe as troublesome to cattle in portions of France. Scientifically it had been named *Hæmatobia serrata*. It is so closely allied to a well known biting pest of this country—*Stomoxys calcitrans*—that it was first thought to be that species. Its only injury to cattle can be by sucking their blood, and possibly causing high irritation and sores, when it congregates on the more sensitive and exposed portions of the body whence it may not easily be dislodged.

There does not appear to be any known application which will prevent the attack of fly on cattle. This subject has been discussed in one of our agricultural papers recently (I am unable to find the article at present), but it was evident from replies given to an inquiry for an effective preventive, that none such was known at present. It would seem that some simple wash could be discovered to serve the purpose; and the very annoying attack of the cow fly should stimulate experiment until the desideratum shall be found. Among the substances that would seem to promise good results, I would suggest for testing, kerosene, carbolic acid, soluble phenyle (a sheep wash), tar water, quassia water, tansy water, and naphthaline. A wide range might be given to the experiments, for it does not follow that only such odors as are disagreeable to us are repulsive to flies. Should any wash prove to be even partially effective in lessening attack, it would be comparatively easy to make the application without much labor or sacrifice of time, by applying it to a herd of cattle by the aid of a force pump and fine nozzle, such as is used for fruit spraying.

The Poultry-Yard.

The Trials of Chicken-Raising.

EDS. COUNTRY GENTLEMAN—I have read, with much interest, the various letters under the heading, "The Poultry Yard," especially those signed "A Farmer's Daughter," and agree with her in many of her practical, common sense ways of feeding and caring for chickens of all ages. I have raised large and small flocks, and generally found it a paying investment, but like everything else, there is profit and loss, along with much hard, disagreeable work, constant care, anxiety and patience, from the time the little downy balls come from the shell until they are safely landed in market.

I hatched some three hundred little chicks this spring, and lost only six with the gapes, which was very good, as we have had such constant and incessant rains through May and June. I have tried many remedies for gapes. Turpentine is always fatal; camphor water of little use; air-slaked lime of some benefit. The only way that proved successful was to take them out with a horse-hair. Of course you kill a few at first, but "practice makes perfect." Cold steel is the best and surest cure for all diseases.

I lost thirteen fine, healthy little fellows in a very curious manner. It was Sunday afternoon; had let the hen (an excellent one) out for the first time, and they never go far the first few days. I felt very safe, but looked after them once in the afternoon, between twelve and three, and at four (feeding time), I found eight of them, in a row, on a board near the coop, dead, without a scratch or sign of anything to show how they died. The next day, at the same time and place, the remaining five were just giving the last death struggle when I found them.

I have had no bad results from feeding raw food. Unlike "Farmer's Daughter," I have no "table help" to save me many weary steps, so cannot spend as much time cooking and fussing with food. Milk and bread, until one week old, with the fried potatoes left from breakfast, scraps of meat, &c; after that they must take what the rest get—2 qts. of bran, 2 qts. of coarse meal, and 1 qt. of middlings, wet with hot water or milk, for morning meal; boiled potatoes are nice too. At dinner they get crushed corn and wheat, with plenty of fresh, clean water to drink. Of course I have lost a great many by hawks, crows, cats and various accidents. As for milk, I do not think there is anything they enjoy more; I love to watch them drink; they can soon drain a two-gallon pan dry, and it increases the egg supply very materially, and is cheaper than meat. Does "Farmer's Daughter" ever count her profits? I am keeping a strict account this year, which will end in December.

Many of the farm papers advocate that weary, tedolent, nervous women are much benefited by caring for poultry. Perhaps so, but I think a little more housework and a nice flower-bed to work in would be more beneficial and not so wearing, exasperating and hateful as a flock of all sizes and ages of hurrying, hungry, greedy fowls running over and walking on all the smaller chicks, every one for himself, each trying to get to the feed-coop first. How like the human family—greedy, quarrelsome, pushing, crowding and knocking each other down to get helped first! One might think they were starved, to see them eat. I feel some times as if it would be a pleasure to beat them all into a jelly—they are so cunning, smart, active and determined.

What an amount of patience, good temper and work it takes to drive a flock of weaned chicks from their old roosting place to the hen house, which I do just as soon as the hen leaves them. Then they are safe from all night prowlers. Fifteen times in one evening have I driven them out, and they still came back, until they were caught and carried to roost. That I continued to do for two weeks, and as they were about eighty in number it was no trifling task. Perseverance conquered at last. I find a broom is the best thing to drive chickens with, especially old hens. Just before the hens leave the chicks is the time to "educate" them to go to roost; then there must be constant watching to see that they do not crowd all together and smother one another these hot nights. I have very low roosts, yet some of the small ones cannot fly upon them, and they will collect in my hens' nests, which is not very pleasing or healthful.

There is plenty of work for mind and feet in chicken-raising; it is an ever-beginning, never-ending yearly labor.

A friend of mine once remarked when I was floundering around in a deep snow, driving up bewildered hens, that she would teach her chickens, when young, the proper place to roost; they only needed a little driving and management. She has tried it since, and as she is one of your tired, nervous women, it used her up and worried her so that she was obliged to give up the care of them to her sister. She lost so many it made her heartsick to count the dead and dying. She did not understand the care of them in all the many necessary attentions they should receive.

Brighton, Md., July 18. MARY LAND.

New Advertisements.

Ayres & Sons, Wm. ..... *Horse Blankets.*
Baird, D. S. ..... *Dutch Belted Bull.*
A. A. B. ..... *Butter-Maker Wanted.*
Black, Estate Wm. D. ... *Jerseys*
Cooper, T. S. ..... *Dorset Ewes.*
C. A. B. ..... *Dairy Cows Wanted.*
Cloud Bro. ..... *Seed & Cider Press, &c.*
D. H. N. ..... *Ensilage Cutter Wanted.*
"E" ..... *Herdsman Wanted.*
Evans, W. A. ..... *Farm for Sale.*
Farmer ..... *Man Wanted.*
Harrison, G. K. ..... *Jerseys.*
Jones, Mrs. E. M. ..... *Handsome Mare.*
"Jersey" ..... *Jersey Calves Wanted.*
Kirks, Geo. W. ..... *Fertilizers.*
Langworthy, John F. ..... *Scotch Cattle Bitch.*
Manchester, M. H. ..... *Jersey Calves.*
Mitchell, Warren ..... *Ensilage Cutter.*
Moore & Evans ..... *Farm for Sale.*
McClintock, Sam. S. ..... *St. Bernard Bitch.*
Newton, E. C. ..... *Cow Tie.*
Norvell, J. M. ..... *Farm for Sale.*
Newkirk ..... *Farmer Wanted.*
Powell ..... *Jersey Bull.*
Paine, C. C. ..... *Cattle Pens, &c.*
Prentice, F. M. ..... *Dairyman Wanted.*
Schermerhorn & Co., B. B. ... *To Intrigues.*
Wolf, Andrew ..... *Standard Mare.*
White, Hugh L. ..... *Jerseys.*

Pamphlets, &c., Received.

APPLETON, FRANCIS H., Sec'y. Bay State Ag'l Soc'y, Boston, Mass. Premium-List of Third Annual Cattle Show and Fair, to be held at Boston, Oct. 7 13

BENTLEY, W. F., Treasurer Northern New-York Trotting Horse Breeders' Association, *Glens Falls, N. Y.* Invitation to Third Annual Meeting, at Glens Falls, Aug. 13 15.

GOODMAN, L. A., Sec'y., *Westport, Mo.* Thirty-first Annual Report of the Missouri Horticultural Society; pp. 96.

INDIANA PAINT and ROOFING CO., 61 West Broadway, *New-York.* Pamphlet of Rubber Roofing.

ROBINSON, GEO. M., Sec'y., *Elmira, N. Y.* Invitation to Southern New-York and Northern Pennsylvania Inter-State Fair, to be held at Elmira, Sept. 10 12.

Inquiries and Answers.

Ice Pond.—An artificial ice pond of 1¼ acres is so situated that a reservoir can be constructed above it with a surface of a quarter acre. 1. Would this be an advantage beyond holding back the warmer spring water while the lower pond is freezing? 2 Can the water in the reservoir be used advantageously in flooding the frozen surface below, for the purpose of obtaining an additional thickness of ice? 3. What amount of fall would be desirable, the reservoir abutting upon the edge of the pond, and the pond being nearly square? 4. Is there any other practicable means of flooding such frozen surface for the same purpose? W. W. S. *Hightstown, N. J.*

[There are a few items of information required before a definite answer can be given to these inquiries. First, what is the depth of the pond? If shallow, it will freeze quickly; if deep, more time will be required. Secondly, what is the amount of water from the spring above? If slight, it would not materially affect the result. Thirdly, the degree of fall would depend entirely on the quantity of water. The want of this information will render it necessary for you to submit the matter to actual trial, by which you can best ascertain what is needed.]

Reclaiming Swamp Land.—Will you advise me as to the best course to pursue in reclaiming swamp land? I have a piece containing about fifty acres, which was entirely covered with water up to last year. This plat of muck is up on an elevation and is enclosed by a little bank on all sides. A few rods distant is a decline of 50 or 60 feet. A drain dug last summer has drawn all the water off the surface, leaving a deposit of decomposed muck, mud and silt, about 15 or 20 feet in depth. Deposit—full of all kinds of insects—shells, fish, &c., and is of jet black color. Do you think this bed can be sufficiently drained to admit of cultivation? Would open or covered drains be best? Would this be suitable for growing celery or onions? What fertilizers would be best? Does it resemble the muck deposits of Kalamazoo? W. C. *Pinckneyville, Ill.*

[Muck varies greatly in its character, from coarse, fibrous peat, to earthy and compact, and its treatment and the crops it will grow depend much on this variation in character. It will be safe, however, to drain it thoroughly, for which the fall of 50 or 60 feet gives you a good opportunity. So long as it is filled with water other than the amount held by its natural absorbing power, it will not be useful as a crop producer. If it is compact in its character, it will raise crops of timothy and red-top grass, broom corn, and probably celery, when sufficiently drained; but if loose and fibrous, it may be improved only by drawing on strong loam or clay. Without knowing what ingredients may have been washed upon and mixed with it in past years, the proper fertilizers could not probably be prescribed; but barn manure, the fertilizer of the most general application, would possibly be best. The presence of shells, indicating more or less shell-marl, would show that lime is not needed, although often so valuable when applied to muck.]

Acknowledgments.

Communications for publication have been received during the week ending July 29, from Henry Stewart—F. D. Curtis [2]—Mrs. D. H. S. Goodale—Dr. J. A. Lintner—W. A. Squier—J. K. Wittmer—E. Ulrich—B. T. Cockingham—Thos. Bowick—P. J. Cornwell—O. K. Lane—G. M. Card—V. S. Patterson—Galen Wilson—W. A. Towles—W. I. Chamberlain—J. W. Smith—W. Falconer—A Farmer's Daughter—W. C. Callender—Mrs. C. I. Allen—L. T.—G. Gardner—P. S. Cooper—C. H. Lane—Prof. John B. Smith—H. W. Phelps—B. F. Johnson—John W. Trosser—E. S. Johnson—W. Horne—A. M. Goff—E. S. Titus—W. R. Lazenby—D. Strickler—S. J. Foote—Mrs. L. G. Chrisman—C. K. Westbrook—J. W. Martens—M. L. Holmes—Nellie Burns—C. S. Landers—Mrs. W. G. Tucker—L. F. Potter—J. W. Wilson—James Wood—J. P. Wilder—W. G.—P. F. Kefauver—P. W., Jr.—J. K. Hoyt—Stephen Beale—W. F. Brown.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

** We cannot answer inquiries by letter.

Subscribers' Wants.

HOMINY FARM Co., St. Martinville, La. Mill for making Corn grits and Engine to run it.

The Cultivator and Country Gentleman

Albany, Aug. 1, 1889.

Prospects for Farming.—One of our exchanges publishes a rather cheerless article which takes a disheartened view of the condition of farmers and farming in this country at large. The uneasy feeling which this condition produces in the rural community is shown by many of them in pushing for the unsettled West, instead of becoming satisfied with their eastern farms and endeavoring to make the best of them. We are informed that over 16,000,000 acres of land were sold the last fiscal year, and that more than 124,000,000 acres have been settled in the last eight years, representing an area larger than four fair-sized western States. The uneasiness and the dissatisfaction of the people with the farming of the more settled regions was shown by the wild rush for land in Oklahoma. With this movement of population from east to west, it is asserted that the fertility of the soil has declined; and while eastern lands have already become poorer, not many years must elapse at the West before a like deterioration takes place there. Uncle Sam will therefore be in a condition in which he can no longer give every man a farm, and the new States, which have fed the older ones, will soon have as much as they can do to feed themselves. The writer of the article therefore reaches the conclusion that we must restore our lands which have been wearing out, or buy our bread in some other country.

We cite these views as an example of much that has been spoken and published of recent years. The writer goes so far as to assert that our public schools are on the decline, and he quotes without reserve the statement that illiteracy is on the increase in some of the eastern States which he names, and that there is a decline in the intelligence and calibre of the people.

Such conclusions are honestly reached by some persons who select isolated and extreme cases. In some neighborhoods a few of the more enterprising residents have removed to other places, and the neighborhood has felt the lack of their influence; but to assert that this change is characteristic of the entire population, would be to assert that the entire human race in the nation was gradually passing to a condition of idiocy.

There is no reason why, as asserted, that our public schools are deteriorating in character. The high schools, colleges and academies are becoming more numerous, and the increased number of graduates which they are yearly educating and sending abroad as teachers in the primary schools, have evidently given a higher tone to the latter.

But it is to the improved condition of farming itself that we wish more particularly to direct a few remarks. Take, by way of illustration, the wheat region of Central and Western New York. A gentleman, whose business has led him into an intimate acquaintance with farmers and farming, assured us that with the exception of one unfavorable year, the average wheat crop in eight years in the neighborhood of his residence, and for several miles in each direction, had been at least 25 bushels to the acre. During many years previously, the average had not exceeded 12 bushels, and often it was only 12 bushels. What was the reason of this great increase in recent years? It was ascribed to four influences, namely—thorough underdraining, the use of commercial fertilizers (which in that region were specially beneficial), the careful saving and application of barn manure, and a good system of rotation, instead of the exhausting course of former years. It was admitted that the farmers in this neighborhood were more intelligent than the average, gave more attention to agricultural fairs, and more generally read agricultural papers instead of the frivolous reading which abounded.

The best of these farmers admit that the business has not been so prosperous of late years as formerly, but their fine, smooth farms, well fenced, the copious crops, and the fine animals which were seen in their fields and yards, indicated that they were not going backwards. It has indeed been some years since we saw a certain thriving farmer who began with a forty-acre farm, and in thirty years owned a magnificent one of seven hundred acres, all the result of farm products; but many could be cited, who by good management, good rotation, and by a proper mixture of raising heavy farm crops and fine breeds of domestic animals, have added largely to their lands.

It is common with writers who underrate farming, to make no distinction between the successful and those who signally fail. The whole farming community, with its millions in number, is classed alike as one body, and conclusions are drawn that all are alike running on toward ruin. The majority may indeed be pursuing an unprofitable course, but there is a most respectable minority who make the business pay well, who are accumulating property, and who enjoy or absolutely delight in the improvements they are making, and in the successful growth of crops, and in the increase of their fine domestic animals. Taken together, these thrifty farmers constitute a vast multitude, distributed throughout the country-at-large, and their successful example is operating as a powerful lever among the whole people.

While wheat has been so largely produced the last year as to make an overplus, selling for less than a dollar a bushel, nearly double its former value, with no immediate prospect of any diminution, we shall not be compelled, as the writer we have quoted fears, "to buy our bread in some other country." The hundred million acres which have been settled within the last eight years would make only a million hundred-acre farms; while the population of the whole country has increased at the same time nearly ten millions, and settled land would hardly supply the increase. With improved cultivation and management, and the augmented product which the land already settled is capable of, there will be no difficulty in sustaining a population at least double its present number; and railroads and the aid of improved farm machinery, will distribute any local surplus to regions which may happen to be destitute.

Kansas Experiment Station.—The First Annual Report of the Kansas Experiment Station of the State Agricultural College, a volume of 350 pages, a copy of which we have recently received, contains besides the records of regular proceedings, a report of the farm department, including experiments on corn, wheat forage crops, on summering manures, on the butter product, on the varieties of sorghum, various sorghum experiments, varieties of potatoes, peas and tomatoes, and on several kinds of blight which affect the crops of the farm and garden.

CORN.—In experiments with different varities of corn, the results were not favorable to the early or Flint sorts. It was found that most of them were not to be relied on to yield much more than one-half of what constitutes a fair crop of Dent corn. The distinction, however, between the requirements of thicker planting for the small varieties appears not to have been observed. There would be less difference in favor of the large kinds if each were given the full amount of space which they would bear. Small varieties take less ground for each plant, and may be planted thicker and nearer together than the large kinds. The report, however, admits the advantage of the smaller and earlier, in affording grain and fodder two or three weeks earlier than the coarse growing kinds. Interesting and rather striking results were obtained in cutting corn at different degrees of ripeness—first, when the grains were in the milk state, secondly as dough, and thirdly when the grains were hard, the stalks drying. On the many different experiments the loss from early cutting amounted to over 30 per cent. The results were obtained alike from the Dent and from the King Philip, a modified Flint. It was thus found that the corn continues to improve in weight until the very last—after the blades have been dried up, and seemingly until the juices of the stalks have been completely sucked up. The variation in the yield of the fodder was much less than in the grain, and in most instances it was quite slight, but the early cut fodder was greatly better than if cut when the crop was ripe. But this superiority in early cut fodder fails to compensate for the loss in the grain.

WHEAT.—The varieties which were found to sustain the least injury by winter killing were Theiss, Big English, Tuscan Island, Diehl-Mediterranean, Gipsey, Fultz and Fulcy. Several others suffered greatly, the loss amounting to one-half. The fitness of average Kansas soil for wheat, under ordinary cultivation, was shown by an average of 23 bushels an acre, on a piece of land occupied successively and continuously with wheat seven years. Among the results of fertilizers and cultivation, 300 lbs. of salt increased the wheat five bushels an acre; 200 lbs. of plaster increased it only one bushel; barn manure added only two bushels; while harrowing and hoeing diminished the grain at the rate of four bushels an acre. As a proper stirring of the soil always promotes growth, it is probable that the harrowing was performed when the soil was wet or muddy, or under some other unfavorable condition. The manure (30 tons) probably contained ingredients not wanted in a natural wheat soil; while salt, at the rate of less than two pounds to a square rod, (equal to a stratum thinner than tissue paper), added five bushels, indicated the need of a special element. Such experiments show very distinctly that the results of fertilizers applied in one locality do not apply to another, for salt often adds nothing to the crop, while the addition of manure frequently doubles the crop in certain localities.

SILO WALLS.—An apparatus was constructed for measuring the degree of pressure exerted by the contents of a silo against the walls. Corn fodder, cut when the grain was in the milk state, was cut half an inch long, and deposited without wilting. The pressure during and immediately after the filling was slightly more than 50 pounds to the square foot. The pressure then gradually diminished, and two to three weeks after filling the decrease amounted to about five pounds daily. It is obvious that the pressure would vary with the condition of the ensilage, and would be less with dry and ripe stalks or with a longer cut. These results prove that for ensilage like the above mentioned much strength is required for the silo walls.

SHRINKAGE OF HAY.—It is a common opinion with farmers that hay loses much in weight during the months which follow the cutting and housing of the crop, and that hay drawn from the barn in winter should command a much higher price than the same hay drawn from the meadow as soon as cured. The experiments made at this station lead to a different conclusion. Thirteen samples of several different kinds of hay were secured for this purpose, and placed in very thin muslin bags. They were weighed, and then buried in a mow of hay. Most of them remained six months, and were weighed again in December, several precautions having been taken to prevent error. In most cases, the loss by drying was trifling, not over three or four per cent. In two instances it was over ten per cent. In one case there was a positive gain. There are two causes which would materially control the result—a wet or dry summer, and the degree of drying in the field to which the hay is subjected. Some farmers draw in their hay obviously before it is quite dry. Those who sell and buy hay should understand this matter, and it would be easy for them to make careful trials. The degree of moisture which may be left in hay as it is drawn from the meadow, should be better understood. There is no question that it is often subjected needlessly to drying.

SPRAYING FRUIT TREES.—Twenty pages are occupied with a statement of the experiments made for spraying apple and other fruit trees to protect them from insects. The object of these experiments was to determine the comparative value of different remedies on an

orchard of 200 trees of 47 varieties. A careful counting and record made the station-note reliable. The scabbing of the foliage was the result of the use of too strong mixtures, several of which, from the stated strength, were much stronger than those now recommended, while others in nearly the right degree, proved satisfactory in operation. The great object of attack was the codling worm. Of the fruit not protected by the spraying, it was found that the early varieties, or those gathered early, were less injured by this insect than the later gathered specimens. This was ascribed to the fact that the apples first attacked usually fall early from the trees, while the later rising till gathered. A second brood, after the usual period of spraying, was found in freedom of the orchard, and hence the greater damage to the winter fruit. Hence, in addition to spraying, trapping is not to be given up, but the distraction of the infested specimens by the use of sheep.

This station-note contains valuable and attested matter on various other subjects, which we have not the space even to notice, but among which the more valuable are those With Bordeaux mixture, on destructive insects, and on the blight with has attacked sorghum and some other plants.

Foreign Cattle and Dairying.—We are indebted to the courtesy of Gen. CHARLES THO. MS, M. C., for a copy of the late communication printed by the Government, composed of Consular Reports on the Cattle and Dairy Farming of other countries. These reports were requested by a circular sent out by the Department of State in 1883, and were collected and submitted to Congress in 1884. The reports addressed responded to many cases of considerable length, and the results fill nearly all of 600 pages, accompanied by less than 300 full-page lithographed illustrations. These are mostly excellent outlines of the various breeds referred to in the text, with a few diagrams showing the comparative richness of the milk of different breeds, or other cognate matters. The reports are by Consul Consul Wilson who, in depicting the milch kine of Belgium, has evidently thoroughly entertained also portraits of the dairymaids. We have some curiosity to see the portraits of these brawn bosom persons, which we have no doubt reflect credit upon the judgment of the artist in the selection of his subjects.

There is much information scattered in these reports, as their bulk would necessarily imply, but after a somewhat casual examination we discover little of practical value, beyond observations on breeds, which are usually especially rather those of interest from the time than have anything to do with any recognized want of the tables given closing with the year 1883. The most valuable matter is that in the books in the abstract, which are mostly well drawn and effectively executed.

It is a little singular to note that the first in order of the reports is that from the Cape of Good Tanner of Lings, Belgium, opens with a hearty protest against the "extreme value placed on the cattel blooded breeds" as a "great mistake," and that the cattle of the country are "generally of enormous and absurd." The remainder of his paper consists largely of extracts from the cattle books and particulars intended to statute that the price has risen in the last few years. Our sample in breeding and feeding, we could form "native breeds" that would annul the cattle of all the world.

Illinois Horticulture.—We have received from S. A. Beach, Ames, Ill., of the Illinois Southern-Illinois Horticultural Society, the printed report of the meeting held in that society, at the meeting held July 6th. We give a few of the statements made and the conclusions reached at the discussions there. Early varieties for market were denounced as worthless, other nothing likely to succeed, all chinquapins that were unpopular. E. A. Stahl regarded them as a "nuisance." A. Reed said that he was not later in the season, they would be pronounced "unfit to eat." J. M. Pearson said: "you cannot afford to put your good name in jeopardy by sending to market such stuff as this." Mr. Hollister pronounced the Trask, Mountain Rose and Early Ohio as the best early potatoes. Mr. Stahl preferred Annits and Pinter's Ohio.

Blackberries rested badly early in the season, but the second crop proved very profitable and there had been some stems. No variety had proved satisfactory; Snyder was the best, but too small, and Kittatinny best but for the rust. Mr. Jackson had found the Erie and Rochelle Hannibal. Mr. Stahl said that Lucretia dewberry, "over which so much fuss had been made," was large, showy, but not fit to eat.

In the treatment of grapes, J. S. Browne had sprayed with the Bordeaux mixture, using this

DEBOIS, 36 IN H. P. H. B. 670 A. R.

pounds of sulphate of copper and the same of lime, with 45 gallons of water, and saved the entire crop of grapes. He began spraying very early, or as soon as the leaves appeared, and repeated three times, the last one ten days after the fruit had set. Dr. Roberts had not been so successful, but he began after the middle of the fruit.

New Editions.—We have received from the author, Dr. C. HARLAN, Wilmington, Del., a copy of his Scotch edition (revised and enlarged) of his interesting book entitled "Farmers Should Grow Manures on Unexpired Farm" the advertisement of which has been standing in our columns for some time. The price is 25, postage paid.

Mr. W. F. HARRIS, West Chester, Pa., has read before the Agricultural Society of that county a paper on

How to Select Cows, or the Common System Simplified, combined and practically applied. The demand for this book in the past shows that there is interest in the subject by breeders and farmers. The price in paper covers, of which we have a supply for sale at this office, is 50 cents, or the 75 cents it may be obtained bound in cloth direct from the author.

The Late A. N. Cochrane.—We have received a letter from Mr. A. P. COLES, Hartsville, Tenn., in connection with which we publish below at his request:

I have just read the obituary notice of Mr. A. N. Cochrane given in your No. 1 elegantly kept Cochrane, and I am sure that all who knew him will say that it is a correct and just tribute to his memory. Mr. Cochrane was a man of the highest character and of the most unblemished reputation. He was a man of the formation of a joint-stock company, with a capital of $100,000, to be called the Cochrane market-garden purposes, and that after a best of $50,000.

Minnesota Horticulturist.—We receive from S. D. HOLMAN of Minneapolis, secretary of the Minnesota Horticultural Society, the Annual Report for 1888. It contains the usual amount of matter, and the meeting of the year ending with March, the proceedings of which are given in full, with reports of the various essays and reports. The discussions which it reports refer largely to the selection and treatment of fruits and garden products for the peculiar climate of that State. The intelligent horticulturists of Minnesota contribute to give much valuable information concerning and testing the hardy varieties of the Northwestern States, and especially information on the value of which, however, there is difficulty in obtaining. Many valuable experiments have been introduced are deterrent in long keeping qualities, and the trees prove unsentually liable to blight. One of these Russian sion of plats about 14 by 20 inches, representtales, the Unity, was stated by Mr. A. Peterson to be much healthier than the Oldenburg. An orchard of each variety, fifteen years old, had more than half of the Oldenburg dead, while the trees of the Unity were yet sound, with the exception of blight. Experiments are under way in employing the Russians for cross-

tenally liable to blight. One of these Rus-ing a group from their herd, composed of De Kol 8th and five others, all of her family. The picture is one of the best, in the Hu-life appearances of the cattle as well as in landscape effect, that we have had, and reflects much credit upon both the herd and the artist. As will be seen from the engraving, De Kol 8th is largely white, but slightly flecked with black, and her offspring resemble her considerably in this respect, though all but one of them have larger spots of color.

The Fourth Volume of the Holstein Friesian Herd Book was noticed in our issue of July 11th. In a letter since received, Mr. Chas. Mc. T. S. WARE, Iowa City, reynes us to state that the work was not published in time to express charges prepaid, for $8, a moderate price for the two large parts, neatly bound, of which it consists.

Mr. John F. Prescott writes from Hornellsville, N. Y., July 16th:

"I have a record-day test to report of Jewett Sophie 2d's Pride, No. 2, J. C. C. Commencing June 8, 10 lbs. 10 oz. of butter; fed, grass and 6 quarts of bran per day (4 mess.). Commenced, 1 (tested.) Jewett Cream is a granddaughter of Duke of Darlington."

As will be seen by the following paragraph from the London Live Stock Journal of July 12th, our enterprising friend Mr. T. S. Cooper has already made a large purchase of cattle on a broad now rapidly growing in popular favor.

Mr. Thomas Cooper, of Hendon, Cricklewood, the well known breeder of Dorset Horns, purchased 130 of Mr. Eugene Hendrick, Hope Farm seven at that gentleman's sale on Friday, July 5th, at Hope Farm, Bridgend, Wales. Mr. T. S. Cooper, however, did not attend the sale in Pa. The cows (two-tenths) were admitted to be the pick of the herd.

Mr. Cooper writes us: "The Dorset Horns are beginning to attract great attention in America on account of the excellent quality of their mutton. They mature early, are the best of nurses, and breed twice a year, almost invariably bringing twins. They are of great size, and can handle when four to six months old from 100 to 120 lbs. Early in the season, same age, from 90 to 100 lbs. Early in the summer I sent over 100 to Canada, and if I could buy from the best flocks in England I could sell hundreds, and be content with 10%." "It is rather difficult to get prices, as breeders do not care to sell their best animals. There will be, however, on the 5th of July next, some excellent animals for sale at my sale at *Dorset Horn*, sheep as may not occur again for years, when Mr. Hendrick's flock of 300 will be absolutely sold by auction, as he is giving up sheep-farming entirely. I shall be without any doubt the best flock of Dorset Horns in existence." Immediately after advertising the above letter, I called Mr. Chirk to buy the cows, and to buy some of the rams."

Mr. P. J. Cleveland writes us under date of Rochester:

"I propose to put the test for seven days of one more daughter of Exile of St. Lambert 2d's Jewel. Isadore Rose Bates 2d's Jewel. She was made by Peter Anderson, and eliminated 1 lb. 10 oz. of butter from 18 lbs. of milk. For seven days the butter gave 980 lbs. of milk and produced 16 lbs. 10 oz. of well worked butter, equivalent one ounce to the pound. During the test she was fed on grass and one quart of bran a little clover hay, and no pasture. Sun in color. Her grand dam commenced to give one half wheat bran, one fourth corn meal, and one fourth ground oats, and one ounce of linseed clay. Full report of above test in detail, as required by the A. J. C. C., has been made out and forwarded to the secretary. This makes six daughters of Exile of St. Lambert that have been tested, all with flattering results from so second calves."

Mr. Cogswell writes us:

"I have recently sold to Mr. C. S. Penfield of Fairview, Pa., a very fine bull calf, one of the grandsons of Exile of St. Lambert, by the sire, now by its dam, sired by Exile's Duke, from Daisy Stillson 26176, with a record of 15 lbs. 2 oz. butter in seven days, a daughter of that grand old bull Benora Chief 4688, and from Lady Stillson 2d 26177, with a record of 14 lbs. 4 oz., which is one of the finest Jersey cows ever bred. She has a perfect shaped udder, and good escutcheon and quarters. The calf has the same family and very nearly the same markings as the one I sold to Mr. Penfield. Its pedigree is as follows: Sire, Exile's Duke, Pogis 5697, 16 lbs. 1 oz. butter in seven days—3 lbs. of milk per day; sire, Exile of St. Lam-

In an accompanying letter Mr. Dutcher writes:

"De Kol 8th's week's record has recently been increased to 17 lbs. 4 oz. butter from 378 lbs. milk. Her daughter Duchess 2d's Pride's Queen cow was 9 years and the other 3 years old at the time of the test, was fed 13 lbs. per day. 2d's Kate's favor."

We have also received from the Messrs. Dutcher a lithographed drawing by C. Palmer, size of plate about 14 by 20 inches, representthe Hudson River Herd, composed of De Kol 8th and five others, all of her family. The

Farm-Yard Notes and Items.

Mr. HUGH L. WHITE, Williamsport, Penn., writes that he has purchased the Jersey bull Rex 2d.

"Owing to the great destruction to my farm by the June flood, which swept through this valley, my crops have been greatly damaged, and therefore I find it will be necessary for me to dispose of most of my fine herd of registered A. J. C. C. Jerseys. I offer as unusually fine lot of young cows, bulls and heifer and calves for sale. It was my intention to keep all of these for my own herd, but the flood was against me this time, and it is with reluctance that I sell. It will be some time before I can get to shape again at the farm and in the city. My residence and five feet of water on the first of course it and my barn are badly wrecked."

Our Illustration this week is a portrait on the Thirteen-Hundred-Pound Ox, the property of Messrs. J. B. DUTCHER & SON, Fort Plain, N. Y. He has the following fine weight record, amply supported by the affidavits of those in charge of the cattle.

The Holstein-Friesian cow De Kol 2d, 793 H. H. B. 670 A. R., has made the following record for 24 hours: Milk, 78 lbs.; butter, 2 lbs. 12 oz. H. F. H. B., Jan. 16, 1886, at the age of 4 years and 3 months. She has made 7 days' record of 19 lbs. 5 oz. (each inclusive) for 31 days 82 lbs. 8 oz. milk, 7 days' record 19 lbs. 5 oz. butter (each inclusive) 31 days 82 lbs. 8 oz. milk, 1 lb. of butter, and on March 30 she gave 38 lbs. 4 oz. of milk. She was fed 15 lbs. per day of cut clover hay, 8 lbs. of milk meal, 8 lbs. of bran, 2 lbs. of cottonseed meal, and all the milk she would drink. She has ever been excelled by a cow of any breed. She is owned by Messrs. J. B. Dutcher & Son of Fort Plain, New York Holstein-Friesian Herd. Her sire of the same age, to our knowledge, with the cow. Her dam has made 15 lbs. 2 oz. in one week

The Grazier and Breeder.

Notes on Sheep-Raising in Montana.

Eds. Country Gentleman—I have been spending a few weeks with the wool growers and flock-masters of Montana, and a few statistics and notes of personal observation may not be uninteresting to the readers of the Country Gentleman.

First, a few general facts regarding the extent of the sheep industry in this new and far off State. In order to have some basis of comparison let us see how Montana ranks with the older sheep-raising States. At the close of the year 1887 it was shown by the statistical division of the department of agriculture, that the total number of sheep in the United States was about 43½ million. At the close of the year 1888 there was a decrease of nearly one million. This decrease was mainly in the States of Pennsylvania, Ohio, Illinois, Wisconsin, Kansas, Nebraska, New Mexico and California. Among the States that made notable gains during the year 1888, were Texas, the banner sheep State of the country, Indiana, Iowa and Montana.

The gain made in the latter State during the year was 126,500. Montana is now the tenth on the list of sheep raising States. The ratio of increase of 1888 over 1887 was 10 per cent.—a record excelled by only the three States named above. Figures show conclusively that while the sheep industry is declining in other portions of the United States, it is gradually extending on the plains of the West and Northwest. This is not strange when we consider all the conditions, and it is quite probable that a change in the same direction will be more marked during the next few years than it has been in the past.

It is claimed by many that the conditions for wool growing are so favorable here in Montana that the quality of the wool is fully as good as that produced in Australia. Whether it is better than that grown in other States and territories, I am unable to say. It is evident, however, that many of the more prominent sheep men of the State are sparing no pains to improve the quality of the staple. Inasmuch as this industry is mainly in the hands of men of more than ordinary intelligence, and usually with ample capital, this improvement is likely to be equally marked and rapid.

The past winter has been the most favorable ever experienced by sheep men in Montana. Flocks were never in as good condition at the opening of spring as they were this season, and the present clip of wool is undoubtedly the best in quality, as it is the largest in quantity, that has ever been produced.

Although the winter and spring months were all that could be desired by the herdsmen, the summer, thus far, has been extremely dry, and the ranges are now suffering from lack of moisture. Until a week ago the stockmen were apprehensive that the grass would all dry up, but since then several welcome and prolonged rains have dispelled the worst of doubts.

The only drawback now is that it will be difficult to cut and store much hay for the coming winter. Inasmuch as little or, in many cases, no hay was used last winter, there is a fairly good supply on hand.

It is the general opinion, unfounded perhaps, but none the less common, that the coming winter will be a severe one. This belief is fortunate, for it impels as careful and provident preparation as can well be made. In this dry climate, and with the variety of wild grass which is found here on the plains, hay which is stacked keeps perfectly, and is just as good years after it has been cut as that harvested the same season.

As has been stated, the climate of Montana is peculiarly adapted to sheep husbandry. The percentage of loss by disease is almost nothing, and the increase is something marvelous. This immunity from disease is one reason of the success attained. Whether it will continue, or whether the importation of sheep from other States will result in bringing in some of the disorders and destructive epidemics there prevalent, one cannot tell.

As to breeds, the Merino, Cotswold and Shropshire are the favorites. The Merinoes predominate, and many of the flocks of this breed are nearly if not quite equal to the carefully selected and improved flocks of the Eastern States. Some sheep men are now crossing the Merino with the coarser-wooled breeds, and it is claimed that this gives a medium grade of wool as to fineness, which is much sought after by manufacturers in all parts of the world.

Fifteen years ago there were comparatively few sheep in the territory of Montana. It is estimated that the present number, including lambs of this year, is not far from 2,000,000. The wool clip of this season will not fall short of 11,000,000 pounds. The shearing season draws to a close with a strong and slowly advancing wool market, so that the prospects are bright, and those engaged in the industry are reasonably satisfied with the present and hopeful for the future.

In addition to the advance in the price of wool, there is a great and constantly growing demand for good mutton. This is also encouraging for the enterprising and intelligent flock masters.

The cost of raising sheep here is extremely variable. It ranges from practically nothing to more than they can possibly return. Instances can be cited where sheepmen have made over 50 per cent. on their investment in a single year. On the other hand, men have lost an equally large percentage in the same time. Anywhere from 10 to 25 per cent. might be given as the average legitimate return on a sheep investment in Montana. The investment in lands, buildings and whatever appliances are needful for a well-equipped sheep-ranch is about $3,500 for every 1,000 sheep in flocks of 2,500 and upward. It will be understood that this sum includes the sheep as well as all necessary equipment for conducting a ranch.

The two principal wool markets of the State are Fort Benton and Great Falls. These two cities are about 40 miles apart, and the rivalry between the buyers at each point is of a most exciting character. The prices paid this year vary, according to the grade, from 17 to 23½ cents per pound.

Here as elsewhere one very vital point in the management of sheep is the care of the fleece. Of course the best care is that which will put it on the market in the best condition. In other words, the wool must be free from seeds, chaff, burrs and soil. The careless man will sometimes allow his flock to browse around or rub against stacks of hay. Others in feeding are so careless, that more or less dust, chaff, &c., sift down upon the necks and backs of the sheep. From three to seven cents per pound difference is frequently made between clean and chaffy or dirty wool. This makes a vast difference in the net profits, and the care to have perfectly clean wool is one of the reasons why some men succeed, while others less careful in this respect, make little or no profit.

The Northern Pacific and Manitoba railroads transport nearly all the wool and fat sheep that are shipped east. It is said that Boston gets the bulk of the wool, while Chicago disposes of the larger part of the mutton. If these railroads would divulge the figures showing the total amount of shipments over their lines, a very correct estimate of the product of the State could be reached. This they are usually unwilling to do, so only approximate figures can be given.

Interviews with several of the leading and best informed sheepmen of the State, convince me that the wool crop for this year will not fall much short of 11,000,000 pounds.

Fort Benton, Mont. WILLIAM R. LAZENBY.

Suffolk Punches—Hunters.—This breed of draft horses is well spoken of by Mr. James Wood in his interesting account of the great show in Windsor Park. I knew the breed intimately 60 years ago, as some of the nobility under whom my father and uncles rented farms, had four-horse teams bought in Suffolk. They were thought well of then, but they have been somewhat improved since. Mr. Fred W. Stone of Guelph, Ont., imported a good many, and a few years since I saw some of them at the Moreton Lodge farm, and on several occasions I have seen good teams in other hands which were by his stallions. It is pleasant to find that Mr. Wood appreciates the Hunter class of horses, for although they may never be in great demand for hunting it is just and true to say that such stallions would greatly benefit this country for nearly all uses in city or country. If readers will recollect, I wrote several times in the Country Gentleman about a dozen years since, urging the breeding of "weight-carrying hunters," and at the present moment the arguments I used would hold good, for depend upon it the breeding of thoroughbreds for running and trotters for racing will soon be overdone, and the great body of gentle people outside of the sporting class will demand horses with the style and grandeur of those which the Queen is giving prices of $1,000 each for. The call for such horses would, as in England, be greater than could be met and at long prices, too. C. C.

Troublesome External Parasites.

Eds. Country Gentleman—The frequent appearance of parasites upon the skin of various farm animals causes much trouble to farmers and stockmen; the more so because the nature of the pests is not well understood, and the best means of preventing them or getting rid of them are consequently not known. Lice are the most abundant source of trouble, and but few animals are entirely free of them. Formerly, when the biology of these insects was unknown, it was supposed that they generated spontaneously and were produced by some unwholesome conditions to which the animals were exposed. Dr. Youatt, a popular veterinarian of the past generation, in a little work published in 1840 by the English Society for the Diffusion of Knowledge, stated that these parasites of the skin were caused by bad keep, starvation, exposure to cold and wet, and a suppression of the perspiration. No doubt the very common parasites are found abundant under these unfavorable conditions, and upon weak and unhealthy animals; not that they are thus generated, but that these ill conditions favor the unwholesome excretions upon which these creatures subsist, and favor their rapid increase. It is quite true that lean, impoverished animals suffer most severely from lice, and that fat, thrifty ones are generally free from them, and that well carded and clean skins offer fewer attractions for them; but nevertheless they will sometimes be found under the most favorable conditions when circumstances assist in their introduction and preventive measures are neglected.

Vermin of all kinds bring lice and fleas into stables and barns, and there is no doubt that while each kind of animal is infested with its special variety, sometimes the louse or tick of a fowl will attack and infest horses and cause serious trouble if the fact is not discovered and remedies applied.

Lice may be classed in two groups, viz., those which obtain food by suction through the skin, which they pierce, and by means of tube like suckers which penetrate into the subjacent tissues; and those which subsist upon the scales of the skin, the hair or the feathers, or the abnormal matter thrown off by unhealthy secretions. The first kind belong to the genus *Pediculus*, of which the common *Pediculus humanus capitis*, or head louse, and the *P. humanus corporis* (or *vestimenti*), the body or clothes louse, are too well known to need any notice. But a closely related species is often found on cattle, especially the calves, and is commonly known as blue lice. None of this genus is found specially on the horse, but one infests the ass quite commonly, and will go from its special host to horses that are exposed to the contact. Other species are found on the hog, the ox and the dog. All these are of a dark reddish brown, chestnut or red color, with light ashy or yellow abdomen. They are exceedingly annoying, and cause intense irritation, thrusting their tubular suckers deep into the skin, and drawing blood by rapid palpitations of the stomach, which is quickly gorged to repletion with the vital fluid. When very numerous, it is not surprising that rapid emaciation should occur, not only by reason of the loss of blood, but the intolerable irritation caused by the constant puncturing of the skin.

The latter kind are most numerous and various, nearly every animal having its special kind, although sometimes one species may for a time infest another animal than that to which it strictly belongs. These insects belonging to the genus *Mallophaga* seem to form a connecting link between the *Anoplura* and *orthoptera*, having free biting mouth parts and mandibles, but no sucking tube.

Two species infest the pigeon; three species infest the chicken; two the turkey, and one the duck. Owls, swallows, sparrows and other birds which visit barns or make their nests in them are usually swarming with parasites of this class, and mice and rats are equally infested with them. No doubt much inconvenience happens at times by the introduction of lice into buildings by these vermin, and their spread to the stock, which, it is well-known, for a time, will harbor these unnatural guests and suffer much inconvenience from their temporary invasion. In the best kept barns and stables this contingency will occur, and the most carefully tended animals will at times be infested, just as a lousy flock of chickens will infest the persons who handle them, and cause much inconvenience for a short time, until by thorough ablutions and change of clothing the pests are got rid of.

The horse, ox, sheep, dog and cat are infested with the louse of this kind, all belonging to the species *Trichodectes*. These lice are red or brown in color, and from their biting habits, cause severe irritation. They lay their eggs upon hairs, to which they fasten them by a sticky fluid. These eggs appear as the so-called "nits," which are found upon all lousy animals. The eggs are hatched in three or four days, and at the age of three to six weeks begin to reproduce themselves. As each female lays about 100 eggs in three weeks, a single louse may be the parent of 10,000, and in six weeks a million of progeny may descend from one female. This rapidity of increase no doubt has given rise to the somewhat prevalent belief that this class of vermin are generated spontaneously by some prevalent condition; and taken with the fact of the frequent migration of species to different hosts, calls for the utmost care to prevent infection by contact with the common vermin, or from other infested animals, as well as to observe closely the condition of stock, and apply not only remedies, but preventives. Reproduction is continued throughout the year, although it is most effective in the warm seasons.

One of the most effective remedies and preventives is kerosene or crude petroleum, sponged on the hair lightly, and thoroughly worked through the coat by brushing. Although I have never been troubled by these pests among my stock, yet I have been in the habit of frequently using the crude petroleum in this way, and on account of its viscosity, adhesiveness and more penetrating odor, as well as for its lesser pungency, it is far preferable to the more fluid and acrid kerosene. My custom has been to apply a sponge, slightly smeared with the oil, to the brush, and then apply the brush to the skin in the usual way. The odor soon passes off, even from cows, and the coat is left soft, smooth and glistening. The refined oil, if used in any sort of excess, will cause inflammation of the skin and loss of hair. For poultry it is sufficient to apply the crude oil to the perches and the nest boxes once in two weeks, when vermin of all kinds will be kept at a safe distance. Good feeding and cleanliness about the buildings, and the absence of the small vermin incident to this cleanliness, are effective safeguards, and will go far to avoid the necessity for any but occasional applications of the oil. Indeed the oil may be applied to the woodwork of the buildings inside with good effect, if the means of infection are avoided. Henry Stewart.

Saving Manure—Variety of Feed.

Eds. Country Gentleman—I had planned to use cottonseed meal and wheat bran or middlings to balance my ensilage for milch cows. I intended to feed 4 or 5 lbs. of good hay—timothy and clover mixed—per day, with 30 lbs. of corn ensilage—planted thin so as to have well developed ears—and 3 lbs. of cotton seed meal with 5 lbs bran or middlings. I want to produce milk and manure. Cotton seed meal will cost me $34.00 per ton, linseed oil meal the same and best bran $16.00 delivered here. Had I not better buy so as to feed 2 lbs. a day of both cottonseed and oil meal and 3½ lbs. of bran, which you see would cost the same? By the tables in Prof. Stewart's "Feeding Animals," page 80, the manure from a ton of oil meal Old Process (?) is $1 86, from cottonseed $1 08, from bran 16 15. Taking it all in all there seems to me little difference which of the two rates I use unless the cows will do better with a variety or need more of the nitrogenous food to balance the ensilage and hay. Possibly I shall put in 10 per cent. of corn meal when mixing up feed.

The substance of my enquiry is whether cottonseed meal and oil meal together are better than either alone. When I can get bran and middlings at the same price had I better use one or both? I usually mix a ton or so at a time so I can use both conveniently. I enclose two samples of oil meal. Are the lumps in No. 2 any objection? Is No. 1 better than No. 2 otherwise than lumps? C. L. A.

Whitehall, N. Y.

C. L. A.'s object to be attained is an important one (to make milk or manure), but, to carry out this plan, especially getting the full

benefit of the manure, provision must be made to save the manure after its production. This is the great point which our American farmers leave mostly unconsidered.

The value of a food as manure, after being used in the ration, as quoted from "Feeding Animals," presupposes that the liquid as well as solid droppings is perfectly preserved.

When manure is placed in pile on the ground in the open air, or is thrown out of a stable under the eaves, its value is not even one half the figures named. The liquid manure contains more of the valuable elements than the solid, and this is mostly wasted by soaking into the earth, and in various other ways.

There is no way to completely preserve the liquid droppings except in a water-tight gutter, and then the liquid and solid droppings should be taken directly from the gutter to the field.

2. We see by the value that A. has quoted undecorticated cottonseed cake, but the purchaser now should always be sure that he gets the decorticated article, which is worth as food and manure nearly 50 per cent. more than the cake containing the hulls. Of late years it has been supposed that cottonseed oil has so increased in use and value as to cause all the seed to be passed through a hulling machine. A. should be certain of the real quality of his cottonseed meal, as there is a great loss in feeding undecorticated for decorticated meal. A.'s two samples of linseed meal are probably of the same value as food, provided the lumps in No. 2 are dissolved. It is more convenient to have the finely ground. No. 2 appears to be simply too coarsely ground.

3. A. is right in supposing that a ration is improved by using a greater variety of foods. It would be better, the quality of both being the same, to feed half linseed meal and half cottonseed meal. Cottonseed meal is supposed to give a finer texture to butter. Linseed meal has a very favorable effect upon the digestive organs, and is a decided promoter of health. In feeding bran, we usually advise the quality called "fine feed," which is similar to shorts, but the coarse bran sometimes contains more albuminoid matter, and, when it is convenient, it is probably better to mix the fine and coarse together.

4. In making up a ration, the difficulty is to get a proper balance between the albuminoids, carbohydrates and fat, and if A. feeds a sufficient amount of nitrogenous food, he may, as he proposes, mix in 10 per cent. of corn meal with the ensilage, especially when he feeds only 30 lbs.

Perhaps the following analytical formula will show as good a ration as he can feed:

	Albuminoids, lbs.	Carbohydrates, lbs.	Fat, lbs.
30 lbs. ensilage	0.36	6.60	0.15
5 lbs. clover and timothy	0.35	1.75	0.07
4 lbs. corn meal	0.53	3.48	0.19
4 lbs. mixed wheat bran	0.47	1.96	0.19
2 lbs. decort'd C. S. meal	0.70	0.44	0.13
2 lbs. linseed meal	0.56	0.90	0.33
Total	2.97	15.73	0.75

This has a nutritive ratio of 1 to 5, and it should be a very successful ration, with good cows, in the production of milk of the best quality. E. W. S.

Kerosene—Flies.—Now is the tormenting time of the pestiferous flies. Our poor domestic animals suffer much more than the general public believe or know. I have tried all the sure preventives of this annoyance from flies, and I have known them all to fail signally. Some 18 years ago, in the COUNTRY GENTLEMAN, I advocated the use of common kerosene for the prevention of lice in the hen-house and on the chickens. Many newspapers now publish this remedy as one of their original articles. I have now, after strict experimenting, found common kerosene to be the best cure for the tormenting flies in the stable, cow-house and poultry house. I use a common pint, long nozzled oil-can. I squirt the kerosene, by a series of jerks, all over the sides and floors of the stalls; the same for cow-house as for stable and hen-house. I use it in my hen droppings (which I keep in barrels for sale) to prevent maggots from breeding. It is, as such, a sure success. I sprinkle it on the horses, cattle and poultry, and with perfect safety. DR. WM. HORNE.

Jonesville, Wis.

About Berkshires.—On page 530, Mr. A. B. Allen says that I am mistaken about white Berkshires, but that the large Yorkshires were called Berkshires. I only know that in 1842 or 1843, my father got what were then said to be white Berkshires; and I think now, from what Mr. Allen says, that they no doubt came from the ones that he imported and disposed of to a party in Ohio. My father tried them sufficiently to be of opinion that they were a poor hog, and gave them up. I feel certain that no one in the United States has any better chance to judge of the merits of the different breeds of hogs than Mr. Allen, who has spent a long while and a large amount of money in examining and finding out the best of all, and I readily endorse his opinion as to the superiority of Berkshires over all others, for breeders. For pork, I am satisfied that a cross of Jersey Reds and Berkshires is the best I have tried. Your correspondent S B., page 529, speaks highly of the Tamworth hogs in England, and possibly they are the same as the Duroes or Jersey Reds in this country.

Calhoun, Ga. WM. H. BONNER.

Vermin on Swine.—This wet season here appears to be prolific of swine vermin. The pigs of several neighbors have been seriously afflicted. An effectual remedy is to sponge the porkers with a mixture in equal parts of kerosene oil and buttermilk—the latter preventing the former from taking the hair off or producing other difficulty. C. W. *Ithaca, N. Y.*

The Dairy Department.

Clover—Rice Hulls—Milk Ration.

Please prepare ration for a three year-old Jersey cow of medium size, with a view of producing the largest practical flow of milk. Cow is now fed a half peck of bran (or, more exactly, two parts bran and one part shorts), and a half gallon of corn meal, morning and evening, with some hay, which last she cares little for. Cow was giving four gallons at her flesh (calf was dropped in March), but has fallen off to three, owing to change of surroundings, lack of pasture, and having been brought here from a distance of several hundred miles about a month ago. The feed to be used is left to yourself, the supposition being that I can obtain it here or in St. Louis, Mo.

New Orleans, La. O. P.

O. P. appears to feed bran, shorts and corn meal alone, not mixed with the hay, and this will be likely to cause a feverish condition of the system, and to this the falling off in milk may be partly due. Removal from one place to another may also have an influence. We have known instances where changing from one farm to another, within a mile, caused a large falling off in milk yield.

But now, since the cow does not have pasture, she should eat a greater proportion of coarse fodder. He says that the cow cares little for the hay, and it must be presumed she eats but little, making the ration consist of 8 qts. bran and shorts (or 8 lbs.), and 4 qts. corn meal (6 lbs.) per day. This is too small a ration, and would not sustain a cow in yielding 16 qts. of milk or 34 lbs. per day. When placed in analytical formula, this shows the following digestible nutrients in pounds:

	Albuminoids.	Carbohydrates.	Fat.
8 lbs. bran and shorts	0.92	4.00	0.36
6 lbs. corn meal	0.50	3.00	0.21
Total	1.42	7.00	0.45
Add the following:			
12 lbs. Japan clover	1.26	4.56	0.24
1 lb. cottonseed meal	0.35	0.32	0.06
Total	2.03	12.38	0.80

This has a nutritive ratio of 1 to 4.7, and would be a successful milk ration; but the hay must be run through a cutter and moistened, and then the bran, corn meal and decorticated cottonseed meal mixed with the cut hay. Then the concentrated food must be eaten with the hay, and the digestive organs will be kept healthy and the food will produce the best result.

P. will see that the ration he has been feeding is too small, and is too heating when fed without the hay. The Japan clover is better than common hay, and if he substitutes common hay he must add 1¼ lbs. of decorticated cottonseed meal to properly balance the ration.

Other rations could be compounded for P.'s cow, of foods which, perhaps, he could more easily obtain, using rice hulls in place of most of the hay, as in the following formula:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
10 lbs. rice hulls	0.34	4.32	0.43
2 lbs. hay	0.19	0.99	0.03
4 lbs. wheat bran	0.47	1.94	0.19
4 lbs. rice middlings	0.34	2.06	0.38
4 lbs. corn meal	0.53	3.54	0.19
4lbs. dec'd cottons'd meal	1.40	0.00	0.34
Total	3.26	12.85	1.57

This has a nutritive ratio of 1 to 3.9, and containing a large variety of food, should be successful in practice. The rice hulls take the place of hay, and the grain food will be well mixed with the hulls. This ration will not cost quite as much as the other, and also will be more convenient in mixing. This also contains an excess of fat, and if it can be well digested, should increase the proportion of butter fat in the milk. E. W. S.

Reducing Temperature of Milk.

EDS. COUNTRY GENTLEMAN—On page 515: "Milk, to keep, should not be brought much below 70°, and kept at that point as nearly as possible." My spring water is 66° to 70°. I have been submerging my milk in a trough of this water—cans 8 in. in diameter, 14 in. deep—but it does not yield satisfactory results. Upon test I find shallow setting in that water produces 40 per cent. more cream. Ice is too expensive to use—worth 50c per 100. Early in May, when spring water was 55°, the plan pleased me. I write for information. I have 30 gallons milk per day to churn. This warm weather, mercury at 78° to 85° in the shade at 12 M., my butter is too oily and soft for my taste. With water at 66° to 70°, will thank you for a plan to make good grain butter, and leave me sweet milk to feed to calves. D. W. C. B.

Greensboro, N. C.

The temperature mentioned in the article referred to is evidently a mistake; the context shows that 40° was intended. It is useless to submerge milk in deep pails in water of a temperature of 66° to 70°. There will be a great loss of cream, and this fact explains why the shallow pans produce 40 per cent. more cream than the deep pails.

I can suggest no other practicable method for the writer of the above letter than a milk room below the surface, as I have previously described in the COUNTRY GENTLEMAN for use in the South, and the use of shallow pans. For so large a quantity of milk, it would pay to construct such a dairy, say 12 feet square and 10 feet deep, with brick or stone walls, and shelves around them for the milk. Light is admitted through a glazed sash in the floor, protected by a railing, and a neat building for churning is built over the cellar. The cellar should be protected from dust coming in from above by a plastered ceiling, or by building paper laid between the doubled floor.

A temperature of 60° could, I think, be maintained in such a cellar through the summer, and the milk might be kept sweet for calves, and yet raise all the cream. The use of sulphur kept loose on three or four plates on the shelves has been found to retard souring by its slow evaporation and oxidation into sulphurous acid, which kills germs of fermentation and acidity, and without affecting the butter flavor. If, in churning, the butter is found to be too soft, a few pounds of broken ice thrown into the churn will remove this trouble at the least possible cost. If the cellar becomes too warm, 5 or 6 lbs. of broken ice mixed with salt in a pan would reduce the temperature several degrees, and a few pounds of fresh quicklime would absorb the condensed moisture and preserve the cellar from mould.

I should think a supply of well or spring water, not warmer than 60°, could be procured at Greensboro, N. C., for the purpose of keeping the milk in shallow pans cool enough to remain sweet for 36 hours, when all the cream will have risen. If this is possible, that would meet the necessities of this case most easily. If not, I cannot suggest anything better than the deep sub cellar, which I have seen to work perfectly in the South. HENRY STEWART.

Macon County, N. C.

Flaxseed in Milk Ration.

EDS. COUNTRY GENTLEMAN—The difficulty we have in getting pure oil meal to balance ration for milch cows, causes us to look for some substitute. How would flaxseed answer, boiled to a pulp, and a quart of the mixture (oil and hulls) given with each ration of corn meal, wheat bran, clover hay and corn ensilage? T. L. *Roanoke, Va.*

T. L. is informed that flaxseed contains too much oil to be used as a balance for such foods as corn meal, ensilage, &c. Oil meal from flaxseed has lost some 0.8 of its oil, and is therefore very much changed in composition.

He will see by the following analysis the change. Flaxseed contains: Albuminoids, 20.5; fibre, 7.3; carbo-hydrates, 19.6; fat, 37.0; ash, 3.4. Linseed cake—Albuminoids, 34.4; fibre, 7.3; carbo-hydrates, 31.5; fat, 6.0; ash, 8.3.

L. will see by the above the great change made in pressing out the oil. It increases the albuminoids from 17 to 34 per cent. and decreases the oil from 37 to 6 per cent. and largely increases the ash. It is the albuminoids that are wanted, particularly, in balancing the ration.

Flaxseed boiled to a jelly is of the greatest service when we wish to replace the cream in skim-milk for calves, colts, pigs, &c., or when we wish a mild laxative in the ration, but it cannot be used in the way L. proposes to balance a ration. The following formula will show this:

	Albuminoids, lbs.	Carbohydrates, lbs.	Fat, lbs.
30 lbs. ensilage	0.36	6.60	0.15
5 lbs. clover hay	0.34	2.10	0.07
3 lbs. corn meal	0.13	1.98	0.14
6 lbs. wheat bran	0.70	2.76	0.28
2 lbs. linseed meal	0.70	0.91	0.13
Total	2.43	14.35	0.77

This has a nutritive ratio of 1 to 5. Now if we should substitute 3 lbs. of flaxseed, boiled, for the 3 lbs. of linseed meal, we should deduct from the albuminoids and more than double the amount of oil. The footing of the formula would then be: Albuminoids, 2.23; carbo-hydrates, 10.89; fat, 1.56; having a nutritive ratio of 1 to 6.6. And so great a proportion of oil would be likely to affect the quality of the butter. E. W. S.

Conference at Carthage.

EDS. COUNTRY GENTLEMAN—It is the conference, in connection with the churnings, which makes the meetings so much a factor for good. The making of the butter and the adjustment of the conditions give force and consistency to the general instruction. The practical work done is a clincher on the verbal instruction. The people are set to thinking, and perhaps these waves of thought extend and encircle a whole section. Thought begets investigation and care, and when the spirit of inquiry is well started, there will be advantageous results. More cows will be tested this year in New-York than ever before. The practical results of the churning of the cream of 200 lbs. of milk, with its wide variations, demonstrate the importance of an actual knowledge of what one's cows are doing. If the conferences shall result in the weeding out of the dairies, or a portion of them, they will have done a good work.

A dairyman who was moved to try to do better, has begun the work of testing his cows. This man's dairy is a superior one, and the beginning of knowing is the more marked. The tests were for three days, or for six consecutive milkings. He is going through the herd. Results: Elsie gave 74 lbs. of milk; set in cold setting it produced 25 lbs. cream, which churned 2¾ lbs. butter. Polly gave in the same time 71 lbs. of milk, which produced 21 lbs. cream, making 2¼ lbs. butter. Do these cows pay? Yes, considerably better than thousands of others, but they do not pay as they should. It is a reasonable estimate to say that one-third of the cows in New-York do not make on an average a pound of butter a day for seven months of the year. It is probable that one-fourth of the cows do not make more than half a pound of butter a day on an average for seven months, and it would be nearer the truth to say for six months. There are in New-York, according to the estimates of the Department of Agriculture, 1,582,373 cows. Say one-half are kept for butter-making; this would make 776,186, with one-fourth, or 194,046 cows, constantly running their owners in debt. One-third would be 258,998, with a butter yield which possibly might be stretched to pay the cost of keeping these cows. The only consolation in this business is the fun of going through the dairy motions for a year. Let us have more of the spirit of inquiry, and of elimination, of the know-how and what-for.

When the home missionary work in dairying shall have reached the substantial ground of dairy schools, we shall not be obliged to record such discouraging results as the keeping of 258,998 cows at a cost of $30 each, with a total of $7,661,850 earned in food to be thrown away; for there will be too much enterprise and intelligence to admit of such business folly. Already inquiries are coming from other States for "educated dairyman," asking, "Can they be had in New-York?" The young man who are longing to go to the cities to "tend store," with a life prospect of a few clothes and cheap board, should heed this higher demand and fit themselves to become professional in the art of dairying.

The conference at Carthage was enriched by the presence of Prof W. W. Cook of the Agricultural Station, Burlington, Vt. Prof Cook came over the border to see a dairy conference, and with the spirit of a true agricultu-

rist, joined in and made the meeting all the more enjoyable. W. H. Gilbert and E. S. Munson were the instructors, and did their parts well. The conference was held on the Carthage fair grounds and was well attended. Mr. Gilbert opened the meeting with practical remarks, and then the first churning was made from cream furnished by Mrs. M. C. Johnson's ten cows, grade Jerseys and Short-Horns, which gave 200 lbs. milk the day the milk for this churning was drawn.

The dairy pastures are loam and sandy lands, well watered. No grain fed to the cows; salted twice a week. The churning was the cream from 200 lbs. of the milk, set to cream in the shallow tin pans, and kept at a temperature of about 62°. The usual process of stopping churning and washing the butter in granular form was gone through with, and salt an ounce to a pound stirred into the butter, which was worked. The quantity of butter was 10½ lbs., taking 19 lbs. of milk for 1 lb. of butter.

The second churning was of cream from 200 lbs. of milk, from a dairy of six natives; milk set in small shallow pans, to cream, at a temperature of about 62°; churning was done in a churn not well planned to do the best work, and was not satisfactory. Butter came in five minutes.

Prof. W. W. Cook was called on for remarks. He said: "The average product of butter in Vermont is only 130 lbs. per cow, whereas there are thirty dairies in the State averaging over 300 lbs. per cow this year. It is economy to study your dairy. Every cow of the dairy should have a record, by weighing her milk at stated intervals through the season. Five minutes in the morning and at night will weigh and record each cow's milk in a dairy of twenty cows, if proper facilities are provided. Ninety-four per cent of the butter fats can be made to go into the butter, whereas but 90 per cent. was the average obtained, and in some dairies only 87 per cent.

The meeting seemed to be very satisfactory to the large audience of farmers, farmers' wives and others. F. D. Curtis.

To Prevent Milk Souring.—When ice or cold water cannot easily be procured for daily use, what can be added to the milk to prevent acidity? If soda be the thing please give proportions. E. A. J. *Selkirk, N. Y.*

The Veterinarian.

Answers to Correspondents.

By Dr. Edward Moore, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

Death of Heifer.—She was due Jan. 27th, and was in good health. Early in morning of 28th labor began, and one hour later front feet of fœtus visible; at noon condition the same. On examination found that calf was on its back and head dropped; tried to push it back, that its head might be raised and put in proper position, but did not succeed. Calf alive in morning; dead at noon. On 30th heifer was in same critical condition, emitting a very offensive smell, which increased until it was impossible to be with her any length of time. Did not eat; toward evening very restive; would lie down and get up often; stand with head down; began to swell and died in the night. J. B. W. [The feet should have been secured by tying a piece of strong cord or clothes-line to them; then the calf should have been forced back and the head found and raised by hooks placed in the eye socket or in the angle of lower jaw. Of course the hooks would be attached to strong cord. It might have been necessary to amputate the head.]

Crippled Mare.—A mare has been crippled for over two months. At first her back was so weak she could not get up without help of three or four men; now she gets up sometimes without help. Left hind leg is much swollen at hock, and joint seems to pain her; fetlock joint bending too far forward. Appetite has been good up to a week ago; since then pain seems to take it away. When standing she draws leg up, and when lying down she looks at it and sometimes bites at it. Fetlock joint seems dislocated. Hoof likely to come off. D. M. T. *Ninety Six, S. C.* [You should have written to us at first; two months' delay has so reduced the chances of recovery that one dislikes to offer suggestions. Rub the swollen parts with some of the following liniment twice a day: Tincture opium, spirits camphor, tincture aconite root, chloroform, of each 8 oz.; alcohol, 12 oz.; mix. Have foot examined and pared out, as it is very probable the cause of all the trouble is in the foot. Soak foot in salt water for thirty minutes twice a day. Write again in four days.]

Sore Feet.—A newly bought horse, ten years old, unshod, was driven home, 20 miles, pretty sharp three weeks ago; shod, and next morning was very sore. Next day took off shoes and stood him in mud for a week, and as fever seemed to abate used spavin cure around coronet. Four days ago he seemed better, and was shod with quarter calks, which seemed to help him, but after a short drive he was worse. Have turned him out to pasture with shoes on. When taken out of barn he had a short stumbling gait, stubbed his toe, and did not step out very far. Feet a little hot about the heels, and joint above and next the hoof seems sore. Feet are good and not contracted. Horse has never been grained high or driven fast until I got him. J. D. W. *New-Brunswick.* [Soak feet an hour night and morning in warm salt water, for five days, and keep him at pasture or give walking exercise. Bar shoes would be best. In 6 days apply golden blister. After that has been on five days wash it off and soak feet every other day, greasing and washing to remove the blister as per directions. Repeat blister in three weeks.]

Eruption on Mare.—My brood mare 12 years old has what appears like barn itch on abdomen from udder to fore legs, 1 to 2 inches wide with here and there a disconnected spot. It first appears in thin scales, but the skin soon thickened and became raw. A few applications of lard and sulphur will heal it, but it will soon appear again on the exact spot it formerly occupied. This is the third season she has had this skin disease which comes on in July or August, and disappears at hoeing time. D. M. *Presque Isle, Me.* [Give 6 dr. of Fowler's solution three times a day in feed for a month. Wash skin with soap and warm water; when dry apply some of the following mixture: Mercurial ointment, 1 oz.; fish oil, 1 oz.; sulphur, 6 oz.; crude petroleum, 1 qt. Mix. Repeat twice a week.]

Hock Swelled, p. 167.—Horse was shod as directed, also blistered, and had six weeks' rest. Before the thoroughpin seemed to have developed there came an enlargement both on outside and forward inside of hock; is soft, and can be pushed back and forth through the joint. After treatment (blistered twice, and wore high-heel shoes for two months), was put to work plowing and drawing light loads; seemed all right, but shortly began to favor leg; does it now only with heavy loads. Would you advise blistering again, or any treatment? Have been told that such cases got along about as well without any treatment. S. T. C. *Ulster County, N. Y.* [It is ridiculous to imagine that such cases do well without treatment. They are the result of severe strain, and require strong remedies. Blister horse again now. We often have to use red-hot irons to cure the lameness. I think your horse is doing very well.]

Colt to Breed.—Have a two-year-old colt which I should like to breed, but shows no signs for need of service by horse. J. A. H. *Lampeter, Penn.* [Use Moore Bros.' injectio vaginæ.]

Rash on Mule.—A mule, every summer, breaks out all over with something like heat. H. & W. *Richmond, Va.* [Give the mule a dose of physic Saturday once a month for three months in the spring. Sundays after, he may have a little walking exercise.]

Cough in Mule.—A fine mule has had a cough for two months. Think it was caused by eating mouldy fodder. A. M. C. *Alberta, Ala.* [Give half pint raw linseed oil in feed three times a week. Rub liniment on throat daily for a week. Give tablespoonful of the following powder three times day a on tongue: Powdered barbadoes aloes, 4 oz.; powdered chlor. of potass., 8 oz.; sulphur, 6 oz.; mix.]

Discharge from Nose.—A young cow seems to have cold in the head; breathes very hard, with a wheezing noise; appears to have broken and discharges through nose a yellowish-looking matter; no cough; appetite good; milk flow not diminished. Will this render milk unfit for use? G. W. H. *Aurora, Pa.* [Keep cow separated from herd until well. Inject nostrils twice a day with some of the following lotion: Tincture of aloes and myrrh, 2 oz.; creosote, 2 dr.; water, 1 qt.; mix. Milk is all right so far.]

Hip and Shoulder Lame, p. 426.—Applied blister June 20—more than half of it. Think there is some improvement; will give another application. Shoulder very stiff yet, and at times worse than others. Drags toe in walking; supposed to be in muscle between joint of shoulder and chest. J. *Martinsburg, W. Va.* [Put a seton in shoulder from top to bottom. Take it out in 5 days. When it is healed, you will report again. It would be wise to put a rowel in hip in three weeks after operating on shoulder.]

Hard-Breathing Cow.—A cow, 11 years old, is affected with hard breathing, like a wind-broken horse; has been so three or four months. There seems to be a knot on her throat about where a man's "Adam's apple" is; does not seem to affect her milking qualities; though she has not a good appetite can swallow and replace her cud. C. W. G. *Medoc, N. C.* [Give a drachm of powdered iodide of potassium in feed three times a day for a month and report. If the animal is tuberculous we shall advise that she be killed and buried at least three feet below the surface.]

Record of the Times.

Review of Passing Events.

The Exposition of 1892.—Believing that the 400th anniversary of the discovery of America by Columbus would best be celebrated by an international exposition in the city of New-York, the Chamber of Commerce held a meeting July 25, at which it was resolved that to make it a success the Federal government, the State and the city of New-York should furnish the money, the other States being called on only for their headquarters. A committee of sixty was appointed to cooperate with the authorities. The Spanish-American Commercial Union held a similar meeting, and later in the day Mayor Grant presided over a citizens' meeting which was very enthusiastic, and voted that the mayor should appoint a committee of twenty to formulate a plan, and report at a future meeting.

Electricity and Death.—In the Kemmler reference case, New-York, Thomas A. Edison stated that he had tested the electrical resistance of 250 of his employés, and found it ranged from 660 to 1,800 ohms when the hands were immersed in a 10 per cent. solution of caustic potash, which saponifies the oil of the skin and reduces resistance to a minimum. With imperfect contact, resistance increased from 20,000 to 200,000 ohms. He believed 1,000 volts of an alternating current would be certainly fatal—most persons cannot stand eight volts. (The ohm is a unit of electrical resistance; the volt, of force). Dr. A. D. Rockwell, specialist in electro-therapeutics, testified to the same effect, and explained the difference between the effects of lightning and dynamic electricity, the former spending itself on the surface of the body, the latter diffused through it. The inquiry has been adjourned to Buffalo.

The Summer Assemblies.—A vast amount of work has been accomplished at these popular gatherings in recent weeks, with a more distinct attempt at an all-round training of body, mind and soul. Chautauqua has listened to Donald G. Mitchell on four literary topics, English historical; to Dr. Lyman Abbott on "Books" and "The Forgiveness of Sin;" Miss Emma P. Ewing on "Household Economy;" Prof. H. H. Boyesen on "French, German and Russian Novelists;" W. W. White of Ohio on "Memory Training," and Richard M. Johnston gave readings. The plan of university extension was announced, and a national school of Biblical study organized.—At Key East, N. J., Dr. Deems conducted a School of Christian Philosophy, in which leaders in theology, science and law took part; Congressman Breckenridge spoke on "The Politics of Christianity," and Miss Jane Bancroft, Ph. D., lectured on "Woman's Work in the Modern Church."—At Asbury Park a School of Pedagogy has been in session, and Ocean Grove has had an immense Sunday School Assembly, Missionary and Temperance Conventions, &c.; Miss Julia Thomas lectured on physical training.—At Round Lake, N. Y., Dr. Edward Pick of London lectured on "Memory Training," Prof. W. T. Harris on "Psychology," and a retreat for women missionaries was opened, founded by Mrs. Newman.

From Abroad.—The committee on royal grants have recommended that £9,000 be added to the quarterly grant of the Prince of Wales. Mr. Labouchere offered as substitute an address to the queen recommending retrenchment of the royal expenses. Debate began in the House of Commons, July 25, Mr. Gladstone and Mr. Morley supported the recommendation, believing the dignity of the crown should be upheld. Mr. Labouchere's motion was rejected by a vote of 298 to 116.—Mr. and Mrs. Gladstone celebrated their golden wedding, July 25. Messages were sent by the queen, Prince and Princess of Wales, King of the Belgians and others.—The marriage of the Princess Louise of Wales to the Earl of Fife took place July 27. The presents were valued at $750,000.—The Parnell Commission has adjourned until Oct. 24.—General Boulanger was a candidate for the Councils General in 23 cantons and won in 12.—James Grant Wilson, now at Amsterdam, searching old Dutch documents, has discovered the original deed of purchase of Manhattan Island (*for* $24), and a letter from P. Schuyler announcing the purchase. The papers are owned by descendants of one of the managers of the West India company.—The Brussels chamber of deputies has voted $2,000,000 for the new Congo railway.—A recent fire at Lu Chow, China, destroyed 37,000 buildings and 1200 persons; 170,000 were obliged to camp out without shelter. The Yellow River has again burst its banks in Shantung, and ten governmental districts are 12 feet under water. The loss of life and property are incalculable.

Minor Items.

Forest fires are raging near Helena, Montana.

Storms and floods continue to prevail at the West.

A territorial militia is to be established in Alaska.

General Emmons Clark declines the Havre consulate.

A mine of plumbago has been discovered in Somerville, Me.

An increase of 100 clerks is to be made in the New-York post office.

Cincinnati police made 150 arrests, July 28, for violations of the Sunday law.

Terrible destitution is reported among the striking miners at Braidwood, Ill.

The President devotes part of his time at Deer Park, daily, to official business.

Oil is said to have been found on the top of the Rocky Mountains in British Columbia.

State street, Albany, is being repaved with granite blocks from Broadway to the capitol.

Chicago had a terrible gale and rainfall July 26; seven persons were killed and five injured.

The Texas cotton crop is estimated at 2,000,000; the first bale was lately received at Austin.

The Rhode Island Senate passed the license bill with amendments which do not please the House.

A party of 50 American workmen sailed last week to visit the Paris Exposition and to study foreign industries.

Secretary Tracy has signed a contract with the Union Iron works of San Francisco for a $700,000 war vessel.

Many deaths have lately occurred in the Conemaugh Valley, Pa., the result of mental and physical suffering.

The Sunday closing law has been vigorously enforced in Cincinnati and Kansas City, and police arrests diminished 50 per cent.

The New England Granite Company has contracted to build the walls of the new library building at Washington for $1,221,000.72.

Sullivan received his $20,000 stake money in New-York, July 23d, spent a $500 bill in celebrating the event, and left for Boston next day.

A gang of boy thieves, called the "Red Cherry gang," 12 to 16 years old, have been arrested in Philadelphia. They confessed to 61 robberies.

A strike of compositors occurred in the offices of the New-York Times, Sun, World and Herald last week, lasting, however, only a few hours.

A decision of the land office at Guthrie, Oklahoma, makes illegal the claims of all those who entered the territory, before noon of April 22.

Philadelphia is looking after her milk. Two dealers have been arrested and 100 warned for adulteration. The city has never had a milk inspector before.

Suit is soon to be brought by Hungarian claimants for the $40,000,000 estate of a San Francisco millionaire—William Leidesdorff, a pioneer merchant.

Kate Maxwell, known as the cattle queen, and her partner James Averill, were hung by masked men at Sweetwater, Wy. T., July 21, for stealing cattle.

Rev. Father Curley, Director of Georgetown University, D. C., died at Washington, July 24, aged 108. He was professor of natural philosophy for 49 years.

English syndicates still keep busy buying up breweries, coal leases, grain elevators, flour mills, sugar refineries, &c. They are now trying to buy out big dry goods houses.

The strawboard mills of the country are under the control of a single company with capital of $6,000,000, controlling 26 mills. Prices have been reduced from 47 to 32 cents.

The fruit steamer Lorenzo D. Baker, from Jamaica to Boston, was burned at sea, and her crew and passengers, two excepted, were rescued by the whaling schooner Franklin.

A fire occurred in the Y. M. C. A. building, New-York, July 28, and the two upper floors,

chiefly occupied by artists, were burned. Water did much injury to the lower floors; loss $40,000.

The new park at Newburgh, N. Y., will be named after the brothers Downing, the landscape gardener and the horticulturist, and Vaux & Olmstead of New-York will lay it out free of charge.

Rev. Dr. Pinckney of Charleston, S. C., (Episcopal), has preached a stirring sermon on the McDow case. McDow has resigned from the First Battalion and the Washington Light Infantry.

A cave-in was followed by a gas explosion in a worked-out mine of the D. L. & W. company in Scranton, Pa., July 24, killing two men and injuring six. Robbing the pillars was the cause.

Charlemagne Tower died at Waterville, N. Y., 26th, aged 81. A Philadelphia lawyer and millionaire, whose operations in Pennsylvania coal lands and Minnesota iron-ore lands made him worth $25,000,000.

A sale of 100,000 shares of Chesapeake & Ohio stock at $22 50 by C. P. Huntington to Drexel, Morgan & Co., is thought to indicate that the Vanderbilts have secured a southern outlet to the seaboard.

The author of the well-known hymn, "There is a happy land, far, far away," Andrew Young, is still living in vigorous health at the age of 90. He wrote the hymn in 1836, and it has been translated into 19 languages.

Acting on a report received in Nashville, Tenn., that Mrs. Hatty Gibson Heron was under sentence of death for teaching Christianity in Corea, Acting-Secretary of State Wharton cabled Minister Dinsmore at Seoul to investigate the matter. Dinsmore replied that the report was untrue.

Under the recent authorization by the Legislature to expend $3,000,000 in repaving the streets of New-York ($1,000,000 the present year), Commissioner Gilroy has reported on streets likely to be torn up by street car alterations, and those that should be repaved with asphalt on the present stone blocks.

Lewis Brothers & Co., large drygoods dealers of New-York and Philadelphia, have made an assignment, with liabilities of $4,000,000. Assets are $5,500,000, including property in Philadelphia, Boston, Chicago and elsewhere. Depressed trade, difficulty of collection and the disaster at Johnstown, Pa., (where they had a mill) said to be the causes.

Any one having a Second Crop of Hay to cut, especially clover, should have Symmes' Hay and Grain Caps, manufactured at Concord, N. H., by the Symmes Hay Cap Co. Price, $27.50 per M. [It

BEECHAM'S PILLS cure sick headache. [4

Farm Produce Markets.

Albany Markets—July 29.

FLOUR.—The Argus says: The market was steady, with large receipts and fairly active demand.

	1888. July 27.	1889. July 26.	1889. July 29.
Com. State	$3.10@4.00	$3.10@4.00	$3.10@4.15
State Extra	4.10@4.50	4.10@4.50	4.15@4.60
Amb. State & W	4.30@5.10	4.30@5.10	4.60@4.65
O., Ind. & St. L. Ex.	4.40@5.10	4.30@5.10	4.60@4.70
Winter W. Ex., Fair	4.30@4.75	4.30@4.75	4.60@4.70
Minn. "Bakers"	4.00@4.75	4.00@4.75	4.30@4.75
Spg W. Pat., new	4.25@4.75	4.25@4.75	4.60@4.85
Sp'g W. Pat., old	4.25@4.60	4.25@4.60	4.60@4.85

Rye Flour in good demand and steady at $3 @3.25 per bbl.; Graham, $4.00@4.50. Oat Meal going moderately well at $4.00@4.50 per bbl. Corn Meal in good request at $2.60@3.75 per bbl.

GRAIN.—Corn stronger and advanced; No. 2, 45c (54c); No. 2 mixed, 44½@45c. Oats in lighter demand; No. 2 white, 30½@34c. No. 3 white, 32½@33c. Rye in light receipt and demand at 54@55c. per 56 lbs. for State, and western 58@59c. per 56 lbs.

HAY AND STRAW.—Receipts of new hay encouraging; old in good demand. Straw quiet and dull. New hay, $12@15 per t.n. Timothy, old, heavy, fair; good to prime, $14@17.50; clover, $12@14; mixed, $11@13; rye straw, best, $16@18; oat straw, $6@8; wheat straw, $10.

HOPS.—Market dull, with light trade.

N. Y. State, 1888, choice	19 @ 20c.
N. Y. State, 1888, common to good	16 @ 17
N. Y. State, 1887, all grades	9 @ 13
Pacific Coast	18 @ 20
Germans	18 @ 20

Albany Street Market—July 29.

BUTTER.—Good to choice, 17@18c. per lb.

EGGS.—Near-by and new laid, 14@15c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 4½@6c.; mutton, carcasses, 7½@8c.; lamb, hindquarter, 10@11c.; forequarter, 7@10c.; veal, 7@9c.

POULTRY.—Fowls, 11@12c. per lb.; broilers, 25c.@$1 per pair; turkeys, 14@15c.; spring ducks, 13@20c.; green geese, 10@12c.

FRUIT.—Blackberries, 6@8c. per qt.; Cherries, $2@3 per bush.; Currants, $1@1.50; Gooseberries, $1@1.50; Huckleberries, $1@2.50; Muskmelons, $2@4 per bbl.; Peaches, $1.50@3 per crate; Pears, $1@2 per bush.; Red raspberries, 8@10c. per qt.; Black, 6@8c.

VEGETABLES.—Beets, 10@15c. per doz. bunches; Cabbage, $1 per 100; Cauliflower, $1.50@2 per doz.; corn, 6@10c. per 100; Cucumbers, 25@75c. per crate; Green Peas, $1.50@2 per bush.; Lettuce 25@30c. per box; Onions, new, 50c.@$1 per crate; Potatoes, new, $1.00@1.25 per bbl.; String beans, 6@10c. per crate; Squash, 10c.@$1; Tomatoes, $1@3 per crate.

New-York Markets—July 27.

BEANS—Marrow, 1888		3.20	@ 3.25
Medium, 1888, choice		2.25	@ 2.40
Pea, 1888		2.20	@ 2.25
COTTON—	Uplands.	N.O.& Gulf.	
Ordinary, per lb	10½ @ —	—	@ 9¾
Middlings	11 @ —	—	@ 11¾
Fair	12½ @ —	—	@ 12¾
EGGS—State and Near-by, per doz	11	@	15
Western and Canada	11	@	13½
FLOUR—Spring Wheat pat., per bbl	4.60	@	4.70
Winter	4.75	@	4.80
No. 2 extra State and Western	3.20	@	3.40
No. 1 extra	3.50	@	3.60
Minnesota clear	4.40	@	4.50
Straight	4.75	@	4.90
Rye Flour, superfine	3.25	@	3.30
Corn Meal	2.60	@	2.75
FRUIT—Apples, Up. R., per bbl	1.25	@	1.75
Jersey, Astrachan, Rough	1.00	@	2.00
Del. & Md., red, per crate	50	@	1.00
Blackberries, Jersey, per qt	5	@	7
Grapes, Southern, Niagara, per lb	12	@	15
Southern, Delaware	18	@	20
Ives	4	@	7
Huckleberries, Jersey, per qt	4	@	7
Shawangunk, per box	75	@	1.00
Muskmelons, Md., per bbl	3.00	@	4.00
Jersey, Jenny Lind	3.00	@	5.00
Peaches, Jersey, per basket	75	@	1.00
Del. & Md., per crate	50	@	1.25
N. & E. C.	1.00	@	1.50
Pears, Ga., Le Conte, per bbl	2.00	@	3.00
Up R., Bloodgood	1.50	@	2.50
Clapp, per bbl	1.50	@	2.75
Del., Bartlett, per crate	75	@	1.00
Plums, wild goose, Ga., per qt	8	@	12
Watermelons, large, per 100	30 00	@	50.00
Small	20	@	25
DRIED—Apples, sun-dried, per lb	[illegible]	@	4
Evaporated	5	@	6½
Peaches, sun-dried	4	@	5
Evaporated	6	@	10
Prunes	5	@	6
Cherries	10	@	11
Blackberries	[illegible]	@	4
Huckleberries	[illegible]	@	—
Raspberries	17	@	—
GRAIN—Wheat, State white, per bus	87	@	—
Ungraded spring	86	@	—
No. 1 red, winter	90	@	—
No. 2 red, winter	—	@	—
Corn, No. 1, white	—	@	55
No. 2, mixed	—	@	46½
Oats, No. 1, white	33½	@	34
No. 2, mixed	32	@	34
Rye, State and western	53	@	54
HAY—Timothy, per 100 lbs	80	@	85
Shipping	75	@	—
Clover	75	@	—
Straw, long rye, No. 1	65	@	70
No. 2	60	@	65
Oat	50	@	55
Wheat	40	@	—
HOPS—N. Y. State, 1888, choice, per lb	18	@	19
Good to prime	16	@	17
Best, 1887	6	@	9
California, 1888, best	12	@	17
Pacific Coast, 1888	8	@	10
German	20	@	30
POULTRY—Live fowls, per lb	11	@	12½
Spring chickens	15	@	18
Turkeys	9	@	10
Ducks, per pair	50	@	70
Geese	1.00	@	1.25
Dressed fowls, per lb	12½	@	13
Phila. springs	15	@	20
West. broilers	10	@	14
Turkeys	10	@	12
Ducks, spring, per lb	10	@	14
PROVISIONS—Beef hams, per bbl	11 00	@	15 50
India mess	12 00	@	14 00
Hogs, dressed, per 100 lbs	6.00	@	6.50
Hards, per thsnds	6.75	@	6.87½
Pork, new mess, per bbl	13 50	@	13 75
Short clear	13 25	@	14 00
Family	12 00	@	13 00
VEGETABLES—Beets, Long Island, per 100 bunches	1.00	@	1.50
Cabbage, L. I., per 100	2.00	@	3.00
Cauliflower, L. I. & Jer. per bbl	1.00	@	3.00
Corn, Hackensack, N. J., per 100	1.00	@	1.75
Cucumbers, Long Island, per 100	40	@	75
Green peas, Long Island, per bag	1.00	@	1.25
Green peppers, Jersey, per crate	50	@	—
Lima beans, L. I. & Jersey, per bag	3.50	@	4.00
Okra, Jersey, per bbl	12	@	15
Onions, Southern, per bbl	1.25	@	1.75
Western, potato	1.50	@	1.60
Jersey	1.50	@	1.75
Potatoes, Nor. & E. Shore, per bbl	1.75	@	1.85
Long Island, Rose	1.50	@	1.75
Va sweet	3.00	@	5.00
N. C. sweet	3.50	@	4.50
String beans, Md., per basket	40	@	60
L. I., per bag	50	@	1.00
Squash	—	@	—
Jersey, yellow, per crate	—	@	50
Tomatoes, Md., per crate	1.00	@	—
Norfolk, Acme	75	@	75
Jersey	75	@	1.00
Turnips, Jersey, per 100 bunches	50	@	75

Cattle Markets.

NEW-YORK, July 25.

BEEVES.—Receipts, 11,161 head. The week opened with a steady tone in corn-fed beeves, and a decline of 1c. per cwt. in Texas herds, grass-fed. This was followed on Wednesday by a firm market for corn-fed beeves and a dull week's close in Texas herds. Friday the markets closed entirely unchanged. The herds on sale were largely range steers, grass-fed, and did not suit the needs of buyers.

[Per central, net.]	This week.			Last week.		
Good beeves	$5.00	@	—	$5.00	@	—
Fair	4.60	@	5.25	4.60	@	5.50
Coarse	3.50	@	4.50	3.75	@	4.75
Poor	3.10	@	3.75	3.75	@	4.25
[Per central, gross.]	This week.			Last week.		
Good beeves	$5.00	@	—	$5.00	@	—
Fair	4.60	@	4.75	4.60	@	4.65
Coarse	3.75	@	4.50	3.85	@	4.40
Poor	3.15	@	3.75	3.25	@	3.75
Oxen	3.00	@	4.00	3.00	@	4.00
Dry	2.75	@	3.75	2.75	@	3.75
Bulls	2.25	@	4.25	2.25	@	4.50

MILCH COWS.—Receipts, 91 head. No branch of trade could be more unsatisfactory than is the business of selling cows in our local markets. The creatures offered are of miserable appearance and of doleful meanness. The nominal range has been $10@36 per head.

VEALS AND CALVES.—Receipts, 6,434 head. The week opened with a decline of ½c. per lb., followed on Wednesday by a recovery of ½c. per lb. Thursday there was no change in trade. Friday veals closed steady; calves closed weak. Range of prices: Calves, buttermilk-fed, $3.25@3.75 per cwt.; calves and lean veals in mixed lots, 5½@6½c. per lb.; calves, part meal-fed, 6@7½c.; veals of medium quality, 6½@8c. per cwt.; veals of fair quality, 6@6½c. per lb.

SHEEP AND LAMBS.—Receipts, 2,136 head. On Monday last values were steady, and again, Wednesday, the tone was unchanged. Thursday, on a light supply, values had an upward tendency; Friday the markets closed unchanged. The flocks offered were from very poor to good. Tennessee lambs were no better than culls, while the best were from Kentucky. Range of prices: Sheep, 6@6½c. per lb.; cull sheep, 2½@3½c.; rams, 3½c.; ewes, 4½c.; lambs, 5@7½c.

SWINE.—Receipts, 26,330 head. Trade has been fair. The great bust of the weather causes annually a falling off in the local demand, so that dealers felt satisfied, as there was no decline. Call hogs sold at 5¾@6¼c. per lb.; hogs of respectable habits, $4.75@5.50 per cwt.

BUFFALO, July 25.

BEEVES—[Per central, gross.]	This week.	Last week.
Extra steers	$4.10@4.25	$4.10@4.25
Best butchers'	3.75@4.00	3.75@3.90
Second quality	3.50@3.70	3.50@3.60
Poor to common	3.00@3.40	3.00@3.40
Stockers, light	3.00@3.50	3.00@3.50
Stockers, good to choice	3.75@4.00	3.60@3.90
Bulls	2.00@3.00	2.30@3.10

Receipts, 13,800, against 12,300 last week. An unexpected demand for heavy shipping and export steers, and competition among buyers advanced prices about 10c. per 100. This strengthened all good steers and even fair butchers', for which latter the inquiry was very light. Poor stuff and Texans very dull and weak, with liberal receipts closing firm for choice steers. Stockers quiet and steady; bulls dull and weak.

MILCH COWS.—Good demand and receipts; market stronger. Extra, $60@65; good to choice, $45@50; common to fair, $20@30.

VEAL CALVES.—Scarce and higher. Good to choice, $4.25@5; heavy, $3.50@3.90.

SHEEP AND LAMBS.—Receipts, 33,000. Trade flat; offerings light and demand limited; prospects lower; choice 90 to 100-lb. sheep, $4.45@4.50; 75 to 85-lbs., $4.30@4.45; common, $4.25@4.35. Lambs dull, weak and lower; choice to extra sold at $5.85@5.95.

SWINE.—Receipts, 37,000. Supply about equal to the demand, closing strong and 5@10c. higher; mediums and heavy, $4.90@4.95; Yorkers, good to choice, $4.85@4.90; pigs, $4.80@4.85; mixed butchers', $4.75@4.80.

BOSTON, July 27.

BEEVES, NORTHERN.—Good oxen, dressed, $8.75 per cwt.; fair to good, $8.50; second quality, $7.50@8; WESTERN, Alfys—Extra, $4.50; good to prime, $4.30; light to fair, $4@4.25.

MILCH COWS.—Market slow at $30@40 per head.

CALVES.—Over 1,000 head at 3½@5c. per lb.

SHEEP AND LAMBS.—Canada lambs in market; in lots at 5@5½c per head; yearlings, 4½@5c. per lb.; spring lambs, 4½@7½c.

SWINE.—Free arrivals of western fat hogs, at 6@6½c. per lb.; pigs, 6@6½c.

Dairy Markets—July 29.

ALBANY.—Butter receipts heavy from the West; demand fair for best grades. State creamery, choice, 19@20c.; Western creamery, 16c.; State dairy, 15@16c.; fair to good, 14@15c.; Western dairy, choice, 16c.

Cheese in free receipt; demand moderate. State factory, full cream, 9½@9¾c.; fair to good, 8@9c.

UTICA.—The ruling price for cheese was ¼c. lower here last Monday, but the top was only ¼c. off, and that was practically the market. Transactions amounted to 19,262 boxes at 9½@9¾c., the ruling being 9¾c. At Little Falls the sales were just 10,000 boxes at 10@10¼c., the larger number going at 10c. Taking the New-York market as a basis, cheese sold higher at Utica than there was any reason for its selling, and it is thought that an effort to sustain the market was made by those who bought the cheese. At all events there has been no time since when the stock burnt at 9¾c. and upward could be sold at a profit, or even without some loss. The quotations in New-York has remained at 9¾c. all the week, but it was hard prior to calls for anything that was not strictly choice, and could only be had for colored goods. White is nominally 9¾c., but in reality 9¼c. is the top for this class of goods. Inquiry among factorymen shows that, taking a make of 12 cheese per day as an average for each factory, they are making about one cheese per day more this year than they were last year at same time. Pasturage is fine, and the shrinkage thus far has been only 2½ per cent. from the extreme and highest make of the season.

Sixty packages of creamery Butter sold at Utica at 15½@16c.; 87 packages do. sold at Little Falls at 16c., and 20 of dairy at 15½c. The market has improved this week in New-York, to the extent of ½c.

NEW-YORK.—Butter stocks accumulating under moderate demand. Receipts, 19,876 packages. Eastern creamery, 17@18c.; Western creamery, 16@17½c.; State dairy, choice, 16@16½c.; Western dairy, 15@15½c.; Western factory, choice, 13½c.

Cheese in full supply. Receipts, 18,708 boxes. Factory, best, 9½@9¾c. per lb.; light skims, 4½@6½c.; Ohio flats, 9½@9¾c.

BOSTON.—Western creamery, extra, 17@18c.; extra dairy, 14@15c.; factory, 13@14c.; Vermont, extra, 18c.; dairy, choice, 15@16c.; Eastern creamery, good to choice, 16@17½c.

Cheese, northern choice, 9½@10c.; western, 9@9½c.; sage, 10@10½c.

Wool Markets—July 29.

ALBANY.—Market firm; sales 81,000 lbs.

No. 1, Pulled	29@31	Medium Fleece	28@29
Super Pulled	28@30	Fine Fleece	24@25

NEW-YORK.—Ohio X X, 24@25c.; Indiana, 23c.; delaine, 30½c.; unwashed western, 18c.; pulled, 30½c.; Territory, 19@29c., scoured, 40@55c.; Montana, 24c.; Oregon, 20@31c., scoured, 45c.; Texas, 12@24c.; scoured, 44@53c.; California, 2 @18c.; scoured, 35c.; Georgia, 25c.; Australian, 39@41c. Montevideo, 24c.

BOSTON.—Sales, 2,644,300 lbs., domestic and foreign. Ohio and Pennsylvania, 25@30c.; Michigan, 25@26c.; combing and delaine, 29@30c.; scoured, 39@50c.; pulled, 34@35c.; unwashed, 18@30c. Territory, 20@27c.; Texas 20@24c.; California, 19@31c.; Oregon, 17@30c.; Australian, 39@41c.; Montevideo, 24@26c.

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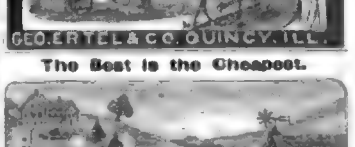

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The Fireside.

English Notes by T. Bowick.

"Rise, Sir Jacob Wilson!" and so the honorary director of the Royal Agricultural shows for these many years—a post to which he succeeded on the retirement of the late Sir Brandreth Gibbs—got a well-earned distinction to carry to his home in Northumberland. Why it seems but yesterday that he was a distinguished young collegian at Cirencester, in the days of the first principal, Rev. Mr. Haygarth. We, in this old-fashioned country, set considerable store by these distinctions, but I have never found the man himself who put on airs or thought himself any better for the honor bestowed. It is to be taken as a mark of respect to the society as well as to Mr. Wilson.

Never have we had a season in which the common yellow broom has been richer in blossom than the present. It is getting but a rare plant now, in many parts of the country, though half a century ago it might be seen in vast stretches both north and south of the Tweed. Especially in Scotland you could meet its rich perfume long before you saw its masses of gold, where for a generation corn has grown, giving food for man and beast. Mary Howitt says:

"O, the broom, the bonnie, bonnie broom!
On my native hills it grows:
I had rather see the bonnie, bonnie broom,
Than the rarest flower that blows."

Apart from its having given a distinctive name to the Plantagenets (i. e., from its old French name *Planta genista*) from Henry II down to the tyrant "Hunchback Richard," it has been looked upon that where good, strong broom grows, there good, arable land might be depended on. It has departed from us, it is true, to a great extent, before the ruthless hand of the agricultural improver; but in many other countries several of its varieties are to be met with in abundance, and I am going to Kew Gardens this Saturday afternoon, especially to see the varied collection there, and to renew acquaintance with many a friend of early days. Whether it or the common furze of our commons should hold the precedence, is a matter on which individual tastes must decide.

Parliament busied itself a little last night, both in Lords and Commons, with agricultural affairs. In the former the government was defeated on the land transfer bill, a modest measure of reform, which was, however, too strong for my lords' stomachs to digest. The primogeniture clause was the rock on which the vessel founded—a point which, as far as I know, could only be raised in England or in belated Spain, as the sole countries in Europe that stand by that stronghold of backwardation. In the Commons it was the hop industry that demanded attention, and that claimed, under the simple form of an inquiry into the causes of existing depression, some form of "protection" from the State. The inquiry was acceded to by the chancellor of the exchequer, but the underlying principle of special legislation was carefully guarded against. Outside of parliament also, politicians were busy giving attention to the allotments act of 1887, an act which has proved all but an utter failure. The fullest inquiries show that this special legislation has had little or no direct effect in placing the laborers on the land; the compulsory clauses have proved to be so much waste paper, not having been made use of in a single instance. It is evident that good landlords do not need its pressure, while it wholly fails to reach the bad section that opposes it; the machinery for removing obstacles being too costly, and administration placed in entirely the wrong hands. Still, it is to be regarded as a stepping stone towards something better in the future.

New Zealand has carried through a dairying experiment of some practical value, and feels encouraged to proceed further in the same direction. I refer to a combination among the farmers of a given district, in which the co-operative system is combined with individual action and production. The members agree to continue to make the butter at home, to send in their bulks to a common centre as produced, to have the same submitted to an expert's judgment as to standard value, and then the whole is worked up into one uniform quality, and the sale arranged as for the entire bulk. Two shipments were sent to the London market, which realized 24c. per lb., the costs of carriage and marketing reducing the return by 6c. per lb. It was found that the Jersey creamer gave better results than setting the milk in the old shallow pans, while of course the former is independent of the weather, and is economical in regard to space. Normandy has long practiced a modified plan of this kind, but the butter is left for the intermediate dealer to collect and to work up in quantities for the market.

The old fashioned riverside town of Kingston, with some 40,000 inhabitants, has long been perplexed what to do with its sewage, especially seeing that the intakes of the great metropolitan water companies lie very close to them—close enough, in fact, to make pollution certain, seeing that the said companies take their water from the same stretch on which Kingston is situated. Teddington Lock, the finest lock that I have ever seen anywhere, is the lowest on our great river, and the tide flows up to its base, though to no limited an extent that last Saturday I sailed up *with* the the tide (on the turn of the water), and came down again, also *with* the tide, in less than a couple of hours, showing that the tidal flux is there almost spent. Now, above that place the river is enclosed, as it were, in successive dams, some of them two or three miles long, and to sew pollution would thus prove a very serious thing. The folks of Kingston have adopted what is known as the A. B. C. process, which, by the addition of certain chemicals, among which alum is a prominent constituent, claims to take out the valuable matter (valued, when dried and pulverized, at $14 per ton), and to restore the liquid portion to the river in a state fit for fishes to live in. Do fishes live in this effluent water? Assuredly fishes were living and thriving in tanks, which they told us last week was this very water, and in which the said fishes had been thriving for months past. I am not disposed to accept this assurance without further evidence.

Like man, like master. Charley Wood, of horse racing celebrity, had his character valued at one farthing—the sum awarded as damages recently—and now his master, and for that matter his ally, Sir George Chetwynd, has got the same amount of solatium instead of the $100,000 which he claimed from Lord Durham. His lordship had practically denounced them both, and the racing set to which they belonged as blacklegs on the turf, and successive legal trials have endorsed the verdict. We are terribly anxious to promote the breeding of good horses, hence our worship of the horse racing fraternity—the betting with which it is associated having of course nothing to do with our ardor. But the amount of dirty linen that has been washed, and the practices divulged, do not speak much for any part of the associated interests. Wood is shelved, for his pulling and unfair riding; also for his influencing jockeys to win or lose according to the personal interests of his gang; but he has property that brings in an annual revenue of no mean order, and he has the recollection of having been worshiped by the crowd to an exceptional extent. Unfortunately, the betting craze seems to increase rather than to lessen, notwithstanding the disclosures that have been made. *London, Eng., July 6.*

Mistakes that Should be Avoided.

On a recent occasion the people of our locality, to the number of over forty, assembled for the enjoyment of a neighborhood picnic. The basket dinner was promiscuously served. The day passed pleasantly away, and on the wane of the afternoon the families returned to their respective homes, little dreaming of the ordeal that the near future held for them. During the night almost the entire picnic band was taken mysteriously ill, every one suffering with the same symptoms. In one family seven were prostrated. Happily no one was dangerously ill, although at one time the condition of one or two became very serious.

As soon as the news of the universal sickness traveled from house to house, it was instantly felt that something of a dangerous nature had been eaten at the picnic dinner. Numberless surmises were made as to what that particular thing was; each article of food was discussed and speculated about; yet for all this, the cause of the sickness is still a mystery, and will always remain so.

In my own mind there is no more plausible solution than that some person made a mistake, and put a wrong ingredient in some of the food. In some households, of the unmethodical kind, drugs, even poisons, have no distinctive place of keeping. A promiscuous assortment of bottles and cans are placed together, containing medicines, acids, flavoring extracts, baking-powder, cream of tartar and saleratus, trusting to the labels and the housekeeper's memory, that only the right thing will be used in cooking. Should she happen to possess a poor memory, and hurriedly make use of some article in this conglomerated assortment, a mistake would be a natural occurrence.

At a public gathering here last summer, a lady contributed a large, beautiful cake. Those who tasted it made wry faces, and without ceremony unburdened their mouths of the morsels. When the lady herself ate some of it she was horrified at the taste. A quick investigation was made, and she found that she had flavored both the cake and the icing with sewing-machine oil. She had intended using essence of lemon. The bottle of essence and the bottle of oil stood side by side, so alike in shape and color that in her haste the mistake was an easy one to make. It was fortunate for the eaters that this mistake was not more serious.

Very recently the papers contained an account of a wholesale poisoning at a pic nic of farmers' families. A large number were made very ill, and several died. Probably the cause of this sacrifice of innocent lives will never be known; yet it is not impossible that some beautiful cake or other dainty dish held the deadly poison, the result of some careless housewife's mistake.

Another recent item of news carries with it its own lesson. A mother, in giving medicine to a sick child, took from a shelf a bottle which she supposed to be the medicine. She gave a spoonful to the child, and in a few minutes the little one was in its death-throes. The bottle contained muriatic acid.

In all acts of carelessness, there is nothing more reprehensible than a careless handling of dangerous drugs. In every household there should be a safe and separate place for their keeping. They should be plainly labeled, and under no circumstances whatever should they be placed elsewhere, or mixed up with other bottles or packages. Whenever empty bottles are reused for drugs, the old labels should be taken off and new labels put on. No one should trust to their memory in a matter of such vital importance. It is inconceivably strange that those who hold their loved ones' lives in their hands will take any chances with such deadly agents as dangerous drugs. There is but one safe method of dealing with them—have a place for them, and a cast-iron rule for keeping them there. NELLIE BURNS.

Employers and Hired Men.

EDS. COUNTRY GENTLEMAN—On page 530 of your paper is an article by Mr. Dow in regard to the feeding of stock by hired hands. Allow me to say a word in reply, and on the subject of hired help in general.

It is quite true that there are hired men who are not fit to be trusted in the least, but farmers must remember that the ownership of farms does not provide them with more judgment than a large number of men have who labor for them by the day or month. There is a great deal more of "I don't care" about the way some men do their work than lack of judgment.

Let Mr. Dow consider what he would do if he had 60 head of cattle, 10 horses and a flock of sheep, in addition to the stock he already owns. He would either have to take his chances on the faithfulness of the hired man, or get out very early indeed, in order to have them all fed and provided for before dinner-time.

As I have said, some hired men are not worthy to be trusted—not because they lack brains, but because they get reckless and indifferent. Yet many of the best farmers started, perhaps, as boys at $8 per month, and rose to $20, $25 or $30 per month, saving all the time till they could purchase homesteads of their own. Those men who have an ambition to push themselves forward to independence, will prove profitable men at advanced rates over the men whose highest ambition is to attend the neighborhood dances, be away when they please, and have a drunk every month.

A way exists to exterminate the latter class, viz., *do not hire them.* Have no man at work for you who is not temperate, or will not promise to abstain from "fire-water" while in your employ. Then, when you get a good man, do not treat him so that he will escape as soon as his time is up, and act toward you while he stays as though you and yours were his personal enemies. Take an interest in him and he will take an interest in you.

There is nothing like a systematic change of rations for hired men, as well as for beasts or fowls. Feed your men as well as you feed yourself. Give them a good room, a good bed, clean towels often, first-class reading matter, and if they wish, provide them means and opportunity for attending church.

Again, the average farmer hardly ever keeps a hand more than eight months or a year, and then makes a change. This is a mistake, and it is what ails a great many men who would be first class were it not for the fact that they have worked in so many places as to have half learned a dozen farmers' methods of doing farm work. When you get a good hand keep him year after year, and advance his pay a little from time to time—enough to stimulate his aspirations and keep him alive to your interests as well as his own ease.

Out of what I write I do not know that more than one paragraph will apply directly to Mr. Dow. That one I will put right here.

Procure the right kind of a man to experiment with, and then follow out my suggestions.

I trust my theory will prove practicable and that Mr. Dow will have no further cause to complain of hired men, whatever he sets them at, for I am a hired man myself, though I expect industry and attention to my employer's interests will raise me to a higher level.

Shoreham, Vt. HUGH G. G.

Domestic Economy.

The Hot Weather Appetite.

For nearly a third of the year we live in a tropical climate. Our grandfathers and great grandfathers did the same. Why is it that we have not yet begun to learn from people whose whole lives are passed in the tropics to so live as to counteract as much as possible the heat of the sun, both by a refrigerating diet, and by such a management of our houses as shall conduce to the greatest comfort and coolness. The Turk lives for weeks together on fruit, bread, cold rice and milk, his favorite cheese, cakes and the national drink, sherbet. Felix L. Oswald, M. D., in a recent article, calls attention to the fact that the nations of antiquity whose staple diet was tropical fruit, confined themselves to a light breakfast, and a liberal supper at the end of the working day, in other words they subsisted on a meal and a half a day.

But what does the American do? He goes on eating his beefsteak and roast beef, his puddings and pies, thus adding fuel to an already over-heated body. Those who can afford it, rush to summering places in the mountains and at the seashore, and are surprised when they return in September to find themselves the victims of slow fevers or other maladies. A few, who, being unable to pay hotel prices, are thus obliged to seek cheap board at some out-of-the-way farm house where meat is an unknown quantity, if they happen to fall into the hands of a sensible farmer who knows enough to run a vegetable garden and fruit orchard for his family and guests, return benefited by the change. Since we do all we can to produce mortality and disease by providing ourselves with food not convenient for us, the results would be more painful than they are if nature did not protect us from ourselves, by giving us appetites that in some measure revolt against this unnatural diet.

Instead then of being frightened at this wise provision of nature, the "hot-weather appetite," and trying to force ourselves to eat food at which the stomach rebels, let us see if we cannot so cater to it as to pleasurably partake of proper and sufficient food.

I once spent the three hottest months of the year on the dairy farm of a prosperous New-York State farmer, where the invariable breakfast was fried pork with its gravy, with or without potatoes, fried and greasy, or fried salt mackerel. I am alive to tell of it, because I let all these viands severely alone, and contented myself with a bowl of bread and milk. I am sure that no reader of the COUNTRY GENTLEMAN ever sits down to such a breakfast. Had my hostess been a reader of its pages she would have known better than to place such

food before her family. Let those of you who "have no appetite in the morning," who turn with disgust from the tenderest steak, the brownest and daintiest chop or cutlet, try such a hot-weather breakfast as the following:

The day previous, cook with milk instead of water, any one of the various cereals, such as cerealine, granum, three-minute oatmeal or wheatena, pour it into cups and when cool set by the ice or in the milk room. For breakfast turn these out into dishes, and serve with cream and sugar. If you consider cream expensive, reflect that you are substituting it for meat. After this have coffee and toast, or plain white and graham bread. Finish with a dish of fruit, with or without milk or cream. You may add to this sliced tomatoes cool and fresh from the garden, and they will need no condiments except salt, and variest trifle of sugar. This breakfast can be varied every day in the week by using a different cereal, and a change of fruit. A combination of several fruits is delicious, and if near, or in, a city where bananas can be obtained, any dish of fruit is improved by being mixed with sliced bananas. There is reason in all things, even in a dietetic crank, and you can add such relishes as a thin rasher of broiled ham or bacon, or a bit of broiled fish to these simple breakfasts without harm to yourself.

Then for lunch (do not, I beseech you, have your heaviest meal in the middle of the day), you can have some cool salad, which with bread will give you all you need. Any vegetable makes a good salad—in fact, two or three a half dozen, if you have them, may be combined. Potatoes make a good basis, and these, if cold boiled and sliced, may be mixed with lettuce, cresses, nasturtium blossoms, and their young green seeds and stems, peppergrass, or sorrel, any one, or all of them. A stray beet or a sliced tomato is a nice addition, always with a bit of shredded onion. Cucumbers and tomatoes are especially fine in a salad. Cauliflower, peas and string beans, asparagus tops and new potatoes in equal quantities make a hearty and excellent salad. The art of the housekeeper, however, consists in utilizing in this way any vegetables left from a preceding meal. Any cold boiled or baked fish with lettuce forms a good salad, as does also any kind of cold meat.

Now for the dinner, which, if served after the heat and work of the day, you will have time to enjoy, still cling to your idea of a cooling diet. Partake sparingly of meat in any shape, and although a cold meat argues a hot one at some time, if you get your joints large enough, the proportion of cold to hot will be as three or four to one. Have as many vegetables as your garden will furnish, and as you have had time to prepare. Peas and beans cooked together—that is, the peas added when the beans are nearly done, with a few spoonfuls of cream stirred in at the last, make a dish fit for a king, or a son of toil. New potatoes, boiled and sliced when cold into sufficient milk to cover them, and then stewed for fifteen minutes with a seasoning of salt, pepper and butter, will make a safer supper with the addition of bread and a bowl of milk, for the little ones, than meat. Stewed tomatoes poured over toast, or broiled or fried and laid on buttered toast, are nutritious and appetizing, the object being to make the preparations of vegetables so hearty that very little meat will be needed. Then, a cold rice or bread pudding will be far safer than pastry.

For the salads, Durkee's salad dressing will save a world of trouble in making mayonnaise. When green corn is in season, it is best eaten in the morning or at noon. One needs no better lunch than tender green corn cut from the cob, stewed in milk, and poured over buttered toast. ALICE CRITTENDEN.

Bleached or Unbleached.—Dried fruits may be said to have been on trial for several years before the American public. They are easily bleached while drying in evaporators; but is not the flavor, quality and even their healthfulness, impaired by the bleaching process? Many of the most observing and sensible consumers answer the question against bleaching. The superior and uniform whiteness of the fruit appeals strongly to the eyes of those—and they are many—who often decide more by color than by quality. Few farmers would prefer bleached hay to the natural color.

The earliest bleached fruit attracted attention and led to a temporary boom in prices; so much so in fact that others felt compelled to do it, but even the declaration of a board of health that the practice is not dangerous, cannot overcome the fact that bleaching does, and always must, impair the fruit flavor. Then why longer continue the practice? It is evident that it was a mistake, and the sooner the bleaching is abandoned, the better for the public. J. W. S.

Charles City, Iowa.

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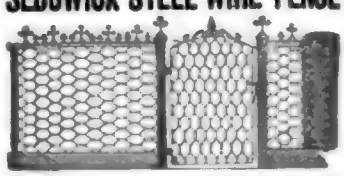

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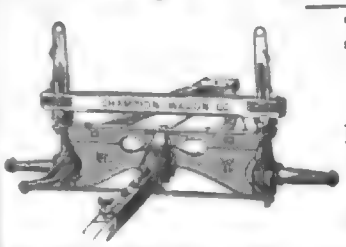

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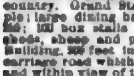

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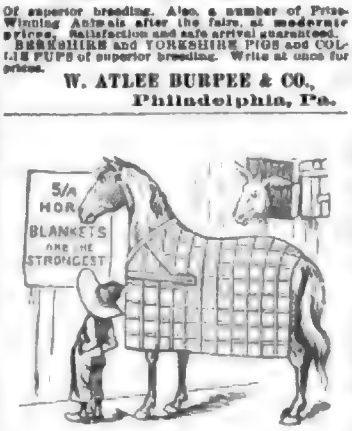

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ALBANY, N. Y., AUGUST 8, 1889.

WEEKLY ISSUE, VOL. LIV—No. 1906.

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FOR SALE—SON of EXILE OF ST. LAMBERT, out of dam of dam Dreamer May 4, R. H. BURDICK, Hornellsville, N. Y.

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    - Stoke Pogis 1256. The pedigree of this animal is on file, tracing every ancestor to importations from I. of Jersey to Danvers herd.
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    - Berthe 490
- Thorndale Belle 3d 6421
  - Balsora 2267
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Arizona, Phœnix ..... Oct. 16, 19
Arkansas, Pine Bluff ..... Oct. 22, 25
Buffalo International, Buffalo ..... Sept. 3, 13
California, Sacramento ..... Sept. 9, 21
Canada Central, Ottawa ..... Sept. 9, 14
Colorado, Pueblo ..... Oct. 2, 9
Connecticut, Meriden ..... Sept. 17, 20
Dakota North, Grand Forks ..... Sept. 17, 21
Dakota South, Aberdeen ..... Sept. 23, 27
Delaware, Dover ..... Sept. 30, Oct. 5
Detroit International, Detroit ..... Sept. 17, 27
Georgia, Macon ..... Oct. 28, Nov. 1
Illinois, Peoria ..... Sept. 23, 27
Indiana, Indianapolis ..... Sept. 23, 28
Iowa, Des Moines ..... Aug. 30, Sept. 6
Kansas, Topeka ..... Sept. 16, 21
Kentucky, Lexington ..... Aug. 27, 30
Louisiana Shreveport ..... Oct. 14, 18
Maine, Lewiston ..... Sept. 10, 13
Maryland, Pimlico ..... Sept. 9, 14
Massachusetts ("Bay State"), Boston. Oct. 7, 12
Massachusetts Horticultural, Boston ... Sept. 17, 20
Michigan, Lansing ..... Sept. 9, 18
Minnesota, St. Paul ..... Sept. 6, 14
Montana, Helena ..... Aug. 26, 31
Nebraska, Lincoln ..... Sept. 4, 13
New England, Worcester, Mass ..... Sept. 3, 6
New-Hampshire Grange, Tilton ..... Sept. 10, 12
New-Jersey, Waverley ..... Sept. 16, 20
New-Mexico, Albuquerque ..... Sept. 30, Oct. 4
New-York, Albany ..... Sept. 12, 19
New-York & Pennsylvania, Elmira ..... Sept. 16, 27
Ohio, Columbus ..... Sept. 2, 6
Ohio (Tri-State), Toledo ..... Sept. 9, 13
Ontario Provincial, London ..... Sept. 9, 14
Oregon, Salem ..... Sept. 16, 21
Rhode Island, Providence ..... Sept. 23, 27
St. Joseph, Mo ..... Sept. 3, Oct. 5
St. Louis, St. Louis ..... Oct. 7, 12
South Carolina, Columbia ..... Nov. 11, 15
Texas, Dallas ..... Oct. 15, 27
Toronto Industrial ..... Sept. 9, 21
Vermont, Burlington ..... Sept. 3, 6
Washington, Cheyenne ..... Sept. 17, 20
West Virginia, Wheeling ..... Sept. 9, 13
Wilmington, Wilmington, Del ..... Sept. 3, 7
Wisconsin, Milwaukee ..... Sept. 14, 20
Wyoming, Cheyenne ..... Sept. 17, 20

COUNTY AND LOCAL—NEW-YORK.

Allegany, Angelica ..... Sept. 10, 13
Brookfield, Brookfield ..... Sept. 10, 12
Broome, Whitney's Point ..... Sept. 3, 6
Cattaraugus, Little Valley ..... Sept. 3, 5
Chautauqua, Jamestown ..... Aug. 30, 30
Chenango, Norwich ..... Sept. 24, 27
Clinton, Plattsburg ..... Sept. 10, 13
Columbia, Chatham ..... Sept. 10, 13
Delaware, Delhi ..... Sept. 17, 19
Delaware Valley, Walton ..... Sept. 10, 13
Dryden, Dryden ..... Sept. 24, 26
Duchess, Poughkeepsie ..... Sept. 24, 27
Erie, Hamburg ..... Aug. 27, 30
Essex, Westport ..... Sept. 3, 5
Franklin, Malone ..... Sept. 24, 26
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Genesee, Batavia ..... Sept. 19, 21
Greene, Cairo ..... Sept. 4, 6
Jefferson, Watertown ..... Sept. 17, 20
Lewis, Lowville ..... Sept. 17, 20
Livingston, Geneseo ..... Oct. 1, 3
Long Island, Hauppauge ..... Sept. 10, 12
Margaretville, Margaretville ..... Aug. 26, 30
Monroe, Rochester ..... Sept. 23, 26
Montgomery, Ponds ..... Sept. 3, 6
Niagara, Lockport ..... Sept. 19, 21
Oneida, Rome ..... Sept. 16, 20
Ontario, Canandaigua ..... Oct. 1, 3
Orange, Goshen ..... Sept. 24, 27
Orleans, Albion ..... Sept. 19, 21
Oswego, Oswego ..... Sept. 10, 13
Otsego, Cooperstown ..... Sept. 23, 26
Putnam, Carmel ..... Sept. 10, 13
Queens, Mineola ..... Sept. 24, 27
Richfield Springs, Richfield Springs Sept. 26, Oct. 2
Rockland, Spring Valley ..... Sept. 24, 27
St. Lawrence, Canton ..... Sept. 17, 19
Saratoga, Ballston Spa ..... Sept. 9, 12
Schoharie, Schoharie ..... Sept. 16, 19
Schuyler, Watkins ..... Sept. 10, 12
Seneca, Waterloo ..... Sept. 24, 26
Steuben, Bath ..... Sept. 17, 20
Suffolk, Riverhead ..... Oct. 1, 3
Sullivan, Monticello ..... Sept. 3, 6
Tioga, Owego ..... Sept. 10, 12
Tompkins, Ithaca ..... Sept. 10, 13
Warren, Glens Falls ..... Sept. 3, 6
Washington, Fort Edward ..... Sept. 9, 13
Wayne, Lyons ..... Oct. 2, 4
Westchester, White Plains ..... Sept. 23, 26
Western New York, Rochester ..... Sept. 23, 26
Yates, Penn Yan ..... Sept. 23, 25

MASSACHUSETTS.

Amesbury and Salisbury, Amesbury ..... Oct. 1, 3
Attleboro', Plainville ..... Sept. 19, 20
Barnstable, Barnstable ..... Sept. 24, 25
Berkshire, Pittsfield ..... Sept. 10, 11
Blackstone Valley, Uxbridge ..... Sept. 24, 25
Bristol, Taunton ..... Sept. 24, 26
Brockton, Brockton ..... Oct. 2, 5
Deerfield Valley, Charlemont ..... Sept. 12, 13
Essex, Beverly ..... Sept. 24, 25
Franklin, Greenfield ..... Sept. 26, 27
Hampden, Westfield ..... Sept. 18, 19
Hampden East, Palmer ..... Sept. 17, 18
Hampshire, Amherst ..... Sept. 19, 20
Hampshire and Franklin, Northampton Oct. 2, 3
Highland, Middlefield ..... Sept. 4, 5
Hillsdale, Cummington ..... Sept. 24, 25
Hingham, Hingham ..... Sept. 24, 25
Hoosac Valley, North Adams ..... Sept. 17, 19
Housatonic, Great Barrington ..... Sept. 25, 26
Marshfield, Marshfield ..... Sept. 11, 13
Martha's Vineyard, West Tisbury ..... Sept. 3, 4
Middlesex, Concord ..... Sept. 25, 26
Middlesex North, Lowell ..... Sept. 24, 25
Middlesex South, Framingham ..... Sept. 17, 18
Nantucket, Nantucket ..... Sept. 4, 5
Oxford, Oxford ..... Sept. 17, 18
Plymouth, Bridgewater ..... Sept. 18, 19
Spencer, Spencer ..... Oct. 3, 4
Union, Blandford ..... Sept. 11, 12
Worcester, Worcester ..... Sept. 3, 4
Worcester North, Fitchburg ..... Sept. 24, 25
Worcester Northwest, Athol ..... Sept. 17, 18
Worcester South, Sturbridge ..... Sept. 12, 13
Worcester West, Barre ..... Sept. 25, 27

NEW-HAMPSHIRE.

Cheshire, Keene ..... Sept. 23, 27
Grafton, Plymouth ..... Sept. 17, 11
Grafton and Coos, Haven's Mills ..... Oct. 3, 5
Kearsage, Warner ..... Sept. 18, 19
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So. Hampton Farmers,' South Hampton. Oct. 8, 9
Upper Coos and Essex, Colebrook ..... Sept. 25, 26

VERMONT.

Addison, Middlebury ..... Sept. 9, 11
Champlain Valley, Vergennes ..... Sept. 16, 18
Dog River Valley, Northfield ..... Sept. 10, 12
Franklin, Sheldon Junction ..... Sept. 4, 6
Lamoille Valley, Morrisville ..... Sept. 10, 12
Mad River Valley, Waitsfield ..... Sept. 3, 4
Rutland, Rutland ..... Sept. 17, 18
Valley, Brattleboro ..... Oct. 2, 3
Western Vermont, Fair Haven ..... Sept. 24, 27
Windham, Newfane ..... Sept. 11, 12
Windsor, Woodstock ..... Sept. 24, 26

RHODE ISLAND.

South Kingston, South Kingston ..... Sept. 17, 19
Washington, West Kingston ..... Sept. 10, 12
Woonsocket, Woonsocket ..... Sept. 10, 12

CONNECTICUT.

Bristol, Bristol ..... Sept. 30, Oct. 4
Berlin, Berlin ..... Oct. 2
Chester, Chester ..... Oct. 3
Clinton, Clinton ..... Oct. 2
Danbury, Danbury ..... Oct. 7, 12
East Granby, East Granby ..... Oct. 9
Farmington Valley, Collinsville ..... Sept. 11, 12
Guilford, Guilford ..... Sept 25
Hartford, Hartford ..... Sept. 25, 27
Madison, Madison ..... Oct. 2
New-London, Norwich ..... Sept. 24, 26
New-Milford, New-Milford ..... Sept. 10, 12
Simsbury, Simsbury ..... Oct. 9, 10
Southington, Southington ..... Sept. 11, 13
Stafford, Stafford Springs ..... Oct. 8, 9
Tolland, Rockville ..... Sept. 10, 12
Union, Huntington ..... Sept. 25, 27
Watertown, Watertown ..... Sept. 26, 26
Willimantic, Willimantic ..... Oct. 2
Windham, Brooklyn ..... Sept. 17, 19
Wolcott, Wolcott ..... Oct. 16
Woodstock, So. Woodstock ..... Sept. 10, 12

NEW-JERSEY.

Atlantic, Egg Harbor City ..... Sept. 21, 24
Burlington, Mt. Holly ..... Sept. 7, 12
Cumberland, Bridgeton ..... Sept. 4, 5
Hunterdon, Flemington ..... Sept. 24, 26
Monmouth, Freehold ..... Sept. 24, 27
Salem, Woodstown ..... Aug. 27, 29
Somerset, Somerville ..... Oct. 9, 10
Sussex, Newton ..... Sept. 10, 13
Trenton Inter-State ..... Sept. 30, Oct. 4
West Jersey, Woodstown ..... Aug. 27, 29

MARYLAND.

Anne Arundel, Bay Ridge ..... Aug. 27, 30
Baltimore, Timonium ..... Sept. 3, 6
Cecil, Elkton ..... Oct. 9, 11
Frederick, Frederick ..... Oct. 15, 16
Harford, Bel Air ..... Oct. 8, 11
Montgomery, Rockville ..... Sept. 4, 6
Talbot, Easton ..... Sept. 24, 27
Washington, Hagerstown ..... Oct. 15, 19

VIRGINIA.

Augusta, Staunton ..... Oct. 1, 4
Fairfax, Grange Camp ..... Aug 14, 21
Lancaster, Kilmarnock ..... Nov. 6, 8
Loudoun, Leesburg ..... Aug. 27, 29
Northampton, Cape Charles City ..... Oct. 8, 11
Prince Edward, Farmville ..... Oct. 15, 17
Shenandoah, Woodstock ..... Oct. 1, 4
Tazewell, Tazewell ..... Oct. 1, 3
Tidewater, Franklin ..... Nov. 12, 15
Washington, Abingdon ..... Sept. 26, 27

PENNSYLVANIA.

Beaver, Beaver ..... Sept. 24, 27
Benton, Benton ..... Oct. 2, 5
Berks, Reading ..... Sept. 17, 20
Blair, Hollidaysburg ..... Sept. 17, 20
Bradford, East Towanda ..... Sept. 24, 26
Butler, Butler ..... Sept. 10, 13
Cambria, Carrolltown ..... Sept. 17, 20
Carbon, Lehighton ..... Oct. 1, 4
Chester, West Chester ..... Sept. 19, 20
Clarion, Clarion ..... Sept. 24, 27
Columbia, Bloomsburg ..... Sept. 9, 12
Columbia North, Berwick ..... Sept. 4, 6
Crawford, Conneautville ..... Sept. 17, 20
Crawford Central, Cambridgeboro ..... Sept. 24, 27
Cumberland, Carlisle ..... Oct. 8, 11
Dayton, Dayton ..... Sept. 24, 27
Doylestown, Doylestown ..... Oct. 1, 4
Edinboro, Edinboro ..... Sept. 10, 13
Fayette, Uniontown ..... Oct. 1, 4
French Creek Valley, Cochranton ..... Sept. 11, 13
Grass, Grata ..... Sept. 24, 27
Hanover, Hanover ..... Sept. 3, 6
Harford, Harford ..... Sept. 25, 26
Indiana, Indiana ..... Oct. 1, 4
Jefferson, Brookville ..... Sept. 10, 13
Juniata, Port Royal ..... Sept. 17, 20
Keystone, Kutztown ..... Oct. 1, 4
Lackawanna, Scranton ..... Sept. 30, 13
Lancaster, Lancaster ..... Sept. 9, 14
Lawrence, Newcastle ..... Sept. 17, 20
Lebanon Valley, Lebanon ..... Sept. 3, 6
Lehigh, Allentown ..... Sept. 23, 27
Luzerne, Wyoming ..... Sept. 24, 27
Mercer, Stoneboro ..... Sept. 25, 27
Mercer Central, Merose ..... Sept. 9, 11
McKean, Port Allegheny ..... Sept. 18, 15
Mill Creek Valley, Hooktown ..... Aug. 21, 23
Milton, Milton ..... Oct. 1, 4
Monroe, Stroudsburg ..... Sept. 24, 26
Muncy Valley, Hughesville ..... Sept. 25, 26
Montgomery, Berks & Chester, Pottstown. Sept. 24, 27
Montour, Danville ..... Sept. 24, 27
Northampton, Nazareth ..... Oct. 1, 3
Northern Montour, Washingtonville ... Oct. 15, 16
Northwestern, Corry ..... Sept. 10, 13
Oxford, Oxford ..... Sept. 25, 27
Petroleum, Parker's Landing ..... Sept. 17, 20
Perry, Newport ..... Sept. 24, 27
Phœnixville, Phœnixville ..... Sept. 11, 13
Potter, Condersport ..... Sept. 25, 27
Punxsutawney, Punxsutawney ..... Sept. 17, 20
Ringtown, Ringtown ..... Sept. 11, 13
Schuylkill, Orwigsburg ..... Oct. 1, 4
Susquehanna, Montrose ..... Sept. 18, 19
Tioga Farmers', Wellsboro ..... Sept. 10, 13
Tioga, Mansfield ..... Sept. 24, 27
Troy Farmers', Troy ..... Sept. 10, 13
Union, Burgettstown ..... Oct. 1, 3
Union, Canton ..... Sept. 3, 5
Union, Dallas ..... Oct. 3, 4
Union, Lewisburg ..... Sept. 24, 27
Warren, Warren ..... Sept. 3, 6
Washington, Washington ..... Sept. 17, 20
Wattsburg, Wattsburg ..... Sept. 17, 20
Wayne, Honesdale ..... Sept. 24, 26
Waynesburg Central, Waynesburg ..... Sept. 24, 26
Western Pennsylvania, Washington .... Sept. 17, 20
Westmoreland, Greensburg ..... Oct. 8, 11
Wyoming, Tunkhannock ..... Sept. 18, 20
York, York ..... Oct. 1, 4

A gas well at Ruthven, Ont., was set on fire, and the cap on the pipe sent the burning gas along the ground and its roar was heard three miles away. W. H. Marvin earned $1,000 by entering the flames, clad in asbestos, and with an assistant cutting away the cap. Both were badly burned but will recover.

Subscription Credits.

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THE CULTIVATOR AND Country Gentleman

Albany, Aug. 8, 1889.

The Texas or Buffalo Fly.

Prepared for the COUNTRY GENTLEMAN *by* Prof. JNO. B. SMITH *of Rutgers College.*

At irregular intervals there seems to be an irruption or abnormal development of numbers of some species of insect theretofore unheard of, which spreads in every direction, and creates a vast amount of alarm until its true nature is discovered, its weak point demonstrated, and with the knowledge that we know all about it, and can control it if we want to, the excitement dies off, and little more is heard of it, even if the injury continues.

The latest development of this nature is the little fly attacking cattle, variously known as the "Texas fly," the "Buffalo fly" and the "Horn fly." The latter name is the only one in any way appropriate, since it has the merit of being based upon a rather peculiar habit the flies have of congregating upon the horns of cattle—whether as mere resting places or as points of attack, being a subject upon which farmers most decidedly disagree.

Its First Appearance.

Prior to 1887 this fly seems to have been entirely unknown, even to the systematic entomologists; none of them were in collections, and no complaints had ever been received. In 1887 they first attracted attention in Pennsylvania; in the same year they spread to New-Jersey and New-York, extending their dominion in 1888, and during the present season I have heard from them in nearly all the counties west and south of New-Brunswick, and I have seen myself a very few specimens in Middlesex county.

An Undescribed Species.

Early this year, when the first specimens were sent me, I recognized it as the species to which, somehow or other, the name *Hæmatobia serrata* had come to be applied, and under this name had been discussed at the meeting of the New Jersey State Board of Agriculture in February, 1889. This *Hæmatobia serrata* is a European species, and it looked at first as though we might have here another case of a species comparatively harmless in its native country, developing into a pest when introduced into a new country. The determination, however, was unsatisfactory to me, and I communicated with Dr. Williston of New-Haven, Conn., by far the best American dipterist, and he wrote as follows: "They are (apparently) of the new species of *Hæmatobia* (Stomoxys) that has so singularly appeared in many places in Pennsylvania, New-Jersey and New-York. I have received specimens during the past two years from Profs. Cope, Riley, Comstock and Lintner. Cope wrote me that they particularly affected the region around the horns of cattle, and were quite a pest. * * * The fly is a puzzle to me, for I cannot see why it should appear in such abundance so suddenly. I tried to identify it with the European species, but in vain. * * * Cope was the first one to send this species nearly two years ago. * * * I have again compared the description of *H. serrata* R. D., which you sent me some time ago, but I confess, from the description, I can see no reason for believing it to be that."

Not an Introduced Species.

Dr. Williston, on further study, failed to identify the species with any European form, and finally concluded that it was a new species, which he dubbed *Hæmatobia cornicola* in his letters to me, and which is here characterized for the first time. The grounds for believing it an introduced species were principally derived from the rather sudden appearance of the insect in great numbers, and the fact that not even a single specimen had been previously known. Yet we are not entirely without parallel cases. A few years ago *Agrotis fennica* was one of our very rare species; suddenly there came an irruption of a larva which was dubbed the "black army worm," and which no one had even seen or heard of before. When raised to the imago state it proved to be the larva of this very rare species, and no explanation for its sudden increase could be discovered. There is therefore no real reason for supposing the species to be other than an American form, which abnormal circumstances have raised to the rank of a temporary pest. I say temporary, because I feel confident that the species can be controlled by systematic and careful effort.

Popular Accounts of its Injury.

A great deal of alarm has been caused by newspaper accounts of damage done by the fly or its larva, and letters from farmers who have taken the species for the first time show the feeling distinctly. The following are samples of the accounts now going the rounds of the country press:

"The Buffalo fly is playing havoc among the cows in Farmington. The little insect secretes itself under the skin at the root of the cow's horns, and eats the horn until it drops off. Over twenty cases are reported in that immediate vicinity. In some cases the fly works into the brain, causing the animal's death. One farmer reports the insect piercing the milk veins of his cows. To cover the horns with coal tar is a well known remedy to prevent their work.

"On Thursday * * * he found the fly at the base of the horns of two of his animals. He at once applied tar to the spot in the hope of checking the work of the insects. As we have already stated, the fly attacks the cattle at the base of the horns, the root of the tail and under the flanks, the places least accessible to the animal itself in its efforts to drive the fly away. Tar is the only remedy we have heard suggested thus far, and this is more of a preventive than a cure, and should be applied whenever there is believed to be danger of the fly making its appearance, because after the fly has located and made its appearance the harm is done. The fly itself is nothing more than an annoyance; it is the maggot that breeds that does the harm by eating into the flesh of the animal."

This well states the popular impression, which is that the maggots or the flies pierce the base of the horn and feed upon it. At the meeting of the New-Jersey State Board of Agriculture at Trenton, in February of this year, some questions were asked and some discussions were had as to the habits of this insect. Some farmers stated that the flies resorted to the horns only as a resting place, covering them with excrement, and that they really bit the cows everywhere. Others contended that they never troubled the cattle except at the base of the horns. Complaints of the flies began to reach me about the middle of June, and I at once tried to get at the true history of the species. I absolutely failed to find one authenticated case of larvæ on the cattle, either at the base of the horns or elsewhere.

Two accounts only make any definite assertions, and they are based upon hearsay. One is from Shiloh, N. J.: "It seems to infest cattle chiefly about the horns, so that they entirely cover them. Some farmers report their cows losing their horns from inflammation of the matrix, either from the bite of the fly or from the deposit of the eggs, I am unable to ascertain which. I know very little of the habits of the insect, except that it seems to work in bunches or swarms, as I have already stated, at the base of the horn, and in those cows that I saw but could not examine closely, the horn had a mealy appearance at the base from the deposit of eggs or eating of the horn by the insect."

This gentleman, a physician, I begged to examine more closely into the matter, but never heard from him again. The other account is still less satisfactory. It recites the case of a steer which died rather suddenly, and showed running nostrils, eyes bulging and with a thick scum, and finally when an attempt was made to move the dead animal the horns came off. No fly was seen, no maggots were seen. It is entirely guess work. As a matter of fact, therefore, nothing definite is known of the history of the insect.

Probable Life History.

The mere numbers of the insect should prove to all thinking men the absurdity of the claim that it breeds on the cattle. Every female lays not less than fifty eggs, and assuming even so small a number as ten female flies to a cow there would be 500 eggs deposited, and if even only one-fifth of these eggs hatched it would

make a host of 100 larvæ boring into the head of a cow; there would not be a single cow left in the regions where the fly has appeared, and every head would be a mass of crawling putridity. I have been unable heretofore to obtain living flies, though I have secured eggs, most of which hatched before they reached me, the young larvæ being dead. Assuming, as we can justly, that this species does not differ very much from its near allies in habit, the eggs are probably deposited in manure heaps and in decaying vegetable matter, hatching within 24 hours into white footless larvæ. The larva grows rapidly, and when fully grown changes to a short, cylindrical brown pupa, from which the perfect fly emerges to begin the life cycle over again. I have reason to believe that about 15 days are required to bring the insect to maturity.

Description of the Fly.

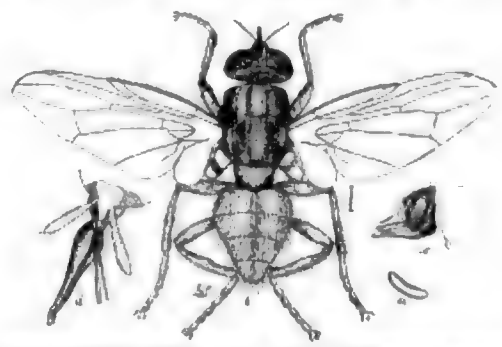
Hæmatobia cornicola Williston, n. sp. The fly is about 4 mm., or rather more than 1-6 of an inch in length, of a dark, ash-gray color, with a faint yellowish tinge. To the ordinary observer they appear nearly black, and are generally so described in the letters received. The head is almost entirely taken up by the eyes, which are dark red brown, deeper in color than that of the common house fly. The eyes are margined in the front by a narrow line of silvery-white pile; the front is darker, and along each of the white borders is a row of long bristles curving over the front. The antennæ are small, two-jointed, with a long pectinated or feathered bristle to the second joint. Below the antennæ can be seen the proboscis, usually carried straight forward and projecting a little in front of the head; accompanying this are the unusually long palpi, which are rather densely set with short, stiff hair. On the top of the head are three little ocelli, surrounded by stiff hair, and there is a fringe of stiff hair along the hind margin of the head. The thorax is crossed in front of the middle by a transverse impressed line, and at the posterior margin the triangular scutellum is separated off by another impressed line or suture. On each side of the middle is a concave, smooth longitudinal impressed line or channel extending the full length of the thorax, and a little darker in color; nearer to each side is another such impressed line, also a little darker in color, giving the impression of four longitudinal darker lines on a deep gray ground. There is also on each side of the middle a black, crescent shaped spot; the impressed lines are not set with hair, but there is a row of stiff hair at each side of the lines, and the surface is elsewhere rather densely clothed with stiff hair. The scutellum is broadly triangular with the angles rounded, and is thickly set with longer stiff hair pointing backward. The abdomen is small in proportion to the thorax, and is almost as broad as it is long, and flattened above. It is somewhat paler in color, and has a dusky median shade without distinct boundaries. The whole upperside is quite densely set with long, black, spinous hair.

The legs are moderately long, blackish, the knee joints marked with reddish, the whole quite densely set with stiff blackish hair.

There is very little difference in appearance between the sexes, save that the abdomen of the females is very little more obese than in the male.

The Mouth Parts.

Perhaps the most interesting part of the fly, since it is the one that gives it its obnoxious qualities, is the mouth. This consists of the proboscis and palpi. The figure *c* shows a side view of the head, giving above, the antennæ, with the two-jointed feathered bristle, below that the palpus set with small spines, and lower still, the horny proboscis as it is at rest. In figure *d* are shown the mouth parts alone, extended. The striated structure above shows the muscles moving the parts of the proboscis; on the corneous base are the two palpi, and below that the proboscis is seen with the lancets exposed. The outer sheath of the proboscis is horny and of a ringed structure under the microscope; at its tip is a fringe of fine tactile hairs, and centrally a little bunch of small discs, or papillæ, probably acting as suckers. This sheath is not solid, but is opened by a groove on the upper side; from this opening the lancets are easily extracted, as shown in the figure; these consist, first, of a half cylinder, much like a butter tester, widening toward base, where it receives on each side the poison duct, seen in the figure as a heavy black line with a slight expansion at the top behind the palpi; and second, a very slender needle, which runs in the half cylinder, and is not easily removed from it. The action of these instruments is as follows: The puncture is made with the fine lancet, which easily enters the pores of the skin; following that in the opening thus made the half cylinder is inserted, and then the



a, egg; *b*, image of *Hæmatobia cornicola* Will.; *c*, head of image from side, showing proboscis at rest; *d*, mouth parts, showing palpi, proboscis sheath, lancets and poison glands.

corneous outer sheath is pressed close to the opening made and even into it. To excite a greater flow of blood to this small point, which would otherwise be scarcely noted by the cattle, a small quantity of poison is injected through the half cylinder into the wound. This causes a slight inflammation immediately, and the blood rushes to that point, allowing the sucking discs to come into play.

The Injury Caused.

When many of these flies are at the cattle, of course the pain caused by the poisoned punctures is almost incessant; the cattle throw their heads about, stamp, lash their tails, and in every way try to get rid of their tormentors. These, on the other hand, congregate at those points where they cannot be easily reached, and the cattle are kept in a state of constant excitement. Judge Forsyth writes me: "They live on them day and night, and never leave them. My cows have shrunk in cream full one-half; the milk will not make but a very little more than half it did before the flies came." This is the primary injury caused. The cows, kept in a constant state of annoyance, become poor, and fall off in milk; secondarily, the cow, to get rid of the pests on her horns, and to allay the itching of the punctures at the base, will rub her head and horns against anything, to scratch, and inflammation of even a severe character may result, possibly even to the loss of one or both horns. There is no such thing as a *burrowing* into the skin, either by larva or imago, but the facts, as I have detailed them, are bad enough, since the result is the same, even if common observation has mistaken the actual cause.

The Remedy.

A great variety of materials have been tried, principally in the form of repellants like tar, fish oil, paint, and the like. These have all proved more or less unsatisfactory, and yet they were the only things that proved even a palliative. The repellants seem to lose their efficiency very rapidly, and after all simply shifted a little the point of attack. I therefore set out to find a material that would, if possible, kill by contact, be harmless to animals, and cheap and reasonably permanent. Of course this excluded a great bulk of all the insecticides on the market. Pyrethrum would have been satisfactory had it lasting qualities, but both its cost and the rapidity with which it lost its strength were objectionable. I was at the time trying the effect of some tobacco powders upon insects, and especially of a preparation called "X. O. Dust" by the manufacturers. I had found this very effective on smooth-bodied coleopterous larvæ, and concluded to try it on dipters. A house-fly confined with it exhibited the greatest repugnance, and soon exhibited unmistakable symptoms of paralysis. Other trials with different species gave variable results, all resulting in death, or at least paralysis, after a brief period. As I was unable to obtain living specimens of the *H. cornicola*, I secured a lot of the *Stomoxys calcitrans*, its near ally, and experimented with these. The experiments were made by dusting a very small quantity of the powder over the bottom of a large bottle with a narrow neck. The neck was not stoppered, and the flies were simply introduced into the bottle, and not in any way covered with the powder. They came into contact with it by walking on it. I found at once that *Stomoxys* was vastly more sensitive than *Musca*, and that while five minutes would paralyze *Stomoxys* beyond recovery, *Musca domestica* did not succumb for an hour, and the females usually recovered then. Upon this I concluded to send a package to Judge Forsyth of Pemberton, New-Jersey, for trial, in the hope that it might act even more promptly on the smaller species. The result I will give in the judge's own words: "Your very valuable letter was received yesterday morning, and the box of powder came last night by express. We used the powder this morning on a large number of my cows, although only a small quantity of it. It is *instant death* to the little black rascals. It can be put on with a pepper-box, or dusting-box, and is *sure death instantly*. Will it affect the cows in any way? Please let me know what the cost of it is. I want a larger lot right away. This powder will soon be in demand. Please let me hear from you as soon as possible about furnishing me with more. I never saw an experiment have such an effect before in my life. The flies cannot live where it is an instant. You need not try anything else."

A preliminary test of X. O. Dust, showed no arsenic or mineral poisons, but showed tobacco and carbolic acid with an inorganic mixture of an undetermined non-poisonous substance. It is therefore safe to say that it will not prove injurious to cattle even if they lick it. It should be rather thoroughly applied so as to get the hair well dusted. No *stomoxys* or *hæmatobia*, can stand this long enough to puncture the skin of the cattle. It would mean death to them. The powder does not lose strength by exposure.

After testing this X. O. Dust, I tried "Brill's Vermin Exterminator" and "Brill's Moth Powder," the base of which is tobacco with the addition of an aromatic oil, probably oil of cedar. I find that the effect on flies is quite similar to that of X. O. Dust, though not quite as rapid.

X. O. Dust is manufactured in Baltimore, Md., by the Insecticide Mfg. Co., 10 E Camden St. Brill's powders are manufactured at Oxford, N. Y.

In addition to the use of the tobacco powders—finely ground refuse tobacco may answer as well—I should recommend clean stables, and the free use of chlorinated lime on manure heaps and about the barn yard. This will kill off many of the larvæ and considerably reduce the numbers of the flies.

The life history I am unfortunately unable to supply as yet from positive observation, but this I hope to make out before the end of the season. The eggs are quite large in proportion to the size of the insect, elongate fully one-sixteenth of an inch in length, slender, slightly curved, the ends evenly rounded. It is nearly twice as large as that of the very much larger *Stomoxys calcitrans*, and very much larger than that of the common house fly. In color it is deep brown, very much like the color of the average brown cow. The young larva is pure white and very active, but I was unable to get it fresh enough to continue growing.

Adaptations of Soil and Climate.

CORN THE GREAT CROP OF IOWA—HER YIELD OF WHEAT—A TRIP TO AND FROM WASHINGTON.

EDS. COUNTRY GENTLEMAN — The more I travel, the more I come to believe it is not wise to force nature far from her own inclinations as to the crops she shall be asked to produce. Virgil, that educated Roman farmer, who wrote his Georgics, the finest of all agricultural poems, some forty years before the beginning of the Christian era, was eminently wise in writing—"Before we cleave an unknown plain with the plowshare, let it be our care first to learn the winds, the varied character of the climate, the modes of culture practiced by our forefathers, and the tillage and habits adapted to each soil—what each region is apt to produce or to refuse. Here, for example, grain grows best; there, grapes. Nurseries of trees grow well here; herbs bloom spontaneously there. Tmolus sends saffron odors; India, ivory; the soft Sabæans, frankincense. The bare Chalybes send steel; Pontus, strong scented castor; Epirus, the best mares for the Olympic games. These laws and eternal conditions nature imposed on certain localities from the beginning."

I was reminded of this fine and true passage from the great Latin poet by a recent trip, nearly all by daylight going or coming, from Iowa to Ohio, and thence unexpectedly to Washington, and by recalling previous similar trips through most of our States and Territories. There are clear and strong adaptations of soil, climate and locality, now and here, as well as when and where the poet wrote. These we do well to heed and obey. I have little faith, for example, in sugar as a money crop (sorghum or other) north of 40° or even 39°, or of tea or coffee in our climate, and in competition with "Chinese cheap labor" and that of India and South America. Iowa cannot compete with Ohio and Michigan in fruit, wheat, clover and timothy, nor can Northern Ohio, at least, begin to compete with Iowa in corn. The soil and climate of Iowa are made for corn. The climate is continental, not modified by large bodies of water; hence more intense in extremes of heat, cold and wind, and not good for tree-fruits nor for wheat and hay. I never saw a really good field of wheat in Iowa, though I have been in nearly every county. The United States Department of Agriculture estimates last year's Iowa wheat crop at 24,000,000 bushels. I do not believe there was one quarter that amount of No. 2 or even of No. 3 wheat in the State. The estimates are based by percentages on the census of 1880, and when the census of 1890 is taken, if it is a true one and published promptly, it will open some eyes and correct some estimates. Spring wheat has since then moved north, and winter wheat south. Iowa is not and cannot at present, even by forcing nature, be made a profitable wheat State. Ohio is, and all over the State wheat grows grandly, and is the great and principal money crop.

But for corn Iowa is simply grand. The ground can be plowed in fall, and usually is. It freezes into splendid condition during the winter and does not wash. It dries with the winds as it thaws, and when the frost is out two inches deep oats can be sown, and when out four to five inches deep the corn can be planted, and it grows beyond all calculation. The sun is intensely hot on the black soil, which itself is full of nitrogen and carbon and potash with a fair per cent. of phosphoric acid. Ames, Iowa, is nearly two degrees north of Hudson, Ohio, but the season in Ames is two full weeks more forward than in Hudson. In my garden in Ames I had green peas June 3, and the spinach and radishes were then gone. June 15, we had new potatoes well grown, and outdoor lettuce was headed and beginning to go to seed. June 22, sour (Richmond) cherries were gone, and strawberries past picking, but in Ohio local berries lasted for sometime later. June 30, the corn in Ames was hip-high, and the corn in rows, meeting, covered the ground, and would stretch up to a six-footer's chin. At the same date in Ohio corn was small, yellow and spotted or uneven, much of it not six inches high. Not until I reached the latitude of Washington, D. C., 3½ degrees south of Ames, did I see any corn as large, and none anywhere, even in the richest soils of Southern Pennsylvania, so rank, black-green and uniformly strong in stand as what I had left on the college farm a week before. Even in northern Illinois the corn is not so good owing to excessive rains. The land in Illinois is less rolling and less sandy than in Iowa, and hence can endure extreme wet not nearly so well. Most of our Iowa land is quite rolling and considerably sandy, and corn is seldom injured by rain or drouth unless extreme. When I returned through Northern-central Ohio, July 16, along the latitude of Canton, Massillon, Orville, Wooster, Crestline, Upper Sandusky, &c., over two degrees south of Ames, Ia., the richest part of Ohio for wheat and nearly the richest and best for corn, while the wheat was simply superb the corn was much of it yellow and uneven, and did not average hip-high. But when I reached Ames, Ia., July 17, the corn was tasseling, a splendid growth that would hide a man on horseback, and with scarcely a weak or puny stalk in thousands of acres of the rolling lands properly planted and tilled. Our garden in Ames gave us green corn on the table July 17, and will continue it till frost from successive plantings and varieties.

For corn Iowa is simply superb. Last year it raised the most bushels and the best grade of any State in the Union, and from present appearances in both States it will again beat

Illinois, the former corn king among the States. Except when the rains are excessive and untimely, oats do well in Iowa too. This year they are exceedingly good on the worst-run fields. On the richest fields they are badly lodged. Last year they were badly lodged early in the season, and shrunken ill nearly all fields; and thousands upon thousands of acres lay so flat, and were so shrunken, that they were never harvested.

Blue-grass pastures are very successful, especially in the southern two tiers of counties. But I do not consider hay a success here. This is my fourth summer here, and I have never yet seen what I call a really good hay crop. Timothy tends to rust, and is injured for horse hay. Clover does not hold well more than a year. And as I have said, wheat is not a success except in a very few localities, as the climate is too hot and the soil not right. But in Ohio grass and wheat do splendidly. On my own clayey farm the wheat was beautiful this year, and the hay was excellent in spite of early drouth and frost that killed clover leaves and timothy badly. The hay there will average over twice as heavy as on the college farm here. Potatoes do far better in Ohio, too, as a rule. It is too hot here. My potatoes here, splendid June 16, when we began to dig, were from the heat and wet soon struck with blight and rot, and the vines died. They are nearly all unsound, nearly a failure. The lesson is very clear to my mind, that we should raise in the several States and latitudes the crops chiefly to which soil, climate and surroundings are best adapted. The clover and timothy on my little farm of 126 acres in Ohio were superb. In another article I must tell how we handle it now with the improved haying machinery.

Ames, Ia., July 10. W. I. CHAMBERLAIN.

Farming in the "Royal Counties."

A Local English Show.

SALISBURY, ENGLAND, *July 15, 1889.*

The "Royal Counties Show" was held last week at Horsham, in Sussex. The name is deceptive, as it has no proper meaning. It applies to Sussex, Surrey, Berks, Hampe and Wilts, and is used simply because they are the original South-Down and Hampshire-Down counties, and as they wanted to have an annual show of stock by themselves, they adopted this name because it sounded well. As might be expected, their show is chiefly one of sheep, and is mostly made up of the two breeds native here, and which have held their ground against all comers. It is a sort of rallying point for the breeders and admirers of these original Downs, and the occasion for comparing notes and making critical examinations into the results of their labor and skill.

To one who is acquainted with the soils and conditions in Sussex, and in Hampshire and Wilts, these two breeds are just about what they might be expected to be. Upon the thin south-downs of Sussex the grass is sparse and short, but very sweet and nutritious. A small, compact, nimble animal, with high quality of flesh, must result from such conditions and environments. The stronger, deeper soils of the counties lying further west, but underlain with the same chalk formation, gave richer feed and produced a larger and stronger animal. Usually the numbers of these breeds brought together at these shows are greater and more truly representative than are those shown at the great Royal. Naturally the occasion is one of much interest to their admirers.

The show this year was considered to be rather below the average, because of the fact that the Windsor Show of the Royal Agricultural Society had just been held in Berkshire, and had taken the wind quite out of the Counties' sails. But it was a splendid show, nevertheless, and one worth going a long way to see. The South-Downs were excellent throughout, and contained many of those that had won distinction at Windsor. The same is true of the Hampshires. Moore, Coles, East, the Agricultural College at Downton, and others, had their Windsor prize-winners at Horsham. The discussion just now among the Hampshire breeders is upon the question of the character of the head. Heretofore it has been quite a point with them to select rams with strong masculine heads and decided Roman faces, claiming that these brought stronger and earlier-maturing stock. Many still think that to select a finer type of head will injure the breed in these important respects, but some of the good breeders are, nevertheless, aiming for this style.

Since the show at Horsham I have spent three or four days in driving through Hampshire and Wiltshire, and have examined many of the most noted flocks here. In the immediate neighborhood of Salisbury I have seen the flock of Mr. Waters, which was established by his father nearly a hundred years ago, that of his neighbor, Mr. Young, and the excellent one of the Downton Agricultural College. Going eastward into Hampshire, near Stockbridge, I saw the excellent flock of the Palmer Brothers, and the noted one of Sir F. H. Bathurst. Near Micheldever I examined those of Lord Worthbrook and Wm. Parsons. A long ride toward Devizes brought me to the great farms of F. R. Moore, in the beautiful Pewsey Vale. Another drive showed the excellent sheep of Mr. Rawlence on the road to Amesbury, and then upon the great Salisbury plain, about old Stonehenge, I saw many very good ones. I purchased from the Palmer Brothers, from Lord Northbrook, from W. C. Young, and from F. R. Moore, a number of rams and ewes for Secretary Woodward's flock and my own. Mr. Moore's flock is now the most celebrated one in England, as this year he has taken the most coveted prizes at Windsor and at Horsham, as, indeed, he has repeatedly done in former years. He keeps about 750 breeding ewes, and farms something over 1,500 acres of very high-quality land. His flock was founded by his uncle some 75 years ago, and has been maintained with great care.

Throughout all the broad extent of country over which I have passed, two things were very striking beside the beauty of the scenery and the evident fertility of the soil. These were the almost entire absence of waste land, every acre being under cultivation; and the amount of land devoted to corn. (Corn is here a general term applying to all grain crops.) The four-course system is universally pursued. The stable manure is spread upon the grass land which is plowed in August and sown to wheat in September. No grass seeds are sown with the wheat. Wheat is followed by roots, which are manured with commercial fertilizers. These are fed off upon the land by sheep, and thus the heaviest manuring is done, as the sheep usually receive linseed cake with the roots. In the spring oats or barley follow the roots, and with them the grass and clover seeds are sown. The land lies one year with these and then goes into wheat again. This is the regular four-course system, and, it will be seen, before wheat harvest, three-quarters of the land is in grain, as the turnips are not yet in. It makes these counties look like an immense grain field. This appearance is heightened by the almost entire absence of fences, except the few hurdles penning the sheep on special feeds.

England is noted for its hedges, but these counties ignore them upon their regular farming lands, and it is no uncommon thing to see a thousand or more acres entirely unbroken by fence divisions. Within the past few days I have seen a number of pieces of wheat of from 500 to 1,000 acres each. Notwithstanding the fact that wheat-growing has been unprofitable for several years past, it is still grown here as largely as ever, because it forms a part of the regular system from which the farmers feel they cannot venture. In other parts of England wheat-growing has been quite extensively abandoned, and the land seeded permanently to grass. The present season has been a very favorable one for England's corn crops, and in the counties through which I have ridden they are very promising, except in those fields where they are badly lodged.

The four-course system which I have described is varied to some extent by the substitution of mangolds and early swedes for a portion of the oats and barley, and also by the limited areas occupied by vetches, cabbages, mustard, &c., as extra sheep feed. In nearly all the Hampshire-Down country sheep-raising and grain-growing are thus closely associated. Upon some of the higher downs, as upon much of the great Salisbury plain, the land is kept in permanent pasture, the most of it never having been plowed.

To-day the great event of the Hampshire-Down country took place here—the show of ram lambs at the Salisbury Butts. Ram lambs are used almost exclusively for breeding, and they are nearly all sold by the noted breeders by auction at their farms or at the central localities. These sales usually take place in August, but long ago the custom was established to have pens of ten from the different flocks exhibited here, so that breeders from far and near could have an opportunity of comparing them and determining which flock can furnish the qualities needed. The city government and prominent individuals offer handsome prizes in silver plate, and the competition is very eager. I never before saw so interesting and instructive an exhibit of one breed of sheep as I have seen here to-day. Several thousand interested spectators and examiners made the scene a very lively one. The decision of this competition greatly affects the prices realized at the subsequent sales. One breeder said to me that the first prize for his pen of ram lambs would be worth three or four thousand dollars to him. To-day the coveted prizes were taken by F. R. Moore and W. C. Young. The latter's flock of 500 breeding ewes is an excellent one. I purchased ten young ewes of him, and could not induce him to part with more.

Beside the show of ram lambs, many store sheep are brought here and sold by auction, going to other sections to be fattened, or the draft ewes to be used for raising one more crop of lambs.

To-day about 10,000 sheep were collected in the pens, and every one was a Hampshire-Down.

It is undoubtedly true that English agriculture, owing to the competition of foreign grain and meats, is in a very depressed condition, but in all my long drives in this section I have seen no indication of it. JAMES WOOD.

More about the Great Northwest.

CAN FARMERS IMPROVE THEIR CONDITION BY GOING THITHER?—BUYING GOVERNMENT LANDS.

One of the many advantages of our great country is the fact that good farming lands are yet free to actual settlers. Before starting on my brief but somewhat extended western trip, several of my acquaintances who are not altogether satisfied with their present farm life in New-York and Ohio, wished me to report upon my return what I thought of moving westward. They were not quite content with the opportunities and prospects of their present surroundings, and desired to know if the chances of improving their circumstances by migrating to the cheaper acres and less restricted conditions of the West were not such as to warrant the step. As many others, besides those with whom I know personally, are equally desirous of information on this point, I will reach a larger number by using the columns of the COUNTRY GENTLEMAN.

In this letter I will briefly state the conditions under which government lands can be secured. It will be understood that I refer to such public lands as are not yet in market and cannot be secured without an actual residence, as can be done by lands that are offered for sale.

The so called "agricultural lands" of the West and Northwest are divided into two classes. One is called the minimum and the other the double minimum. As I understand the matter, the difference is simply this: Minimum lands are those lying outside of railroad limits and cost $1.25 per acre. Double minimum lands are those lying within railroad limits and cost twice the price, or $2.50 per acre. Titles to both these classes of lands are acquired by virtue of the pre-emption, homestead, tree claim, soldier homesteads, and other acts.

PURCHASE OF LAND UNDER THE PRE-EMPTION ACT.

Any head of family, widow, or single person, male or female, over twenty-one years of age, and a citizen of the United States, may enter upon any "open" or "unopened" lands, or any unsurveyed lands to which the Indians have no government title, and purchase forty, eighty or one hundred and sixty acres of land. The latter amount is the limit that can be purchased by any one person under this act. When the settlement is made on "offered" land, the applicant must file a claim with the district land office within one month, for which a fee of $9 is required. At the end of six months, if our pre-emptor has continuously resided upon and improved his "claim," he can "prove up" his title and obtain a patent, by paying $1.25 an acre if outside of railroad limits, or $2.50 per acre if within those limits.

If the pre-emptor settles upon land that has been surveyed but not "offered," he must file his claim within *three* months from date of settlement and make proof and payment, as noted above, within two years and nine months from date of settlement.

Settlements upon unsurveyed lands are made in the same way, except that claims must be filed within three months after the land has been officially surveyed, proof and payment being the same as before.

The pre-emptor may submit proofs of residence and improvements any time after six months of actual residence. He is required to show by his own testimony, and upon the oath of two reputable witnesses, his actual residence, a dwelling of some kind, and other improvements sufficient to satisfy the land officers that the spirit of the law has been complied with.

WHAT ARE HOMESTEADS?

A homestead entry can be made on any of the lands mentioned above, provided that the applicant makes an affidavit that the entry is made for his exclusive use and benefit; in other words, for actual settlement and cultivation. He must also pay the legal entry fee—$18 when within railroad limits, $14 when without, or one-half or one quarter of this amount for eighty and forty acres, respectively. Within six months after the entry the settler is required to take up his residence upon it and improve it for five years continuously. At the end of this time he can prove up on his claim and acquire title without further cost.

In order to make final proof, the homesteader must first file with the register of the proper land office, a written notice of his intention, and giving the names of four credible witnesses who are acquainted with the facts of continuous residence, improvements, cultivation, &c. This notice must be accompanied by a deposit of money sufficient to pay the cost of an announcement the register is required to publish in some newspaper. Notice is also publicly posted in the land office for the same length of time, viz., thirty days.

If homestead claims are relinquished, the land reverts to the government. Any homesteader, at the end of six months' continuous residence, may prove up and purchase the land under the pre-emption claim. I find that this is quite frequently done.

THE TIMBER CLAIM.

Any person entitled to a pre-emption or homestead can enter a timber or tree claim. In fact, the tree-claim is one of the easiest to secure, since the taking of a pre-emption or a homestead is no bar to taking a timber-claim at the same time.

The entry fee is $14 for 160 acres, and $9 for 80 acres or less. There are no other fees except one of $4 when final proof is made. The conditions for making an entry under the tree-claim are as follows: For a quarter section, the limit of the claim, the applicant is required to break or plow five acres during the first year, and an additional five acres the second year.

The five acres broken or plowed the first year he is required to cultivate by raising a crop, or otherwise, during the second year, and to plant in timber, either seeds or cuttings, the third year. The five acres broken the second year is likewise cultivated one year and planted either with tree seeds or cuttings the fourth year.

For entries of less than 160 acres, the amount of land to be planted is in the same proportion. In making final proof after eight years, it must be shown that 2700 trees were planted to each acre, and that at the expiration of the eight years 675 living, thrifty trees are to be found on each acre planted. In other words, if a timber-claim of 160 acres shows 6750 thrifty trees, and if all the conditions of the law are complied with, a patent is granted without further cost to the claimant. An extension of time is granted in case of drouth or injury by grasshoppers. It will be seen that the provisions of the timber culture law are exceedingly liberal. If the claimant should fail in some requirement, and can show that he used due care and diligence, that the failure was not his own fault, he is given further time to make the failure good. Fruit trees are not considered timber in the tree-claim act.

One other point that may not be fully understood: A homestead and pre-emption claim cannot be taken by any one person at the same time, but either one or the other and a tree-claim can be. An applicant may take a pre-emption and a tree-claim, and after proving up and obtaining title to his pre-emption, may then enter a homestead, or he may commute and pay for his homestead, and then take a pre-emption. In either of the above cases 480 acres of land can be secured.

In my next I will speak of some of the results of taking up land under the various acts, and some of the mistakes that settlers are liable to make. WILLIAM R. LAZENBY.

Salt Lake City, July 22.

Answers to Botanical Inquiries.

By Prof. C. H. PECK, State Botanist.

A Bad Weed.—The specimen sent by W. H. A., Meadow View, Va., is *Echium vulgare*, "blue weed," sometimes locally known as "blue thistle." It is an introduced plant, and in some places is a pestilent weed. It would be to the advantage of farmers if they would immediately destroy it whenever it makes its appearance on their farms.]

Fleabane.—Will you please give me the name of the enclosed weed, and tell me how to get it out of my meadows and pastures? L. *Terre Haute, Ind.* [*Erigeron strigosum*, "daisy fleabane." This, and its near relative, *Erigeron canadense*, are common inhabitants of our meadows, and are in some places scarcely less troublesome than the "ox eye" or "white daisy."]

Yellow Clover.—What is the name of the enclosed plant, and is it of any use for pasture or hay? W. C. H. *Aldenville, Pa.* [It is *Trifolium agrarium*, "yellow clover" or "hop clover." It is closely related to *Trifolium procumbens*, the "low hop clover," for which it is sometimes mistaken, but from which it differs in its larger flowers and more narrow adnate stipules. It furnishes some pasturage for cattle, but is too small for a good fodder plant.]

Asclepias.—Enclosed please find an herb that grows wild on uncultivated soils. Is it of use except the beauty of the flower? What is the common name, also the botanical? W. H. *Salt Point, N. Y.* [The plant is *Asclepias tuberosa*, "butterfly weed," or "pleurisy root." Its flowers vary in color from yellow to orange, and are very pretty. Its root was formerly considered medicinal, but it is not now generally considered of much value. The plant has a wide range, growing as far north as Canada, south to Texas, and west to Arizona. It prefers dry or sandy soil.]

Smart Weed.—Can you inform me whether or not there is any commercial value to a weed commonly called smart weed? We have a field of low land which we tile-drained last year, and this season there has sprung up a luxuriant growth. The question is what use to make of it. The field is level, so there would be no difficulty in mowing it. W. H. S. *Lake Mills, Wis.* [There is so little demand for "smart weed" or "water pepper," *Polygonum hydropiper*, that probably it would not pay to try to market it. Parke, Davis & Co., Detroit, Mich., also Laird, Woodward & Co., Cleveland, O., put up the dried leaves and also make a fluid extract of the plant, but the demand is so limited that it is easily supplied, as I learn from one of our leading druggists.]

Chickweed.—I enclose you a weed that is ruining my lawn. It grows very thick, killing out the grass roots. It has been growing three years, and flourishes finely under repeated clippings with the mower. Can you tell me what it is, and how can I get rid of it without tearing up the lawn? S. M. L. *Winchester, Mass.* [The plant is the "common chickweed," *Stellaria media*. It is an introduction from Europe, but is thoroughly naturalized in this country, and is often a troublesome weed. It continues to flower and produce its seeds throughout the season, and is sometimes seen bright and green even in winter. Unless you are willing to pull it out by hand, it will probably be necessary to renew the lawn. The plant hugs the ground so closely that the lawn mower does not stop its maturing its seeds, with which the soil is now probably well stocked. In case of renewal, the soil should be well fertilized, that the grass may grow with sufficient density and vigor to prevent the re-appearance of the weed.]

Plants from Canada.—Please classify the enclosed: 1. A perennial climbing plant. I could not get one in bloom just now, as those sent are of second growth and have not had time to flower yet. Flower and seed pod very much like that of vetches or tares. Sheep are very fond of it. 2. A climbing plant; first came up in barley. The land was then plowed, and in the spring was cultivated and sown to oats, when it again made its appearance. Its seed was not allowed to mature. Have just one spot, about ten feet square. It is a perennial. 3. A perennial grass, found as yet only in the woods. 4. A garden plant; has never flowered yet. E. H. *Eden Mills, Can.* [1. *Vicia cracca*, "tufted vetch." 2. *Convolvulus arvensis*, "bind-weed." This is an introduced plant, and, like many others of foreign nativity, it often proves itself a noxious weed. 3. *Gymnostichum hystrix* of the Manual, *Asprella hystrix* of recent writers, commonly known as "bottle brush grass" and "hedge-hog grass." 4. Not satisfactorily identified in this condition.]

Too Much Rain in Delaware.

EDS. COUNTRY GENTLEMAN—The memory of the oldest inhabitant fails to recall a season of such continuous rainfall as the present in Delaware. Since March first there have not been more than five days in succession without more or less rain. During June rain fell on a part or all of 27 days, leaving only three days of that month on which no rain fell. July, up to the 15th, was a continuation of the same weather. This rendered haying and harvest very slow and difficult. The hay crop was heavy, and but little of it was secured in good order—the greater part was damaged considerably.

Wheat was got in shock in good shape, but continuous rains since have greatly delayed threshing, and there is much complaint of grown wheat. Threshing is done directly from the field, and of course in a season like the present the delays and losses on this account are considerable. The yield, however, is good for such a wet season. Twenty to twenty-five bushels per acre are common, and thirty or more in some cases.

Corn on high ground is splendid: most of it now stands as high as I can reach with a cane, and is of that rank, dark-green color we like so much to see, and appears to be earing well. On the low ground corn is an entire failure; many fields have been plowed up and sowed with buckwheat. Late potatoes also on high ground are fine, while on low ground, in common with other crops, they are drowned out.

Early peaches are being shipped in small quantities, and quite a quantity of Bartlett pears have also been sent North. Tomatoes for the canneries are extensively raised here, and are looking well. The second crop of clover is as heavy this year as the first, and we hope for better weather to cure it.

Since July 15 the weather has improved very much, and we have had several fine, dry days, which have been fully improved by thrashers and others. E. O. P.

Dover, Kent Co., Del., July 20.

Dairy Farming in Wisconsin.

EDS. COUNTRY GENTLEMAN—Thinking perhaps that a short letter from the "cow county" of Wisconsin might be of some interest to eastern readers, I will endeavor to write one.

Jefferson county is dotted all over with creameries and cheese factories (mostly the former), some of which receive as high as 25,000 pounds of milk daily, while others do not receive more than 2,000; but when the amount is less than the latter figure, it is generally conceded that it does not pay to run the factory, as the cost of making eats up the profits. A large proportion of the factories are owned by private parties or companies, and the milk is delivered in the morning, and it must be in good shape or it is rejected. A large part of the creameries use either the Danish Western or De Laval separators.

The farmer delivers his milk in the morning, and then he is allowed to take home about the same amount of either sweet or sour milk, as he prefers; that is, it is supposed that the water used in washing the butter will make up for the weight of butter taken out. The maker charges 4c. per lb. for making the butter and furnishing the package, and the farmer has to haul the butter to the nearest railroad station. The price received for butter is at present very low—about 15 cents. per lb. Now, taking out the making, &c., and the farmer is left with barely 11c.; this means about 40 or 55c. per hundred for the milk—rather a small profit for the farmer, but as it seems to be the only way of keeping up the fertility of the farm, we suppose we shall have to "grin and bear it."

The present low prices for butter and cheese make the farmers feel rather low-spirited, but they are in hopes that the price will improve during the fall and winter, and as a large percentage of the enterprising dairymen have their cows calve in the fall and so obtain a large flow of milk at a time when, as a rule, the price for both butter and cheese is at the highest, several factories in this county make butter and skim-cheese, and during last winter the price obtained for 100 lbs. of milk was as high as $1.60—almost four times the price of milk at present, and as almost every dairyman has built a silo during the last few years, thus securing a good and cheap ration for his cows, and also as in winter time, as a rule, labor is plentiful and cheap—about one-half the price of summer labor—with cheap feed and cheap labor and a good price for butter and cheese, it is not to be wondered at that so large a majority of the farmers are running winter dairies.

The manure is drawn directly from the stable to the field, either on a sled or wagon, and spread immediately, thus getting rid of a hard job in the spring or fall, and it also saves the leaching which would otherwise occur if it were left in pile in the barnyard.

This, in brief, is a history of the dairying in Southern Wisconsin, and, as a consequence, where this mode is followed, and all, or nearly all of the manure saved and applied directly to the land, it steadily increases in fertility, instead of decreasing, and by a judicious cropping of clover the land is steadily improving.

We have just gathered one of the heaviest crops of tame hay raised here for several years. Also the grain harvest is very good, but the corn crop is, at present writing, the smallest it has ever been known here at this season. We are in hopes of a rain at no distant day, and perhaps we shall still have a fair crop of corn, yet things look rather blue for that crop, and time only will tell.

The markets are about as follow: Butter, 15½c. per lb.; cheese, 7½c.; wheat, 77c. per bush.; oats, 28c.; rye unsalable at any price; hogs, $4 per cwt. C. D. STILES.

Jefferson County, Wis., July 22.

From Northwestern Georgia.

EDS. COUNTRY GENTLEMAN—Crop prospects continue fine. Corn is pretty well made, and is the largest crop and most abundant yield since the war. I see no room for western imported corn next year in Georgia. The seasons are high; the greatest abundance of rain—almost too much. Cotton is making large weed, but no correct estimate of the crop can be made before the last of August. The continued rains we are having are favorable for caterpillars and the boll-worm; should these appear, the crop will be considerably cut off, as it had such a late start. This has been the wettest July I have seen in 23 years; they are generally very dry.

The fruit crop has been the largest ever made in Georgia; it is simply enormous. A neighbor has already realized $2,000 from his peaches, which he shipped North, not counting his local sales; his grapes will make him $1,800, to say nothing of his pears; his clover has made at least three tons to the acre—some ten acres, and his truck farm has also turned out well. This pays much better than cotton-planting.

This diversifying of crops, as well as stock-raising, will make a great change in Georgia farming from the all-cotton system which has been pursued since the war; thus developed, farming will once more become prosperous and profitable. Our State and county fairs will exhibit as fine grain, grasses, fruit, vegetables, horses, cattle and poultry as can be seen elsewhere, besides making cotton as a surplus crop. Our farmers are becoming common-sense farmers, and are no longer cotton maniacs. True, the world wants all of seven million bales of cotton from the South to supply its demand, but that is no reason why we should make all cotton, to be sold at a price that will not pay for making it. Let us first make all our food supplies, and raise stock, and the falling off in cotton production will be compensated by higher prices. Heretofore we have only been exchanging our cotton (the most expensive crop raised) for supplies needed, which we could have easily produced ourselves.

We are greatly indebted to the Farmers' Alliance for impressing on its members the great necessity and advantage of diversified farming, and raising their own food supplies. The policy of the Alliance is to emancipate the farmers from being merely "hewers of wood and drawers of water," which the old system was making them. This Alliance should extend all throughout the United States, and liberate the farmers from the extortions and oppressions that have been fixed upon them by legislators, monopolists and men of commerce. It is a thoroughly *business* organization for self-protection, to advance the welfare of the farmers, and to make them as independent as other classes. The farmers have been depressed and cramped so long that they need encouraging and elevating, and this must be done through their own organizations—to instil in them manhood and independence, and let them know and feel that as a class they are equal to any other classes; and that they must manage their own affairs with as much business system and thorough cooperation as other business organizations are managed. JNO. H. DENT.

Cave Spring, Ga., July 20.

The Season in Southeastern Ohio.

EDS. COUNTRY GENTLEMAN—The summer of 1889 is, up to the present, a very fair reproduction of the one that preceded it. It began to rain during our centennial week a year ago and has not quit yet.

Hay is a tremendous crop throughout southeastern Ohio, but the quality is far below the standard of dry years. Second-growth clover would alone make a big crop of hay on many farms, but will be left for seed. Good timothy still brings $10 in city market, but will probably come down when farmers have more time to haul. Wheat is very variable, generally thin on the ground, yet I hear of some exceedingly good crops. What little oats we try to raise are good. Corn, which was generally planted a week or ten days earlier than usual, is now about that much behind and excessively weedy. Wool brought 28 to 32c. per lb., and fat wethers are in demand at 3½c.; stock sheep, especially breeding ewes, are scarce. Best cattle are dull at from 2½c. per lb. upwards, while calves and yearlings are in demand.

City markets are well supplied with truckers' products. Potatoes began to go north about the first of the month, and are now slow at 50 cents; new onions bring 75 cents; no melons yet to speak of. Blackberries a full crop as usual; many strawberries and raspberries injured by the wet weather. Apples scarce, hardly any in market as yet, probably will be but few to send north. Winter apples will be few and poor from present appearances.

In localities where there is a good hay crop, the fence corners and swales are liable to be neglected and allowed to accumulate a heavy growth of trash. It is a good plan to mow all such places and spread the resultant hay and litter on thin spots in the meadows and pastures. The washouts and bare spots on my farm have mostly disappeared, but I hope to cover an acre or so pretty thick before I am through harvesting. W. H.

Marietta, O., July 21.

Crops in Eastern Wisconsin.

EDS. COUNTRY GENTLEMAN—The barley harvest is now completed. The weather has been excellent for stacking, and the crop never secured in better condition, which is gratifying to the farmers. The corn prospect is discouraging; I have had corn ripe and in the shock the last week in August, but at this writing only half of the tassels have appeared, and but few silks have put out. Formerly we had roasting ears before this date, but the prospect now is that it will be three weeks before we can enjoy that luxury.

Dog days started in cool and dry, and corn, potatoes and pastures are suffering for rain, and if this weather continues, my estimate of a half crop of corn will be cut down to one-third. Then in case of early frost, the corn crop will be cut off entirely. We can expect but little rain for the next thirty-five days, for as dog-days set in, each will be the weather for the next forty days. To-day the thermometer has ranged from 50° to 65°, which is quite cool for the season. It is reported that 60c. per bushel is being offered to contract for No. 2 barley. I wish to caution farmers to beware how they dispose of their barley until they know how the corn will turn out.

The oat crop is enormous, and will, to a great extent, help out the deficiency of corn, if properly used. Wheat has a fine appearance as it stands in the field, but on close examination, I find many kernels missing on the tips of the heads, and a kernel or two and sometimes more in the sides, which will lessen the crop somewhat, but we shall harvest a fair crop of No. 2 wheat. With the latter at 75c.

per bushel and barley at 60c., it will be better to sell the barley and feed the wheat.

This early our ears are greeted with the shrill whistle of the steam thresher—a welcome sound to any farmer after his own threshing is completed. On the 20th two heavy showers, with terrific thunder north of us, passed off east, and one rose west of us and passed off south, while a few fading clouds, white and fleecy above and dark and heavy in the lower parts, passed over us and spun out just rain enough to stop barley-stacking for a couple of hours at a time. We are very much in need of rain. S. S.

Pond du Lac County, July 21.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, July 21.

The heat moderated last week, and it is cooler this, after the deluge. Of these, the rainfall of the 26th amounted to one inch, and that of the night of the 27th to a half inch more, or two inches for the week. North, the storm of the 27th was severer than here, and so heavy in Chicago that four inches fell in four hours, and how much more after no one can tell, because of the deficient capacity of the rain gauges. Whether we have reached the point of the maximum rainfall for the summer is a matter of doubt, but I am inclined to think we have, because the point of greatest heat for the warm season in these latitudes is not far from the first of August.

The storm of the night of the 27th, was ushered in by a strong gale of wind, that prostrated whole fields of corn in some sections, and tangled it in many more, but a good deal of it will partly recover, so as not to interfere seriously with the earing. The crop is now far enough along to enable one to judge of the outcome, and that for the central counties will not be over 50 per cent. of the crop of 1888. This estimate is based on the facts that the stand is a poor one, the growth dwarfed and uneven, and the crop from ten days to two weeks behind time.

Last year about this date, referring to the crop, I said if one had shoes broad enough and faith strong enough, he might perhaps walk over the top of the corn fields, so even was the growth, so full the stand and so dense the forest of vegetation, but the fields offer no similar suggestion now. Indeed, measured by the height, corn is from one foot to eighteen inches less this year than last. About half the fields are in tassel, and the other half will be in course of ten days. I may say of the crop, that the color is clear, deep and rich, and there is not half as much yellow corn showing stagnant water at the roots as might be inferred from the excessive rainfall since the first of June.

Most of the wheat is still in the shock in the fields, and they are a good deal browned and discolored, but there is yet no green testimony to the sprouting of the grain. The oats are mostly harvested, and, contrary to the general fear, there is very little show of rust. Indeed, of the vast acreage harvested, the latter half of last week, there is scarcely a piece showing any kind of damage done from the very unfavorable weather. As for the yield, farmers fear that it will be a light one of grain, that will not come up to 32 pounds to the measured bushel; while on the other hand, grain buyers and their traveling agents declare the crop to be excellent in quality and so enormous in yield, that as one expressed it, oats in two months would be at a foot deep all over Central Illinois.

Except clover, a considerable portion of which was damaged or spoiled, a small part of the hay crop has been made. On newly sown fields, the growth of timothy is tall, thick and strong; on old fields timothy is scattering, and the weeds are overgrowing the grasses, with a second crop behind. In event of clear, dry weather for two or three weeks, seven-eighths of the wheat and oat crops will be saved without serious damage or loss, and hay got into stack or under cover, and Central Illinois will have little to complain of in the way of short summer crops, except, perhaps, in the matter of corn. And as to that deficiency, grain buyers say there is still old corn enough in first hands to carry us over to the crop of '90.

Fruit Notes for the Season.

Vegetable physiologists tells us that the fruit buds on most of our northern fruit trees are developed and perfected in August of the previous year. In that case, if anything is done to increase and improve the fruit crop of 1890, it should be done the current month. If the soil is a good and strong one, and drouth is prevailing, the trees should have the soil cultivated beneath them, and a copious watering given, and if an extra crop of fruit is desired, the bone and potash fertilizers should be liberally applied. If the soil is sufficiently wet, the watering may be omitted, but not the fertilizers. And here is a proper place perhaps, to recommend a mode of treatment which the Arab and Turkish peasant adopt with fruit trees which irregularly or persistently refuse to bear. In the month of October a trench is opened around the trunks of the rebellious subjects, sufficiently broad and deep to expose to the atmosphere from 2 to 3 or 4 feet of the main roots, during the winter season. Early in the spring, the earth is thrown back into the trenches and a copious watering given at the same time. The success of the treatment is so well assured that the practice has become a common, if not universal one. Just why the exposure of roots to the cold, dry air of the winters of that latitude, promotes fruitfulness I do not yet understand, but it may be the operation gives a shock to the subjects similar to that of root pruning, which many recommend for barrenness.

It cannot be expected, of course, if fruit buds are not formed the previous August, that the exposure of the roots will develop them during the winter, and the benefits of the practice must not be looked for until another year. In making the above suggestions and recommendations, I do not look to see them generally adopted by orchardists and fruit growers on a large scale. They are too radical in their measures and too expensive in their applications to be tried, except by the few amateurs and liberal minded cultivators who are ready to accept, and quick to avail of, every reasonable new thing and fresh departure in the lines of their inclinations and callings. If a few prove the value of these recommendations, the many will soon adopt them, and all will soon reap the benefit of improved practices.

E. F. J.

An Ohio Farmer in East Tennessee.

EDS. COUNTRY GENTLEMAN:—I came here July 26th, and along the line from Ohio noticed that the crops were good. It surprised me to see what good crops grow on the mountain sides and tops. I am seven miles from Dayton. Instead of log huts with stick chimneys, and people living mostly on corn bread, as I expected, I find neat towns along the line, cosy, painted frame-houses, and a neat, tasty appearance around the yards, filled with beautiful flowers.

There are a good many Ohio farmers here on the mountain, and they like it very well. Dayton has a population of about 6,000, and is still growing. In the streets run a good many Tennessee hogs, which look very comical to a northerner; they are very lean, and have very long noses. The people live as well as Ohio people, eat just as good a table, and have all comforts of life that are really needed. The climate is healthful; mercury here 75° to 85° through the summer, with cool nights.

Farmers are behind the times in live stock, raising mostly scrubs and don't take any care of it. The soil is a sandy loam, and with but little manure or fertilizer will raise immense crops of all kinds. An Ohio farmer showed me a bunch of clover he had taken from his field 5 feet high; it grew without any fertilizer whatever. Corn grows in the valleys from 8 to 10 feet high. Irish potatoes do well; have raised as high as 400 bushels per acre; sweet potatoes 300 bushels per acre. Strawberries and all kinds of fruit do well. The land is easily worked, and by good management can be made very fertile. There are quantities of fine timber including chestnut, oak, walnut, pine, ash and so forth. You can buy as good land or better for $4 to $10 per acre than you can in Ohio for $60 to $75. The mountainous road is the only objection I have to the country, and that could be greatly improved.

All kinds of crops are good, including an abundance of peaches, and a canning factory would do well here. The weather has been quite rainy; to-day is cloudy and cool. There is wild game on the mountains, including deer, turkeys, quail and rabbits. Hogs roam the woods the year around, feed themselves on roots and so forth, and fatten—producing pork of delicious flavor, on mast (chestnuts, acorns and other nuts), which covers the ground in early fall and winter. They need more good wide-awake farmers to make this country a success. Corn, 50c. per bu.; wheat, 90c.; Irish potatoes, 50c; hay, $15 per ton; peaches, 25c. to 50c. per bu.; oats, 25c. to 35c.; sweet potatoes bring 50c.; butter, 15c. per lb.; eggs, 10c. per doz.; turkeys, 7½c. per lb.; spring chickens, 10c. to 15c. each; hens, 25c.; onions, $1 per bu.; cabbages, 3c. per lb.; winter apples, 60c. to $1 per bu. EDWIN WING.

Dayton, Rhea Co., Tenn., July 30.

Weather, Crops and Prices.

Meteorology for July 29-Aug. 4.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.18	inches.
Lowest do.	do.	..... 29.93	do.
Mean do.	do.	..... 30.06	do.
Highest temperature	do.	.....	85°
Lowest do.	do.	.....	61°
Mean do.	do.	.....	72°

One clear day; one fair; five cloudy. Six days on which rain fell; total precipitation, 0.15 inch. Prevailing wind, S. E.; maximum velocity, 30 miles per hour, on the 29th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	29th	30th	31st	1st	2d	3d	4th
Day	72°	72°	71°	74°	74°	72°	72°
This year...	70°	78°	72°	74°	79°	79°	76°
Normal.....	71°	71°	72°	72°	72°	71°	71°

Total excess for the week, 21°.

The Month of July at Albany.

According to the reports of Sergeant Sims of the Signal Service, the highest temperature for July this year was 89° on the 1st; lowest, 54°, on the 10th. Prevailing wind, S. E.; highest velocity, 30 miles per hour, S. E. Clear days, 3; fair days, 17; cloudy, 11. Mean temperature and total precipitation for last ten Julys as below:

1889—Mean Temperature,	72°	Precipitation,	4.19 inch.
1888	do.	70°	do.	2.82 "
1887	do.	77°	do.	4.87 "
1886	do.	78°	do.	2.86 "
1885	do.	70°	do.	1.78 "
1884	do.	71°	do.	5.04 "
1883	do.	73°	do.	2.00 "
1882	do.	74°	do.	3.50 "
1881	do.	74°	do.	3.82 "
1880	do.	75°	do.	3.78 "

General Review of the Week.

The week has been slightly warmer than usual in New-England and the Middle Atlantic States. The normal temperature has prevailed in the South Atlantic and Gulf States, while in the States of Ohio, Upper Mississippi and Missouri valleys the week has been relatively cool, the average daily temperature ranging from 3° to 6° below the normal. On the Pacific coast the daily temperature for the week was from 2° to 6° above the normal. The season, from January 1st to August 3d, has been warm from the Mississippi river westward to the Pacific coast, the excess of temperature increasing with the latitude; and from Dakota westward to Oregon and Washington Territory the season is from ten to fifteen days in advance. In New-England and the Middle Atlantic States the season has been slightly warmer than usual, while generally throughout the Southern States and the Ohio valley the temperature for the season has been slightly below the normal.

There has been a large excess of rainfall during the week in New-England, the Middle Atlantic and South Atlantic States, and in Alabama, Western Florida, and the east portions of Mississippi. From Southern New England southwestward to Georgia, the rainfall for the week ranged from three to six inches, and the floods occurring within this region have doubtless proved injurious to growing crops. Only light showers occurred in the States west of the Mississippi from Texas northward to Dakota and Minnesota, while generous rains are reported in the States of the Ohio valley and lake region, the average rainfall over this section ranging from one-fourth to three-fourths of an inch, except near Chicago, where severe local storms occurred (attended by over four inches of rain), and near Lake Superior, where the rainfall was in excess. The seasonal rainfall remains substantially as previously reported, except that the excess on the Atlantic coast has been augmented, and from New York southward to North Carolina there has been from one-third to three-fourths more rain than usual for this period, namely, from January to August. The rainfall for the season continues in excess in Wisconsin, Northern Illinois, and from Nebraska southward to Texas, while in the east Gulf States and in Arkansas, West Tennessee, Missouri, Illinois, and Indiana over 80 per cent. of the seasonal rainfall has occurred. From East Tennessee northward to Michigan only 70 per cent. of the seasonal rainfall is reported, while in Northern Dakota and Northwest Minnesota, and in Oregon and Washington Territory, the rainfall for the season has been about one-half the usual amount.

The weather during the week has been especially favorable for harvesting in Minnesota and Dakota. The wheat crop is harvested in southern divisions of these States, and is in progress in the northern districts. In Missouri, Kansas and Nebraska the weather was favorable for threshing and haying, but unfavorable for corn, owing to cool nights. In Iowa, Illinois, Indiana and Ohio the corn crop was improved, and is reported in excellent condition. In Indiana and Kentucky excessive rains injured oats in the shock. In the latter State the tobacco and corn crops were improved. In Tennessee the weather was generally favorable, but heavy rains in the east portion caused some injury to crops. Cotton was improved. In the cotton region from Alabama westward to Texas and Arkansas the weather conditions were generally favorable, and the cotton crop was much improved; although the cotton worms have appeared in Louisiana and Alabama, as yet they have caused no damage to the crop. In the east portion of the cotton region, including North and South Carolina and Virginia, excessive rains proved injurious to all crops, especially to cotton and tobacco. South Carolina reports cotton shedding and prospects gloomy. Pennsylvania reports weather favorable, corn much improved, and a very large oat crop secured. In New-England, New-York and New-Jersey the excessive rains were generally unfavorable; oat grain is sprouting in shock or rusting, and potatoes rotting badly. In Oregon favorable weather is reported for harvesting a good wheat crop, although the absence of rain proved injurious to corn and fruit.

New-York—Cornwallville, Greene Co., Aug. 3.—The large hay crop of this vicinity was not all secured before the heavy rains of the past week. Farmers in the meantime have been cutting oats between showers. Oats on upland are a good crop, though rusted some. Corn is not very good except a few pieces which were planted on gravelly soil, which are fine. Apples are not plenty. Pears are a good crop; blackberries plentiful. Twenty-eight days of rain in June and July. Butter, 16c. per lb.; eggs, 15c. per doz. W. S. S.

Homer, Cortland Co., Aug. 3.—Frequent and heavy rains have made everything grow fast. Vegetation never looked fresher and more luxurious. All crops, except apples and pears, promise large yields. Hay and oats mostly gathered, although frequent rains have retarded work, and somewhat damaged them, particularly the color of hay. Fields of potatoes look vigorous, but complaints are made of the rot having struck early ones. Indications throughout promise large crops with low prices. Are great crops and low prices a benefit or damage to farmers? Is it as profitable to sell two hundred bushels raised upon an acre for fifty dollars, or to raise but one hundred bushels and sell for the same? And so of other crops. C. O. H.

Maine—West Madison, Somerset Co., July 29.—The hay crop is nearly harvested, and the yield is better than it was thought it could be a month ago, though there is a slight falling off from last year. The grain crop is looking fairly well where the ground has not been too moist. Potatoes have made a good growth of tops, but the rust is beginning to work on them, and fears are entertained that the crop will be cut short before they are grown. The apple crop will be decidedly small in this section, and it looks as though there would be but few for the shippers.

T. D. S.

New-Jersey—Franklin, Essex Co., Aug. 1.—A very wet summer; much of the clover hay was seriously damaged, and also a part of the timothy hay. Potatoes are rotting, and as the soil is in the condition of soft mud, we expect the rot to become general. Farming is almost as hazardous as a game of chance. Prices of farm produce are low. When coal is cheap the mines combine to reduce the output; when iron is cheap the manufacturers combine to reduce production, others form trusts, to keep up and advance prices, but the farmers cannot combine. The one remedy suggested to them, is to increase their production, and still further glut the market, while a paternal government kindly prohibits them from purchasing their supplies in the cheapest market. J. E.

Virginia—Birdsnest, Northampton Co., July 31.—This has been a wet month, with an exceptionally heavy rain on the 6th—2.9 inches; rain on fourteen days. The earth has been so saturated that it could not be cultivated for several days at a time, and the weeds and grass had a good time. Corn is looking exceedingly well, considering the late planting; but sweet potatoes do not look well. Maximum of thermometer, 90°; minimum, 67°; mean, 77.87°; rainfall, 5.8 inches. Our mean annual rainfall is 44.33 inches; up to August 1st this year, 47.95 inches. There were seven thunder storms. C. E. M.

Norfolk, July 31.—July is keeping up the record to the very last for a rainy month, with a lively thunder shower yesterday and a half-dozen to-day—ending with a steady drizzle. On our farm we are well prepared for bad weather with the exception of some oats standing in shocks in the field. They were cut high, in order to let the young clover stand, and now the clover stands about as high as the shocks of oats. It is a pretty sight; but the clover would look better to me if the oats were only safe and snug in the barn. We must start the mower on the second cutting of grass, just as soon as the weather clears up. Haying is a sort of continued story with us, as we have three chapters of it during the year, viz., one in June, one in August and one in October. The sunflower and field corn is coming on nicely, and the broad blades rustling in the gentle seabreeze whispers of plenty, as no other crop does, that is grown on the farm. Canteloupes, watermelons, tomatoes, peaches, apples and pears are the principal crops now moving northward from this section. The year is about rounded up; and the men who can find a profit for the last twelve months' work are few and far between. A. J. [Remainder of letter necessarily deferred for lack of space.]

Kentucky—Bennettstown, Christian Co., July 25.—Rains have been frequent since last report, consequently wheat has been thrashed tough in most instances, but it is thought it will dry out in the sack. The crop in many instances, on flat land, is very great, and the acreage sown will yield an average crop or more. Corn is in full silk, and we had a fine rain last night, which insures a fair crop, and another ten days hence will give an extra yield of corn. Tobacco is growing rapidly, much of it "bottoming." The acreage now growing is, I think, not more than 60 per cent of last year's crop, which was larger than the average. Prices at Clarksville and Hopkinsville average less than 4c. per lb., while it costs 5c. to raise it, hence the curtailment in the planting. The greenhorn worms on tobacco are very numerous for this early date. *Aug. 2.*—It is raining again this morning, much to the regret of wheat growers, for there is one-fourth of the crop unthreshed and in the shock. Some is sweating, and of that which has been thrashed nearly all is "tough." A big corn crop is secured, and there is a fair supply of hogs, which have been in clover since May. Tobacco is a poor stand on account of continued work of the cutworms. Much of it is running up narrow-leaved; tobacco worms very numerous, so that half a crop is all we expect this year. W. H. H.

Wisconsin—Janesville, Rock Co., July 30.—We have had quite fluctuating weather—hot and too cold for the season. The changes too have been quite sudden. Harvesting is just about beginning. Steam traction engines are in demand this season for threshing, &c. There is some complaint of a strange fly or grub killing the head of the wheat west of Janesville. One farmer told me he had a piece of wheat which would not be worth cutting; he said the fly killed the ear of wheat entirely. He could not tell me the kind nor have I heard. We had a hail storm a few days ago, which did considerable individual damage, but was not a general storm; northwest of us the corn and tobacco are completely stripped of their leaves. Wheat, 60@75c. per bu.; barley, 60@65c.; corn, 25@30c.; rye, 40c.; hay, $9 per ton; potatoes, retail, 30c.; butter, 11@13c. per lb.; eggs, 13c. per doz.; cattle, $2.40@3.50 per cwt.; hogs, $4.00@4.10; tobacco, 2½c., 3½c., 5½@6½c. per lb.; crop prospects fair. W. H.

Horticultural Department.

Winter Gardening.

A late number of the Garden and Forest says: "Anything like out-door winter gardening in the Northern States is a delusion; the climate from December till April makes it impossible." This may be correct as applied to bald, open, unprotected ground; but with the protection of evergreen trees, we have witnessed the growth of roses and the beautiful even in the depth of winter. We may not have many days so soft and balmy as to enable winter flowers crified by Cowper in his Winter Walk at Noon, but the very mildness and freedom of pines, spruces and hemlocks shield the sheltered walks from the bleakness of exposed fields. Even half-hardy greenhouse plants will survive our bright months under such protection, with a proper amount of additional care. We have found by examination that the sheltered soil would in many instances be frozen down only an inch or two, while in open ground the frost had penetrated to a depth of six or eight inches. Many of our wild evergreens, with such protection from the blasts above and the shielding in finness from a clear sky overhead, with the additional covering of dropping leaves, will be ready in early spring to follow closely our earliest snowdrops, quills and crocuses. Those which grow in the dense shades of our woods prove rudiments for planting in correspondent shade in home grounds. These, of course, do not seem in the depth of winter, but it is our shrubs that lend their charms to winter scenery. A mixture of evergreen leaves and crimson and purple berries always possess a peculiar charm. Among the purple berries, those of the bittersweet are conspicuous, provided those young trees are selected for planting which bear a profusion of them in dense masses along the branches (fig. 1). Beautiful deep crimson fruit clusters are borne by the *Prinos verticillatus*, or black alder (fig. 2), which grows in abundance in some of our marsh swamps, but succeeds well and bears more abundantly when removed

Fig. 1.

to rich upland. *Celastrus scandens* (fig. 3), known also as bittersweet, or bittersweet, is a climbing shrub that displays early in winter its rich orange-colored fruit. The orange-colored pods, afterwards becoming white, open

Fig. 2.

and show the brilliant scarlet berries. The common and the purple barberry bear beautiful racemes of berries (fig. 4), and taken in connection with the handsome flowers, is one

Fig. 3.

of the most desirable species of shrubs. There are many other winter ornaments, among which are the bush cranberry, the Bofbean berry, the snowberry, the hawthorn, several of our native thorns, the mountain ash and others; and the hardy forms, which in mass grow all winter, may be made to add much to the interest of the grounds if properly planted.

This subject will soon be in season for mak-

ing preparations, as the evergreens, shrubs and the free-growing hardy forms must be procured and planted while the ground remains open. Evergreens may be secured from the woods or nurseries as they approach the condition in growth late in summer and afterwards, taking care to carry plenty of soil on the roots; the deciduous berry-bearing shrubs at the usual time to autumn, and the forms either

Fig. 4.

in autumn or early in spring. Among the hardy evergreen forms on the contrary, the Norway spruce, the hard fern (*Aspidium*), some of the white cedars, the Scotch pine, hemlock, all strong plants, which will afford a fine ornamental underground. There are many solid days between snow storms when these rude materials may be greatly enjoyed.

Mowing Lawns.

The beauty of a lawn is in its thick, velvety bed of close, closely-cropped grass. But the hardy grasses that form the carpet, especially when a mown the more its destruction is promoted. And it is unenjoyed advice to stop mowing early in the fall, so as to leave a good growth of grass on the surface of winter's art as a mulch for the roots; also not to begin to mow early in spring—foolish as this grass got a good start, even if we have to cut it the first time with the scythe. And all this seems reasonable enough. But it is erroneous, and contrary to our experience, and not at all what we practical men practice.

I keep about twenty acres of ground continually in grass; the most choice part of this in open lawn, and part of it lawn interpolated with trees and shrubs, and part of it in shelterbelt, lined in land, part good tight soil, and part in the larger part very light, sandy soil upon a sandy bottom. But all is well sanitized with a sandstone of barnyard manure, applied annually to the light land, and triennially to the better ground.

I mow till the beginning of October. After that the grass thickens but does not get long. In places where it is safe to pasture the cows I stop mowing about the middle of September, and in October and November turn out the cows on these lawns, with a boy to tend them. In either case the grass is left partly short over winter. But I stop mowing about the first of September, the grass would become thick and luxuriant, and the lawns would not look as well in spring there would be a good deal of dead grass, that would have to be raked off carefully in order to let the new grass come up well and not clog the mowing machine.

I began mowing our lawns on the 18th of April last, and did not finish with the first mowing all round on the 25th. There was no scythe work; every inch of lawn is in good shape of that shortness job. And we have mown our lawns all spring as often and more since than I should see delay longer the grass would be so thick and long that the machine could not cut it, for this has been a moist year.

About half of our lawns are over ten years old and the other half six years, and the above routine is about what has been closely practiced during all of these years. With what result? Our lawns show as fine and healthy a sod as one can find anywhere, and far better than any pasture in the vicinity. The grass is not enfeebled and the sod does not deteriorate. We have no bare spots, weeds or moss-put across the ground parts in winter; the shelter-belt lawns are as good as others. In another decade we stop mowing, because the grass stops growing, but it is never killed out except on dry sand knolls, and then in a lesser degree than we find in pasture or hay lands under the same conditions.

The greatest evil of mowing is the chance it gives to weeds. In pasture lands rank grass gets choked or eaten off; in lawns, no matter how closely cropped toward the end of the season, the wiry flower-spikes spread upon the surface of the ground, so that the lawn mower can reach, and ripen and spread their seeds. And this is the greatest of all lawn evils. The rank-one dandelions, broad or narrow leaved plantains, sorrel, wild carrot, chickweed, and the like—early and close attention will soon rid the lawns of them.

During dry spells in summer, when we stop

Fig. 5.

mowing, I go over the lawns weekly or fortnightly with the sickle, to keep off any rank grass heads or weeds that may chance to rise above the general level of the grass, but we do not mow the grass.

Another notion not uncommon is to let the clippings lie on the lawn. In some cases they do it good, not only in a manurial way, but as a mulch to save grass from the hot, warm sunshine and drouth. If the grass is light, and the clippings dry and empty enough to fitrate it up almost out of sight, all well and good—let it be, but if the grass is heavy and heavy, rake it off by all means. On a good grass lawn, I must assert that the clippings of grass enrich it sometimes a positive evil. This is not theory with me, but hard, practical fact, which I shall be very glad to submit in reading to any who may desire to test it for themselves.

For our lawns, I use Kentucky blue-grass and red top alone, and I sow thick. I have also used White-dutch clover with the above, but without any visible advantage. In our hay lands, the red top preponderates; in our

Fig. 6.—Fruit and Foliage of Sweet Leaf, *Symplocos tinctoria*.

lawns, the blue grass maintains the advantage. I never use clover for lawns, because for the pasture lawns I use a good scattering of White-dutch clover, and the blue grass takes care of itself.

One would think that our manure would make a capital top-dressing for lawns, but it is very dangerous for this use. It is full of rank-growing weeds, and the consequence is the unbearable plants, but its greatest evil is the attraction for June bugs to lay their eggs in it. They prefer new manure for breeding in to anything else. They lay their eggs in May, and the grubs hatch out in June, and by July they get in their wholesale work by cutting off the grass roots and destroying the sod—and there is no remedy.

GEO. GEO. E. F.

Grapes on the Hillsides.—The New Falls Independent reports the talk of various fruit growers. Most of the fruit gathered comes down the river valley. The rots worse on ground by knolls than on a clayey loam. The Delaware is coming into favor other kinds. One man said he had 10 tons last year, but did not attempt to gather more than half the crop. In his father's vineyard grapes were plenty, but rotted. A grower who ought to have 100 tons will not rub over 15; another, who has raised 60 tons, will do well if he has 30. In the vineyard of Mr. Hoffman, on Mount Misery, and on the whole the loss in producing was one-half to two-thirds of the crop. The Delaware mixture thrives the fullest but suffers the lightest. One grower has used a solution of sulphate of copper, 1 pound to 25 gallons of water. He uses a Lewis pump, throwing about 10 gallons per minute, and using five acres per day. Three applications. The first when the fruit is about the size of peppers at 50, per 10, and June 25. Fifty per acre.

How to Grow Fine Celery—I.

The Most Desirable Varieties.

It is proposed in this and succeeding articles to set forth the merits and requirements of this popular vegetable so that every reader can thereafter may enjoy it. These articles are more especially intended for those who have not yet had success of market gardening—yet as the methods described are those mainly employed by growers who supply the city of Buffalo, N. Y., where celery is largely consumed, there may be some practical points for all.

Celery belongs to the same family as the parsnip, carrot and caraway; from its native state in growth it is rather coarse and has little strong odor, its botanic name is *Apium graveolens*, and is probably a native of this land, as it occurs there in the wild state in moist meadows, and in the salt marshes. Its tough, acrid, unpalatable stalk, it is evident contrasted with the crisp, delicious article which adorns the table now. As to cultivated plants, those who are already in the business may skip to the next, and those who have small interests in it, for it is better to buy the plants of such varieties as may be preferred, as to which some notes are here given. As this is the favorite sort, it is described as to its

Fig. 7.—Celery Plant, Sweet Leaf.

preference. Market is the best long-keeping variety, because of its slow blanching habit, and is largely grown by market-gardeners, purchasers, excellent flavor, sunny and crisp—it also, when well grown.

Henderson's Half Dwarf is a standard variety of fine quality, a good compact grower, and hardly excelled by any other for keeping qualities in the winter.

Crawford's Half Dwarf grows large than the Golden Dwarf, often yielding quieter celery.

It is a good keeper, and in some cases grows to a large size, although not so large as to be self unsalable.

Golden Dwarf, originally a most excellent variety, seems of late to have run out. Where this can get the genuine plants it cannot be selected without hesitation, as it has been kept until May in a good condition by market gardeners, and its flavor is not inferior to any variety. This celery is in much more favor in England than in this country, because of its very ornamental appearance and also from its possession of a better flavor, more nutty than the white sorts. For private growing it is to be highly recommended, though for market it is objectionable, as it does not keep as well as other sorts.

White Plume above all others is the celery both for amateur and early market purposes.

having many superior qualities. Its introduction began a new era in celery culture, as will be more fully explained hereafter. By storing before blanching, it can be kept until April, and it can be had earlier in the fall, as even when sowed at the same time as other sorts it does not run to seed nearly so quickly, while it blanches in half the time required by the others. It grows well, and with good treatment reaches the size of the Half Dwarf sorts; it will blanch even if no soil is brought against the stalks, but it is better to do so as a better flavor is thus given.

Perfection Heartwell, a somewhat newer variety, has given good satisfaction among growers generally; it greatly resembles the Golden Dwarf as it used formerly to grow, the heart being a fine golden yellow.

Large Ribbed, when slowly grown, is of good flavor and a strong grower; if manured too highly, the stalks will be hollow and soft, but otherwise it is a good sort.

White Solid, probably the best of the large-growing varieties, is, as its name implies, of a good white color and very solid, and on good soil, well cultivated, grows to a large size.

The above embraces all of the most desirable sorts, and from it may be made a choice that will afford this salad from July to May.

The first and most important consideration in successful celery culture is the soil, and it is not too much to say that too much preparatory work can hardly be applied, while the two dressings of well-rotted manure, well-plowed and worked in, must not be stinted in the least; but under no circumstances will it do to apply manure when but half rotted, as in this condition the celery is almost certain to be rusty and unfit for use—White Plume being especially liable to this disease.

Niagara County, N. Y. E. H. SUMNEY.

Value of Spraying.

ED. COUNTRY GENTLEMAN—During the past few years there has been an increasing amount of inferior fruit upon the market, which is not only troublesome to the salesman but unsatisfactory to the consumer and unprofitable to the producer. One of the main causes for this is the great increase in insects that infest and injure both the fruit and foliage of trees. Birds that are the natural destroyers of insects have been so exposed to their larger enemies by so much clearing off of trees that many classes once numerous have now almost disappeared, and insects have increased to a very damaging extent, so much so that profitable fruit culture is no longer possible unless systematic means are employed to destroy them.

The healthy growth of tree and perfect development of fruit are dependent upon perfect foliage; without leaves there can be no circulation of sap, and if leaves are largely devoured by insects, there can be but an imperfect growth of wood and consequently only imperfect fruit, if any, produced. In 1886 our exports of apples to Liverpool market alone were 491,025 barrels, and the increasing demand for our apples in that market took, in 1887-8, 875,000 barrels, and in 1888-9, 841,128 barrels, beside large quantities that went to London, Glasgow and other points; but this immense trade is becoming very unsatisfactory to the English dealers and consumers, as well as to the American shippers, from the very bad condition in which much of this fruit arrives, and the past season resulted in very heavy losses to many shippers. The cause of this poor condition on arrival is the very poor keeping qualities of the fruit, which will not stand the ocean voyage, and the cause back of that is, that from the time trees bloom until the fruit is gathered, insects are allowed to live upon the foliage until, in many instances, not a green leaf is left upon the trees, and fruit so grown is not only deficient in fine flavor, but will prematurely ripen and decay.

The remedy for this is the use of the force pump and arsenical poisons, which should be started as soon as the blossoms begin to fall freely. Even before this would be of value to the trees, for frequently the green aphis covers the blossoms, but the objection to spraying before blossoms fall is the injury done to bees, which are valuable in assisting the more perfect fertilization of the blossom.

While the leaves are young and tender 1 lb. of London purple to 250 gallons of water is sufficient for apple, pear and plum trees, but for peaches, the solution ought to be made weaker, 1 lb. to 300 gallons of water, as the peach leaf is easily injured. A weaker solution applied oftener is better, as the least particle of poison will kill any insect that eats it, while there will be less danger of injury to the foliage, which if burned by too strong an application will just as surely stop the growth of fruit as if the worms had eaten the leaves.

Legislation should be had upon this line; the time has come for it. If farmers will set out fruit trees and leave them for breeding places for insects they should be obliged either to remove them from the land or destroy the insects that breed in them, to go forth and infest well kept orchards. Every town should have its commissioner with his assistants, team, force pump and London purple, and where farmers will not make the effort to destroy the tent caterpillar, codling moth, canker worm and myriads of others, the commissioners should do the same, and assess the cost upon the property, on the same principle that the highway tax is assessed, and the road commissioner furnished with road machines to keep highways in order. A very large amount of orcharding in this State is on the decline, and will never again bear fruit profitably unless systematic means are employed to save both fruit and foliage from devastation by worms and insects. GEO. T. POWELL. *Ghent, N. Y.*

List of Roses.—Vick's Magazine gives the following rich list of excellent hybrid perpetual roses: Abel Grand, Anne de Diesbach, Bonstettien, Baroness Rothschild, Charles Margottin, Comtesse de Sereyne, François Michelon, General Jacqueminot, Louis Van Houtte, Mabel Morrison, Madame Victor Verdier, Marguerite de St. Amand, Marie Baumann, Marshall P. Wilder, Pierre Notting, Rev. J. B. Camm. To these admirable roses, some cultivators would insist on adding such favorites as Alfred Colomb, Eugenie Verdier, Countess of Oxford, and others. If all are taken good care of, and a thrifty growth given them, they would present a wonderfully rich and brilliant display during the season of abundant bloom.

The Poultry-Yard.

Breeding for the Best Layers.

SELECTION AND INTELLIGENT MANAGEMENT.

ED. COUNTRY GENTLEMAN—In your issue of July 18th, Mr. G. W. FARLEE contributes an article on the subject of "Egg Pedigrees," which involves several undoubted truths in poultry culture. His suggestion that careful selection of the best layers in a flock of hens, and subsequently breeding from them and their descendants, will raise the standard of egg-production, is a verified fact. Many breeders who conduct their poultry business on intelligent and advanced lines are accustomed to do that very thing; and fanciers, also! who breed for external beauty of form and feather, rather than for economic qualities, employ this very principle of selection to assist them in securing their ends; in fact, when the fowl was first domesticated, its capacity to produce eggs in large quantities was very limited, but by careful selection for many years this capacity was developed, until now we possess some strains of fowls that lay as many as two hundred eggs a year per capita.

Who among the farmers' wives has not had a favorite old Dominique hen or two which were known to be great layers, and whose carefully preserved eggs, when set, produced offspring inheriting the same egg-laying tendencies? Many a farmer's flock, now noted as great layers, has been made so by this very simple but effectual principle of selection. It is not altogether necessary to go to the expense and trouble advocated by your correspondent to accomplish this purpose. The methods advocated by him are the scientific, mathematical ones; but a great deal of good can be accomplished by close observation of the entire flock. Note the hens whose combs and wattles soonest become bright red in the spring, and longest remain so; whose cheery song is heard each morning, as with motherly stride and secretive ways they edge toward their usual nests, and whose bright eyes peer at you above the box as you pass by, and you will soon come to know the birds that do the laying, and where their eggs can be found.

Another thing that will pay many farmers well, is to provide regular nesting-places for their fowls: if not a regular roosting and nesting-place combined, at least let them place boxes around filled with straw—in the wagon-house, under the corn-crib, anywhere, so that the fowls will become accustomed to using them. Many a dozen eggs are lost each season by a neglect to provide such conveniences for the fowls. During a recent stay on an otherwise well regulated farm, my attention was forcibly called to this fact. At eventide the good housewife would come out and look around in the woods and grass, in fence-corners, in wagon-bodies and in other places, for her supply of eggs. Of course she found some, but it is safe to say that she failed to find as many as she obtained. Her fowls roosted on fences, in trees, on the running gear of wagons, anywhere they found it most convenient, and equally careless habits were thereby engendered in their laying places.

A farmer friend of mine in Essex county has a flock of 400 White Leghorn fowls. He feeds them well on chopped meats obtained at slaughter-houses, mixed with bran, corn meal and oats, provides them with commodious houses and laying conveniences, and he informs me that from the sale of eggs alone he realizes about $700 a year, and his surplus cockerels, when marketed, produce him at least $300 more. All this bears witness to intelligent and judicious management. The wide-awake farmer endeavors to make every department of his farm pay, and does not sacrifice one department for another. It is attention to the little things on a farm that makes profit. C. K. WESTBROOK. *Newark, N. J.*

Feeding Half-Grown Turkeys.

All that the young turkeys want now is something to eat. This is their "daily thought and nightly dream," as the darkey writes to his sweetheart.

The eldest flock, now nearly three months old, goes up to roost at night in a tall locust tree, and is down in the morning before sunrise and off to the fields in search of insects. They recognize the fact that "the early bird catches the worm." About 10 o'clock they will return, hungry and thirsty if the day is hot, and panting with the heat. I like to see the evident relish with which they plunge their beaks into the cool clabber brought out on the grass for their refreshment. After this they want something to eat, and are in no wise backward about letting you know it, for whatever opposite traits they may develop in after days no one can accuse them of being secret-hearted now; they proclaim their wants openly and clamor energetically until attended to. Their food just now consists of cracked corn boiled until thoroughly done; some sort of dry grain would be better, and as soon as the wheat is threshed they shall have some. This flock could get on without any food in addition to that which they pick up in the fields, but I am pushing them along for early fall market. After eating they will sit down and rest in the shade until afternoon when they will all go off for another forage in the fields, to return at sundown for another meal of the same kind before arranging themselves for the night on their favorite high perches.

As I go my rounds at closing-up time the last thing will be to visit them, and see whether any have fallen to the ground. If this is the case the little fellow always tells me about it with his sleepy little "peep, peep," from the grass at my feet. For he has nestled down so closely that otherwise I could hardly find him in the half darkness, while the others above him, more fortunate than he, stretch out their long necks and chatter down to us trying to tell how it happened.

As I go out in the morning after breakfast—I have a life-long antipathy to doing anything in the way of work before—flock No. 2 comes running to meet me with the shrillest of cries issuing from mouths stretched so wide that it looks as if they were opening their very heads, and I am convinced at once that no peace will be known in that vicinity until 45 little aching voids are filled. This flock too would be off in the fields betimes if only their mothers could go with them, but they, poor things, are walking anxiously up and down, looking through the cracks of the rail pen, to which airy apartment they have lately been promoted from the closer coops. Here also the little ones take their first lessons in roosting, low perches having been prepared for them, for they are yet too small to fly up in the "turkey-tree" where a hard wind might blow them down or a soaking rain chill them, for they are yet barely two months old.

Their breakfast consists of egg-bread moistened in fresh sweet milk—and an unconscionable quantity they eat of it too—after which follows a lingering visit to the clabber pan and suddenly they all rush off in the direction of the oat field, where they are under strong suspicion of molesting a shock now and then. No more will be seen of this flock until five o'clock, when one old hen after another is observed to fly over the intervening fences, anxiously calling the little ones after her. Three hens go with them, and it is very interesting to watch them coming home in the evening, each hen about 50 yards behind the other, the last one yelping again and again, fearful lest one little loiterer will be lost. No one can say that Bronze turkeys are stupid.

The third and last flock is only five weeks old—veritable babies if they were anything else, but being turkeys they consider themselves nearly grown and go off in the orchard as soon as I let them out in the morning, and picnic out there all day. About noon I stroll after them to see that no danger threatens, and am greeted, or rather the lunch that I bring is, with a joyful welcome. The soft grass is so inviting that I drop down in the shade of a spreading apple tree, and instantly the whole flock is in my lap, on my shoulders, and perching on my arms, begging so prettily for the coveted meal, and trying by way of substitute to swallow the pearl buttons on my blue calico dress. Their food is composed of egg-bread broken in a pan of boiling sweet milk, and is what they consider the height of high living.

After waving the pan around a few times in order to find a vacant spot on the grass I set it down, and the little fellows all rush at it, the smallest jumping right in the midst and sitting down spreads himself so as to cover as much of it as possible, while he eagerly devours all his little crop will hold. The whole flock scream with delight all the time they are eating, and their mothers walk around thankful to pick up the little stray crumbs dropped within reach.

Beauty, so called on account of her remarkably handsome plumage and her stately air, comes up and takes a peck out of the pan, but she is a privileged character and presumes upon it. The other mother keeps her proper distance. This brood has not yet learned to come home of its own accord, but waits to be escorted every evening. Once, when I was a little late, I found one of the hens perched on a sharp rail on top of the fence with her three little ones by her side, while Beauty was trying to hover the rest, nearly thirty, on the ground. In the attempt, every feather was spread in a different direction, and she looked like a great flat surface with her proud head uplifted, watchful and alert. It was a pity to disturb so pretty a picture, but remembering a pair of foxes which have a nest not far off, I thought it best to bring them home. At this age it is a real pleasure to feed little turkeys, they are so eager and so thankful; and besides moving their coops every day, seeing that they come home at night, and providing a supply of gravel or broken crockery, they require no attention whatever.

When these few rules are observed, my turkeys are troubled with no diseases at all, and unless some accident befall them I count upon raising every one I put out. It is true that for the first few weeks of their lives young turkeys require to be constantly overlooked, and I would not advise any one who cannot do that to attempt raising them, but after that time they are not as much trouble as so many chickens, and grow so fast it is a pleasure to watch them. A FARMER'S DAUGHTER.

Raising Incubator Chickens.

ED. COUNTRY GENTLEMAN—Kindly name the best article on hatching and raising chickens from incubator. I have had very good success in hatching, but lose so many chickens in raising them. E. S. *Baltimore, Md.*

A correspondent familiar with the subject, furnishes the following reply:

There is often too much bottom heat in the brooder. It should be diffused over the chicks. They should have pulverized charcoal in their feed from time to time; this will correct bowel trouble, which shows itself by the vent being plastered up. Some excellent hints may be found in a small book called "Chicks from Incubator to Market," by Helen W. Williams, Hammonton, N. J., (price 10c.), also in "Incubators and Brooders," and "Management of Young Chicks," (25c. each), both by P. H. Jacobs, editor of the Poultry Keeper and published by the Poultry Keeper Company, Parkesburg, Pa. Mr. Jacobs is one of the best poultry authorities and the Poultry Keeper is an excellent monthly, price 50 cents a year. The Poultry Keeper Special contains the cream of a year's numbers. A. W. M.

New Advertisements.

Carpenter, Robert S	*Stock Wanted.*
Corner, Thomas	*English Setter Pups, &c.*
Dow, Geo. Q.	*Berkshire Boar.*
Dunham, M. W.	*Percheron & French Horses.*
Dennis, Martin	*Hampshire Down Rams.*
Eno, Frank	*Jersey Bull and Calves.*
Finch, Jas W	*Jersey Bulls.*
Gill, Dr. M. D.	*N. Y. Veterinary College.*
Hiller, J. P.	*Guernseys.*
Hunt, Chas.	*Holstein Printons.*
Johnson, Howard	*Chester White Pigs, &c.*
Kerbaugh, W. C.	*Jersey Bull.*
McBride, A. D.	*Jersey Bull.*
Marsh & Co., L. E.	*Poland Lambs.*
Parry, Wm.	*Greenhouses to Let.*
Pain, C.	*Situation Wanted.*
Sutton, John	*Holstein-Friesian Bulls.*
Thompson, A.	*Situation Wanted.*
Thorburn & Co., J. M.	*Seed Wheat.*
Timpson, Lawrence	*Berkshires.*
Wing, Edwin	*Farm for Sale.*

Subscribers' Wants.

GILBERT E. ALDRICH, *Marlibrook, N. Y.* Three Short-Horn calves (milking strain).

H. J. DAY, *Hagerstown, Ind.* Best Subsoil Plow.

Pamphlets, &c., Received.

BUFFALO NEWS CO., 16 West Mohawk St., *Buffalo, N. Y.* Wholesale price-list of Periodicals.

HERBERT, MYRON L., 240 Macon St., *Brooklyn, N. Y.* Circular of Kimball Union Academy, Meriden, N. H.

JENKINS LIVE POULTRY CAR, 513 Phenix Building, *Chicago, Ill.* Circular of the Jenkins Poultry Car, for the transportation of live poultry.

TAYLOR, JOHN G., G. P. A., M., St. P. & S. Ste M. Ry., St. Paul, Minn. Circular of Special Harvest Excursions.

Inquiries and Answers.

Seeding to Grass.—Have a piece of land from which I cut early in June a crop of green rye. I want to seed it down without fall grain. The land is light, but if well manured would you think it advisable to sow timothy, say about the middle of August, without fall grain, or would you prefer plowing now and seeding down early in spring with a light seeding of oats to cut green? E. W. *Brockville, Can.* [If the land is sufficiently moist, you may, if desired, seed it with grass at once, either with or without plowing, as the condition of the soil requires. Or you may sow it with rye early in autumn with hardy grasses, and with clover early in spring with the growing rye. If the soil happens to be quite dry, the grass seed will not be likely to germinate, and you will have to wait for moist weather. If you plow now, as proposed, to seed with oats early in spring, you lose all the time through autumn, both for the growth of the grass, or for the growth of winter grain, which we would not recommend. Seeding with oats is not commonly so successful as with winter grain, but if the land has been enriched by copious top-dressing previously, it is more likely to do well than on poorer land.]

Draining Tile.—Will you kindly inform me which is better for underdraining, glazed or porous tile? Have been informed that porous tile will sometimes be crushed by the weight of the earth over them. Is such the case? Also, is it desirable to place anything between the tile and the earth? F. W. *Charles County, Md.* [There is no danger of good well-made porous tile being crushed, if carefully laid in the ditch and carefully covered. Throwing in stones might cause injury. The joints in glazed tile would freely admit the water. Properly laid, either would answer. Badly made, of poor material, porous tile might fail.]

Pistillate Strawberries.—An inquirer wishes to know if pistillate or barren strawberries are always barren, unless some fertile or staminate varieties are growing in near proximity? Answer—they are usually barren or imperfect, but not always so. More than forty years ago we tried the experiment with Hovey's Seedling, a well known pistillate variety of that day, which also has stamens, but they are small and furnish but little pollen. Two beds were planted side by side, one of them the Hovey, and the other Large Early Scarlet, a very distinctly staminate variety. Another bed of the Hovey was placed fifty feet distant, another a hundred feet, a third nearly two hundred feet, with no fertilizing sort near. The first mentioned bed bore fine large berries of the Hovey, with the fully developed conical form of that variety. The bed fifty feet away had some good berries, but they were mostly more or less imperfect. Those a hundred feet distant were still more imperfect, and the one most remote had no good berries, but all were small and distorted. In this experiment and on this soil, pollen from a staminate (carried by wind or bees) was absolutely necessary for the development of the berries of the Hovey. Yet this was not always the case. A skillful gardener, who occupied a fertile soil specially adapted to the strawberry, said that it made little difference with his Hovey strawberries whether another sort grew near or remote. We have found that pistillate varieties growing on unusually rich spots of ground had well developed stamens. The Crescent, for instance, not unfrequently becomes perfect in its flowers on very favorable soil; but gardeners who expect to be successful will not depend on any chances of this character.

For the information of those who have not given the subject attention, we furnish magnified drawings of portions of the two flowers,

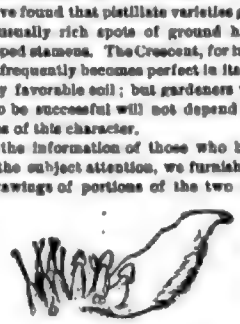


Fig. 1.

fig. 1 representing at *a* the small and barren stamens of Hovey's Seedling, and in fig. 2 the large stamens of the Large Early Scarlet above

Fig. 2.

mentioned, the anthers of which furnish an abundance of pollen. Figs. 3 and 4 represent the common appearance of the flowers of the

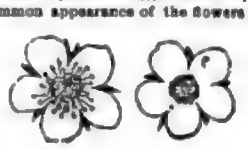


Fig. 3. Fig. 4.

two varieties—one with short and inconspicuous stamens, the other with fully developed ones.

Ice-Houses.—The ice-house upon my farm, described when I bought the place as an "improvement," is a large square hole in the ground, so placed at the bottom of an inclined plane as to be admirably adapted for a trap in which surface water is readily caught. I am credibly informed that this alleged ice-house cost over $100. Our yearly harvest amounts to fifty or sixty two-horse wagon loads of ice; to keep this until September we are compelled to keep the pump going, and be economical in its use. Few farmers seem to appreciate the value of ice, a summer luxury to be obtained at small cost. My ice crop rarely costs me over $8, and I am compelled to hire all my work. In my business, however, an ice-house which will keep ice is an absolute necessity, and your correspondent M. Frisselle gives me an idea of something similar to what we need, viz: A store house from which ice can be used, if needed, built about a room fitted to contain perishable articles, easy of access to the kitchen, and entirely above ground to save the labor of pumping off water. Not being a practical mechanic I would like you to give us less favored working plans for such a combined ice-house and refrigerator. S. J. F. *Howard County, Md.* [The best thing our correspondent can do is to build a new ice house wholly above ground. He will find different designs, with all the details of management, fully described in the first article, occupying ten pages and fully illustrated, of volume VIII of RURAL AFFAIRS.]

Silo Walls.—Has it been fully demonstrated that brick and stone silos must have wooden casing inside? I am getting ready to build, and had an idea to simply plaster the inside thoroughly with Rosendale cement. The wood would not be as lasting as cement only, and would add to the cost. Still I want a good job. D. S. *York, Pa.* [With well built walls of masonry, proper drainage, and with no unfavorable external conditions, there is no objection to such silos. Many have been in successful use for years, without wood lining.]

Cattle Barn.—I want to build another hay barn to hold 50 to 60 tons, with room for 8 to 10 cows; where can I find best plan? L. L. W. *Pomfret, Ct.* [You will find a good plan for a cattle barn on p. 897 of the last volume of the COUNTRY GENTLEMAN, furnished by Waldo F. Brown; and you will also find several designs, with various details, in the third and eighth volumes of RURAL AFFAIRS.]

Acknowledgments.

Communications for publication have been received during the week ending August 5 from C. W. Garrett & Co.—Mrs. Emma Dyer—R. DuBois—Prof. C. H. Peck—C. O. Newton—Geo. Q. Dow (2)—E. F. Mann—E. L. Travis—H. Hoopes—Geo. T. Powell—E. H. M.—Wm. Bishop—C. E. Brinkerhoff—B. M. Lindsley—E. Worthington—S. G. Packard—T. D. Bailey—J. H. Dent—B. Stokes—Jas. Tinning—E. C. Knox—R. F. Pease—W. E. Embry—J. W. Ingham—Hortense Dudley—Dr. J. W. Lockey—W. H. Gifford—Jas. Miller—M. M. Rock—Mrs. E. M. Jones—E. W. Stewart—W. Horne—E. H. S.—G. Gardner—H. P. Fay—H. C. Greene—B. S. H.—J. W. C.—E. F. Johnson—James Wood—J. M. Stahl—Edwin Wing—W. E.—Henry Stewart—L. F.—Scott—H. G. Haviland—E. Reynolds—E. P. S.—Alfred Holden—J. S. H.—E. Ryder—J. M. Garnett—Prof. I. P. Roberts—E. E. Sammy—Smith Brothers—Mrs. C. I. Allen—A. C. Gliddon—J. W. Mumford—T. G. Avery—A. Jaffurs—C. E. Moore—Stephen Beale—W. H. Miles—G. D. Springer—Jas. Shoup, Jr.—L. D. Cary—W. S. B.—J. R.—T. M. Parrish—C. O. N.—J. W. Clarke (3)—T. B. Terry—S. S. O.—P. F. Kefnaver.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Aug. 8, 1889.

New-York State Fair.—It will be remembered that Entries for the coming exhibition of the New-York State Agricultural Society at this city, Sept. 18 to 19, will *close on Monday next, August 12th.* This regulation applies to articles entered for exhibition only, as well as to those put in competition for prizes, and to all the classes except Class VI, Flowers and Fruits, in which entries may be made up to 10 o'clock, A. M., on Thursday, Sept. 12th.

The work of preparing the show grounds has been going on for some time. The old stables and pens are being repaired, and commodious new stables for horses, cattle and other stock are being erected. No effort will be spared by the officers to make this, the forty ninth annual show, one of the most successful exhibitions ever held by the society.

A Fine Cayuga Farm.—Our readers are familiar with the notices and advertisements of the horses imported by JOHN W. AKIN, of Scipio, N. Y., who is conferring a valuable benefit on the farming community by the introduction of fine Percheron and French Coach horses. A recent opportunity enabled us to make a brief personal examination of his place, and at the same time to give a hasty inspection of the excellent farming region in the central and southern portions of Cayuga county. The time was in the midst of the harvest season, and the broad undulating surface of the country, with its rich fields, the wheat mostly harvested and in shocks, the light yellow of the ripening barley fields, the deep green of the grass fields after the abundant rains, the numerously dotted hay cocks and shocks of grain in the dim distance, and the occasional self-binders rapidly turning out the sheaves and shocks of barley, gave a constant interest to the variegated and picturesque scenery. Some of the farms indicated the excellent management to which they were subjected, in rich crops of corn just opening their tassels, in luxuriant crops of oats, in the dense pastures, and above all the clean fields free from weeds.

A carriage drive of nine miles brought us to Mr. Akin's magnificent farm of 350 acres. Its excellent management is shown by the heavy crops. Forty acres of oats last year gave 85 bushels to the acre, the whole of the crop of oats amounting to 6,000 bushels. There are 90 acres in oats this year, and the product is expected to exceed considerably that of last year. At the time of our visit, the harvesters were cutting 150 acres of hay, which will yield over 300 tons.

The farm is mostly occupied with meadow, pasture, and oats. The oats are commonly sown two seasons on a field, when it is seeded down and used for meadow from two to four years. It is top-dressed the second year after mowing, then used for pasture from two to five years. It is top-dressed again before plowing for oats. The manure, of which the large herd of horses furnishes a great quantity, is drawn out and spread on pastures and other fields as fast as it is made, through the whole year. A greater benefit is thus obtained than by the former method of spreading just before plowing. It makes the meadows heavier and stronger, and continue longer in crops. At the present time there are 75 acres in pasture. Seeding after oats is attended with good success, but is not quite as sure as seeding after wheat in former years.

The barns and stables, the entire length of which is 1,800 feet, and covering 30,000 square feet of surface, are very substantial wood structures planed and painted; and they afford mostly box-stall accommodations for 200 horses. The box-stalls are 16 feet square; the owner was compelled to change a few of them into common or narrow stalls for accommodating the increasing numbers of animals.

Of the 170 horses at the time of our visit, nearly all were Percherons, but a large importation of French Coach horses is expected in a few weeks. It is hardly necessary to say that the visitor sees many superb specimens among the Percherons, the prizes of the finest running up among the thousands. There were some beautiful animals only a few weeks old, of special interest. Among the many sales yearly from this herd, New-York State affords the best market, but the purchasers extend from Maine to Montana. All the animals are exclusively used for breeding; and arrangements are nearly completed for raising the best ones at home instead of purchasing for importation. The heavy crops on the farm afford nearly all the feed required for the animals kept on it.

Mr. Akin being at present in France making selections, facilities for examining the premises and viewing the animals were afforded by his son, E. S. Akin.

The World's Fair at Paris.—On another page will be found an account of the Show of Live Stock at Paris from our London correspondent. Since that was in type, we have received the following note from Mr. JAMES WOOD, who has just returned from his tour abroad:

"I fear that my hastily written letter from Paris, printed in the COUNTRY GENTLEMAN of Aug. 1, gives an erroneous impression in regard to an exhibition of live stock there. That part of the great show took place after the time of my writing, and was an interesting feature of the display. The numbers of entries were very great—over 3,000 of live stock and 2,613 of poultry and pigeons. Unfortunately, many of the entries failed to appear upon the grounds. Especially was this the case with the entries from England, mainly from the fact that because of England's quarantine laws, animals sent to Paris could not be brought back, and consequently only such were sent as the owners were determined to sell at such prices as could be obtained. This refers to cattle and sheep.

"The exhibits were divided into two sections as regards cattle, sheep and pigs, the classes in the first section being for animals of foreign breeds not born in France, and the second for animals of French breeds, or of foreign breeds born in France. Thus Frenchmen were quite safe from being beaten by foreigners, and the jealousies liable to result from the decisions of the judges were avoided. The display of Holstein Friesians, in which the Windsor show was so deficient, was very good at Paris. But few other foreign breeds of cattle made much showing. The French are excellent with their poultry, as the valuable breeds we import from them testify, and the poultry display was very superior. The admirable arrangements of the whole exposition were not absent from this live stock section, and an attention was given to details which might be imitated to advantage elsewhere."

Ohio Forestry Report.—A thin octavo of 150 pages presents in compact form much valuable information on the subject of timber trees, on the destruction of native forests, tree planting, management of plantations, &c. Many facts are presented showing the reckless waste of forests by injudicious management. The annual proceedings of the Forestry Bureau are given, including a statement of the expenditures of the annual State appropriation of $1,500. The position laid down by this organization for general adoption and practice, is that a certain percentage of all lands should be appropriated to forests, properly distributed, and kept perpetually, and be so used that their usefulness may remain unimpaired. In regions bare of trees, skill should be brought into use for clothing a portion with forests. Where too thickly wooded, they must be reduced with economy and judgment, and not, as too often

occurs, with ruinous waste. Waste lands, of both kinds, may be turned to valuable account. The report urges the establishment of a forestry bureau for each agricultural college.

Among the papers presented in this volume, are those on forest cultivation generally; on the value of wind-breaks; culture of the European larch; and an excellent article on the cultivation of the chestnut. A copied paper gives an imperfect mode for measuring the height of trees; a much more simple and accurate one might have been copied from the COUNTRY GENTLEMAN for Dec. 9, 1886. A paper on "Trees and Blizzards," gives some decided facts showing the efficient protection afforded by artificial forests, and every settler is advised to adopt the motto, "*Trees rather than blizzards.*" Many brief and pointed selections are given from writers of authority, and poetry is not omitted.

A copy of this report is received from ADOLPHE LEUÉ of Cincinnati, the secretary of the State Forestry Bureau.

About Advertising.—Enclosed find postal note ($3) for my advertisement. It sold the pony and cart [price $250], to go to Buffalo. L. S. WARREN. *Middletown, July 23.*

—— I consider your paper one of the best advertising mediums in the United States. I have not sold my farm yet, but have had a great many letters from good parties asking about it. T. U. SMITH. *Hedenasville, Ky., July 26.* [See advt. under Real Estate head.]

Silos and Ensilage.—Dr. MANLY MILES has added to the literature of this subject a treatise intended to embrace "the well-known facts in regard to the practice of ensilage, and bring them into some consistent relation with definite principles, in harmony with the latest developments of science." It makes 100 pages, and is published by the Orange Judd Co., New-York—price in muslin binding 50 cents. It will prove a useful guide to any one desiring to build.

American Florists.—This Society, it will be remembered, is to hold its Fifth Annual Meeting at Buffalo, opening Aug. 20, and continuing through the three following days. Quite an elaborate programme has been prepared, which includes also full details as to transportation, hotel accommodation, &c., copies of which may be had from the secretary, Mr. WM. J. STEWART, Boston, Mass., or D. B. LONG, secretary exhibition committee, 457 Main St., Buffalo.

Butter Making -- Correction.—A Tennessee correspondent calls attention to a blunder in figures occurring in a "Butter Conference" report on page 505, July 25th. It is there stated that 200 lbs. milk made 16 lbs. butter; salt added 16 oz.; "butter when worked 7 lbs." This *seven* is evidently a mistake for *seventeen*, and this correction will give 11½ lbs. of milk instead of 26⅛, to the pound of butter—harmonizing more nearly with what is said below, that in May the "same cows with a ration of grain made 1 lb. butter from 10 lbs. milk."

Sprouting of Seeds.—Prof. L. H. BAILEY of the Cornell University Experiment Station, gives in a recent bulletin the results of a series of elaborate and accurate experiments on the influences which affect the germination of seeds, which will be received with much interest by wholesale gardeners and by seedsmen. As Prof. B. justly remarks, "most of the published records of seed-tests are obviously nearly valueless, because they take no account of the conditions of the test." The results here given are from experiments connected with the influence of light, temperature, moisture, soil, weight, color, and other conditions. As an indication of the superior accuracy of the work performed, the fact is stated that in the tests with temperature the degree of heat was controlled by a galvanic current communicating with clock work, in a steam-heated forcing house, the temperature rarely varying over three degrees—while in the common seed-table of the forcing house the variation sometimes amounted to sixty-five degrees.

We have space only for a few of the more important conclusions reached: 1. Under constant temperature sprouting is much more rapid, but not greater in the per cent. of seeds. 2. Many experiments showed that the sprouting was more rapid, and the amount was much greater, in a rather dry soil than in one copiously watered; in one instance with a difference of 47 per cent., and in another 70 per cent. The samples which received the most water were rarely wet enough to drip—no more, in fact, than is given in many houses. 3. Soaking seeds before planting hastens germination, simply by giving them an earlier start. 4. Variations occur from the character of the soil—those which bake and become very dry, or which hold too much moisture, are unfavorable. 5. Light has an unfavorable influence in many instances, and sometimes prevents sprouting; hence the unreliable character of the contrivances for testing seeds through a pane of glass. 6. Heavy or large seeds are found to be more certain to sprout than light ones. 7. Corn grown at the North germinates more quickly than southern corn. 8. Actual planting in the field gives fewer germinations than careful tests under the experimenter's control, sometimes amounting to 50 per cent.

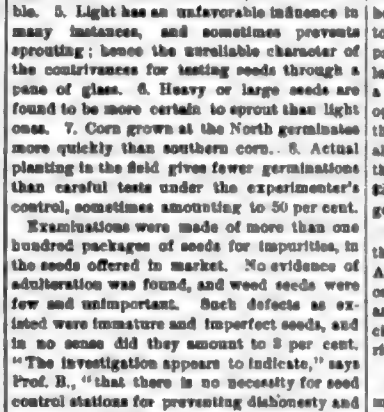
Examinations were made of more than one hundred packages of seeds for impurities, in the seeds offered in market. No evidence of adulteration was found, and weed seeds were few and unimportant. Such defects as existed were immature and imperfect seeds, and in no sense did they amount to 3 per cent. "The investigation appears to indicate," says Prof. B., "that there is no necessity for seed control stations for preventing dishonesty and carelessness." There is now such sharp competition in the seed business that seedsmen themselves must exercise every caution in order to secure trade.

The Coming Buffalo Show.—Every indication points to the probability that the Buffalo International Fair, which opens this year on Sept. 3d and closes on the 13th, will be a greater success than last season, which, considering the fact that upwards of 400,000 visitors passed through the gates between Sept. 4 and 14, 1888, is saying a good deal. That this international exposition has taken a strong hold upon the affections of breeders is made apparent by the action not only of breeders' associations in this country, but of Great Britain as well. It would appear to be no mean compliment that both the Oxford-Down Sheep Breeders' Association and the Shropshire Society of England, have offered handsome silver cups for competition at this American fair. The cup offered by the Shropshire society is illustrated above. It is valued at £50 sterling, and is offered for the best flock of one ram and five of his get, the get to be under two years old, and to have been bred and owned by the exhibitor. The Oxford-Down cup is equally valuable, and is to be awarded to the owner and exhibitor of the best flock of one ram, any age, four ewes one year old and over, and two ewe lambs.

It seems, from the entries thus far received, more than probable that in all the live-stock departments of the fair, the exhibits will be even more numerous than last year. In the horse department, particular attention seems to be paid to hunters, and in addition to the premiums offered in this class, four of the leading hardware firms of Buffalo have offered a champion prize of plate, valued at $100, open to all hunters. In the cattle department, the Holstein-Friesian Association duplicates all premiums competed for by that breed, and the American Hereford Cattle Association adds $250 to the premiums offered by the fair managers for Hereford cattle.

The same record of "specials" extends to the swine department. The Cheshire Swine Association offers a cup for the best herd of one boar and three sows, all over one year, and the president of the Victoria Swine Association donates $25 for the best herd of Victoria swine. H. P. B.

GROUP OF IMPORTED SHROPSHIRE RAMS.



The Codling Worm.—In examinations made at the Kansas Experiment Station, the comparative value of spraying apple crops and capturing the depredators by bands, was indicated by counting. The careful records showed over 238,000 infested apples, from a total number of over 642,000 in the orchard examined. Under the bands were taken, during the season, by actual count, 17,245 larvæ and 3,153 pupæ of the codling moth, or a total of 20,398 insects. The number captured thus represented over 8 per cent. of the insects which had done injury. Although this is a small number compared with the more efficient work of spraying with arsenic, its cheapness recommends it as an additional remedy. The bands were made of ordinary felt paper for carpet lining, cut two inches wide, and long enough to go around the tree, overlapping a few inches, held to their places with a carpet tack pushed in with the thumb, and easily removed for examination at intervals of a week or ten days.

Missouri Horticultural—Orchards.—L. A. GOODMAN of Westport, Mo., has favored us with a copy of the Thirty-first Annual Report of the State Horticultural Society of Missouri, containing the proceedings and reports of the meeting held last winter at Nevada, in the western part of the State, and of the summer meeting held at Oregon, in the northwestern portion. Among the many matters of interest in this report, we note the following: Wm. Brodbeck asks the following question—which however is not answered—namely, "Why is it that the best apple or fruit lands in Missouri, the crops of which bring as much in market, are so much cheaper than the orange or fruit lands of California, many of which are reported to sell for $500 to $1,500 an acre when set in orchard?" He would prefer a good market apple orchard in Northwestern Missouri to an orange orchard in California. He named a number of localities which had severally shipped from thirty-eight to sixty carloads of apples, and in a few instances much larger quantities had been disposed of. An excellent paper was read by Charles Patterson on orchard management, the result of long and thorough experience. After urging on others the importance of cultivation for orchards, he remarked that hardly an owner gives his orchard proper attention. The time has passed when trees do fairly well under neglect. He has a young orchard of 12,000 trees. He plants no more trees leaning to the southwest, as commonly recommended. Such trees soon become distorted, and interfere with cultivation. All wounds half an inch in diameter, in pruning, are painted. D. Shults prepared the ground for young orchards by thorough plowing and harrowing the previous autumn; never sows small grain in orchards, but plants only hoed crops, as corn and potatoes. Cultivates wholly in the early part of the season, giving the young wood time to ripen before winter. Screen wire is used to exclude rabbits, a yard costing twenty-five cents making five guards for young trees. When the trees begin to bear five barrels to the tree, then it is time to top-dress heavily to keep them growing. Mr. Patterson cultivated his orchard, and his neighbor did not. The neighbor's stunted trees bore first, of poor fruit. Mr. P.'s trees outgrew them, and when they bore exceeded by three times in quantity the neighbor's.

The preceding are only a few out of the many interesting facts stated in this report, including the management of fruit generally and the culture of flowers.

Farm-Yard Notes and Items.

The accompanying engraving, drawn by Mr. Hills, Jr., from a photograph, represents a group of Shropshire rams imported by Messrs. C. HILLS & SON, Delaware, Ohio, and now in use at Crystal Spring Farm.

Attention is directed to the advertisement on our first page of Mr. M. W. DUNHAM'S great importation of Percheron and French Coach horses, comprising 200 head, to arrive Aug. 26th, including winners of no less than seventy-six important prizes.

The American South-Down Association offers as a special prize, at the American Fat Stock Show, Chicago, Nov. 12-21, a solid silver cup, costing $50, for the best South-Down wether, on the following conditions:

1st. All competing animals to be one and under two years old; to be pure-bred, the progeny of recorded sires and dams, and to have been bred by and at the time of exhibition to be the property of the exhibitor.

2d. The exhibitor to furnish at the time of entry a written statement, verified by affidavit, giving the pedigree, age, weight, date and manner of feeding, and other important facts connected with the management of each animal during the year.

3d. Competition shall be open to all, but no award shall be made except there be two or more competitors.

4th. The party securing the prize may hold it in trust until the opening day of the first succeeding Fat Stock Show, when it shall be placed in the hands of the American South Down Association, to be again competed for. When taken the second time by the same exhibitor, the prize shall then become his actual property.

We have the following from Mr. HERMAN HOORNE, Philadelphia, July 29th:

"I have just received from Mrs. E. M. Jones, Brockville, Canada, the yearling Jersey bull Dixie's Stoke Pogis 23023, sired by her celebrated Rioter's Pride 11694. He was purchased entirely on Mrs. Jones' representations, without my having seen him, and the only criticism I have to offer is that the animal is, if anything, larger and finer than I expected. His pedigree is about perfect. He is pure St. Lambert—44 per cent. Stoke Pogis 3d, 33 per cent. Pride of Windsor, and tracing four times to Victor Hugo. His dam is a magnificent cow—Muriel of St. Lambert 34752, a granddaughter of Diana of St. Lambert and of Sir George 6036, the sire of Canada's John Bull. My herd of over forty is in splendid condition, and I expect to send you some good butter tests this fall."

Mrs. E. M. JONES writes under date of Brockville, Ontario, July 30th:

I have to report one more test of my young signal cow Miss Selanelia, at 4 years old, and on second calf:

	Butter.
June 22, 23 and 24	9 lbs. 3 oz.
June 25 and 26	8 9
June 27 and 28	8 11
Total for seven days	26 lbs. 6 oz.

There was no forcing or pampering, cow ran with the others, and was only fed twice a day, as before reported, when she came to be milked. Few cows at her age get into the 20 lb. list.

Jerseys doing finely, and I have two more tests to report, in due season, as well as some satisfactory sales. So great is the demand for calves sired by my two famous bulls, Rioter's Pride and Canada's Sir George (both pure St. Lambert) that in my herd of 50 I have but two bulls left for sale, one 3 months and one 2 weeks old. But some calves will soon be dropped, of extra "blue blood," and we will hope of extra merit also.

The Grazier and Breeder.

International Show at Paris.

The Exhibition of Breeding Animals.

As was the case a dozen years ago when the last great exhibition was held in Paris, so this year an international show of live stock is one of the features. To strengthen it, the breeding stock section was omitted from the Mardi Gras Show last February, and the strength thus reserved concentrated upon the present collection. But there is an important addition, in that the show held before Fat Tuesday—the literal translation of the name by which our Shrove Tuesday is known—is limited to native exhibitors, whereas in this case sections have been provided for stock born in other countries than France. This plan prevents grumbling on the part of exhibitors, and secures the foreign exhibitor the benefit of his own judges, who are not overridden by the native jury, as was the case last time. Unfortunately, the restrictions imposed as to the return of the animals have prevented many entries being made, for all the stock will have to be sold in France or killed at the port of debarkation. Consequently the specimens sent are not fair examples of what English stock-breeders can produce, and it is a pity some arrangement could not have been made by which some of our great winners could have been shown at Paris. There has, however, been considerable friction between the authorities on both sides the channel, and they have evidently been as awkward with each other as possible. As it is, the foreign exhibits—the greater bulk of which are from Britain—number 383 cattle, 138 sheep and 68 pigs respectively, but not nearly all these are present. The fact that entries had to be made by the end of March, and that no entry fee was charged, doubtless encouraged breeders to fill up their forms beyond what they intended to exhibit. It is, therefore, very regrettable that the foreign section is so badly filled, but quite understandable under the circumstances. The other sections make up for the deficiency, as there are 2,146 entries of cattle, 653 pens of sheep and 316 pens of pigs. But all these are not present, though the vacancies are much fewer in the native than in the foreign breeds.

The Mardi Gras Show is always held in the Palais de l'Industrie, situated between the Champs Elysée and the Seine—a magnificent building for the purpose. But that is a winter exhibition, whereas this being held in the summer, the sheds have been placed beneath the trees in the grounds outside the Palais, and a finer place could not be imagined for the purpose, as the ground is covered with magnificent trees, now in full leaf, which give splendid shelter to the stock and the visitors. Without such shelter, the shedding would have been even hotter than at Windsor. Of course, the *tout ensemble* is not so effective as was the last-named show, which could be seen from end to end, nor is the space occupied anything like the same extent; for there are no horses in the show, as they will occupy the ground next month, and there is not the vast concourse of implements and produce which are such valuable features of the Mardi Gras Show. The fact is, the present show is regarded as part of "L'Exposition Universelle of 1889," and the implements and produce are to be found within the precincts of that vast collection of nature's and man's handiwork, which stretches all over the Champs de Mars, across the Seine to the Trocadero, along the Quay d'Orsay to the Esplanade des Invalides, the whole of which it covers. Admission to the show is by exhibition tickets, and therefore in comparing this with the ordinary winter show, this fact must be borne in mind.

As is usual at the French shows, everything is done in a first-class style, at once tasteful and useful. The government inspectors of agriculture are the officials, soldiers and gendarmes do the work, and the way in which the finishing touches are put on compares well with the rough-and-ready methods which are the rule at our English shows. M. M. Vassiliere and Grosjean are at the head of affairs, and display that courtesy which I have received at their hands on several previous occasions. Of course there is a lot of red tape, as in all governmental work, and the list of awards was not issued until Tuesday afternoon, although the judging was finished on Saturday and Sunday. This is slower than usual, but may be explained by the great amount of work to be done.

Short-Horns.

The first division in cattle was devoted to foreign breeds, inclusive of our English varieties, and as might be expected, British breeders secured a large share of the prizes, although not the most numerous in point of entries. The liberal prizes ought to have induced greater entries, and would doubtless have done so but for the restrictions already referred to. With prizes of $175, $150, $125, and $100 in a class, there need be no complaint on the score of liberality. Mr. Donald Maclennan wins first in the class for Short-Horn bulls between 1 and 2 years old with the Earl of Fawsley 17th by Duke of Charmingland 46th, of Rose Knightly of Nassly 2d, purchased at the recent Birmingham sale, and intended for export to South America, if he does not find a purchaser at Paris. This animal also received the Objet d'Art for the best foreign bull in the show. He is a shapely animal, very rich in color, but there were many who thought that the Prince of Wales' Oxonian by Baron Oxford 18th, out of Oxford Duchess 25th, a nice looking roan, which is second, deserved the higher position. Mr. Jonas Webb of Uleeby is third with Celebrity, and a Belgian exhibitor, Madame Ve Rijkewaert, 4th, the Prince of Wales receiving a "mention très honorable." In old bulls, all the prizes go to continental exhibits, the quality being decidedly inferior to the previous class. In females between 1 and 2 years old, which is a small class, confined entirely to English exhibits, Mr. Maclennan and the Prince of Wales occupy first and second places, as before. These are not a wonderful lot. First is a roan, Empress, by Crown Prince out of Beaufort Rose, and second Sweetheart by Baron Oxford 18th, out of Lady Sophie. The Short-Horn cows is a nice class, and one of the best of the section. Here Mr. Jonas Webb wins first with the roan Milly by Decorator, out of Fatima, and now 32½ months old. Second goes to a well-known French Short-Horn breeder, M. Nadaud of Chazelles in the Charente, for Lady Emma 5th, 4½ years, a red, by Marcus Fame, out of Lady Emma 2d. She was bred in England. Third goes also to a French exhibitor, M. Auclerc, for Adelaide Gwynne by Lord Albion, out of Alice Gwynne. Fourth is won by the London and Provincial Dairy Company for a roan, whose pedigree and name are not given. This company is making a great display at the exhibition, and hence is in a specially favorable position for the show, wherein they have several exhibits.

Turning to the French classes—that, is for animals bred in France and her colonies—we find a large and excellent show of Short-Horns, numbering 170 in all. It is well known that there are many important breeders of this variety in France, where it has been taken up with a considerable amount of spirit and bred with great success. In the class for males between 1 and 2 years, there are 42 entries. Here the winner is M. Signoret, the breeder who is so generally successful with Short-Horns, with Union-Quickly, a red roan, and son of Tristan out of Belledonna; 2d is a nice roan shown by M. Grollier, and the whole class indicates that the breed has been kept remarkably close to the type. In males from 2 to 4 years old, M. Signoret has to be content with a prix supplementaire, for M. Grollier is winner—wins well with a good roan named Romeo Huicks, by Ribaud out of Pistaché. This animal wins an object d'art valued at $250 as the best native Short-Horn, and with some others, secures for his owner the gold medal for the best lot of Short-Horns in the show. In females from 1 to 2 years of age, of which there are 26, the Compte de Blois wins easily with one of the Falloux animals, which he has bought, named Duchesse de Telegranie, a red and white, just 2 years old, and by the Duc d'Estrées out of Telegranie. The competition in this class is very strong. In the class for females from 2 to 3 years of age, M. Grollier wins with Rachael Huicks, by Ribaud out of Asperge, a capital roan, within three weeks of 3 years old, and in the oldest class M. Larzat takes the first prize with an excellent roan, now 7 years, 2 months and 10 days old, named Gioriole, a daughter of the Right Honorable Devonshire Dumpling out of Digitale. This cow secures for her owner the prix d'honneur of $250, the leading prize in cows.

Herefords.

The Hereford section is a very small one, and there are no classes for native bred animals of this breed. Only one of the leading breeders has entered, Mr. M. P. Fenn, and thus the section is practically a gift to him. He wins first in every class except one, and seconds also in the two classes for cows. In bulls under 2 years, Mr. W. Nelson of West Derby wins with a nameless red and black, which has a barren victory in that he has no competitor. And Mr. Fenn wins first in the older bulls, and first and second in each of the females. It is to be regretted that there was no better turnout of this breed, for then there might have been a hope that it would have led to their introduction into France. Mr. Fenn receives *Prix d'honneur* of $500 for the group of Herefords—an easily won victory. Three classes were offered for "races, Devon, Sussex et analogues," but although five entries were made none were present.

Channel Islands.

After the magnificent gathering of these varieties at Windsor the present is indeed a very miserable display, consisting of only 16 entries in two classes, all of which save one are cows, and that one was absent. This is indeed a disappointment, as we should have thought that there would have been a capital display. Perhaps the smaller prizes may have accounted for it, yet they are surely big enough to induce entries, namely, first prize, $87.50, and others in proportion. In cows first is won by a Jersey for M. Nicolas of Arcy, with a 9-year-old grey, good in milk properties and skin. All the other prize winners are owned by French exhibitors, but island bred, and all are Jerseys. S. S. *Paris, July* 16, 1889.

Coach Horses and Hackneys.

Generally speaking, hackneys are not distinctly bred and raised as hackneys. They may under the encouragement of late years become a separate breed and be kept pure. At least this was so years since, but it is somewhat different since they are shown as a separate class. E. T. R. (p. 562) has every requisite in the United States for breeding the best of hackneys in conjunction with coach horses, for both require genuine thoroughbred blood, and as it is a fact that there is a tendency to degenerate in size in the race-horse in producing coach horses, there will be many too small for the carriage as matched pairs which will be exactly the ideal hackney. The English gentleman's saddle horse, which he rides to the "meet" at the covert's side, where his groom awaits him with his hunter, is a hackney of first-rate pluck and endurance, for sometimes starting from home late, he will have to go eight or ten miles in half an hour, and a good "covert-hack" seems to enjoy the fun of running that distance, more or less, at pretty nearly the top of his speed. Then there are the older gentlemen who like a more staid animal, who ride in a stately trot and occasionally canter, and often pull up into a walk, which a good hackney does easily at a five-miles-an-hour gait. No pacing or racking there!

In harness as well as under the saddle all quick-stepping medium-sized roadsters are termed hackneys, too, but they are noted more for a ten-miles-an-hour pace up to twelve miles for that distance than for the rushing rate at which trotters are driven in this country.

Mr. James Wood gives a good idea of the way in which powerful horses are given substance as well as game and endurance by using the thoroughbred stallion on great strong mares (page 556). There are plenty of thoroughbred stallions here, and there are mares in abundance to mate with them if the breeders will avoid the thoroughbred mares and undersized trotters or light weedy mares of any description.

Hackneys in my time varied from 14 to 15½ hands high; those below 14 hands were termed ponies, or if very blocky and short-legged they were called "cobs;" more than 15½ hands high they were hunters, carriage horses, or if not stylish were harness horses.

The most valuable saddle horses are seldom used in harness, not even broken to drive. It is considered that the draft of ever so light a load spoils the nice springy motion of a saddle horse, and also makes him more liable to stumble; hence thousands of horses live for twenty and more years and never have had a collar on, though it is often that when a horse begins to fail he is then used in harness.

C. G.

—— Unquestionably the Yorkshire Cleveland Bay, is the best stallion to propagate from for carriage horses. The hunter can be bred to good proportions, also, by judicious

proper breeding, from
mares. Harry Pitt,
Lincolnshire, Englan
give E. T. R. all th
He is a practical fo
horseman.

Janesville, Wis.

Malt Sprouts and

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If fed with poor corn
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16 lbs. corn fodder.....	
8 lbs. malt sprouts.....	
3 lbs. wheat bran.....	
5 lbs. corn meal	
Total	

This has a nutritiv
should make a succes
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Castration, pp. 5
is evidently in error
recommended persons
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514). I said no such th
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all kinds. Mr. Jackso
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once. There is not on

protracted castration. There are points to be desired in early castration. Some of the worst vices of equines are the direct result of deferred castration. Some of the worst injuries are due to the same fault. The remarks of Mr. Todd regarding this are the sheerest nonsense. Some of the very worst strikers (interferers) I have noted among stallions; some of the cleanest goers I have noted many times among the narrow-chested and close-geared animals behind. Quite often a poor horse will interfere, which will cease on getting into good, strong condition. I have run a first-class shoeing shop, and carefully studied the chief cause of interfering, and know it to be a fault, nearly always, of the "unsquareness" of the joints, not in any sense a result of either early or late castration, by any means.

Jonesville, Wis. DR. WILLIAM HORNE.

Feeding Cottonseed Hulls.

ED. COUNTRY GENTLEMAN — The article copied by you from the Atlanta Constitution, in your issue of July 17, is truly surprising. The first feeding of hulls done in these parts was two years ago last winter, but always with cottonseed meal added. The common proportion is one pound of meal to four of hulls. As for the statement taken from the Southern Farm of W. M. Towers of Rome, it looks like a mistake. I am acquainted with the man; he is president of the Rome Oil Mill Company, and as such wants to buy all the cottonseed he can, and have often heard him advising farmers to sell their seed and buy hulls and meal to feed their stock instead of the whole seed; and farther, he fed sixty or seventy head of oxen and dry cows last winter, and I was in his stables three or four times, and always found a liberal supply of hulls and meal before his stock. Last winter and the year before the company issued circulars claiming cottonseed hulls and meal as a perfect food for stock. I know that cattle and sheep will eat hulls alone to some extent, but I should prefer to put oat straw before my stock.

Now, as to making butter—a whole ration of hulls and meal will spoil the butter for first-class customers, but not as bad as whole seed.

I fed last winter a ration of hulls and ensilage, equal parts in bulk, feeding a grain scoopful of each twice a day with 1 lb. cottonseed meal and 3 lbs. bran at each feed with good results. I believe the feeding of hulls with a proper addition of meal will be a great blessing to the South; it will enable them to live more at home, and will not need so much bran—in fact the milkmen around the city have nearly quit using it, and the city and country people who keep one or two cows, and fed bran with their cottonseed, do not use any now. The main trouble about the whole business is this—the people have never made much of an effort to provide any roughness for their cattle, and will do still less now, and depend wholly on hulls and meal, and the mills will get out of seed and shut down, as they did last February, and somebody will be left without feed. Last winter hulls were $3 per ton; meal, $20, and planters got about $11 per ton for seed. I have feed but little whole seed, but think half a bushel, or 15 lbs., with 4 lbs. of bran is a day's ration for common-sized cows, at a cost of 13c., and 30 lbs. of hulls is all an ordinary cow will eat a day, with 5 lbs. meal at cost of 8c., which will leave 4c. per day in favor of the hulls. E. L. TRAVIS. *Rome, Ga., July 24.*

The Dairy Department.

Difficulty in Keeping Milk.

ED. COUNTRY GENTLEMAN—Would Prof. Stewart be kind enough to help me find out the cause why the milk of our Jersey herd, especially the evening's milk, gets thick by next morning, after having been set into spring water in the milk-house over night?

The cream gets thick and lumpy, the milk, while perfectly sweet, however, looks slimy, as if starch had been added, and when boiled gets thicker, but does not get sour.

There are no fresh cows among the herd, but the milk of those due to calve next month is not used. The oldest milk among it is of a cow which was fresh end of September, 1888, and is due again in December next. Cows have pasture (mostly clover), fodder corn and 4 qts. of wheat bran per day; water from a pure mountain stream; are housed every night, and stables cleaned daily. Cows all healthy; no caked bags; temperature of spring water 60°. We are retailing milk, and this thickening of the article is a serious loss.

Monroe County, Penn. E.

1. E. does not freely state his case. He does not say how he sets his milk in spring water, but as this milk is retailed it may be a fair presumption that cans containing the milk are set in spring water at 60°. If so, are the cans open or closed? It is impossible to predicate an opinion without a particular statement of the case. But as this milk is from cows many months after calving, part of the trouble may be from this condition of the milk. If the difficulty arises from this I should heat this milk, immediately after being drawn from the cows, in a water bath to 130° F., and then set it over night in 10 qt. open pans in this spring water. This will soon cool it down to the temperature of the water, and cause the cream to rise, and I think it will be sweet. Butter made from it would be of good quality, or, if the cream were stirred into the milk I think it would give the customers good satisfaction delivered in the morning.

2. I suppose E. means that his cows are fed 4 qts. of wheat bran per day, mixed with cut corn fodder. As the cows are on pasture let him feed 1 qt. corn meal, 3 qts. wheat bran, mixed together, with the corn fodder, and this will probably improve the flavor of the milk.

I have experimented largely upon milk in the condition here described, and upon this plan, and always found it successful. I have found heating the milk, under such circumstances, to cause the cream rising from it to churn in the same time and as evenly as milk from cows recently come in. It, therefore, thins the milk, kills the souring germs, but does not thicken the casein as does boiling. The milk appears as usual, but is slightly changed in flavor, yet I know customers who liked it just as well for table use. Let E. test this plan carefully and then report on it.

E. W. S.

Cooling Milk for Transportation.

ED. COUNTRY GENTLEMAN—I am glad to see the article by EDGAR KNAPP, p. 548 (issue of 18th inst.) calling attention to advice of "J. G." on "Cooling Milk for Transportation." Much as I esteem "J. G.'s" articles for their good, common, practical sense, and knowing he is satisfied only with the best, I believe he could not ship milk to the Philadelphia market without change of opinions.

Nearly all milk supplied to Philadelphia dealers by rail is produced within a radius of 50 miles and reaches the city railroad stations between 7 and 10.30 A. M.—too late for much of it to be sold that day. Therefore, to insure its keeping sweet a reasonable time after reaching the consumer requires care. Under favorable conditions of weather, &c., almost all milk will keep a reasonable time, but what we want is to be able to ship milk that will do it under *any* circumstances.

My own experience has been short, extending over three years only, but somewhat varied. My aim is to furnish milk that can be relied upon as sweet and good for a reasonable time, however unfavorable the conditions may be.

This experience is—1st. Milk must be cooled to 50° Fah. 2d. Milk must be *thoroughly stirred while cooling.* No amount of *stirring without cooling* will make it certain to keep—under favorable circumstances it probably will; when they are unfavorable it may or may not. No amount of *cooling without stirring* will take away the smothered taste and smell, or liberate the gases contained in it.

It has been my rule that no night's milk should leave the dairy at a higher temperature than 50°, and no morning's higher than 55°; but occasional complaints of "one can sour to-day," "to-day's milk badly smothered," made by one of the fairest and most particular dealers in Philadelphia, together with some recent experience in retailing it myself, have caused me to modify it so that no milk is sent at a higher temperature than 50°, nor any without being thoroughly stirred while being cooled.

If any one will cool milk to 50°, with a little practice he can detect at least two very decided changes in it; the first when the temperature goes down to about 60°, and the other when it reaches 50°. At each of these points the stirring becomes decidedly harder, and at the latter (50°) froths much more, and is much less liable to splash, so that usually there is no difficulty in detecting these temperatures without the use of the thermometer.

I cannot say that these temperatures are exact, as I have used only the common dairy thermometer, which may be a degree or more in error; neither can I say that the points of change are always constant, but think they are; nevertheless, since observing these facts more than two years ago, I am convinced by almost daily observation, and some experimenting, that the change which is reached at 50° is the point dairymen must aim for to be *certain* their milk will keep sweet.

I have proved to my own satisfaction, by trial, that the change obtained when 60° is reached, is not sufficient—also that there is nothing in any degree of temperature in itself; 60°, or even 50°, is of no avail if the milk is merely set in cans and put in cold water for the temperature to fall.

The milk must be well stirred while cooling so the gases will be set at liberty, and when 50° is reached these gases will be released by the milk much more freely, causing the "froth" to rise as freely as when milking into a pail.

The one great trouble in the usual shipment of milk is that shippers have no definite point or standard of condition that it must reach, consequently it is neither sufficiently cooled nor stirred to satisfy the reasonable demands of consumers. WM. BISHOP. *Waldford, N. J.*

Too Indefinite for Advice.

ED. COUNTRY GENTLEMAN — I have from fifty to one hundred cows, with a perfect dairy house, every appliance in fact in the world, except running water; my cows are Jerseys, fed on ensilage or tame grass; yet my manager does not get butter that has the real, delicious flavor that dairy butter ought to have, although he has been striving to get it for two years. He is an intelligent, painstaking and thoughtful farmer, but in spite of his efforts his butter frequently has a musty flavor, and in no case has the indescribably delicious flavor that first class dairy butter ought to have, that when a man has once tasted it he will never touch creamery or other butter. What is the reason for this failure? My experience is that of thousands. JOHN SMITH. *Chicago, Ill.*

1. John Smith does not have a very definite idea of his own case, when he says "my cows are Jerseys fed on ensilage or tame grass," and expect that one can form an opinion from this indefinite statement of the principal point which should give a clue in the case. Food is the basis of quality in milk.

Ensilage may be of corn, clover, rye and various other articles. It may be sweet ensilage, sour ensilage, musty ensilage, and he does not say that any other food is given with it. He must be aware that milk and butter are produced from the food. Corn ensilage does not possess the elements of a complete food for milk. It could not, therefore, alone, however good, produce the best flavored milk, and he will see that if we add any other food we have enlarged and changed his case.

2. We agree with S. upon the high quality, delicious flavor, &c., that the best dairy butter should possess; and he may rest assured that there is a good cause, when found, for the peculiar quality or want of quality in his butter. His manager may be the most conscientious man and make the best effort he knows how, and still not succeed. The milk may be all right, the cream may be in good condition when taken from the milk, and still, the unfavorable result occur in its ripening, churning, working and preparation for market.

The best advice we can give in this case is, that John Smith take his manager and visit one or more of the most successfully conducted dairy butter herds and make a careful study of the practice there found. These object lessons would be more useful to his manager than any effort of his to learn without example. We would do our best to assist S. if we had the requisite knowledge of his case.

E. W. S.

A Notable Cheese Conference.

THE BUSINESS OF AN OLD ESTABLISHED FACTORY—RETURNS IT YIELDS ITS PATRONS.

VERONA, Oneida Co., N. Y., *July 24.*

ED. COUNTRY GENTLEMAN—It may not be known to many of your readers that Dairy Commissioner Brown has had three cheese experts or "instructors," as they are called, at work all this season in the cheese factories. These instructors are Geo. A. Smith and Milton T. Morgan of Herkimer county and Walter W. Hall of St. Lawrence county. These men are all experienced and skilled cheese-makers. A cheese conference has been held here for two days, at the factory of G. Merry, all of the "cheese instructors" being present.

The special purpose of this conference was to combine the skill of these experts, together with that of Mr. Merry (who is a very competent maker), in determining, if possible, if an improvement could be made in methods to save in the cheese more of the butter fats, to handle the milk so as to free it from possible taint, and to ripen or develop it to that a more perfect curd and quality of cheese could be obtained. To this conference cheese-makers were invited. I shall append to this letter a careful record of their work and the results. Dr. R. D. Clark of Albany, chemist to the Dairy Commissioners' Department, was also present, and was a careful observer of the work.

When I reached the factory, before 8 o'clock, sixteen teams were in line, waiting their turn to unload milk. They had been coming since 5 30 A. M., and it was 8 30 before all was delivered. Everything was in its usual order, and Mr. Merry was weighing the milk from each wagon and straining it into one of the six vats. After each man's milk had been weighed and its record entered in the factory book, Mr. Merry handed him a statement of his last month's account and a check for the amount due him. The wagon was then driven to the whey vats to fill the cans with whey to be taken home for the pigs and calves.

Inside the factory I found each instructor, dressed in overall and apron, standing at a vat busily stirring the milk which had been set apart for his experiment.

This factory has most interesting associations. It was founded in 1868 by the late Gardner B. Weeks, who for many years was an intelligent leader in promoting dairy interests. It is one of the oldest in the State, and is now one of the most complete and successful. It involves a capital of $7,000, and is located in a fertile section. It is a proper place, under the intelligent management of Mr. Merry, to try to work out beneficent results. Last year this factory made 284,000 pounds of cheese. It sold above the average price, for 9 27 cents per pound. This would make a gross income of $26,326 80. Out of this must be taken the cost of making the cheese and marketing the same, which cost at the rate of $1.05 per 100 pounds of cheese, or $3,993. This leaves a net income from the factory of $22,344.80. There is sent to this factory the milk of 800 cows. There is, then, an average income for each cow of $29.18. There may be derived from each of these cows, from the milk obtained before and after the factory begins its work, and for the calf, from $5 to $7 more. Add $7 to the average income of each cow, and we have a total of $36.18. It costs at least $30 to keep a cow a year. This is a low estimate, and would leave $6.18 as the seeming profit on each cow, not taking the work into account. It will be seen that the farmer or the dairyman works for the smallest wages known, and he sells his products at home to himself, or to his cows, at the lowest prices obtained by any one.

Take another view of this matter. The patrons of this factory are 63. In each one of their families there are at least, on an average, seven persons, as the dairyman must have plenty of help. We see, then, that there is an average income or living of only $68 06 for each person. Out of this must come the living, taxes loaded on real estate, and all the other demands upon people living in a part of the country where the standard of refined civilization is as high as it is in Oneida county. The radius of territory is two and a half miles. I made notes of the average quantity of milk that the cows were now giving, and found it ranged from 12 pounds per day to 33, with an average of 20 pounds. It takes 10.86 pounds of milk now to make a pound of cheese. The average last year was 10¼ pounds. It costs to make the cheese $1.05 per 100 pounds. Of this sum, 40 cents is paid for labor, 35 for furnishing and 5 for selling, leaving 25 cents for use of capital, repairs, &c. It is important, then, that if anything can be done to get more out of this business, all over this great State, it should be done. For these reasons, the cheese-makers welcome the instructors, and the patrons and owners invite them to afford all possible aid to the cheese-making interest.

One of the patrons brought milk in which taint was developed. Mr. Smith took charge of the vat in which this milk was put and commenced at once to develop lactic acid in it to overcome the putrefaction. This process of ripening occupied an hour's time. There were 3,918 lbs. of milk in the vat. It was heated up to a temperature of 86°, and held there for an hour. Then the extract rennet was added, 3½ oz. to 1,000 lbs. of milk. This was done at 7.45 A. M.. At 8.30 the curd

was in proper condition and was cut. Heat was added at 9.05 o'clock. Previous to this the temperature had been at 69°. Agitation or stirring had been going on all the time. The temperature was increased slowly till 10 A. M., when it reached 90°. It was heated more rapidly up to 10.35, when the temperature was 98°. The whey was drawn at 1.25 P. M., and the curd packed. By this careful and scientific manipulation the curd did not float, and the volume of gas was lessened. The curd had some taint, but this was overcome and reduced by packing the curd and keeping it warm to produce the formation of lactic acid. At 3.45 the curd was quite free from gas and compact, and it was taken out and ground.

The success of Mr. Smith in making good cheese out of this gaseous milk, was a notable feature of the conference. I have known such curds to be so rank as to taint the hands for days which were dipped into the whey. Soap would not remove it. The cheese instructors are very earnest in their efforts to secure better care of the milk at home to prevent these tainted curds.

Vat No. 2 was managed to produce as perfect a cheese as possible. The milk was too sweet, as the night was cool and the milk needed to be ripened. It was held an hour at a temperature of 82° before setting. Milk set at 8.17 o'clock, and coagulation began at 8 30. The curd was cut at 9 A. M. Stirring commenced immediately, and was kept up till 9 35. Steam was then applied slowly, and the temperature of 90° was reached at 10 o'clock. Steam added, and at 10.25 was shut off at a temperature of 98°. The curd was gently agitated for half an hour, and then left quiet till 12.40, when the whey was drawn. The curd was then packed and ground at 2.30 and put into the press. This curd was in most excellent order. It had a sweet, nutty flavor, and must make a perfect cheese. This curd was in sheets, firm and tenacious, and unlike the ordinary curds kept in small chunks. The utmost care is had, in cutting and handling the curds, to retain all the butter fats possible. Another thing, the curds are not soured in the whey. Other special things are done, which must be spoken of in another letter, as this one is already too lengthy. F. D. CURTIS.

Deep Setting of Milk.

EDS. COUNTRY GENTLEMAN — A reader of your paper who wishes to adopt the plan of deep setting of milk in water-sealed cans, writes me that he has not got the idea yet as to how to make the tank, and wants some instruction. My tank is made of two-inch hard lumber, dressed inside and out, put together with paint, painted three coats both inside and out, and it has never leaked a drop. It is made but twelve inches wide, inside measure, and has gains cut in the sides, into which partitions can be slipped to divide it into squares, one for each can. These partitions only extend down a few inches, as all they are needed for is to keep the cans from tipping; for when a can is not full the water will float it, and without partitions to keep the cans perpendicular, they will sometimes tip over. I made my partitions of wood, but I think that heavy galvanized sheet-iron would be better. They should fit loosely, so as to be easily taken out and put back; for the tank will need a thorough scrubbing, and possibly scalding out occasionally, especially if the supply of water is limited and ice is used to cool it, and the water not changed daily. We change the water once a day, and twice in the hottest weather, and yet the tank needs scrubbing once a week. Even if arranged for the water from a cold spring to flow through the tank, it would become slimy or mossy and need cleaning, and so if one has a spring and arranges for the water to flow through the tank, there should be a way to turn it off when necessary. Milk never needs to stand longer than twenty-four hours when set in water-sealed cans, and if you have a thoroughly cold spring, or a supply of ice, so as to reduce the temperature of the milk quickly to below 50°, it need only to stand ten or twelve hours—in fact, nearly all the cream will rise in six hours.

During the spring and fall months when we can get a low temperature we usually skim each milking before the next one is put in, and even when morning's milk is skimmed at noon we get about as much cream as when it stands longer. A tank 13 feet long and a foot wide will hold 36 gallons of milk in the three-gallon cans, which are, I think, the most convenient size to handle, but with so large a quantity of warm milk there must either be ice used or a continuous flow of water through the tank, or it will be difficult to reduce the temperature as quickly as it should be, and this is the important thing—to get rid of the heat as soon as possible. One must regulate the size of the tank, and the method of applying the water to suit the amount of milk and the water supply. It would not pay any one to start a large dairy without at least a good well from which they could pump as much water as they wished without fear of exhausting the supply, and it would be still better if there was a flowing spring with a continuous and unlimited supply. From whatever source the water comes, it should run from the pump or spout directly into the tank, and the waste water run off by simply opening a faucet. As I do not need the water for stock or any other purpose, I run it into a small cemented basin which holds a few gallons, and communicates with an underdrain. The tank may be so arranged that the water can be run to quite a distance from the house and used for stock if necessary.

I would advise any one starting a dairy of twenty cows or more, to build a dairy-house to keep the milk in, and where the churning can be done. I would make it with a concrete floor, and the walls either of brick, with an air-space in them, or if of boards, would make them of felt paper and two air-spaces, so as to keep it cool in summer and warm in winter. A room 18 by 12 feet, with a tank 2 feet wide and extending the length of the building, would give room for 36 tanks, or 72 gallons of milk, and would be amply large for from 20 to 30 cows. I think it would be cheaper, possibly, to make the tank of cement than of wood, and such a room could be arranged so as to be very convenient for doing the work, and a building of this size, whether of brick or stone, would not be expensive, as the ceiling would not need to be over 8 feet high. The room should have shelves for the cans, and milk buckets on the side opposite the tank, and the churn and cream cans could be kept under these shelves. If the dairy house can be built where there is good shade, it will be an advantage, but if not, plant at once a clump of quick-growing trees on the south and west of it, or build trellises and plant thrifty grape-vines like the Concord, and in two or three years they will protect the walls from heat. I would not train the vines to the walls of the building, but place the trellis a few feet distant from it, leaving a space for the air to circulate. All the cans, pails and other vessels in use about the dairy will need to be thoroughly sunned frequently, and the most convenient stands on which to do this will be made by a single post with an old buggy-wheel on the top, put on so that it will turn. Towels can be hung on the spokes, and the pails and cans laid on the top, and the wheel can always be revolved so as to bring any article wanted round to the side next the walk.

I would advise every dairyman, who has not an unlimited and convenient supply of cold water, to put up ice. An ice-house need not be an expensive building, as all that is necessary is a roof to keep off the rain, and boards at the sides to hold the sawdust which protects the ice. I have seen the ice supply for a factory, which handled the milk from 400 cows, kept in a shanty made of poles and refuse lumber, without a mortice or tenon about it. Unless there is a body of water convenient from which to cut ice, an artificial pond should be made, and the ice-house built beside it, so that the ice can be stored without twice handling. There are a dozen of these ponds within two or three miles of my house, and they are all giving satisfaction, although most of them are filled with surface water only. It is not wise to locate a pond in a ravine where there will be a large flow of water in a heavy rain, but at the foot of a gentle slope, where the surface water from a few acres can be turned into it. With plow and scraper, a man and team can soon excavate a pond large enough to furnish a hundred tons or more of ice. In most country neighborhoods there could be enough ice sold to cover the expense of cutting and handling to fill the house, so the cost will be but a few cents a ton, when the ice has to be handled but once.

WALDO F. BROWN.

Milk after Abortion.—W. J. H., of Glens Falls, N. Y., asks: "What influence does cream from cows that abort at from five to seven months have upon cream from those that come fresh after the proper time?" So far as I know no investigations have been conducted in this line of research. It is probable that the cream will contain an undue amount of a somewhat sticky substance, the same as is often found in the milk and cream from cows which have been milked a long time, or from those which have been improperly fed and handled. In the latter cases it hastens the raising of the cream, and the churning of the butter if hot water (100°) is stirred into the milk when it is set, or warm water into the cream at or before churning. The diluting of the milk or cream, and the dissolving of the sticky substance which they often contain, enables the oil globules to get to the surface more easily, and also permits them to come together when churned. The influence of the cream spoken of would not, I judge, injure the cream from cows which had gone their full length of time in calf. It is probable that the cream from cows that have aborted will not give up all of its butter fats in churning unless treated in a manner similar to the one spoken of. There is no reason to believe that the butter made from the cream of these cows would be inferior after they had recovered their normal health. I. P. ROBERTS.

Ithaca, N. Y.

A Good Cow.—We have a scrub cow seven years old that we tested in June, ten weeks after calving; her feed was grass alone and she had no other feed for at least four weeks previously. She made 13 lbs. 3 oz. of butter from 266 lbs. 10 oz. milk; milk was set in tin pans in cellar, churned with dash churn, butter well worked, and weighed before salting. Test was continued just seven days.

Tompkins County, N. Y. B. F. PEASE.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, *Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]*

CLOVER SICK.—I have very fine mule that is sick with clover; slaver runs in a stream; she will not eat at all. S. H. M. *Belleview, Texas.* [Give a dose of physic and inject mouth often with borax water, 1 oz. to pint. Make flax-seed tea and give as a drink.]

DIFFICULT BREATHING. — A two-year-old heifer showed trouble in breathing, making a snoring noise, which, in time, could be heard fifty yards or more. For three weeks past has been running more or less at the nose. She gets her breath with great difficulty, and I think almost entirely through the mouth. Do not think either throat or lungs are involved. Has all summer been on hill-pasture; looks well, has a good coat and flesh, and feeds heartily. W. O. *Athens, Texas.* [Examine nostrils; cows are apt to get sticks, brush, twigs, and other foreign bodies lodged therein. Inject nostrils twice a day with some of the following lotion: Creosote, 2 dr.; bi-carbonate of soda, 4 dr.; water, 1 quart.; mix. Give cow a tablespoonful of the following powder on tongue three or four times a day: Powdered Cape aloes, 3 oz.; sulphur, 6 oz.; powdered chlor. of potass., 3 oz.; mix.]

DEATH OF COW AND HEIFER.—A neighbor has lately lost a fine heifer and cow with disease unknown to us. Heifer stopped eating, grated teeth and foamed at mouth, followed with convulsions; staggered round, would put head against wall and push with all her strength; eyes sore; stood on feet until she lay down to die; died in three days. Cow was affected in the same way; lived six days, but got down in two days; bowels a little loose at first, afterwards constipated, and kidneys acted freely in both cases. Cow jerked all the time with convulsions; no swelling in bowels until after death. The owner, a physician, did all he could to relieve them, but in vain. Both kept in lot and stable, and fed on sheaf oats, bran and corn meal. Cow was opened; considerable congestion about the brain; lungs and heart in healthy condition; gall bladder very large and full, the largest ever seen by any one present. The food in the manifolds was dry and packed very hard; quite a quantity of food in paunch; had eaten nothing in six days; bowels natural and healthy. W. B. P. *Batesburg, S. C.* [Congestion of the brain was the cause of the symptoms you describe. I cannot say whether the brain was the primary seat of disease or not. Lead poisoning often gives rise to such symptoms. When paint is being used around stock enclosures, cattle are often allowed access to it before it is dry, with results such as you have described. You will find articles on these subjects in back numbers.]

Record of the Times.

Review of Passing Events.

The Plymouth Monument.—In 1859 the corner-stone of a monument to the Pilgrim Fathers was laid on the hill overlooking the bay at Plymouth, Mass. On Aug. 1 of last week (the day when the Pilgrims sailed from Holland) the dedication took place. W. C. P. Breckinridge of Kentucky delivered the oration; John Boyle O'Reilly of Boston, the poem; Myron T. Whitney sang "The Breaking Waves Dashed High," and speeches were made by Ex-Governor Long, Lieut-Governor Brackett, Senator Hoar, Congressmen Lodge, Munns and others. The town was profusely decorated; the weather almost as dismal as when the Pilgrims landed. The monument is of Quincy granite; a pedestal, 45 feet high, contains a statue of Faith, 36 feet, one hand uplifted, the other holding a Bible. Around the pedestal are seated figures of Morality, Education, Freedom and Law. Panels contain the names of the Mayflower's passengers, also reliefs of historical events, &c. "Faith" was given by Oliver Ames, uncle of the present governor ($33,000), the other statues (about $15,000 each) by Massachusetts, Roland Mather of Hartford, Ct., the United States, and the legal profession, and also some of the panels. Aside from these, about $200,000 was raised by Rev. W. M. Harding of Chelsea and W. T. Davis of Plymouth.

Floods and Broken Dams.—The record of this storm-swept season is steadily sustained. A tremendous rainstorm in the mountains back of Plainfield, N. J., afternoon of July 30, carried away a stone dam in the Notch and another below it and flooded 75 buildings in North Plainfield. About 5 o'clock three dams back of Scotch Plains gave way, and a wall of water rushed on Plainfield, carrying away bridges, small houses, and another dam near town, and dividing in two streams, one swept the business section, the other the residence portion. The water was neck deep, the surface a boiling sea; bridges and buildings were swept away, many handsome houses and grounds were damaged and other property injured, to the extent of $250,000. Great fears were felt that a large dam at Feltville would break, but after two days' hard work the water was let off. Nearly all the towns along the mountain and from Newark to New Brunswick were under water. Floods also occurred in Delaware, Maryland and Virginia, with great losses. Watkins Glen, N. Y., was flooded Aug. 1, and bridges and staircases swept away. Troy had a flood Aug. 2.

Seizure in Behring Sea.—The United States cutter Rush, July 11, seized the British sealer Black Diamond, one of a fleet of 35, for unlawfully taking seals in Behring Sea; 105 skins were found on board and the vessel was ordered to Sitka, but went to Victoria, B. C. The schooner Triumph was boarded the 18th, but only Pacific skins found, others it is said being buried under salt. Canadians are much excited over the matter. In the House of Commons, Aug. 2, Sir James Ferguson said no authentic information had reached the government; jurisdiction of Behring Sea was an unsettled matter. Secretary Blaine stated that the seizure was in accordance with the late act of Congress signed by President Cleveland.

From Abroad.—The Queen is much pleased with the attitude of the Parnellites on the royal grants question. She thinks of visiting Ireland.—Emperor William arrived at Portsmouth, Eng., Aug. 3, where he was received by the Prince of Wales and at Osborne House, Cowes, by the Queen.—Mrs. Florence E. Maybrick, the American, charged with poisoning her husband, was arraigned for trial at Liverpool, July 30.—Rev. Horatio Bonar, the hymn-writer, died at Edinburgh, July 31.—The Lord Mayor of Dublin writes that the letter from President Harrison sending thanks for Irish contributions to Johnstown sufferers, was willfully opened and defaced before reaching him.—The Shah arrived in Paris, July 30.—An insurrection in Crete is troubling the Turkish government.—The Servian ministry has ordered a muster of all the military classes on account of the order for Bulgarian troops to mass on the frontier.—Word comes from Constantinople that 80,000 Turkish reserves have been called out, and the Porte is buying uniforms, stores, &c.—Aug. 3, Gen. Grenfell routed the dervishes, their loss being 1,500 killed and wounded, and 1,000 taken prisoners.—An earthquake in Kiu Siou, one of the Japanese Islands, has destroyed the town of Kumamoto, and many people have perished.

The White Mountain express was wrecked by a gravel train, Aug. 3, near North Conway, N. H. Only two persons were seriously hurt.

Ex-Congressman Scott has completed a 15-year deal in coal lands which gives him control of 6,000 acres on the Youghiogeny river, Pa.

Minor Items.

A scarcity of mosquitoes is reported in New-Jersey.

Murat Halstead has returned from Europe with health restored.

The losses by the recent Chicago storm are estimated at $1,000,000.

The five men arrested for murder of Dr. Cronin, have been arraigned in court.

Dealers in and growers of Florida oranges have formed a protective association.

Judge Lambert Tree has given to Chicago a bronze statue of La Salle, the discoverer.

Sandhill cranes are being used in Florida as night-watchers and tobacco-worm pickers.

Cottagers who have built on State lands in Lake George and elsewhere are to be ejected.

The Rhode Island legislature finally adopted the House license bill with a few modifications.

The shad-catch in the Connecticut river has fallen off from 190,300 in 1885 to 43,225 in 1889.

The soldiers at the State camp, Peekskill, have had a soaking time of it the past two weeks.

The Chippewas have voted to open the White Earth reservation (about 3,000,000 acres) to settlement.

At the recent Niantic (Conn.) summer school, 400 teachers voted for the laurel as the national flower.

Two more bodies were taken from the debris at Johnstown, Pa., Aug. 2. They were unrecognisable.

The City of Paris has made another trip within six days, only three minutes less than that of last May.

Indiana is in trouble over her new school-book law, the text books adopted being greatly inferior to the old ones.

Aug. 2 was Granger day at Chautauqua. Lieut.-Governor Jones of New-York, Mortimer Whitehead and others spoke.

West Point has 275 cadets. The leading graduate this year, E. E. Winslow, had 2,289 marks out of a possible 2,300.

A sharp earthquake shock was felt at San Francisco, July 31. A. H. Cummins, a well-known linguist, died soon after.

Jackson Graves, a farmer near Ithaca, N. Y., while rescuing two horses from the attacks of bees, was fatally stung himself.

The steamer St. Lawrence ran upon a rock in the Thousand Islands, Aug. 1. Her 900 passengers were taken off by the Maynard.

A fire at Ripley, Ohio, Aug. 2, destroyed all the manufactories in the place, with loss of $200,000, and 300 men out of employment.

William L. Ross, note-teller of the Nevada Bank, San Francisco, was arrested at Victoria, B. C., July 30, for stealing $98,000 from the bank.

Gen. Crook gave the Indians at Standing Rock a plain talk last week, showing them that they would never get better terms for their land than now.

Henry George reached New-York, July 28. He made about 80 addresses in Great Britain, and reports great interest and growing belief in the single-tax idea.

A young man of Oswego, N. Y., age 19, with mind impaired by excessive cigarette smoking, attempted suicide with Paris green, but was saved by a stomach pump.

Smith S. Freeman, who died at Fort Richmond, S. I., N. Y., July 31, aged 82, was for 70 years in the employ of the Old Staten Island Dying Establishment.

The New-England Terminal Company is about to make its pier-shed roofs, East River, New-York, a place of public resort, in accordance with a recent act of legislation.

Pugilist Sullivan was arrested in New-York, July 31, by Inspector Byrnes, at request of Gov. Lowry, and as approved by Gov. Hill, taken to Mississippi, and lodged in Jackson jail.

A collision occurred at Kenwood Junction, south of Albany, Aug. 2, between a West Shore and a Delaware & Hudson train, in which one man was killed and 15 persons injured.

The warrant for the extradition of Burke, charged with the Cronin murder, was signed at Ottawa, July 31, and same day Chief Hubbard and lieutenant, of Chicago, arrived at Winnipeg.

A small tornado struck Ellis Corners, Ulster Co., N. Y., July 30, leveled a vineyard, tore up an orchard, blew a man and his wife out of a house with flying timbers, and destroyed several houses and barns.

The boot and shoe firm of E. & A. H. Bachelder & Co. of Boston has failed with liabilities of $1,000,000. It is one of the oldest in the country, dating from 1819. The factory at North Brookfield employed 1,100 men.

The first suit for damages resulting from the Johnstown (Pa.) disaster has been brought by the widow of John A. Little, commercial traveler of Sewickley, Pa., drowned in the Hurlburt House, against the South Fork Fishing Club for $50,000. Little left a wife and eight children.

The $20,000 allowed Charles Orbann, the crippled Philadelphia newsboy, has been paid over by the traction company and deposited with the Guarantee Trust & Safe Deposit Company. This is the first case in the Philadelphia courts where so large a verdict has been sustained. It is said, however, that lawyer Shields claims $10,000 as his fee.

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Now Ready for Mailing.

RURAL NEW-YORKER CROSS-BRED and HYBRID

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A Circular containing full descriptions of these wonderful Wheats, mailed to applicants.

Nos. 2, 1 and 50—Heads average over 3 inches long. Nos. 51, 11 and 45—Heads average over 4 inches long.

Price for package containing 25 grains, 25 cents, or the collection of six sorts for $1.

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Choice Guaranteed 6% Per Cent. Bonds, in amounts from $100 to $1,000, interest payable semi-annually.

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Correspondence solicited. Send for Investors' Hand-Book.

[List of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. lytfeow

Beecham's Pills act like magic on a weak stomach.

Farm Produce Markets.

Albany Markets—Aug. 5.

FLOUR.—The Argus says: Receipts much better than usual; demand fairly good; prices steady.

	July 29.	July 31.	Aug. 1.	Aug. 2.	Aug. 3.	Aug. 5.
Com. State	$3 10@4 00	$3 10@4 00	$3 10@4 00	$3 10@4 00	$3 10@4 00	$3 10@4 15
State Extra	4 20@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 60
Amb. Pure & W.	4 20@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 60
O., Ind. & St. L. Ry.	4 20@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 60
Winter W. Pat.	4 20@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 50	4 10@4 60
Minn. "Baker"	4 10@4 75	4 10@4 75	4 10@4 75	4 10@4 75	4 10@4 75	4 10@4 75
95's W. Pat., new	4 25@4 75	4 25@4 75	4 25@4 75	4 25@4 75	4 25@4 75	4 25@4 75
95's W. Pat., old	4 25@4 50	4 25@4 50	4 25@4 50	4 25@4 50	4 25@4 50	4 25@4 50

Rye Flour in good demand and steady at $3 40@3 75 per bbl.; Hyvanan, $4.00@4.25. Cut Meal dull but moderately well at $3.10@3.20 per bbl. Corn Meal in good request at $3.00@3.75 per bbl.

GRAIN.—Corn firm, with fair demand; No. 2, 45½@46c.; No. 3 mixed, 44½@45c. Oats quiet and steady; No. 2 white, 33½@34c.; No. 3 white, 32½@33c. Rye quiet and dull at 58@59c. per 56 lbs. for State and western 58@59c. per 56 lbs.

HAY AND STRAW.—Receipts of new hay fair; old scarce and in demand. New in light demand. New hay, 80@85 per ton. Timothy, old, best, $19; good to prime, $16@17.50; clover, [illegible]; mixed, $13@15; rye straw, best, $16@17; oat straw, $8@9; wheat straw, $10.

HOPS.—Trade continues light.

N. Y. State, 1889, choice	25 @30c.
N. Y. State, 1889, common to good	15 @22
N. Y. State, 1887, all grades	8 @12
Pacific Coast	15 @20
German	20 @22

Albany Street Market—Aug. 5.

BUTTER.—Good to choice, 18@19c. per lb.

EGGS.—Near-by and new laid, 16@18c per doz.

FRESH MEATS.—Steer beef, hindquarter, 9@10c. per lb.; forequarter, 6½@8c.; mutton, carcasses, 7½@8c.; lamb, hindquarter, 10@11c.; forequarter, 6@8c.; veal, 7@8c.

POULTRY.—Fowls, 11@14c. per lb.; chickens, 50@60c. per pair; capons, 18@20c. per lb.; turkeys, 12@15c.; spring ducks, 16@18c.; green geese, 12@13.

FRUIT.—Apples, $1@1.50 per bbl.; Blackberries, 10@15c. per qt.; Currants, $1.50@3 per bu.; Gooseberries, $1@1.50; Huckleberries, $2@2.50; Muskmelons, $1.25@3 per bbl.; Peaches, 25@50c. per basket; Pears, $1@1.50 per bush. Red raspberries, 10@15c. per qt.; bunch, 05@c.; Watermelons, $10@25 per 100.

VEGETABLES.—Beets, Radish, per doz. bunches: Cabbage, $2.25@2.75 per 100; Cauliflower, $1.50@2 per doz.; corn, 30@35c. per 100; Cucumbers, 05@10c. per crate; Green Peas, $1.50@2.50 per bu.; Lettuce, 5@10c. per box; Onions, $2@2.25 per bbl.; Potatoes, new, $1.25@1.50 per bbl.; String beans, 10@15c. per crate; Squash, 15@20c. per doz.; Tomatoes, $1@1.25 per crate; Turnips, new, 50c. per doz. bunches; Wax Beans, 50@60c. per bush.

New-York Markets—Aug. 3.

	Outside.	N.Y.C. & Hud'n.
BEANS—Marrow, 1889	— @ —	3 25 @ 3 35
Medium, 1889, choice	3 15 @ 3 20	3 20 @ 3 30
Pea, 1889	3 25 @ 3 30	3 30 @ 3 40
COTTON—		
Ordinary, per lb	6½@ —	— @ 10¾
Middlings	10½@ —	— @ 10¾
Fair	11½@ —	— @ 12¾
EGGS—State and near-by, per doz	15½@	15½@
Western and Canada	14 @	15 @
FLOUR—Spring Wheat pat., per bbl	5 35 @	6 00 @
Winter	5 15 @	5 35 @
No. 1 extra State and Western	5 00 @	5 10 @
No. 1 extra	4 70 @	5 30 @
Minnesota clear	5 00 @	5 20 @
Straight	5 40 @	5 60 @
Rye Flour, superfine	3 25 @	3 37 @
Corn Meal	3 00 @	3 25 @
FRUIT—Apples, Bough, per bbl	1 50 @	1 75 @
Astrachan, Gravenstein	1 75 @	2 00 @
Summer Pippin	1 00 @	2 50 @
Blackberries, Jersey, per qt	1 @	1 @
Grapes, Southern, Niagara, per lb	5 @	12 @
S'n, Delaware	5 @	8 @
S'n, Ives	5 @	7 @
S'n, Champion	3 @	4 @
Huckleberries, Jersey, per qt	6 @	7 @
Mountain	7 @	9 @
Muskmelons, Md., per bbl	1 50 @	2 00 @
Jersey, Hackensack	2 00 @	2 25 @
GRAIN—Wheat, State white, per bus	94 @	— @
Ungraded spring	90 @	90 @
No. 1 red, winter	95½@	— @
No. 2 red, winter	91½@	91½@
Corn, No. 2, white	50 @	51 @
No. 2, mixed	— @	48½@
Oats, No. 2, white	34 @	35 @
No. 3, mixed	31 @	32 @
Rye, State and western	61 @	62 @
HAY—Timothy, per 100 lbs	80 @	90 @
Shipping	70 @	— @
Clover	75 @	80 @
Straw, long rye, No. 1	80 @	90 @
No. 2	70 @	80 @
Tow	60 @	65 @
Wheat	50 @	60 @
HOPS—N. Y. State, 1889, choice, per lb	20 @	25 @
Good to prime	15 @	17 @
State, 1887	6 @	8 @
California, 1889, best	12 @	17 @
Pacific Coast, 1887	5 @	7 @
German	20 @	20 @
POULTRY—Live fowls, per lb	— @	12 @
Spring chickens	22 @	25 @
Turkeys	12 @	13 @
Ducks, per pair	50 @	75 @
Geese	1 00 @	1 25 @
Dressed fowls, per lb	11 @	12½@
Phila. springs	14 @	16 @
West. broilers	14 @	17½@
Turkeys	11 @	12½@
Ducks, spring, per lb	9 @	10 @
PROVISIONS—Beef hams, per bbl	14 50 @	15 50 @
India mess	13 50 @	14 00 @
Hogs, dressed, per 100 lbs	6 25 @	6 62 @
Lard, per tierce	6 50 @	6 62 @
Pork, new mess, per bbl	12 50 @	13 00 @
Short cut	13 75 @	13 00 @
Family	11 00 @	11 50 @
VEGETABLES—Beets, Long Island, per 100 bunches	1 00 @	1 50 @
Cabbage, L. I., per 100	1 75 @	2 00 @
Cauliflower, L. I. & Jer., per bbl	1 00 @	1 50 @
Corn, Hackensack, N. J., per 100	1 00 @	1 25 @
Cucumbers, Long Island, per 100	40 @	50 @
Green peas, Long Island, per bag	1 00 @	1 25 @
Green peppers, Jersey, per crate	40 @	50 @
Lima beans, L. I. & Jersey, per bag	3 00 @	3 12 @
Okra, Jersey, per bbl	1 00 @	1 25 @
Onions, potato, per bbl	1 25 @	1 75 @
Orange County, red	1 00 @	1 50 @
Potatoes, Nor. & E. shore, per bbl	1 50 @	2 00 @
Long Island, Rose	1 75 @	2 00 @
Va. sweet	2 00 @	2 25 @
N. C. sweet	2 00 @	2 25 @
Squash, Jersey, per crate	50 @	1 00 @
Tomatoes, Southern, per crate	75 @	90 @
Southern Jersey	40 @	75 @
Northern Jersey	50 @	75 @
Turnips, Jersey, per 100 bunches	50 @	75 @

Cattle Markets.

NEW-YORK, Aug. 5.

BEEVES.—Receipts, 9,800 head. The week opened with a steady trade in native steers, corn-fed, and a decline in values for native steers and Texas herds which were grass-fed. Wednesday more-fed cattle were unchanged, while all grass-fed herds again declined ½c. per lb. Friday the markets were unchanged, save that native steers, grass-fed, improved in demand; 29 Texas heifers, yearlings, sold at $1.85 per cwt. The range cattle now coming forward are lean, and unsuited to the requirements of slaughterers. The heads taken for export are native and grade, fully corn-fed.

[For carcass, net.]	This week.	Last week.
Good beeves	$6 00 @ —	$5 90 @ —
Fair	5 60 @ 5 75	5 60 @ 5 75
Coarse	5 25@5 37½	7 25@7 50
Poor	4 75 @ 5 00	5 10 @ 5 25
[For carcass, gross.]	This week.	Last week.
Good beeves	$4 00 @ —	$3 90 @ —
Fair	3 90 @ 4 25	3 90 @ 4 25
Coarse	3 75 @ 3 90	3 75@3 90
Poor	3 50 @ 3 65	3 50 @ 3 75
Oxen	3 50 @ 3 90	3 50 @ 3 90
Dry cows	3 50 @ 3 75	3 50 @ 3 75
Bulls	3 50 @ 3 75	3 50 @ 3 75

MILCH COWS.—Receipts, 94 head. The general trade has been dull, with a weak tone in values. Quality of the offerings indifferent. Eleven cows were sold at $30@42 per head. Also, 85 cows at $40@45 per head.

VEALS AND CALVES.—Receipts, 4,304 head. The week opened with a steady tone, which was sustained on Wednesday. The feeling declined on Thursday, when the markets opened weak and closed off 1c. per lb. Friday the tone was quiet. The calves on sale are a sorry lot ranging from lean to coarse. For veals less improved to report, and are, in general, of fair quality. Range of prices: Calves, buttermilk-fed, 8@8½c. per lb.; calves, part meal-fed, 6@7c.; veals of medium quality, 5@6c.; veals of fair quality, 6@6½c.

SHEEP AND LAMBS.—Receipts, 24,61 head. On Monday last sheep were steady, and lambs had an upward tendency. Wednesday sheep were firm, and lambs recovered ½c. per lb. Thursday there was no change in the markets. Friday sheep were steady and lambs firm. The best sheep were from New-York State and Kansas; the best lambs from Kentucky. Range of prices: Sheep, 4@5½c. per lb.; lambs, 6@7½c.

SWINE.—Receipts, ——— head. Trade was steady on Monday last, but weakened as to values on Wednesday. The markets closed on Friday weak and dull. Sales for the week: Two car hogs, 186 lbs., 5½c. per lb.; 300 State hogs, 244 lbs. per cwt.; 19 pigs, 60 lbs., 5c. per lb.; also, 60 hogs, 144 lbs., 5c. per cwt.

BUFFALO, Aug. 3.

BEEVES—[For carcass, gross.]	This week.	Last week.
Extra steers	$4 30@4 40	$4 30@4 35
Best butchers	4 00@4 10	3 75@4 00
Second quality	3 50@3 60	3 50@3 60
Poor to common	3 25@3 35	3 25@3 00
Stockers, light	3 25@3 30	3 25@3 30
Stockers, good to choice	3 75@3 90	3 75@3 90
Bulls	3 00@3 25	3 00@3 25

Receipts, 12,500, against 13,900 last week. The offerings of export, shipping and good cattle generally were not up to last week's, either in number or quality, but with an active demand the advance noted was easily obtained and all sold. Grass-heavy cattle, Texas steers, thin heifers and old cows irregular and hard to dispose of; closing firm for good grades and outlook favorable. Stockers strong owing to good inquiry for straight lots. No Canadian offered and Western light. Bulls weak and quiet.

MILCH COWS.—Choice springers and good, fresh milchers in fair request; others dull and very weak. Extra, $40@45; good to choice, $35@38; common to fair, $20@30; old poor, $10@15.

SHEEP AND LAMBS.—Receipts, 19,000. The sale of stock received was not sufficient to supply a fraction of the orders on hand; prices were therefore very unsettled. Closing quotations were: Choice to 110-lb. sheep, $ 25@5.75 to 6.10; $6@6.75; common, 3½@4.50; lambs, choice, $6.50@6.90; fair to good, $5.50@6; common, $4.50@5.25; culls, $3@4.

VEAL CALVES.—Firmer, $6@6.50; heavy fed, $5.50@5.75.

SWINE.—Receipts 21,000. Local packers waited for a decline of 15@20c., after which the demand was active; closing strong and about 10c. higher than the lowest figures. Mediums and heavy, $4.10@4.60; Yorkers, good to choice, $4.75@4.85; mixed packers, $4.60@4.70; pigs, $4.30.

BOSTON, Aug. 3.

BEEVES, NORTHERN.—Good oxen, dressed, 9@10c. per cwt.; fair to good, 8@9c.; second quality, 5@6c. *N. WESTERN, Alive*—Extra, $4.65; good to prime, $4.30; light to fair, $4@4.25.

MILCH COWS.—In small supply at $30@40 per head.

CALVES.—Ample supply at 3½@4c. per lb.

SHEEP AND LAMBS.—In lots at $3@4.30 per head; yearlings, 5@6½c. per lb.; spring lambs, 6½@7½c.

SWINE.—Over 21,000 received; Western fat hogs, 6@6½c. per lb.; pigs, 6½@6c. per head.

Dairy Markets—Aug. 5.

ALBANY.—Butter receipts liberal from the West; best grades in demand; lower, dull. State creamery, choice, 19@20c.; Western creamery, 16@17c.; state dairy, 16@18c.; fair to good, 15@16c.; Western dairy, choice, 14c.

Cheese easier, with free receipts; State factory, full cream 9@10½c.; fair to good, 8@9c.

UTICA.—The Cheese market still holds up remarkably well for the time of year. Sales here last Monday were 17,500 boxes, at 9½@9¾c. with ruling price at 9¾c., although about 6,000 boxes sold at 9c. and upward. Little Falls disposed of 1,335 boxes, at 9½@9¾c., the bulk going at 9¾c. During the week no special change has taken place in New-York, unless it be that prices are a trifle firmer without change of quotations. Colored cheese still remains at 9¾c. for Log, and white at 9½c., with rather more inclination to steadiness on a fine quality of the latter. One of the firms that is doing business on the Utica board and in New-York, made an assignment during the week. Liabilities are said to be about $25,000, and a considerable number of factories will be losers by the failure. R. H. Dunbar & Son is the firm name. For two weeks previous to the failure they had paid for only a small amount of the cheese they bought, and in some cases the shipping-agency runs back as far as three weeks. They lost heavily on their cheese of last winter and spring, and have paid too high prices this season.

There is no change to note in the butter market. Utica sold 89 packages creamery at 18@18½c., a portion also being consigned. Little Falls sold 47 packages creamery at 18c., and 14 packages dairy at 16½c.

NEW-YORK.—Butter still in larger receipt than demand. Receipts, 16,626 packages. Eastern creamery, 17@18½c.; Western creamery, 16@17c.; State dairy, choice, 18@19c.; Western dairy, 15@16c.; Western factory, choice, 12@c.

Cheese in better demand. Receipts, 71,863 boxes. Factory, 8½@9¾c. per lb.; light skims, 5@6½c.; Ohio flats, 9@9½c.

BOSTON.—Western creamery, extra, 18@19c.; extra firsts, 16@17c.; factory, 13@15c.; Vermont, extra, 18c.; dairy, choice, 16@17c.; Eastern creamery, good to choice, 16@17c.

Cheese, northern choice, 9½@9½c.; western, 9@9½c.; sage, 9½c.

Wool Markets—Aug. 5.

ALBANY.—Market quiet; inquiry limited.

No. 1, Pulled	32@33	Medium Fleece	32@33
Super Pulled	34@35	Fine Fleece	32@33

NEW-YORK.—Ohio XX and X, Indiana, 30c.; delaine, 30c.; unwashed western, 28c.; pulled, 32@34c.; Territory, 28@30c.; scoured, 36@38c.; Montana, 30c.; Oregon, 26@28c.; scoured, 35@c.; Texas, 26@28c.; scoured, 34@35c.; California, 24@25c.; scoured, 36@c.; Georgia, 28@29c.; Australian, 34@35c.; Montevideo, 30c.; Donskoi, 26@28c.

BOSTON.—Sales, 2,088,900 lbs. domestic and foreign; Ohio and Pennsylvania, 30@32c.; Michigan, 29@30c.; combing and delaine, 30@c.; scoured, 36@38c.; pulled, 32@34c.; unwashed, 28@30c.; Territory, 28@30c.; Texas, 25@34c.; California, 24@25c.; Oregon, 26@28c.; Australian, 37@40c.; English, 42@43c.

See Advertisement of the

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For Bilious and Nervous Disorders, such as Wind and Pain in the Stomach, Sick Headache, Giddiness, Fulness, and Swelling after Meals, Dizziness and Drowsiness, Cold Chills, Flushings of Heat, Loss of Appetite, Shortness of Breath, Costiveness, Scurvy, Blotches on the Skin, Disturbed Sleep, Frightful Dreams, and all Nervous and Trembling Sensations, &c. THE FIRST DOSE WILL GIVE RELIEF IN TWENTY MINUTES. This is no fiction. Every sufferer is earnestly invited to try one Box of these Pills, and *they will be acknowledged to be a Wonderful Medicine.*—"Worth a guinea a box!"—BEECHAM'S PILLS, taken as directed, will quickly *restore females* to complete health. For a

WEAK STOMACH; IMPAIRED DIGESTION; DISORDERED LIVER;

they ACT LIKE MAGIC!—*a few doses* will work wonders upon the Vital Organs, Strengthening the muscular System; restoring long-lost Complexion; bringing back the keen edge of appetite, and arousing with the ROSEBUD OF HEALTH the *whole physical energy* of the human frame. These are "facts" admitted by thousands, in all classes of society, and one of the best guarantees to the Nervous and Debilitated is that BEECHAM'S PILLS HAVE THE LARGEST SALE OF ANY PATENT MEDICINE IN THE WORLD. Full directions with each Box.

Prepared only by THOS. BEECHAM, St. Helens, Lancashire, England.

Sold by Druggists generally. B. F. ALLEN & CO., 365 and 367 Canal St., New-York. Sole Agents for the United States, who (*inquire first*), if your druggist does not keep them,

WILL MAIL BEECHAM'S PILLS ON RECEIPT OF PRICE, 25 CENTS A BOX.

FAT — CORPUS LEAN — Will reduce fat at rate of 10 to 15 lbs per month without injury to health. Send 6c. in stamps for sealed [illegible] concerning testimonials. L. E. Marsh Co., 1510 Madison Sq., Philada., Pa. — MADE — ABSOLUTELY HARMLESS. Simply stopping Use that produces effects at once. The appetite better improved, the nervous nothing at the system from the fat and reduces weight at once. Sold by all Druggists. — LEAN

The Fireside.

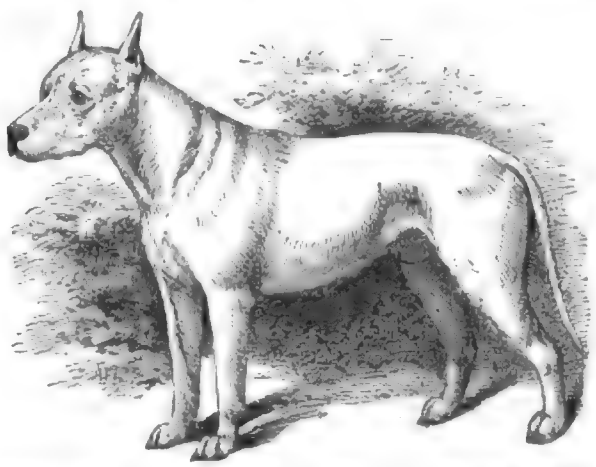
The Bull-Terrier.

The bull-and-terrier of the olden days was, as its name signifies, a cross between the bull-dog and the terrier, the white English terrier being generally selected. Bull-terriers were called into existence for fighting purposes, and the combination was designed to secure the bull-dog's courage and the terrier's activity. For this purpose the cross secured all that could be desired. As fighters, neither the bull-dog nor the terrier are perfect, for while the bull-dog would get his hold and stick to it, the introduction of the terrier produced a lighter dog, and the old bull-and-terrier would be here, there and everywhere, tearing his antagonist in every direction, while the punishment received was small, and taken as a matter of course. Though full of courage the old breed of bull-terriers was not to compare with the beautiful shape and appearance of the modern type. It is said, however, that the large bull-terrier of to-day owes much of his fine shape and appearance to a cross with the greyhound, and the evidence is all in that direction. Such a cross as this would have the effect of taking away from the fighting qualities of the dog, but even if so, he has quite sufficient courage for what is needed of him, and the bull-terrier is not deficient in courage, though whether he would be equal in this respect to his ancestor is doubtful, for both training and breeding have been less and less in that direction. He has, however, quite enough of the fighting quality for most people. There have been charges made against him that he has a bad temper. Bad temper is more the fault of the owner or trainer than of the dog himself. On this point Vero Shaw says: "A very silly prejudice exists against the bull terrier on account of his alleged ferocity of temper and irresistible inclination to fight with all other dogs that come within his reach; thus many would be supporters of the breed have held aloof from it in consequence of the reports they have heard concerning him. That there is a slight foundation for these allegations we cannot deny, but after a pretty considerable experience of bull-terriers we unhesitatingly affirm that the prejudice against his temper is grossly exaggerated. No breed of dog, if properly brought up and kindly treated, is more susceptible of affection towards his master, and docility and intelligence are properties which are highly developed in a bull-terrier." This evidence is satisfactory, as Mr. Vero Shaw was for some years a very large breeder of bull-terriers.

With regard to his qualities there can be no doubt as to his handsome appearance. His smooth-coated body, white hair, sharp head, vivacious eyes, and alert expression make him a most attractive dog, the effect being enhanced by his small size. He is an excellent terrier, and capable of all that a terrier can do, and many other things as well. Shaw says that he is handsome to look at, affectionate, clean in the house, and very tricky; an excellent water dog, and, though it may be discredited by some people, we are convinced that his nose is equal to that of many dogs used in the field, though his impetuous disposition would render it a difficult matter to keep him under the severe control so essential in a field dog. As a retriever he is naturally hard mouthed, but no breed can more easily be taught to fetch and carry on land and water, and this is, doubtless, a source of amusement to many owners.

Another breeder, writing to the author of "British Dogs," says: "The bull-terrier, like all other breeds of dogs, has been greatly improved in general appearance since dog shows have become so general, for instead of having a variety of types, colors and sizes, some of which were far from prepossessing in appearance, we have one recognized type and color, which has found favor with many gentlemen who would never think of possessing a specimen of the smut, brindle or patched varieties. The late James Hinks, Birmingham, will long be remembered as one who did more than any other individual to improve the bull-terrier; and many of our best specimens bear testimony to the fact, as they date from his strain. There are two strains that breeders go back to for pedigree—one known as that of a celebrity named Madman, and the other old Victor, both of which passed through the hands of the late Mr. Hinks; but the latter is the fashionable blood of to-day."

As yet, though several attempts have been made, there is no club to look after the interests of the bull-terrier. Therefore, we have no authorised standard of points accepted by representative breeders. The standard given



below is that drawn up by "Stonehenge," and from the fact that it has not been substituted by another we may assume that it is generally acceptable to breeders of this variety.

Skull—Should be long and flat, wedge shaped—*i. e.*, wide behind—with the smaller end at the place of the brow, which should not be at all prominent. The line from the occiput to the end of nose should be as straight as possible, without either brow or hollow in front of the eyes. This line is never absolutely straight, but the nearer it approaches to a straight line the better. The skull should, however, be "broken up," but not to anything like the same extent as in the bull-dog.

Face, Ears, Lips and Teeth.—The jaws must be long and powerful. Nose large and black. Eyes small and black, with black-edged eyelids for choice. The upper lip should be as tight over the jaw as possible, any superfluous skin or approach to chop being undesirable. The under lip should also be small. The teeth should be regular in shape, meeting exactly without any deviation from the straight line. A pig-jaw is as great a fault as being underhung.

Ears—Are always cropped for show purposes, and the degree of perfection with which this has been accomplished is generally considered. They should be brought to a fine point and exactly match. In their uncropped state they vary a good deal in shape, and seldom reach their full proportion until after teething.

Neck—Should be rather long, and gracefully set into the shoulders, from which it should taper to the head, without any throatiness or approach to dewlap, as in the bull-dog.

Shoulders and Chest.—The shoulders should be strong and slanting, with a wide and deep chest, but the last ribs are not very deep, though brought well back toward the hips.

Back—Should be short, and well furnished with muscle running forward between the shoulder blades in a firm bundle on each side.

Legs.—The fore-legs should be long and perfectly straight, the elbows lying in the same plane as the shoulder points, and not outside them as in the bull dog. The hind legs should also be long and muscular, with straight hocks well let down, i. e., near the ground.

Feet—Are rather long than cat-like, but they should be well arched and close together.

Coat—Must be short and close, but hard rather than silky, though when in show condition it should shine with constant friction. The color for show purposes must be pure white, though there are many well-shaped dogs of other colors. This is, however, purely a fancy breed, and as such there is not the slightest reason why an arbitrary rule should not be made, as it was without doubt in this case, and it is useless to show a dog of any other color.

Tail or Stern—Should be set on low, fine in bone, and carried straight out, without any curl over the back.

Of *Symmetry* this dog shows a considerable amount, all his points being agreeable to the eye of an artist. Any deviation from a due proportion, therefore, should be punished accordingly.

At the present time there is a determined attempt to put a stop to cropping, and it is just possible that in this point the above standard may be modified. There can be no question that the cropping system is most objectionable, and that to mutilate any animal merely for the pleasure of men is cruelty.

The one omission in the above standard is that of size. It is customary at shows to divide these dogs into three classes, namely, under 20 lbs., over 20 lbs. and under 30 lbs. and above the latter weight. The best sizes for exhibition purposes are 16 lbs., 20 lbs., 25 lbs., and as near to 45 lbs. as possible.

STEPHEN BEALE.

A Man's Views of Good Living.

All honor to the housekeeper who gives her family what is good for them to eat, what they like to eat, and such food as makes them "healthy and wealthy and wise." It is a well-known fact that the majority of people are not as well fed as a fifty-dollar horse. Good reader, no doubt you are shocked at such an assertion as this, yet just glance over a few of the breakfast tables of the land, and what will you find? In the East, cakes made of rice or oat meal, or batter of some sort, two or three of which are all you want, and in an hour or two all their sustaining power is gone. Perhaps it is fried mush or hominy, or "scrapple." Can you eat enough of that for a meal? In the West, at least among the farmers, it is pork—greasy and gruesome in hot weather or cold—and pie (!) and cookies and cheese. Can you imagine going to work with your lunch in your pocket, and this sort of breakfast in your stomach, and expect to have any vim in you before the day is ended? Is it any wonder that working girls "give out," and working men want a "bracer" some time before dinner? The business man very often has not time for dinner. He picks up something at a restaurant during the day, and often finds it necessary to "tone up" before he gets a good square meal at home. Would he treat his horse in this way? Not he. He knows he would very soon find him good for nothing, just as he himself will find himself under his physician's care ere long, or investing his cash in cures for dyspepsia and its kindred ills.

It is often a question with the good housewife, like that of the crow of our college days, viz.: "What shall we have to-day to eat?" It takes no small measure of thought to plan out three good meals, from which nothing shall be wasted and each shall be satisfactory, and she who makes a success of such a business deserves fully as much credit as he who pays the bills. One trouble is that people to whom economy is somewhat a necessity begin at the wrong end to economize. There is no economy in poor food. You may have more money in your pocket, but you will not have a happy, healthy family. Ill-fed children are cross and peevish. Ill-fed grown folks are snappy and disagreeable. Each and all look unwholesome and unhappy.

As an illustration, I was coming up on a horse car one evening after a longer office day than usual—one from which, too, my lunch was quite left out. Said a friend: "Why, have you been sick? You look quite miserable." I said "No," complacently, but thought I wished she knew how hungry I was. Two hours later another friend said: "Why, how well you are looking to-night! I am thinking you have not been very busy to-day." Hadn't I? But I'd had a "good square meal" since, a good bath, a change of raiment, and a general training up of the "physical fellow." My delicate friend at my elbow asserts that it does not make any difference what one eats, only that one's craving for food is satisfied. Well, perhaps it does not for her, but I wish all stay-at-homes might feel the utter "goneness" that overtakes one who works away from home, where you cannot lay hands on a piece of cake and a glass of milk after a poor breakfast. I wish they might know how hard it is to run the mind machine when the physical fire is out. I wish a few economical boarding-house-keepers (so-called first-class) were made responsible for the sins of omission and commission committed by the poorly fed workers they turn out and get good pay for it. "There's no money in keeping boarders," they will tell you. Perhaps there is not, but Heaven knows there is mighty little of anything for the boarders who *support* the family.

A well fed family is a happy one oftener, and family feuds are generated usually over an ill-cooked meal. Every woman isn't a housekeeper, but every woman who keeps a home ought to be. And softly be it spoken there is many a glass of beer goes down to temporize an empty stomach. You may not have an opportunity to join and work with the Woman's Christian Temperance Union, but you can do tenfold its work and wield as many times its influence by giving your own boys something they like best for food, and letting the new parlor carpet go. Don't let them find better things to eat and drink somewhere else because you must economize. Economize on luxuries, never on necessities, and good food and enough of it is an absolute necessity, if so it makes your boys hearty, handsome fellows, and your girls merry, happy maidens.

We who work want grain food, fresh eggs, steak or chops, and a dish of fruit, with rolls or biscuit, for our breakfast. Mush and scrapple are good for dogs. And when we come home at night we don't want choice cuts from the neck of the beast, or vegetables that "wouldn't sell."

Mothers, housekeepers, friends, give us good food and, oh! how good we will be. Do we belong to those whose God is—gastronomic? Far from it. The engine pulls the train up hill when there is a good fire under the boiler, and the wear and tear of a working life must be compensated for by food fuel in quite the same proportion. We cannot go up hill very long unless the boiler fire is good, and only good food can keep it so. E. S. TITUS.

Bellerville, N. J.

When Doctors Disagree.

A Lady's Troubles with her Horse—Trimming Trees.

It would be amusing, if it were not sometimes so very annoying, to listen to the widely different opinions of people who are supposed to be authority on certain subjects—each is so positive that his theory is correct, so ready to pronounce everybody else wrong, so indignant that others should differ with him, that it leaves the ignorant inquirer in a state of perplexity worse than when he began his search for information. Unfortunately this perplexity is also often largely tinged with the belief that there is little reliance to be placed on the assertions of any one. When When you take your horse to be shod, and the blacksmith shakes his head ominously, and wonders, in his most sarcastic tone, what ignoramus has been doing your shoeing hitherto, you are vexed to think how you have been victimized by a man who did not know his business, and you turn the work over to the new smith, in the pleased conviction that he knows just what to do; but when your horse limps or stumbles constantly, and some other wiseacre says it is because it is not properly shod, your complacency gives way to anger.

A short time since our faithful old family horse fell lame, and receiving to profit by past experience, instead of seeking a blacksmith, we went in quest of a veterinary surgeon who had once treated Dolly for a wound. Not being in town, and the matter urgent, we procured another, who, after a little examination, said the trouble was in the foot—some fever in the hoof, he thought—and recommended standing the animal in mud, and not driving her for a few days, all of which directions we endeavored to follow out, although we found it extremely difficult to keep the offending foot in the mud bath. A friend happening to inquire what was the matter with Dolly, suggested that the hoofs be packed in mud, as had been done frequently with her horse by the man who had charge of it, and advised us to apply to him for directions for packing, &c. He was not at the livery stable, but the proprietor being present, was sufficiently interested to make inquiries, and on hearing our story, examined the foot, and said it was altogether owing to the shoes; we must get her reshod and then the difficulty would be over. Accordingly Dolly was newly shod, but still halted painfully. The livery man then concluded it was rheumatism of the muscles of

the lower part of the legs, and prescribed frequent rubbings with vinegar and salt or camphor and alcohol, together with absolute rest for several days.

On our way home we met the veterinary surgeon who had once treated her, and noticing the horse limping, he made inquiries about it. He thought the vinegar and salt very well to rub with, but instead of keeping the horse quiet, he would advise exercising her every day. However, in his opinion, the principal cause of the trouble was in the way she was shod. She must have a concave shoe.

Now here were three men of experience, any one of whom might be considered final authority, as they had made horses and their diseases a specialty for years, and yet they all differed.

In front of our house grows a beautiful forest tree which has made an astonishing growth the last year or two, shooting its branches so high above the house that its thick, green foliage forms an impenetrable barrier, hiding all before it. A request came from certain citizens a few blocks away that the top of the tree might be trimmed (thus enabling them to see the town clock on the court-house tower), coupled with the agreement to send a skilled man to do the pruning. Always willing to accommodate when it is possible, we acquiesced in this arrangement, and the preliminary business of collecting ladders, tools, &c., was begun. At this juncture the query arose in our minds—Is it not too late in the season to trim trees? Thereupon we propounded the question to a man who makes pruning his business.

His reply was that he never trimmed later than the middle of June, and would not like to undertake it at this time. As he inferred that he was to get the job, his answer was perfectly free from bias, and seemingly might be relied upon. We were, therefore, obliged to disappoint the citizens before mentioned, and also to meet the wrath of the man whom they had sent to do the work.

"Whoever says it will hurt this tree to trim it now, hasn't an ounce of sense," was his scornful comment. "Why, I trimmed shade trees last year all through July and never lost one, and to-day I'm going to prune apple trees, and you can't find anything more tender than an apple tree."

Remembering the sickly yellow tinge that marks many of the beautiful maples bordering an avenue, which this man had pruned last summer, we have been glad since that we were so firm in our refusal to have our noble forest giant denuded of its leafy top.

Here were two men, both professional gardeners, differing totally on a subject on which it was to be presumed they were both thoroughly conversant.

"Who shall decide when doctors disagree?"

A friend of mine, who was recently left a widow, with the management of considerable property, among which are several acres of land, has had an amusing as well as distressing experience with the persons who have come to rent it of her. One applicant assured her that there would be no timothy on it, not being aware of the fact that she knew timothy from any other crop. Another made her a pitiful bid for the clover. One advised her to rent it for a pasture for sheep, while another told her that sheep would ruin it, and so on *ad infinitum*. Each man hooted at the opinions of the others, and it is small wonder that between them she not only did not know which one to believe, but too often wished the plaguey land was at the bottom of the Red Sea.

The reader doubtless has had similar annoyances growing out of the bad habit many people fall into of decrying the views and opinions of others. Being a finite creature, no man would have time, even had he the necessary genius and understanding, to examine carefully all subjects bearing on his every-day life. He must of necessity depend on the knowledge of others. And to whom shall he look for information on those points that he has not time to study out for himself, if not to those who make it their profession and life business? GARRY OWEN GAINES.

Seven Wonders of New-England.—A southerner, traveling in New-England, writes to the Plow, Loom and Anvil that he found there "seven wonders:" 1. Every man living in a brand-new house, or one looking like it. 2. All houses of wood, while fences are of stone, the material lying thick everywhere. 3. Wood for house and kitchen sawed, split and stored under convenient sheds. 4. Careful saving and preparation of manure. 5. Attention to a supply of fruit suited to the climate. 6. No poor or superfluous live stock. 7. No *visible* staple crops—which leads him to exclaim: "How do these people keep out of debt, go on improving their land, building school-houses, buying stocks and bonds, &c.?" The editor replies that it is because they associate the plow with the loom and the anvil, and raise food for quick consumption by mechanics and artisans.

Domestic Economy.

Peach Preserves and Sweet Pickle.

The mere mention of such good things makes one's mouth water, especially if they are made at home in the country, from fresh peaches, hand-picked from the garden or orchard without a bruise or a blemish. Clingstone peaches are nicest for either preserve or sweet-pickle, as the pieces retain their symmetrical shape and firmness, and when cut off at a little distance from the stone they bring away none of its color or roughness. When intended for preserve, the peaches should be gathered before they are quite ripe, and those varieties selected that are not especially juicy.

In preparing, the fruit cut the pieces as large as convenient, and let them drop directly from your fingers into a wooden vessel of cold water, as a few minutes' exposure to the air will cause them to turn brown, and we want our preserves as light in color as possible. Next weigh the sugar, one pound to every pound of fresh fruit, and put it over the fire with barely enough water to form a syrup. The sugar should be of good quality, white and dry, as moist or dark sugar injures preserves both in color and flavor.

When the syrup boils remove carefully whatever impurities may rise to the top, and drop in the fruit. The advantage of making the syrup first is that the fruit is thus made to retain its firmness and consistency. After boiling for half an hour take out the fruit with a perforated skimmer, and place it, without crowding, on large flat dishes in the sun. This renders the pieces firm and transparent, and enables you to boil down the syrup without over-cooking the fruit. If necessary, clarify the syrup by stirring into it the white of an egg frothed. As the albumen coagulates it collects all impurities, and rises to the top of the kettle from whence it should be at once removed. When the syrup has boiled down to a desirable consistency, drop the fruit back into it and boil the whole until the pieces are clear all the way through. This will show that the fruit is thoroughly cooked, and will take place after ten minutes have elapsed, or a longer time according to the heat of the fire and the nature of the peaches. We have adopted the plan of keeping preserves in glass jars just as though it were canned fruit, having the jars, either quart or half-gallons, dry and warm, and sealing while boiling hot. Fill the jars three-quarters full of the fruit and pour over it the syrup, which should be quite thick and of a beautiful clear amber.

All preserves as well as canned fruit should be excluded from the light, and kept either in a dry cellar or a cool closet where the temperature is uniform. When these precautions are observed, preserves will keep perfectly sound and sweet for years.

Apples, pears and other large fruits may be preserved in the same way, while small pears and Siberian crabs are nicer whole, with the stems attached and the blossom end slightly pared.

The flavor of the peach when preserved is so delicious that no other flavoring should be added, but a few sticks of cinnamon rather improves that of apples. Some one advises adding orange peel and lemon, though neither, it seems to me, would be at all desirable.

The old way of putting the fruit in the kettle with alternate layers of sugar is altogether objectionable, for before the mass begins to boil, the fruit has become soft and it fails to please long before the process of cooking is completed, so that the syrup which is the chief beauty of preserves can never become clear.

The custom of letting the fruit stand in sugar for several hours or over night is also inadvisable, for the fruit is not only rendered dark from exposure to the air, but it also loses its firmness and solidity.

Next to preserves comes sweet-pickle, and nothing in its place could be more useful or more delicious. Many persons prefer it to jelly as an accessory to meats.

The receipt for peach sweet-pickle calls for seven pounds of fruit, four of sugar, one pint of vinegar, and mace, cinnamon and cloves to the taste. The process of cooking is the same as that for preserve, except that the vinegar and spice should be added to the syrup after it has boiled down quite thick, just a few minutes before the fruit is put back the second time. After this it should all boil together about ten minutes, and then be taken off and sealed up just as though it was preserve. Glass jars of small size are preferable for sweet pickle, as it is liable to ferment when exposed to the air for any length of time.

Pear sweet pickle made in the same way is perfectly delicious, and apple is excellent, while that made from damsons and plums, and also from grapes, is said to be quite nice.

If you wish to peel the plums, scald them first, and the juice that exudes may be used for making the syrup. When the skin is not removed, it should be pricked with a large needle, in order that the juice may escape without bursting the skin.

Only pure, well-flavored, apple vinegar should be used for sweet pickle. In making preserves of any kind, it is well to remember that when we wish the fruit to retain its shape and consistency, the syrup should be made first, and it should be quite thick and boiling hot when the fruit touches it.

If possible, the housekeeper should select a time for preserving when there is no other duty especially pressing, and she can give it her undivided time and attention, for a few minutes' neglect at some critical time will render the fruit worthless and cause a disastrous waste of sugar. But when she has time and opportunity to make her preserving a success, then she can take a pride and a pleasure in her work, and a great satisfaction in thinking over her treasures afterward, for there is no possession of which a housekeeper is more justly proud than well-filled shelves of conserved fruit, representing so many impromptu desserts, appetizing relishes for fresh meats, and the crowning glory of early teas.

HORTENSE DUDLEY.

Blackberry Jam.

I have read Hortense Dudley's receipt (page 550) for this desirable preserve, and well remember the dread with which I went through all the hot and dangerous stirring of which she speaks, having learned in the same school, but if you will allow me to mention a few inventions, patented no doubt, which can be used to save all this trouble, I will tell her a much easier way, and to my taste the jam is much better, having more of the flavor of the fresh fruit.

The berries should be carefully picked over, removing all unsound or imperfect fruit, and when washed, well drained in a colander to prevent having much water. Weigh the fruit and take equal weight of the same and the best quality of white sugar. Instead of going to the hot stove to cook the jam, provide yourself a Wanzer lamp, which has a little windmill in the bottom of it to fan the flame, and so needs no chimney. Wind up your lamp and light, and put your kettle on it, with the berries, and a very small quantity of water (just enough to keep the fruit from scorching until the berries will begin to burst and supply the juice), cover the kettle and screw up the wick as high as it will not smoke, when you may play the piano until the fruit has heated thoroughly enough to be quite soft; a little experience will soon teach you how long. Then run the fruit through a C. H. Henis potato masher (or colander, if you have not the other), which will take out the skins and lumps and make the whole a smooth, thick syrup, into which stir your sugar and return it to the fire. As soon as the sugar is all melted, you can talk to your sweetheart in the parlor while it is boiling, provided you do not forget to come back in a reasonable time. It must be well skimmed before taking off the fire, and does not require to be boiled nearly so thick as by the old way.

I have discarded the stone jars or only use them for apple butter, and use glass fruit cans instead—quart and pint cans preferred where the family is small, as it is after breaking a can in hot weather that it is most apt to spoil. I fill the cans with the jam, and set in a safe where no flies can get into it, with no cover of any kind on them, until cold; tie a thin muslin over the tops next day, and leave them thus until the top has dried out and gotten a little thicker. If they can stand in a sunny window much less cooking will answer; then cover well with pulverized white sugar and put on the rubber bands and tops as tightly as possible, and in a dry closet they will keep for years just as they are when shut up. I have never had a moulded preserve since the COUNTRY GENTLEMAN taught me this years ago. Mr. Mouse is as fond of preserves as I am, and will eat off Hortense's paste papers, and then the preserves, if he can get a chance, but the glass cans are safe from him.

"C. H. Henis, patented Nov. 1, 1881," is all I can find on the potato masher. It is of white metal and was advertised in the COUNTRY GENTLEMAN. Try it and you will always thank me for the advice. I have no interest in the sale of the Wanzer lamp farther than to make known the comfort it can give to ladies. Do not know the address of the manufacturer—wish I did that I might thank him for the comfort he has given me in it. As a light it is all that need be desired. It gives the light of four common lamps of the same sized wick (one inch wide), and one pint of oil will burn longer in it than in one of those, making it the cheapest light I have ever seen; then it is so little trouble, no chimney to clean or break, no grease or oil about it after burning a whole night, no smoke, can be turned down and burned without any smell, and its cooking capacities are invaluable to invalids like myself. Only think of a half gallon, or more if needed, of boiling water in a few minutes, and no one disturbed in the least to get it for you!

Christiansburg P. O., Va. MRS. C.

Canning Corn.—I saw a request in your valuable paper from H. D., Oakville, Ky., for receipt for canning corn. I have tried the following for two years with the best success: Take the best sweet corn for table use when tender; cut from cob before cooking; put in glass jars, and with the small end of a potato masher pack it tight; when full, put on the rubber and screw on cover nearly tight, but not quite, as the jars will break if screwed too tight. If one is going to do up a quantity of the corn at a time, put cloth on the bottom of wash boiler; lay down jars, a row across the bottom, then another thick cloth over these, when another row can be laid on top of these; cover with cold water, and when it comes to a boil, boil three hours; then take out and screw on covers tight. If the covers are not tight, water will boil in, but be very careful not to get them too tight or they will break. Corn put up this way is as good as in summer; all the flavors are preserved, and there is no trouble in keeping. MRS. EMMA DYER.

Jefferson, Schoharie Co., N. Y.

Poison Ivy.—I have read in your paper several articles in relation to the cure of poisoning by the poison ivy. The simplest and safest remedy is sulphite of soda. Dissolve five cents worth in half a pint of water, and apply as a liniment. One application at night upon going to bed is enough generally for the cure of the worst cases. I have used it myself, and know where it had afforded great relief in two other cases. It is harmless in every way. M. L. H. *Vincentown, N. J.*

—— There is an antidote that grows near wherever you find the ivy, which is familiar to every one. Touch-me-not, or Celandine, is a sure remedy. Rub the juice of stalks and leaves on the parts affected. The dried leaves are used for tea in liver and kidney troubles.

Cayuga County, N. Y. C. S. L.

—— Having several times read articles in your paper about poison ivy, I will tell my experience with the hope of relieving some fellow sufferer from the same cause. At the first attack I applied everything in succession that was recommended, or that I had ever heard of being used, but it lasted three weeks and spread over my body. The next, when I knew I had been exposed, I washed hands and face well with soap, then bathed them with sweet spirits of nitre; it showed a very little on one hand. The third time the nitre did not help; then I acted according to my own ideas of curing it. I bathed through the day freely with witch hazel, and at night bound up with vaseline, each morning washing with soap before using the witch-hazel; took a small teaspoonful of salts for several mornings. It healed very soon; it is better to keep it from the air. I do not see how any one could be so thoughtless and so cruel as to recommend to the unsuspecting to chew the leaves of the dreadful poison plant. S. C. K.

Red Hook, N. Y.

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Nathalie of St Lambert, P J Cogswell, G S Hutchinson		
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Ermine Sipher, J W Sipher, Mrs E Diffenbaugh		
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Fri Bianchi, S Tappen, F Van Deusen		
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Herina of St Lambert, S Tappen, F Van Deusen		
Herpa, E H Bridgeman, L S Sprague		
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Romeo's Cora, S Tappen, F Van Deusen		
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Vera of Newark, S S Peirson, H R Higgins		
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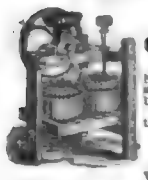

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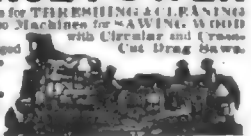

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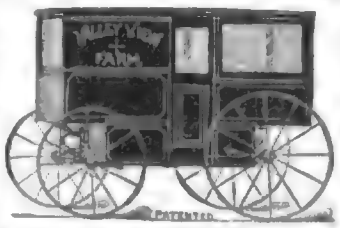

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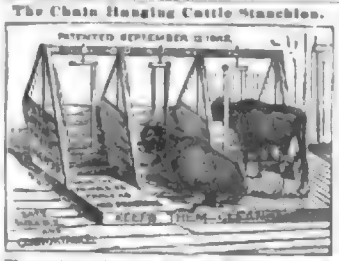

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THE CULTIVATOR AND Country Gentleman

Albany, Aug. 15, 1889.

Notes on Wheat Culture.

TIME OF SOWING—CLEAN SEED—CHANGING SEED—THOROUGH TILLAGE—THE DRILL AHEAD—MULCHING.

EDS. COUNTRY GENTLEMAN—The writer lives in a good wheat country. Paying crops are the rule here; but there are always some fail ures, or partial failures. Usually these could be avoided. The poor crops nearly always come from the farmers not doing their part.

Now I presume nearly all of your readers in the winter-wheat belt know how to grow a large crop as well as I; but we all need stirring up and reminding from time to time. Doing the same thing over every year we get careless, sometimes, and forget how a very little neglect may cost us a good many dollars.

A neighbor who beat us all last year, having nearly 40 bushels per acre of fine wheat, had to put up this year with less than half a crop. What was the trouble? He told me he was a little too late about sowing anyway, and then through some mistake the drill put on only about three pecks of seed per acre, when at that late time a bushel and a half would have been none too much. He has splendid wheat land, in the best of condition, and this has been a much better season than last; but on 9 acres he is short about $150 from these two little mistakes.

After long experience I feel almost sure of a big crop if I can get my seed in as soon as the 8th of September, in moist ground, right after a rain if possible. At this time, and with these favorable conditions, 36 quarts of Fultz wheat would be all the seed I would care to put in. The next week, or with conditions not quite as perfect, I would sow 40 quarts. This for strong land that will cover the surface with full growth, and supposing the seed to be good and clean. A good mill to clean seed is needed now, along with the drill and other improved tools. Some make the mistake every year of sowing seed just as it comes from the threshing machine, with foul stuff in it. If it is perfectly clean and plump then, why all right; but if it is not, a man would better buy a mill if he only sows 10 acres, and clean his seed perfectly.

I like to select the very best spot in the field from which to take my seed, putting the wheat by itself. With this care I am not sure that wheat will "run out" very soon, in this good wheat locality. This changing of seed wheat is a question several of your readers have written me about, at different times. I remember one farmer in Indiana who wrote me last year that he had a crop of Fultz wheat yielding some 26 bushels per acre; and asked me whether I would advise him to send here for a change of seed. I told him I would not change when my own wheat was doing so well for me. Seed potatoes from the northeast pay me, and a good friend from your State told me the other day he felt sure that I could get several bushels more per acre of wheat by getting new seed from a good distant section. I am quite inclined to get a few bushels and try it. There is no use in being too sure you are right, where there is any chance for doubt. That it will pay our Southern friends to send up here for seed seems to be pretty certain, as for some 8 or 10 years back my wheat has gone to a locality in Kentucky for seed. They would not go to this trouble so long if it did not pay. But whether a change will pay me, in this cooler climate, is another question.

A Rochester friend, who has traveled in Ohio a good deal, told me lately that we did not prepare the ground as well here as they do around Rochester. This is certainly one reason why some farmers fail to raise a full crop. One sees every fall fields put in where all the labor and manure put on half the acres would have paid better; but it is the way with many of our Ohio and western people to want to spread themselves. Tillage spread out too thin makes a big show—until the threshers come round. This is one sin I think your correspondent will never have to answer for. He believes in cutting up the ground with cultivator, cutaway or disc harrow, crosswise and lengthwise, and then putting on the Thomas and roller, and continuing these operations from time to time until the ground is fine and mellow, but at seeding time so firm that the horses will make but little track after the roller. Of course there is risk that heavy rains right after seeding will pack such fine land too solidly; but on my soil I will take the risk, seeking, if possible, to sow after the heavy rain, if there seems to be danger of one at that time. On soil less finely prepared, a dry fall would do me damage.

Although I have averaged as high as 35 bushels per acre for five years in succession, from broadcast sowing with a seeder, I have bought a drill this year. I lost enough last year to pay for it, on my little wheat field. Potato stubble is apt to be dry in a dry time. We sow after potatoes. The fall of 1887 was very dry. Our potato stubble dried out after the tops died, before we could get the digging done and the soil pulverized. No more rain came to wet it. Drilled wheat came up pretty well, but half of that that was broadcasted lay in the soil until rain came, which was too late to do much good. Once before I have been caught this way. I will not wait for three times to get out. I bought an Empire drill, from your State, because after years of watching I believe that it distributes the grain more evenly than any other I know of. The hoes are only 7 inches apart, which comes pretty near to broadcast seeding.

I wrote you last year about my success with using straw on an exposed hillside to prevent winter-killing. Last fall we put straw on two or three acres that had a northwestern exposure. This was done in December when the ground was frozen. It is hard to tell how thick we put it. As nearly as I can write it, we put on our strawberries just enough so one could not see through, and on the wheat just enough so he could barely see through. There was one spot where my son got on a load or two, as I thought, almost too thick—about right for strawberries; but the wheat worked through it all right. I feared for the clover seed sown on there; but to my surprise it started quicker and came up ranker than on the thinner places. Only once before since I have been here have I had as good wheat on that exposed hillside. In 1888 and 1886 it was a failure and hurt my average. This year it was good enough, and the clover is now fine.

One of your readers, who lives in Wayne county, this State, led by my article last year, put straw all over his wheat field right after drilling. He says the wheat came up through nicely and did as well as he could ask. It seems as though this would cause too much driving over and tramping the ground when it was soft; but again, the wheat growing up through would hold the straw from blowing in bunches.

After reading this letter over, it has occurred to me that some, perhaps many, would say: "Better hire a drill than to buy one where only a dozen acres of wheat are ever put in." I think differently. The interest and depreciation on a drill, kept stored in my tight tool house when not in use, amount to nothing by the side of being able to put my wheat in just at the right time, which I could not always do unless the drill was owned. Depending on a hired drill may be the cause of partial failure. Cutting wheat any day when one can hire a binder, or putting in the crop when his turn comes to use the drill, would not do for me, small farmer as I am. I *must* make my crops count. I have not acres enough, so I dare not risk any way but the best and safest way.

Summit County, O., Aug. 3. T. B. TERRY.

Saving Manure.—In newly settled countries, where a rich and fresh soil is regarded as of little importance compared with the cost of labor, land owners do not always fully appreciate the value of barn manure and the importance of saving and utilizing it. Wyman Elliot, president of the Minnesota Horticultural Society, stated at a meeting of the society last winter, that 500 to 1,000 loads of material that should go back to farms and gardens, were dumped every day into the river at Minneapolis. At the East, high prices are paid for this kind of manure. A member said that the manure thus wasted would be worth millions of dollars, and a movement is on foot to prevent this waste, if some syndicate does not first step in and secure it.

Winter Oats and Oat-Hay.

EDS. COUNTRY GENTLEMAN—We have a variety of oats in this section which we sow in the fall, and call tart or winter oats. They are white oats, full, long panicle (not a side head), grow very tall, on a strong stalk, and tiller wonderfully. I counted several bunches this spring with over 100 stalks each. They are not liable to rust or winter-kill when a good root growth has been secured in the fall. They have frozen out only twice with us in the past nine years, and each time the land was re-sown in the spring, with the same variety, and a crop secured. One of these freezings resulted from very dry weather and little root growth in the fall, followed by a hard winter; but if it be possible to forecast the weather, this may be avoided; for instance, they should not be sown in the midst of a drouth; better wait until after it rains, and if this comes too late save your seed until spring. But if a good root growth can be secured in the fall, there is little danger in this climate, and double the yield of spring oats may be depended upon. They weigh from 32 to 40 lbs. per bushel, and with a favorable season will produce on a heavy clay loam, twice as many bushels per acre as corn would do on the same land. On good land, with a mild open winter like the last, they will afford considerable winter grazing—almost as much as rye.*

Farther South they are frequently sown for winter grazing and forage. On the week before Christmas, 1881, on the farm of Hon. Jno. L. Hopkins, Atlanta, Ga., I saw winter oats being cut for forage. They had been sown in drills about 2 feet apart, very thick, on highly manured land, and were at that date about ten inches high, and seemed to be a solid mat about eight or ten inches wide in the row. Subsequently they were cut again, I was informed, and then made a bouncing crop of hay in the spring.

Spring oats, as Mr. Stewart says, are usually a rather short crop in the South, and in this section are rarely sown, except on stalk land in seeding down to clover or grass. Our winter oats, however, we think, will compare favorably with the northern crop. Our old anti-book-farming friends, who have run down their land, so it will hardly carry any kind of a grain crop through the winter, buy winter grown seed and sow in the spring—claiming that "they will make more oats on poor land than spring oats."

We sow them just as wheat, only about one month earlier, or from Sept. 1st to 15th. Well-rotted stable manure, worked in at time of seeding, produces a marked effect—though I am far from sure that commercial fertilizers will pay on the crop. My friend, Jno. Heishell, who lives in the celebrated Sweetwater Valley, is said to have produced the finest crop of oats ever grown in this county two years ago, by using 200 lbs. ammoniated bone per acre in the fall at seeding time. But a 13-acre piece upon which I used a ton of the same goods last year, did not meet expectation, though probably the very dry weather in early spring may be responsible, and I will try it again. I raise oats principally for hay. Cut in the milk and properly housed, they make the finest hay known to me, nothing excepted. Soft and nutritious, it keeps well, is eagerly sought by stock, and has a pleasant aroma about it when in the bay, which is a continual joy to the man who can offer such food to an honest herd. We now have a silo and feed Prof. Stewart's scientific rations, which enables us to keep more cattle, but our cows never did better than when we fed a peck of chopped-up corn twice per day with all the oat-hay they wanted.

To supplement a stand of clover, which for any cause is found in the spring not to be thick enough to fully occupy the land, oats are the best thing I have found. They hardly attain their full growth before the clover requires to be cut, but sown early, will make quite an addition to the amount of the crop. They do not interfere with the growth of the clover to an appreciable extent, but seem to add just that much to the yield of hay. In fact I believe that the working up of the ground in putting in the oats, cultivates and benefits the clover, which draws its sustenance largely from a deeper stratum of earth.

I failed to obtain a good catch of clover on a 16-acre piece in the spring of 1888, and owing to press of work in the fall did not cut the weeds off, so this spring it was in a bad condition. It could not be put in anything else without breaking the rotation, and the hay was needed anyhow, so a full bushel and one half of oats per acre was sown on it, early in the spring, and the cutaway-disc harrow run over it once.

The machine was set at the most acute angle, and the driver weighed about 140 lbs.; it looked like ruining the clover, tearing it all up, but I had tried it before, and told my man to go ahead. The whole piece was then raked over with the sulky rake, cleaning off the weeds which the harrow had broken and cut up. These were hauled off and spread over a poor knoll and the job was complete. The next rain started the whole crop forward nicely, and the clover appeared to have been benefited by the operation. Subsequent dry weather reduced the yield, which was fair, however, about one ton per acre, the oats constituting fully one-half the crop.

Seeding down clover on a crop of winter oats, which is intended for hay, gives good results. Taking off the oats early, before the exhausting process of ripening seed, favors the clover. Then, if this has been done at the right time, the underlying stools, which had previously been kept back by the more vigorous ones, will spring up and make a small crop of oats. These I partially graze off, leaving some to ripen and fall down. The Thomas harrow is then passed over the land whenever I can catch the ground just moist enough to harrow nicely, which puts them in and usually secures a good proportion of oats in the hay crop the following year without any further trouble. F. F. EMPAUGER.

Monroe County, Texas.

* I have no seed for sale, nor am I interested in the sale of seed. Indeed I doubt their success at the North, as Yankee wit would ere now have discovered their superiority if adapted to that section. F. F. E.

Experience in Seeding to Grass.

EDS. COUNTRY GENTLEMAN—In this section of the country where there is little profit in raising grain, it is an important question how to keep our land in grass. Experiments in this line may be of value, whether successful or otherwise.

My first experiment was made two years ago the present month by plowing a corner of a meadow which had not taken seed when laid down, and was turned to pasture. It was covered with a kind of low tuft grass of no value. As the soil was not strong, I applied about 200 pounds of superphosphate to one acre, and a quantity of unleached wood ashes on another section. Experiment being my principal object, I also sowed a small quantity of rye on one part and nothing but timothy seed on the other. Unfortunately the calves got in during the fall and ate it all down close. This may have changed the result, but at present the land that was not plowed is in better grass than that which was cultivated, and there is no apparent benefit from either the superphosphate or the ashes. The soil is a rather light loam. Sometimes rest is a cheaper restorative for land than doctoring, as it is with people. There are times when a crop of poor grass left on the soil seems to reinvigorate it, and doubles the next crop.

Last August I turned under a rye stubble which had failed to seed, and sowed with timothy and a very slight addition of clover, to see what the clover would do. Every seed came up (both were left on the finely pulverized surface) and grew well through the unusually wet autumn. Where it was protected on the north by an orchard, the clover lived through the winter and did well; on other parts of the field it perished in the very trying open winter. The timothy made a fair crop of hay this summer, but was badly mixed with the self seeded rye, which proved a great nuisance, so that it would have been better to make the rye a full crop.

Another field was seeded so late, owing to the incessant wet weather, that the timothy seed but just began to appear and I feared it would all be lost. The open winter swept everything bare, so that in the spring I thought of harrowing and re-seeding. But on examining the soil I found seeds that had

sprouted without reaching the surface; so I mixed a little more timothy with clover and sowed on top. To my surprise, a very thick stand of timothy appeared, apparently from seed that had lain in the soil all winter. The seed was left on the surface at sowing in the fall, but a dressing of manure had been applied with Kemp's manure spreader and harrowed in before the seeding. This field makes a good summer and fall pasture, but has too many rag weeds.

I set out to raise grass without grain, but do not regard my success as very flattering so far. In neither case were the conditions favorable, but some of the results are instructive.

Putnam County, N. Y., Aug. 1. B. SYDER.

The Season in Western New-York.

ED. COUNTRY GENTLEMAN—Rain, even in considerable quantities, is generally welcomed in July, but the supply this year was too frequent for a favorable prosecution of farm operations, especially for harvesting hay and wheat and the destruction of weeds. Although we had not much more than two and a half inches of rain, it fell on twelve different occasions, making it extremely difficult to secure the crops above mentioned in first class order. With this exception, the weather has been favorable for the growth of everything, not excepting weeds, which, in most places, have been and are running riot, bidding defiance to the best efforts made for their extirpation. The mean temperature of July in 1886 was 64°; in 1887, 74°; in 1888, 66°; this year, 70°. We have experienced no particularly hot weather; yet, during a considerable portion of the month, we have had to endure that sultry and oppressive state of the atmosphere usually preceding electrical disturbances, which have recently been numerous.

The soil, at twelve inches deep, is moist, so that with an average temperature of 68°, at that depth the verdant appearance of trees and fields, somewhat unusual at this period of the year, is not surprising. A rain storm—even a warm one—seems to reduce the temperature of the soil much quicker and to penetrate deeper than a cold atmosphere of some duration. We have surely reached, at 74°, the maximum of heat at four inches deep:

Depth.	July 6.	July 13.	July 20.	July 27.
4 inches	64°	69°	74°	74°
6 do.	64	70	71	71
9 do.	65	70	69	70
10 do.	66	70	69	69
12 do.	66	70	68	68
Mean tem. of air	70°	72°	70°	70°

The hay crop has been a large one, which would have been of better quality had less rainy weather prevailed. The clover catch is excellent, the wheat stubble already disappearing from view in many places. A good wheat crop has also been harvested, though perhaps not as large as was anticipated. Threshing has been commenced, and on inquiry of a prominent thresher as to the probable average yield per acre, he said that he thought it would be about twenty bushels—an improvement on the usual product of wheat in this neighborhood. The size of the ears, however, and plumpness of the kernels, are not what the fine appearance and growth of the plants indicated. Barley, too, while yielding satisfactorily, did not come up to its early promise. Where corn escaped the cold and wet weather of the last part of May, it is of a good color, but began tasseling very early, so that the crop of cornstalks promises to be a light one. A good deal of the corn crop is much behindhand, making it very doubtful whether it can mature before frost comes. Oats will, I think, be the evenest and best crop of all, in spite of a great quantity lodged and occasional rusty patches.

Early potatoes are remarkable for their size and quantity, but the value of the crop is greatly lessened by the number of scabby ones; whether grown with manure or without, appears to have made no difference. The main crop, at present writing, looks very promising; yet within the last few days I have noticed patches here and there turning ominously black, as if suddenly scorched. A continuation of the prevalent moist and close weather will certainly injuriously affect the yield.

Coming to fruit, there is only a scanty supply of early apples, principally wormy Red Astrachans. The late crop will be a wretchedly small one. There are but few good pears to be marketed in this section, the trees bearing only very indifferent specimens. Plums, peaches, quinces and grapes are rarities with us this season. The yield of black raspberries was better than expected; the crop of reds is large, with fruit fine, firm and of rich color. I was glad to see the Cuthberts commended in your last issue by so fair a judge as Mr. Terry. Few blackberries are yet in market, but a good crop is reported.

Native vegetables of most kinds are plentiful and well-grown, forming a pleasing contrast to the southern supply, only a portion of which is of fair quality, and the greater part of which reaches Rochester in a condition hardly fit for marketing. Potatoes sell for 75 to 80c. per bush.; peas, 50c.; butter beans, 80c.; cabbage, 50 to 60c. per doz. heads; summer squash, 40c. per doz.; cucumbers, 25c.; beets and carrots, 20c. per doz. bunches, and green onions, 15c. Red raspberries, 10c. per qt.; blackberries, 12c. Wheat is quoted at 96c. to $1 per bush.; State corn, 43 to 45c.; oats, 34 to 37c.; hay, new, $12 to $14 per ton; old, $15 to $18. Butter, new dairy, 15 to 17c. per lb.; eggs, 15c. per doz.

The wet weather of this summer has evidently had its effect upon insect life. Potato bugs are not nearly so destructive this year, and we have had comparatively little trouble with the cabbage caterpillar. The swarms of striped squash beetles with which we were visited last year are now fortunately absent. The white grub of the May beetle has not injured the potatoes or any other crop so far as we can discover. I have not seen nearly so many tent caterpillars' nests hanging round. The slug, however, has been as active as he well could be on cherry, pear and plum trees, and has been hard to keep under, owing to frequent showers. The onion maggot, which at one time seemed intent upon destroying the whole crop, has after all done but little damage; where onions were sown thickly the thinning out has been an advantage. By the way, the maggot I mentioned on page 564 as having found in summer squash seed, developed into a small black fly, with glazed wings, similar in appearance to a small house fly. It is, apparently, the same fly we noticed in such swarms when we were giving our radishes, turnips, onions, &c., their first weeding this spring, thereby accounting for the general disfiguration of early radishes and turnips, scarcely any finding their way to market. The great numbers of young frogs and toads this summer is a pleasanter sight, which must tend to reduce largely the insect crop for next year.

I wish to give the much abused English house-sparrows credit for a good deed. I am blessed with them in abundance, and have often observed them in early morning on the cabbages. At first I thought they were after the dew collected in the hollows of the leaves, but closer watching showed they were in quest of the caterpillars, several of which I saw them fly off with. Yet I have lately seen the corners of several wheat fields completely stripped by these little feathered friends or foes—I hardly know which to call them.

Monroe County, Aug. 5. J. H. C.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Aug. 8.

We have had little or no rain since the downpour of July 28th, and clear skies, with a fresh breeze and hot suns middays, sandwiched between nights quite too cool for the best growth of corn. Hay is being secured under favorable conditions, and the threshing force of the country is busy with the wheat and the oats. The wheat crop is turning out quite unexpectedly large in yield and excellent in quality, but oats are chaffy, and light of course, and have been damaged in a considerable measure in the shock by the rains. Twenty-four pounds to the measured bushel is all the average oats will weigh, a deficiency of six pounds when compared with last year's crop, and ten or twelve less than the remarkable crop of the great drouth year, 1887.

Two good wheat crops in direct succession have put farmers into the humor of increasing the acreage, and there is no knowing what the breadth would be did the corn stand upright as in 1888, and the oat stubbles were as clean as in 1887. Now the oat stubbles are overgrown with weeds, and the corn considerably prone or tangled, and the labor of preparing the land as it should be, is greatly increased. Still, if the season favors, that is, if there is sufficient rain to keep the soil moist, a large acreage of fall wheat will be sown, and, of course, a great deal of it in a very slovenly manner. Still if the autumn is mild and moist, and the winter an open one, and the spring not frosty and dry, it does not appear to make much difference whether the preparation for seeding has been good or bad, the winter wheat crop is almost certain to be a bountiful one, as in 1878 and 1883, and several years between. On the other hand, a bad crop season "beats the best farming," and both categories are confusing and demoralizing.

Early potatoes are very good, very good indeed, the bugs are damaging, and if dry weather continues, they will ruin the late and half-late crops. Apples are scarce, but the few are large, fair and fine; pears good, and peaches the same, the first full crop for this latitude for years.

Yesterday was a clear, breezy, autumn-like day, with a northeast wind, the barometer high in the morning and rising all day till the figures of 30.40 were reached, where the needle stands now, at 11 A. M. But the wind is now south, the temperature is rising, the sky is clouding, and when the barometer begins to fall, I shall look for rain, and perhaps it will be a big one. S. F. A.

Crops and Weather in Ohio.

Harvesting and Marketing Wheat.

ED. COUNTRY GENTLEMAN—There is little danger of farming becoming an exact science as long as the weather takes a hand in the business. Your Ohio correspondents have kept you informed in reference to the wetness that prevailed through June; so it is unnecessary to do more than chronicle results, and the probable outcome.

The weather cleared up in time for a grand 4th of July celebration in this county, and with the exception of two or three fine showers since, has been very fine. Very little damage was experienced from the grain aphis, Hessian fly or rust, and wheat was generally secured in good shape, and is threshing above the usual average of the county, which for the last ten years has been about 17 bushels per acre. Corn was planted much earlier than common this year, but cold wet weather kept it back, and when wheat harvest began, none of it came up to the pioneer standard—that it should be as high as wheat at wheat harvest, but favorable weather brought about half of it up to that height before the last of the wheat was cut, and much of the rest is scarcely that high now; besides, there are in almost every field places where the corn was covered by soil washed on or so dwarfed and stunted by wet and weeds as to be nearly lost. The wet weather pretty much ruined crops of all kinds on muck lands and reclaimed swamps, which in spite of drainage retained water until too late to save them. Up to a week ago many of the huckleberry swamps were overflowed, and the "nervy" pickers waded around in one or two feet of water. Judged by local appearances, celery and onion growers on the higher lands should reap a fair reward, but the care with which produce can be brought from more favored regions, will probably prevent their becoming very wealthy. A leading groceryman tells me Kalamazoo celery growers quote celery at 16 to 19c. per doz., f. o. b., and onions from the South are $1.50 per bbl., with small sales.

The outcome of the potato crop is uncertain, but it looks as if those who planted late on rich soil would get a fine crop, and realize not less than thirty cents per bushel. Early potatoes are yielding light, and probably one-third of the immense area planted last spring will not pay for planting, owing to excessive rain and consequent neglect of cultivation, with resulting weeds. Bugs are bad, one grower of thirty acres claiming to have gathered forty bushels of them.

Oats are a magnificent crop, and the harvest is now in progress, the cutting of the enormous crop of hay, excepting here and there a piece of mammoth clover, having been just completed.

The very busy and perplexing season, and the abundance of hay, seem to have nipped in the bud the ensilage boom that in March and April seemed likely to sweep over Northern Ohio, and there will not be one-half the silos built that were planned for early in the year. Milk is very low, and a good many of my neighbors whose dairies were mostly fresh in the fall, are making trips morning and night with less than a hundred pounds of milk in the can.

Gardeners do not realize the prices they once did, but when I compare prices with the dairyman, I do not feel like complaining. Milk is 0.6 cent per lb., while early onions and potatoes command 1 to 1½c. per lb., and early cabbages from 2 to 3c. Blackberries, when delivered to customers, command $3.50 per bush., or 7c. per lb. Raspberries brought from 4 to 7c. per lb., and strawberries from 5 to 8c. Of farm products, new wheat brings 1½c. per lb.; hay, 0.4 cent; old oats, 1c., while wheat bran, bought largely by dairymen both summer and winter, is exactly the price of milk—$12 per ton, or 0.6 cent per lb.

It is a little out of my line of experience, and I am not, perhaps, competent to offer an opinion, but it seems to me that there can be little or no profit in feeding what costs, round for round, exactly the price of the resulting product, unless in small quantities as a whet to appetite, or a complement to an incomplete ration. Some actual figures on this subject may be of interest.

A young tenant farmer, after nine years of pretty successful farming, thought he could better himself by going to Washington Territory; so he closed up his affairs and took to the red-wood forest in March to stay six months and perfect a preemption claim, leaving his wife to enjoy civilized life a while longer, and look after final settlements, among which was the harvesting of 11 acres of wheat. It was hoped to sell this as it stood to the incoming tenant, but this was not accomplished, so the job was done by hiring. Under the circumstances none of the neighbors were disposed to overcharge the lady; so the most that can be said against the figures is that fractions of time were possibly paid for that in the case of a farmer doing his own work would have been economized by doing something else.

The harvesting with self-binders cost $3; the shocking, drawing, threshing, and drawing one-half to market, six miles, cost $30, or a total of $33. The crop consisted of 44 bushels on a rich barn-lot of 1½ acres, and 100 bushels on a back lot of 9¼ acres. The wheat brought 80 cents per bushel, or a total of $57 60 for the tenant's half, to which is to be added the value of one-half the straw yet to be sold, which is worth six or seven dollars. Had the smaller yield per acre equalled the larger, it would have increased the half product 30 bushels, or $24, while the increased cost of work would probably have cost less than $10, or a net profit of $34—nearly double the actual receipts.

Summit County, Aug. 5. L. S. PIERCE.

Southwestern Michigan.

The contrast between this present season and the last two is very great. Then at this time the pasture fields and roadsides were brown and crisp with dead and dried-up grass and plants, and plowing was almost impossible. Now the interval between showers is no more than a week, and from one to two inches of rain fall at each of these periods of precipitation. Pastures have been good as a consequence, and the spring seeding to clover is overtopping the stubble in fields where the grain has been cut—a very promising prophecy of future hay and pasture, and a steadily improving soil.

Two seasons of drouth on only moderately fertile, sandy soil sets the land back in its power for producing crops more than can be gained in that period of time under the most favorable seasons. Lands that have a reserve of fertility recover quite readily, because clover and the grains get a start as soon as the season of rain comes round again, but that recuperating force is lost in a thin sandy soil, which is all the time trembling on the verge of sterility. I have had occasion to note this variableness in the soils mentioned from frequently passing farms of this description on my way to and from the railroad station. Lands that have lain barren, or comparatively so, from lack of moisture to sustain living verdure, now show less vitality in their power to produce crops than I have ever known them. Some spots where manure has been spread at some time show up with more vigor, but there is a forlornness in the appearance of crops on such land generally that is quite discouraging for its future.

Threshing has begun considerably later than usual—only here and there a light job from the fields during the last days of July. Samples of new wheat that I have seen are not up to average years. There are many shrunken kernels, and it has not the bright look common to our Michigan wheat. Millers say that

it is quite unfit to grind yet, and will be for a month or more, until it seasons out. They think that it will make good flour when it gets age, although the yield will be smaller than last year. The fear expressed in my last, that the weather conditions were ominous for the wheat still unhoused, was well grounded; for in several instances sprouting had well advanced inside the bundles before drying winds came to check it and give an opportunity to stack or shelter it. The local demand for old wheat is quite brisk, to carry the flour trade along through this unexpected period.

Haying, which is usually completed within two weeks from the beginning on uplands, has now been protracted a full month, without the usual loss from drying up. Clover has kept on growing and sending up new shoots and fresh bloom, so that the bulk has kept increasing, but the chances are that the quality of this late growth is quite inferior.

Corn has at last reached the tasseling stage, and if August furnishes favorable weather, the crop may turn out fairly well, but cannot be an average one under the very best conditions.

Those farmers who have been reading the papers now know more about the plant-louse than when it first appeared. Prof. Cook of our State Agricultural College has just issued Bulletin No. 31 on the enemies of the aphis, and how they work destruction to the whole race. It credits the lady bug, both as larvæ and as mature insects, with being especially destructive. One of my neighbors came to me one morning with some of these larvæ in a bottle, saying he had discovered a new enemy to the wheat—that they were on almost every head, and he was afraid the new pest would make an entire finish of the remainder of the crop. An investigation showed that they were eating up the aphis as fast as one was found, and those were what they were foraging for. In a few days the larvæ changed to bugs in the bottle, and were then recognized. This lifted the burden of his apprehension, and showed the friendly office they were performing under this cloud of misapprehension.

Van Buren County, Aug. 2. A. C. GLIDDEN.

From Southern Minnesota.

ED. COUNTRY GENTLEMAN—A clear sky and a burning sun have been the successive order of the days since far back into July. The ground is parched as I have never seen it but once during my five years' residence in the State. To-day, however, the sky is partly covered with floating clouds, and a good shower was seen to pass down the eastern border of our county. Better weather for the harvesting of small grain was never known. The greater part of it was cut, shocked, dried and stacked without a drop of rain. The wheat crop is pretty good, but the acreage is less than an average. The acreage devoted to oats this year was probably 25 per cent. above an average, and the crop has not been better for many years. The straw will be fresh and sweet, and will help out the short hay crop. The late varieties of potatoes (of which is the main crop) have been badly injured by the drouth. Corn is hanging in the balance. The first half of July wrought a miraculous growth, and two weeks ago there was promise of an immense crop. But it certainly cannot stand the present condition long, and it is only the more hopeful ones who do not predict a light crop at the best. If, however, we should be favored with immediate rain, and succeed in getting a fair crop of corn, the farmer will be able to close up the season's work amid no very gloomy prospects, even though prices be rather weak.

This is the time of season when the expression, "there are no flies on them," can hardly be applied to the cows as they come up to be milked. The man who can keep these torturing insects from his cows at milking-time, when the patient animal is expected to stand quietly with no effort at defense, performs an act of mercy for the cow, prevents a great draft upon his own patience, and without doubt carries in a fuller pail of milk. I always pet my cows into their stalls at milking time, though they stay outside during the night. A choice bite of feed in each one's stall, makes the task of getting them in place a very light one. This season I have adopted the plan of keeping my tie up darkened all of the time, save when milking to admit just light enough to enable one to see to do his work. If flies come in with the cows, a little shoving and brushing with an old gunny sack soon send them to the streak of light admitted through a door left ajar. This plan works the best of any I have tried. C. L. E.

Freeborn County, Aug. 2.

From Northern Illinois.

Crops—Horse Hoes—Milk Farming.

ED. COUNTRY GENTLEMAN—We are now enjoying weather that we cannot growl at, warm enough to keep the corn growing, with cool breezes and sufficient moisture. A heavy crop of hay has been secured with but little damage from rain. Rye very good and all harvested. Early-sown oats, too, are in the shock. My oats, sowed March 26th, are the best I have had for years; heads and straw ripening together and very free from weeds. Corn looks well, though rather backward, some fields in silk.

We have had a much wished-for departure lately in the style of plow for corn culture—horse-hoes, as Jethro Tull, the original inventor, called them long years ago, and horse-hoes they should have remained, instead of the deep-stirring, tearing-up-by-the-roots shovel-plow we have been torturing our corn with for many years. Several patterns for surface culture are now made, one with knives paring just below the surface, something like a scuffle-hoe; does very nice work when the ground is in good order. It slightly ridges the corn, to which I do not object in a country like this, where the land is so level, and in any case the corn must get a full share of the moisture that falls, whether rain or dew, from its habit of straightening up its leaves like so many gutters on the first approach of dampness, and sucking in the grateful fluid as it runs down the stem. But the plow I prefer is one with four small shovels in a frame, two of the frames costing from $9 to $10; can be attached to almost any of our corn cultivators instead of their shovel frames. They are cheap, they scour well and stir the ground thoroughly to a sufficient depth, without cutting all the roots away as the shovel did. For the last plowing, I like Mr. Stahl's bar plow to ridge up the corn well and cover the weeds deep. It keeps the corn too, from falling with the late winds and rains, as it has done ever since we gave up using it, by giving a better hold to the brace roots.

I am now delivering milk to the Anglo-Swiss factory, with a contract for 20 cows, but not milking so many at present. A carrier who also hauls for two other farms, takes it twice daily for 20c. a trip, or 12c. per cwt. The milk is drawn from the cow, strained, cooled and sent off all within an hour. The constant supply of running water necessary for the cooling gives the means of keeping all pails, &c., washed up as the work proceeds. What a saving of labor to the women on the farm, compared with the eternal skimming and churning and feeding of calves in other kinds of dairying! With what envious eyes the toil-worn housewife of former days would have looked upon her sister of to-day—when the harvest lasted for weeks, and a crowd of men at work from daylight till dark required five meals a day; pies and cakes and chickens and coffee, for everything had to be in profusion, and of the best—cooked over red-hot stoves, with the thermometer at 90°! And when night came and the men were snoring in their beds, the unfortunate wife and daughters were kept up washing and preparing for another round. Now the harvest hardly makes a ripple in the easy flow of every day work. A boy goes into the field with the binder—cuts, binds and winrows the oundles, and in the cool of the afternoon they are shocked up. J. T. L.

Dixon, Lee Co., July 24.

The Royal—Farming in Australia.—

I think Mr. James Wood's report of this memorable exhibition is exceedingly creditable to him in every sense. He wonders why the Mountain sheep are not introduced and kept on the hillsides in our Middle States. It seems surprising that they are not, but it is probable that it is the liability and almost certainty of their being continually worried by dogs there, as well as in many other good localities.

The showing of the grass plats in boxes was interesting, and it is to be hoped many other Americans studied this subject, for it is quite time that the importance was understood of having permanent pastures and meadows so managed as to prevent the necessity of cultivation and reseeding every few years. It would be really very valuable information if practical agriculturists would look clearly into this grass question and ascertain, beyond doubt, why pastures and meadows require plowing and seeding again, while in England the longer the soil is undisturbed the more fattening becomes the herbage and better the quality of the hay. As Prof. Shelton is going to Australia, he might let Americans know something about grass land there, for as the climate is much like that of our Southern States, it would be very instructive to know into what condition the pasturing of sheep, &c., brings the land. Comparatively very little is known about the customs pursued by farmers in Australia. There being very mild weather at the coolest season, probably no haymaking is done for aught but horses which work hard, but we never hear anything about the time of planting or about the crops grown. Why doesn't some intelligent farmer there correspond with the COUNTRY GENTLEMAN? There are plenty of its readers who would return the compliment, and much interest would be felt by all. I do not remember to have ever read a word about dairying there, about the popular breeds of cattle, or about the style and quality of horses. Sheep, everybody knows, are the chief support, but how dogs are prevented from hunting them, as is the case in the United States, or what kind of fences are used for keeping them out of the wheat and other crops, &c., is unknown. I suppose vegetables and fruit are not to be had in such abundance as in America. C. C.

Weather, Crops and Prices.

Meteorology for Aug. 5-11.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....		30.25	inches.
Lowest	do.	do.	.....	29.98	do.
Mean	do.	do.	.....	30.08	do.
Highest temperature	do.	.....		82°	
Lowest	do.	do.	.....	54°	
Mean	do.	do.	.....	71°	

Three clear days; one fair; three cloudy. Three days on which rain fell; total precipitation, 2.37 inch. Prevailing wind, S. E.; maximum velocity, 18 miles per hour, on the 9th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	5th	6th	7th	8th	9th	10th	11th
Day	54°	64°	71°	64°	68°	70°	72°
This year...	72°	67°	66°	65°	70°	72°	66°
Normal.....	73°	73°	71°	73°	73°	73°	73°

Total deficiency for the week, 27°.

General Review of the Week.

During the week about the average temperature prevailed in the Southern States, in the Missouri valley and Dakota, while it was slightly cooler than usual in the Northern States east of the Mississippi, the coolest section being the upper Mississippi valley and the upper lake regions where the daily temperature was from 3° to 6° lower than usual. The thermal conditions for the season, from Jan. 1 to August 10, continue substantially as reported at the close of last week. The large excess of temperature, which existed in the Northern States in the early portion of the season, has been reduced as the season advanced, and the only sections at present reporting an excess of temperature are portions of New-England and the Middle Atlantic States, the States of the Missouri valley, and the west portion of Minnesota. Over the greater portion of the cotton region the daily temperature has averaged about 1° below the normal.

There has been an excess of rainfall during the week generally throughout the South Atlantic and Gulf States, Maryland, Virginia, Delaware, Iowa, Eastern Minnesota, Northern Missouri, and the east portions of Kansas and Nebraska. Well-distributed showers occurred in all other sections east of the Rocky Mountains, and in some sections of New-York and Pennsylvania the local storms were attended by excessive rainfalls. The heaviest rains occurred in the South Atlantic States, where from two to four inches are reported. The rainfall for the season continues in excess from Northern New-York southward to Florida, and in Texas, Western Nebraska, Western Arkansas, Northern Kansas, Northern Illinois, and Eastern Wisconsin. Over the principal corn States and the central portion of the cotton region the rainfall for the season generally exceeds 80 per cent. of the normal; but there is a small area in the Ohio valley, extending from Central Tennessee to Northern Ohio, where the rainfall for the season ranges from 60 to 70 per cent. of the normal. In Northern Minnesota and Northern Dakota, and in Oregon and Washington Territory, about one-half the usual amount of rain has occurred since the 1st of January.

The weather was generally favorable for harvesting in Minnesota and Dakota. Threshing is in progress in the southern portions of those States and harvesting well advanced in the northern section, with a good yield reported. Some damage resulted from hail in Minnesota and Nebraska, and the light frost on Sunday morning in the extreme north did no damage to grain but injured vegetables slightly. In Michigan, Illinois, Iowa and Missouri the cool nights were generally unfavorable, and retarded the growth of corn, which, however, continues in good condition, but is much in need of warm, clear weather. In Ohio, Indiana, Kentucky and Tennessee all crops were improved by favorable weather. Corn is reported in excellent condition. Tobacco was improved in Ohio, but this crop needs more sunshine in Kentucky. In the central portion of the cotton region extending from Mississippi to Georgia the weather was more favorable than that of the preceding week, and the condition of the cotton crop was somewhat improved. In North Carolina and South Carolina excessive rains caused some injury to the cotton and tobacco crops. In the west portion of the cotton region the weather was generally favorable. Prospects are reported as excellent in Arkansas, and in Texas a heavy cotton crop is expected if rain occurs in the next few days. From present indications these rains are likely to occur. In New-England and the Middle Atlantic States the weather of the week was generally unfavorable. Throughout these sections the potato crop has been seriously injured; the fruit crop in New-Jersey has been largely reduced, and in New-York the hop crop has been damaged. All crops were improved in Virginia by the favorable weather of the week. Corn is reported in excellent condition in New-England, and was improved in Pennsylvania. On the north Pacific coast the cool weather was unfavorable for late crops; extensive forest fires caused great damage, but an average wheat crop has been secured.

New-York—*Sharon Centre, Schoharie Co., Aug. 5.*—Warm, wet and muggy; winter grain growing in the shock, and potatoes rotting in the ground. Not a load of hay has been made for a week. Much grass is yet to be cut, which is very ripe. Some pieces of oats are ready for the harvest, and are a good crop. Peas have failed wholly on moist fields. Corn has been doing well for the last few weeks. Hops are quite full of lice, and there is a large growth of vines. Butter, 14@15c.; eggs, 15c. J. H.

Setauket, Suffolk Co., Aug. 3.—We had 10 clear, 8 fair and 13 cloudy days in July. Rain fell on 14 days; total rainfall 6.64 inches. Highest barometer, 1st, 30.31 inches; lowest, 15th, 29.66; mean, 30.01. Highest temperature, 6th, 86°; lowest, 4th, 56°; mean, 71°. Thunder showers on 9th, 23d and 30th. The constant rains during the last part of the month have greatly injured potatoes, and in the harvesting of oats and hay much injury has been done. S. B. S.

New-Jersey—*Trenton, Aug. 6.*—Weather here very wet. Potatoes rotting badly. Everything suffering from excessive moisture. P. D.

Connecticut—*Hartford County, Aug. 5.*—The weather for the past ten days has been cloudy, and raining nearly every day. The blight has injured all late pieces of potatoes, and the early pieces are rotting badly all through the State. Grass and grain, not housed, are nearly ruined. Several tons of hay on the meadows have been washed down the swollen streams, and several acres of tobacco are drowned out, so it will be nearly worthless. Berries of all kinds are rotting, due to the wet weather. Corn is looking fairly well in this locality. Apples and pears will be a good average crop. New milch cows are in fair demand at from $35@45. The grass crop is the largest for a number of years. Stock of all kinds are doing nicely. Beef, 7½@8c. per lb.; veal is slow demand at 5½c. at wholesale; chickens, live weight, 15@17c.; dead weight, 20@25c.; dressed fowls, 14@18c.; creamery butter, 20c.; dairy, 18c.; eggs, 13c. W.

Illinois—*Springfield, Sangamon Co., Aug. 3.*—The wheat crop in Central Illinois is not yielding as well as last year, and the corn is not fulfilling the high promise of two weeks ago. Oats have averaged well, and the hay crop, red clover particularly, has been heavy, though owing to the frequent rains it has not all been put up in the best condition. Stock hogs are more plentiful than usual, and hog cholera very scarce. A large number of letters addressed to veterinary surgeons and others, throughout the State, fail to discovery any serious diseases among hogs this summer. F. V.

Harristown, Macon Co., Aug. 6.—We are having the first good hay weather of the season. Crops all fine indeed. S. S.

Wisconsin—*Janesville, Rock Co., Aug. 7.*—We have had decidedly cool weather during the week. The mercury has ranged from 45° to 78° during the days, and much colder during the nights—once quite like a frost. Rain is much needed; things look dead and seared. We have had no rain for quite a long time. Corn is said to be much improved, and will be a one third crop here in Southern Wisconsin. It may, in some favored place, be more. The hailstorms reported last week were much more disastrous than I supposed. I find, in some localities, the tobacco is completely riddled—in some cases stripped too. Corn also suffered considerably. Some individuals lost all their tobacco. Fortunately this condition of matters is only local. Pasturage is now short. Health and business fair. Wheat, 60@70c. per bu.; rye, 40c.; barley, 28@40c.; corn, 33c.; oats, 25c.; potatoes, 25c.; bran, $10 per ton; butter, 12@18c. per lb.; eggs, 11c. per doz.; hay, $4.50@7.50; coal, $7; tobacco, 5½c., 8½c., 8½@11c. per lb. for fillers, binders and wrappers; cattle, $2.25@3.50 per cwt.; hogs, $3.80. W. M.

Fond du Lac Co., Aug. 9.—Up to yesterday morning, no rain of any account for three weeks, and the ground had become parched. Then we got a pouring rain that wet the ground thoroughly, and must be a great help to the corn, as the thermometer reached 90° in the shade to-day. Barley all in stack; wheat and oats nearly all in shock, and the hum of the steam thresher is already heard. Some barley has been sold for 40c. per bushel, but the brewers may depend on it that few farmers will sell at that price as long as the prospect of a corn crop is so very poor. Should the mercury keep near 80° for the next six weeks we may get some corn, but it is impossible to get a full crop. S. S.

Missouri—*Kansas City, Jackson Co., Aug. 3.*—August came in with a hard thunder shower, which cooled the atmosphere and lowered the mercury some 15°, but the next day was warmer. July was a beautiful month, bright and sunny, with frequent showers. There has been a great quantity of rain all through the spring and summer, and the temperature has not been much warmer than in the New-England States. Haying and grain harvesting nearly all finished. Corn looking splendidly, and will make an enormous crop. Apples and melons abundant and cheap. Blackberries nearly gone. Prices for provisions remain nearly as last month. Flour falling quite rapidly in price. S. B. B.

Horticultural Department.

Editorial Notes and Comments.

Mulching.—To mulch growing plants successfully depends much on the nature of the material used. Moss, either green or dead, spread around the plants in flower beds, answers a good purpose. Dry forest leaves are coarser, but often do well if not blown off. Fine or pulverized manure performs a two-fold benefit—preserves the moisture, and adds to the fertility. Hay, cut at the usual time for ripening the seeds, adds to an abundant crop of grass and clover, and the same or similar result occurs with the use of badly threshed straw used long or cut short. Shavings, tan bark, and other refuse matter, often injure the texture of the soil. Cornstalks cut two or three inches long make a good mulching for certain purposes in winter. Clean manure, applied two inches thick between the rows of strawberries in winter, protects the plants and makes a vigorous growth next year. Evergreen branches make an excellent winter protection for many plants, and they are often useful to hold down forest leaves and prevent the wind from carrying them off.

Wash for Fruit Trees.—We have described on former occasions the liquid which is applied to fruit trees to exclude the depredations of animals; but on account of frequent inquiries we briefly repeat some of them. When sheep have been turned into orchards to devour the dropping fruit which has been infested with the codling worms, they are prevented from eating the bark by a mixture of limewash, common or whale-oil soap and sheep dung, applied with a brush. To exclude the peach grub, make a mixture of a pint of crude carbolic acid, a gallon of hot water, and then after several hours add eight gallons of cold, soft water, well stirred together. Apply this mixture with a swab or brush around the base of the tree. This will be enough for 500 trees. To apply white hellebore to currant bushes, add four ounces of hellebore and half a pint of soft soap to a pail of water, and throw it on the under side of the leaves with a syringe. The soap makes it stick.

Hilling Potatoes.—Many years of experiment have taught us that with ordinary good and well cultivated soil, the best crops of potatoes are obtained by flat culture. The percentage of loss with hilling varies with the depth of the soil and the abruptness of the hilling, but with the common treatment, such

as we generally see through the country, the loss by killing is about fifteen per cent., and sometimes more. With slight ridging it is less. The accompanying figure shows the way in which this loss occurs, the cross-section of the hill representing the tubers as buried needlessly deep underground, at the expense of the smaller roots and fibres more remote from the stem, which are laid bare and torn in hoeing and hilling.

The Nutriment in Fruit.—Some years ago Dr. Kedzie of Michigan Agricultural College analyzed several fruits, with the following results: An egg weighing an ounce and a half had as much nutritive power as 17 ounces of heart cherries, or 22 ounces of grapes, or 30 of strawberries, 40 of apples, and 64 of melting pears. Heart cherries were best and pears least—none of them very rich food. But they are more easily digested when well ripened, and they aid in the digestion of other substances. Cool, clear spring water has no nutriment, but it has great value in connection with food.

Oil on Fruit Trees.—The practice is still recommended, and adopted to some extent, of applying oil in some of its forms to young fruit trees. It is used to destroy plant lice, and is still recommended for pear blight. Old trees are not badly affected by it; young trees with tender bark are often killed. Some years ago a cultivator in Pennsylvania applied oil to 600 peach trees, five years planted, 200 apple, and to pear, plum and quince. All the peach trees were killed; the other trees survived. Lard and linseed oil were used, the object being to exclude rabbits. Other peach trees were killed by greasing. These results show the importance of trying such experiments on a very small scale till their effects are determined. The time of year, and the hard condition of the bark on old and on young trees, and the nature of the oil, have much to do with the results.

Different Needs of Fruit Trees.—Owners who give little attention to the best culture of their fruit trees, do not know the difference required in their treatment. The copious manuring or top-dressing so important for the successful growth and fine bearing of apple trees, might destroy a cherry tree. A peach tree will bear free cutting-back to bring it into good shape; a cherry tree may be seriously injured by such pruning during the growing season, and sometimes the trees are killed by it. Free manuring of dwarf pear trees is absolutely essential, and with some standards it makes the difference between large, fine and delicious specimens and small and poor ones. The cherry will succeed better standing in grass sod than the peach tree, and standard pears better than dwarfs. But all kinds of fruit trees require free cultivation, at least while the trees are young; and afterwards if allowed to stand in grass, top-dressing with manure is important.

Room for Grapevines.—A vineyardist informed us that having planted his grapevines 12 feet apart, and wishing to change a portion of them, he grafted every alternate vine with another sort. The grafts failed, giving only one half as many of the original kind, but with plenty of room between them. The result was that this thinned vineyard bore a crop of much better grapes than before. Another vineyardist planted Concords only six feet apart. He was resolved to obtain thus the greatest product from a little ground. When they grew to much size they bore but little, poor fruit, as they were crowded. The seventh year he took out every alternate vine, after which he had fine and abundant grapes. Two vineyards were examined in Southern Ohio; one was planted with Catawba vines trained to single stakes, the other had ample space on trellis. The bunches of the Catawbas on the wide trellis were fully twice as large, and they were greatly superior in quality to the small bunches on the stakes.

Fungus on the Apple—Apple Scab.

Eds. Country Gentleman—To day I send you two apples taken from a tree whose fruit is usually fine, but this year is like this sample. I also send a twig from another tree. This tree seems to have very little new growth; if there is any, it has almost immediately taken this form and condition.

For several years the apple trees about my house (on Lake Erie, ten miles from Buffalo), have given us fine fruit. A month or more ago the leaves on all of them seemed to be turning black, or drying up—black at the ends. My farmer said that it was due to a late frost, which killed garden produce, but this does not account for lack of new growth. What is the matter, and what is to be done?

Buffalo, Aug. 1. T. G. A.

The apples are affected by a fungus commonly known as the "apple scab," but botanically as *Fusicladium dendriticum*. This fungus usually occurs in small orbicular, olive-green or brownish spots, but in this case the spots have increased in size and number till they have run together and covered a large part of the surface. The fungus draws its nourishment from the apple, and being so abundant it has checked the growth of the apple. The cracking of the flesh is probably also due to the presence of the fungus, though in slight attacks this result does not always follow. The same fungus sometimes attacks pears, producing in them the same results. Certain varieties are much more subject to these attacks than others. The unusual abundance and severity of the attacks of the fungus this season, find a ready explanation in the unusual atmospheric conditions that have been prevalent. Warmth and moisture favor the development of this fungus as well as many others. The dead and brown leaves on the twig sent are affected by the same fungus. Usually the attacks are not sufficiently severe to kill the foliage outright, but in this case the leaves appear to have been wholly killed by it.

There is no remedy for the injury already done. The character of the treatment must be preventive rather than curative. The injured fruit cannot be restored to fairness and plumpness. Prof. Goff, while at the New-York Agricultural Experiment Station, found that the ravages of this fungus were decidedly lessened by spraying the trees from time to time with a solution of hyposulphite of soda—one pound to ten gallons of water. This, however, was not wholly effectual. Probably spraying with the "Bordeaux mixture" would be better. The object of the spraying is to prevent the germination of the fungus spores that may lodge on the fruit or the leaves, and thus prevent the development of the fungus and its consequent injury. C. H. P.

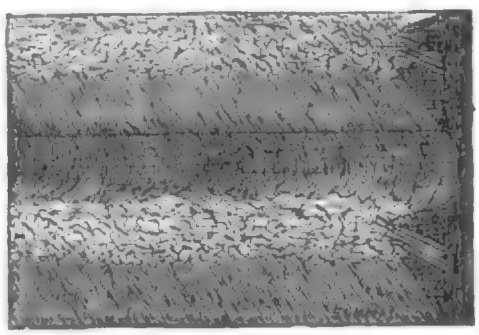


Fig. 1.—*The Old Way.*

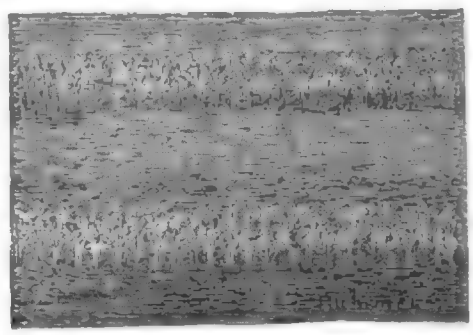


Fig. 2.—*The New Way.*

How to Grow Fine Celery—II.

Planting—Manures and Culture.

About Buffalo, and in fact quite generally, the soil which should be the first choice on which to grow celery for market, would be that which is largely of a mucky nature, provided that it could be as well drained as is essential, either by means of surface ditches or tile laid underground; where the drainage of such land is impossible, do not try to grow celery, for while it delights in deep soil and plenty of moisture, it is very liable to rust where the roots are in wet, soggy soil.

Muck, however, is not absolutely required, for any land on which will grow a crop of corn will suit celery, while on clay land, well underdrained, it is reputed to be of a far sweeter quality; but any one on nearly any kind of soil may readily grow his home supply of this healthful salad. So important is it that the soil, whatever its character, be thoroughly worked, that I would wish to more clearly impress it upon my readers, even at some risk of repetition. When the two dressings of rotted manure have been sufficiently worked into the ground, make a furrow about six inches deep, a shovel-plow being a convenient tool for the purpose; place two inches of manure in the bottom of the furrow, and cover with several inches of soil. While I would recommend manuring the furrows where celery is not grown for market on a very extensive scale, it is not generally practiced by the growers who grow several acres; they have learned that it is far more economical both in labor and excellence of the crop, to have all the manure spread over the entire surface so generously that manure in the furrow is not required.

The engravings are designed to show the old and new way of growing celery, it being probable that with no crop has a greater advance been made towards simplicity. It used to be considered that ordinary people had no business to attempt the growing of celery, it being left almost solely to those who could afford to employ gardeners, because of the amount of work that was required. In the old way, fig. 1, trenches from 4 to 6 feet apart, and anywhere from 1 to 2 feet deep, and a foot or so wide, were dug, and the bottom nicely prepared with manure for planting. After planting, as the plants grew, soil was filled in around them, until the trench was entirely full, and sometimes it might be banked up a foot or so high above the surface, as is seen in fig. 1, especially where the trench was not so deep. Such kinds as the White Solid, Large Ribbed, Boston Market, and other large and tall-growing sorts can be perhaps the more perfectly grown by this trench method, but unless a considerable advance in price can be realized, or else where it is desired to have an extra quality—as where it is grown solely for private use—it will not repay the extra time and labor that it necessarily involves, and for this reason the Dwarf and Half-Dwarf varieties have met with much favor, as they will blanch with comparative ease, this being particularly true of the so-called self-blanching kinds, like White Plume.

When ready for planting, the plants are pulled from the seed-bed and laid in small bunches, suitable for holding in one hand; after pulling, as the growers horseboute practice both root and top-pruning, a basket is conveniently placed, and by holding the celery in one hand, and using a sharp knife with the other, a quick job can be made of many thousands. When planting (the proper season for which for the main crop being about July 15), the most expeditious method, probably, is to have the plants dropped along in the furrow, ready for the planter, who follows with a dibble, fig. 3 (easily made out of any wood,

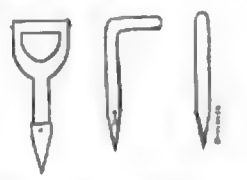


Fig. 3.

and it may be simply straight, although with a handle it works better), or the one who plants can carry the bunch in his hand until used up, the bunches being laid at proper intervals along the row. For the dwarf varieties, to have the rows three and a half feet apart will be a sufficient distance; while in the row the plants can go as close as four inches, although six inches apart is rather to be recommended. After planting, should the season be rainy, and the ground therefore damp, the cultivation given should be confined to stirring the ground and hoeing out the weeds, the idea being to keep the surface flat, as in fig. 2, and in this lies the difference between the old and new way, for in the former, after planting in the trenches (as even market gardeners did some years ago), hilling up has to commence as soon as cultivation does, and it has to keep pace with the growth of the plants, together with there being great danger from rust. With the new method of planting on the surface, only sufficient hilling up is done to keep the leaves upright, and while in a dry season this may begin early after planting, yet it may be left for six weeks before drawing the earth around the plant.

Excepting for the very earliest, which may be blanched either by the use of tile or heavy paper wrapped around above the ground, the blanching is nearly all done after digging in the fall, and will be considered in our next paper, together with storing, etc. After cultivating well, should the rows be of any length, run through the rows with a one-horse plow, throwing the soil against the plants, then follow along and press the soil around with the hand, being

careful to not leave any in the heart, or it will will rot.

I would like to impress upon my readers the benefit and economy of labor resulting from planting in long rows, and especially is this true of such things as celery, where, if in short rows, all the work must be done with hoes, by hand-work, while, if in long rows (if only one row is needed), nearly all the required work may be done by horse power. This principle applies to everything that is usually grown in the garden, and which often requires so much hand labor to keep clean.

In earthing up the celery during the growing season, it is only done to cause the leaves and stalks to assume an upright habit, but it is a point that requires constant attention, as the plant naturally grows very bushy.

Niagara County, N. Y. E. E. SUMMEY.

My Experience with Black Rot.

EDS. COUNTRY GENTLEMAN—In a reply to M. S. W., page 544, you advise him to try the "Bordeaux mixture" for the black rot in grapes. As this is purely a preventive remedy, and not a cure, in all probability the season is too far advanced for a convincing proof of its efficacy. So far as I can learn, there are no sure preventives for this dread disease. Reports sent in to the Department of Agriculture from different parts of the country as to results from trials of the copper mixtures known as "simple solution of sulphate of copper," "eau celeste," "copper mixture of gironde," "Bordeaux mixture," &c., vary greatly. Climatic influences, doubtless, have a great deal to do with these varying results.

Three years ago black rot attacked my Concords. At that time I did not know what it was, but instinctively plucked the affected berries and destroyed them. This was during a spell of wet weather in July. For several days I searched the vines diligently, and the trouble ceased.

During July of the next summer, weather favorable for the propagation and spread of this fungus again prevailed. Frequent rains, accompanied by thunder and lightning, and a generally murky condition of atmosphere, lasted for several weeks. My Concords were again attacked, and, as before, I searched the vines daily, and all affected berries were plucked and burnt. The disease was evidently held in check by this treatment, and the loss probably did not exceed five per cent.

During the present summer we have had similar weather, and the Concords have again been attacked. The rot first appeared June 30. I have gone through the vineyard on alternate days, picking and destroying the diseased berries. The loss, so far, is very slight, and the disease is held in check.

It being understood now that the "grape-leaf spot disease" is identical with and a precursor of the black rot, I shall watch my vines next spring, and on the first appearance of the former shall try spraying with the "Bordeaux mixture." The use of this preventive in early spring, followed by picking berries so soon as affected, will, I have no doubt, stamp out the disease, provided there are no vineyards in the immediate vicinity controlled by parties too indifferent to follow the same plan. Since the spores of black rot can be borne quite a distance by winds, it follows that the precautions of a single individual would be of little avail in a district abounding in vineyards. It is very important, also, that none of the rotten berries are suffered to lie upon the ground, thus getting covered by leaves and dirt, for, during the next spring plowing, they will be exposed, the released spores will rise and fasten upon the young grapes, and rot will again ensue.

I will throw out, as a suggestion, that possibly the method of training the vines may be an important factor toward keeping the black rot under control. In my vineyard of twenty varieties of grapes, only two, Concords and Nortons, are trained to three wires and on the Husmann plan, the others being trained to two wires and in accordance with the Kniffin system. The Concords alone have been attacked by rot. The Nortons are, I believe, considered rot-proof. Is it not possible that the grapes, being densely shaded by foliage under the Husmann system, become in some manner more susceptible to innoculation? I give the fact for what it is worth, that of the eighteen varieties trained under the Kniffin system, which admits plenty of air, and even sunshine, directly upon the fruit, not a single one has yet been attacked by the rot.

The only manuring ever done in my vineyard has been with unleached wood ashes. By way of experiment, I have given some vines a heavy dressing, some a slight one, and to others none whatever. Those heavily dressed have made a most luxuriant growth, and bear an enormous load of grapes comparatively free from rot, while the others are of more feeble growth and condition, and are for the most part affected. I give this fact also for what it is worth, and hence draw the conclusion that a healthy, vigorous condition of vine, brought about by liberal manuring, greatly lessens the chances for an attack of rot, just in the same proportion as an enfeebled condition invites it. JOHN E. HOYT.

Hyattsboro, N. C., July 22.

A Westchester Strawberry Patch.

EDS. COUNTRY GENTLEMAN—Thinking it might be news to many to know how easily they can have a good supply of strawberries for family use, and at the same time make it profitable, I give the details of a small garden patch lately picked.

The ground occupied is 28 feet wide and 70 feet long—1610 square feet, including three paths. The soil is fairly good loam. One-quarter of it is too dry, caused by tree roots. No fertilizer of any kind was used, and no manure at time of planting, manure having been plowed in in the spring for peas and potatoes. The variety grown is Crescent Seedling. On September 23, 1887, from runners obtained from 26 plants set out in the spring, with a few of another variety, I set out one bed five rows wide (one row too many). The rows are 20 inches apart, plants 18 inches apart—265 plants in the bed. This bed produced but a few quarts last summer, being planted too late. August 8, 1888, I set out two beds of four rows each, same distance apart as first bed—212 plants in each bed, 689 single plants in the three beds. They were kept clean, and runners cut. November 18 I put on a light coat of well rotted manure between the plants, and the whole was covered with Norway spruce boughs thrown on promiscuously.

This spring (April 15) the soil between the plants was well loosened up with a prong hoe, and between each row of the two new beds a row of cabbage and lettuce for plants, and rows of radishes were sown, and all used before the berries were ripe. No mulch was used, and there were not five quarts of soiled berries. On June 2 picked first berries, 3 quarts; June 13, largest picking, 65 quarts; July 1, last 2 quarts small. Total quarts picked, 368, being 11½ bushels; 309 quarts were sold to parties in Peekskill at 15c., and retailed by them at 18 and 20.

The yield would have been much larger had it not happened that 20 plants in the new beds were destroyed by moles and vermin at the root before maturing a berry. Also, 32 plants in the old bed, of a different variety, proved worthless, and at the lowest calculation 70 quarts of fine berries rotted on the ground during a four-days' rainy spell. In planting a new bed, I would give the plants more room—at least 20 inches each way. Of the very many varieties, the Crescent has proved the best with me. J. W. MARTENS.

Westchester County, N. Y., July 25.

About Garden Seeds.—Many seedsmen in their catalogues use language so near a warranty, that the casual reader thinks it amounts to that; so he makes his selections, sends his money, and when the seeds arrive, if in considerable quantity, he finds pasted across each package words to this effect: "In no case do we undertake to warrant these seeds." An extract from the catalogue of a firm that sent out this message of repudiation reads as follows: "We handle nothing but the highest grade. * * Each year thousands of dollars are expended on our trial grounds, testing everything, selecting only the best." If this does not convey the impression of warranty, how much does it lack of it? Nevertheless, red onion seed produced red, white and yellow bulbs, and white radish seed produced both white and brown, and parsnip seed would not germinate. This does not look like the "highest grade." But we are told that seeds should be purchased early enough to test them. Testing would only decide their vitality, or otherwise. The season would be over by the time it could be ascertained whether they were true to name or not. Seeds not true to name, and those of low vitality, do not comprise all the difficulty. A serious trouble arises from some dealers' purchasing southern seeds for distribution in the North. Seeds grown in a low latitude are not likely to ripen fruit in a high latitude, and yet a man in Alabama grew there last season, and sold to northern seed-houses, 35,000 pounds of garden seeds. To what extent such trade is carried on, the public do not know. Who would knowingly plant Alabama melon or other seeds in latitude 42° or above? Seedsmen should adopt some measures to enable customers to know better what they are purchasing. GALEN WILSON. *Albion, N. Y.*

The Poultry-Yard.

Poultry at the Paris Show.

The international show of live stock which has just closed at Paris embraced within it a very large section devoted to poultry, which presented several features of great interest. It is true that, unlike the show which is held early in the year, it had not the marvellous display of dead fowls, but there were nearly 2,000 pens of poultry, and almost every breed known was more or less represented. Unfortunately no serious attempt was made to obtain a representative gathering of foreign fowls, and as a consequence only two English breeders had made any entries, namely, the Messrs. Abbott of Hingham, in Norfolk, and Mr. G. T. Whitfield of Market Drayton, both well-known breeders. Of these only the Messrs. Abbott had filled their entries, and the difficulties as to the return of the fowls did not tend to the sending of the best specimens. But some of the French breeders have been buying largely of late, and consequently this country was indirectly if not directly represented. One great reason why English breeders have not supported the show is uncertainty as to the judging. At the time of the last great exhibition at Paris, a similar show was held, and English judges were appointed. As a consequence quite a large number of exhibits were sent over from this country, but the manner in which the opinions of the English judges were overridden by their French colleagues made the whole thing a farce, and in the absence of some guarantee that there would not be a repetition of this sort of thing, our breeders preferred to keep their birds at home. I am glad to note, however, that there appears to be a decided improvement in the methods of judging of late years among the French judges. At one time it was impossible to make head or tail of the business, but now there is an attempt to secure something like a fair distribution of the prizes. Of course, even in the present show there were cases which appeared to be glaring mistakes, but the same is to be found in every show wherever it may be held. The show was held in the grounds which surround the Palais de l'Industrie, in the Champs Elysée, and a more beautiful place for a summer show could not be desired, as there was an abundance of shade beneath the fine trees which are there to be found.

The French breeds naturally occupied the place of honor, and were on the whole a very fine collection. As is usual at Paris the cocks were shown by themselves, and the hens sent in lots numbering from two to half a dozen. This is not a plan that I care for, as it does not give any hen a fair chance. The very best bird in the show may have its flag lowered by inferior neighbors, and a lot of moderate birds which are even in quality may win. However, that is the system. Crèvecœurs came first, and numbering 40 cocks and 39 lots of hens made a splendid show. This valuable breed is always to the fore at Paris, and the quality on the whole was really excellent, though of course some of the birds were showing the season. MM. Lasseron, Lagrange, Farcy, Voisin and Voitellier were the chief winners. Houdans were decidedly disappointing, and I note a decided decadence in this breed of late years. The example set by English breeders has been followed, and the Houdan crossed with the Crève, with the result that the old mottled plumage which once characterized the breed has almost disappeared, and black predominates. This is much to be regretted, for the gain in crest is not compensated by the loss of character. There are two or three of the old sort left. The best were those exhibited by Madame Davoust-Periot and MM. Voitellier. The pick of the French classes were undoubtedly the La Flèche, so far as quality was concerned, but in point of numbers they do not equal those gone before. The one thing which spoiled this class was the objectionable white in the face which many of the otherwise best birds displayed. This is greatly to be regretted, for this is so serious a disfigurement, and was a very great eyesore. I hope that a determined attempt will be made to stamp it out. The best birds were sent by MM. Lejeune, Farcy and Voitellier. The finest of all French table, and I believe of all poultry, is the La Bresse, but the display at this show did not do justice to the breed. Nearly all were of the black variety, and only one lot of the grey La Bresse was on exhibition. There were 23 cocks and 20 hens, and the best birds were sent by Paris breeders, the district where they are so largely reared being unrepresented. Barbezieux were a fair lot, and that is all that can be said for them, while the quaint-shaped, short-legged Courtes Pattes, made a very fine display—in fact I do not remember to have seen so good a lot before. The best were the exhibits of two well-known dealers, MM. Farcy and Voitellier. The Any Other French varieties were not strong and do not call for special mention.

Coming now to the foreign section we find very large entries in some of the classes. First in the Cochin section, wherein are nearly 100 exhibits. This is a fact I have noted before, and which is ever a surprise; namely, that the French should go in so much for the Cochin, which ornamental though it undoubtedly is, cannot be looked upon as of the useful type. Still, there is the fact. The Buffs are the most numerous, but the Partridge were the best in point of quality. Brahmas are not nearly so plentiful, nor yet so good in quality—in fact, they are decidedly poor, and if this breed is to be kept up in France it can only be by plentiful introduction of fresh blood. Dorkings were very numerous, and on the whole, excellent in quality. The Silver Greys are decidedly the best—in fact, this variety is the one which has secured the largest amount of favor in France. The colored and whites were both few and moderate in quality. The next section was given up to Spanish, Andalusian and Minorcas, and the chief prizes were won in both sexes by Minorcas, of which there were some very fair specimens. Langshans were, however, the best of all foreign classes, and this valuable breed has taken a tremendous hold in France, at which I am not surprised, considering its excellent qualities, and that its color is what the French appear to like, namely, black. Of this breed there were nearly 100 entries in two classes, and the quality on the whole was really excellent. Some of the winning birds had only recently been purchased in England, but the greater portion were French bred. I was very pleased to see so excellent a section. Hamburghs were not very good, nor were the Campines, or pencilled varieties, but there were one or two pens of blacks. The Game fowls were very inferior indeed. Polish were, as usual, very large classes indeed, but I have seen them decidedly better. A falling off is especially noticeable in the Chamois or Buffs, which seem to be going very pale. A success in obtaining some of the splendid color of the Buff Cochin would make this one of the loveliest breeds that could well be imagined. The Any Other Variety of Foreign breeds found the purely American, or American-introduced, breeds to the fore. With the exception of a couple of Yokohamas all prizes went to Leghorns, Plymouth Rocks and Wyandottes, of which there were a number of very good specimens. I do not know how the latter two breeds will take in France. In that country white flesh is deemed the finest, and I have never seen a yellow-shanked bird on a table there, so that the Plymouth Rock and the Wyandotte contravene all the notions of a first-rate table fowl. Messrs. Abbott were first in cocks with a Plymouth Rock, and second in the hens with the same breed. Bantams were only moderate, and do not call for special mention.

Turkeys were on the whole very good, but this is not the best time of the year to see them. Geese had four capital classes, two for Toulouse and two for any other varieties. In the latter there were some very nice specimens of the Sebastopol—or Danubian, as they are called in France—geese. Of the ducks the Rouen and the Pekins were the best by far, and made an excellent collection. The grand prize, or *prix d'honneur*, for the best collection in the show was won by M. Lejeune, who had bought a large number of his best birds in England a short time ago, at least of the foreign breeds. STEPHEN BEALE.

New Advertisements.

Box 68 ..... Situation Wanted.
Coon, Benj. J. ..... Thrashing Rigs.
Curtis Publishing Co. ..... Story Book Free.
Ellers, John J. ..... Fox Terrier Pups.
French, J. D. W. ..... Superintendent Wanted.
Foster, Chas. G. ..... Jerseys
Frost, Valentine ..... Hard Wheat Wanted.
H. C. L. ..... Situation Wanted.
Hope, J. L. ..... Scotch Collies.
Jones, Mrs. H. M. ..... Jersey Bull Calf.
Marsh & Co., L. B. ..... Adige Melons.
Mott, Thomas ..... Fruit-Drums.
Mt. Bellevue Farm ..... Grade Cows Wanted.
Mott, J. J. ..... Help Wanted.
Nicholson, R. G. ..... Peach Trees, &c.
P. O. Box 96 ..... Farm for Sale.
Rathbun, S. B. ..... Fruits and Fruit-Trees.
Smith, H. P. ..... Shropshire Lambs.
Warren, John Hobart .... South-Downs.

Subscribers' Wants.

E. A. KRUDLE, Penn, Ill. Good pigs and Nursery stock in exchange for Holstein c. calf and Shepherd dog.

Pamphlets, &c., Received.

ALVORD, HENRY E., Director Maryland Experiment Station, Agricultural College, Prince George's Co., Md. First Annual Report: pp. 76.

COLE, A. P., 449 Henry St., Brooklyn, N. Y. "Cole's Combined Drainage and Irrigation, a New System of Agriculture, originated by A. N. Cole;" pp. 104 —illo.

GARDNER, A. L., Sec'y Tidewater Agricultural and Mechanical Society, Franklin, Va. Prize-List for 6th Fair, Nov. 13-15.

GARDNER & SONS, Osage, Ia. Nursery List.

JEFFRESS, A., Norfolk, Va. "Virginia as She is!" pp. 128, with folding map.

REID, E. W., Bridgeport, O. Nursery List.

Inquiries and Answers.

Short-Horns—Price of Milk.—Can you inform me in what county in your State Short-Horn cows are used most for the dairy (1), and at what price heifer calves weighing about three hundred pounds can be bought? (2) I should also like to know the usual price paid for milk by your creameries, when the milk is returned to the farmer after the cream is taken from it, in proportion to the price of butter. (3) R. M. D. *Wellsburg, Va.* [1. Chautauqua, where the importing, breeding and development of the milking families of Short-Horns has for generations been a specialty. 2. Very moderate figure; probably Messrs. S. Spencer & Son, the well-known Short-Horn breeders of Kinstons, Chautauqua Co., could give more exact answer. 3. The New-York creameries are not run as our correspondent supposes. The farmer is charged say 3½ to 5c. per pound for making, salting, packing and marketing his butter; and he retains the skimmed milk and sometimes the buttermilk.]

Fertilizers for Wheat.—I have a piece of land medium stiff, with a heavy growth of white clover on it, that I intend fallowing, and sowing 25 bushels of lime on and then seeding to wheat. What fertilizer would you recommend to use with the lime to promote a good crop of wheat? How would nitrate of soda do? I. M. C. *Hurt County, Va.* [As we have often had occasion to remark in answering similar inquiries, suitable fertilizers cannot be prescribed for land where actual trial has not proved their efficacy. It often happens that the same fertilizer greatly increases the crop in one region of country, and has no effect whatever in other places; and more frequently an intermediate effect is produced, or a moderate improvement, which, however, has not paid the cost of the fertilizer. The only safe advice which can be given you is to try the different substances on a moderate scale, weigh or measure the products, and thus ascertain whether the increase will pay expenses.]

Measuring the Height of Trees.—Will you please give a rule for measuring the height of trees? I am getting piles 50 feet long to be driven into the mud. I wish to cut only what will be 50 feet 6 inches at tip. I know there is a rule to measure while standing, but cannot lay my hand upon it. This may not be strictly agriculture, but the trees are a product of my farm, and have all grown since my boyhood. L. F. S. *Bethlehem, Conn.* [There are several ways of measuring the height. If the ground is level and the tree casts a shadow when the sun shines, that shadow from the base of the tree to the tip may be measured; at the same time the shadow of a vertical ten-foot pole may be measured, and from this shadow the height may be determined by the old "rule of three" process, by any one who understands arithmetic. Or, you may place a ten-foot pole perpendicularly against the tree, and then taking a foot rule (or two-foot) in your hand, walk backward from the tree far enough so that when this rule is held out upright in your hand at arm's length, it will just cover the pole standing against the tree; then looking at the pole and tree, successively move the rule upwards equal to its length each time, and you will have the height nearly. If, for instance, the rule measures successively five times, one above the other, the tree will be fifty feet high. A little practice will enable you to measure trees with considerable accuracy. There are other modes more mathematically correct, requiring perfect instruments, but the above will doubtless answer the intended purpose with sufficient accuracy.]

Cooling Milk in Creamery.—Our ice supply will soon be exhausted. We have an abundance of running water at 55°. Can reasonable results be obtained by submerged Cooley process, allowing milk to set 24 hours? H. P. S. *Shurtuse, Pa.* [The Vermont Farm Machine Company inform us that the Cooley creamer is used very successfully in many dairies where the water runs no colder than 55°, and sometimes even as high as 60°, by letting the milk stand 24 hours: "The results are better than with any other system of setting even at those temperatures, provided there is a sufficient stream to keep the water moving. Many dairymen prefer to use them in this way, and are satisfied that they get better results than they have ever been able to obtain with any other apparatus."]

Cultivating for Wheat.—I have twenty five acres plowed and cultivated, stones removed, and free from weeds. Can I fit it for seed as well with a gang-plow or spring-tooth harrow as by plowing again? I think the opinion has been expressed in the States that shallow cultivation late in the season will be safer from frost. O. *Norwood, Can.* [If the gang-plow and spring-tooth harrow will pulverize the soil perfectly, they will put it into better condition than a single plowing. Your personal knowledge of the land will enable you to determine. Conditions in different localities are very unlike, and a hard undersoil turned up in clods with the plow would not do so well as fine pulverization of the surface. But some surface soils are greatly improved by an intermixture from below; in some instances the wheat crop in a single year has been increased ten bushels an acre. The treatment must be suited to the requirements of the locality.]

Petroleum not Paint.—I have seen several references in your paper to the use of petroleum for buildings, roofs, &c. Is dryer ever used for quicker drying and harder surface? Or are colors mixed to advantage? C. O. H. *Homer, N. Y.* [Petroleum applied to wood exposed to the weather enters the pores of the wood and makes it durable, like cedar. There is no object in making it dry before it enters the pores. If more is applied to the surface, than the wood can take in, it will remain several weeks without drying. Colors may be used, but most of the oil will leave them to enter the wood.]

Mechanical Fans.—Please inform me if there is any device for fanning the cook and keeping her cool in a hot kitchen, by hanging to the ceiling a little machine with fans, which by winding up would run an hour or two, and so cool the heated brow and face of one so necessary to men's comfort and health, at moderate expense. I should think we might have one. A. A. *Yardville, N. J.* [We do not know of any device of the kind referred to. Revolving fans constructed to be run by electric or steam power are not uncommon in city stores, and serve an effective purpose both in keeping the air in motion, and in driving out flies and other insects.]

Broom Rape.—What is this villainous weed? How can we get clear of it? It ruins hemp and tobacco. T. M. P. *Midway, Ky.* [*Orobanche ramosa*, "branching broom rape." It has been introduced from Europe, where it occurs especially in hemp fields. Its introduction is probably recent, for it does not seem to be noticed in any of our botanies. We suspect the seeds have been brought here in imported hemp seed. It is a root parasite, deriving its nourishment chiefly from the roots of other plants. In this instance it appears, like the early settlers of this country, to have acquired a taste for tobacco by coming here. Its seeds are numerous and very minute, and probably it will not be easy to exterminate the plant if it has already become abundant. Great care should be exercised in giving thorough cultivation early in the season, and not allow any of the plants to perfect their seeds. It may even be necessary to substitute other crops for hemp and tobacco for two or three years in order, if possible, to starve out the parasite; but a more full knowledge of the behavior of the plant in its new home is desirable in order to suggest the most feasible means of overcoming it. Another species, *Orobanche minor*, is troublesome in clover fields in Europe. C. H. P.]

Sick Lambs.—My male lambs are out of condition—do not eat as they ought, stand with heads down, and grow poor every day; seem to be straining most of the time as if trying to urinate. They are in good feed and have good running water; seemed to be thrifty until middle of July. J. W. M. *Lewis County, N. Y.* [In very wet seasons lambs are sometimes affected as here described. It usually results from a low state of vitality, because of generally unfavorable conditions. Occasionally such seasons cause flukes in the liver, but this is not a common trouble in this country. Where sheep run continuously upon the same land, it becomes "sheep-sick" from the continual effects of their excrements. With human beings this would produce typhoid troubles. Sheep-sick land always affects lambs first—often long before old sheep show anything wrong. We would change the lambs to as high and sound pasture as we could command, and would give them one or two feeds daily of good old oats with a pinch of sulphur every day or two. Smear their noses twice a week with clean pine tar.]

Read the Advertisements!—Please let me know where I can get a good hay press and the actual cost per ton for baling. S. B. A. [Address Geo. Ertel & Co., Quincy, Ill., (see p. 607,) and D. B. Hendricks, Kingston, N. Y., (p. 360).]

Spraying Fruit Trees.—Will those readers of the COUNTRY GENTLEMAN who have sprayed their fruit trees this season please give the results for the benefit of others? Please state what was applied, to what kind of trees, and its effects, whether beneficial or otherwise.

Dover, Del. E. G. P.

Bean Harvester Wanted.—I am in search of a good bean harvester. Could you tell me where they are manufactured? I am sure it would pay them to advertise. B.

Spreading Manure.—We invite attention to the advertisement of the KEMP & BURPEE Mfg. Co., Syracuse, N. Y. Their machine has proved its high value in the continued experience of hundreds of first-class farmers. Those who are not familiar with its merits will do well to send for a circular.

Veterinary Instruction.—The New-York College of Veterinary Surgeons (H. D. GILL, V. S., secretary, 339 East 27th St., New-York) send us its annual announcement for the session of 1888-'9, with the statement that "by a recent decision of the Court of Appeals, the New-York College of Veterinary Surgeons is the only institution in this State, specially devoted to veterinary science, that is legally empowered to grant diplomas."

Ensilage Machinery.—The SILVER & DEMING Mfg. Co., Salem, O., publish an illustrated pamphlet of 64 closely printed pages, containing—beside descriptions of the cutters and carriers manufactured by the company (which enjoy an excellent and wide-spread reputation)—a number of valuable practical papers on ensilage, and a detailed plan for a hundred-ton silo. The little book is well worth having, and we advise readers to send for it.

Ice-House with Wall.—Eight years since I built an ice-house; dug five feet in ground; built the wall of stone and brick (old material) ten feet high; banked up portion above ground; placed one brick upon another on top of wall to set rafters on, leaving an open space of four inches all around, and the inside of the rafters lined with straw, leaving an open space three inches deep from foot of rafters to ventilator at top. Dug a well in centre of bottom four to six feet deep, and filled up with small stone and pieces of brick. The house is round and ten feet inside of wall, so that the body of ice is ten by ten feet. No lining of any kind used; pack ice against wall and cover with sawdust. Always have ice until cold weather, and frequently find ice when we clear out the house for the next crop. E. STOKES.

Berlin, N. J.

Acknowledgments.

Communications for publication have been received during the week ending August 11, from J. Bigelow—C. R. Dutton—R. S. Mesick—Henry Stewart—Prof. C. E. Peck—J. W. Inerham—S. S. Strong—W. Falconer—A. S. Wells—T. M. G.—C. H. R.—Mrs. D. H. R. Goodale [2]—A. P. Sharp—E. Magruder—Franklin Dye—J. H. Dent—C. T. Lukens—J. H. Clark—J. W. A.—W. L. Chamberlain—J. M. Stahl—Dr. W. M. Richardson—A. Jeffers—G. Gardner—J. H. Baker—F. A. B.—J. T. L.—W. J. Finch—L. B. Pierce—B. F. J.—W. Horne—A Farmer's Sister—B. F. Walter—C. M. C.—Mrs. S. H. Rowell—C. L. H.—Prof. Chas. H. Peck—C. S. Rice—Miss Hortense Dudley—Byron D. Halsted—M. B. G.—F. D. Curtis—S. B.—Henry Stewart—Stephen Beale—Gerry Owen Goines—John Gould [2]—T. Bowick.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Aug. 15, 1888.

Potato Rot.—The unusually frequent and heavy rains this season, in large portions of the country, have been followed, as was expected, with an extensive prevalence of the potato rot. Inquiries are repeatedly made, what shall we do about it? How can we save what there is left? In answer—dig them as soon as practicable, provided the soil is dry enough for them to come up clean, and without earth adhering to them. Put them in a cool place, where moderate air currents may pass up through them. We have for years used a cool apartment in a barn, with a slatted floor next above the basement. The air can pass up from below. In such an apartment, they may be deposited three or four feet in thickness. If the potatoes were clean when placed there, they have never rotted to any extent afterwards, although nearly one-half of portions of the crop had to be rejected and left in the field when they were dug.

In the absence of such an apartment, different substitutes may be adopted. They may be piled in moderate heaps in the field, if a stratum of rails and coarse brush can be provided for the heaps to rest on, so that the air may pass under for ventilation. The loose straw with which they are covered to exclude sun light, should be about half a foot thick, not more, and be secured from blowing off by loose brush. They may thus remain several weeks.

If dug when the soil is wet and adheres to them, and they are then put in heaps without sufficient ventilation, they will be seen to continue rotting, or if placed in cellars or any close apartments. In large boxes, with slatted bottoms, placed on the north side of a barn, and raised a foot or more from the ground, they may be kept cool and dry till November; and if some earth has adhered to them, dashing cold water occasionally on them will tend to keep them cool and cleanse them, provided they have enough ventilation to dry soon.

The preceding simple treatment is much easier and more practicable than the use of sulphate of copper for spraying or otherwise, which, however efficient, has not been reduced sufficiently to a practical form for common adoption.

Value of a Cutting Edge.—The tests which have been made in determining the amount of force required in moving a plow through the soil, have pointed out the importance of a sharp cutting edge for separating the adhering portions. The experiments made many years ago in England gave about 25 per cent. of the whole required draft expended in overcoming friction, 10 per cent. in lifting and turning the sod, while 55 per cent. or over one-half was used for cutting the furrow-slice. This amount would, of course, vary with the character of the soil. If hard, dry and clayey, nearly three-fourths of the draft would be required for cutting the slice, while in soils which have been previously pulverized by plowing and harrowing, it would be much less than one-half. But the average, taking all soils together, the cutting force will be rather more than overcoming all the friction of the mould-board, sides and bottom, and for lifting and turning the furrow-slice.

This fact shows the importance of keeping all tools sharp which are used for cutting the soil. A dull hoe or a dull and rusty spade will waste about two-thirds of the strength of the

laborer who uses them, compared with tools with sharp and bright blades. The gardener, whose daily work in the use of the spade amounts to lifting a hundred pounds of compact soil in a minute, or six thousand or three tons an hour (thirty tons a day), if he has a bright and sharp spade, will perhaps move only fifteen tons, possibly less, with a dull and rusty tool. The other fifteen tons which he might have turned over with a perfect spade will yet be used in making himself needlessly fatigued and discouraged. Work which is easily and neatly performed is more cheerfully and satisfactorily accomplished, and is not attended with that peculiar disheartening fatigue which attends feeble accomplishment.

Every farmer and gardener should therefore supply himself with the best tools, kept bright and sharp and in perfect order. Hoes should be often sharpened on the grindstone; spades should never be laid aside with earth adhering to their blades to produce rust; the same care should be given to plows, and to the teeth of cultivators and bladed harrows. The season is approaching when all these tools are brought into use, and when labor may become more efficient by the selection and use of good well-sharpened tools.

The Western Plane Tree (*Platanus occidentalis*).—A good photograph of this tree is given in a late number of Garden and Forest, with the statement that it sometimes rises from the alluvial soil on the western rivers to the height of 140 feet actual measurement, with a diameter of 14 or 15 feet. It is also called Buttonwood, from its globular heads suspended on long peduncles. The large trees exhibit picturesque beauty, with their silvery-white colossal trunks and branches, but they are of little or no value for timber or fuel. The wood is hard to split, easily warps, and quickly decays if exposed.

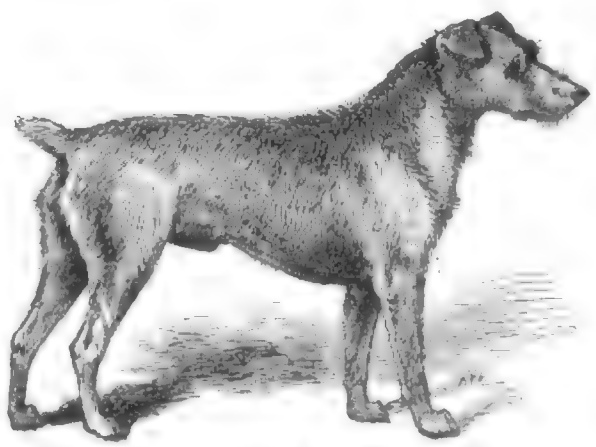
A Serviceable Dog.—We give herewith a fine portrait (engraved for the COUNTRY GENTLEMAN from sketch of an excellent dog, made in England by Lydon) of a typical Irish terrier, concerning which breed Mr. STEPHEN BEALE writes us:

It is not many years since the Irish terrier made its appearance on the show bench; fifteen years ago it was practically unknown. But since that time, owing to the persistent efforts of several enthusiastic breeders, this variety has been brought to the front, and although undoubtedly a made dog, it breeds as true to type as do most of the other breeds. They are met with in many parts of Ireland, or at least dogs with more or less of the same appearance. They are larger than is usually regarded as correct for a terrier, but not too big for the work which they have to perform, and a better dog for a day's sport, no matter how rough it may be, cannot be found. Their appearance is pleasing to such as fancy a real working dog, for they have not been refined too much by breeding for the show bench, and retain their strong individuality. The true Irishman, like his master, is a gay, lively fellow, full of fun and full of fight, and very clean made, for both speed and endurance are necessary in his composition. They have a particularly "varmint" appearance, and in spite of their roughness are very taking to the eye of a sportsman. Charges have been made against the breed on the ground that it lacks courage, but there does not appear the slightest foundation for such a statement. In fact Mr. Dalziel in "British Dogs" mentions that as proof of the pluck of the breed that a puppy nine weeks old killed a rat. This, if true, would be very exceptional, and it does not say much for the wisdom of any one who would put a nine weeks old puppy to such work. The same writer does full justice to the breed when he says: "In general appearance the Irish terrier is not taking, except to the eye of those who can detect merit under an unpolished exterior; but as so many warm hearts beat under (cloth of frieze), so under the rough, unkempt coat of the Irish terrier there is a spirit of (derring-do,) a strength of affection for his master equal to his pluck, and a stamina that carries a little racing-like, wiry frame through the hardest of days. As a terrier he is bred too large for going to earth after the larger vermin, but for all above-ground work he is unexcelled; added to an undeniable varmint look, his racing build shows speed and nimbleness—most useful qualities in ratting, rabbiting and kindred sports. He is excellent, too, as a water dog, and the coat, short, hard and thick is a first-rate wet-resister."

They are most companionable and affectionate, and are not like some of the other breeds of terrier, so quarrelsome as to be always in hot water. If it comes to a fight they can give a good account of themselves, but do not seem to be always going out of their way to find some one to battle with. It may be this very self-restraint which had led to the supposition that they are somewhat wanting in courage. The peculiar texture of their coat enables them to stand an immense amount of wet and cold, and they have stamina to carry them where many other breeds would utterly fail.

The following are the points adopted by the Irish Terrier Club, which has done so much for this breed in popularising it among exhibitors:

Head—Long, skull flat, and rather narrow between the ears, getting slightly narrower towards the eye, but free from wrinkle; stop hardly visible, except in profile. The jaw must be strong and muscular, but not too full in the cheek, and of a good punishing length,



THE IRISH TERRIER.

but not so fine as a White English Terrier's. There should be a slight falling away below the eye, so as not to have a Greyhound appearance. Hair on face of the same description as on body, but short (about one half inch long), in appearance almost smooth and straight; a slight beard is the only longish hair (and it is only long in comparison with the rest) that is permissible, and that is characteristic.

Teeth—Should be level and strong.

Lips—Not so tight as a Bull Terrier's, but well fitting, showing through the hair their black lining.

Nose—Must be black.

Eyes—A dark hazel color, small, not prominent, and full of life, fire and intelligence.

Ears—When uncut, small V-shaped, of moderate thickness, set well upon the head, and dropping forward closely to the cheek. The ear must be free of fringe, and the hair thereon shorter and generally darker in color than on the body.

Neck—Should be of a fair length, and gradually widening towards the shoulders, well carried and free of throatiness. There is generally a slight sort of frill visible at each side of the neck, running nearly to the corner of the ear, which is looked on as very characteristic.

Shoulders and Chest.—Shoulders must be fine, long and sloping well into the back; the chest deep and muscular, but neither full nor wide.

Back and Loin.—Body moderately long; back should be strong and straight, with no appearance of slackness behind the shoulders; the loin broad and powerful and slightly arched; ribs fairly sprung, rather deep than round, and well ribbed back.

Hind Quarters—Well under the dog; should be strong and muscular, the thighs powerful, hocks near the ground, stifles not much bent.

Stern—Generally docked, should be free of fringe or feather, set on pretty high, carried gaily, but not over the back or curled.

Feet and Legs.—Feet should be strong, tolerably round, and moderately small; toes arched, and neither turned out nor in; black toe-nails are preferable and most desirable. Legs moderately long, well set from the shoulders, perfectly straight, with plenty of bone and muscle; the elbows working freely clear of the sides; pasterns short and straight, hardly noticeable. Both fore and hind legs should be moved straight forward when travelling, the stifles not turned outwards; the legs free of feather, and covered, like the head, with a hard texture of coat as body, but not so long.

Coat—Hard and wiry, free from softness or silkiness, not so long as to hide the outlines of the body, particularly in the hind-quarters, straight and flat, no shagginess, and free of lock or curl.

Color—Should be "whole colored," the most preferable being bright red, next, wheaten, yellow, and gray, brindle disqualifying. White sometimes appears on the chest and feet; it is more objectionable on the latter than on the chest, as a speck of white on the chest is frequently to be seen in all self-colored breeds.

Size and Symmetry.—Weight in show condition from 16 lbs. to 24 lbs.—say 16 lbs. to 23 lbs. for bitches and 18 lbs. to 24 lbs. for dogs. The most desirable weight is 22 lbs. or under, which is a nice stylish and useful size. The dog must present an active, lively, lithe and wiry appearance; lots of substance, at the same time free of clumsiness, as speed and endurance, as well as power, are very essential. He must be neither "cloddy" nor "cobby," but should be framed on the "lines of speed," showing a graceful "racing outline."

Temperament.—Dogs that are very game are usually surly or snappish. The Irish Terrier as a breed is an exception, being remarkably good tempered, notably so with man-kind, it being admitted, however, that he is, perhaps, a little too ready to resent interference on the part of other dogs. There is a heedless, reckless pluck about the Irish Terrier which is characteristic, and, coupled with the headlong dash, blind to all consequences, with which he rushes at his adversary, has earned for the breed the proud epithet of "The Dare Devils." When "off duty" they are characterised by a quiet, caress-inviting appearance; and when one sees them endearingly, timidly pushing their heads into their masters' hands, it is difficult to realise that on occasion, at the "set-on," they can prove they have the courage of a lion, and will fight to the last breath in their bodies. They develop extraordinary devotion to their masters, and have been known to track them almost incredible distances.

From Recent Letters.—I find more in the COUNTRY GENTLEMAN for the general farmer than in any two other papers. J. M. HAM. *Washington Hollow, N. Y.*

——I get more solid information from the COUNTRY GENTLEMAN than all my other four papers put together. W. H. MCCONAGHEY. *Buffington, Pa.*

Farm-Yard Notes and Items.

The 29th volume of the Herd Register of the American Jersey Cattle Club includes bull entries 31,001 to 31,500, and cows 51,101 to 53,000. The club has now exactly 400 members. Four have been elected since vol. 28 was published, last April — Messrs. J. H. Simonds, William Morrow, George Aitken and J. H. Welch; and four have died — Charles W. Pierce, Edwin Thorne, Wm. D. Black and Samuel M. Crayton.

The 15th volume of the Friesian Herd-Book carries the black-and-white numbers from 1118 to 1250 for bulls, and from 5173 to 5700 for cows. One "mixed-colored" bull, No. 21, is also entered, and 23 mixed-colored cows, Nos. 210 to 231. Mr. C. VAN EISINGA is president of the managing board; D. van Kouljenburg, Leeuwarden, Holland, secretary.

The third volume of the Suffolk Flock Book has appeared, an octavo of 143 pages, including ram pedigrees 565 to 672, with much other matter. The society publishes a scale of points, and has adopted an American idea in "selecting a number of well-qualified judges of Suffolk sheep for recommendation to the various agricultural societies." The Marquess of Bristol is president; the Earl of Stradbroke, vice president; Mr. Ernest Prentice, Stowmarket, secretary.

Mr. J. HOBART WARREN, Hoosick Falls, whose advertisement of South-Down sheep appears this week, imported last season ten ewes from the flock of J. J. Colman, M. P., who won many prizes at the recent Royal Show at Windsor.

The Directors of the American Jersey Cattle Club have adopted the following resolution respecting the $1,000 appropriated for premiums by the annual meeting:

Resolved—That for the year 1890 this club give to the five State Fair associations whose official catalogues this year show the largest number of entries of Jersey cattle, two of said associations to be east of the Alleghenies and three west of the Alleghenies, and one prize only to go to one State—$150 for the bull three years old and over that is shown with four of his progeny (two of those progeny to be in milk and the other two over six months old), which progeny need not be owned by the exhibitor; and $50 for the best Jersey cow three years old and over.

Messrs. STONE & FOWLER, Merino breeders, Bowers, Va., write that they are much pleased with the result of their first venture in advertising (see p. 390)—"have many inquiries," they say "and shall seek your columns again when occasion requires."

The hog-cholera commission of the Department of Agriculture (see COUNTRY GENTLEMAN, 1888, p. 913, and 1889, p. 411) report (1) that Dr. Salmon is right in maintaining that there are really two distinct diseases known as hog cholera, and that he has described them "fairly well;" (2) that the germ history of each disease, and the very existence of one of them, were first discovered by Dr. Salmon or his assistants; (3) that Dr. Billings has investigated the true "hog cholera," and his descriptions are "in the main correct;" and (4) that Dr. Salmon's methods of investigation are more accurate than Dr. Billings'. As to preventive measures, the report says:

"It seems to be evident there is a certain degree of protection against artificial acquisition of hog cholera possessed by the Nebraska pigs which had been inoculated and which had recovered from the disease, the latter appearing to be slightly less protected than the former. Furthermore, experiments appear to indicate that the hog may be artificially protected against the action of virulent living cultures even to a greater degree by introducing the germ into the stomach than by subcutaneous inoculation.

"It is the opinion of the commission that disinfection, as a general practical means of preventing the enormous annual losses from disease of swine in this country, cannot be made effective under the conditions which exist in the West and other regions where hog-raising is extensive.

"As far as our present knowledge extends, treatment of existing cases is futile. There remain, therefore, to be considered but two alternative means of prevention—quarantine and extermination of infected hogs, with their surroundings, or on the other hand, some form of preventive inoculation. The vast importance of the subject calls for an exhaustive investigation as early as possible of this latter means, for the former is very difficult of application. Some of the tests made in Nebraska under the direction of Dr. Billings certainly give promise of great possibilities in this direction. It is the opinion of the commission, however, that an attempt to produce immunity from 'hog cholera' artificially by the use of the living germs of the disease, either through the stomach or through hypodermic inoculation, is very objectionable, and involves a serious risk of more widely extending the disease, and increasing rather than diminishing the enormous losses therefrom. For every hog thus treated becomes for a time at least a centre of infection from which an epidemic may directly or indirectly spread widely. Furthermore, the use of the living germ seems, at least in many instances, to permanently stunt the growth of the pig. Experience acquired in recent years shows that the chemical products of certain disease-producing germs in artificial cultures possess the same power to create immunity as to the living germs themselves; and some incomplete experiments performed by ourselves and others seem to strongly indicate that the chemical products of the hog cholera germ in artificial culture also possess a similar power. If further investigations shall prove this to be a fact, then, in our opinion, a safe, harmless, efficient and extremely practical means of preventing hog cholera, free from any risk of thereby extending the disease and continuing the enormous losses at present suffered by our countrymen, will soon follow. We have reason to believe that the threshold of such an important discovery has already been crossed: and we therefore earnestly advise that thorough and exhaustive investigation be as rapidly as possible made in this direction, and without stint of money or hampering limitations of time."

The following names have been approved by the executive committee of the Ayrshire Breeders' Association as judges at exhibitions:

Alonzo Libby, Saccarappa, Maine; Charles H. Hayes, Portsmouth, N. H.; W. R. Garvin, Dover, N. H.; L. S. Drew, Burlington, Vt; L. C. Spalding, Pomfret, Vt.; C. M. Wheelock, Brandon, Vt.; J. D. W. French, North Andover, Mass.; T. L. Foote, Lee, Mass.; Obadiah Brown, Providence, R. I.; Henry E Smith, Enfield, R. I.; Dudley Wells, Wethersfield, Conn.; J. H. Larned, Putnam, Conn; J. F. Converse, Woodville, N. Y.; H B C. Watson, West Farms, N. Y.; Eugene Ham, Verbank, N. Y; Amble S. Tubbs, Mexico, N. Y; L. D. Stowell, Black Creek, N. Y.; B. C Sears, New Brunswick, N. J; J. O. Magie, Elizabeth, N. J.; William Lindsay, Elizabeth, N. J.; J. Andrew Casterline, Dover, N. J.; Robert M. Carrons, Washington, Pa.; Louis Jack, Media, Pa.; Wm. F. Sellers, Edge Moor, Del.; John Bratton, White Oak, S. C; W. G. Hinson, Charleston, S. C.; George Bement, San Pablo, Cal.; Thomas H. Tongue, Hillsboro, Oregon; J. N Coldren, Iowa City, Iowa; A. D Converse, Whitewater, Wis.; James Oliver, South Bend, Ind; James Surget, Natchez, Miss; H. Betts, Wellington, Ohio; C. C. Fuller, Nelson, Ohio; C. McC. Reeve, Minneapolis, Minn.; James Drummond, Petite Cote, Montreal.

The Grazier and Breeder.

International Show at Paris—II.

THE DUTCH AND SWISS BREEDS—THE CATTLE OF FRANCE—SOUTH-DOWNS AND OTHER SHEEP.

The Ayrshire cattle in the foreign section were a failure, only one prize being awarded, and entries of Polled cattle, though a little better, were not greatly so. Twenty-two entries had been made, of which only six had been filled. Mr. J. J. Colman, M. P., of Norwich, takes all the prizes except one with his Red Polls, and that one was a Black Angus, shown by the London & Provincial Dairy Co. Only one Highlander was shown, sent by the company just named, to which a second prize was awarded. Mr. Pierce Mahony had a single bull to represent the Kerry breed, which received first prize, and one cow, for which he obtained second.

Leaving the British breeds, and coming to those foreign to France, but on the Continent, we find a better state of things. Of Dutch alone there are 78 entries, with the great majority present, and the quality is, on the whole, excellent. These cattle are noted for their great milking qualities. They are much appreciated in France, and there is a capital section for French-bred Dutch. In the former section the best are the cows, which are a fine lot, especially those exhibited by M. Michiels of Malines, Belgium, who wins in old males and old females. This exhibitor wins with the latter animal the *objet d'art* for the second best animal in the foreign section, and the *prix d'honneur* for the best foreign cow in the exhibition, and she is indeed a beauty. M. Hunsiga of Groningen, M. Constant Philips of Mouw, Belgium, and M. Derboven of Paris, are all winners in this section. The French-bred Dutch are not so numerous, but of good type, and indicate how much the breed is appreciated for its great milk properties. There are also a few of the Dutch cattle known as Polders, but these do not call for mention.

The Swiss cattle form a most important section of the show, and are largely represented both in the foreign and French-bred classes. They are also noted for their excellent milking qualities, and for the richness of their milk, when kept under favorable conditions. The classes are divided into Bernoises, Fribourgeois and Simmenthal, and this is the best gathering of Swiss cattle which I have seen. In the foreign-bred, all the prizes, with one exception, go to Swiss breeders, showing that a similar state of things exists here as in Channel Island stock, namely, that it is difficult to maintain them exactly the same except on their native soil. A *diplomé d'honneur* goes to the Breeders' Society of the Valleys of Simmenthal and Saanen, at Erlenbach, Berne, and this is the only honor secured for these breeds. There are no exhibits from the southeast of Europe, and in the other varieties of cattle not previously represented, all that are left to be entered are the English Long-Horns and some varieties of Belgian cattle. The latter win the prizes. In the milking-cow classes, shown in groups, M. Michiels of Malines wins easily with his lot of Dutch, securing also with them the *prix d'honneur*.

It will be remembered that in connection with the Mardi Gras Show in 1885, I wrote at some length on the varieties of French cattle, showing the qualities for which they are noted. It is not necessary, therefore, that I should do more than mention the leading features at the present time, and those who wish to study more as to these breeds cannot do better than read the notes you published at that time. At the present show the whole collection is a very fine one, consisting of nearly 1,900 head of stock, which include animals of all races, both French and foreign, but bred and owned in France. Of course the French breeds predominate, and the quality is excellent indeed. I note that there is an improvement of many breeds, notably the heavier races, such as the Charolaise and Nivernaise, and more attention appears to be now paid to the meat qualities than was the case a few years ago. Of course, as these breeds are largely used for draft, they must have large bone, and doubtless the majority of the animals in their own districts present the same type, but there is an evident striving on the part of breeders after other qualities than muscle and bone, and we are glad to see it.

First come the Normandy races, and a fine lot they are. At the winter exhibitions they have never looked well, being big and clumsy, but here they presented a much more pleasing appearance. It is from these cattle that come the splendid Normandy butter, and some of the finest French cheese, but the serving of a double purpose, namely, both for draft and in dairy, could scarcely be credited by their appearance. So good is the section that quite a number of *prix supplémentaires* have been awarded by the jury. The leading winners are M. Victor Gillain of Carentan (La Manche), M. Augustin Guesdon of St. Germain (Calvados), M Gaston Lecoispallier of Caquy (Calvados), M. Thomas Castel of Maisons (Calvados), and M. Gillet of Bonnesuil (Seine). Of the race Flamande there is not nearly so large a show, and these near relatives of the Normandy cattle have pretty much the same characteristics. One of the *objets d'art* is won in this section, and by M. Arthur Lebecque of Tetéghem (Nord) for the 7-year-old brown cow, which wins in the old class. She is a well-preserved animal, good throughout, and wins well for her owner, who also takes the first prize in the class for females from 2 to 3 years old.

The Charolaise and Nivernaise classes are fairly well filled, numbering 68 in all, but after what we have seen at previous shows, we anticipated that there would have been more. The quality was about equal with the entry—that is, not in any way striking. As I have already stated, there seems a disposition on the part of breeders to strive for something more than mere bone and muscle, and I marked a decided improvement in this respect. M. le Compte de Saint Vallier of Limon (Nièvre), who wins in the old female class, secures a gold medal for the best group, and takes several prizes.

The Garonnaise are strongest in bulls, as might be anticipated from a breed which is famed for its strength, and whose cows are known to be poor milkers. M. Olivier of Justix (Lot-et-Garonne) wins two first prizes, one for each sex. The Limousin make a very much better show, numbering just two short of a hundred. This breed also indicates a marked improvement in quality. It has always been noted for its beef properties, as well as for its usefulness as a draft animal, and in the former respect there is a steady advance. Both bulls and cows are equally good, and this may be regarded as one of the best sections of the show. The 3½ year-old bull exhibited by M. Joseph Charain of Vigen (Haute-Vienne), which wins in old males, secures the *objet d'art*, value $200, for the best animal in the show, and also the *prix d'honneur* for the best bull. A group of the same breed, exhibited by M. de Leobardy of Jouchere (Haute-Vienne) and including third in heifers, first and *prix supplémentaire* in two to three-year-old females, and second and *mention honorable* in the old class, takes the grand *prix d'honneur*, value $400, for the best lot of females in the show.

It is not necessary that I should go *seriatim* through all the other classes, for the doing so would occupy a great amount of time and space. Of these the best were the little Breton cattle, both as to numbers and quality. One of the principal winners is M. Louis Guyader of Erqué-Gaberic (Finistère) who takes first prize in three classes. A few Algerian and Tunisian cattle are exhibited, and there are a number of minor varieties which have not been seen at any ordinary Paris show before, and of which I may have something to say. In the classes for groups of cows in milk, M. Derboven of Paris wins first in the large class with a lot of nice Normandy cows, taking also the *prix d'honneur* with them; and in the small class, M. Coquereau of Maisons-Alfort (Seine) wins with Brittany cattle, so that the Northwest departments carry off both the prizes.

Sheep.

There is an entry of 651 lots of sheep, but with the gaps this will be brought down to about 600. Still, there is an excellent show, but it is to be regretted that foreign breeds are not better represented. In the four classes for foreign-bred Merinoes there is not a single entry. South-Downs save the section and make an excellent, though by no means a large, show. But this breed is well known and highly thought of in France, so that there were sure to be plenty of purchasers for the animals sent over. The Prince of Wales has several exhibits, but does not manage to get above a second prize, which he does in two classes. Mr. E. Ellis of Shalford, near Guildford, Surrey, wins first in three out of the four South-Down classes, and other prizes, securing also both the *objets d'art* or champion prizes, for the best foreign-bred animals in the show, and also the *prix d'honneur* for the best group. The Duke of Hamilton wins first in the old class for females, and Mr. W. Roop takes two seconds. Shropshires, Oxford-Downs, Hampshires, &c., make a wretched display, as the majority of the entries failed to appear. The Marquis of Bristol wins first in three classes with his Suffolks, but in the old-ewe class, Mr. M. Woods of Wamford Park won with a nice pen of Hampshire-Downs. Leicesters, Lincolns and other similar races were a fairly representative section. Mr. R. S. Cresswell of Ashby de la Zouch wins in two classes with his Leicesters; Mr. C. Norris of Exeter in another with his Devons, and Mr. H. Dudding of Great Grimsby in the remaining class with his Lincolns. In the Cotswold class there were no other entries than those sent by Mr. T. Bagnall of Burford, to whom was accorded three firsts and a second prize; and in the Border breeds, the only competitor was Mr. John Robson of Bellingham (Northumberland), who received such prizes as were accorded, namely, three seconds. The remainder of the foreign section came chiefly from the Netherlands, where are some very nice "Polders," or "Entre Sambre et Meuse," as they are described in the catalogue. These are large-bodied sheep with long wool, but they have a somewhat coarse appearance. The most successful exhibitor is M. Lonneau, Stanmont of Thuilies, Hainault, Belgium. S. E.

Kansas Experiments in Pig-Feeding.

Their True Significance.

From the notices and criticisms made in various quarters upon these experiments, it appears evident that erroneous conclusions are likely to be drawn. There seems to be a disposition to deny, in effect, that each food has a definite character, and must produce the precise effect in the animal economy which its nutritive constituents indicate. For instance, Mr. Joseph Harris, in the last edition of his work "On the Pig," in speaking of Prof. Henry's experiments in "feeding for fat and for lean," says: "The pigs having milk with their food grew faster than those having water with their food, and consequently produced more lean meat. There is no evidence to show that the amount of nitrogen in the food had anything to do with the result." Must we not infer from this that Mr. Harris sees no reason why the extra lean meat may not have been produced from the carbo-hydrates of the food as well as from the albuminoids? Such comments would indicate a pressing necessity for recurring to first principles.

Those who have made the composition of foods a careful study have disapproved of the use of corn meal in growing young animals.

The first necessity in the proper development of the young animal is a combination of food, the digestible elements of which will furnish ample nutriment to grow the muscles, nervous tissues and bones, round out the frame and produce a healthy vital system. Fat, as such, is not wanted till after the development of the frame, and corn meal, during this period, does not contain the nutriment required. But when full development comes, then there is no food equal to corn to lay on fat, and no mistake is made in using it for that purpose.

In the light of this statement, let us examine the Kansas experiment. Prof. E. M. Shelton, who conducted the feeding, says: "The object primarily of the experiment, hereinafter detailed, has been to answer the question whether common stock foods, like shorts and bran, might be profitably used as a substitute for corn in fattening fully developed pigs."

The ten pigs selected were Berkshires, from two litters farrowed Aug. 26 and Sept. 7, 1887. Both litters were from the same sire and closely related dams. At the beginning of the experiment, Oct. 8, 1888, they were a little over one year old, divided into two lots of five each. The lot fed on shorts and bran averaged 218 1-5 lbs., and the lot fed on corn meal averaged 217 1-5 lbs., showing both lots to run remarkably even. They were fed 113 days—one lot upon shorts and bran and the other upon corn meal, both foods given in the form of a thick slop.

The shorts-bran-fed lot consumed an average of 1,115 2-5 lbs., and gained 209 1-5 lbs. each; corn-meal-fed lot ate on an average 1,049 3-5 lbs., and gained 228 4-5 lbs. each. It required of food for one pound gain—shorts-bran, 5.33 lbs.; corn meal, 5.46 lbs.

Here, then, was a case where corn meal was clearly indicated as the principal fattening food, and it performed its office as might have been expected. The only question that might properly arise is, whether in feeding four months it would not be better, even for full-grown lean hogs, to give one-fifth bran and four-fifths corn meal. This proportion works well in practice.

There seems to have been some surprise in this case that the muscles or lean parts and the bones were so well nourished by the corn meal. But it must be considered that the muscular and bony systems were already well developed, and there was nothing required but to replace waste in muscles and bones. Let us examine the corn meal for bone material—1,248 lbs., the average amount fed to each pig, should contain 3.25 lbs. of phosphoric acid, which is sufficient to furnish this element for more than 10 lbs. of dry bone, an amount quite sufficient to supply the waste of bone for four months, and this amount of corn meal contains albuminoids to supply all waste of muscle and nervous tissues.

There is therefore nothing in the result of this experiment that should not have been expected. The shorts bran feed was not the most economical or profitable for simply fattening these mature pigs. The most rapidly fattening food must contain an excess of easily-digested carbo-hydrates. Corn meal possesses precisely this character.

The experiments of Prof. Henry were conducted to illustrate a different phase of the feeding problem—the rapid growth of young pigs and fattening them at the period of early maturity.

It might be said in this case that the pigs were still growing and maturing, and still required a large proportion of nitrogenous and bone-building material; but in the Kansas experiment this stage was past.

The results of all these experiments are not conflicting, but harmonize when carefully considered. The lesson to be learned from them is, that the period of early development should have a ration with an excess of nitrogenous and phosphatic elements, and that as the development proceeds, this excess should gradually change toward equality, and then to an excess of digestible carbo-hydrates and fat. This will prevent such excess of fat and produce a proper balance between fat and lean. E. W. S.

A New Field for the Stock-Grower.

Cattle-Raising in Honduras.

Stockmen have in recent years sought more remunerative markets for their surplus stock. Prices for fine animals have declined so that a good thoroughbred animal brings scarcely half of what a grade sold for, years ago. Breeders have consequently looked about for a new outlet for what they have to sell. Some thought South America would become a desirable market for such stock, and send a cargo or two to her ports. The expenses of shipping were enormous, and the local charges there exorbitant. The results of this experiment thus far have been unsatisfactory. The men who control that market seem to be partial to English breeders, and will buy and readily dispose of stock bred in Great Britain when they apparently cannot get a price for American cattle. There are reasons for this state of things, but they may not here be discussed.

The object of this article is to direct attention to a country which has advantages for raising stock equal to those found in any part of South America; it is not so far from the markets, and the prejudices of its people are entirely in favor of the United States. The country here referred to is mapped as the Republic of Honduras. It lies but 900 miles south of New Orleans, and right in the highway of the cooling trade winds which fan her prairies day after day the year round, and carry moisture to them to keep their forage green and succulent through all seasons.

Though Honduras contains only about 50,000 square miles, it is but sparsely inhabited—about ten people to the square mile. There are therefore large tracts of land which lie unused, in their pristine state. Much of this constitutes the best grazing land, and is near enough to the coast so that stock could be driven from its native pastures to the dock,

whence it may be shipped to the highest markets of the world at the lowest cost for freights.

The native people of that republic give little attention to stock of any kind; they have a cow or two, most of them, but that is all. There are few herds of any size, and the number raised for export is so small that it is not worth mentioning. This is not due to any lack of natural facilities for producing stock easily and cheaply, for these are unsurpassed, but to the lack of energy and enterprise on the part of the Hondureas. He knows not how to invite a market, nor how to arrange for one. He seems unable to do anything different from what his ancestors did; he lacks the "know how" necessary for making innovations.

A herd was recently seen by the writer on a savanna near the Patuca river in Northeastern Honduras. This herd, it was said, consisted of 500 head, and belonged to a Zambo Indian. He allowed the bulls to run with the females the year round; thus from a small herd they increased rapidly. Among them were cows of considerable age. The condition of these cattle at once attracted the attention of the visitor. They were well formed and in the best of flesh, though this was near the close of the drier season. A number of the cows had calves from six to eight months old running at their sides, and yet they were in good condition.

The greater part of this herd consisted of animals of the Jersey type. As a rule they were of a solid fawn color, the nostrils, tongue and switch were black, and about the muzzle the mealy ring. Their frames are coarser and their horns much larger than those of our butter queens. Among these was a sprinkling of black-and-white spotted animals, much resembling our Holstein-Friesian cattle.

These native cows make desirable foundation stock for building up improved herds by using highly-bred bulls on them. A cross with the Short-Horn, the Aberdeen-Angus, the Hereford or Galloway, would greatly increase their beef-producing capacity. Such bulls can be introduced with little or no danger of losing the animals while acclimating; forage and climate in Honduras would try them little if imported about the latter part of November. An American company which has recently begun agricultural and other operations on a large scale in the Patuca regions, took some fine stock with them, and every animal has done well from the start; they lost neither appetite nor flesh, and are as active as stock is in this latitude. This company intends to establish a slaughter-house and large meat-canning factory. If this be done, a good and sure market for surplus stock will be secured. Live stock can, however, be cheaply shipped to Liverpool, Hamburg and other European markets. Though the flesh produced on grass there is tender and well marbled, it would doubtless be advisable to feed some grain to cattle intended for foreign markets. This grain can be cheaply raised there, as two good crops of corn can be grown on the same ground a year. Good oats and barley can also be produced. Bananas, which cattle eat with avidity, produce excellent meat; and as this is the staple and best paying crop of that country, the waste would furnish very cheap meat-producing food—an acre yielding from 30 to 40 tons of this nutritive fruit.

The prospects for stock raising in Honduras, then, are most promising for the near future. The climate is equable and temperate, there are no storms that cause loss, no cold winters, plenty of the best forage the year round, fresh flowing water every mile or two, and a good steady market in sight. These are elements worthy the consideration of stock growers.

Riverdale, Ill. JOHN W. THORNER.

Free Lands for Ranchmen.

WHY SHOULD THE GOVERNMENT COLLECT NO RENT?

EDS. COUNTRY GENTLEMAN—The past winter, while traveling through the different Rocky Mountain States, I was much struck with the vast ranges upon which I saw many large herds of feeding cattle and flocks of sheep. Either side of the mountains, from Southern California to Oregon, the herds and flocks I saw proclaimed the vast numbers I did not see.

In Oregon I met a gentleman who helped his father drive, in 1836, I think he said, the first flock of 500 sheep that ever went across mountains and plains to that then far-away territory. From that beginning the extensive sheep interest of that State largely owes its origin. In seeing all this I asked myself if it was quite fair that these many ranchmen should have the privilege of ranging over government land, which belongs to us all, free of all rents, taxes or other pay, enabling them to raise their cattle, sheep and wool at a merely nominal cost, so that they can supply the markets with their products at prices so low that while it gives them fair profits—many of them making in a few years large fortunes—it has resulted in greatly injuring, in fact, nearly ruining the business here in the East of growing and fattening cattle for market purposes. To such an extent has the interest of eastern farmers been trenched upon by these free cattle ranges of the West, that it is one of the causes that has helped to depreciate the value of all eastern farms, particularly grazing lands. Cattle raising for fattening for beef in this State is almost entirely done away. Free western ranches is the cause. Is it fair that eastern farmers who have to buy and pay for their farms should be subject to such a free-trade competition—ought not the ranchers be required to pay rent for use of Uncle Sam's children's lands? U. O. NEWTON.

Homer, N. Y.

Horn Re-set, p. 505.—I have quite often felt it my duty to call attention to the fact that horns are quite easily replaced. I have had several dried. Some years ago my Jersey bull, in running out of the stable, struck one of his horns against the door post. The horn was unevenly fractured and completely loosened. I splinted and bound it up, and that was all there was to it. It was as good as ever in a little while. WM. HORNE, *Jamesville, Wis.*

Goats and Cows.—I should like the experience of any of your subscribers concerning goats as a preventive or cure of abortion in cattle. S. H. S. *Salem, N. J.*

The Dairy Department.

Packing Butter for Winter Use.

EDS. COUNTRY GENTLEMAN—Please inform me as soon as possible through the columns of your paper, of a reliable method of packing butter for use next winter. T. L. B.

Claybrook, Tenn.

The manner of packing butter in summer for use in winter depends upon the manner of use—that is, whether it is intended for sale or for domestic consumption. When butter is to be sold, the kind of package is important, but otherwise not so much so, as any convenient package will answer if it is clean, air-proof and not an absorbent of grease. As T. L. B. gives no intimation of the purpose of the packing, and the subject may interest many other readers of the COUNTRY GENTLEMAN, I will refer to both of these purposes.

Butter for sale should be put up in the most salable packages, and these are the Welsh pails, holding 20 lbs.; half-tubs of 30 lbs.; pails holding 50 lbs., and firkins of 100 lbs. The Welsh pail is conical, slightly wider at the top than the bottom, is made of light, white spruce, and has a loosely fitting cover; the half-tub is of white oak, much heavier than the Welsh pail, broader, and not so deep; it has a heavy cover; the best common pail is made of white oak and is varnished outside, and has a closely fitted cover, which is tightly fastened down by hinged ears of metal; the firkin is barrel-shaped, made of white oak, and holds 100 lbs. The Welsh pail and half-tub are desired for the use of families and small stores; the pail is used mostly for the store trade, and the firkin for the foreign trade. The manner of filling these various packages is the same for all. The butter must be good to start with, or it can not be kept good. Butter that has a strong flavor and smell will gradually get stronger, in the best made and best filled packages, because the internal change started in it is continued by the very products of the change, just as a little yeast in flour paste reproduces itself and carries on the fermentation. The packages, however, may be prepared in such a way as to reduce this change in the butter to a minimum, and with butter in the best condition to start with, to even improve it in flavor by a certain slow process of ripening by which the exquisite aroma and flavor of excellent butter are developed. The preparation of the packages should be as follows: The pails or tubs, which should be stored in a dry place, quite free from dust or mildew, and be always kept bottom upwards, to exclude dust from the inside, are first soaked in fresh water over night. In the morning they are well scalded and left with the hot water in them until the packing is ready to be begun. The water is then emptied out and the pail is well rinsed with cold water, with some salt, so as to fill the pores of the wood with the brine. This is emptied out and the wet interior is well rubbed with dry salt. The package should then be weighed accurately and the weight marked on it.

The butter is then put in in quantities sufficient to make a layer of five or six inches; this is for the sake of tight, compact pressing, to avoid air spaces, and to get all the surplus moisture out of the butter. A common potato masher is a good thing to press the butter down with, and it should not only be packed solidly, but the water which comes from it should be drained off before any more butter is put in. A little dry salt is then sprinkled over the surface of the packed butter, and another layer is put in and treated in the same way. The package is thus filled within a quarter of an inch of the top, when a clean muslin cloth, dipped in cold, clear water, is laid over the top, extending over the edge of the package one inch. This is covered with dry salt, well pressed down; the overhanging edge of the cloth is turned over on the salt; another piece of wet cloth is laid over the salt and cut to fit the top of the package, and the cover is put on and fastened down securely. The filled packages are at once moved to the place where they are to be kept, which should be a cool spring-house or a cellar; a dry place is not desirable, as the shrinkage of the packages will cause air to be admitted and the butter to be injured. But the place should be airy, well ventilated, and free from mildew. As soon as the packages are ready to be shipped, they should be weighed, and the gross weight marked over the tare previously marked; this deducted from the total weight, of course gives the weight of the butter. Butter thus packed has been kept a year in the most perfect condition, and has been thought by some experts to be preferable to the perfectly fresh butter, on account of the desirable peculiar nutty flavor of such butter, which requires some time for its development, with entire seclusion from the air; the change of the fats by which the flavor is produced being an inherent one, due to the action of the small quantity of free oxygen existing in the butter at the time of the packing.

For domestic use, every condition included in the above method must be secured, viz.: good quality of butter, perfectly clean and air-proof packages, and the entire exclusion of the air. For domestic use I prefer well glazed—inside and out—stoneware jars. I have used glass jars, broadly cylindrical, such as are used for the cells of galvanic batteries, covered with air-proof paraffine paper, and then with moistened animal bladder, thoroughly well cleaned when taken from the slaughtered animals. I have a few of these jars now put away for experiment for three years, which will not be opened for some time yet, as a test for noting the change which butter undergoes under such circumstances. So far, I have found the glass jars to keep butter in the best condition. The glazed earthen jars, covered in the same way, but with well varnished cloth over the paper, instead of the bladder, come next to glass; wood of all kinds is objectionable, because it is porous, and the vessels are too large; a package holding 8 or 10 lbs. only is quite large enough for family use. Ordinarily the small, half-gallon, glazed jars, I think, will be found the most convenient. These may be kept on a shelf 3 or 4 feet from the floor in a clean cellar or milk-house.

There is one other way which is excellent; this is to make up the butter into round or square cakes, which are wrapped in clean muslin cloths and packed in 4 gallon stoneware jars in brine. The cakes come out all ready for use in good condition, and the waste in cutting out the butter and damage by exposure to the air are avoided. HENRY STEWART.

Temperature in Ripening Cream.

1. When cream is taken from ice-water, to what temperature should it be raised, and how long remain, in order to ripen for churning?

2. Just what constitutes the ripening process?

3. Other things being equal, what difference will there be, if any, in the "keeping" qualities of butter made from sweet cream, and that made from sour cream? ***

Grand Junction, Mich.

The temperature at which cream should be kept for ripening depends upon the time that elapses before churning—24 hours at a temperature of 60° or 62°, or 12 hours at 70° or 72° is sufficient, but it is well that the cream should be gently stirred midway of this period to make the ripening even through the cream. The ripening process consists in the production of a certain degree of acidity, no more and no less—and by whatever means this may be secured. Sweet cream does not yield as much butter as cream that is brought to the requisite degree of acidity—now termed by common consent, "ripeness." This has long been insisted upon by the writer, in opposition to several persons who have favored the churning of sweet cream, which was, I think, first and most strenuously advocated by the present Dr. Voelcker, but it is now accepted as a fact, and is admitted to be the best dairy practice. The acidity not only brings the milk to the best condition for the separation of the butter, but it develops the most desirable flavor in the butter as well; a flavor which is sometimes called aroma, and is acceptable to both scent and taste. There is no special difference in the keeping qualities of the butter made by either process; because when butter is well made, and is perfectly freed from all trace of the buttermilk, there will be very little change in it for a considerable time if it is scrupulously preserved from contact with air. A very slow change does occur in the butter inherently by slow oxidation, through the small quantity of oxygen contained in the butter, but this change goes on very slowly. If exposed to the air the ripe-cream butter will change somewhat sooner than that from sweet cream, other conditions being similar. H. S.

The Conference at Ballston.

EDS. COUNTRY GENTLEMAN—There is a growing conviction in the grain-growing districts of New-York that something is the matter. This time-honored line of farming does not pay as it used to. The soil does not respond with its former yield, and prices are low for grain. Some of the farmers are turning to the meadows as the basis of future income, while others have had hopes in the dairy. The present market price for butter has discouraged some of the new dairymen, and somewhat lessened the ardor of the older ones.

The dairy in New York should be more diversified. There are now too many summer-butter makers, and too much crowding of the markets in the summer. The better the butter question is understood, the more evenly it will be divided, and the better the management will be which controls this great industry. Where a farmer has the appropriate conditions, let him make butter to keep for the winter trade and the southern market, and where it can be done, let the summer dairy be turned into a winter one. This division will lengthen out the trade and keep up prices. The great quantity of poor butter thrown upon the market drags the demand and the value down.

The biggest dairyman, after all, is the "oleo fiend" who sold the last fiscal year nearly 40,000,0000 pounds of his stuff, which took the place of so much butter. It is true but little was sold in New-York, but its consumption in western cities sent just so much more butter east to fill our markets.

At South Ballston, in Saratoga county, the old grain-growers have built and equipped probably the finest butter factory in the State. They certainly make a superior quality of butter, but the trouble is, they do not make enough. Not doing enough business is one of the worst drawbacks to any new enterprise, and especially to a butter or cheese factory, as it throws additional expense on the few who do patronize the concern, and this of course reduces the profits to the dairymen. There is also an old established cheese factory near Ballston Centre which has dragged along for years without the patronage it deserved. Barren soil and unrequited labor thereon has, or will, prove a better argument in favor of the two dairy establishments in this town than reason or exhortation.

This, as you see, was real missionary ground for a butter conference. The day was not propitious; still, good seed was sown, and, it is to be hoped, not on unfruitful ground. Judge Talmadge, president of the county agricultural society, presided. E. S. Munson and H. Croley Greene were in charge. Mr. Munson did the morning churning, and filled in the time with useful remarks. Mr. L. Hoyt of Charlton had a new churn of his own invention, of a diamond form, for use, but it was too small for the quantity of cream. The Gifford churn was used, but Mr. Munson preferred one free of paddles inside.

Miss Rhoda Thompson of Milton Hill furnished the cream, which was from the required amount of milk—900 pounds. Miss Thompson is the accomplished owner of the Thompson homestead, and, with commendable

pride, is striving to maintain the reputation it justly bore under the management of her brother, James Thompson, who, while living, was always in the front rank in all agricultural enterprises. Miss Thompson's cows are natives, with Ayrshire and Jersey crosses. The churning was begun at 62°, cream ripe, and finished in 30 minutes at 64°. It made 9,000 lbs. of butter, requiring 29 1-5 lbs. of milk for one of butter.

The afternoon churning, conducted by Mr. Greene, was the cream from 900 lbs. of Jersey milk, supplied by H. D. Weld, Valley View Farm. The Jerseys on this farm are high-bred A. J. C. C., and Mr. Weld is a practical and successful dairyman. The results were: 200 lbs. of milk, 13 56 lbs. of butter, or 1 lb. of butter to 14 74 lbs. of milk. These cows are fed grain, with pasture.

Nathaniel Mann of Milton, a veteran dairyman, was present and aided to make the conference profitable. One would suppose from attending this conference, as well as others, that the church was intended only for Christians, as only the best dairymen are present, and those who need exhortation the most are absent. It seems that this lacking is not confined to our State, as an able and earnest dairyman in Ohio, John Gould, writes of similar minds in his and other States. He says:

"The reports of your dairy and butter conferences 'down in York State' are read with great interest, and I see that you must be doing a great deal of good. I have attended a number of special meetings this summer, and find the same apathy about attending. The two or three hundred who do attend are of a class who do not need the instruction as much as those who do not attend, for fear they might get out of a rut deeper than their heads."

Many important lessons were taught at this conference. The necessity of pasture and food suited for producing cream was enforced. Rich old pastures are the best, coupled with bran and cottonseed meal or linseed. Bran, oats, and corn meal also make an excellent combined food. Full feeding, or feeding more than for maintenance, makes a marked effect. The surroundings for the milk must be free from possible taints, and the cream raised before the milk gets sour and curdled. These are three fundamental principles, and the closer to them the business is managed, the better. The churning is the most mechanical of all the processes in the dairy, but this may be made an art if there is coupled with it an adaptation to a condition, a regulation of temperatures, the deft hand of science, and the skill of the expert. F. D. CURTIS.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

SECOND-CUT CLOVER.—Please inform me whether the second cutting of clover is injurious to feed horses. J. S. H. *Richmond, Va.* [Properly cured, no.]

FAILURE TO BREED.—A 3 year old cow cannot be got in calf; have tried for over a year; is strong and healthy, in fair condition, not fat. The os seems very small, too small for breeding. X. Y. Z. *Ontario, Can.* [Use injectio vaginæ.]

BUNCH ON KNEE.—A 6-year-old cow has a bunch as large as my fist on each knee, caused, I think, by getting up and down in the stable. She is not lame, but looks bad; would like to have them taken off if possible. R. W. *Antwerp, N. Y.* [Keep cow on ground floor, or in pasture, and apply golden blister every three weeks.]

GELDING IN QUESTION.—A valuable young trotter, three years old, was bought one year ago for a gelding, and he has no outward signs of a stallion. Our very indifferent veterinarians here say he has been altered. This we doubt. He is very troublesome, and shows all the actions of a stallion. In case his testicles—one or both—are drawn up, is it possible or safe to attempt their removal? D. & E. *Gordonsville, Va.* [It may be that the animal had both testicles removed, but was not castrated high enough. This is often the case with horses treated by gelders who do not understand the details of the operation; or if this is not the case, then one or both of the testes are above the scrotum, and the horse is what is called a "ridgling." In either case a specialist could operate successfully in a large percentage of cases.]

FAILURE TO BREED.—A mare 14-years old has raised five colts, but three years ago she lost her colt, and since, although taking the stallion several times each year, and then refusing, has failed to breed. Would Moore's injectio vaginæ do any good? If so, where can I procure it, and what is the price? I. M. G. *Essex County, Va.* [You will see injectio vaginæ advertised in this paper in nearly every issue.]

INJURED KNEE.—A yearling filly was injured on knee some three months ago, by a kick; no lameness, only a slight swelling. When soreness went out, left slight thickening of the skin. Have used a liniment, that took off the hair, without benefit. J. W. C. *Dexter, Mo.* [Tincture of iodine, 3 oz.; powdered iodide of potass., 2 dr.; alcohol, 4 oz.; mix. Rub some on knee once a day, and apply golden blister later on.]

HOLDING UP MILK.—A cow, four years old, holds up her milk. She gives about 20 quarts per day for six or eight weeks after dropping calf, and then begins to hold up, usually near beginning of milking. After persistent squeezing and stripping, will give part of milk, and then hold it up for some minutes. Did not do so in her first season's milking. FARMER. *Watkins, N. Y.* [Give one of Moore Bros.' general cow drinks once a week for three or four weeks.]

MILK BEFORE CALF.—A yearling heifer, due to calve in December, was found with one of the calves in pasture sucking her; put calf in another field; heifer made quite a fuss, as though she had lost her calf; examined her bag, and milked out about 3 quarts of rich milk. In twenty-four hours had to milk her again, and have continued milking her once in twenty-four hours ever since. She is a registered Jersey, granddaughter of Ramapo. A Jersey breeder tells me it is a common thing for heifers of Ramapo stock to do so. B. S. M. *Claverack, N. Y.* [Milk her as long as necessary. It will not injure her udder.]

NECK TENDER.—A mare, after coming in from work, will often hold her head down, nearly touching the floor; seems to be in pain about head and neck. Cords in neck appear to be cramped, as a good rubbing back of head relieves her. Some years ago she hit the top of her head on a beam, causing it to be very sore; has been sensitive ever since. While hitched to a tree on hillside by a rope around neck, was disturbed by another horse, and mare was found down on an incline, and rope extremely tight, leaving slight depression. J. W. A. *Edinburgh, N. Y.* [Rub the tender parts once a day with some of the following: Chloroform, 4 oz.; spirits camphor, 8 oz.; tincture aconite root, 4 oz.; alcohol, 1 pint; mix.]

LUMPS IN SKIN.—A 5-year-old mare is troubled with lumps in the skin, which come on each side of neck and shoulders, and between forelegs and back of the points of elbows, extending down under the belly. They feel hard, are about the size of buckshot. Sometimes larger ones, as large as my hand, come on the sides, and then disappear. W. H. G. *Syracuse, N. Y.* [Give her one of the following balls every four days: Powdered barbadoes aloes, 12 dr.; powdered nitrate of potass., 2 oz.; powdered colchicum root, 6 dr.; powdered gentian, 1½ oz.; sufficient quantity of Venice turpentine; mix; make six balls. Bathe the skin with the following: Cream tartar, 6 oz.; powdered borax, 8 oz.; water, 1 gal.; mix. Use once a day.]

SUBSTANCE COUGHED UP.—My stock bull, kept in stable, healthy and vigorous, yesterday morning refused his ration, breathed hard, and was generally out of sorts. Gave him 3 or 4 lbs. of fat salt pork, when he began to cough, and finally a strange fleshy something was thrown up, between 2 and 3 feet long, and 1½ inches thick at centre, tapering toward both ends, without head or tail, and with "feelers," from ½ to 2 inches long, at intervals of about 2 inches on all sides of the body, somewhat resembling claws. There was no apparent life. The bull, after a few hours, began to eat again, and this morning appears to be all right. In our excitement we threw the substance in the stove to keep it from being eaten by other stock. Am sorry now I did not preserve it in alcohol for investigation. H. G. H. *Glens Falls, N. Y.* [It is not a very rare thing for cattle to cough up fibrous clots or strings of fleshy looking substance of such proportions as to cause great surprise to those persons who behold the performance. I am very sorry you did not preserve the thing you describe and send it to us in alcohol. Of course one cannot say what it was, but it probably was a fibrous substance, or else something the bull had swallowed. At Moore Bros.' office you can see some of the clots when you are in Albany.]

THIN-SHELLED HOOFS.—The writer has a mare weighing over 1,100 lbs., the shell of whose feet is very thin and brittle, making it difficult to keep shoes on her. The shell at edge of foot seems often to be separated from inside of hoof and breaks out on least strain. J. C. *Middletown, Pa.* [Soak feet in salt water two hours a day for a week, then apply golden blister around feet from hoofs to fetlocks. After six days wash blister off, then soak feet every other day. Blister again every three or four weeks, and after several such applications you will find a great change in the character and quality of the horn. Spirits of turpentine may be worked into the cracks of feet daily for a week.]

DIFFICULT BREATHING—STIFFENED LIMBS.—A cow has an enlargement in throat, which seriously affects her breathing. One can hear her a great distance off, and it is worse when she becomes heated from exertion. The trouble seems to be at mouth of windpipe. (1) About three weeks before giving birth to colt a mare was brought out of stable, scarcely able to walk; seemed to be affected in all her limbs, something like being foundered. This has been on her about six weeks, and not much improvement. Her feet seem to be rotten. (2) C. W. G. & CO. *Medoc, N. C.* [1. It may be a tuberculous growth, and if so she ought to be killed—(see "Tubercle," in back numbers). She should be kept apart from other cattle, in any event, until she is better. Apply golden blister to the enlargement, and give a drachm of iodide of potass. in feed three times a day for a month. 2. Soak feet in water containing 3 oz. powdered borax, 2 oz. nitrate of potass., 6 oz. compound tincture of myrrh, and 3 dr. carbolic acid; mix. The feet should be soaked half an hour twice a day.]

SWOLLEN NECK AND COUGH.—A horse 11 years old was taken with distemper about June 1. Swelled between neck and jaw, but not under jaw; swelling did not break, and there was no discharge from nose. Breathed too fast all the time; appetite was good, and fed him a peck of oats and plenty of grass in stable; was the same for a week, then got some better and began to work him again. Harvest work brought on cough again and quick breathing; rest and good feed do no good. Horse had distemper one year ago, not quite so bad, and it left him with a dry cough, which was bad at times, and at other times no sign of it, and from no change of weather, feed or work. Now the cough is bad and very disagreeable. J. T. *Pattersonville, N. Y.* [Powdered barbadoes aloes, 2 oz.; powdered belladonna leaves, 3 oz.; powdered chlor. of potass., 3 oz.; powdered ginger, 4 oz.; powdered licorice root, 3 oz., and sufficient quantity tar to make a paste. Wind a bit with flannel, and tie it to halter. Smear a tablespoonful of the medicine, and put in mouth for an hour or so. Do this once or twice a day.]

KICKING COW—SWEENY.—How can a cow be stopped from kicking when she is being milked? She seems gentle in everything but kicking. (1) What is good for a 6-year-old riding horse that has had the sweeny for about four months? It has been inflamed by having air blown under the skin; wound has nearly healed, but there is still a sinking in the shoulders. (2) S. S. G. *Algoma, Va.* [1. The veterinarian is not intended as a department for the cure of vices; however we will answer this. Tie cow in stable, then tie a rope ¼ or ⅜ inch thick around left hind-leg above hock, bring rope back of right hind leg and up to corner of mouth, right side; pass it through mouth, bring it around under jaw and tie it; then tie a fine piece of rope to the loop on one side of mouth, take it up over head and down to other side and tie it to hold loop in mouth. The rope as it passes around right hind leg should be comfortable while cow stands, but when she kicks it will jerk her jaw. When ready, stand and milk her on floor and let her kick a few times, when she will soon quit. 2. Either put in a seton, full length of atrophied muscles, or apply golden blister. If the latter is used, it should be repeated in 3 weeks—10 days' rest is necessary each time.]

SWOLLEN UDDERS.—A cow's udder became very hard. I gave 1½ lbs. of sulphate of magnesia and 2 oz. of ginger. As soon as physic set, gave 2 dr. of fluid extract of pokeroot in 4 oz. of rain water, once a day, and rubbed udder once a day with mixture of 4 dr. of poke root, 8 dr. of camphorated spirits and hot lard. I continued this for six days. Result: At first only one quarter was affected, now the whole udder, although not tense and hard, is much swollen inside, and from each quarter about a half pint of yellowish watery fluid, filled with yellow clots, comes at each milking; I milk three times a day. (1) Another cow has had one quarter of udder affected this way for at least two months. I can still milk a half cupful of the watery fluid from her at a milking. Rest of udder sound, giving about 16 lbs. at a milking. (2) A. D. F. *Millbrook, N. Y.* [1. Moore Bros.' general cow drink is the very thing your cow needed from the start. She should have a full dose at once, then half a can every three or four days. Use the liniment on udder that is recommended for garget on the label of general cow drink. Give the cow spirits of turpentine, 2 oz.; raw oil, 8 oz. Mix as soon as possible. She must have a large tablespoonful of the following powder in feed or otherwise three times a day: Powdered nitrate of potass, 6 oz.; powdered iodide of potass., 2 oz.; mix. 2. This cow may have the above treatment, omitting the oil mixture.]

—— We have six cows whose bags have become affected this summer. Usually the udder is swollen; milk is clotted and sometimes watery; with some only one teat is affected, with others two or more. Feed is brewers' grains, wheat bran and first-class clover pasture. They have plenty of good fresh water. J. J. A. *Magnolia, N. J.* [See advice given to A. D. F., Millbrook, N. Y., in this issue. Use treatment as advised for first case.]

Record of the Times.

Review of Passing Events.

The Sioux Reservations.—The signatures of Chiefs Grass and Gall at Standing Rock Agency, Aug. 5, led to the completion of the number necessary to ratify the act whereby the government obtains 11,000,000 acres of land, included in the various Sioux reservations of Dakota, for $14,000,000. The act must be submitted to Congress before it can be carried into effect. Lands will be sold to settlers at $1 25 per acre the first three years, 75 cents the next two, and 50 cents thereafter. Undisposed of lands at the end of ten years will be taken by the government at 50 cents per acre—the amount to be added to the Indian permanent fund of $3,000,000 to be set apart by the treasury, the interest of which at 5 per cent. will be used for their benefit. After 50 years the fund is to be expended or divided as Congress may determine. The land to be thrown open is not now occupied by the Indians, who number 23,567.—The Chippewa lands in Minnesota—over 4,000,000 acres—have also been secured.

Forgeries and Failures.—Eben E. Allen, president of the Green Line Street Car Company, New-York City, was arrested, Aug. 7, for forging certificates of stock for about 700 shares. He has been connected with the company for 25 years. Loss of money in a fire escape and other patents led to the forgeries, which amount to about $125,000.—J. F. Colton, a young attorney of Minneapolis, has confessed to forgeries on John S. Kimball, an old and wealthy resident, to the amount of $237,000.—Attachments have been placed on the Oswego Mills, Oswego Falls, N. Y., for $410,000, by A. D. Juilliard & Co. of New-York, and for $300,000 on the Riverside Mills, Providence, R. I., by the Massachusetts Loan and Investment Company, in default of statement from Treasurer Gideon F. Brown of Boston, who has disappeared. His firm, Brown, Steese & Clark, is embarrassed, which has led to the assignment of George H. Hollis, president of the Hollis Dressed Meat and Wool Company, Boston.

Deaths.—General Henry Dupont, since 1850 head of the Dupont powder works at Wilmington, Del., died Aug. 8, aged 77. During the war he was major-general of State troops, and compelled every military organization to enter the Federal service. The mills, established by his father, supplied the powder for the war of 1812, most of that for the Mexican war, and much during the rebellion. General Dupont was largely interested in manufactures and agriculture, owning 2,000 acres of farm land, and

leaves a fortune of $15,000,000.—Capt. James H. Rigby, at Baltimore, Aug. 5, aged 57. During the war he commanded the famous 1st Maryland Artillery, U. S. A., known as "Rigby's Battery."—Isaiah Tiffany, one of the commissioners who laid out Brooklyn as early in 1835, died at Clifton Springs, N. Y., Aug. 2, aged 88. He was a cousin of Miss Warner, author of "The Wide Wide World;" his father was a major in the Revolutionary army.—General Joseph Philipovich, the conqueror of Bosnia, at Prague, Aug. 6.

From Abroad.—Emperor William reviewed the British fleet at Portsmouth, Aug. 5, 26,000 troops at Aldershot, 7th, and left for home on the 8th.—The jury in the Maybrick case brought in a verdict of guilty, Aug. 7, and Judge Stephen sentenced Mrs. M. to death. Memorials were circulated in Liverpool asking that she be reprieved.—The royal grants bill passed the House of Commons, Aug. 5.—The poet Tennyson was 80 years old Aug. 5.—The trial of General Boulanger began in the French High Court of the Senate, Aug. 5.—The defeat of the dervishes in the Nile valley has been followed by a withdrawal of the English and Egyptian troops.—The overflowing of the river Chikugo in Fukuokaken, Japan, damaged 2,500 acres of cultivated land, swept away 12,000 houses, and drowned 100 persons.—The steamer Montreal of the Dominion line, outward bound, was wrecked on Belle Isle, Aug. 4, in a fog. Passengers and crew were saved.—In Hayti Hippolite has continued the siege of Port-au-Prince, his attack on La Coup having been repulsed. Legitime is issuing paper money at the rate of $1 70 for $1 in gold. Food supplies arrive in sail boats. The foreign warvessels are watching the situation prepared to protect the foreign population.—A daring insurrection broke out in Honolulu, July 30, with intent to compel King Kalakaua to abdicate in favor of his sister Lilinokani, but it was soon quelled. Two half-breeds, Wilcox and Boyd, were the leaders.

Miner Items.

The crop of late hops in this State is reported to be blighted.

Houston County, Ga., sold $200,000 worth of peaches this season.

Key East Beach, N. J., will be known hereafter as Avon-by-the-Sea.

The number of cotton mills in the South has more than doubled since 1880.

Georgia's taxable property has increased over $6,000,000 during the past year.

Brodie, the jumper, leaped from the 60-foot bridge at Pawtucket Falls, R. I., Aug. 6.

The hay merchants at 33d street and 11th avenue, New-York, have organized a hay exchange.

William T. Harris, L. L. D., of Concord, Mass., has been appointed Commissioner of Education.

Typhoid fever prevails in Chicago since the great storm sent the river sewage out to the water crib.

For the first time since 1859 Georgia has grown corn enough for home supply and a surplus to sell.

The Cincinnati saloonists' rebellion ended with an agreement to obey the law if prosecutions were dropped.

Martin Burke, the Cronin suspect, was taken from Winnipeg to Chicago and landed in the county jail, Aug. 8.

Governors Beaver and Foraker, and ex-Governors Boutwell and Cornell, visited the State camp at Peekskill, N. Y., Aug. 10.

Thomas Nast is said to have lost his entire fortune in land speculations in Southern California. He is now drawing cartoons for Time.

During the test of a natural-gas main at Pittsburg, Pa., Aug. 9, the cap blew off, killing two men, and injuring 15 others, two fatally.

A century plant is in bloom at the Henderson store, Cortlandt street, New-York—said to be only the second one in the history of the city.

A dam gave way above Meriden, Conn., Aug. 6, and the torrent bore away a section of the New-York, New Haven & Hartford railroad.

A poultry-fattening company has been organized in New-York, to fatten fowls on the French plan. It is proposed to handle 100,000 birds every three weeks.

The three-ton motor of the Electro-Automatic Transit Company of Baltimore, made a speed of two miles a minute, Aug. 7, on a two-mile circular track at Laurel, Md.

Prof. J. P. Mahaffy of Trinity College, Dublin, the famous Greek scholar and investigator, is delivering ten lectures on Greek life and literature at Chautauqua.

The entire cargo of a fruit steamer—6,000 bunches of bananas, weighing 325,000 tons—was recently condemned by New-York health inspectors and sent to the offal dock.

The action of Secretary Wanamaker in putting the government rate for messages by Western Union at one mill a word has led to a correspondence between President Norvin Green and the secretary.

For the third time since 1861 the Stars and Stripes were floated over Fort Sumter, Aug. 9, at the organization of the Robert Anderson post of the G. A. R., the first white post in South Carolina. On April 14, 1865, General Anderson ran up the colors, which he was compelled to haul down in 1861, and Henry Ward Beecher made an address. The fort has neither flag nor flagstaff; they were furnished by members of the new post, now residents of Charleston.

A strike in the Connellsville, Pa., coke district left 14,000 ovens idle for several days. After it was settled in favor of the men, 400 Hungarians, not understanding it, mobbed the men who had gone to work.

The Rome, Watertown & Ogdensburg express ran through an open switch at Forest Lawn, N. Y., Aug. 10, and struck a Rochester train, wrecking several cars. Three persons were killed and seven injured.

An explosion on the naphtha launch owned by L. B. Crocker, superintendent of the N. Y. Central stockyards, Buffalo, Aug. 7, resulted in the death of three of Mr. C.'s children and a carpenter, and the wreck of the boat.

A. G. Davids, superintendent of the Steubenville (O.) electric railway, in repairing a broken wire, received a 900-volt current, which knocked him unconscious, but from which he soon recovered without apparent injury.

A Jersey City horse car recently lost brake control on a steep grade, and rushed down at high speed, but was saved by a cow, who, caught on the track and forced between the horses, "braced up," slid along and checked the car.

The President's trip to Bar Harbor, Me., was marked by a reception at Boston, in Faneuil Hall, and by large gatherings at Old Orchard Beach, Portland, Augusta and Bangor. Mrs. Harrison went to Nantucket, where her sister, Mrs. Lord, is sick.

Charles Smith, saloon-keeper and member of Assembly from New-York city, attempted to gouge out the eye of S. A. Roberts, at the re-enrolment of the 8th assembly district, Aug. 5. At a hearing before Justice Duffy, Smith was held to answer before the grand jury.

Ex-Senator Stephen W. Dorsey was lately arrested in New York on a judgment of the Nevada bank of San Francisco. Dorsey became notorious during the prosecution of the star-route postal frauds. An English judgment of larger amount also hangs over him.

Patrick Calhoun, counsel for the West Point Terminal and grandson of John C. Calhoun, fought a duel with J. C. Williamson, president of the Chattanooga, Rome & Columbus road, at Attalla, Ala., Aug. 10, and Williamson was wounded in the arm. Cause, a controversy in the Georgia house of representatives.

The business part of Spokane Falls, W. T., was burned, Aug. 5, with loss of $6,000,000. It is a town of nearly 20,000 inhabitants, the distributing centre of Eastern W. T. with fine waterpower and five railroads. Last year $2,000,000 was spent on new buildings, and the Northern Pacific freight charges, same time and place, were over that amount.

Johnstown, Pa., is recovering life and spirits. The flood commission has distributed about $500,000 after careful examination into actual needs, and houses are being erected as fast as possible. Bodies continue to be found at intervals. The board of inquiry, in their final report on the loss of life, make it 6,111. The number of vacant lots still covered with rubbish indicate the many families swept out of existence. The State clears only the highways. Men arrested for drunkenness are set to work on these lots.

For a disordered liver try Beecham's Pills. [3

Farm Produce Markets.

Albany Markets—Aug. 12.

FLOUR.—The Argus says: The market has been easier, with fairly good trade; and average receipts.

	1889. Aug. 10.	1889. Aug. 3.	1888. Aug. 11.
Com. State	$3.20@4.00	$3.20@4.00	$3.20@4.10
State Extra	4.10@4.80	4.10@4.80	4.15@4.60
Amb. State A	4.35@5.10	4.50@5.30	4.60@4.90
O. Ind. & St. L. Ex.	4.35@5.10	4.50@5.30	4.70@4.90
Winter W. Pat.	5.00@5.60	5.10@5.60	5.10@5.70
Minn. "Bakers"	4.60@4.75	4.60@4.75	4.60@4.75
Sp'g W. Pat., new	5.20@5.35	5.20@5.35	5.20@5.45
Sp'g W. Pat., old	5.20@5.35	5.20@5.35	5.20@5.45

Rye Flour Trade continues good and prices steady at $3.25@3.35 per bbl.; Graham, $4.25@4.35. Oat Meal doing moderately well at $5.20@5.30 per bbl. Corn Meal in good request at $2.20@2.75.

GRAIN.—Corn steady with fair demand; No. 2, 45½@46c.; No. 3 mixed, 44@45½c. Oats quiet and steady; No. 2 white, 32½@33c.; No. 3 white, 32@32½c. Rye quiet and slow at 53@55c. per 56 lbs. for State, also western offered; per 56 lbs.

HAY AND STRAW.—Receipts of new hay fair; old scarce and in demand. Straw in light demand. New hay, $15@18 per ton. Timothy, old, best, $20; good to prime, $16@17.50; clover, $10@13; mixed, $11@13; rye straw, best, $12@13; oat straw, $8@10; wheat straw, $10.

HOPS.—Dull; sales few.

N. Y. State, 1889, choice	12	@13c.
N. Y. State, 1889, common to good	10	@11
N. Y. State, 1887, all grades	8	@11
Pacific Coast	10	@10
German	11	@12

Albany Street Market—Aug. 12.

BUTTER.—Good to choice, 19@21c. per lb.

EGGS.—Near-by and new laid, 16@17c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 4½@6c.; mutton, carcasses, 7@8c.; lamb, hindquarter, 10@11c.; forequarter, 6@8c.; veal, 7@9c.

POULTRY.—Fowls, 11@12c. per lb.; chickens, 20@30c. per pair; capons, 25@30c. per lb.; turkeys, 12@14c.; spring ducks, 15@16c.; green geese, 12@13c.

FRUIT.—Apples, $1@2 per bbl.; Blackberries, 6@8c. per qt.; Currants, $1.50@2.25 per bu. Gooseberries, $1@1.50; Huckleberries, 5@6c. Muskmelons, $2@3 per bbl.; Peaches, $1@1.50 per basket; Pears, $1@1.25 per bush.; Red raspberries, 10@12c. per qt.; black, 8@9c.; Watermelons, $ @30 per 100.

VEGETABLES.—Beets, 30@35c. per doz. bunches; Cabbage, $1@2 per 100; Cauliflower, $1.50@3 per doz.; corn, 40@50c. per 100; Cucumbers, 10@20c. per crate; Green Peas, $1.50@2.00 per bus.; Lettuce, 2@3c. per box; Onions, $1@2.25 per bbl.; Potatoes, new, $1@1.25 per bbl.; String beans, 12@40c. per crate; Squash, 15@25c. per doz.; Tomatoes, 75c@$1.50 per crate; Turnips, new, 10c. per doz. bunches; Wax Beans, 8@10c. per bush.

New-York Markets—Aug. 10.

BEANS—Marrow, 1889	—	@	2.30
Medium, 1889, choice	—	@	2.25
Pea, 1889	—	@	2.25
COTTON—	Uplands.	N. O. & Gulf	
Ordinary, per lb.	9½ —	— @	9½
Middlings	11¼@ —	— @	11¼
Fair	12½@ —	— @	12½
EGGS—State and near-by, per doz.		16@16½	17
Western and Canada		15 @	16
FLOUR—Spring Wheat pat., per bbl.	4.50	@	4.60
Winter	5.10	@	5.20
No. 2 extra State and Western	2.10	@	2.40
No. 1 extra	2.40	@	2.80
Minnesota clear	3.80	@	4.00
Straights	4.00	@	4.20
Rye Flour, superfine	3.75	@	4.00
Corn Meal, western	2.00	@	2.75
FRUIT—Apples, Alexander, per bbl.	2.00	@	2.50
Gravenstein	1.75	@	2.25
Summer Pippin	2.00	@	2.50
Blackberries, Jersey, per qt.		1 @	1½
Grapes, Southern, Niagara, per lb.		7 @	10
8 lb. Delaware		7 @	14
8 lb. Ives		4 @	6
8 lb. Concord		4 @	6½
Huckleberries, Jersey, per qt.		6 @	7
Mountain		6 @	7
Musk melons, Md., per bbl.	2.50	@	4.00
Jersey, Cantaloupe	1.00	@	1.50
Jersey, Jenny Lind	1.00	@	1.50
Peaches, Jersey, per basket		60 @	1.00
Del. & Md., per crate		50 @	1.00
Pears, Ga., Le Conte, per bbl.	3.00	@	5.00
Bloodgood, Reserve Orchard	1.50	@	2.50
Clapp	2.50	@	3.50
Jersey, Bartlett	3.00	@	3.00
Plums, Up-river, 8qs. per bbl.	3.00	@	4.00
Watermelons, large, per 100	30.00	@	50.00
Small	6.00	@	12.00
DRIED—Apples, sun-dried, per lb.		3½@	4
Evaporated		4 @	6½
Peaches, sun-dried		4 @	5
Evaporated		8 @	10
Plums		— @	5
Cherries		10 @	12
Blackberries		3 @	4
Huckleberries		10 @	12
Raspberries		16 @	20
GRAIN—Wheat, State white, per bus.		93 @	96
Ungraded spring		85 @	90
No. 1 red, winter		92½@	—
No. 2 red, winter		89½@	91½
Corn, No. 2, white		50 @	—
No. 2, mixed		44½@	44½
Oats, No. 2, white		34 @	—
No. 2, mixed		31 @	32
Rye, State and western		57 @	58
HAY—Timothy, per 100 lbs.		80 @	90
Shipping		75 @	80
Clover		65 @	70
Straw, long rye, No. 1		80 @	90
No. 2		70 @	75
Oat		50 @	60
Wheat		60 @	—
HOPS—N. Y. State, 1889, choice, per lb.		16 @	18
Good to prime		14 @	17
Best, 1887		8 @	9
California, 1889, best		12 @	14
Pacific Coast, 1887		7 @	9
German		20 @	30
POULTRY—Live fowls, per lb.		12½@	13
Spring chickens		20 @	30
Turkeys		10 @	11
Ducks, per pair		60 @	70
Geese		1.00 @	1.25
Dressed fowls, per lb.		11 @	13½
Phila. springs		18 @	20
West. broilers		8 @	11
Turkeys		11 @	13½
Ducks, spring, per lb.		12 @	14
Geese		8 @	10
PROVISIONS—Beef hams, per bbl.	13.00	@	15.00
India mess	12.00	@	14.00
Hams, dressed, per 100 lbs.	6.00	@	6.00
Lard, per tierce	6.25	@	6.50
Pork, new mess, per bbl.	12.00	@	13.00
Short clear	12.25	@	12.50
Family	13.00	@	14.00
VEGETABLES—Beets, Long Island, per 100 bunches	1.00	@	1.50
Cabbage, L. I., per 100	1.50	@	2.50
Cauliflower, L. I. & Jer., per bbl.	1.00	@	3.00
Corn, Hackensack, N. J., per 100	50	@	1.00
Cucumbers, Long Island, per 100	75	@	1.00
Cucumber pickles, per 1,000	1.00	@	1.50
Green peas, Long Island, per bag	1.00	@	1.50
Green peppers, Jersey, per crate	40	@	60
Lima beans, L. I. & Jersey, per bag	1.00	@	1.75
Okra, Jersey, per 100	50	@	1.00
Onions, potato, per bbl.	1.50	@	2.75
Orange County, red	1.00	@	1.75
State, yellow	1.75	@	1.87
Potatoes, Nor. & N. Shore, per bbl.	1.00	@	1.75
Long Island, Rose	1.00	@	1.87
Va. sweet	1.00	@	1.50
N. C. sweet	1.00	@	1.50
Squash, Jersey, per crate	75	@	1.00
Tomatoes, Jy., Acme, per crate	50	@	75
Northern Jersey Gran'l	30	@	40
Turnips, Jersey, per 100 bunches	50	@	75

Cattle Markets.

NEW-YORK, Aug. 10.

BEEVES.—Receipts, 10,301 head. The week opened with a recovery in values of 10c. per lb., which was fully sustained on Wednesday until the close of business, when the tone became weak. Friday trade was active and values firm. The herds on sale were from poor to coarse, and were in the aggregate fairly fatted, being corn-fed. There were no Texas steers offered; Colorado steers sold at $4.50@4.75.

[Per rental, net.]	This week.		Last week.	
Good beeves	$4.60	@ 5.00	$4.60	@ —
Fair	4.00	@ 4.50	4.00	@ 4.75
Coarse	3.50	@ 3.90	3.75	@ 4.00
Poor	3.00	@ 3.40	3.50	@ 3.65
Oxen	3.75	@ 4.10	3.90	@ 4.00
Dry cows	1.50	@ 3.75	1.60	@ 3.50
Bulls	1.75	@ 3.75	2.00	@ 3.75

MILCH COWS.—Receipts, 64 head. Trade has been dull and the cows offered of generally inferior quality; 2 cows, with 2 calves were sold for $99; 3 cows sold at $90@95 per head. Nominal range, $30@60 per head.

VEALS AND CALVES.—Receipts, 3,900 head. On Monday last values declined 1c. per lb., the tone improved, and values became steady. On Wednesday the quality of the veals was generally better. The markets closed steady on Friday. Range of prices: Calves buttermilk fed, 3½@5c per lb.; yearlings, 3c. Veal: calves, part meal fed, 5½@6½c.; veals of medium quality, 5@5½c. veals of fair quality, 6@6½c.

SHEEP AND LAMBS.—Receipts, 24,733 head. The week opened with a dull feeling and a weak tone in values. Trade improved on Wednesday, when sheep were steady, and lambs recovered ½c. per lb.; Thursday values advanced ½c. per lb.; Friday the markets closed steady. Range of prices: Sheep, 4@5½c per lb.; rams, 3½c.; ram and ewes in mixed flocks, $3.50@3.90 per cwt.; ewes, 4½c. per lb.; lambs, 6@6½c. Quality of the flocks poor to choice.

SWINE.—Receipts, 10,340 head. Trade was very dull on Monday, but improved on Wednesday, and closed steady on Friday, when values were ½c. per lb. higher. Sales for the week were 7 car loads, 510 lbs. at $5.80@5.90 per cwt.; 30 State hogs sold in several lots at $4.70@4.90; 30 pigs, 120@140 lbs.; 100 hogs held for sale.

BUFFALO, Aug. 10.

BEEVES—[Per cental, gross.]	This week.	Last week.
Extra steers	$4.60@4.65	$4.30@4.60
Best butchers'	4.15@4.40	4.00@4.15
Second quality	3.75@3.90	3.50@3.75
Poor to common	3.25@3.50	3.25@3.50
Stockers, light	2.25@2.40	2.25@2.30
Stockers, good to choice	2.50@2.75	2.75@3.00
Bulls	2.25@3.00	2.25@2.90

Receipts, 11,100 head against 13,700 last week. Demand greatly improved, but supply of really good cattle light, and in point of quality not up to last week's offerings. Everything was taken, and a number of orders for export and choice butchers' cattle were left unfilled. Texas steers sold at $3.85@3.95, closing strong. Stockers fairly active; receipts liberal; bulls quiet, offerings light.

CALVES.—Demand fair; prices easier. Choice to extra, $5@5.30; heavy, $3.50@3.75.

MILCH COWS.—Receipts heavy, especially of fresh, market dull and lower, extra, $70@80; good to choice, $50@60; common to fair, $ @35.

SHEEP AND LAMBS.—Receipts, 21,600. Trade fair; offerings light; prices irregular for sheep, but strong and 15c. per lambs; closed at 90 to 110 lbs., $4.5@5; 70 to 85 lbs., $4 @4.45; common thin lots, $3@3.75; culls, $2.50@3. Lambs, yearlings and clean, $4.80@5.20; western, $4.50@4.75; common, $4.25@4.

SWINE.—Receipts, 28,400. Offerings of choice about equal to the demand which was fair; grassers quiet; mediums, $4.70@4.75; good heavy, $4.70@4.80; Yorkers, good to choice corn fed, $4.80@4.85; grassers and Michigan, $4.60@4.75; mixed packers, $4.70@4.80; pigs, $4@4.50; roughs and stags, $3.50@4.25.

BOSTON, Aug. 10.

BEEVES, NORTHERN.—Good oxen, dressed, 8@9 per cwt.; fair to good, 6@8; second quality, $40@50 per head; spring lambs, 4½@6½c.

WESTERN, Alive—Extra, $4.25; good to prime, $4@4.20; light to fair, $3@3.75.

MILCH COWS—In moderate supply at $30@50 per head.

CALVES—About 1,200 head at 3½@5c. per lb.

SHEEP AND LAMBS—Nearly 4,000; in lots at $3.25@5 per head; spring lambs, 4½@6½c.

SWINE.—Over 21,000 received; Western fat hogs, 4½@5c. per lb.; pigs, 5@5½c. per head.

Dairy Markets—Aug. 12.

ALBANY.—Butter receipts from State moderate; best grades in demand; lower, dull. State creamery, choice, 19@19c.; Western creamery, 16@18c.; State dairy, 17@18c.; fair to good, 16@17c.; Western dairy, choice, 15c.

Cheese in free receipt and demand; State factory, full cream, 9@9½c.; fair to good, 8@8½c.

UTICA.—Advices from New-York last Monday were more cheerful, and encouraged the buyers to pay better prices for Cheese. Transactions amounted to 17,000 boxes, at 9@9½c., the ruling price being 9c. Over 2,000 boxes were taken at 9½c., and about 1,000 at 9¾c. At Little Falls, transactions were 10,000 boxes, the largest number sold at one time. Nobody attempted to account for the rise, but buyers seemed to anticipate a better market in the city. For a time, their anticipations appeared to be realized—the price advancing to 9¾c. and even to 9¾c.; but on Thursday the edge was off, and by Friday the price was down again to 9½c. Buyers whose cheese arrived early in the week, and who sold early, probably got out whole; but those who did not, or could not, sell until the latter half of the week, must have lost a bit of money on their purchases. There was evidently an intention to put the market up, but shippers stood out against it, the arrivals were rather heavy, and cheese could not be disposed of at the advance. Probably more stock was held over than in any other week this season.

Butter seems to be improving slightly, as it generally does with the advancing season. Sales at Utica were 70 packages creamery at 17@18c. At the Falls, 33 packages creamery sold at 18c., and 15 packages dairy at 16@17c. The price in New-York has advanced 1c. this week, and now stands at 18c.

NEW-YORK.—Butter still in larger receipt than demand. Receipts, 54,106 packages. Eastern creamery, 17@18c.; Western creamery, 15@17c.; State dairy, choice, 16@16c.; Western dairy, 14@15½c.; Western factory, choice, 13@14c.

Cheese easier. Receipts, 74,836 boxes. Factory, best, 9½@9¾c. per lb.; light skims, 1½@8c.; Ohio flats, 9@9½c.

BOSTON.—Western creamery, extra, 17@17½c.; extra creta, 16@16c.; factory, 14@15c.; Vermont, extra, 16½@16½c.; dairy, choice, 15@16c.; Eastern creamery, extra to choice, 16@17½c.

Cheese, northern choice, 9½@9¾c.; western, fancy, 9@9½c.

Wool Markets—Aug. 12.

ALBANY.—Inquiry limited; sales 15,000 lbs.

New clip, medium, 26@28; New clip, fine, 17@20

NEW-YORK.—Ohio XX, 30@32c.; Indiana, 30c.; delaine, 32c.; unwashed western, 30c.; pulled, 30@32c.; Territory, 24@26c.; scoured, 35@38c.; Montana, 36c.; Oregon, 24@26c.; scoured, 35c.; Texas, 24@25c.; scoured, 34@36c.; California, 24@25c.; scoured, 36c.; Georgia, 30c.; Australian, 40c.; Montevideo, 28@29c.

BOSTON.—Sales, 2,200,000 lbs. domestic and foreign; Ohio and Pennsylvania, 32@33c.; Michigan, 31c.; Canterbury and delaine, 30@31c.; scoured, delaine, 36@37c.; unwashed, 28@34c.; Territory, 26@36c.; Texas, 28@34c.; California, 24@30c.; Oregon, 24@26c.; Australian, 36@38c.; New Zealand, 40c.

"Ain't it the Stuff, Though?"
MOORE BROS.' GALL POWDER
Cures Galls while Animal Works.
Effect prompt. Cure positive. Price 50c. and $1 per can by mail, post-paid. Send for Circulars.
MOORE BROS., Veterinary Surgeons,
147 to 155 Hudson Ave., Albany, N. Y.
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Many women with fair forms are deficient in beauty owing to undeveloped figures, flat busts, etc., which can be remedied by using
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It is impossible to give a full description in an advertisement. Send 6c. in stamps for a descriptive circular, and receive "Beauty," a monograph with testimonials, sealed, by return mail. Sold by Druggists. L. E. MARSH & CO., 2919 Madison Sq., Philada., Pa.

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TUTTLE & CO., 10 Barclay Street, New York City.

The Fireside.

A Song of Summer.

There's a great three-in-one—
Soil, water and sun—
Whose work carries forward creation;
Spring opens her eyes,
A voice calls: "Arise,
And go forth with the loud proclamation—
'Unloosen, ye streams;
Snow and ice, to your dreams,
For the winter is over and past.
Ye hill-tops and vales,
To the breeze with your sails,
And bring in the summer at last.
Sturdy husbandmen, haste,
In delay there is waste;
To your work like true heroes be springing.
Sun, water and soil
Will requite all your toil,
And a bountiful harvest be bringing.'"

All the streams flow apace,
All the fields grow in grace,
And the leaves and the grass and the flowers
Keep time, if not tune,
To the music of June;
Quick with life are the full, pregnant hours.

The fierce July heat
Quickens nature's pulse-beat,
And rouses the click of the mower;
The reaper's sharp blow
Lays a thousand heads low,
With a thousandfold gain to the sower.

August brings up the rear
With a "Harvest Home" cheer;
September drowns cool summer's fever.
Ripe rustles the corn
In the fair breezy morn;
With adieu to the summer, we leave her.

Lake Erie. A. S. H.

Matters in Europe.

LONDON, *July* 13.

One of the finest haymaking seasons in my recollection has terminated; crop about the largest ever known. Rain (wanted for the swedes and other roots) has just begun to fall, and this comes in time to prevent the straw of the grain crops being complained of for shortness. A thoroughly wet July is not one of the most desirable things, but there is every prospect that wheat will, whatever happens, run ten million quarters in excess of last year's harvest. The price is nothing to boast of; last week's averages at $5 80 per quarter. In France the price has fallen to $7 90. Russian crops are better than expected, and no doubt the immense stocks held over from last year at the various ports had not a little to do with exaggerated tales about the short-comings of the present harvest.

Our great Mediterranean island, Cyprus, for which we pay $500,000 a year to the Turk, has been having bad times. The excessive drouth of last summer punished the people so much that but for the relief-works of the government numbers would have perished. Multitudes of animals died of starvation, while others had to be sacrificed by their owners at a nominal figure to enable them to keep body and soul together. The holding of the island costs the English tax-payer over $100,000 a year beyond the sum raised by taxation. We have done a good deal for them since they have been under our rule, in the way of lessening the plague of locusts and grasshoppers, while the imports and exports have considerably increased; but it will take a generation at least before the mischief done by the pachas is entirely overcome, and Cyprus becomes again a happy and profitable spot, as it was in former days, with a population of at least a million.

I copy a letter which Lord Fife sent to his factor in the North, a few days since—a letter which speaks for itself:

"I am very anxious that you should convey to the tenantry my deep sense of their kindness in proposing to give Princess Louise and myself a wedding present. I may tell you that I have considered this question very carefully, and have decided that I will not allow my tenantry to make us any wedding present. I feel so thoroughly that these are not times for tenants to devote their resources to any objects which are not strictly necessary, that I have quite made up my mind to decline any wedding gift. I feel none the less deeply touched at the warm, cordial feelings which have prompted this generous offer, but no exchange of gifts is necessary to emphasize such feelings. They have characterised all our relations from the earliest days that I can remember, and I shall to my dying day earnestly endeavor to perpetuate and maintain them."

His lordship is worthy of a royal marriage, for he acts right royally in thinking, further, that a young lady whose papa has an income of $500,000 a year, and whose grandmamma has $2,500,000 a year, hardly needs a dowry from the nation on the occasion of her marriage.

The wet season of 1888 has done good in the way of lessening the show of thistles this year. Wherever these pugnacious weeds were cut freely last year, the heavy rains appear to have killed them to the roots. Opinion is still, however, divided greatly as to whether the spring, summer or autumn is the best time for weakening their vitality. My own experience is that if you behead them at the period of greatest vitality, you get a numerous and sturdy generation to take the parents' place, but that the vegetative effort expends itself if you mow down the second generation also.

July 20.—A week of alternate showers and sunshine has benefited things all round to an exceptional extent. In the eastern counties an average of 36 bushels per acre of wheat is expected on many farms—straw in proportion, being in many cases six feet high, stiff and strong in the blade, and of a dark, rich color. In the more forward districts, harvest may begin the first week of August, so that the season is not particularly early. Root crops are picking up well, though I doubt whether mangolds can reach an average; but, then, you never can calculate much as to ultimate results with beets until later on. One by-crop has been of great excellence and plenty—mushrooms, many veritable giants having found their way to the shops, even to a diameter of 16 or 18 inches. When mushrooms are good, you expect pasturage to be good also. A nice summer of alternate sunshine and shower (the former predominating) has a great effect on the quality of dairy produce. We get better butter than in 1888, when rank vegetation abounded, and when the sun showed his face 250 hours less than in an average of ten years previous. But this year, with a high temperature, there is complaint that the butter "won't keep"—a complaint which was little heard of last year, when the temperature was one and a half degrees below the average of the last half century. So small, seemingly, are the causes that modify our natural interests.

T. BOWICK.

Some Senseless Mothers.

There is just one drawback to writing the following article; it is doubtful if it will be seen by those who most need it.

At the present time many country homes are entertaining their city friends; summer boarders fill the spare rooms of many others. Among the large class who go into the country are many mothers with children, who are wild over the freedom and the "good time" they are going to have. Some of these mothers have an idea that children need no restraint on the farm. They seem to think that the old farm and its appointments are of little consequence, except for the fun that they can get out of it, and so the children are turned loose to make the most of the occasion. The depredations that they commit would not be permitted for an instant in the city, for their reputation would suffer, but since they are off in the country they think it doesn't matter.

There is no doubt that the farmer is a long-suffering character. I do not believe there is another class of persons living who endure so much imposition without resentment as the farmer and his family. Knowing this, a certain class of visitors and boarders take an unprincipled advantage, and secure their enjoyment at a cost to the farmer's prosperity and peace of mind.

A few years ago a farmer and his wife decided to convert their romantic home into a summer boarding-house. The great beauty of the place attracted strangers, and soon the house was full. Among the boarders was a lady who had a small-sized, sallow boy, of nine years. His mother informed every one that her son was very delicate, and it was for the sake of giving him perfect freedom that she came to that place. Her ideas of freedom would have satisfied the most sanguine American on that subject. She seemed to think that by the payment of a few dollars a week for board, she had secured unlimited liberty over the whole farm. So, figuratively speaking, the boy was turned out to pasture, without the least restraint upon his actions. Judging from his depredations, he ought to have been a giant in size and strength, and one could easily believe that the god of mischief had headquarters in his brain.

While he was executing his mischief, his silly mother would prate over her dear boy's frailties, and express her joy that she had found a place where he was so unhampered in his childish sports!

The boy would go to the melon field on the sly, and pull numbers of large, green melons, cut them, and throw them aside in his search for a ripe one. He would climb fruit trees and shake down bushels of unripe fruit in order to get some particular apple or pear that he wanted. But one morning when the farmer went to the barn and found his driving reins cut into strips, to make a dog harness, it was just a little too much for his endurance, and grabbing the boy by the collar he led him to his mother and made known his grievance.

This is the substance of her adjusting remarks. Addressing the boy, she said: "My dear, I should hardly have thought you would take such a liberty with the gentleman's things. I don't suppose you would, but you are so lonesome here in the country you wanted something to amuse you."

Then turning to the farmer she lubricated his sore with these soothing words: "I don't think Johnny meant any harm in cutting up your leather. I hope you will excuse him. Since he has been so frail, he is never crossed in his inclinations. He does as he pleases at home, and I don't suppose he stopped to think."

My neighbor estimated that the loss occasioned by that boy during the season cancelled all the profit on the board of himself and mother. When the next summer came, and an advertisement for boarders was sent away by my friends, it was supplemented with this little paragraph: "No children taken."

In a number of instances I have seen children permitted to take such unwarranted liberties and to make themselves so officious while in the homes of others, that their departure was hailed with joy. There is one thing which every mother should understand, and that is that children have very little sense about the proprieties of life and social rights and wrongs. Their appetites and inclinations lead them into actions which should be restrained by the wisdom of older minds.

No matter how dearly mothers may love their little ones, or how strongly prejudiced they may be in favor of their ways, their senses should never become obscured to the justice that belongs to another. Whenever a mother takes her children into another's home, no matter whether as a boarder or as a visitor, she should teach them that there are rights in that home which they must regard—that there is a boundary to the liberties which they can take. And every wise mother knows that such discipline is of much benefit to children, since it is one of the lessons of life that we must all learn as we grow older. And whenever a mother is incapable of governing her children and securing good behavior from them, she should keep them in the precincts of their own home, and not afflict a long-suffering public with that most intolerable of nuisances—an ill-behaved child.

NELLIE BURNS.

The Ox-Yoke.

The ox-yoke is one of our cherished institutions, and ranks with the plow as an implement of civilization. Therefore, let that man beware who dares to lay critical hands upon it! It is nevertheless a wonder to many humane persons that the society for the prevention of cruelty to animals has not interfered in behalf of the ox to the extent of proscribing this much respected yoke as an implement of torture. Poor ox! Yoked, but not harnessed, we drive as our ancestors drove, get all we can out of him, and then reward him by eating him.

Far as we have advanced in the arts and sciences as a people we have the same ox-yoke in use fifty, perhaps a hundred, years ago. Every other farm tool has been improved, trimmed, made lighter, better every way; but the ox yoke has stood still, and in consequence, the ox has never been yoked or harnessed to bring out his full power, or to demonstrate fully his utility.

The patient ox first wore the yoke, or rather a push-board, on the forehead, held in place by attaching to the horns. Sometimes a strap was placed around the head under the horns, and attached to the draft chain. In Rosa Bonheur's famous painting, three yoke of oxen, each yoke weighing at least 3,000 pounds, are drawing a plow by means of the strap-head harness. No wonder the plowman needs three yokes for his plow. All the draft, all the power of the immense muscles bears directly upon the cervical vertebræ and attached muscles. Give one yo
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not to mention the saving of time, patience and strength.

If the average woman were a little more self-assertive in regard to kitchen conveniences, there would not only be more justice shown, but she would increase her own self-respect, and add several years to her life.

If every kitchen was supplied with an easy rocking-chair, and a high-chair or stool, and the busy housewife would strive to see how many kinds of work she could do as well, or far easier, by using them, instead of foolishly making a martyr of herself, and standing till tired nature can endure it no longer, she would be showing more wisdom than she sometimes does.

If an entertaining paper or magazine lies where it is convenient to be read in the few spare minutes which occasionally come to the hardest worker, an outlook will be had that will take her out of the rut of her own petty-carking cares, and give her an interest in the world's work, that will wonderfully lighten her load.

If one is not strong, it is worse than folly to have your own or your children's clothes elaborately trimmed, and then stand over the ironing board till completely exhausted, ironing them beautifully on every side.

If soft-wood, unpainted floors are mopped with a small quantity of very hot water, and thoroughly wiped, they will be far whiter than if soaked and vigorously scrubbed.

If a cake of soapolio, or a dish of coal ashes which have been sifted through a wire sieve, are always kept in a convenient place in the kitchen, the labor-saving uses they can be put to are almost numberless.

If dish towels are thoroughly washed with soap every morning and dried in the sun, they need never swell the already large weekly wash.

If gingham or other heavy cotton cloth is made into squares of about three-quarters of a yard in size they will be found much more convenient for stove cloths than the old style of holder.

If you would be wise, study to do the most essential things, and to see how many you are in the habit of doing which are of no real benefit to any one. KATHERINE B. J.

Syracuse, N. Y.

Poison Ivy.

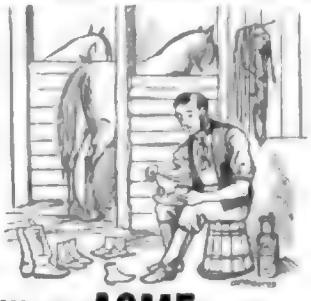
I have been interested in the articles on poison ivy that have appeared in recent numbers of the COUNTRY GENTLEMAN. There has been considerable written that will no doubt be remembered with profit by those susceptible to the poison; but I think it would have been better had a few things not gained such wide circulation. Prof. Bartholow, lecturing on a certain self-limiting disease, stated that, if allowed to take its own course, it would probably terminate favorably in about fifty days, while if the patient were placed under the best possible treatment he might be restored to health in forty-nine. Of all the remedies for the cure of poison ivy eruption, it is doubtful whether any of them will cause it to disappear one day sooner than if it were left entirely alone; but as the itching is so intolerable, it is almost impossible to let it alone, and it is to this symptom that treatment should be addressed. When a febrile condition exists, a saline cathartic is indicated. The urgency of the case hardly justifies such remedies as the preparations of lead or nightshade. Sugar of lead is especially dangerous where there are children, on account of its sweetish taste. It should be remarked that there is danger of constitutional poisoning when raw surfaces are freely bathed with such remedies. In any case, the vesication is pretty sure to disappear in about a week; so any treatment on the fifth or sixth day will be credited with the cure.

Chewing the leaves is not to be commended, for it seems a tolerance cannot be acquired in that way, although I have known several persons try it without being unfavorably affected, while most horses with white noses poison as far as the white spot extends, yet they eat the vine with impunity and apparent relish.

It is observed the vine is most virulent in the latter part of summer—a fact which obtains with insect and reptile venom as well. During the winter and spring months it is comparative bland.

Taking advantage of this circumstance, it would be well for those who will have to come in contact with it in summer, to accustom the body to it during cool weather, and to avoid it as much as possible when perspiring freely. Persons of dark complexion are less likely to be affected than those who are fair. Yet we occasionally see a darkey severely poisoned.

When applied to for treatment I uniformly recommend frequent bathings in salt water, as it relieves the itching as well as anything, while it is cheap, perfectly safe, and always at hand. J. W. LUCKEY, M. D. *Gallia County, O.*



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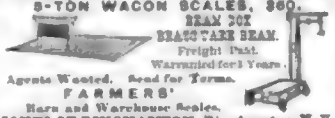

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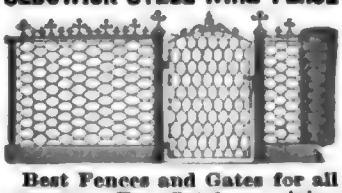

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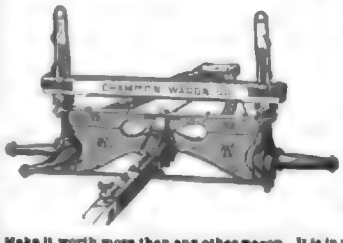

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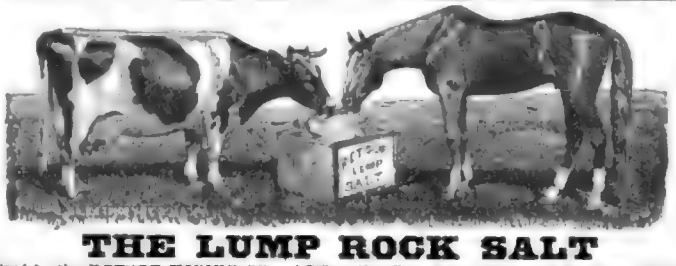

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COUNTRY GENTLEMAN

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THE CULTIVATOR AND Country Gentleman

Albany, Aug. 22, 1889.

Covered Manure Sheds.

ED. COUNTRY GENTLEMAN—Mr. Terry, no doubt, is the only man who has advocated, through the press, covered sheds for the protection of manure (see p. 530); but he was not the first man who put the plan into practice. We find throughout the State of New-York, and also the older Eastern States, many farmers who adopted that plan years ago, as well as the plan of using the basement under the stables in which to keep the manure until wanted for use.

Tight floors are made so as to save all liquid manure, and trap-doors are used so as to drop it into the cellar. No smell of the decomposing manure can come into the stable on account of the tight floors. These vaults have been used for many years, and it would seem are much better for retaining all the virtues in manure than the covered barnyard would be. These barns are built generally on hillsides, so that it is very easy to get the manure out, but they could be and are built on level land, even in Ohio, a tight wall of stone or brick being built, and then on one side earth graded up to make an approach to barn floor and stable. This makes a warm and dry basement.

In regard to Mr. Terry's mode of tramping down the manure in the stall under the horses, of course he has large, roomy box-stalls, or else he could not practice his mode. Why does he not turn his horses loose in the covered barnyard and feed them there? As he has asserted that he never feeds any grain to his horses, they could then tramp down the straw and manure, and there would be no forking of manure as now in cleaning out his stables.

No doubt many thousand dollars' worth of the best of fertilizers are washed away from barnyards throughout the United States each year. Many farmers believe that there is more real virtue in a large pile of well-rotted manure which has lain out in the uncovered barnyard a year or more than there is in that manure used fresh from the stables. My plan for a number of years has been to draw out the manure as made in the winter time, and spread over the wheat fields where they are on level lands, or on to the fields intended to plow for corn. I thus get the hauling of manure done at a comparatively leisure time, and in the spring can go to plowing early, and do not have to go over a huge pile of manure daily in the barnyard; and thus as the manure is on the wheat, or on corn land, I get the benefit the first season after it is made. The summer-made manure I draw out each week and spread over pasture lands, or meadow and young clover after harvest; therefore there is nothing in the barnyard to wash away during spring or summer if we do have deluging rains.

My manure this year, as it was so rainy last winter, I did not draw on the land. I fed ten head of cows and heifers, under a large shed, with corn and fodder and clover hay. The manure this spring was 2 feet deep and tramped solid. This was hauled out in April, and applied on the poorest portion of a white oak and beech clay soil, where last year a timothy sod produced 35 bushels of corn to the acre. There was no use in talking about potatoes as they would not grow there. The corn was planted about May 20, as we had such dry weather it was very hard to plow the ground after the manure was hauled out. On account of the drouth during May and the first week in June the corn did not come up until in June, but we have had so much rain since that the corn now is growing finely where the manure was applied, and is much larger that where there was no manure applied, although the manure was put upon the poorest parts of that field. I fully believe that I shall get more benefit from that manure than I would have got had I left it under cover until fall and applied it to wheat ground, and will get the benefit six months sooner.

I have just commenced on this poor clay farm, and that corn field of 14 acres of clay, white and poor, I intend to keep planting to corn year after year. Shall buy corn and feed, and make manure and apply to that field and shall tile-drain it, and intend to increase the production of grain from 35 bushels now to 100 bushels in six years' time. Manure made by feeding grain, not straw, assisted by tile with the aid of good tillage, will bring that land up to the capacity of producing 100 bushels of corn per acre, and then I can plant potatoes there with the expectation of getting a paying crop, or a good yield of hay.

I would say, in conclusion, that we have a farmer in this vicinity who does not clean out his stables during the winter, neither does he use much straw to bed with; but his stock stand with their hind feet two feet higher than their front ones. H. WARREN PHELPS.

Franklin County, O.

Bean Culture.

ED. COUNTRY GENTLEMAN—A reader of your paper residing in Kentucky, asks for an article on bean culture, and requests that I go into details, so as to cover all the operations of planting, cultivating, harvesting and preparing for market. This I will gladly do, although a part of the work of the present season is already done. As an introduction I will say that perhaps no other crop will give as large profit on thin land as beans, and certainly no crop that I am familiar with will leave the land in as good condition for a wheat crop, and for these reasons I like to grow them. The only serious disadvantage in the management of the crop is the liability of damage by wet in the fall, making it necessary to pick them over by hand, which is tedious and expensive.

Beans should not be sown until June, and in my latitude I sow as near the 10th as the weather will permit. This is for the Navy, but the Marrow will bear sowing later, and I have put them in July 4, and harvested them Sept. 12. I advise early plowing, however, in order that any weed seed may start and that the land may be made clean and mellow at seeding-time. It is, I think, a great damage to the bean crop, on clay land especially, to have a heavy rainfall soon after they are sown, as it is liable to cause more or less of the seed to rot, and if the land is packed hard the plants come up weak and start slowly, and a crop of weeds start with them. So I advise that the land be made ready and the seed sown early in June, as soon after a rain as the land will work nicely, and if the beans come up before the next rain and get a start to grow, it is a great advantage. We sow with the force-feed wheat drill, and use from three pecks to a bushel of seed to the acre, but as we do not use all the holes you cannot set the drill by the gauge, but must measure out a few quarts and test the drill on a measured piece of land until you get the right quantity. Our drills are set to sow wheat eight inches apart, and in sowing a bean crop to be cultivated by horse power, I use every third hoe, which makes the rows two feet apart. I have seen large fields sown by stopping only every third hoe, sowing two rows eight inches apart, and then leaving a sixteen-inch space. When sown in this way the beans are not cultivated at all, and are harvested by cutting with the mowing machine, and this close planting is to enable the beans to shade the land quickly and prevent the growth of weeds. When the crop is cultivated, avoid throwing earth to the plants, as the ends of the pods are likely to be damaged by it, and make it necessary to pick them over by hand.

The ordinary way of harvesting is to pull by hand, and the beans are laid roots up in rows, leaving room for a wagon to be driven between them to load. The beans ought not to stand until ripe, or there will be loss from shelling, but most of the pods should be yellow. If they can be put on racks with a chance for a circulation of air between them they may be pulled before any of the pods turn yellow, and will cure out and make a very bright, salable article, and when but an acre or so is raised and there is plenty of barn room there is less risk in this way than any other. Beans may be left out through heavy rains until the pods are quite black, without any damage to the bean, if they are spread thinly on a closely-trimmed hedge or rack, or on the tables of a field where broom-corn has been cut, as the rain will run through them and they dry out soon.

With a large crop, a threshing machine is sometimes used to thresh them, but they can be threshed so cheaply and well by tramping with horses, that I always employ this method. Do not try to thresh them in damp weather, but either during dry hot weather in autumn, or in zero weather of winter, they will become so dry as to thresh very easily. Be sure and have the barn floor well covered, as if there are thin places the horses will split some of the beans which injures their appearance and sale, but with a foot or so of vines between their feet and the floor this cannot happen. Clean with the fanning mill, and if there are no spoiled beans they may be sacked for market, but if there are, they must be hand-picked. I generally give this job out to women, and can get them picked over at 35 cents per bushel, if not very bad, but sometimes it costs 50 cents. If I have omitted any details I will gladly answer any questions that may be asked. WALDO F. BROWN. *Butler County, O.*

Prospects of Farming.

Are They as Bad as is Asserted?

ED. COUNTRY GENTLEMAN—In your editorial of Aug. 1, page 580, you refer to "Prospects for Farming," as given in an exchange. I agree with your article entirely. Is it not time to check this spirit of unrest and complaining whose utterances have been iterated and reiterated so long in the ears and before the eyes, not only of agricultural readers but also of the general public? Complaining alone will not help to improve the condition of our farmers anywhere, much less in the Eastern States.

To a superficial observer, and measured by a dollar-and-cent prosperity only, the situation may appear gloomy. But on a closer examination, more extended, more minute, an examination that takes into the estimate other valuable improvements and acquisitions of the farmers of the East—and I believe of the West, too—besides money, the situation will be better than it seems. As to the West, it has been advertised and pushed and puffed both in the Eastern United States and in Europe by agents and otherwise for years. Horace Greeley's advice, "Go west, young man," has been followed by many thousands of our best young people, some to their advantage, usefulness and pecuniary profit, and others to their ruin. And this, as a matter of course, has taken from us—and more especially, I presume, from the tone of New-England speakers and writers, from the New-England States—those who under other circumstances would have held and improved the old homesteads. These have passed into other hands in many cases, or in others have been allowed to "run down." The West has gained by this influx from the East of our best population, intellectually, and it is hoped religiously, and there has been none too much of this admixture to leaven the incongruous masses from Europe that have settled in our Western States and Territories. This then is not an unmitigated evil.

The attractions to western emigration are not quite so flattering as they were, and the virgin fertility and productiveness of the intermediate West have been so far reduced as to make the application of fertilizers of some sort necessary, if large crops are to be produced. In this respect then they are no better off now than we of the East. The inducements that once prevailed to "go west" have themselves gone so far west that, when we come to strike a balance concerning other advantages that exist in the Eastern States over the regions of the near West, the East tilts the beam.

Now, consider the decline in price of farm lands. Improved farms with improved buildings, modern and in first-rate repair, are being sold at but a little advance over the cost of the buildings. The reason for this is supposed to be largely due to the fact that money invested in other industries would pay a larger profit to its owners than if put into the farming business. While this has been so to a large extent, such opportunities are certainly growing fewer. But I believe that the wail in the minor key, "Farming doesn't pay," has had much to do with this declension in price of farms, and has led our sons and daughters who have not gone West to flee to the cities

for employment of some sort before poverty and disgrace overtook them on the farm.

It is time for us now to begin to do as they have been and are doing in the West—advertise. Let us advertise our Eastern States. Their advantages—natural, social, educational and religious—are not generally known. In the West, and in the South now, this is being done by their State Boards of Agriculture largely, and in other ways. This is a wise expenditure of money. Look at the fifth and sixth reports of the Kansas State Board of Agriculture. When a person wishing to purchase laid or secure a home, can take up such an official setting forth of the advantages possessed by a State, or several States, he can make a more intelligent and satisfactory selection, than he could without such help. We owe it to ourselves to do this. Not by complaining as we have been doing; this has had a tendency to drive good settlers from us who might otherwise have stopped here. Who would wish to settle in a region where so many are threatened with ruin?

With our improved and improving skill, intelligence and methods in farming operations, we can show as good results from the same expenditure of money in farming in the East, other things being equal, as in most other parts of our country. You speak of the "improved condition of farming itself," and cite instances to show this. I could give you numerous similar examples in this State where the yields are simply immense. Lands that less than 50 years ago lay out as the "public common" are producing prodigious crops. I will not go into detail. Capital, character, intelligence and *push* are the requisites to success in any legitimate calling. As has been stated, not so much of the former is required to go into the farming business, so far as land is concerned at least, as formerly. And not so much is necessary to go into farming *as is needful in most other industries*, in order to succeed. Let a young man possessing the above qualifications, even to a limited degree, settle on the old homestead, even though it is "worn-out," and with a good wife and good health he is sure to succeed.

I do not agree with the statement that "with the movement of population from East to West the fertility of the soil has declined." Its present productiveness may be in some cases diminished, but its natural fertility remains. And besides, nature does more for her uncultivated lands than she does for some other of her uncultivated possessions. These lands will respond quickly and well to intelligent cultivation and management. There is an improvement all along the line in farming operations over a few years ago, and this is spreading, and must continue to spread. It is one of the fruits of decreased profits from poorer methods. Better methods have become necessary to better profits.

If money-getting is our only or chief object in farming, if we will consent to live as farmers did fifty or more years ago, more money can be laid up. But what intelligent farmer is willing to divest his home, his family, his surroundings, of the adornments, the comforts, the increased intelligence, and social standing, that are the rule and not the exception in so many farmers' homes? It would be an unwise exchange. I do not think our public schools are deteriorating in character. But if they are in any rural districts, are not farmers themselves to blame for this? They are the trustees and have the key to the situation. Our teachers who are graduated to-day, certainly have a more thorough and comprehensive knowledge of many things, than most of the common school teachers of the last century. But the teachers in our rural districts want more co-operation and sympathy from trustees and parents. Pupils should be sent to school regularly, every school day, throughout each term. It may be that the money expended in our common free school system is not realizing to our children all that is claimed for the system, and honestly expected from the use of so much money, but I am persuaded that the trouble lies in the direction indicated.

In this connection, another fact must not be overlooked, viz., more of our people are taking advantage of the better facilities now afforded to give their sons and daughters an education superior to that which can be secured in our best common schools, and the removal of this class from those whose education stopped with the district school, is so far and so marked that it makes the latter appear to a greater disadvantage.

I wish to assure the author of the article in your exchange, and all others who share his views, that the intelligence of the American people will be equal to the situation for centuries to come, and that we shall have bread enough and to spare through all those centuries. Only let us do right and be thankful.

Mercer County, N. J., Aug. 6. FRANKLIN DYE.

Haying Now-a-Days with Machinery.

ED. COUNTRY GENTLEMAN—On my little farm at Hudson, O., I had this year 45 acres of recently seeded clover and timothy—20 acres sown with the wheat of 1887, and now chiefly timothy, and 25 acres sown with the wheat of 1888, and nearly all clover; also 8 acres with this year's wheat, that will need cutting for hay this fall; also 15 acres of Hungarian grass, and 20 acres more of Hungarian to cut on neighboring land. Much of the second crop will need cutting, where the ground is not plowed for wheat this fall. It is so heavy that, at a moderate estimate, my four men and three horses will have to put up, of first and second crop, over 175 tons of hay, including what is done. I hope my friends who think I do not believe in clover, will note these facts. Also that 20 acres, if possible, of the clover stubble will be plowed in time to put it into wheat again this fall, to be sown to clover and timothy again next spring.

Well, such a burden of heavy clover and timothy and Hungarian suggested the need of best machinery. I tried early, from two makers, to get a hay tedder. Both were sold out clean. One would have a new lot ready to ship July 10, and I ordered one. The extreme wet in Ohio made an unprecedented demand. I also bought a Buckeye hay-loader of the Keystone Mfg. Co. of Sterling, Ill. I use the Buckeye mower. If properly adjusted, it leaves the hay nearly as loose for drying as the Eureka does—not quite. I have never gone back on the Eureka, but it will not mow Hungarian well, nor do so well as a side-draft machine in an orchard with spreading limbs. But the Buckeye, as now made, if properly adjusted, leaves the grass very loose for air-drying. First, the lines should be so adjusted that the horses will not tramp the mown grass, i. e., shall walk between the swaths; second, the short lever ratchet should be set in the third or fourth notch, so as to carry the pitman wheel very high. This makes the pitman play at a greater angle, and hence loses some power and motion, but it carries pitman and braces so high that they do not pack the grass. The wheels, as the machine is now made, track in the divisions of the swaths and do not tramp the hay.

With the machinery named, and with a horse-rake of course, if the weather is good, I think the best way to handle clover and timothy is as follows: Mow an hour or two—say from 4 30 or 5 to 6 P. M.—and again next morning, as soon as dew is off, till nearly noon. As soon as the dew is off, start the tedder also and keep it running. You can ted more than twice as fast as you can mow, and so, when you catch up, you can ted it over again. By noon or 1 P. M. it will do to draw if thus treated. Then start the hay-loader; it takes the hay as it lies, a strip about 5 feet wide, and delivers it nicely on the load. It hooks on to the rear of the wagon. It has curved steel fingers, about 6 inches long and 6 inches apart, revolving on a large cylinder. They pick up the hay neatly and deliver it on a carrier, like a threshing-machine straw-carrier, which delivers it on the load in a steady stream. It needs a boy to drive the team and two active men to load. If it takes from a winrow, it will deliver faster than the men can load, and you must stop occasionally. In heavy clover and timothy, unraked, it will put on a large load in ten minutes or less.

I never saw hay go into the stack as it did the last day and a half of my vacation on my farm. We kept two men on the stack, ran two teams and two wagons, and kept the hay-loader running nearly all the time. So long as the stack was not higher than the top of the load, we could put in six loads per hour. We started loading near the stack, drove round the strip or plat, and ended near the stack with a load on. It is lively work for the loaders, but not heavy lifting like pitching. The loader takes up heavy clover and timothy without raking, about as clean as men ordinarily pitch from the tumble or winrow. A boy with horse-rake should follow and rake the scatterings before they are too dry, and thus make a clean, neat job.

If the hay is very light, timothy, red-top, &c., it needs to be raked for the loader. Here comes a difficulty. With the ordinary horse-rake, the whole field, nearly, must be raked to get winrows long enough to load to advantage. But the manufacturers of the loader have met with this difficulty by making a side-delivery rake to go with the loader. This takes, as I remember (I do not own one), about 10 feet wide and delivers it in a continuous winrow around the field. With tedded timothy and clover as heavy as mine is this year, there is no need of raking it for the loader.

The chief advantage of the loader is its great economy of time. It takes up the outside rounds of the field or plat as soon as they are dry enough, and works towards the centre of the plat as fast as it is dry enough. It saves raking, bunching, cocking, hay-caps, &c. If there is any sort of reasonable hay weather, by good planning, with mower, tedder and loader the hay can be put in quicker than it could be cocked without tedder and loader.

I bought the loader on the recommendation of Prof. A. J. Cook of the Michigan Agricultural College, who had used it on his own farm and mentioned it in an agricultural paper. I wrote him, and he replied: "You can buy one on my say so." I did, and this make, as now completed, is as nearly perfect and as great a labor-saver, in my opinion, as the mower, twine-binder, tedder or horse-rake. Those five machines should be found on every farm that has any considerable area of heavy grain and hay to harvest. They are now all on my little farm, and I think pay their way well. Carefully housed, as they are, they will last a long time, and will be always ready for use. We have a loader of older make on the college farm, but its work was not satisfactory, especially in wind, nor had I seen any that was until this.

What I say of this and other machines is wholly of my own motion. I have not an implement or machine on my farm for which I have not paid the cash price in clean cash, and hence I have neither object nor obligation to commend what I do not think to be the best up to date, and a real advantage to myself and others. W. L. CHAMBERLAIN. *Ames, Ia., July 26.*

Questions in Tile-Drainage.

MR. T. B. TERRY—*Dear Sir:* I shall begin draining my farm this fall, and would ask the style of tile your experience would suggest as best. I am in favor of horseshoe tile in my work, as the drains I shall lay will have at certain seasons a large quantity of water to carry. Much of the land has good natural drainage. The drains are to carry water from the hollows, or rather ravines. As one drain will be more than a quarter of a mile in length, and the land for some three or four rods on each side slopes toward this, I thought to put in 4-inch horseshoe tile, laid on boards, for this drain.

Watching the fields this wet summer, I have found no time that the water would not all flow through a two-inch pipe at the outlet of my present open ditch; but putting the drain lower, and having the friction and silt to overcome and dispose of, I want to make such an allowance as will give me no trouble. The former owner of the farm laid some two-inch sole tile, and they are either too small or were badly laid. They stop, and the water from these stoppages rises on the land, forming swampy holes that grow cat-tails in great abundance—esthetic, but unprofitable. These drains were not in the ravines either, but across a piece of creek bottom, and with a good regular fall. They may be unevenly laid, but are they not too small? Are not larger tile better in any case? J. W. WILSON.

Madison County, N. Y.

Answer by Mr. Terry.

I prefer the round tiles, or at least those with a round hole through them. Such can be turned any side up that they fit best, when laying, which practically is an important point. In the ravine mentioned I would put four-inch tile. Three-inch carefully laid would probably answer; but after long experience with just such drains and three-inch tile, I would put in four-inch if doing it over. This if I ever wanted to cultivate the field. I had some potatoes killed this year because the water did not get away quite soon enough after an unusually heavy rain.

Why lay on boards? If it is a hard bottom, I would not. I usually dug just to one side of such ravines, where I could get clay bottom, if the middle was soft-bottomed. Two inch tiles are large enough for ordinary draining (except for the mains) on clay land with a good fall. When these conditions are lacking I would use larger ones.

You are just starting. Let me urge you to do all the final grading yourself, using water where there is any possible doubt. Get the bottom so that the water will flow evenly all the way in the groove cut for the tiles. See that every tile is hard enough to ring clear and sound, and that there is nothing inside of it. Lay every tile with your own hands, and put the first two or three inches of earth over them. The rest of the filling and the digging you can trust to men who have no interest in the job. Done in this way, the draining will pay you largely, and you will never have any trouble after it is once done, except to keep the outlet in order.

From the Chemung Valley.

ED. COUNTRY GENTLEMAN—There is little to say regarding the weather of Southern New York, except what one so often reads in the published letters of correspondents to the COUNTRY GENTLEMAN this summer. It is the same story—too much rain—and the farmers of the Chemung Valley will long remember the summer of 1889 for its excessive rainfall, disastrous floods and consequent losses and disappointments.

And after all, the condition of our farmers is not so bad as might be expected. It is only on river bottom and heavy clay lands where the loss is serious, and even there, the crops are not entire failures. On uplands and soils of a dry nature the wet weather has, in many cases, resulted in increased crops. On such land the hay crop is better than it has been in years, and pasturage for stock was never better at this season of the year. Oats, too, are a full crop, with straw unusually heavy, lodging badly in many cases, which increased the labor of harvesting. Both oats and hay have been considerably damaged by the frequent rains, and a large part of the oat crop is still unhoused. It has been an excellent year for new seedings of grass and clover, except where the soil has washed badly, and the effects of a good catch of these will be noticed in next year's returns.

The prospect for potatoes is not good. The ground is too wet and compact, causing the foliage to rust and blight. There is much complaint also of potatoes rotting in the ground, which, if wet weather continues, is likely to materially curtail the yield of the crop.

Buckwheat is an important crop on the hills which skirt our valley. It is also being grown quite extensively this season on the river and creek bottoms, where fields of corn, potatoes and other crops were overflowed, and destroyed by the June floods. The crop, favored by the moist, cool weather, looks exceptionally well at this time and promises a good yield.

Apples are almost an entire failure, although the trees blossomed profusely. It is held by many that the late spring frosts are accountable for the failure of the apple crop, but I am inclined to believe it the result of other agencies, as pear trees are literally loaded with fruit.

It is a question if the people of Southern New-York and Northern Pennsylvania have not gained rather than lost in the change of location of the State Fair by the State Agricultural Society. The Inter-State Fair, to be held in Elmira, Sept. 16 to 27 inclusive, gives promise of greater success in extent and variety of exhibits and in attendance than has been heretofore attained by any fair held in this section.

The entries, which are coming in rapidly, give abundant assurance of a very full exhibit in the various departments, and the systematic and thorough manner in which the fair is being advertised insures a liberal patronage. It will be held on the beautiful, spacious grounds of the Maple Avenue Athletic Association, which have been greatly enlarged, and will give ample room for the occasion. Neat, convenient and commodious buildings are being erected for the display of exhibits, and the management will spare no pains or expense to make the fair entirely satisfactory to both exhibitors and visitors. Among many novel and instructive features will be an exhibit showing the entire process of sugar-making, from crushing the cane to the finished product.

The tobacco crop is very uneven. There are some excellent pieces, large in growth, sound and of good color; but there are also many fields which will not produce much more than one-half of an average yield, even if they escape being cut off by September frosts. The cool weather of the past week has materially injured the prospect for late tobacco by retarding growth and development, which, with the most favorable weather, could hardly have

been completed before Sept. 10 to 15, and will now be delayed beyond this time. On heavy, clay land the frequent June rains prevented a thorough filling of the soil, which had to be worked too wet if worked at all. Subsequent rains compacted the soil still more, which condition the cultivator was not able to wholly overcome. As the result, tobacco on heavy soils is generally uneven and small, and will, in most cases, produce but a partial crop of inferior quality. On dry, sandy or gravelly soils the crop is promising. The growth has been rapid, and the earlier settings are already being harvested, giving promise of excellent quality in the product.

Considerable time can be gained in hastening the maturing of late tobacco by topping the plants early and low down. It is a loss of time and plant force to allow the seed-buds to grow up and produce blossoms. They should be broken off or "topped" when the flower-buds first appear above the upper leaves of the plants. The lower tobacco is topped, the earlier it will ripen, since a plant will mature a few leaves in a shorter time than a larger number. This being true, owners of late tobacco will consult their own interests by topping their late settings down to 8, 10 or 11 leaves to the stalk, and by doing the work just as soon as flower-buds appear.

Minden, N. Y., Aug. 12. G. A. G., JR.

Using and Shading the Soil.

The vines from my acre devoted to green peas have been removed, and the ground is now covered with a beautiful growth of "foxtail" grass. I used to fight this grass as an enemy to my crops; but of late I have been inclined to regard it with a more friendly spirit. The peas were kept perfectly clean until the vines had nearly got their growth; and this recent, rapid springing up of the foxtail came too late to injure the crop in the slightest degree, while on the credit side of its account stand two prominent items:

1. It covers and protects the soil during this dry, hot weather.

2. It gives me a good coating of green manure which I intend to plow under, when conditions are favorable, early in September.

The benefit of this green manure is undoubtedly great. Not so valuable, perhaps, as a growth of clover; but one that comes without effort or cost—even forces itself upon farmers of this section, and challenges them to either accept it, or enter on a long and doubtful war of extermination.

In regard to the benefit of keeping the ground covered with vegetation, and in an active, growing condition during the midsummer, let me give one bit of experience, whose results now lie directly under my eyes. Last year I mentioned in the COUNTRY GENTLEMAN my attempt to raise two crops of peas on the same ground, resulting in absolute failure. The ground was in a fair condition of fertility when planted. With an eye to labor-saving (having more ground than muscle) I set the rows three feet apart and worked them with a two-horse riding cultivator. I kept the ground clean, and the peas being a dwarf variety gave little shade to the soil. From these peas I got a good crop, and the vines were removed in the latter part of June. The ground was then liberally manured, thoroughly pulverized, and resown to that dwarfest of peas, the American Wonder, in drills three feet apart. These were cultivated a few times, when the mildew attacked them, and, soon after, they were plowed under. Once or twice after this the harrow was run over the ground, as the tiny blades of "foxtail" struggled to make an appearance. With the dwarf crops, the many cultivations, the plowings and harrowings, the ground was almost as good as naked during the summer, especially the midsummer. On one side of this patch of peas (last year) was a strip of potatoes, on the other side was corn.

This year corn covers the three spaces and extends beyond; but a stranger could easily mark out in the centre the exact space occupied by last year's peas. The crop from that space will not exceed one-third of that on an equal space on either side—or any part of the field for that matter. There was no manure put on the ground surrounding the pea patch, either last year or this. Now, what is the cause of this year's failure on that spot?

My impression (founded not on this experience alone) is that fertility of soil is maintained through activity of growth, rather than through idleness, that nature takes her rest during the winter, and rebels against forced inactivity during the working season. Also, that the exposure of the naked soil to air and heat, under the direct rays of the summer sun, through some agency which I do not understand, unfits the ground for a crop in some other way, aside from the actual withdrawal of fertility. I draw this last inference from the fact that, in other cases somewhat similar to the one I have mentioned, the fertility (or condition favorable to producing a crop) has returned, on the third year, with the aid of manure. C. L. H. *Freeborn County, Minn., Aug. 7.*

Our Mental and Social Standing.

Your Michigan correspondent, page 388, who, in answer to a question on page 410, says the farmers of his section have nothing to complain of in the matter of social standing, must live in a section of Arcadian simplicity, for my observation leads me to think there are "none so poor to do him reverence." Farmer Hayseed is the stock jest of comic papers and almanacs, from that admirable Pack down. He is taken for every illustration of supreme stupidity—a beast of burden for any load that may be imposed upon him—a rich placer to be exploited by every impecunious rogue who desires pelf without toil; so he goes for him with patent rights, lightning rods, fruit trees, Bohemian oats, maps, pictures and books, and they make big hauls sometimes. Bohemian oats took thousands of dollars out of this section, and they are still being worked, after exposure in almost every agricultural paper in the country.

A young man came to me the other day as I was hoeing in my garden—a shabby old fellow compared with this gorgeous young creature with a watch-chain like a ship's cable. He did not make his business known at first, but was most kind and conciliating, and to put me quite at my ease, said he had worked on a farm himself. After a time I got tired and said: "You did not come all this way to talk politics?"

"Well, no," he said; "fact is, I represent a publishing company who propose to publish all the standard school-books at a discount of 30 per cent."

"Well," said I, "what are the conditions?"

"To purchase a membership ticket, price $4.80, good for three years, which entitles the holder to buy any book from the company at a reduction of 30 per cent. from the market price; and also, which is the great inducement, he is presented with this valuable work"—producing one of the cheap compilations which have been sold by the thousand to farmers, containing remedies for every disease and information on every subject.

How many school-books is a farmer expected to buy in three years, to find it profitable to begin by paying a premium of 30 per cent. on $16 worth? I thanked him, and told him I would be glad to oblige him in any way but by buying his book. He replied that as a book agent he could see no other way, and left.

What is there in the calling of the farmer that makes him such a general target for the shafts of witticism? To be successful in his calling—and a larger proportion of farmers are successful than in any other business—requires as large a share of industry, intelligence and business capacity as any, and yet they certainly are a peculiar people, easily recognized in a crowd. Does much association with the dumb creation give them something of the patient, simple, cud-chewing look of these—a look as of kinsfolk couching between two burdens? I have often been amused, in my occasional trips to the East, remembering my exploits as a boy in the streets of New-York, with the warnings I have received from conductors, porters, &c., to look out for pickpockets, three-card monte men, and so on. In most other countries ownership in land of itself gives a good social standing, but here the country life meets with less and less favor daily, and ownership in land is largely being left to immigrants of the laboring class from other countries. The country gentleman—the man of education and refinement, who from choice leads a rural life—has almost ceased to be. The late Mr. Matthew Arnold I think it was, or some other distinguished English essayist, mentions the surprise he caused some Americans on telling them that he lived in the country.

The great depression in the prices of farm produce no doubt is largely to blame for this disfavor—prices so low that the farmer who should attempt to make a living by the sale of grain alone would run in debt. No doubt the supply being in excess of the demand, causes these low prices; but have not the farmers themselves to thank, in great measure, for this over-supply?

Your Michigan correspondent mentioned above says truly that farmers pay very little attention to economic questions. Not only do they pay little attention to them but they will not listen to any discussion of them, and they would drop any agricultural paper, even the COUNTRY GENTLEMAN, if it allowed a free discussion of such questions in its columns. To the majority of them, that the southern negro should be allowed to vote is of far more consequence than the price of pork, and to exclude goods of English manufacture outweighs any consideration of farm produce. When the best customer a shop-keeper has comes to purchase, he rushes out bare-headed to meet him, every clerk is put in requisition, and words fail to express the respect he has for him. Three-fourths of our exports are products of the soil, and of these England is our customer for two-thirds—reciprocity is the soul of trade. English enterprise and English capital are at work in every port of the world to procure supplies other than ours, and her steamers, railroads and canals are daily increasing competition with our produce. The same is true in a less degree in regard to France and Germany where heavy duties almost amounting to exclusion have been laid on our produce. Even the South, which formerly bought so largely of the products of northern farms, is trying to be independent of us.

But though poorly rewarded compared with other pursuits, there is none which offers so pure and pleasant a life as farming; so much removed from the greater cares and temptations of the world. His is the true home life, whose toil and pleasures are shared in common with his family. No life offers the same advantages for bringing up children in innocence and health, and none that gives the same leisure, and leaves the mind so free to enjoy books, music or composition.

> "Friends, books, a garden, and perhaps his pen,
> Delightful industry enjoyed at home,
> And nature in her cultivated trim,
> Dressed to his taste, inviting him abroad."
>
> *Dixon, Ill., July 24.* J. T. L.

English Notes by T. Bowick.

This week should have been, according to the last fifty years' averages, the hottest of the season. Instead, it has been a week of unsettled weather; with a temperature nearly five degrees below the mean, which has not helped forward the harvest much; but to-day the glass shows better, the wind has turned to northwest, and the clouds are lifting to a higher elevation. Some parts of the country, notably the north of Scotland, have been very deficient in sunshine, not over 11 per cent. of the possible amount having been recorded there, which, at a time when the days are longest (hardly any real night up there during June or July), seriously affects all vegetation. For the longer days and the shorter nights tell wondrously upon the year's balance, and give advantages which our southern position hardly enables us to realize. The Channel Islands, on the other hand, have registered close on sixty degrees of possible sunshine. Though there have been heavy thunder storms in many places, the damage done is inconsiderable, and every old farmer knows how harvest seems to rush on us all the faster when these anxious days have gone.

More business is being done in hops, owing to the good condition of the Kentish gardens, though the turn is in favor of the buyer. The prize winner for quality of Kent hops at the Royal Show, has just beaten the record, by being the first in the market with the new season's growth. The price realized was $90 per cwt., so that there is some life in the world yet. The only two counties in the Midlands, Worcester and Hereford, that grow this article, also report favorably, but both in quality and price they are always behind the more favored southerners. The latter shire also has long had a reputation for apple growing, but chiefly for the production of cider, some 30,000 acres being devoted to that industry alone. Both cider and perry are much consumed in the districts in which they are grown, the quantity used by an average workingman in the summer being almost of fabulous extent. It is given as an extra, that is, as part payment in fact, and is set much store of by the poor men who would bear a curtailment of their scanty wages rather than any interference with their inherited tastes in this matter. There is an interesting aspect for the physiological student, in the fact that both rheumatics and kidney ailments are more numerous there than in any other part of England.

Ireland sent us last year, of cattle, 738,716; pigs, 1,221,372; sheep, 687,534. The two former items are in excess of what has ever before crossed St. George's Channel, while the sheep ran about an average number. There is still a suspicion (which does not appear to be well founded, except as respects cows from the Dublin dairy sheds) that we owe a good deal of disease to Irish imports. I do not think there is cause for the suspicion, and in fact the whole question of contagious diseases among animals is still far from being cleared up. Take the celebrated "Hendon Case," which, after several years' fighting among the specialists, is left much in the same state in which it began. Many there were who averred that an epidemic of scarlet fever in that healthy suburban settlement was caused by the milk supplied from a dairy where some of the cows were suffering from an eruptive external malady on the udder. From the description I gather, it was one form of the not quite extinct cow-pox, that was more commonly met with in Jenner's day than now. But the Privy Council set its agents to work, and they are dead against the theory advanced, and this for several reasons: First, the affected cows had come from Derby market, and several of the same lot went to other dairies, where no unfortunate results, in any way, followed; second, I am not to believe that disease is thus readily transmissible and transmutable. In fact, the complaint in the human family was evidently more endemic than epidemic—a consolation that my milk-supplying friends may accept as a solution of the case.

The district agricultural exhibitions are now on day by day, and keep up their interest (as shown by attendance) to an extent far beyond my anticipations, considering the lengthened period of depression which agriculture has passed through. Of course something has to be allowed for the fact that an Englishman loves a holiday, and is glad of an excuse for getting one. Not that he makes so much of a "fine art" of it as is done by his Gallic neighbors, but he enjoys it in a homely, good-feeding kind of fashion for all that. A rather practical, if somewhat humorous, suggestion was lately made that a prize should be offered for the landlord who could show the largest settled and most thriving body of tenantry. The feudal system has passed away, and the close personal relation has gone with it never to return. It cannot be said, however, that the former days were better than these.

All the railways from London to the North are now taxed to their utmost, to carry passengers, their attendants and heavy baggage, to the shooting lodges, where active operations are expected always to begin on the 12th of August. In Yorkshire, and in some of the Scottish counties, grouse diseases have been more prevalent than for twenty years past. With these exceptions, reports are good, and the exodus of brain-fagged men is likely to increase rather than to diminish, year by year. The red deer in the most famous forests are also abundant and strong, Lord Fife's great forest of Mar being reported extremely favorable. Salmon fishing also, the only sport in which the late John Bright took delight, shows well for those who want the quieter stimulus, with less exertion than is needed by younger limbs.

The Strawsoniser.—Probably the implement which attracted the most attention at the Royal Show was the "Strawsoniser," the invention of Mr. G. F. Strawson of Newbury, Berkshire, who as a chemical manufacturer has faced the question of devising some machine which will distribute fine solids or liquids, and in this way meet the insect pests which now are more dreaded by the farmer than even American competition. The fan within the machine works at the rate of three thousand revolutions a minute.

Mr. Strawson, in conversation with the representative of one of our London daily papers, tells how he has been led to the invention. He says that for years he has worked with the object of checking the ravages of the turnip fly. He began by seeking for remedies, and learned that it was necessary to have sub-

stances extremely fine, or otherwise it would take tons to cover the acre, which would be both costly and less effective. He then thought of a liquid as capable of infinite subdivision. Next came the question of distribution, and the present machine is the result. The machine, which is very simple, is capable of a multitude of uses, as it can distribute its contents in almost any form and place, either along the ground or to the height of several feet. The ground or trees are covered with a film, not unlike that of the hoar frost, and so completely is the work done that all parts are covered. By its means 20 to 25 acres can be covered with lime in an hour, and with paraffine one gallon is sufficient for an acre. It is anticipated that its use will be even greater in France than in England, and trials are to be made by the French government, with a view to its adoption in all the vine-growing districts. It is further valuable for distributing artificial manures and sowing seed, and anything from the finest seeds up to maize can be sown by it, and it scatters from 6 to 8 yards. It is also applicable to use in towns for sanitary purposes and the distribution of disinfectants. Those best able to judge, declare that this is one of the most important inventions of recent times, both because of its applicability to agriculture, and its use all over the world. The importance of dealing with the turnip fly is great, for the losses every year are enormous. S. S. *London, July 1.*

Our correspondent sends a cut showing this machine in operation, but we have not had it re-engraved for use. It shows simply the rear of a cart throwing out clouds of spray from nozzles projecting diagonally to right and left, but has nothing to explain the piping with which the nozzles connect, or the force used in throwing out the liquid.

Save the Potatoes if Possible.

The Eastern States have received a large rainfall during the past month, and not only have the streams been full to overflowing and many towns flooded, but the crops have suffered from the excess of moisture. No crop is more susceptible than that of the potatoes to the conditions of the weather, in short, no potato grower is able to judge what his yield will be until the last row is dug. The vines may be most promising and the yield will be small. Complaints of two troubles, aside from the old one of the Colorado beetles, have come from all sides within the last few days, and are worthy of notice by the rural press. One of them is called the blight. This attacks the leaves in spots, and causes the infested portions to turn brown and wither away. In its worst form the whole leaf is made worthless, and, of course, it does damage to the crop. It may be assumed as a general principle that when any portion of a leaf is rendered unfit to do its work just so much loss is incurred, no matter whether the injury came from insect, mildew, frost or what not.

The second trouble is of a more serious nature because of its tendency to spread with great rapidity throughout all parts of the potato plant, not excluding the tubers, when in fact it does the greatest amount of damage. The common name for this pest is the rot, or wet rot, and it is very abundant at this time. This trouble is due to a mildew closely related to the mildew of the grape, but much more rapid in its work. The grape mildew feeds upon a firm leaf, and the stem and fruit are still more solid, but the potato plant is very succulent, and offers in all parts, even to the tubers, a moist substance which is very favorable for the growth of the fungus. The upper leaves are usually the first to be attacked, and these often curl and take on first a pinkish color, but quickly change to a light or "frosty" hue, and then as quickly turn brown and die. From the leaves the disease may spread to the branches and alternately pass down to the potatoes. The writer has visited many fields and finds them all badly infested with the rot. Vines that should naturally not turn brown and die for a month to come are now lifeless, while the potatoes are frequently not more than half grown. An extensive New Jersey grower told me that although this State is largely devoted to growing potatoes, he thought that potatoes would be brought in to potato-growing neighborhoods for consumption before the winter is through.

The chief thing now is to do what is best to save the crop that is now at the end of its growth, and very certain to be more or less contaminated with the disease. It is doubtless true that the tubers are the last portion of the plant to be affected, and if the potatoes can be dug and separated from the leaves and stems before infested, a great point will be gained. If the vines are dead, there is no gain by leaving the potatoes in the soil longer than the wet condition of the ground will require. In other words, dig the potatoes at the earliest possible moment.

The conditions which have favored the growth of the rot, have been moist weather and a medium temperature, and the same conditions will encourage the development of fungus in the potatoes. The chief reason, therefore, for prompt digging, is to secure dryness and a cool place for the potatoes. After allowing the tubers to dry thoroughly after digging, they should be placed in an airy room, on shelves or in shallow bins, where no moisture will collect upon them. It goes without saying that no decayed potatoes should be stored. Any such tubers will only be the centres for decay, from which it will spread to all parts of the bin, and in a short time the whole may be a disgusting rotten mass. If the potato is only slightly attacked, it may with this dry treatment never show signs of decay.

The question is often asked if the diseased tuber is injurious as food. It is not likely, as the potato is thoroughly cooked before being eaten, and if taken raw there is nothing in the nature of the fungus that would lead to the belief that any injury could come. Nature sets a very good guard over these matters, for when the potato is much infested it becomes discolored, watery, and has an unsavory taste, to say the least. When the potato is rotten, of course no one will think of using it for food. It may be well to sprinkle the potatoes with air-slaked lime as they are placed in the bin, using a pound or so to each bushel. Next spring do not plant upon areas infested last season, and try and secure "seed" from regions free from the rot this year.

N. J. Exp. Station, Aug. 7. BYRON D. HALSTED.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *Aug. 11.*

The first free-falling rain since July 26 visited us this morning between 7 and 8 o'clock, and a slowly-falling barometer and a warm and humid atmosphere invite us to look for more in the course of the next twelve hours. For over two weeks weather more favorable for the completion of the hay harvest and for threshing the wheat and oats, could not have been asked, and well has the occasion been improved. On account of the second growth, hay is put in the barn and stack in a greener state than I ever remember to have noticed before, with the result, if not of "mow-burning" and mould, of a shrinkage after the second fermentation in stack, of at least 25 per cent. in weight. On account of the presence of clover and second growth at the bottom, Illinois hay will not grade as high as it has for the last few years, and clean No. 2 timothy will be scarce enough to materially increase its value in the markets of the South and East.

Notice of the hay harvest reminds me that the main portion of the second crop of alfalfa, having passed a few days beyond the epoch of full blossom, is now ready to be mown, and will be, as soon as the skies clear. This crop is a heavy one, yielding at the rate of—I dare not say how many—tons to the acre, but equal to any red clover crop I have seen. I think alfalfa, after cutting, can be cured with less exposure to the sun than common red clover, but I have found that in curing it has quite as much, if not more, disposition to heat when green, than the latter. The land being cleared by the middle of August, there remain six weeks for the growth of the third crop before anything like cold weather in autumn. With a moist and warm autumn there may be a fourth crop behind that will afford good grazing.

So far, though clear, bright, warm days have been the rule for August, there has not been a really hot day and no nights warm enough to complain of the temperature. Under these cool conditions for August, the corn crop has been slowing the speed it was making in July, and there is a general apprehension of cutting frosts sometime before the larger half of the crop is mature, which will not be before the middle of September. But Jack Frost is a brigand that rarely fails to annually threaten disaster to the corn crop of the middle region, but not oftener than once in a generation puts those threats into force. Still, under the most favorable conditions of the weather, the corn crop of Eastern Illinois will be a short one compared with the crops for the last five years. While the fortunate middle regions have had the benefit of over two weeks of harvest weather without rain, south of 39° in Illinois the rains have been many and copious, insuring a good corn crop and much less labor than usual in preparing the land for wheat.

In Champaign and other central counties, the turnout and quality of wheat have been good on the average and in a few instances exceptionally great in yield, not a few fields being equal to 35 to 40 bushels per acre. And it has been saved, too, with very little danger to the grain or loss to the farmer. The present price, 75 cents for No. 2 red, is a good one when compared with corn and oats and most agricultural products, and yet there is a good deal of hesitancy manifested in seeding for another crop. Just why it is so I do not understand, unless the heavy growth of oat stubbles and the tangled state of the corn crop will largely increase the labor of preparing the land and sowing the seed. For three years past, the corn has stood nearly as upright as a soldier on dress parade, and small labor it was to sow and cover the seed in the standing crop, and as for the stubbles, they were so free of a second growth of weeds, that in numerous instances wheat was put into the ground with the primitive and simple processes of scattering the seed on the bare surface and covering it with a single or double stroke of the Acme or disc harrow. Considering there is nothing to be feared from the chinch bug for two years at least, North or South; considering the price of wheat is reasonably certain not to go below 75 cents; considering that with modern machinery in harvesting, threshing and stacking the straw, 75 cents for wheat in 1889 pays the producer as well as a dollar, twenty years ago; and finally, considering that if the wheat crop fails, the preparation of the land and seeding benefit it equal to the cost of the work, the conclusion is a reasonable and logical one, that it will be a good thing for the farmer of the central counties to seed extensively to wheat in the autumn of 1889. And by the way, in the above statement of occasions, one thing is overlooked, and that is the fair probability of a mild and open winter. The average following of a drouthy summer and autumn is a cold and often an intensely cold winter, and for a wet summer and a moist autumn, a mild open winter is the rule. Nothing in the way of disaster to the wheat crop is more to be dreaded than the effects of a cold, bare-ground winter, unless it be a raw, dry, cold and windy spring.

Vigor Repelling Insect Attack.

The other day I was showing a prosperous farmer the benefits conferred by irrigation and the free use of fertilizers on the vigor of apple and pear trees and the smoothness and size of the fruit, and mentioned the circumstance how Profs. Forbes and McMurtrie of the Illinois University had succeeded in getting the better of the chinch bugs, by the free use of phosphate and potash fertilizers. Upon this he related his experience of 40 years ago in Michigan, at the time the Hessian fly threatened the existence of the crop; how on rich soils judiciously manured the wheat survived the attacks, while on thin and poorly cultivated lands whole fields were ruined. Then I took him to an apple tree to which fertilizers had been freely applied, but the water withheld, and then he had opportunity to see knotty and wormy fruit fallen prematurely, and of that remaining on the tree, more than half the apples stung. Then we put the facts as to the wheat and the fruit together, and came to the conclusion that if good cultivation and high manuring put sufficient vigor in the wheat plant to repell the attacks of the Hessian fly and the chinch bug, copious irrigation, clean cultivation and the liberal use of fertilizers on the apple and pear, might be the causes which prevented the attacks of the codling moth and the curculio.

Eastern fruit-growers have these 30 years been warning their California brethren that they must prepare for an invasion of the insect enemies which have devastated the orchards of the Northern and Middle States. And yet the fruit sent us this year from the Pacific coast, is as large, fine and smooth as it ever was, and much cheaper. Whether the insects have failed to cross the mountains, or whether the choiceness of California fruit is due to irrigation, fertilizers and careful cultivation, I am not certain, but I am inclined to, and shall hold, the latter opinion until I am better informed.

This reference to California and its fruit reminds me I had a visit yesterday from a middle-aged citizen, a farmer of ample acres and a modest fortune, who had just completed the purchase of a five-acre town property with improvements worth $2,500, for which he had paid $6,000 as the agent of his brother in California. After looking over the fruit trees in bearing on my place, and witnessing the effects of irrigation and fertilizing, he confessed his brother to be in the right in disposing of his $8,000 fruit farm at Santa Cruz, and returning to Illinois, after an absence of six months, since, with the same means and expenditure, as fine fruit could be grown in Illinois as on the shores of the Pacific, with the advantage of corn, grass and live stock to fall back upon, and all the common crops of the temperate zone, to be had for the sowing and cultivating.

I may say in conclusion that the apple crop here is a very light one, except in some varieties that were fruitless last year, and that the average apple of the year is small, scabby, knotty and wormy, and as a crop, will be nearly as inferior as that of the year of the great drouth—1887. S. F. A.

From the Western Reserve.

EDS. COUNTRY GENTLEMAN—A plan of summer meetings of farmers is being introduced into this part of Ohio that seems worthy of adoption everywhere, and to a certain extent is a most worthy aid and influence to the more pretentious institute. The idea is to combine the social with the instructive. To secure this, the farmers and their families of a neighborhood gather in the forenoon of an advertised day, and spend an hour or two discussing matters and plans in a social way, while the ladies display the lunch baskets, and in an unpretending way prepare a free-for-all lunch. It may be, if the day is nice, prepared in a close, pretty grove, or otherwise in some farmhouse. The dinner discussed, the people gather, and are addressed by some one, who speaks on some special feature of farming, and is followed by a discussion, often protracted, of the ideas set forth by the speaker, and often awakens an interest hardly to be expected in a mixed audience.

It has been my good fortune to attend several of the meetings in different parts of the State. One "down the Ohio river" was a most unique affair. The proprietor of a newly started creamery assumed control, and appointed the meeting at his own house, which was but a few rods away from the creamery. The forenoon was devoted to visiting, &c. The creamery was turned into an exhibition room, and the whole process of making fine creamery butter given by an actual churning. A gentleman thoroughly posted gave the why and wherefore at every stage of the process. Then the oil-test was shown, the method of "shaking" and melting the butter-fats, and their "reading," was exhibited, and the results of the various cream per cents. of the patrons shown in comparison. The Short system of determining the values of milk and cream was also exhibited, and various other matters discussed and made public, such as ripening cream, and the like.

It was a valuable feature of the meeting. A great many had never before witnessed the process of fancy creamery butter-making, and they watched every detail with closest scrutiny, especially the washing, salting and packing, direct from the churn—a plan that it is hard to convince the average butter-maker to be practically possible. The oil-test was also not only of interest, but moment to many. To trust the finding out of the butter value of cream so that each shall have his exact due, is a matter of a great deal of *faith* on the patron's part, but the exhibition of the results of oil in the tubes, and its close reading with the trial churn tests in the homes of the patrons, made this little exhibition a sort of uniting the confidences of patron and proprietor more closely, and removed a great deal of suspicion.

The dinner followed. Then all adjourned to a huge barn, the great wide floor of which had been nicely seated, and the three or four hundred people were made comfortable. Then a dairy talk followed by the undersigned, in which some of the latest and best established principles of successful dairying were set forth as well as he was able. Then a dairy conference was held. Questions and answers followed in quick succession; different systems and plans were brought up, experience narrated, and best this and that, brought forward. For nearly two and a half hours this interesting meeting was continued. At its close, every one expressed themselves as fully satisfied with the meeting and its manifest influence, for not only had they heard "talk," but seen a practical demonstration of some of the things set forth, and the feeling of confidence made stronger, that men are not wholly selfish, but do endeavor to devise ways that farm

may be made better, system and progress abound, and labor, especially in the home, be made lighter and more pleasant, and what is better, a finer product prepared for the market.

Last week I was in the eastern part of the State at a similar meeting, except that the forenoon was somewhat occupied with a discussion of the farm, fruits and weeds, and that winged pest, the English sparrow. There was no end of views and plans, and much valuable information was gleaned. After dinner, the crowd gathered in a grove near at hand, and after the usual preliminaries, the subject of the silo was presented, and treated in its various phases, by a gentleman present, who gave the latest accepted conclusions, in not only the silo and ensilage, but the crop itself, and how grown to best advantage, and with a view of attaining the greatest growth and maturity. The conference that followed was a most earnest one. A number present were calculating to build silos the present season, and how to build *best* and cheapest, were the important points. The silo men now seem to have it all their own way, and the question at issue is, how large a dairyman or stock-raiser must a man be to warrant him in building a silo?

From different quarters the reports seem to favor the double-boarded silo, thoroughly saturated with gas tar and resin. The combining of these two substances makes a coat of paint, if put on hot, that resists all moisture from either side; and as to durability, some incline to the belief that a silo built of lumber and saturated with this cheap paint, will be good for 20 years or more. This paint is very cheap. The gas companies charge three cents per gallon for it, and five cents' worth of resin to a gallon makes the paint to coat three squares cost only about a dime, and I think that four out of every five silos will be built this way in preference to stone or the lath-and-plastered.

The special meeting of the farmers' club, with some special topic presented by an "outsider," is quite popular, and at these evening meetings I have known farmers to come for miles to attend. The whole plan is good. There is no exclusiveness about them, nor secret features, that tend to make the improvement of agriculture, in any of its branches, exclusive or for any class, but for the good of all who will participate. There is a more general endorsement every day among the farmers that "knowledge is power," and that "luck" is only applied knowledge. The more of these special meetings the better, and the greater will be the respect that the farmer will have for his own calling. J. O.

Western Reserve, O.

The Apiary.

Bee Battles.

At a recent meeting of the Dublin Philosophical Society, Mr. J. M. Gillies read an interesting paper on "Bee Battles"—of which the following is a condensation:

Standing in front of a bee-hive on a summer afternoon, when the flow of honey has been somewhat checked by the advance of the season, one observes several bees waiting about the entrance. On the arrival of a would-be entrant, one of them steps forward and extends its tongue. The new comer, in reply, extends its tongue with a little honey taken from its honey-sac, and the sample being found satisfactory, it passes in. Should, however, the new arrival refuse the countersign, one may assume it to be a robber, and in such a case the sentries will immediately attack it with an angry, determined buzz. Should the intruder be alone, the conflict will be short, and the operation of throwing the carcase of a dead bee from the edge of the flight-board will soon be witnessed. If, as most likely be the case, the attack be preconcerted, the position will have been carefully reconnoitred, and advantage will immediately be taken of the confusion by a strong force of bees, which will endeavor to effect an entrance at another part of the opening. The first sign of warfare will bring down the whole force of the hive, and unless this be inadequate to resist the attacking party, the result indicated before will be repeated on a larger scale. The outcome of the battle will not altogether depend upon the relative sizes of the contending parties. Defensive arrangements have a good deal to say in the matter. A hive open across its whole width would probably be completely at the mercy of a superior force, but as the entrance is narrowed the strategetic advantage tends to the defenders until a point is reached where, in the words of Macaulay, "a thousand may well be stopped by three." When the skilled bee-keeper observes war in progress, he stands close to the hive with a flour dredger in his hand. The bees are too much excited to notice his presence, and he quietly dusts them as they pass in and out. This enables him to trace the attacking party to its stronghold, and a few puffs of smoke administered in the enemy's camp frightens the bees within doors and keeps them there in a state of alarm, which is communicated to each returning marauder until the whole colony is at home in a state of terror. The entrance of the beleaguered hive is then narrowed down, or it may be absolutely closed with a piece of perforated zinc. When this has been done, a piece of cloth, saturated with carbolic acid, hung an inch or two from the entrance, will prevent renewal of hostilities. The bees dislike the smell of carbolic acid. The regular inhabitants of the hive will pass it, because they must do so to reach their home, but the strangers associate the odor with danger, and retire when they smell it. Observations on the weather and the nectaries of plants will generally enable the bee-keeper to anticipate these attacks or their renewal.

As to the tactics of the bees in warfare, it is somewhat difficult to speak, on account of their rapid movements, but the plan seems to be, when possible, to detach two bees to deal with each one of the opposing force. An intruding bee, when attacked by only one other bee, seldom assumes the offensive. His one object seems to be to get into the hive, and when seized he gathers up his abdomen into a small compass so as to prevent his being stung between the rings of his body, the joints being apparently his only vulnerable points. By collaring him, and following him about into various contortions, the defenders, especially if they be two to one, eventually manage to discover an unprotected spot, and then he is very rapidly stung to death. One bee is able to sting another bee and withdraw the sting, which it is seldom able to do when it stings a man. To sting a man, the extremity of the body, and frequently even the entrails, are left along with the sting by the unfortunate insect. The combat, like honey gathering, is invariably conducted by the worker bees. In the event of the attacking party proving successful in achieving an entrance by force, they then assume the offensive and slaughter the inhabitants. Apparently in order to save themselves from this fate, when the hive has been overcome, the remaining inmates will make common cause with the assailants, and even display vigor in carrying off stores to the enemy's hive, which they permanently join. The attacked hive, unless very light, will take one or two days to clear, excepting, indeed, as frequently occurs, the robbers be joined by other hives who wish to share plunder, and then the store disappears with greater rapidity.

Reference has been made to the rapidity of the bee's movements in what may be called hand-to-hand encounters. This exceeding activity is intimately associated with the formation of the sting. It has a series of barbs, there being about nine pockets formed by these on each side. The serration on one side comes opposite the barb point on the other in such a way that although a bee is unable to withdraw its sting, by means of a direct motion, it is able, by making nine turns, to screw the sting out, and thus free itself. This supposes the sting to have been driven in up to the hilt, which is not actually the case. Numerous other questions intimately associated with this fighting occur, but they would gradually involve the entire economy of the bee and its surroundings.

The drone has no sting, and, therefore, cannot fight. The stinging to death of the drones, when they are no longer required, were it not for the very positive assertions of Huber, would now be considered a myth. Apparently they are not stung, but simply chevied from the hive, their wings being frequently nibbled, until weak and chilled, they drop exhausted. The pathos expended on the subject of the slaughtered voluptuaries of the hive is not wasted, although somewhat shaky as regards its foundation in fact.

We now come to the "battle royal." Under peculiar circumstances cases have been occasionally found of two queens existing in the same hive, though generally no hive can have two queens, but the addition occurs in nature when a second queen comes out, the previous queen being still alive, and artificially, when the agriculturist throws two weak swarms together to make a strong one. The peculiarities of this encounter are that the two are left strictly alone to fight the matter out, and by no chance are both queens killed; the survivor is never known to be injured, so it may be assumed that the first advantage attained by either is taken hold of with a vengeance. When the two queens get into such position that both might be simultaneously killed, by common consent they withdraw and renew the battle with a fair start, strictly according to "Queensbury rules." S. S.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, *Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*

GNAWING WOOD.—A calf three months old, growing finely at first, has taken to gnawing wood. I feed her bran and shorts equal parts mixed, three pints twice a day, also cut grass. Has six quarts of whey a day. F. *Stockton, N. Y.* [Give the calf a little bone meal every day in food, also a teaspoonful of bicarbonate of soda twice a day.]

TEAT WITHOUT MILK.—A 4-year-old cow has had calves twice, twins each time; is due to calve August 29. From one teat she does not give milk, though it appears to have milk in it every time she calves. Teat has never been opened. J. W. A. *Cape Charles City, Va.* [Probably there is no cure for her. You might, after she comes in, try a teat opener and probe.]

KNUCKLING.—A blooded horse, five years old, knuckles; has a fine clean bone with the exception of a very small thoroughpin on right hind leg; is a little lame in left leg when driven much on hard roads. Was never handled till this spring. Have given two teaspoonfuls of tincture nux vomica daily, and applied creosote, oil turpentine and olive oil to pasterns. F. A. B. *Lancaster, Pa.* [Apply golden blister to sides and back of legs from hocks to bottom of fetlocks.]

IMPERFECT CASTRATION.—Last April I had a large boar castrated and sore is not yet healed. About a month ago I noticed a small lump, which grew larger, until when about size of a goose egg, last week I opened it; some dark blood and matter came out, but swelling is still large. J. H. S. *Elsburn, Pa.* [There are many sequels of castration. Inject the opening daily with some of the liniment, and the get an expert castrator to examine him, and if necessary operate again. Tincture aloes and myrrh, spirits turpentine and linseed oil, of each, 2 oz.; mix.]

SORE MOUTHS—HOOF INJURED.—My horses running on clover pasture for several months, have sore mouths and nostrils. I took them off, but they could scarcely eat. It may have been caused by "bull nettles," a prickly weed that grows in our fields. (1) A horse, two years ago, stuck a nail in his right hind foot; when removed the wound had festered and it made a hole through his foot from the middle of bottom to the top, at the rear of his hoof. It was treated and it healed up. Afterwards in working him at times he would draw his leg up and hop; then used him occasionally to buggy, as he is a safe family horse. In going to town we cross a creek; going, the water does not affect him, but returning, as soon as that foot touches the water he will pull it up until he looks as if he would turn over, limps a little, then goes on; does not back well, rather drags that foot in backing. (2) C. S. *Glasgow, Ky.* [1. There are noxious weeds that produce this effect. St. John's Wort seems to take pleasure in irritating the legs and head, especially if skin is white. The diet must be sloppy bran and ground oats; a little fodder corn cut green would also be good. No hay for two days. Give the animals a laxative, say 1½ pints of raw linseed oil each. Put an ounce of chlorate of potass. in each pail of drink. Bathe the parts affected and syringe mouth with some of the following lotion: Powdered borax, 8 oz.; compound tincture aloes, 6 oz; water, 1 gal.; mix. 2. Was the foot swollen around the pastern? Is the hoof deformed any, or does it correspond to its fellow? The foot should have been blistered as soon as healed or even some time before, and again in three or four weeks. This will be necessary now, but first I desire to know what is needed for the hoof as we may deem some treatment advisable for that also.]

SEVERE COUGH.—A mare five years old has had for two months a severe cough; no running at nose; eats voraciously; coat looks rough, and has many little pimples on the skin on neck and sides. Had some cough last winter; foaled in February; did not cough after foaling till colt was weaned. Have given her powders, with no benefit. She is at pasture, but was taken up during heavy rains. SUBSCRIBER. *Meriden, Conn.* [Powdered rhubarb, 4 oz; powdered Barbadoes aloes, 3 oz.; powdered nitrate potass., 4 oz.; powdered licorice root, 8 oz.; mix. Large tablespoonful to be put well back into the mouth four times a day.]

SORES ON LEGS.—Have a cow whose front legs seem to be rotting under the skin. On ankle skin is broken and coming off in large pieces, exposing raw flesh, badly festered and very offensive. Skin seems dead as high as knee, and loose. Feet seem all right, no soreness between hoofs. Have separated her from other cows. C. T. L. *Roanoke, Va.* [Give her one general cow drink and half one every three days, wash sores off and squeeze out all pus twice a day, then syringe the sores and sop on sores some of the following lotion: Powdered nitrate of potass., 8 oz.; powdered acetate of lead, 2 oz; compound tincture of aloes, 4 oz.; water, 1½ gallons; mix.]

ANKLE WEAK.—A colt, 18 days old, was able to stand upon its feet when born, but when four or five days old began to "knuckle down" on its fore ankles when walking, and now stands with ankle joints on the ground. When held upon its feet, by taking hold of each leg below the knee, (an exercise which the colt seems to enjoy very much) the cords on the back of legs appear much contracted, while in front they are very slack; legs do not swell, nor has standing on the ankles made them very sore. C. B. D. *Westville, N. Y.* [Get him upon feet as often as you have time. Rub back and sides of legs from elbows to fetlocks twice a day with some of the following liniment: Spirits camphor, 8 oz.; tincture aconite root, 1 oz.; chloroform, 2 oz.; tincture cantharis, 4 oz.; alcohol, 1 qt.; mix.]

STRANGLES.—My horses are suffering with "strangles." A three-year-old filly, recovering, as I thought, from the disease, became paralyzed and died in a few days. Coughed at first, with quite a flow of saliva from mouth, swelling of glands and under jaw; lanced it and ran freely; limbs swollen fearfully, with large lumps on front and hind legs and at root of tail. After running and coughing for three weeks, the swelling and lumps went down; limbs as clean as ever; swelling of glands also went down, and she began to eat. Then paralysis set in and she died. The doctor called it blood poisoning. I have ten more affected the same way, but not so badly. I have suckling fillies that are very bad; some lumps raised on neck and shoulder; had them punctured and they pass pus abundantly. About all the horses in this part of the country are more or less affected in same manner. C. M. C. *Brookville, Pa.* [Give colts, one year to two years old, 10 drops of the following three times a day: Carbolic acid, 4 dr.; glycerine, 1 oz.; tincture aconite root, 1 oz.; mix. Older animals 20 drops at a dose. Those that have sore throat must have their throats well rubbed with liniment. If any abscesses form they should be opened with a lancet as soon as pus is formed in them. Give flaxseed tea as drink, also mix it with ground oats and bran as food. Apples, green corn fodder, &c., will be excellent also. Give tablespoonful of the following powder four times a day to old ones, suckers not more than teaspoonful: Powdered belladonna leaves, 2 oz.; powdered barbadoes aloes, 4 oz.; powdered nitrate of potass., 3 oz; cream tartar, 8 oz.; mix. Pure air but not draughty appartments; change of diet, exercise and good nursing, with ever watchful care and a constant look out for new developments, and attention to their wants, are necessary and will yield good fruit.]

Horticultural Department.

Editorial Notes and Comments.

Tree Planting.—An appeal is made every spring to the people at large in favor of tree planting on Arbor Day; but the crowd of other matters is very apt to postpone the practical part, and much of the intended planting is omitted. More time may be taken in autumn, and a few suggestions are therefore offered at the present time. There are half a million miles and more of public highways in the settled portion of the United States; and to plant a line of trees on one side of these highways four rods apart would require forty million trees. Yet this would be less than one tree to every inhabitant. Each person planting one tree, (and allowing one-third loss the first year,) seems like a very light tax to be imposed on the people at large, yet what a grand result it would give us in the forty million shade trees! If some pains were taken to select our best native trees, or to procure from nurseries the best growing exotics, the plantation all through the country would naturally attract great interest. Take, for example, such trees as the black walnut, sugar maple, white ash, silver maple, western catalpa, virgilea, American elm, black birch, white oak, chestnut and others. Varying tastes would place them differently—some persons planting one street exclusively with one kind, while others, for variety, would alternate them. Others again, with equally good taste, would plant them more irregularly, or in narrow and elongated groups, combining them in accordance with their natural affinities.

Top Grafting.—There are two varieties of the apple remarkable for their excellence in quality, and for their small and slender growth. These are the Jonathan and Red Canada. Handsome trees may be made of these varieties by grafting them at standard height. A large number of grafts, evenly inserted in different parts, will form a good head in a few years. If the trees to be thus worked over are quite large, more grafts should be inserted to give a larger head than on a young tree. In such cases it is well to take two years for the operation, grafting the middle and upper portions the first year and the remainder the next, so as to avoid too great a check in the growth of the tree. The change may be made by budding instead of grafting, if thrifty young shoots can be found near the central portion of the head during midsummer.

Hoeing Cabbages.—The hired man who got the upper hand of his thrifty employer, taught a good lesson which others may follow. The competition between them was, which should have the finest cabbage patch in November. The employer hoed his faithfully once a week, and expected to triumph; but although the man was never seen to hoe his, for some unaccountable cause his cabbages were decidedly the largest. Determined to find out what was the matter, he at last discovered that the hired man hoed his own patch every morning before sunrise, while the employer was asleep. This occurrence took place in one of the fine farming towns of Ontario County, N. Y. It teaches the importance and value of fine and frequent surface cultivation of hoed crops generally.

Good Plums.—For excellent quality alone, the Green Gage, like the Seckel among pears, stands at the head of the list, but the tree is a small grower, and is not long lived. Nearly as good in quality, and more than twice as large, is the McLaughlin, which in appearance resembles the Green Gage under a magnifier. But it is not always a good bearer. The Lawrence, Jefferson and Coe's Golden Drop are also excellent in flavor. But for good growers and heavy bearers, such as would be more or less selected for market, Lombard, Imperial Gage, Prince's Yellow Gage, Smith's Orleans, Reine Claude de Bavay, and some others would be chosen.

Stirring the Soil.—An orchardist in one of the western counties of this State, tried an experiment which strongly proved the benefit of cultivating the ground in orchards. He set out an apple orchard and gave good care. The fifth year it bore 8 barrels of fruit; 20 barrels the sixth year; and for eight years afterwards the annual product was 85 barrels on an average. Cultivation had been continued up to this date, and he thought it was now time to seed it to grass and clover. The next year the product fell to 15 barrels, or to less than one-quarter. Cultivation was then resumed, and the second year it bore 225 barrels. The owner concluded to keep up clean culture in future.

How to Grow Fine Celery—III.

Storage.

So far, this season's weather has been all that could be desired for setting out the plants and also for stirring the soil about them. As the season advances, do not omit cultivation and working as described in the last paper, for it is every bit as essential to the well-doing of the late-blooming celery as it is to any of the earlier crops. Only with the latter, the many weeds springing up rendered cultivation imperative, while now with the crop under consideration, but comparatively few weeds are likely to intrude, so that it may appear to some needless to work them, but it should be remembered that cultivation is to be done for the benefit of the growing crop, not merely for destroying weeds, this being largely incidental to the cultivation.

But now although the plants may have been first class, the soil very thoroughly prepared, the planting properly done, and a very fine growth secured, yet the most important part of the process of preparing celery for market is yet to be considered; its importance is mainly due to the fact that the bulk of the demand for celery comes during the winter, so that the crop must be so stored as to preserve it from frost, in such shape that it will bleach and in a situation free from water during the winter. I propose in the present article to describe the method of storage employed by a grower, Mr. Phillip Wall, near Buffalo, who has this season nearly a hundred thousand planted.

Mr. Wall's land is of a mucky, swampy nature, well drained, and capable of producing celery of as fine a quality as comes into the Buffalo market. In order to extend the season as much as possible, he has (after many years of experiment) come to follow the plan of storing about half his crop in trenches out of doors, but well protected, and the other half in the cellar, which is close to the field in which the celery is grown, as on one side is a slight elevation which was utilized in its construction. It was dug out along the side of the hill, which in the cross section, fig. 1, is shown at *g* and which forms one side 4 feet high, while a stone wall *e*, 2 feet thick, also 4 in height, forms the other side, the ground from the excavation, being thrown up against it from the outside, as shown at *f*, the rear end being like the front side. The front end, as well as the doors, which open inward, large enough to admit one-horse loads, is made of a double thickness of 1 inch boards, having a space of 6 inches filled with sawdust; the sides and rear are lined with inch lumber, and boards a foot wide are placed on edge lengthwise on the floor, as at *d d*, which represent paths between the celery spaces *c c c*.

The roof is so made as to combine lightness, strength and warmth; *e* represents inch boards sawed to a length that would form a span, the peak of which would be 2 feet higher than the side walls, or 6 feet from the ground, thus allowing a man or horse to go in without difficulty. After the first board is down, a layer of straw *b b b* is put on it, thick enough so that when the second board is pressed down firmly the straw will be a foot deep; on the second board another similar layer of straw is placed, which is then lightly covered with matched boards, the cracks of which are well battened also, in order that no water may soak through. The outer edges of the roof are treated as shown in fig. 1; wherever the soil is not sufficiently porous (as in the case with Mr. Wall's), at *g*, to allow of the free escape of water from that side of the roof, a tile or other drain should be provided, as no water must enter the cellar. On the *f* side, the water will take care of itself. At equal distances from the centre to the sides an upright support A, consisting of a 2 by 4 scantling of the proper length, about 8 feet long, is set on a brick, while at the top an inch strip 4 inches wide is run the entire length of the roof, which in this case is 100 feet, 12 supports being used on each side, 24 in all.

In the front and two windows are placed as seen in fig. 2, for in this building celery is prepared for market during the winter, and some light is necessary while it is not sufficient to interfere with the blanching process. In storing the crop as fast as the plants are dug, some earth being left on them, they are loaded on a one-horse wagon which is then driven through the centre clear to the farther end where the roots are packed as close together as possible, upright on the ground floor, in the three spaces *c c c*, the packing being carried forward while the horse and wagon is each time backed out, until the space is filled up to six or eight feet of the door. Thus packed, this cellar will hold between 40,000 and 50,000, and this is marketed along from Thanksgiving until the fore part of January, after which the trenches are opened and the celery sold off by early spring.

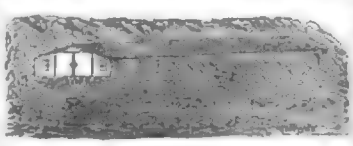


Fig. 2.—Outside View.

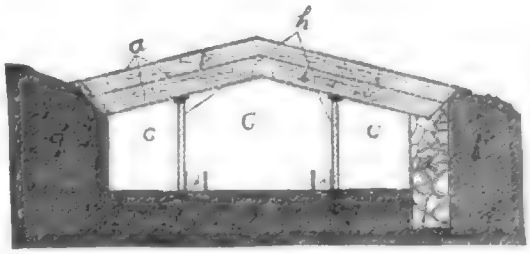


Fig. 1.—Cross-Section of Celery Cellar.

Mr. Wall's land where the celery is stored being of a sandy character affords excellent natural drainage, so that making trenches or other receptacles for storing is only a simple matter of selecting the most convenient place, and then digging to the proper size. In our immediate neighborhood, on the other hand, it is far different, as we have no natural drainage whatever, the soil being not at all sandy and the subsoil an extremely non-porous clay; but as illustrated in fig. 3, a little extra expense for tile, and for digging the trench a little deeper will enable one to overcome the peril of water standing about the plants during the winter. This matter of water while the celery is in storage, we might say for the benefit of more inexperienced readers, is the one important point in the safe keeping of celery, numberless being the instances to our knowledge when the fruit of an entire season's work was completely ruined through not sufficient care being taken to prevent the gathering of water, which completely rots the stalks.

The trench at fig. 3 is dug of whatever size

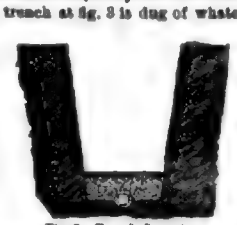


Fig. 3.—Trench Draining.

is considered the most convenient, the depth being regulated by the length of the celery stalks, the top leaves of which should be several inches above the surface of the soil. The tile is laid along the bottom, and about six inches of soil placed over it and firmed somewhat; the drain of course having sufficient fall to allow the water to be quickly carried off—a fall of an inch to a rod having proved quite satisfactory. As many of such trenches can prepared as may be required previous to commencing to dig the celery, and then the packing will proceed quite rapidly.

For protection during the winter (the storing not being done either in cellar or trench until danger of severe freezing) the trenched celery is first covered with a thin layer of leaves or straw, and as the weather becomes colder the covering is gradually increased in thickness, until by the time hard winter weather is at hand the cover will be about two feet thick.

We may add that the estimated cost of this house was something over $100. Hemlock lumber, rough but good, of good quality and matched, was used for the roof—it requiring something over 5,000 feet. The sides, ends and walks use 1,350 feet, while the scantling for roof supports measured 250 feet, making a total of 6,700 feet, the price per thousand being $12. The cost of erection is but slight, but of course will differ in various localities, as will also the price of lumber. For the stone wall no special expense was incurred, as the stones were right at hand and no skilled labor was required to put it up; of course where stone must be purchased, such item must enter into the calculation.

E. E. Sumner.

Niagara County, N. Y.

A Woman's Garden—VII.

August Gleanings.

Dear reader, did you ever take a long country ramble with a genuine lover of nature, one of those fortunate beings gifted with "the sense divine" for all natural loveliness and harmony, for every manifestation of the infinite beauty and energy that so wonderfully clothe the visible world? Was it an object of this walk to gather wild flowers? And did you and your companion have the boldness to gather everything you found?

Such a one I have known, who liked on these leisurely excursions to accept all that Dame Nature offered, taking toll of every flowery thing that he encountered, large and small, whatever its hue, form or mode of growth. The combination and arrangement of this very complex mass, which would sometimes grow to such proportions as to become a huge sheaf, a gigantic bouquet, demanding the very biggest jar in the house to hold it, was certainly a work of art, and even more emphatically a work of love.

I think it was in late summer and autumn that this all embracing nosegay was oftenest gathered, but at any season the number of varieties included would astonish any one not accustomed to observing closely the manifold variety of nature. Yet the result was both symmetry and harmony. Not a blossom jarred, not one seemed out of place, nothing looked too little or too much, too pronounced or too subdued. They united in a complete whole, and made one rich, lovely, satisfying feast of marvelously varied beauty. Each lighter and more delicate feature of the season was set in relief against an exquisitely finished background. It was like the landscape itself, the vast garden of nature, in which clematis and golden-rod, wild rose and meadow lily have always their appropriate setting.

If I might I would imitate, at a long distance, this indiscriminate gathering of spoils. Coming in from a long walk in a picturesque country town, somewhat famous for its beautiful gardens, I have wondered how much of my gleanings from these various collections I could mass together in these notes.

Beginning with my near neighbors, there are two places close at hand in which the house plants, that give so much brightness to the interior in winter, are disposed to heighten the beauty of the summer lawn in a way that makes them valuable examples. One, a new *cottage ornée* of the Queen Anne type, is separated from the street by a lawn at least fifty feet in depth. At one corner of the house, surrounding the bay window, is a crescent-shaped bed, filled with tropical plants. There are vines at each side; there is a stately group of the finer cannas, and, toward the front, some especially well-grown begonias, large and elegant specimens, which make superb ornaments for the parlors in winter. They are sufficiently sheltered from sun and wind by their situation to bear the summer exposure without serious injury. Quite at the other side of the lot, along a walk leading to the dining-room door, a broad border has been made, extending from the house to the street. It is therefore fully fifty feet long and about six feet wide. At the back—that is, at the extreme side of the plat of ground—there are various hardy shrubs started, and for immediate effect, groups of different tall-growing flowers—hollyhocks and dahlias, and tiger lilies, with a good background of cannas. These, next in height, come the stocky perennial phloxes, gladioli, and various lilies, and the admirable

blue larkspurs and salvias, which will soon be a riotous splendor of scarlet. Geraniums and household pets of all sorts are irregularly mixed with annuals, marigold and mignonette, poppies and pansies. The variety is in this case so great, that only a very good eye would have foreseen and avoided all jarring or "killing" of incongruous colors by juxtaposition; for cutting such a bed furnishes an abundant and never-failing resource, and the effect is broad and simple, eminently agreeable to the artistic taste, while the beautiful, well-kept lawn is left in its unbroken perfection.

At the other place, well-established roses and various good perennials occupy the small beds about the porches, and the front lawn is much smaller. But the circular drive, with a grass plat in the centre, which admits the butcher and the baker to the kitchen door—the common town and village arrangement—is nicely utilized in the service of beauty. A bed some three feet wide has been cut in the turf, extending at the side of the house in a graceful curve for fifteen or twenty feet. This gives room for a good many house plants, the ground being made very rich and plants thickly set. They are now in full bloom, but are freely cut and not allowed to exhaust themselves by overblooming. Two large vases, which are really fragments of large drain-pipe sunken within a foot of the ground, pour out a cornucopia of vivid nasturtiums at the corners of the back steps, and a monumental English ivy covers a whole side of that porch, so that one can hardly look in at that driveway without a desire to follow to the kitchen door.

Happy is the town that has so many home-like gardens as the peaceful city of N——! One can see with half an eye that nearly every one of them is a woman's garden. They are eloquent of time and tenderness and the patience of love.

Just now the bedding plants, the flowers that have least of the special significance of the home garden, are at their best, and we must not refuse them recognition. Even the coleus, to fallen from its pride of a few seasons ago, makes a rich show in one or two instances, where it is massed in its varying shades of maroon and gold, with a liberal foreground of velvet turf. Geraniums and most soft-wooded plants have made a very large growth this wet season, and are in exceptionally fine condition on well-drained soil. Some tall caladiums, with fuchsias alternating, on the outside, make a very gay border round the margin of a fountain.

The perennial phloxes are already in full bloom in many gardens, re-asserting their value in the floral world with a characteristic mingling of modesty and dignity. The variety of color, from white, through the rosy and lilac shades, up to deepest maroon, is great and includes many lovely tints.

The graceful and poetical wild clematis, which adorns many of our piazzas and garden enclosures, is starred with whiteness now, and in favorable positions makes a lovely wild arbor of its own growth.

Space fails to complete the record of the day's grace and brightness. DOROTHY.

The Poultry-Yard.

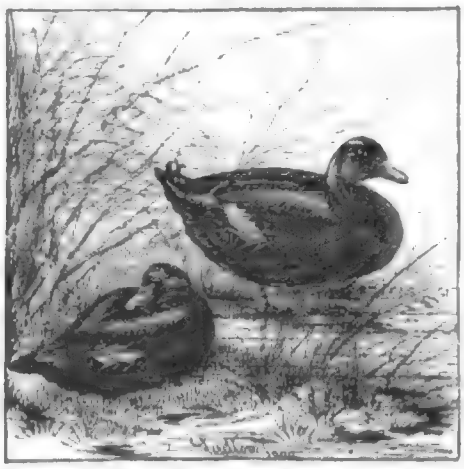
The Black East Indian Duck.

One of the most beautiful of the smaller varieties of the domestic duck is that known as the Black East Indian, though it is also called the Labrador—which is the name given to it on the Continent—and the Buenos Ayrean. These names, as in many other cases, are misleading, for there is no connection of this duck with any of the places named above. Certainly they have no special connection with East India, but the name has been given and there it is likely to stick. When once a name is accorded to any breed, it is very difficult indeed to have it altered, and the result is hardly worth all the labor involved. Upon this point of poultry nomenclature, there is an interesting paragraph in Moubray's Domestic Poultry, which is worth quoting, as it accounts for the many names that have been given to breeds of poultry, with which they have not the remotest connection. The writer says:

"If a poultry fancier meets with (to him) an unknown or uncommon fowl, he immediately sets about naming it, and racks his wits to discover the name of some outlandish person or place, with the view of demonstrating to his neighbors the undoubted novelty and distinctiveness of the breed, and the remoteness of its origin and source; thus when the Black Indian ducks were first imported into this country, every lucky possessor of the importations was resolutely determined to engross the exclusive copyright (if we may so phrase it) of the original and genuine article, and therefore, in the exercise of his "fancy free," he gave them the name calculated the most effectively to conceal the real quarter whence the stock was obtained. And as an illustration of the consequences hence resulting, we may enumerate the following as some of the names by which this valuable species is now known, or rather, under which it is now disguised: East Indian, West Indian, Labrador, Madagascar, Botany Bay, Hudson Bay, Buenos Ayres, Blackamoors, Beavers."

It would appear, however, that some of the earliest of these fowls were brought from Asia, and hence the reason why the term East Indian came to assume the predominance and be generally accepted. On this point, the writer quoted above, who had much to do with the fixing of this name, says:

"The names of 'Labrador' and 'Botany Bay' ducks, under which this variety is usually advertised by the dealers, are very objectionable, conveying as they do the erroneous impression that those places are the original habitats,



BLACK EAST INDIAN DUCKS.

while there is little room for doubting that they originally came from the continents of India and Asia. For this reason we have selected the name of East Indian, by which designation we propose they shall in future be exclusively known, as, being unappropriated to any other variety of duck, we shall thereby avoid the confusion which now exists by the application to them of names of other varieties."

He then goes on to briefly describe the Labrador and Botany Bay ducks, showing that they have distinctive characteristics of their own.

In order that the birds of to-day, and the standards now adopted, may be compared with those of 40 or 50 years ago, it may be desirable that descriptions given in the later editions of Moubray should be quoted. Speaking of this breed he says:

"The subject under consideration is very much smaller than the other varieties of the domestic duck, the weight of a living duck and drake ranging from 3 lbs. to 9½ lbs. extreme; it * * * is distinguished by the remarkable sable plumage in which it is entirely clothed; the feathering should be bright and lustrous in its shade, with brilliant green and purple metallic reflections on the head, neck and shoulders; the metallic green tints prevailing upon the wings and coverts; but there is the same difficulty in getting specimens of a pure good black, as is experienced in the Cochin China and some other fowls of a similar shade—the black in many instances assuming a rusty or brassy hue, detracting much from the beauty of the birds; occasionally even this variety has been known to cast partly mottled white plumage in moulting, which we should regard as indicating some impurity in the breed; at any rate an unmixed uniform black plumage should be the required standard in the East Indian variety. The bill, legs and webs are of a dusky greenish black; tail not very much developed, and the adult drake carrying some few of the middle feathers slightly curled up on the back. The duck is scarcely inferior to the drake, either as regards size or plumage, herein constituting a remarkable exception to its tribe generally, the female almost invariably showing a marked inferiority to the male in every respect. There is a singular peculiarity this variety alone possesses—that of laying black eggs, or rather eggs with shells covered on the upper surface with a film or pigment of sooty-black hue; this however, only takes place at the commencement of the laying season, for after the first few eggs are laid the coloring gradually disappears, but they never have so light a color as those of the common kinds."

Some few years ago this breed was taken up by exhibitors with considerable spirit, and for a time the number of breeders was comparatively large. But they commenced a striving after small size, which has gone far to ruin the breed in Britain. There can be no doubt that the Black East Indian must be regarded as a bantam duck, but at the same time it was the height of folly to carry this breeding for diminutive size to such a degree as to ruin the breed. Such was the case, however, and in-breeding was resorted to enormously, so much so that one of the leading breeders once informed me that out of upwards of 50 ducklings of this variety hatched by him he had been able to rear only two, so delicate were they from this cause. Happily a reaction has set in to some extent, and form is now regarded as first and size second, whereas at one time it was the reverse. From the description of the Black East Indian as it is to-day, which we give below, it will be seen that the size has been enormously reduced, too much so in fact, and on the Continent birds of the old size, about 8 lbs. a couple, are the rule. I wish it was also the case in this country.

Some time ago Mr. W. J. Riley, honorary secretary of the Waterfowl Club, contributed to one of our English journals the following description of the Black East Indian duck:

Head—is almost round, and the bill strikes out sharply from it, without any gradual tapering from the skull; the bill is very short and wide, and a little curved upwards at the tip—in fact rather spoon shaped. The bill of the duck is quite black; the drake green to black; but there is some difference of opinion on this point among breeders.

Plumage—Should be black, with brilliant metallic green lustre on the head, neck and wings, so as to make the bird appear almost green; the breast and under parts do not bear the lustre, and must be a deep black, quite free from brown feathers. All birds, however, begin to look brown towards the end of the season, just before they moult. The duck is never so rich in lustre as the drake, and a really green duck is a treasure.

Body—Is very small, short and compact, standing rather high on the legs; the latter should be black, though they generally grow lighter with age. A pair of these birds should scarcely exceed 5 lbs. in weight.

H——, *England.* STEPHEN BEALE.

Rainy Weather and Little Turkeys.

April and May gave us nice dry weather for the little chickens, but June is doing her best to drown all the young turkeys. It has rained almost every day, and sometimes all day long, ever since they were hatched. Why they are not all dead I do not know, but the little fellows seemed to have grown used to the rain; they do not mind a gentle sprinkle in the least, while a hard downpour sends them creeping under their mother's protecting wing. Two or three delicate ones have succumbed to the continued confinement, but the appetite of the others remains unimpaired and the air fairly thrills with their shrill cries as meal-time approaches.

The most careful attention and a lavish expenditure of time has been necessary to keep them alive and well. How many times during the last few weeks have I hailed with joy the sunshine just breaking from the clouds, and hastening to let out the broods of anxious little turkeys, would congratulate myself that they were at last happy and I could settle myself for a few hours' work, when first a roar of distant thunder would be heard, then a dark cloud would loom up bringing twilight with it and knowing that a great shower was approaching I would have to throw down my work, rush down, call my little sable helper and hurry the little fellows back into their coops; one refractory old hen invariably refusing to enter until the big rain drops had pattered down for some minutes upon my hatless head. No city belle changes her attire oftener during the society season than the country girl who attempts to raise turkeys during a wet summer. To keep them up all the time is certain death, and to allow them to get thoroughly drenched is quite as dangerous; so between the two there is not much time left for anything else, and one feels that that last newspaper article exhorting country girls to take more exercise was intended for somebody else. The showers were so frequent that it would not do to permit the hens to range far from their coops, and as some of them showed wandering minds I was obliged to tie light pine shingles on their backs, or rather on their wings, in order to keep them in the yard. It is not usually necessary to compel them to wear the bits of board very long, sometimes a week suffices to bring them to terms. Their coops were large and well ventilated, and were frequently moved to a clean spot on the grass so as to enable the young turkeys to get some fresh grazing even during their confinement.

When not allowed to run at large, they need something in the nature of gravel as grinding material, but as I had no gravel convenient I gave them broken egg shells which they seemed to enjoy greatly.

I never saw little turkeys so devoted to onions as mine have been this season; perhaps it was because the wet weather made the onion tops so tender. Every day a large bunch is gathered for their benefit and cut into half-inch lengths so that the little fellows can easily swallow them. Their food too had to be prepared differently, the custard thickened with half crackers and half egg-bread, and plentifully seasoned with black pepper, for damp rainy weather has a tendency to produce something like cholera, and all food that is given them should tend to counteract that.

Early in the season the hens were fed with a view to increasing their egg-production, and this regimen proved so efficacious that even after an unusually large number of eggs had been obtained and the hens began to sit, some of them still continued to lay. One hen kept it up steadily the whole time she was sitting—for three weeks there was a fresh egg found in her nest either every day or each alternate day. So fearing her eggs would be spoiled, for she wanted to leave her nest pretty often in search of something to eat, the making of eggs being of course a considerable drain upon her system, I finally shut her out of the brooding house altogether. She hovered around it for several days, anxious to get back to her old nest, but at last made a new nest and went on laying.

The first hen that came off with little turkeys has also proved very erratic. She began to lay when her brood was only one week old, and has produced, I suppose, about two dozen eggs; the first were found in her coop, then as she extended her range to a grass lot near the house her nest was found there. When she goes on, the little ones peck around very contentedly till she comes off, then they all go off together on another hunt for grasshoppers. Whether she will attempt to sit or not I do not know, but one thing I do know—she won't be allowed. Weaned turkeys are something I cannot abide. It is better for the nest of each sitting hen to be at some little distance from any other, as they haven't a very clear idea of personal property, and are as apt to sit upon any other nest as readily as their own, but since our place has become a nightly rendezvous for all the stray dogs in the neighborhood, I have been compelled to remove the sitting hens to an out-house where they can be safe from their depredations.

Having so many sitting near one another it was necessary to take the little turkeys from the nest as soon as they were hatched, for the other hens hearing their first little peep were apt to leave their eggs to come and see what was the matter. So we wrapped the little fellows in soft flannel, and put them in a basket where they were quite contented all day, but when night came, one little one after another was sure to get separated from the rest, and missing their warmth would raise such piercing little cries that sleep in their vicinity was a thing impossible. The next night, thinking they were suffering from cold, some one suggested the rubber hot-water bottle. The water was not very hot, and there were several thicknesses of flannel between it and them, but the heat was too great, and in a few minutes a wail of distress was heard louder than ever. At length, in desperation, we improvised a bag made of the flannel, put the little turkeys in it, and tying a string tight around the mouth so that none of them could possibly get out, ruthlessly banished the little creatures to another room. Next morning I feared to untie the bag lest I should find them all suffocated, but as soon as it was opened their bright little peeps sounded as lively and cheerful as ever. Little turkeys are very forgiving in their dispositions, do not bear malice in the least. Now they are two or three weeks old, and show no sign of ill-treatment. This morning the rain poured down and they spent the time in their coops screaming at the top of their voices. Since noon the sun shines, and the little fellows are out here in the front yard as happy as birds, catching bugs and eating mulberries. A FARMER'S DAUGHTER.

Logan County, Ky., June 26.

New Advertisements.

Box 73	*Situation Wanted.*
Brons n, A. F	*Devons.*
Biddle, F. C	*Oxford-Down Ram Lambs.*
Cloud, Dr.	*English Beagle Pups.*
Crawford, Geo. E	*Farm for Sale.*
Cereal	*Situation Wanted.*
Davis, Geo. E	*Cheshire Pigs.*
Dix, J. Q	*Bandage Machinery.*
E. W	*Situation Wanted.*
Fischer, Julius	*Farms for Sale.*
Hone, J. L	*South-Down Ewes.*
Hudson C. I	*Jerseys.*
Ireland, Jno	*Farm for Sale.*
"Importer"	*Man Wanted.*
Johnston, W. S	*Bandage Cutter, &c.*
Johnson & Co., I. S	*Condition Powder.*
Kitselman Bros	*Woven Wire Fence.*
Mt. Bellevue Farm	*Grade Holsteins Wanted.*
McCain, D. W	*South-Downs.*
Pettee, W. H	*Earth-Moving Implements.*
P. O. Box 231	*Gardener Wanted.*
Schier, C. D	*Shropshire Sheep.*
Sprague, G. D	*Machinery Wanted.*
Smith Mfg. Co	*Agents Wanted.*
The Foos Mfg. Co	*Grinding Mill.*
T. E	*Address Wanted.*
Thorburn & Co., J. M	*Catalogue of Bulbs.*
W. W. H	*Gardener Wanted.*

Pamphlets, &c., Received.

BYRNES, R. J., *Hammonton, Atlantic Co., N. J.* Circular of New-Jersey Improvement Company; pp. 18, illustrated.

CLARK, A. H., *Cambridge, Md.* Strawberry List.

HILLS & SON, C., *Delaware, O.* Catalogue of Crystal Spring Shropshire Sheep—60 rams, 137 ewes; pp. 28 illustrated.

MAHONEY, JAS. V., Secretary Corn Palace, *Sioux City, Ia.* Circulars of Festival, Sept. 23-Oct. 3.

NICHOLSON, R. G., *Chestertown, Md.* Nursery List.

ROBINSON, C. W., General Manager International Fair, *Detroit, Mich.* Invitation.

SUFFERN, J. C., *Voorhies, Ill.* Seed List.

Inquiries and Answers.

Poultry House.—Will you publish a plan for a model poultry house, combining sensible architecture with comfort and convenience, for 100 hens—cost not limited? If you will refer to a book or books containing different plans, that will be quite satisfactory. J. J. L. *Erie County, N. Y.* [Several designs and descriptions, with engravings, are given in RURAL AFFAIRS, vol. I, pages 60-155; vol. II, p. 34; vol. III, p. 74; vol. IV, pp. 126-229; vol. VI, pp. 67-73; and vol. VIII, p. 303. These designs give nearly every variety of form and construction, and our correspondent will doubtless find among them what he wants, or what may be secured by combining two or more in one.]

Lawn Weeds—Bees and Shrubbery.—What is the quickest and best way to destroy plantain in a lawn? (1) What is the best book on bee-culture for an amateur to read (2), also on flowers and shrubbery, and where can they be had? (3) C. *Bloom Switch, O.* [1. Plantain is a perennial, and not easily destroyed in a lawn without breaking it up. If the flower stalks are quickly cut down as soon as they appear, with a lawn mower, before the seeds can form, the plants will not increase in number, but it must not be omitted a week. They may then be destroyed with a spud, or by dropping petroleum on the crown of each plant. In addition, a thick, heavy seeding of the grass tends to crowd them out, a top-dressing of fine manure assisting the operation. 2. Cook; $1.25. 3. Henderson's Practical Floriculture; $1.50—order through this office. Send also to Ellwanger & Barry, Rochester, N. Y., for their Catalogue of Ornamentals.]

Clover Ensilage.—I am building a silo, and was intending to fill it with corn; but the crop is a light one, and I have a field of second-crop clover, which I am thinking of putting in instead of corn. I have had no experience with a silo, and wish some, who have made ensilage of clover, to give me all the information they can. At what stage should the clover be when cut, and how handled—wet or dry? At what length of cut for ensilage? Can a 60-ton silo be filled continuously, say in two or three days? Will it have to be left open, to heat before covering and weighting? What thickness should be the covering, and how much weight to the square foot? I do not wish to make a mistake if I can avoid it. J. H. B. *Aurelius, N. Y.* [Clover will make good ensilage, if allowed to mature sufficiently, or rather later than it is commonly cut for hay, but not too late. Second-growth clover is liable to be cut too soon, without some care. It should of course be fresh from the field, but not dried like hay. It will pack better by being cut half an inch or an inch long, than if put in whole; but if properly managed in other respects, it does better uncut than whole cornstalks. A 60-ton silo may be filled continuously, but those who have tried both ways prefer more time, to favor heating. In weighting, a common way is to put on a hundred pounds to the square foot, but we have succeeded well with half that amount, provided it was well covered from the air. A foot of the common contents at the top operates as a weight, but a stratum nearly that thickness is spoiled unless weighted and well covered from the air, by using several inches of dry straw to absorb moisture, and tar paper. As clover is less frequently used for ensilage than cornstalks, but is likely to be more extensively employed the present moist season, we shall be glad to hear from any of our readers who have given it a successful practical trial, especially in relation to the points mentioned above by our correspondent.]

Road Making.—Whom do you consider the best authority on road-making through country places, as well as on the under draining of low ground? P. T. W. *New-York.* [A scientific and thoroughly practical treatise is Gillispie on Road Making, a moderate-sized octavo; shorter articles illustrated with engravings are in RURAL AFFAIRS, vol. IV, p. 55; vol. V, p. 187; and vol. IX, p. 29, from which much information may be obtained. A compact and thorough treatise on underdraining with illustrations, extends from page 164 to 177 of vol. II of the same work.]

Nutting's Machine.—Can you tell me whether Nutting's farming and assorting machine is now manufactured, and if so where one may be purchased? If it possesses the characteristics ascribed to it in the third volume of the RURAL AFFAIRS, I should very much like to have one. J. L. [It was a useful device, but we have heard nothing of it for a long time, and doubt whether it is now made for sale.]

Steam Engine.—Which is the best two or three-horse power portable engine for cutting wood, ensilage and other agricultural purposes? R. S. M. [We should hardly like to answer this question too positively; but may safely advise our correspondent to address Messrs. B. W. Payne & Sons, Drawer 54, Elmira, N. Y.]

Saving Horse Manure.—MR TERRY, p. 580, says: "The horses are kept in box stalls that have floors cemented on bottom and up a little on sides so not a drop of liquid can get away, even to soak into a plank or board." I appreciate the importance of saving and utilizing the liquid evacuations of stock, as it must contain a large amount of amonia, judging from the fact that fowls discharging no urine their evacuations are highly charged with it. Will Mr. Terry tell your readers whether the cement floors in box stalls are covered with plank to prevent the horses slipping, and if so whether they are laid down loose, and also the dimensions of his box stalls? C. H. R. *Poughkeepsie, N. Y.* [There are no planks on the cement floors. We always keep the horses well bedded with straw to absorb the urine and keep them clean; thus there is no chance for them to slip. The floor of the box stalls, not including what goes under the mangers, is nearly 10 feet wide and 12 long in each stall. This gives room to tie up two horses in each one, when we wish to. The partitions between stalls are for the most part about 5 feet high (higher between the mangers) so the horses can visit together and light and air can circulate freely. T. B. T.]

Proportion of Milk to Butter.—I notice, on p. 599, under the head of "Butter Making," these words: "This *seven* is evidently a mistake for *seventeen*, and this correction will give 11½ lbs. of milk instead of 28½ to the pound of butter." Do you, or does your correspondent, mean to state that a pound of butter can be made from eleven, or even twelve pounds of milk? In your number of July 25, p. 565, fourth column, these words occur: "In May same cows, with a ration of grain, made 1 lb. of butter from 10 lbs. of milk"—evidently, in my mind, a misprint for 20 lbs. From all the tables on the subject I have ever seen, Channel Island cattle turn out a pound of butter to 15 or 19 lbs. of milk, Ayrshires 20 to 21, and other breeds from that up to 30 lbs. to a pound of butter. So when on page 565 it is stated that 200 lbs. of milk made 7 lbs. of butter, it is correct, or nearly so. A. C. [Col. CURTIS informs us that the paragraph in question was correct as originally printed on p. 565; 16 lbs. of butter and one pound of salt did work down to 7 pounds, as there stated. But our present correspondent underestimates the richness of the milk of Channel Island cows. One pound of butter from 11 to 13 pounds of milk is not extraordinary in that breed; and an instance is on record where it was made from 8¾ pounds! The "other breeds" also do better than he supposes; the Holstein De Kol 3d, for instance, has made a pound of butter from 9¼ lbs. of milk. Of course this was a very remarkable yield, but other Holsteins do a great deal better than one pound to 30.]

Sheep Scab.—Will feeding sulphur to sheep cure scab? If so, in what quantity and how often should it be given? Is there danger in feeding sulphur to breeding ewes? E. O. C. *Shelbyville, Ky.* [Scab is caused by a parasitic mite too minute to be seen by the naked eye. The female burrows in the skin where she deposits her eggs and then dies. When these eggs hatch, the larvæ cause the disease known as scab. Sulphur will not kill the scab mite, but its use, by causing a healthy action of the skin, prevents the female from burrowing and checks the spread of the trouble. Carbolic acid, properly diluted, as in carbolic sheep dips, is the best destroyer. Crude petroleum is also an efficient destructive agent.]

Grapevine Caterpillar.—I send green worm found on grapevine. Please give the name and tell me how I can rid the vines of them. Many of the grape leaves are riddled by them. MAX. *Sing Sing, N. Y.* [This is the caterpillar of one of the sphinx (or humming-bird) moths, known as *Philampelus achemon*. It does not bear the usual curved bars on the top of the segment before the last, which is characteristic of most of the species of the *Sphingidæ*, but has, in its place, an elevated eye-like spot which has replaced a small horn that was present in its earlier stages. The only means necessary to resort to, in order to rid the vines of these caterpillars, and others of the same family that may be associated with it, is hand-picking, if they prove sufficiently abundant to be injurious. From the habit of the humming-bird moths of distributing their eggs sparsely in any one locality, they are hardly ever the occasion of any serious injury. J. A. L.]

Short-Horns—Milk Prices.—If R. H. D. (p. 616) means high grade calves, he can select them to suit himself at $7 to $9; if thoroughbreds entitled to registry, price would vary according to form, color, milking qualities, &c. There is no factory in our section that gathers milk and returns it to the farmer as R. H. D. speaks of. If he wants to know how many pounds of milk it takes to make a pound of butter, we will say that in flush of feed it takes about 25, varying according to locality and care the cows receive. There has been a tendency among the butter-makers of our locality to cut the weight of milk a little, so as to make a better showing of the number of pounds it takes to make a pound of butter. This is wrong, and misleads the public.
Kinderhook, N. Y. S. SPENCER & SON.

Sick Lambs, p. 616.—Let. J. W. M. follow the advice to "change the lambs to high and sound pasture," and change again (if there is not immediate improvement) to any pasture or meadow where no sheep have been lately kept, and they will revive, especially if horses have been grazing, or if horse manure has been applied. If they have any ticks or lice, dip them in some preparation which will destroy the vermin. C. C.

Goats and Cows.—In answer to E. H. S., p. 619, would say that in my herd it worked to a charm. S. W. C. *West Winsted, Conn.*

Poultry Lice.—A full and accurate account of the various lice which infest the common domestic fowl, the turkey, the goose and the duck, would doubtless be appreciated by the readers of the COUNTRY GENTLEMAN. Will not some of its able correspondents furnish this information?
Providence, R. I. S. S. H.

White or Ox-Eye Daisy.—Some time since a correspondent in your paper spoke some words of praise of this weed. Having been familiar with it all my life, allow me to say that it is a persistent weed, and a sure index to the quality of the soil and the one who tills it. Crab-grass, daisies, pigeon-grass, &c., grow on soils and in climates which will not produce good grass, or on neglected farms in past and present, and animals will eat such hay before starving; but I notice a farmer whose fields are clean from such trash has no desire to grow them. D. S. B.

Ack

Communications during the week Carey—Aug. Cle —Prof. E. W. St S. Spencer & Sc L. P.—Wm. R. Corey—Oscar F. —S. W. Coe—E Hoag—G. G.—D bell—C. B. Cam Garry Owen Gal Stephen Beale— B. Johnson—Ne D. Curtis—W. D —Mrs. Jennette Townsend—Ed Geo. Q. Dow—X.

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Albany

Obituary.—death, after a bi of Patterson, N. we believe for American breed

Dimensions Pope, president cal Society, wri just commence rels for packing trouble you have please give us York, length of As frequent inc character, we gi fruit dealers in apple barrels.

The subject years ago of the tural Society, a 1883 the inquiry pack our apples said they would that eastern buy rels, and that al used flour barre rels. Mr. Wayn apples, was satis Harris said he w when some of th United States w passed. The dia over 100 quarts. special committe of the legal 100 the description statute that it w for violations of of smaller barre said: "A barre equal to 100 qua This, the commi and a half heap into the legal ba another peck to t is, two bushels barrel. The com sage of a new law

In 1885, a spe stated that the h existence ten ye given satisfactio side dimensions— 15¼ inches, 16 in heads, and with capacity ten or fi losing in reputat becoming entirel using a barrel t common flour be satisfaction. Th a barrel with the 17 inches in diam in circumference quarts of wheat when shaken dow size of the comm

It was generall present that this ally adopted. Mr N. Y., an extens barrels, writes: barrels for this s and the heading hold three bushels

are 26½ inches stave, and 16½ head, and are very objectionable to New-York and Philadelphia markets. They call them the *pony* barrel, and deduct severely."

We have given the different views of dealers in former years, that the reader may see the reasons for the conclusions finally reached in adopting the present dimensions.

Special Fertilizers.—We have attempted for many years to point out the unlike effects of special fertilizers on different and unlike soils. Superphosphates, for instance, which produce a great increase of the crop on some soils, have afforded no sensible effect in other places. We have known the wheat crop to be doubled by its use in one locality, and in others not ten miles away, the slightest improvement in the crop was not produced. Yet even at the present time, some agricultural writers do not appear to have understood this difference; and directions are repeatedly given for promoting the increased growth of crops by the use of superphosphates or of potash, evidently taking it for granted that all soils and all crops are alike benefited. Fertilizers specially fitted for certain crops are largely advertised for sale, and we have "potato manures," and "corn manures" offered for these respective crops, as if they would operate alike on all soils.

But scientific men have not all fallen into this error, and we quote a few as a matter of caution to those who use commercial fertilizers without first proving on a limited scale their fitness and utility when employed, and without first determining by trial whether the benefit produced, where they do not fail, will pay cost.

Dr. Voelcker stated: "On some soils, more especially on poor, light pastures, the effect of bone-dust has been truly marvelous; while in other localities they do not show any marked effect. I would advise making field trials on a limited scale before heavy expense is incurred. Bone meal is often wasted on cold clay soils." Again: "Soils vary much in composition, and hence the same manures which effect a radical improvement in one locality, are often found of little use in another." A writer in the Journal of the Royal Agricultural Society says: "I have seen bones applied and produce no good whatever; and on the other hand I have seen them used with immense advantage. I have seen guano produce a splendid crop; while the year following the crop was worse than before the guano was applied."

Hence the mistake sometimes made at Experiment Stations, in reporting tests of fertilizers on the circumscribed localities belonging to the stations, and which are often quite unlike the soils of other parts of the country, the owners of which they are intended to instruct.

Dr. Voelcker said: "Where good farmyard manure can be obtained at a reasonable price, I believe it will be found the most efficacious and economical manure." Another writer in the Journal of the Royal Agricultural Society said: "It is impossible to give any definite rules without knowing the kind of land to be manured."

The preceding remarks and quotations are not mere theory on our part; but we have made for many years similar tests in several instances, and witnessed like results from the experience of others.

Haulage Machinery.—We are glad to call the attention of our readers to the advertisement of the Belle City Mfg. Co., on another page. Their works now occupy eleven acres at Racine Junction, Wis., where they manufacture the Belle City fodder-cutters, horsepowers and other implements. The Belle City cutter is too old and favorably known to need any other word from us, but we gladly call special attention to their advertising notice. The company have just been adding largely to their manufacturing plant, and their present capacity is from 15,000 to 18,000 cutters a year, beside horsepowers and other machinery.

Watch Your Potatoes—And if you find they are rotting, take a large two-horse plow, straddle the row, plow well to the left and about two inches under the potatoes, whop them upside down, and let them be there till you want to market or put them away for winter. Any potato that is sound (even with white specks on it) will keep sound in this inverted furrow. I have saved my crops by this method. If you pull a few out by the vines catching on the plow, pick them up, but leave the potatoes in the furrow covered with earth, and do not put them in heaps or in the buildings, as they will rot. G. M. B. *Kirkwood, N. J.*

North Carolina.—The 29th annual fair of the North Carolina State Agricultural Society will be held at Raleigh, Oct. 14-19. W. G. Upchurch, president; secretary's name not given.

To Oxford-Down Breeders.—We give an engraving of the silver cup offered by the Oxford-Down Sheep Breeders' Association of

England for the best flock of one ram, four ewes and two ewe lambs, owned by the exhibitor, to be shown at the Buffalo International Fair, Sept. 3 to 13. This splendid prize ought to elicit sharp competition.

Swedes for Vermont.—Mr. A. B. Valentine, Vermont Commissioner of Agricultural and Manufacturing Interests (office at Bennington), is making an effort to establish a colony of fifty Swedish families in that State, and has issued a circular to the town "listers," in which occur the following statements that may be interesting to the general reader;

"The gradual decrease of cultivated acres in many towns of our commonwealth, and the consequent decrease of population in those towns, has attracted the attention of thoughtful men. The discussion of the possibility of checking the outflow of our young men and women, and the re-populating of the lands thus left without tenants, culminated in the establishment of a commission by the last legislature * * looking towards the bringing of the agricultural advantages of the State to the knowledge of the people of other States or countries, and inducing them to purchase unoccupied, abandoned or other lands for the purposes of cultivation.

"This communication is addressed to you because you have reported certain lands, once cultivated, but now turned into pasture or growing up to forest, and practically abandoned for farm purposes. * * *

"The successful establishment of colonies of Swedes on unoccupied lands in Maine, and the success of corporations at the West in the colonization of railroad lands with citizens of the same nationality, has led the commissioner to think it possible to divert this class of desirable inhabitants to our own State. It is true that the State of Maine and the railroad companies owned the lands. Did the State of Vermont own the 300,000 acres of land reported now abandoned for farming purposes, but formerly under cultivation, and much of which is capable of as successful cultivation as the prosperous surrounding farms, the problem would be easily solved. Yet, even now, it does not seem impossible to accomplish much through this bureau, following the lead of the State and corporations mentioned. * * In the State of Maine a town is called New-Sweden, and, long ago, the lands were paid for and all the help the State advanced repaid with interest.

"Of course it would be folly to try to induce desirable immigrants to settle on worthless lands. Also, the price of the lands must approximate the price of the wild lands of the West, in no case to exceed five dollars an acre. Some listers have reported good lands to be bought at three dollars."

WIRE-HAIRED FOX TERRIER.—See article on page 640

Farm-Yard Notes and Items.

A British paper says: Messrs. Galbraith Bros., of Janesville, Wis., have lately shipped by the Concordia to Montreal, a choice collection of Shire horses. This is the third shipment made by the Messrs. Galbraith this season. They have already taken out seventy head of horses, and have many more yet to follow.

A Shetland pony stud-book association has been formed at Melrose, Scotland. The Marquis of Londonderry is president; Mr. George Bruce, Aberdeen, secretary.

M. de Kerohant, a well-known Parisian authority, writing on the subject of the French sheep, gives it as his opinion that that animal is destined to disappear, competition by Germany, La Plata, &c., being the cause. The fall in the price of meat is one of the most prominent questions preoccupying French breeders. This fall, for some years, has been 25 per cent. In certain districts of France; it others it has reached 40 per cent. This means ruin for breeders and feeders; and the worst is that dead meat remains at the same price as formerly, while live meat has suffered depreciation, so that the loss experienced by the producer does not benefit the consumer.

The London Agricultural Gazette learns "that besides foot-and-mouth disease, pleuro-pneumonia is also prevailing throughout Hungary, especially among the 'Flockvieh,' i. e., red-and-white cattle, much less among the white Longhorned native cattle of Hungary."

The American South-Down Association will make no special exhibition this fall, but the secretary has been instructed to confer with several of the leading fair associations with a view to their cooperation in making a grand display of South-Downs in 1890. It is much with the breeders of South-Down sheep as with many a youthful heir to fortune. The latter depends on his good start in life to carry him safely and leisurely through. The South-Down breeders seem to think the undisputed testimony of all who know much about sheep, to the effect that the South-Down is the best mutton-sheep, and in many localities the best for wool and mutton combined, justifies them in expecting, while lying on their oars, they will drift on the gentle stream of general utility, full-handed into port. Apparently they act on the belief that mankind, as a whole, must instinctively know, and take to the using of the best. This might have been the right way along back in the days of old, before newspapers and fairs were as common as now. But, however good and useful are even the best of domestic animals, they cannot be kept at the front by reliance on merit alone. Other breeds of inferior worth are sure to pass them in the race, and the great masses of the people never know of the better things they might enjoy but for the reticence of those who fail to keep pace with the times in matters of advertising. F. F.

The first-prize Tamworth boar at the late Royal show has been sold for $100.

Mr. Hugh L. White, Williamsport, Pa., who advertised collies on p. 574, and cattle on p. 590, writes us:

"During my absence from home I have received so many inquiries in regard to dogs and Jerseys, that it will take me some time to catch up with my correspondence. All the dogs but three were sold the first week after the advertisement appeared. The rest will go quick, since I have returned. My catalogues of Jerseys will go into nearly every State in the Union."

The London Live Stock Journal is naturally displeased with "a proposal to be brought before the American Clydesdale Association in October to the effect that the association shall in future charge a fee of £20 to register stallions imported from Great Britian or Canada;" and argues thus:

"It is almost superfluous to say that this suggestion is defended on the plea that it will tend to the importation only of superior animals, while it will probably prove prohibitory to the importation of poorer specimens. We are all familiar with these arguments, and we know equally well what has been the practical effect of such restrictive measures when adopted as regards cattle. They immediately check importations, and gradually the breed upon which the embargo is placed ceases to be introduced. Whether there is a corresponding advantage to holders of the stock is doubtful. We think there is not, and in fact that by thus interfering with free trade in high-bred stock the demand materially suffers, to the loss of everyone concerned. We can understand a direct prohibition of stock authorized by government, but the action of breed societies (which are formed for promoting the interests of the several varieties of stock) in thus checking business is to be regretted, and is certainly not in accordance with the professed object of their institution. If American Clydesdale breeders are well advised they will reject the proposal without a moment's hesitation."

The Philadelphia Record has the following item:

Texas fever has made its appearance in the stock herd of L. E. Jordan, at Glen Mills, Delaware county. Yesterday morning Dr. Francis Bridge, State Veterinary Surgeon, was notified that a disease resembling contagious pleuro-pneumonia had broken out among the cattle. Upon examination Dr. Bridge pronounced the disease to be Texas fever. Mr. Jordan bought the cattle at the Philadelphia stock yards three weeks ago, and they had taken the disease from cars or pens in which Texas cattle had been confined.

The following paragraph appears editorially in the London Farmer:

English visitors to the Paris Agricultural Exhibition appear to have been very much struck with the high quality and general excellence of the "French Durhams," which are virtually descendants of the English Short-Horns, imported into France early in the present century. These were exhibited in such large numbers and so very prime in general merit that the conviction was entertained that France at least requires no Short Horn blood from England. Perhaps not, the same thing having happened as has been experienced in the United States, where Short-Horns were also largely exported some years since. The materials furnished have caused large herds to be bred, which now rival, if not exceed, our own in general merit, as well as in their numbers. Propagation is also proceeding with active steps in Australia and some other parts of the world, and the transferred element often thrives better under fresh climatic conditions than in the old country. There is, however, a highly important question to be taken into consideration when we regard the matter thus. The United States and France have long since ceased to buy our Short-Horns in large quantities, and will it not be ultimately the fate of our home breeders to be beaten with their own weapons everywhere else? There is a great demand just now from South America, not only for Short-Horns but Herefords, horses and sheep. Will South America by-and-by get full likewise, and not only require no more, but be our rivals in the production of what we now supply to them so freely? The question is involved with vast interests of prosperity or ruin to our own breeders, the production of pedigree stock being at present by far the best string in the British farming bow. They may console themselves, however, with the reflection that the world is wide; and as meat-eaters increase just as rapidly as herds and flocks, the time may be far distant when pedigree ceases to be of value.

The Grazier and Breeder.

Rye Ensilage—Variety for Ensilage.

EDS. COUNTRY GENTLEMAN—I have been reading Prof. Stewart's book on feeding animals, in which he speaks of rye ensilage, and would like to make some inquiries of him through your valuable paper.

I wish to practice a partial system of soiling next season, and would like to sow some rye this fall for early feeding. I have a silo with six pits, 12 by 16 by 27 feet, into which the different crops could be put when at their best, and would like to do this if I can safely, but at the ensilage convention in Cleveland last March, it was stated by some who had tried rye, that it all spoiled. I have also read of several failures in making ensilage of rye. What was the probable cause, and how can I make a success of it? Unfortunately I shall have no clover to rely on to follow the rye.

Will Prof. S. please tell me what crops to use and at what stage of their growth it would be best to put them into the silo; also whether it would be safe at that season of the year, to allow the silo to remain uncovered and feed from it as soon as put in? Shall have about forty cows (mostly heifers from two to four years old) and about half enough pasture.

Macon, O., July 25. N. M. B.

N. M. B. need not be unduly alarmed about preserving rye in silo as well as corn. Mr. Havemeyer, at his Mountainside farm, has been in the habit of preserving rye in large quantities and reports favorably upon it as a milk food. Others have had equal success. The great difficulty with ensilage of any kind has been from imperfect distribution in the silo, and pressing it evenly against the walls so as to prevent the entrance of air. Rye requires a heavy even pressure, because it contains less water than corn, and therefore requires more pressure to give it the proper density to exclude the air.

As B. will find strongly advised in "Feeding Animals," the ground should be well fitted, and the crop sown early, so as to get thoroughly rooted in the fall, and more seed should be used than for an ordinary crop. If it should have too vigorous a growth in the fall it may be either pastured or mown with the machine—cutting it about three inches high, leaving the young rye where it falls from the mower. This will act as a mulch, and be effectual to prevent winter-killing.

This rye crop may be used in various ways in soiling; it may be cut before the head forms and fed green, when it will start a fresh growth immediately, and be cut again in from 20 to 25 days. But if to be put in silo, it should be cut when fully headed out, and before blossom. On good ground it will usually be, at this period, from 4½ to 5½ feet high.

Recent machinery has very much reduced the labor of handling rye for the silo. It may be cut with the self-binder, and the bundles are very easily handled, and can be run through the cutter whole, cutting it twice as fast as when fed loose, and much more even in length. This method of handling saves two-thirds of the hand labor and makes it as cheap ensilage as corn.

If cut for the silo, it comes at the same time as the first cutting of medium clover, and they can both be run through the cutter together into the silo.

This combination makes a very superior ensilage, requiring for the best milk ration but a small proportion of grain.

Another excellent combined crop would be orchard grass and clover, grown together, as they are both ready to cut at the same time, and both grow quickly again after cutting. This combined crop may be harvested with self-binder and cut into the silo with rye.

B. will find peas and oats combined one of the best ensilaging crops—seeding with 1½ bushels of oats and 2 bushels of peas. White Tartarian is perhaps best for this purpose. This crop has the advantage of being well adapted to early sowing. A frost after seeding will not injure it. This may also be cut with self-binder and save much labor in handling. This will make the best quality of ensilage, and if the ground is in good condition, should produce a yield of eight tons to the acre. It should be cut when the peas are in blossom.

Timothy and alsike clover (both being perennial) make an excellent combined crop for ensilage, should yield about ten tons of green food to the acre, and should be ensiloed. Just before blossom it may be cut with self-binder and save labor in handling.

B. wishes to know if rye could be properly kept without pressure and fed out from the top. As we have said previously, rye requires more pressure than corn, and it should be put under pressure; but after a few weeks if there are cows enough to eat six inches of the top per day the covering may be removed, and it may safely be fed from the top. But with his number of cows it would not be safe to feed from the whole top of so large a pit, but he might remove the cover from 8 feet of one end and feed from the top of that, leaving the pressure on the rest, and when that is fed down he might remove the cover from 8 feet more, and so on until the pit is all used. In case he feeds in this way let him first remove the cover from the end opposite the door of his silo. This is regarded as most convenient by some; others uncover the end next the door first, and carry the other cuttings over the vacant space.

We have long thought that as ensilage becomes better understood, it will be composed of a greater variety of foods, and perhaps ultimately will make a well balanced and appetizing ration for milk or meat production, and fed with very little if any grain, especially when grain bears a high price. E. W. S.

Castrating Colts—When and How.

EDS. COUNTRY GENTLEMAN—I notice in your issue of July 25 an article with the above heading. I have spayed cattle, dogs, &c., castrated ridgling horses, bulls, sheep and swine, and caponized chickens. I have treated 300 stallions of nearly all ages since March 28, 1889, beside the number that I have treated over after some of those "scores of young farmers not afraid of a little blood." Among those cases were strangulated cords, water seed, tumors, &c. I was called to Glen, N. Y., to treat a colt that about six weeks previous had been castrated by a farmer who was not "afraid of blood," and found one cord was as large as my arm, and from 7 to 9 inches long; that colt died. I treated three horses at Port Henry this spring, which had been castrated when colts; all had to be treated over; one, five years old, had both globus minors left. This horse was worse than a stallion. The man thought him a gelding, and turned him in pasture with two valuable brood mares; one he killed outright, and the other has required many weeks' treatment.

I have castrated at all ages and have found that from three to five months, or two weeks before weaning, is the best—this is what horsemen or veterinarians would call early castration. Colts treated at this age, before the testis has developed, and before there is vitalized semen, will make larger and more regularly proportioned horses. A yearling heifer spayed before coming in heat will grow as large as the ox. Both male and female, spayed or castrated when young, will keep on less feed in proportion to their size—they are more companionable, contented, &c. Some think by leaving colts until two or three years old, they make more spirited drivers. This is a mistake. It makes them act foolish when they see other horses, but when at work or alone, they will have no more spirit than the brother that was gelded early. Mr. Todd speaks of the narrow-chested or quartered colt being left until two or even three years old. According to his own belief, if a colt were left to that age he would get narrow behind and wider before; that would rob Peter to pay Paul. He speaks of seeing horses ornamented with pads, &c., but "never saw a stallion interfere." I should like to ask if he ever goes away from home? The last race I attended, seven horses started. A four-year stallion wore more pads than all the other six, but he won the race just the same, and every heat was trotted better than 30.

My experience has been that some horses require more age and more feed to develop them than others. This must always be taken into consideration. If the farmer has two colts, and one develops at three or four years, while the other does not, the one that does not should have another year, or time enough; often they make the most valuable horses.

In traveling through the country, I find it a common thing for a colt to be kept until three years old standing on a hard floor, or in filth to the top of his hoofs. I ask—"Keeping him for a stallion?" The answer will in some cases be "Yes," but in many: "No; I want him to develop forward!" Where would that colt develop fastest—in nice green pasture or shut up in the stable? I have seen yearling colts lose more than half a year's growth by running along fences looking after other horses. A man that will leave a colt uncastrated until he becomes a nuisance, does not know what is for his own interest.

Mr. Todd says: "I have castrated large numbers for 50 years, and never knew an animal to die in consequence of the operation." He has been an exception; but then he adds that he "never knew"—so there may be some dead ones. I should be pleased to hear from a number of the "scores of young farmers" that he has instructed, as I castrate and spay hundreds of animals annually, and if there is a better method of operating than I now use, I will go to some expense and a great deal of trouble to learn.

I do not claim to know it all, but I have become conversant enough with the anatomy of horses and cattle to know that it is highly necessary, in all surgical operations, that the surgeon should confine the animal in the easiest and safest manner; also, he should inflict as little pain, and do his work in as short a time, as possible. I can castrate any plain colt or stallion in from three to five minutes. I make the incision through the scrotum and cantis, and inflict no pain on testicles, as ordinary castrators or quacks do. I never hold the testicle "*firmly*" (!) but carefully, so as not to inflict unnecessary pain. I use a knife made on purpose, and the one I use for horses I never use for anything else. I have never had a case that I castrated become infected with maggots. I make my incision so it will not gape, and the edges of the sore heal in so that a fly cannot get there; hence no maggots.

Amsterdam, N. Y. JAMES SHELP, Jr.

The Highland Show in Scotland.

If lovely surroundings could secure success, the exhibition of the Highland and Agricultural Society, would be all that could be desired. Situated on and in the midst of classical ground, in view of the Eildon Hills and Abbotsford, within sound of the lovely Tweed, and in view of the famous Melrose Abbey, externals, at any rate, gave all to be desired. There was still one thing more, which, in our fickle clime, receives an unduly prominent place, namely, the weather, which has been perfect. Yet, for all this, the show is not up to the average in quality, though the numbers are about as usual for an ordinary show. The following are the figures for the last six years, Edinburgh, in 1884, being the society's centenary show, and therefore exceptional:

	Edinburgh. 1884.	Aberdeen. 1885.	Dumfries 1886.	Perth. 1887.	Glasgow. 1888.	Melrose. 1889.
Cattle...	660	295	307	—	301	271
Horses..	453	221	213	220	209	243
Sheep...	1180	433	505	530	571	503
Pigs.....	49	11	32	38	35	56

CATTLE.—The quality of the cattle is fair, and that is all that can be said.

Short-Horns are not exceptional, and none of the cracks of the year are to be met with. In males the two-year-old bulls were the best, and here Mr. Duthie's Paragon Baron won, taking also the gold medal for the best male Short-Horn. The Duke of Buccleugh was very successful in females, and his four-year-old roan Fair Maid, by Peacock 45819, takes the special prize for the best female Short-Horn. She is a large, well-ribbed cow, showing excellent quality.

Ayrshires made a nice lot. Here the Royal winner, Mr. R. Montgomery's Glencairn of Lessenessock, first at Windsor, takes the special as the best male Ayrshire, and is of true type all through. The cows and heifers were better, if anything, and a fine lot all through. In old cows, a well-known winner in Mr. Parks' Bramble is at the head of affairs, but the prize for best female went to a splendid cow in calf, shown by Mr. J. McDougall, and a winner at several recent shows. She is very handsome and strong in milking qualities. Thus the winner in two-year-old heifers, Mr. A. Mitchell's Nellie of Barcheskie, a fine white-and-brown, which secured the queen's gold medal at Windsor, was beaten.

The Aberdeen-Angus section is very moderate, and if two or three of the winners were taken out it would be decidedly poor. In two-year-old bulls, Mr. Eggington was first with Ensign of Guisachan, who occupied a similar position at Windsor, and is a grand specimen, and in females, Sir Geo. Macpherson Grant won several prizes; but the best of the lot was Lord Tweedmouth's yearling heifer Fame of Guisachan, a daughter of Cash, and of grand promise.

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Walker's Sweetbrie
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Whenever the wind
east or north or from

points, it comes directly off the salt water and seems to have a small amount of salt with it. Of course this is so small as to be imperceptible to the eye or touch, but can often be slightly tasted on the lips. We suspect that this salt is deposited with the dew, and in addition to slightly salting the grass, it acts as a stimulant on all vegetable growth.

I am not chemist enough to explain these things—should like to know if it is advisable to continue to steal a march on the old cow and disguise the salt in her feed, or let her be the best judge as to whether she needs salt or not.

Last year we bought a grade Jersey cow, three years of age, that had never had any feed except what she had picked herself. She was as wild as a hawk; gave plenty of good, rich milk; and after being kept in the stable a few weeks became gentle and manageable; but would not take a single grain of salt, nor would she eat her slop if enough salt had been put in so she could taste it.

We made most excellent butter, and her milk was very fine indeed—in fact, it was so good that as soon as the neighbors found out about it, we had a demand for every drop of it at the door at 15 cents per quart (we lived in the suburbs of the city), and my wife told me that I had to get a cow that gave poor milk if we expected to have any to use ourselves.

I mention this to show that notwithstanding the cow would eat no salt, her milk was all right, both as to quality and quantity.

Norfolk County, Va. A. JEFFERS.

We should most assuredly let the animals judge for themselves.—EDS.

The Dairy Department.

Making Good Cheese.

OBSERVATIONS AND RESULTS AT A CONFERENCE.

EDS. COUNTRY GENTLEMAN—The business of cheese-making is something more than going through the motions of setting milk in a vat and stirring in rennet to produce coagulation of the casein, and then drawing off the whey and putting the curd into a hoop to be pressed into a cheese—or what is called "a cheese." Such cheese I cannot eat, or if I am foolish enough to eat it I cannot digest it, and always pay dearly for my venture in attempting to increase the home consumption of an important American product.

After seeing a number of cheeses made at the conference at G. Merry's factory, reported in your paper, the work being done by Commissioner Brown's instructors, and being told that Mr. Merry's cheese was made by the same careful and scientific system, I ate six times as much cheese for supper as I would ever have dared to eat of any other kind, and I wish to certify, I never had a twinge from it. It was digested without the least difficulty. I can live on such cheese. It is a perfectly digestible food; whereas, the ordinary, or the great mass of cheese is adverse to the ordinary stomach. The proof of this statement is, that they do not digest in it. I have faith in the good sense and economy of the American people, that if they could get cheese which entirely suited them, they would arise and eat, and eat plentifully. This would afford them an economic food, healthful and handy. They do not do so, because the mass of cheese does not fill the bill. If all the cheese were of the character of that made under my eye, at the conference mentioned, or in a way like it, there would be a revolution in the home consumption of cheese.

Why is this cheese more digestible than the ordinary? This is just what we, the people, want to know. The basis of cheese is the casein, or the albuminoids or muscle-making constituents of the milk. As much of the butter fat, or the carbonaceous matter, or the heat and fat-forming portion of the milk (the part which makes the cream) is kept in or retained in the casein or curd as it is possible to retain, the better it will be. This makes the cheese richer, more mellow and more palatable. It is also more digestible. As the solid casein is harder, and not so easily digested, the gastric juices cannot mingle with it, or cut it up. It is too much like leather, as any one knows who has attempted to make a meal out of "a full-skim cheese," which contains no butter fat. There is also mingled with the casein a trifle of the milk sugar, and some of the phosphate of lime, which furnishes the bone material of milk. There is also a trace of ash. Cheese then, it can be seen, is the real food part of the milk, the part to make muscle blood and bone, and when the butter fats are kept in we have the most of the solids of the milk. The greater part of the water and sugar is separated, and we have the milk in a condensed form. There must be some moisture, or the cheese would not be good, or complete. About 35 per cent. of a good cheese should be water, evenly distributed through the cheese. The moisture, butter fats and casein should be pretty evenly proportioned, as the butter fats and casein are in the pure milk.

It requires skill and a knowledge of these principles to make cheese, so as to preserve this proportion or balance. As cheese is usually made, a considerable portion of the butter fats are run off in the whey, and the cheese is dry, hard and indigestible. To save these butter fats in the cheese is one of the important points these instructors are endeavoring to teach the cheesemakers. It cannot be taught on paper, but requires actual, practical teaching and demonstration. It can be done, and when done, adds materially to the value of the cheese, and also increases the amount of cheese.

These are salient points, and the only trouble in that the field of want is so large that it cannot all be reached. We need the dairy schools to multiply the corps of teachers. *Cheese making is an art.* Ten minutes' delay in the work will spoil the work. Mere motions or routine will not make a good cheese. There must be what Prof. Arnold wisely called "digestion" in the vat. It is a plainer term to say "assimilation," as it is not strictly digestion. You may say assimilation follows digestion; so it does in the natural forms of digestion in the stomach of an animal. The cheese vat does not fill this order of change, but it is the place where the different elements which are to constitute the cheese are to be mingled, combined and assimilated in order to make the product digestible. Here is where the fine art of cheese making comes in, and here is where experience, skill and close observation are necessary factors. We know that the natural temperature of animal life is 98° or blood heat, and we know that when the temperature of animal life is reduced, the functions of life are impaired or their strength is reduced. This fact must not be lost sight of in cheese making, and this is why the contents of the vat are heated up to 98°, to promote the natural action of the rennet on the milk, and to fit the curd for further digestion, and to be transformed in the stomach into the elements of animal life or food. This process is partial digestion. The addition of salt changes somewhat the chemical condition of the milk or curd. The development of the lactic acid in the vat releases the butter globules and enables them to better unite and to be retained in the curd. When the curd is first cut it is soft and in a state which would cause the butter fats to become mingled with the whey. At this stage there must be great care, until a film is formed around each little cube of curd, so as to retain the fats. It must be stirred with great care. The heat meanwhile must be moderate and gradually raised. While this is going on, the cubes of curd gradually shrink, and the excess or free moisture is expelled. By forming this coating or film over the cube slowly, it is not scalded or made so tenacious as not to be porous, and more moisture is expelled and the curd is put into a better condition. This results in making the cheese more firm and free from an excess of moisture, more "buttery," and gives it a high flavor and keeping quality.

Cheese, thus made, as I observed, is free from the rankness so common, and the porous condition with cells or pockets full of tainted whey which are rank with putrefaction. Bah! for such cheese—and yet it is too common. The process of assimilation of the various elements in the curd is continued after the whey is drawn off. The whey is not a good flavoring element for the curd, hence it is gotten rid of as soon as the lactic acid has developed enough. This is shown by the application of a hot iron to a sample of curd, which is pressed in the hand. If fine threads of curd are drawn out by the touch of the hot iron, a quarter of an inch long, the development of acid is considered sufficient and the whey is drawn off. The excessive development of acid will destroy the nutty or fine flavor of cheese. There are signs or indications by which it is known to the skilled maker when the curd is sufficiently cured and ready for the press. The fact was demonstrated to me at the conference at Mr. Merry's factory, that the instructors did secure a curing and assimilation of their cheeses that made them more digestible and desirable. They are going from factory to factory, and thus by actual demonstration teaching the makers the way which brings success.

F. D. CURTIS.

Bran in the Butter Ration.

Mr. Webster Answers Recent Criticism.

EDS. COUNTRY GENTLEMAN—On page 547 is an article by Prof. Stewart, criticising in a rather unpleasant way my views on the feed of the Jersey cow expressed in the book "Butter Tests." It does not concern me whether the public adopt my views in feeding or not, and I would not reply now to Mr. Stewart if it were not for the offensive tone of his criticism. It seems that some people cannot be differed with on a question of judgment without becoming angry or piqued. I have never claimed to be a scientist in feeding cattle, nor set myself up as a teacher. I do not scribble an article a week for newspapers, for I am too busy attending to the feeding of two good sized herds of Jerseys, running a large farm, and at the same time practising law.

The article in "Butter Tests of Jersey Cows" was written at the request of several Jersey breeders who wanted to know what rations I fed or thought best to feed in the butter dairy, as I had been very successful in developing butter cows. After some 5 or 6 years' experience I said that bran as a food in the butter dairy I believed to be worthless. I say so still. Understand me—I mean as a food, and what I meant to condemn was the feeding of bran in large quantities to make butter. I have frequently, as I said in that article, used bran for the mechanical effect on the stomach, not as a food, and Prof. Stewart sees proper to criticise me because, in the test of Landseer's Fancy and Ethicel 2d, I used about one-fifth bran. There certainly is not much butter in half a gallon of wheat bran, and much less in a half gallon of corn bran. I recommended oats to take the place of bran because it has all the mechanical effect, is a fine food for the nerves, and is a better butter food. Still, an occasional use of bran in small quantities is beneficial to the stomach.

Again he misunderstands me; he makes me say that bran draws on vital force. What I meant to say (if the article was read properly, and not barely skimmed over the surface, as Prof. Stewart has done) is this:

That, to make large quantities of milk when you were trying to make butter, draws on vital force to make milk, and that the making of a large quantity of milk expends the vital force in a line that is not wanted. That you cannot make two things with the same cow at the same time and work her to the fullest extent or to her fullest capacity in each; that if you drop the exciting cause to milk production and feed for butter, having due regard in your rations for the health of the cow, you will do better. What I meant to say was that corn meal in some shape was the ration that produced the butter, but do not wish to be understood as an advocate of an exclusive meal feed. But the rations compounded by Prof. Stewart, in my judgment, will not turn out a good feed for butter; they contain too much bran; they also contain other articles, oil meal, &c., all of which have to be bought. What the breeder of Jerseys wants is a ration that will be grown entirely on his farm, so he will have nothing to buy; also something that will not injure the stomach of the cow, a natural ration, so to speak. This he will find by mixing oats and corn equally, and either grind together or separately, and mix after grinding. With an occasional feed of half a gallon of bran as a medicine for the cow rather than as a food. Prof. Stewart is mistaken in supposing that I am not a practical feeder, for I have been for ten years closely watching the effect of food. I can take any cow that is a good Jersey, that is giving four gallons of milk on a ration composed largely of bran, feed four weeks on the ration that I have suggested, reduce the flow of milk about one gallon, and make a third more butter.

In conclusion, I do not care to prolong this discussion after the discourteous manner in which my views are assailed by Prof. Stewart, and leave the public to make its own experiments with the rations suggested by him and those suggested by myself if they desire to try it. Your correspondent, Mr. Wilson, can learn much more by standing over his cows and feeding them himself than by consulting a chemist as to the rations to feed. To illustrate, under chemical analysis, it is admitted that late-cut timothy hay is richer than early cut, and yet the cow's laboratory will find more nutriment in the early-cut timothy.

It will be noticed that I have said above that I could take any good Jersey cow that was giving four gallons of milk, and by feed reduce the flow of milk and increase the quantity of butter. I cannot do this with every one. I have found some to increase the quantity of milk under my system of feed, and have almost invariably found that they proved failures in the test room.

Just here is why the experiment station is misleading. They take two or three cows, or half a dozen, and they may or may not get good butter cows with which to experiment, and then all cows are to be judged alike. The general public will find it more to their interest to do their own experimenting, and they will find that cows must be fed as individuals; that you may have a sort of general idea as to feed, but each individual must be studied. With this I now dismiss this question, and say that I do not intend to be drawn into any controversy, as I have not the time or the inclination to dispute over a matter that does not concern me. W. J. WEBSTER. *Columbia, Tenn.*

Problems Deserving Consideration.

FOOD AND THE BUTTER PRODUCT—MIXED CREAM AND BUTTER LOSS—VARIATION IN CASEIN AND BUTTER FAT.

EDS. COUNTRY GENTLEMAN—Your reports of the New-York dairy conferences are exceedingly valuable, not only in the instruction afforded, but in showing the spirit of dairy awakening is abroad, and that in the not distant future dairying will become more of an exact science, not dominated by the "rule of thumb," as is now so largely prevalent in most, if not nearly all dairy sections. One of the very important features of the conferences reported by Col. Curtis, is the milk values of cows, and the practical demonstration that a gallon of milk from one herd is not as valuable for butter-making as that of another, and this rule holds good with individual cows as well. The case on page 515, where it took 14 8 lbs. for a pound of market butter from one dairy, and 26 5 lbs. from another herd, is, or should be, an "eye-opener" for those who attended these particular conferences. By a little arithmetic it is seen that it took nearly 12 lbs. more from one dairy to make a pound of butter than from the other, and this *water* in the milk cost food to produce, as the serums of milk are produced from the serums of the blood, and blood costs food if it is largely fluid. It is not shown that the 26-lb. dairy gave twice as much milk as the other, which they would need to do to make equal amounts of butter. This should also have been put to demonstration as part of the lesson. One dairy had bran and cottonseed meal in addition to grass; the other dairy had no grain. Was the churnable quality of the cream of the two dairies nearly equal, or was the grain ration of the one dairy an influence upon the viscocity of the milk sufficient to enable the churn to more completely recover the butter fats? Food, we are informed by Dr. Babcock, has more influence upon the viscocity of milk than upon its richness, and it may be possible that if the buttermilk of the 26½-lb. dairy had been submitted to the Short oil-test, it would have shown a surprising amount of unrecovered, or unchurned butter, while the other, through the influence of grain, gave up practically the entire amount.

In either case the lesson was for the man to feed better, and with grain, reduce the proportion of water in the milk, and get a flow somewhat nearer the normal standard of quality. It does not pay to make butter from milk as thin as that reported, although the "not ripe enough" and "raised with water at 50°" is a straw to grasp at, that the cream-raising was not perfect, and possibly the churn would have done better if a few more degrees of ripeness had been obtained.

The colonel is right in his three premises, and the importance of feeding suitable food, but I doubt if it was yet ever found that a paying, extra quantity of butter, to compensate for the forcing, was ever secured from a cow that was not a natural-born butter-maker, and one of the greatest sources of loss in attempting advance dairying is in this notion that butter qualities can be fed into a cow. Col. Curtis will agree with me that the butter

quality is an inherited gift, at least born with the cow, and never artificially created, beyond developing a cow to her born possibilities. I admit that many cows have a normal limit of production far above anything their owners ever dreamed of, or attempted to secure, which another owner discovers, and we give the credit to mistaken creation, when it was only development of latent possibilities—just as the horse for one man may be a slow-going plow horse, and, under another man's care, trots in 2.30. The gospel is found with the colonel and his workers, but the importance of blood, the influence of food upon the milk and cream other than making it richer, and definite knowledge of the system of butter-making, need to go hand in hand with the demonstration of the churn, and I hope the colonel will get a Short machine and show the percentage of unrecovered fat in each and every churning, to enforce this idea—that food does play a most important part in having the cream all rise, and then all come.

Another question is coming up—and these conferences may settle it—and that is, if the mixing of different skimmings is not detrimental to perfect churning, and can any remedy be found, so that where different skimmings of cream must be collected into one churning, the usual loss need not occur? It is a well-known fact that the cream of different cows—the cream all of one age, but kept separately until ready to churn—will not yield up its butter fats completely, for the cream of one cow will come in five minutes, and that of another will require full forty, owing to the peculiar character imparted to it by the cow. In mixing cream, the balance of errors makes it appear satisfactory until the chemical test follows, and then we find that the loss is considerable, and when we go farther, and test each cow, both by churn and oil test of the buttermilk, we shall find that the work of the churn was far from uniform. How to get all of the butter from mixed cream, is the problem.

I notice a dairy writer of great prominence asserts that there is a greater variation of casein in a cow's milk than in its fat content; while Dr. Babcock gives it as his observation, after years of patient analysis, that the sugar and cheese in a cow's milk are constant in amount, graduated by the quantity of milk given, while the fats not only vary to some degree each day, owing to outside influence, but the milk last drawn from the udder is about three times richer than the first streams. Nor can I find any authority to show that in an average of say 100 analyses of milk, the casein exceeds in quantity the weight of butter fat. I am fully inclined to the belief that a milk with a low per cent. of butter fat, even contains a higher per cent. of casein; and as a rule, with average bred dairies, the cheese content of milk may be safely estimated by placing it slightly below the proportion of fats. But on the other hand, the best butter cow is not always the best cheese cow, for the reason that the butter fats are in excess of the casein; and the butter globules being large, are not held as securely by the process of coagulation, and more readily escape in the process of "cooking" the curd. To this extent, the milk of a cow that is more nearly balanced as to cheese and fat, and of a smaller sized globule, would be the more profitable milk for the cheesemaker. The cow that could show a normal milk of 3 per cent. fat and 6 per cent. casein, would be a great curiosity indeed.

Western Reserve, O. J. G.

Record of the Times.

Weather, Crops and Prices.

Meteorology for Aug. 12-18.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.15	inches.
Lowest	do.	do.	.....	29.75	do.
Mean	do.	do.	.....	29.96	do.
Highest temperature	do.	do.	.....	78°	
Lowest	do.	do.	.....	51°	
Mean	do.	do.	.....	71°	

Two clear days; two fair; three cloudy. Three days on which rain fell; total precipitation, 0.65 inch. Prevailing wind, W.; maximum velocity, 15 miles per hour, on the 16th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	12th	13th	14th	15th	16th	17th	18th
Day	73°	69°	68°	67°	68°	65°	66°
This year...	69°	69°	68°	67°	68°	65°	66°
Normal.....	74°	73°	71°	70°	69°	70°	70°

Total deficiency for the week, 20°.

General Review of the Week.

The week has been cooler than usual throughout the Northern States, Kentucky, Virginia, North Carolina and Tennessee, while it has been slightly warmer than the average temperature in the Gulf States and from Texas northward to Dakota, and on the Pacific coast. Over the principal corn States, and from the Mississippi valley eastward to the New-England coast, the weather was relatively cool, the daily temperature ranging from 3° to 6° below the normal. The average daily temperature of the season from January 1st to August 17th differs less than 1° from the normal throughout the central valleys, the Middle Atlantic States, and the northern portion of the Gulf States. The season is about one week late along the South Atlantic and Gulf coasts; it is retarded slightly in the States of the Ohio valley, and it is from one to two weeks in advance in New-England and Dakota.

There has been more rain than usual generally throughout the Southern, Middle Atlantic and New-England States, and in portions of Missouri, Kansas and Nebraska. Slight excesses in rainfall have also been reported in Northern Michigan. In Southeast New-England and over the greater portions of South Carolina and Georgia the rainfall of the week ranges from two to four inches. In the principal corn States, extending from Ohio and Michigan westward to the Missouri Valley, only light showers occurred, and the weather was especially favorable for farm work. The rainfall for the season continues in excess from New-York southward to Florida, and from Texas northward to Dakota. In the States of the Mississippi Valley from the Gulf coast northward to Minnesota the rainfall for the season generally exceeds 85 per cent. of the normal. From Central Tennessee northward to Lake Erie from 60 to 70 per cent. of the normal rainfall has occurred, and in the northern portions of Minnesota and Dakota and in Oregon and Washington Territory but little more than half the usual rainfall is reported.

The weather has been very favorable for harvest work in Dakota and Minnesota. The spring wheat has been practically secured, with a good yield reported, but more rain is needed in Dakota for late crops. In the States of the Ohio valley, including Ohio, Indiana, Illinois and Kentucky, and in Iowa and Kansas the crops are greatly improved by the favorable weather of the past week; in these States the corn crop is in excellent condition and maturing rapidly. A large crop of oats has been harvested and the hay crop is much heavier than was expected at the first of the month. In Michigan the cool nights were unfavorable to corn, and some damage resulted to the crop in Missouri from local storms and drouth. The good tobacco crop of Ohio, Indiana and Virginia was improved by favorable weather. More rain is needed for this crop in Kentucky, while excessive rains in Tennessee have left this crop in an unthrifty condition. In the cotton region, extending from Georgia to Texas, the weather was favorable and the cotton crop improved, although cotton worms are on the increase from Alabama westward to Arkansas, and have caused some damage to the crop. Mississippi reports caterpillars in thirteen counties. In the east portion of the cotton region the crop has been somewhat damaged by the rain, but farmers are yet hopeful. In New-England, New-York and New-Jersey the weather was generally unfavorable. Potatoes are rotting from excessive rain, and it has been too cool for corn north of Pennsylvania. Hay, oats and barley have been damaged in New-York; the fruit crop injured in New-Jersey by heavy rain, hail and severe thunder storms. In Pennsylvania the corn crop is in fine condition, and a large second crop of hay is being harvested. Rain has interrupted the threshing of wheat in the western portion of Oregon, but these rains will doubtless prove beneficial to fruit.

New-York—*Pawling, Duchess Co., Aug.* 13.—For over two weeks there were but three days that the farmer could secure his hay and grain. There will be nearly double the average crop of hay when all is gathered; about ⅔ of it was well taken care of in fine condition before this very wet spell came on. That remaining uncut is very much damaged. Oats that were cut are also, in many cases, damaged 50 per cent., having sprouted to quite an extent. The potato rot fungus has taken possession of all varieties to an alarming extent, and so much wet weather has assisted it along to a degree that the prospects are that with a large acreage the crop will be short of the average, although some varieties seem to withstand the rot much better than others when planted in the same field. Prospects for apples are much less favorable than earlier in the season; there will be quite a crop of pears, and in some places plums will be above the average; very few, if any, grapes will mature to be of good quality. J. W. H.

Almond, Allegany Co., Aug. 13.—Hay is a good crop on new meadows; on old very light. The chinch bugs did considerable damage last season. Oats are nearly all affected by a sort of blight, causing the leaves to turn red; some fields look as though they would yet make a good crop. Potatoes are blighting badly, and rotting. It looks as if the price would far exceed that of last year. Apples are very scarce. C. V. P.

Pennsylvania—*Sylvania, Bradford Co., Aug.* 12.—Rains early in the month caught much hay out in this vicinity, which was entirely spoiled for fodder, and there is considerable not yet harvested. We are in the midst of our harvest, and I think there is a good crop. A large breadth of buckwheat has been sown, and looks well now; corn is small, and will be a poor crop. Potatoes a light yield, and rotting badly. Sheep in good demand. Cows and all kinds of cattle low. Butter, 12c. per lb.; no cheese made here; very few apples. O. M. C.

Sunnyburn, York Co., Aug. 10.—The weather has been and continues very unsettled, greatly interfering with harvesting the crops promptly and in good condition. Wheat is not as good as expected, both in quality and yield. A large portion of the oat crop has been in the swath for some time, and received much rain, which darkened the grain. That portion secured without exposure to wet weather is No. 1. Farm help is very scarce on account of the tide-water canal engaging all the hands they can get to repair damage done by the late flood. Corn is a fair stand; in ear, and promising a good crop. Prices of farm products continue low, and prospect is not very encouraging. Wheat, 80c. per bu.; corn, 45c.; oats, 30c.; butter, 12c. per lb.; eggs, 12c. per doz. J. E. W.

Illinois—*Vandalia, Fayette Co., Aug.* 10.—Cloudy, threatening weather. On the 9th we had one of the heaviest thunder storms for years, laying the corn flat, but as the ears were not formed yet will straighten up again all right. Wheat is the heaviest crop in many years, and oats the best. Fruit will be scarce, not half a crop. Wheat, 70c. per bu.; oats, 17c.; corn, 30c.; potatoes, 20c.; onions, 40c.; butter, 14@15c. per lb.; chickens, 9c.; eggs, 10c. per doz. E. A.

Wisconsin—*Janesville, Rock Co., Aug.* 13.—We have had one good and much needed rain, as all things were in a withered condition. Grass is greatly improved. The heat is now moderate, with cool nights. Harvesting is done—threshing has begun in real earnest. So far as I can learn, crops are good. There are quite a number of steam threshers in use in Southern Wisconsin. Potatoes are fine, and promise a prolific crop. Oats are turning out well. Corn is doing better, but the cool nights are not favorable to its development. Wheat, 65@70c. per bu.; rye, 40c.; barley, 30@40c.; corn, 30c.; oats, new, 20c.; old, 26c.; potatoes, 30c.; beans, $1.40; hay, $4.50@7.50 per ton; butter, 11@13c. per lb.; eggs, 11c. per doz.; cattle, $2.25@3.75 per cwt.; hogs, $3.70@4.10; tobacco, 2½c., 3½c., 5½@11½c. (highest). W. H.

Iowa—*Jewell Junction, Hamilton Co., Aug.* 10.—Fine weather now, about one shower a week. Small grain all cut, and oats turning out from 60 to 65 bushels per acre; wheat from 15 to 30; rye from 20 to 30; corn is looking splendid, and if no killing frost come for a month the prospects are for a large crop. Old corn is worth 20c. a bushel at railroad station, and new oats are bringing 16c.; apples, 30c.; potatoes, 20c.; butter, 10c. per lb.; cream, 10c.; eggs, 9c. per doz. Early potatoes are quite small; apples a fair crop; grapes good; plum trees full of fruit. Most of the tame hay cut, and stacking and threshing grain out of shock is now under way. Pasture is getting a little short; wild hay good. Bees appear to be doing well; milk 90c. per 100 lbs. delivered at the factory; hogs healthy; small pigs quite scarce; cattle low. O. S. T.

South Dakota—*Watertown, Codington Co., Aug.* 5.—Fortunate are farmers in the famous Big Sioux valley as compared with those of the valley of the James or "Jim," as most Dakotans call it. Crops have improved wonderfully since June 20, when we had so much hot, dry weather. Wheat that looked scalded is now 36 to 44 inches tall, long heads full to the end, with plump berries one-third to one-half larger than in '83. The counties of Brown, Spink and Beadle are suffering with drouth, while Day, Grant, Codington and Deuel (exactly east of the former) have plenty of moisture. Corn is growing finely, and promises a larger crop than ever before. Corn fodder (E. & W. seed) has attained wonderful growth, and continues at the rate of one inch every twenty-four hours. Oats are uneven, some average high, others low; barley extra good; millet the best of any year—field after field shows 36 inches tall, thick, extra strong, color dark, estimated yield 2½ tons per acre. Potatoes are a fine crop. Cattle look the best for years, and the pure-bred sires sold from this county (Codington) since March 1, to the writer's personal knowledge, are as follows: Short-Horns, 9; Holsteins, 26. These were sold by one firm, The Holsteins, except two, came from "Shadeland," Powell Bros.' establishment, Springboro, Pa. Market prices are as follows: Cattle, $2@3.50 per cwt.; hogs, $3@3.75; wheat, 54c. per bu.; corn, 30c.; oats, 22c.; potatoes, new, 25@30c.; hay, $3@3.50 per ton. O. P. K.

Kansas—*La Cygne, Linn Co., Aug.* 13.—So far the season has been favorable for all crops, and is finishing the early corn in good shape, but late corn will soon need a little rain. Wheat was good, and saved in fine condition. Oats are very poor, as a rule, in bushels; the yield is fair, but in weight and quality very poor, little exceeding 25 lbs. per bu., and much as low as 20 lbs. Garden vegetables, fruit and berries of all kinds very fine and abundant. Grass has grown like a mushroom all summer. Everything quiet and dull. Hay, $4@4 per ton; oats, 12@15c. per bu.; butter, 10@12c. per lb.; eggs, 10c. per doz.; apples, 20@25c. per bu., and all produce in proportion. D. S. B.

Tennessee—*Ogden, Elbon Co., Aug.* 10.—Weather fair, mercury 79°, Sunday 56°; cool nights; local showers; corn growing finely, and the main crop of peaches gone. Sweet potatoes will soon be large enough to use. Oceans of plums here and ripe now; they sell for about 50 cents per bushel. It would pay the fruit men here to can their fruit. A farmer showed me to-day a peach that measured 10¼ inches in circumference. Corn grows in the valley to an average height of 12 feet. Some good live stock on the mountain, mostly Holsteins. Roads are quite sandy, and soon dry after rain. Improvements are going on everywhere, and I think that in a short time real estate will advance. As I said before, the only objection to the country are some rough roads. The people are kind-hearted, contented and happy, though some feel hard towards northerners. A splendid place for health. S. W.

Review of Passing Events.

A Lawless Life Ended.—Ex-Judge David S. Terry of California struck Associate-Justice Stephen J. Field at the Lathrop (Cal.) dining-room of the Southern Pacific road, Aug. 14, and was shot and killed by Deputy U. S. Marshal David Nagle. It was the culmination of the scenes of violence that have marked the celebrated Sharon divorces case, in which Senator Sharon and Sarah Althea Hill figured. The latter, after Sharon's death, married her counsel, Terry, and has repeatedly tried to obtain $5,000,000 of the Sharon estate. Last September Justice Field rendered a decision against her, when the outrageous conduct of the pair caused him to commit them for contempt of court. Since then they have threatened his life. When the assault occurred Mrs. Terry had gone to the car for a bag containing a pistol. Nagle, one of the quickest shots of the West, was guarding the justice, who is 78 years old, a brother of the well known David D., Cyrus W. and Henry M. Field. Protection had been accorded him by authority of Chief Justice Miller of Washington. Nagle was arrested and taken to Stockton to await the inquest. Justice Field was arrested in San Francisco on warrant procured by Mrs. Terry, and released on writ of habeas corpus. The State Supreme Court refused to adjourn in honor of Terry who was its first chief-justice. Terry's career in California began in 1849 after serving in the Mexican war, and his ability as a lawyer led to his election as judge of the Supreme court. With David C. Broderick he became a leader of the rough element, opposed the San Francisco vigilance committee of 1851, and in 1859 killed Broderick, then a U. S. Senator, in a duel, and escaped punishment; in 1861 he entered the Confederate service, returning to California after the war.

The Brown-Sequard Discovery.—In the London Lancet, some weeks ago, the well-known Paris surgeon (now 73) reported that a liquid prepared from the procreative glands of a rabbit, dog or guinea-pig freshly killed, when injected into the muscles would relieve the pains and weakness of old age—in his own case the effect lasting several weeks, enabling him to work with old-time vigor. Dr. Variot treated three old men (not telling them how), with similar results. In this country, disbelief was followed by experiment. Dr. Hammond of Washington using the glands of a lamb. Dr. De Wolf, late health officer of Chicago, treated free a number of persons, and Dr. Brainard of Cleveland selected 33 persons suffering from some disease. Results in many cases were of marked benefit. Dr. Browning of Philadelphia treated, free, over 100 persons, among them three reporters in whom the liquid produced high fever and pains in head and limbs. Dr. Hewitt treated nearly 400 persons, most reporting benefit, in some cases lasting three weeks. In New-York Drs. Loomis and Byron have begun a series of experiments to last two months. Some physicians believe it a humbug, others a simple stimulant aided by the imagination. Recently, blood poisoning and two deaths are reported of patients treated. Dr. Shaw of St. Louis has discovered bacteria in the fluid when allowed to stand a few hours.

Deaths.—At Yonkers, N. Y., Aug. 18, Dr. A. B. Mott of New-York city, aged 68. A son of Valentine Mott, the renowned surgeon, he rose to high eminence in the same profession, assisted in founding St. Vincent's Hospital and Bellevue Medical College, and served long terms in various hospitals; during the war organized the medical corps of the militia regiments sent to the front, the U. S. A. general hospital in New-York, and became medical inspector of the department of Virginia in 1864, and witnessed the surrender of Lee to Grant. A son, Valentine, was the first to introduce successfully the Pasteur treatment for rabies.—At New-Haven, Ct., Aug. 15, Elias Loomis, LL. D., professor of natural philosophy and astronomy in Yale College, aged 78. He made the first observations in this country on shooting stars in 1834; was professor in the University of New-York, 1844-60, and prepared a series of mathematical text-books, with circulation of over 500,000 copies; since 1860 was connected with Yale. His scientific writings have been translated into Chinese and Arabic.—Amadeus A. Reinke, senior bishop of the Moravian church in this country, at Hermhut, Germany, Aug. 10, aged 67.—At Charlotte, N. C., Aug. 12, Matthew Gibbs, aged 108.—At Augusta, Me., Aug. 12, Ellis Stevens, a volunteer of the war of 1812, aged 121½ years. He had 22 children, and his later descendants number 326.

From Abroad.—The execution of Mrs. Maybrick has been fixed for Aug. 26. Minister Lincoln and other resident Americans have signed a petition for her reprieve. The Liverpool petition has received 100,000 signatures, and 52 members of the House of Commons have also petitioned. The Home Office held a four-hours' conference on the case.—The Duke of Fife declines to permit his wife, the Princess Louise, to accept any share of the parliamentary grant to the royal family.—General Boulanger has been convicted of conspiracy and attempt at treason, his election in 12 cantons has been annulled, and, with Count Dillon and Henri Rochefort, he is to be deported to a fortified place.—Thomas A. Edison is in Paris. Queen Victoria has sent him a photo-

graph into which she had spoken, and King Humbert has appointed him a grand officer of the Order of the Crown of Italy.—Emperor Francis Joseph of Austria arrived in Berlin, Aug. 12, and was met by Emperor William, Prince Henry and Prince Bismarck. No political significance is attached to the visit. A sham fight was held on the 13th, in which a new smokeless powder was used.—Stevens, the bicyclist, has failed to find Stanley, and is returning to the coast. Stanley is said to be making for Kavirondo, on the east side of Nyanza lake.

Minor Items.

Truckee, Cal., lost thirty-five buildings by fire, Aug. 13.

Forest fires are prevailing in Washington Territory and Oregon.

The Augusta, Ga., Exchange has declared in favor of cotton bagging.

A petition in behalf of Mrs. Maybrick is circulating in Portland, Me.

A slip of the pen in a banana item last week gave *tons* instead of *pounds*.

The work of cutting down telegraph wires and poles in New-York has been resumed.

Disastrous storms on the 14th are reported from the West, and in the East on the 15th.

An average of two bodies daily have been found at Johnstown, Pa., during the last ten days.

A discovery of pearls in a small river near Albany, Wis., has caused much excitement there.

Dr. Wm. H. Bradley, former manager of the Philadelphia Press, is short in his accounts nearly $10,000.

The membership of the Knights of Labor has declined in three years from 600,000 to less than 200,000.

Halifax, N. S., has been holding an August carnival with torch-light procession, fireworks and naval parade.

Up to Aug. 10 the N. Y. Tribune fresh-air fund received nearly $20,000, and sent into the country 8,700 children.

The newspaper agitation against the gambling houses of Saratoga, N. Y., has led to the closing of some of them.

Thirteen fires in Danbury, Conn., within a week, have stirred up the citizens. A large hat factory has been destroyed.

A gas explosion in a Grand street house, New-York, Aug. 16, wrecked the building, killed two persons and injured twenty.

The trial of Sullivan at Purvis, Miss., resulted in one year's imprisonment. Kilrain was arrested at Baltimore, but released on bail.

Martin Burke has been identified by the Carsons as the man who rented the cottage of them under the name of Frank Williams.

Chief Mayes of the Cherokees has given a written answer to the Cherokee commission explaining the claims of the tribe to the "strip."

Natbourne, one of Robert Bonner's trotters, 12 years old and valued at $10,000, died at Tarrytown, N. Y., Aug. 14, of intestina rupture.

An assignment was made, Aug. 13, of the Riverside and Oswego mill property in Rhode Island and New-York. Treasurer Brown is still missing.

The City of Paris has now made the quickest eastern trip—5 days, 23 hours, 44 minutes on August 13—only 37 minutes more than the best western.

In a case of the Armour Company at Duluth, Minn., Aug. 13, the dressed-beef law was declared unconstitutional in the U. S. district court.

A train on the Western Pa. road was thrown from the track by spreading of the rails near Sarver station, Aug. 16, and three persons were killed and 10 injured.

Mayor Grant of New-York has selected the 100 citizens who will form the four committees of the fair of 1892—organization, finance, legislative, and sites and buildings.

President Harrison returned from his Bar Harbor trip August 16, after visiting Ellsworth and Bath. Mrs. Harrison also returned from Nantucket, leaving her sister better.

The City of New York and the new White Star steamer Teutonic, on her first voyage sailed nearly in company, the former reaching New York only three quarters of an hour ahead.

Spokane Falls, W. T., will be rebuilt as soon as possible. Sales of the burned-over ground have been made at $1,000 per front foot, and eastern capitalists and companies are offering loans for rebuilding.

Large tracts of fertile lands long the Blackfoot river, Idaho, have been found to be claimed as desert lands. Utah Mormons have possession of 11,000 acres, on which ten mowing machines were cutting hay.

E. S. Allen, the defaulting street railroad president of New York, has been sentenced 14 years' imprisonment at hard labor. Colles the Minneapolis forger, is still in jail for lack of $100,000 bail on 33 charges.

Clarence Pell of New York, a Yale student 21 years old, was shot in the North Woods near Moose river, August 15, in mistake for a deer, by Ellis H. Roberts, 17, of Utica, N. Y. A tan-colored coat caused the error.

Fourteen of the Lafayette, La., "regulators" have been held for trial without bail. Most of them are farmers, and their crops will suffer. They are charged with murder, jail breaking and resisting the sheriff.

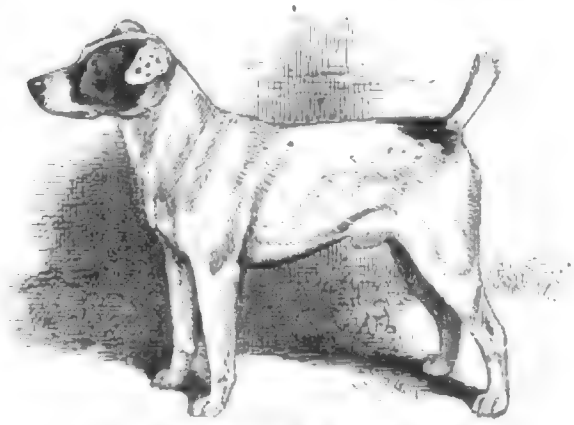
The Fireside.

The Fox Terrier.

The large measure of popularity which has been achieved by the fox terrier seems to show no sign of slackening, for year by year the number of breeders and exhibitors increases rather than decreases. This is to be accounted for in many ways. In the first place most people like a dog of courage, and that the well bred fox terrier certainly is. Then he is handsome and sprightly, most affectionate, and like most little things makes his presence felt by the noise and bustle he exhibits. Further, and this is probably one of his chief attractions to men who live in the country, he is an excellent work dog, and will give a good account of himself under most circumstances. There are two varieties of the breed, namely, the smooth-haired and the wire-haired.

It is now about fifty years ago since the fox terrier was acknowledged as a separate breed, though for long before that time dogs with many of the characteristics of the present varieties were well known and used by sportsmen. The object was to have a small courageous dog, ready to go to earth for the purpose of driving out the fox when he had run there. The records of some of the leading hunts in the country show how carefully dogs were bred for this purpose, and some of them at least had animals which bore considerable resemblance to the present fox terrier. As to the source of their origin there is a great amount of divergence in opinion, and it is not necessary that we should here discuss the matter. It may, however, be observed that there seems little doubt of the fact that our fox terriers do not all originate from the same stock, but that in different parts of the country there were men at work perfecting a dog such as best suited their needs. To these we owe the present-day fox terrier. The great popularity of the breed is to be dated from the institution of dog shows, early in the present half century. Before that time the number of breeders was necessarily limited, but with the growth of shows those who before could have no stimulus to the keeping of these dogs, have found it in the competition engendered by these exhibitions.

The smooth-haired variety (the product of breeding for especial needs) is so called because of the shortness of hair on the body, which gives it a hard, smooth appearance, in great contradistinction to the wire hairs which make the others appear to be rough and shaggy. For those who live in less exposed countries there is no doubt that the smooth fox terrier is the better of the two, but probably for colder and bleaker places the wire-haired are to be preferred. As companions there is no doubt of the greater popularity of the smooth-coated variety, and for those who desire a companion or house dog rather than a worker, yet at the same time one well able to give a good account of himself if needs be, he is the better. His coat being smooth does not carry so much wet and dirt as does that of his rougher-coated brother, and he is always neat and clean-looking. He is equally at home in the drawing-room or when ratting, and if secured as a puppy is very easily trained, and is most affectionate, but like the generality of terriers is full of life and very headstrong. Consequently at times he has to be very sharply corrected, though, if he has been properly trained, this can generally be done by scolding. A fox terrier never seems to be so happy as when killing something, and is very apt to give cats a rough time of it if allowed to do so. If, however, he has been properly taught, he will look upon puss as a friend rather than an enemy. Terriers are "rough on rats," but should not be tried in this way until they are six months old, and only then in the company of an older dog who is up to the business, for a very young dog has not a fair chance against a rat, especially if it should be a vicious old rodent. Fox terriers are capital watch dogs, and being very inquisitive soon become acquainted with every nook and corner of their abode. As a rule, they are constantly by the side of their owners, and learn to know their characteristics wonderfully well, and accomodate themselves accordingly. It is scarcely an exaggeration to say that while asleep a good terrier has one eye on his master, and his ears are ever on the alert for the least unusual noise, when he is there at once, and thus proves himself a terror to evil doers.



SMOOTH-HAIRED FOX TERRIER.

In fact, there is no variety of dog which is at once a better companion and more useful than the fox terrier, and this applies equally to the smooth and rough-coated varieties.

The Fox Terrier Club has done much for this breed, and the following standard of points adopted by it will show what are the leading characteristics of the smooth-coated variety:

1. *Head.*—The skull should be flat and moderately narrow; broader between the ears, and gradually decreasing in width to the eyes. Not much "stop" should be apparent; but there should be more dip in the profile, between the forehead and top jaw, than is seen in the case of a greyhound. The ears should be V-shaped, and rather small, of moderate thickness, and dropping forward closely to the cheek, not hanging by the side of the head like a foxhound's. The jaw should be strong and muscular, but not too full in the cheek; should be of fair punishing length, but not so as in any way to resemble the greyhound's or modern English terrier's. There should not be much falling away below the eyes; this part of the head should, however, be moderately chiseled out, so as not to go down in a straight slope like a wedge. The nose, towards which the muzzle must slightly taper, should be black. The eyes should be dark-rimmed, small, and rather deep-set—full of fire and life. The teeth should be level and strong.

2. The *neck* should be clean and muscular, without throatiness, of fair length, and gradually widening to the shoulders.

3. The *shoulders* should be fine at the points, long and sloping. The chest deep and not broad.

4. The *back* should be short, straight and strong, with no appearance of slackness behind the shoulders; the loin broad, powerful, and very slightly arched. The dog should be well ribbed up with deep back ribs, and should not be flat-sided.

5. The *hind quarters* should be strong and muscular, quite free from droop or crouch; the thighs long and powerful; hocks near the ground, the dog standing well up on them, like a foxhound, without much bend in the stifles.

6. The *stern* should be set on rather high, and carried gaily, but not over the back or curled. It should be of good length, anything approaching a pipe-stopper tail being especially objectionable.

7. The *legs*, viewed in any direction, must be straight, showing little or no appearance of ankle in front. They should be large in bone throughout, the elbows working freely just clear of the side. Both fore and hind legs should be carried straight forward in traveling, the stifles not turning outwards. The feet should be round, compact, and not too large; the toes moderately arched, and turned neither in nor out. There should be no dew-claws behind.

8. The *coat* should be smooth, but hard, dense and abundant.

9. *Color.*—White should predominate. Brindle, red or liver markings are objectionable. Otherwise this point is of little or no importance.

10. *Symmetry, Size and Character.*—The dog must present a generally gay, lively and active appearance. Bone and strength in a small compass are essentials, but this must not be taken to mean that a fox terrier should be cloggy, or in any way coarse. Speed and endurance must be looked to as well as power, and the symmetry of the foxhound taken as a model. The terrier, like the hound, must on no account be leggy; neither must he be too short in the leg. He should stand like a cleverly made hunter—covering a lot of ground, yet with a short back, as before stated. He will thus attain the highest degree of propelling power, together with the greatest length of stride that is compatible with the length of his body. Weight is not a certain criterion of a terrier's fitness for his work. General shape, size and contour are the main points, and if a dog can gallop and stay, and follow his fox, it matters little what his weight is to a pound or so, though roughly speaking it may be said that he should not scale over 20 pounds in show condition.

This standard applies equally to the wire-haired fox terrier, except in the one point of coat, which should be broken. The harder and more wiry the texture of the coat the better, but on no account should the dog look or feel woolly, and there should be no silky hair about the poll or elsewhere. The coat should not be too long, so as to give the dog a shaggy appearance, but at the same time it should show a marked and distinct difference all over from the smooth species. STEPHEN BEALE.

H——, England.

See sketch of smooth-haired fox terrier on this page, and wire-haired on p. 636.

Pine Breath.

My lady's garden lieth
Wrapt in a golden swoon;
And languidly on creepeth
The summer afternoon.

The flower-heads are heavy
With their delicious sleep;
Across the lazy grasses
The quiet shadows creep.

I lie among the vine leaves,
Lulled by the fountain's play.
The world is full of slumber
And life seems far away.

There steals a subtle incense
The breath of whispering pine;
Its strange, wild life outbreathing,
It comes and enters mine.

I see dim forms and faces,
A tropic sun's fierce glow
Across the g'eaming desert.
The hot sirocco's blow.

I see the graceful palm-bough
Against the bright'ness set,
And strange processions wander
'Neath dome and minaret.

Where dreamy fountains tinkle
Within the happy shade,
I catch the coy, shy glances
Of some dark, eastern maid.

Enchanter of our North land,
Fair nature's wizard priest,
I own thy subtle charm'ng.—
I, too, have seen the East.

Life's weary longings are conquered;
Its pilgrim task is done;
To me, this golden summer,
The old and new are one.

—*E. L. Brown, in American Teacher.*

Artificial Honey.—That a "lie well stuck to is as good as the truth" would seem to be verified in the case of the falsehood about artificial comb honey in artificial combs being manufactured and sold in large quantities, which was started several years ago, and in spite of vigorous protests from bee-keepers and their journals, still maintains an active circulation. It is entirely false. Neither honey nor comb are manufactured anywhere by any one. The nearest approach to anything "artificial" is in the comb "foundation"—a kind of bottom-board of pressed wax on which the bees begin to build their combs. Mr. A. I. Root, in his Gleanings, has had for a year past a standing offer of $1,000 for a sample of artificial comb-honey. The Bee Journal of Chicago has also followed the matter up sharply. And yet, recently, leading papers in Chicago, Cleveland, New-York and Philadelphia have set the story afloat again, and a bee-keeper has found in the American supplement to the Encyclopædia Britannica the statement that "in artificial honey making, the comb is made of paraffine, and filled with pure glucose by machinery. For whiteness and beauty it rivals the best white-clover honey, and it can be sold at less than half the price. Its one defect is that it is not honey." Mr. Root urges every bee-keeper to send contradictions at once to the paper where seen, and he proposes to print a list of papers which persist in publishing false statements about the honey business. The Ohio food commissioner has been trying to find some manufactured honey, but without success.

The Mountain Lion.

It has been my fortune for a few years to live in a wild, rough country much haunted by these beasts, and naturally I have picked up a good deal of information concerning them. Their name is misleading. They resemble the lion in no particular save color. The lion has a large head and mane, and a powerful voice. The mountain lion has a small cat-like head, no mane at all, and I never heard one make a sound unless I once heard some kittens squalling when I was trying to track an old she-lion to her den.

I was camped on a pretty little meadow, surrounded by very rough and ledgy mountains, and one morning a fine, large mare, that I was keeping close to camp, lost her colt, and from her frantic demonstrations I knew it had been killed by the lions. I saddled up and made search for it, but for a long time in vain, as I naturally looked in the most remote parts of the canyon, where the brush and timber were thick, but at last, quite near camp, I came on the trail made by dragging the colt, and following it a few rods found where it had been taken into a clump of huge sagebrush and partially devoured. I think the colt weighed about 600 lbs., and it had been carried or dragged fully 50 yards. The lion was evidently a small one, for the track was not over four inches in diameter.

There was a ridge near by overlooking the spot where the colt lay, and I decided to try watching that night, knowing the lion would come back. So as I was not satisfied with the gun I had with me, I rode down to the ranch for an "old reliable" Sharp's that shot explosive cartridges, and that I knew would fix Mr. Lion if once he would show himself. It was 6½ miles to the ranch, and I rode it down in 23½ minutes on a grass-fed saddle-horse, and back up inside the hour. We watched till dark, and then slipped down, filled the colt with strichnine, and went to camp. In the morning we found that the lion had come down from off the mountain—passing within 30 feet of where we sat watching the night before—gone to the colt, but by a long circuit keeping well sheltered by the brush; torn off a large piece of meat, and gone back straight away, taking the meat along. This looked as if there might be kittens concerned in the case, and as it had rained slightly in the night, and all tracks were fresh, I decided to have a hunt for the den.

We followed her up the mountain, and in and out of timber and brush, and over ledges and rocks, till we lost the trail and gave it up. It takes all a man's nerve to do that kind of work, knowing that the lion will certainly see you long before you see her, and, lying on the uphill side, have all the advantage. We found her dead a few days after. The strychnine had done its work, and she lay on her back, her enormous paws thrown up in the air, a fearful looking beast. They kill by striking with their paws. I have known them to kill a 1100-pound horse. They seldom attack cattle, and mostly kill sucking calves.

In the winter of '85 a lion came down, and made its den under some cedars within 200 yards of our headquarters' cabin. He made his first call one night and visited the hen house. Hearing the racket, and thinking it to be a coyote, I took a pistol and went down to investigate. The lion leaped out of the door, brushing me aside and disappeared in the darkness. It startled me somewhat.

In the morning I found that all the chickens were killed but three, and a part of them had been carried off after I had interrupted his feast. The next night he came again and prowled around the stable and corral, causing the horses to go wild with terror and to break all their fastenings. I tried in vain to get sight of him. It was too dark. The next night as he was sneaking along by the house the dogs made a bold rush for him, and he, resenting the annoyance, leaped on one and carried it yelping away. This was within 50 feet of the house.

The next day we went off on a ride as usual, and tied an old shepherd dog in the door of the corn crib to keep burros out, as was our primitive custom. Returning late in the after-

soon we noticed that the dog was very much excited, and remarked that she probably knew where the lion was concealed. We turned her loose and went to getting supper, when we were startled to hear the most agonizing yelps and howls up the creek a little way. Hastening up we beheld an amusing sight, for the lion lay there on her back holding the dog in her paws and having the whole head in her mouth, playing with the dog as a cat would with a mouse, while the dog made the best noise it could down the lion's throat.

As we opened fire on her, she got up and ran away leisurely enough, and crossed a little gulch to a cedar covered hill, giving several nice shots, which we were too excited to improve to any advantage. I followed her over to the hill, and easily got in ahead of her. I did not once see her, but my comrade, who stayed back where he could watch proceedings, says that at times I was within a few yards of her, and only a cedar intervened. He was much surprised to see that I did not shoot, not knowing that I did not see the game at all. It was easy enough for the cunning brute to elude me, and finally she got away into a rocky gulch, and I gave it up.

But in the morning she lay in her den, under a spreading cedar tree, and I crept up to within 15 yards of her, and shot her as she lay surrounded by her spoils of dead hens and dogs. We greatly rejoiced in her death, and for a time were free from further attacks of these beasts, but each year others come (though not as bold as the one last described) and do a great deal of damage to our young live-stock.

Range Valley Ranch, Utah, May 10. J. E. WING.

"Thank You!"

A boy went to "help out" a farmer one day in planting-time. At the close of the day's labor, the farmer gave the boy a half-dollar piece, and the boy said, "Thank you!" "Why do you thank me?" asked the farmer. "Because you have given me the money." "But you have earned the money, my boy. You have given labor, and I have given money for it. There is no reason why I should thank you, or you me. Never thank anybody for giving you what belongs to you."

The boy had been taught to say "Thank you," and the advice of the farmer was a surprise to him. It was several years before this thorn, thrust into his mind, was drawn out. And this was natural, for to many persons—and they are not all children—the evolution of a "Thank you!" is difficult, and in some cases, almost unattainable.

There is a deal of courtesy and cheer in a hearty "Thank you!" It is manly, and it costs nothing. Do not respond with "Thanks!" That is stingy and affected. Dr. Wayland, son of the celebrated preacher and scholar, exclaimed, when some one gave him a full "Thank you!" "I'm glad to hear a 'Thank you'—the old-fashioned, hearty acknowledgment—in this wilderness of 'Thanks.'"

Obligation, one to another, does not cease when we pay for what we get, or give what is paid for. Every man is under obligation to every other man, and the debt is never canceled. Was it not fortunate for the farmer that he could find a boy to help him plant, and was not the boy glad to have opportunity to earn a half-dollar? Did not each confer a favor on the other? GEO. A. STOCKWELL.

The Upas Tree.

EDS. COUNTRY GENTLEMAN—I notice, in several of the last numbers of your paper, articles on the poison ivy or oak, the last one of which brought to my mind the account of the deadly upas tree of Java in Henry O. Forbes' book, "A Naturalist's Wanderings in the Eastern Archipelago in 1883."

It appears that the properties of the poison oak are possessed by this tree to an even more dangerous extent, and the application of oil, as recommended in the last article on the poison oak, seems to have been understood by the Chinese, mentioned in the following extract:

"Beneath the shady canopy of this tall fig no native will, if he knows it, dare to rest, nor will he pass between its stems and the wind, so strong is his belief in its evil influence. In the centre of a tea estate, not far off from my encampment, stood, because no one could be found daring enough to cut it down, an immense specimen, which had long been a nuisance to the proprietor on account of the lightning every now and then striking off, to the damage of the shrubs below, large branches, which none of his servants could be induced to remove.

"One day, having been pitchforked together and burned, they were considered disposed of, but next morning the whole of his labourers in the adjacent village awoke, to their intense alarm, afflicted with a painful eruption, wherever their bodies were usually uncovered. It was then remembered that the smoke of the burning branches had been blown by the wind through the village; this undoubtedly accounted for the epidemic, but it did not allay their fears that they were all as good as dead men, for the potency of the sap as a poison is but too well known to them.

"To prevent a general flight of the workmen, it became necessary to get rid of the tree altogether, but the difficulty was to find any one willing to lay the ax upon its root. At last a couple of Chinamen, after much persuasion and the offer of a high fee, agreed to peform the hazardous task of cutting up and carting it away. To the surprise of everybody, they accomplished their task without experiencing the least harm. They pocketed their fee and departed in silence, without, however, saying that they had at intervals during their work smeared their bodies with cocoanut oil. The sap of the bark alone is hurtful, for the logs into which the stripped trunk was cut were made into furniture for the owner's dining room, without any ill-effects to the carpenters.

"The bark of another denizen of the same forest, *Ficus benghes*, contains a sap even more noxious, for falling on the skin, it produces stubborn ulcers which, on the wood-cutters—who often get splashed on their arms and body—require months to heal; but its sap is not used by them for poison, as the Antiarin is. It is curious to reflect how acute native ingenuity has been in elaborating a pharmacopœia, abounding in subtle articles to waste or take away life, while it hardly has one to preserve it."

Shadwell, Va. A. H.

Domestic Economy.

Fruit Jelly.

There are some things one can go at in a haphazard, accidental, sort of way and occasionally make a success of, but jelly-making is not one of them. You must know exactly what you want to do, and the neatest, quickest, and most skillful method of doing it, otherwise your most persistent efforts will accomplish only the most disheartening failures. The best materials must also be at your command, the firmest, freshest fruit, and a first class quality of pure white sugar. The cooking vessels too should be in perfect order, clean and odorless, and the fire steady and bright. A porcelain kettle is preferred. I have seen beautiful jelly made in shallow new tin pans, but there is always some danger that the delicate flavor of the fruit may be spoiled by the action of the acid on metal.

In making jelly from apples, select those varieties that are white-fleshed, and that contain considerable acid. The apples should be perfectly sound though not quite ripe enough to be mellow. Wash and wipe them carefully, slice without paring, and put them on with just enough water to prevent scorching. Boil rapidly until the fruit becomes soft but not broken; then pour the mass into a thick muslin or flannel bag, and gently press, not squeeze, the juice from it. Measure the juice and return it at once to the fire and boil rapidly, gradually sifting in the sugar, which should be dried in the oven and be quite hot when put into the juice. Most jellies require one pound of sugar to each pint of juice.

Twenty minutes is the time allotted for boiling, but the nature of fruits is so different that one cannot adhere to any strict rule. The best way is to dip up a small quantity on a spoon every few minutes and drop it on a plate to cool, and as soon as it shows an inclination to jelly, remove the kettle instantly from the fire, whether it has been boiling five minutes or half an hour, the latter being the utmost limit for boiling jelly after putting in the sugar. The shorter the time required for cooking, the finer will be its flavor and the lighter its color.

Have the glasses dry and warm and fill them to the brim, placing them afterward in the hottest sunshine you can find and spreading over them a bit of mosquito netting as a protection from insects. If the jelly is not sufficiently solid when first made, keep it in the sunshine for several days, as the action of the sunlight renders it beautifully firm and transparent. When it has become quite firm cut pieces of white paper to fit the glasses, moisten with brandy and lay smoothly on the jelly, covering the glasses afterward with tin tops or larger discs of paper brushed over with white of egg and pasted smoothly down. Jellies should be kept in a cool dry closet or cellar, excluded from the light.

As remarked above, there is great difference in the length of time required for the juice of different fruits to jelly; the quince, for instance, jellies very quickly, so very readily, in fact, that it is almost impossible to make a syrup to quince preserves, it turns to jelly in spite of you. Cranberries also jelly readily, the jelly being of a warm ruby hue as beautiful to the eye as it is grateful to the palate. The juice from currants jellies nicely, and also that obtained from plums, the latter being especially adapted for an accessory to fresh meats, as it possesses a spicy piquant flavor and a most agreeable acid. That made from large white grapes, gathered before they are quite ripe, is both delicious in flavor and of a lovely light color, while wild-grape jelly is said to be the finest in the world. Raspberry jelly is exceedingly fragrant, and retains to a remarkable degree the spicy, delicate taste of the fresh fruit.

To preserve the flavor of any fruit in perfection, the jelly should be made with great nicety and promptness, and only a small quantity, say one quart, should be boiled at once.

HORTENSE DUDLEY.

Delectable Desserts.

PINEAPPLE SHERBET.—Prepare one large or two small pineapples, by first peeling, removing all the eyes, and then chopping it finely. Cover it with a pint of fine sugar and six gills of water. Heat half of the water first, and dissolve in it one tablespoonful of crinkly gelatine or half that quantity of the powdered kind. Stir this well and then freeze.

STRAWBERRY ICE CREAM.—One quart of sweet cream beaten together with four eggs until thoroughly whipped. Dissolve half a box of Cox's gelatine in a little boiling water, add to a pint and a half of sweet milk, and mix with the whipped cream and eggs. Add a pint of sugar and a pinch of fine salt, and whatever flavoring is desired. Two teaspoonfuls of vanilla or lemon extract would be required, if used.

If chocolate flavor is wished, the chocolate should be melted (one-fourth cake of Baker's) and rubbed into some of the milk while it is hot, so that it will mix thoroughly without lumps in the cream.

Coffee flavor is very pleasing to those who are fond of it, but is not as generally liked as more commonly used flavors. This can be easily made by substituting a pint and a half of strong coffee instead of the milk. By "strong" I do not mean black coffee, but stronger than when made to drink.

After putting the cream into the freezer, it should be kept in constant motion until frozen, and then packed to stand two or three hours at least. This is the way it is made by some of the best caterers in New-York, and will be found to possess that fine, smooth quality which is a distinguishing feature of good cream.

CHOCOLATE MACAROONS—To be eaten with ices. Melt three ounces of chocolate, and stir into a thick paste with a pint of pulverized sugar and the whites of three eggs. Roll out this mixture to the thickness of a quarter inch, and dust with fine sugar; bake in a hot but not quick oven, in a buttered tin.

CHARLOTTE RUSSE.—Dissolve half an ounce of gelatine in one gill of hot water, add the whites of three eggs, beaten stiff, and a teacupful of powdered sugar. After stirring briskly pour in one pint of whipped cream when the gelatine mixture has cooled a little. Before it becomes quite cold or the gelatine sets, it should be poured into one large mould or dish (unless individual ones are desired then some flaring cups may be used) lined with stripe of

WHITE SPONGE CAKE.—Bake the whites of eight fresh eggs for at least two minutes, and then add a small teaspoonful of cream tartar and beat five minutes more, one and a half cupfuls of powdered sugar, one cupful of flour and a teaspoonful of extract of lemon. Bake in a slow oven. A nice cake to eat with ice-cream is

SNOWFLAKE CAKE.—Two cupfuls of sugar, three-fourths cupful of butter and whites of seven eggs beaten separately, and then with the sugar and butter. Into two cupfuls of flour stir two even teaspoonfuls of Royal baking powder, and mix one cupful of corn starch in one cupful of milk, adding this to the first mixture of butter, eggs, &c., then finally the flour. Flavor with half a teaspoonful of bitter almond, or a teaspoonful of lemon if preferred.

PEACH SOUFFLE.—Prepare two quarts of good ripe peaches by peeling and slicing into the pudding dish you wish to serve it in. Sprinkle powdered sugar over them, and set it in a cool place. Then make a custard of the yolks of six eggs, three gills of new milk and three tablespoonfuls of sugar; when this has cooled pour it over the peaches. Beat the whites of the eggs to a stiff froth, and after adding a tablespoonful of fine sugar spread it over the pudding, and give it a light brown by setting it in a quick oven a few moments.

J. W. A.

Canning Corn.—H. D. will find the following method of canning corn all that can be desired, certainly so far as results are concerned. Credit should, however, be given to the *Farm Journal*, as it was in that bright little paper I saw it some four years ago: Cut the corn from ears selected as if for immediate use; fill the can with this corn, working it down repeatedly with something like a pestle handle, so the milk will cover the corn and just fill the can. Much care should be given to this part, as when you are sure the jar is full, a little manipulation will enable you to put in much more. A dozen large ears will no more than fill a quart jar. When full, put on the rubber and cover as tightly as possible; put the can or cans in a kettle or boiler, being careful to raise them slightly from the bottom of the vessel; completely cover with cold water, put on the fire and boil four hours. Remove and allow them to cool gradually; then wrap in brown paper and keep in a dark, cool, dry place.

It may seem like too much trouble and hard work, but I assure you that when you sit down to dinner in mid-winter, and the delightful taste and aroma of green corn is present with you, the trouble of the past will be forgotten.

Smithland County, N. Y. F. H. P.

Mustard Pickles.—I have an excellent receipt for mustard pickles. They are so good I wish many may try them. They keep the year round in open jar. They are fully as good as those we buy, and not nearly so expensive:

One quart cucumbers, sliced—soak over night in salt water; one pint of small onions, scalded in salt water; one cauliflower, scalded as above; three peppers, sliced; one quart green tomatoes, scalded. Drain them and put in jars. Pour hot vinegar over and let remain three days; then drain the vinegar from them. Take one box (¾ lb.) ground mustard, one pint vinegar, one and a half cupfuls sugar, and half a cupful flour; mix the flour and mustard smooth with cold vinegar. Pour into the boiling vinegar and then over the pickles. Celery is a very nice addition. Horse-radish stripped up and put through is liked by us, and also serves to keep them fresh—I always take fresh radish leaves to cover vinegar when crock is ready—some like the vinegar sweetened. MRS. A. CAMPBELL.

Washtenaw County, Mich.

Poisonous Pie.—On p. 566, NELLIE BURNS tells how a party of people were made sick with something eaten at a picnic, but could not tell the cause. I have known such parties to be all made sick by eating chicken pies that were baked the day before, and allowed to cool without opening the crust to let off the gas while cooling. They were sick about the same time after eating; so I thought perhaps this may be the cause. L. C. M.

Highland Lake, Col.

WANZER LAMP WANTED.—On page 605, Mrs. C. describes a "Wanzer Lamp" as invaluable to invalids, as well as the cheapest and cleanest light. I should like to know where said lamp can be obtained. J. W. C. (The maker will do well to advertise.)

Wolff's ACME Blacking
IS A GREAT LABOR SAVER.
A SHINE LASTS A WEEK.
RAIN AND SNOW DON'T AFFECT IT
NO BRUSHING REQUIRED.
MAKES A SHOE WATERPROOF.
USED BY MEN, WOMEN AND CHILDREN.
Can be washed like Oil Cloth, and absolutely
Softens and Preserves all kinds of Leather.
Ask for it, and do not give up till you get it, and you will be well rewarded.
Sold by Shoe Stores, Grocers, Druggists, &c.
For Harness it is unequaled.
WOLFF & RANDOLPH, PHILADELPHIA.

Annual Fair List.

STATE AND GENERAL EXHIBITIONS.

Alabama, Birmingham	Oct. 21,	Nov. 2
American Institute, New-York	Oct. 2,	Nov. 20
Arizona, Phœnix	Oct.	16, 19
Arkansas, Pine Bluff	Oct.	23, 26
Buffalo International, Buffalo	Sept.	3, 13
California, Sacramento	Sept.	9, 21
Canada Central, Ottawa	Sept.	9, 14
Colorado, Pueblo	Oct.	3, 9
Connecticut, Meriden	Sept.	17, 20
Dakota North, Grand Forks	Sept.	17, 21
Dakota South, Aberdeen	Sept.	23, 27
Delaware, Dover	Sept. 30,	Oct. 5
Detroit International, Detroit	Sept.	17, 27
Georgia, Macon	Oct.	28, Nov. 1
Illinois, Peoria	Sept.	23, 27
Indiana, Indianapolis	Sept.	23, 26
Iowa, Des Moines	Aug.	30, Sept. 6
Kansas, Topeka	Sept.	18, 21
Kentucky, Lexington	Aug.	27, 31
Louisiana Shreveport	Oct.	14, 19
Maine, Lewiston	Sept.	10, 13
Maryland, Pimlico	Sept.	9, 14
Massachusetts ("Bay State"), Boston	Oct.	7, 12
Massachusetts Horticultural, Boston	Sept.	17, 20
Michigan, Lansing	Sept.	9, 13
Minnesota, St. Paul	Sept.	6, 14
Montana, Helena	Aug.	28, 31
Nebraska, Lincoln	Sept.	6, 13
New-England, Worcester, Mass	Sept.	3, 6
New-Hampshire Grange, Tilton	Sept.	10, 12
New-Jersey, Waverley	Sept.	16, 20
New-Mexico, Albuquerque	Sept. 30,	Oct. 4
New-York, Albany	Sept.	13, 19
New-York & Pennsylvania, Elmira	Sept.	16, 27
North Carolina, Raleigh	Oct.	14, 19
Ohio, Columbus	Sept.	2, 6
Ohio (Tri-State), Toledo	Sept.	9, 13
Ontario Provincial, London	Sept.	9, 14
Oregon, Salem	Sept.	10, 21
Rhode Island, Providence	Sept.	23, 27
St. Joseph, Mo	Sept.	3, Oct. 5
St. Louis, St. Louis	Oct.	7, 12
South Carolina, Columbia	Nov.	11, 15
Texas, Dallas	Oct.	15, 27
Toronto Industrial	Sept.	9, 21
Vermont, Burlington	Sept.	5, 6
Washington, Cheyenne	Sept.	17, 20
West Virginia, Wheeling	Sept.	9, 13
Wilmington, Wilmington, Del	Sept.	2, 7
Wisconsin, Milwaukee	Sept.	14, 20
Wyoming, Cheyenne	Sept.	17, 20

COUNTY AND LOCAL—NEW-YORK.

Allegany, Angelica	Sept.	10, 13
Antwerp, Antwerp	Aug.	27, 29
Brookfield, Brookfield	Sept.	10, 12
Broome, Whitney's Point	Sept.	3, 6
Cattaraugus, Little Valley	Sept.	2, 5
Chautauqua, Jamestown	Aug.	26, 29
Chenango, Norwich	Sept.	24, 27
Clinton, Plattsburg	Sept.	10, 13
Columbia, Chatham	Sept.	10, 13
Delaware, Delhi	Sept.	17, 19
Delaware Valley, Walton	Sept.	10, 13
Dryden, Dryden	Sept.	24, 26
Duchess, Poughkeepsie	Sept.	24, 27
Erie, Hamburg	Aug.	27, 30
Essex, Westport	Sept.	3, 5
Franklin, Malone	Sept.	24, 26
Fulton, Johnstown	Sept.	9, 12
Genesee, Batavia	Sept.	19, 21
Greene, Cairo	Sept.	4, 6
Jefferson, Watertown	Sept.	17, 20
Lewis, Lowville	Sept.	17, 20
Livingston, Geneseo	Oct.	1, 3
Long Island, Huntington	Sept.	10, 12
Margaretville, Margaretville	Aug.	28, 30
Montgomery, Fonda	Sept.	3, 6
Niagara, Lockport	Sept.	19, 21
Oneida, Rome	Sept.	16, 20
Ontario, Canandaigua	Oct.	1, 3
Orange, Goshen	Sept.	24, 27
Orleans, Albion	Sept.	19, 21
Oswego, Oswego	Sept.	10, 13
Otsego, Cooperstown	Sept.	23, 26
Putnam, Carmel	Sept.	10, 13
Queens, Mineola	Sept.	24, 27
Richfield Springs, Richfield Springs	Sept.	30, Oct. 2
Rockland, Spring Valley	Oct.	1, 4
St. Lawrence, Canton	Sept.	17, 19
Saratoga, Ballston Spa	Sept.	9, 12
Schoharie, Schoharie	Sept.	16, 19
Schuyler, Watkins	Sept.	10, 12
Seneca, Waterloo	Sept.	24, 26
Steuben, Bath	Sept.	17, 20
Suffolk, Riverhead	Oct.	1, 3
Sullivan, Monticello	Sept.	3, 5
Tioga, Owego	Sept.	10, 12
Tompkins, Ithaca	Sept.	10, 13
Warren, Glens Falls	Sept.	3, 6
Washington, Fort Edward	Sept.	3, 13
Wayne, Lyons	Oct.	3, 4
Westchester, White Plains	Sept.	23, 26
Western New-York, Rochester	Sept.	23, 26
Yates, Penn Yan	Sept.	23, 25

MAINE.

Androscoggin, Livermore Falls	Sept.	3, 5
Androscoggin Valley, Canton	Sept.	24, 26
Aroostook, Houlton	Sept.	25, 26
Aroostook North, Fort Fairfield	Sept.	3, 5
East Eddington, East Eddington	Sept.	25, 26
Eastern Maine, Bangor	Sept.	3, 6
Franklin, Farmington	Oct.	1, 3
Gray Park, Gray	Aug.	27, 29
Kennebec, Readfield	Sept.	24, 26
Knox, Camden	Sept.	18, 21
Knox North, Union	Sept.	24, 26
Lincoln, Damariscotta	Oct.	1, 4
Naples, Naples	Sept.	4
Oxford Valley, Cornish	Sept.	3, 6
Oxford, Norway and So. Paris	Oct.	1, 3
Oxford West, Fryeburg	Oct.	8, 10
Penobscot North, Lee	Sept.	25, 27
Penobscot West, Exeter	Sept.	24, 26
Sagadahoc, Topsham	Oct.	9, 11
Sanford, Sanford	Oct.	1, 4
Shapleigh and Acton, Shapleigh	Oct.	8, 10
Somerset, Skowhegan	Oct.	1, 5
Washington Centre, Machias	Sept.	18, 19
York, Saco	Sept.	17, 20

NEW-HAMPSHIRE.

Belknap, Laconia	Sept.	3, 5
Cheshire, Keene	Sept.	25, 27
Elm Park, Peterboro	Sept.	12, 13
Grafton, Plymouth	Sept.	17, 11
Grafton and Coos, Hazen's Mills	Oct.	2, 3
Kearsarge, Warner	Sept.	16, 19
Rochester, Rochester	Sept.	24, 27
So. Hampton Farmers,' South Hampton	Oct.	3, 9
Upper Coos and Essex, Colebrook	Sept.	25, 26

VERMONT.

Addison, Middlebury	Sept.	9, 11
Champlain Valley, Vergennes	Sept.	16, 18
Dog River Valley, Northfield	Sept.	10, 13
Franklin, Sheldon Junction	Sept.	4, 6
Lamoille Valley, Morrisville	Sept.	16, 18
Mad River Valley, Waitsfield	Sept.	3, 4
Rutland, Rutland	Sept.	17, 18
Valley, Brattleboro	Oct.	2, 3
Western Vermont, Fair Haven	Sept.	24, 27
Windham, Newfane	Sept.	11, 12
Windsor, Woodstock	Sept.	24, 26

MASSACHUSETTS.

Amesbury and Salisbury, Amesbury	Oct.	1, 2
Attleboro', Plainville	Sept.	19, 20
Barnstable, Barnstable	Sept.	24, 25
Berkshire, Pittsfield	Sept.	10, 11
Blackstone Valley, Uxbridge	Sept.	24, 25
Bristol, Taunton	Sept.	24, 26
Brockton, Brockton	Oct.	2, 5
Deerfield Valley, Charlemont	Sept.	12, 13
Essex, Beverly	Sept.	24, 25
Franklin, Greenfield	Sept.	26, 27
Hampden, Westfield	Sept.	18, 19
Hampden East, Palmer	Sept.	17, 18
Hampshire, Amherst	Sept.	19, 21
Hampshire and Franklin, Northampton	Oct.	2, 3
Highland, Middlefield	Sept.	4, 5
Hillsdale, Cummington	Sept.	24, 25
Hingham, Hingham	Sept.	24, 25
Hoosac Valley, North Adams	Sept.	17, 19
Housatonic, Great Barrington	Sept.	25, 26
Marshfield, Marshfield	Sept.	11, 13
Martha's Vineyard, West Tisbury	Sept.	3, 4
Middlesex, Concord	Sept.	25, 26
Middlesex North, Lowell	Sept.	24, 25
Middlesex South, Framingham	Sept.	17, 18
Nantucket, Nantucket	Sept.	4, 5
Oxford, Oxford	Sept.	17, 18
Plymouth, Bridgewater	Sept.	18, 19
Spencer, Spencer	Oct.	3, 4
Union, Blandford	Sept.	11, 13
Worcester, Worcester	Sept.	3, 4
Worcester North, Fitchburg	Sept.	24, 25
Worcester Northwest, Athol	Sept.	17, 18
Worcester South, Sturbridge	Sept.	12, 13
Worcester West, Barre	Sept.	26, 27

RHODE ISLAND.

Washington, West Kingston	Sept.	17, 19
Woonsocket, Woonsocket	Sept.	10, 12

CONNECTICUT.

Bristol, Bristol	Sept. 30,	Oct. 4
Berlin, Berlin	Oct.	2
Chester, Chester	Oct.	2
Clinton, Clinton	Oct.	9
Danbury, Danbury	Oct.	7, 12
East Granby, East Granby	Oct.	9
Farmington Valley, Collinsville	Sept.	11, 13
Guilford, Guilford	Sept.	25
Hartford, Hartford	Sept.	26, 27
Madison, Madison	Oct.	2
New-London, Norwich	Sept.	24, 26
New-Milford, New-Milford	Sept.	10, 12
Simsbury, Simsbury	Oct.	9, 10
Southington, Southington	Sept.	11, 13
Stafford, Stafford Springs	Oct.	8, 9
Tolland, Rockville	Sept.	10, 12
Union, Broad Brook	Sept.	25
Union, Huntington	Sept.	25, 27
Watertown, Watertown	Sept.	24, 26
Willimantic, Willimantic	Oct.	1, 3
Windham, Brooklyn	Sept.	17, 19
Wolcott, Wolcott	Oct.	16
Woodstock, So. Woodstock	Sept.	10, 12

NEW-JERSEY.

Atlantic, Egg Harbor City	Sept.	21, 24
Burlington, Mt. Holly	Sept.	7, 12
Cumberland, Bridgeton	Sept.	4, 5
Hunterdon, Flemington	Sept.	24, 26
Monmouth, Freehold	Sept.	24, 27
Salem, Woodstown	Aug.	27, 29
Somerset, Somerville	Oct.	8, 10
Sussex, Newton	Sept.	10, 13
Trenton Inter-State	Sept. 30,	Oct. 4
West Jersey, Woodstown	Aug.	27, 29

PENNSYLVANIA.

Beaver, Beaver	Sept.	24, 27
Benton, Benton	Oct.	2, 5
Berks, Reading	Sept.	17, 20
Blair, Hollidaysburg	Sept.	17, 20
Bradford, East Towanda	Sept.	24, 26
Butler, Butler	Sept.	19, 21
Cambria, Carrolltown	Sept.	17, 20
Carbon, Lehighton	Oct.	1, 4
Chester, West Chester	Sept.	19, 20
Clarion, Clarion	Sept.	24, 27
Columbia, Bloomsburg	Oct.	9, 12
Columbia North, Berwick	Sept.	4, 7
Crawford, Conneautville	Sept.	17, 20
Crawford Central, Cambridgeboro	Sept.	24, 27
Cumberland, Carlisle	Oct.	8, 11
Dayton, Dayton	Sept.	24, 27
Doylestown, Doylestown	Oct.	1, 4
Edinboro, Edinboro	Sept.	10, 13
Fayette, Uniontown	Oct.	1, 4
French Creek Valley, Cochranton	Sept.	11, 13
Gratz, Gratz	Sept.	24, 27
Hanover, Hanover	Sept.	3, 6
Harford, Harford	Sept.	25, 26
Indiana, Indiana	Oct.	1, 4
Jefferson, Brookville	Sept.	10, 13
Juniata, Port Royal	Sept.	17, 20
Keystone, Kutztown	Oct.	1, 4
Lackawanna, Scranton	Sept.	10, 13
Lancaster, Lancaster	Sept.	9, 14
Lawrence, Newcastle	Sept.	17, 20
Lebanon Valley, Lebanon	Sept.	3, 6
Lehigh, Allentown	Sept.	23, 27
Luzerne, Wyoming	Sept.	24, 27
Mercer, Stoneboro	Sept.	25, 27
Mercer Central, Mercer	Sept.	9, 11
McKean, Port Allegheny	Sept.	13, 15
Mill Creek Valley, Hookstown	Aug.	21, 23
Milton, Milton	Oct.	1, 4
Monroe, Stroudsburg	Sept.	24, 28
Muncy Valley, Hughesville	Sept.	20, 28
Montgomery, Berks & Chester, Pottstown	Sept.	24, 27
Montour, Danville	Sept.	24, 27
Northampton, Nazareth	Oct.	1, 4
Northern Montour, Washingtonville	Oct.	15, 18
Northwestern, Corry	Sept.	10, 13
Oxford, Oxford	Sept.	25, 27
Petroleum, Parker's Landing	Sept.	17, 20
Perry, Newport	Sept.	24, 27
Phœnixville, Phœnixville	Sept.	11, 13
Potter, Condersport	Sept.	25, 27
Punxsutawney, Punxsutawney	Sept.	17, 20
Ringtown, Ringtown	Sept.	11, 13
Schuylkill, Orwigsburg	Oct.	1, 4
Susquehanna, Montrose	Sept.	18, 19
Tioga Farmers', Wellsboro	Sept.	10, 12
Tioga, Mansfield	Sept.	24, 27
Troy Farmers', Troy	Sept.	10, 13
Union, Burgettstown	Oct.	1, 3
Union, Canton	Sept.	3, 5
Union, Dallas	Oct.	3, 4
Union, Lewisburg	Sept.	24, 27
Warren, Warren	Sept.	3, 6
Washington, Washington	Sept.	17, 20
Wattsburg, Wattsburg	Sept.	17, 20
Wayne, Honesdale	Sept.	24, 26
Waynesburg Central, Waynesburg	Sept.	24, 26
Western Pennsylvania, Washington	Sept.	17, 20
Westmoreland, Greensburg	Oct.	8, 11
Wyoming, Tunkhannock	Sept.	18, 20
York, York	Oct.	1, 4

MARYLAND.

Anne Arundel, Bay Ridge	Aug.	27, 30
Baltimore, Timonium	Sept.	3, 6
Cecil, Elkton	Oct.	8, 11
Frederick, Frederick	Oct.	15, 18
Harford, Bel Air	Oct.	8, 11
Montgomery, Rockville	Sept.	4, 6
Talbot, Easton	Sept.	24, 27
Washington, Hagerstown	Oct.	15, 19

VIRGINIA.

Augusta, Staunton	Oct.	1, 4
Chesapeake, Cape Charles City	Oct.	7, 12
Fairfax, Grange Camp	Aug.	14, 21
Farmville, Farmville	Oct.	15, 17
Lancaster, Kilmarnock	Nov.	6, 8
Loudoun, Leesburg	Aug.	27, 29
Northampton, Cape Charles City	Oct.	8, 11
Prince Edward, Farmville	Oct.	15, 17
Shenandoah, Woodstock	Oct.	1, 4
Tazewell, Tazewell	Oct.	1, 3
Tidewater, Franklin	Nov.	12, 15
Washington, Abingdon	Sept.	25, 27

Transfers of Thoroughbred Cattle.

Ayrshire Breeders' Association.

NAME.	SELLER.	BUYER.
Glen Bothwell, G A Fletcher, N F Jones		
Shamrock of Chester, J W Watts, T N Berry		
George McGregor, A Warren, G H Tracy		
Spotted Tail, J Bratton, J W Lunden		
Wing Cloud, W Lindsay, J L Benedict, Jr		
Storm King, J D W Krebs, F Lynch		
Jim Slick, W G Tucker, T V Barker		
Joe Hebron, W G Tucker, C H Dillenbeck		
Joe Clyde, W G Tucker, M Stout		
Leon, W Fairweather, F H Mason		
Maida 15th, A Warren, G H Tracy		
Princess of Lorne and Pride of Lorne, G Campbell, R F Tompleton		
Dorcas Clyde, Orphan Clyde, Fan Clyde and Myrta Clyde, W G Tucker, R Allen		
Rosy Clyde, W G Tucker, T V Barker		
Princess Clyde, W G Tucker, C H Dillenbeck		
Spotted Beauty 5th, S Lake, N H Winter		
Mary F, Laura F and Helen F, F H Mason, E A Fobes		
Duke of Auburn, F Blake, A Burnett		
Douglas F, A M Harrington, N H Winter		
Wombhead, J F Converse, S Z Lake		
Ben Kirkwood, Ormiston Bros, E N Case		
Sir Glen McGregor, R M Carrona, L Dague		
Rubinor, C M Winslow, F W Brown		
Goldmine, C M Winslow, W G Tucker		
Daintree, Stebbins & Utter, L D Stowell		
Rosevale and Rose Marie, C M Winslow, W G Tucker		
Erectown Bell, N H Winter, J L Marthue		
Goldcust, R Davison, N H Winter		
Tany Bell, Oneida Community, N H Winter		
Tully, Dairydun, Pina, Stella 3d, Stella and Bertie Brown, S Z Lake, N H Winter		

Brandon, Vt. C. M. WINSLOW, *Sec'y*

Holstein-Friesian Association

NAME.	SELLER.	BUYER.
Adolphus Hengerveld, J Watson, W H McCall		
Billy Stellax, C W Horr, F C Bodine		
Captain Audley, S L Drake & Son, C W Horr		
Captain Murphy, C F Gardner, R Perkins		
Cedarside Duke, W E Gould, G H Clark		
Delaphorn, H B Hammond, C J Woodruff		
Dr Doud, H B Hammond, J Grady		
Downey, H B Hammond, T Gillett		
Emin Bey, G P Chapin, C E Wood & F George		
Good Joke, H C Moore, F E Harriman		
Hedgeland Prince, A R Tatum, R L Armstrong		
Kassie's Van Tiel, W E Hughes, A H Abler		
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Malina, Langworthy Bros, A Chessborough		
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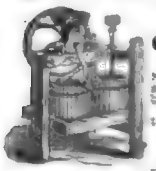

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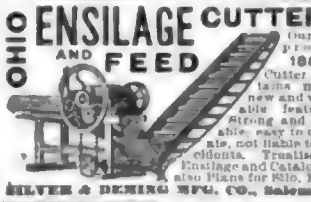

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COUNTRY GENTLEMAN

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THE CULTIVATOR
AND
Country Gentleman

Albany, Aug. 29, 1889.

Clover without Manure a Failure.

An Object Lesson from Pennsylvania.

ENS. COUNTRY GENTLEMAN—On a hill-side, sloping moderately towards the southeast, on the opposite side of the river, but in plain view from my house, three teams are now plowing a rye stubble field containing about 20 acres, to be sown, as I suppose, again with rye. Being such a prominent object in the landscape, I know the history of that field as well as I know that of my own farm. It has been cleared about 40 years. It was light clearing, the timber being chiefly pitch-pine, interspersed with oak and hickory. Its location being near the old Indian village of Friedenshutten, which was a station of the Moravian missionaries, it is probable that it was once cut over for fire-wood, which would account for the trees being no larger. On the surface were a good many detached rocks of gray lime, composed almost entirely of small shells cemented together, and which were mostly drawn off and burned in a kiln before the land was cleared, leaving it quite free from stones. Its sheltered situation, not being exposed to the northwest blasts of winter, allowed the snow to lie on it till melted off in the spring, and for many years after it was cleared it produced splendid crops of wheat, without a single failure that I remember.

Judge Stalford, the owner, was a good farmer, and during his lifetime, or as long as he farmed it himself, the land was as well tilled and as well taken care of, as land can be without the application of manure. After taking off a crop of wheat, the field was usually seeded with clover, which was sometimes mowed, but usually pastured, and the land was allowed a reasonable time for rest and recuperation before it was again disturbed by the plow. Long before the judge's death, in about twenty-five years after the field was cleared, I noticed that it was difficult to obtain a good stand of clover. There would be many spots on which there did not appear to be any clover, and when there was a catch there was by no means a vigorous growth. The land was getting "tired" and "sick." The clover told the story in the most positive language, and hung out the signal of distress to the view of every observer. That the soil was naturally good and strong, it had given abundant proof. It was not heavy land that favors the frost in heaving the clover roots out of the ground and leaving them bare. Its sheltered situation was favorable for clover as well as wheat; but the clover could no longer find the fatness it feeds on even by searching with its deep roots in every particle of the sub-soil.

When the judge's health failed, the field was rented at $6 per acre, and the renter summer-fallowed it by plowing three times, doing his work well, sowing in good season, and obtained a good crop of wheat. He followed the wheat with rye, and had but a moderate yield. He tried corn, and the corn was very poor. He sowed it with oats, and they were hardly tall enough to bind. It was again seeded to clover, but it only grew in spots, and these were feeble and sickly. On half the field there was nothing to speak of—neither clover, grass nor weeds. The best spots were cut with the machine, the remainder mowed around and left because it was not worth mowing. It was tried again with wheat last year, and the crop was scarcely worth harvesting. The wheat was followed with rye, and the rye this year was of stunted growth, slender straw and short heads. A good crop of rye next year is hardly to be expected, and judging from the past, a good catch of clover, without the application of some fertilizer, is utterly impossible.

Mr. Waldo F. Brown has stated that there are fields in his vicinity in Butler county, Ohio, which have been tilled for 40 years without the application of any fertilizer, whatever, and have been kept up to the full standard of their original fertility merely by the use of clover and a judicious rotation of crops. The statement only proves that those fields were very rich and that it takes longer to exhaust them. The deepest and strongest wells can be pumped dry. The ocean itself would be soon evaporated if no rivers were flowing into it.

Mr. T B Terry for a time became a convert to Jethro Tull's doctrine, that *tillage* is manure, and that clover would keep up the fertility of his farm as well as the dung of animals. Mr. Terry is returning to his old faith in barnyard manure, especially when it is kept in his box-stalls or covered barnyard.

Farmers talk about land getting "clover-sick. The land is not sick—it is impoverished and hungry. Let them give it a good top dressing of rotten manure, then sow their clover seed and see how quickly it will get well and produce clover again. Clover gathers up the fertility in the soil and makes it available. Its long roots penetrate deep into the subsoil and bring back the fertility that has escaped beyond the reach of most other plants; but clover roots cannot reach the sewers of London or Liverpool and bring back the life blood of the soil that has been shipped away in the wheat, corn, butter, cheese, pork, beef and lard that have been exported. J. W. J.

Sugar Run, Pa.

Experience with Barbed Wire.

Fall-Pasturing Meadows.

ENS. COUNTRY GENTLEMAN—A few years ago about twenty rods of barbed-wire fence was built on the line between my pasture and the Rural Cemetery. It was built along the side of a steep hill where the snow drifted badly, and the drifts would break and spoil any form of board fence. Each winter the staples are drawn and the wires laid on the ground, and they are easily put in place again in spring. I was strongly prejudiced against the barbed wire, but as horses or cattle were not likely to run up the hill and into the fence, I made no objection to its erection. It has answered the purpose admirably, and I have since used the wire along a ravine on the other side of the pasture. The ravine itself is warning sufficient to stock that might otherwise run against the barbs. After years of use in these places without damage, I thought that within proper limits such wire might be made serviceable as a portable fence.

About two years ago the COUNTRY GENTLEMAN published a description of a movable board fence in use on my farm in connection with the pasturing of meadows. It is a good fence but costs more than the wire, and much more labor is required in setting up or removing it. In addition to the board panels, some seventy yards of wire fence was used last year. No horses are pastured near it, and none are liable to damage by it. Large stakes were driven two rods apart, and some of them were securely braced with short stakes or boards. Only two wires were used, the upper 8¼ feet from the ground, and the other 14 inches below. The wires were drawn tight and proved to be a safe fence to turn cows when placed 8 feet away from standing corn or grain. The wire used is in links about 4 inches long, and can be easily wound on a reel when removing it. Two men can put up 20 or 30 rods in an hour, and it can be removed in much less time.

About 100 rods of straight permanent fence was built last year, using one wire at the bottom about 20 inches from the ground. Three rails at suitable distance above the wire, held secure by good stakes and common wire fence caps, complete the fence, which does not need to be as high as it would if rails were used near the ground. Horses or cattle are not apt to jump a fence of this kind, and with only three rails to the length, it does not afford great resistance to the wind, and will stand better than when more rails are used. Barbed wire can be advantageously used in these and similar ways without danger to horses or cattle.

Recent experience in fall pasturing of meadows only confirms my previous opinion that where dairy cows are kept, it is good economy to use the second growth in this way, and so increase their productiveness and consequent profit. During the seventeen years that I have so used this growth I have not seen an acre of meadow damaged by the practice. Perhaps the yield of hay may have been lessened in some instances, but if so, I have failed to perceive it. Suppose the yield of hay were diminished somewhat, the practice might still be profitable. It is folly to be forever trying to cut more hay to keep cows through the winter that are not supplied with suitable food through the summer and fall. Recent reports of the average yield of the dairy cows of this State, as found in the COUNTRY GENTLEMAN and other papers, indicate not only a great failure in proper selection and breeding of dairy stock, but also a great want of care in providing suitable food to enable such cows as are kept to do their best. With the usual management during the month of August, the foundation of failure is securely laid. Pastures fail to yield suitable food, and the cows shrink badly, and in a short time visions of profit for the current year vanish through the want of just such feed as a newly seeded early-cut meadow will supply at this critical period.

In a recent article in the COUNTRY GENTLEMAN a well-know writer uses the argument against pasturing meadows, that cattle will eat the grass and leave the weeds, and in a short time meadows badly infested with weeds will result. Locality may make some difference, but in this vicinity, on land in fairly good condition, a meadow well seeded with clover and timothy, does not grow thinner and run out under judicious pasturing. On the contrary, it will thicken up and there will be no place for weeds to thrive.

I am writing in sight of a 6 acre field that was mowed this year for the fourth crop of hay since seeding. It was manured six years ago and planted with potatoes, and the next year sowed with barley without further manure, and seeded with six quarts of timothy and an equal quantity of clover to the acre. It proved to be well seeded, and when the clover and grass got above the grain stubble pasturing was commenced, and it has been pastured every fall since. Notwithstanding the severe drouth of last year, and pasturing closer than I believe in doing, the stand this year was perfect, and I have taken a number of farmers to the field to show not only a thick, perfect stand of clean timothy, but also the practicability of pasturing meadows without damage to future crops.

As stated in previous articles I would limit the regular pasture to about half the usual acreage, and use clover, peas, oats and corn as crops for partial soiling, as they may be required to keep up the flow of milk through the season. Meadows should, by thorough cultivation of the land and frequent re seeding, be kept up to an average yearly yield of two tons of hay to the acre at one cutting, and if they are so kept up they will afford an abundance of excellent pasturage from the first of August through the fall. By making a proper use of this feed cows will shrink but little before coming to winter quarters, and profit will continue through nearly the whole year. C. S. RICE.

Lewis County, N. Y.

Money in Wheat.

ENS. COUNTRY GENTLEMAN—The editorial on page 580 led a friend and me to discuss whether there is any profit in wheat at present prices. We agreed that wheat was yet a profitable crop, if properly handled—if the straw was so used as to get near its real value. Of late there has been so much said against wheat, that, with the low prices, not a few have concluded to give up this crop altogether or at least greatly to reduce their acreage. I fear they are making a mistake, and ask them to consider well before they take this step. They should be very certain that the other crops with which they propose to replace wheat will prove more profitable. The prices of oats, corn, cattle, sheep, &c., are depressed also. Only one-half the wheat crop—the grain—is considered in connection with depression of prices; the price of the straw cannot be depressed more than is the price of hay, for its ratio of feeding value to that of hay is constant.

The trouble is that we do not credit the straw with its full value, because we do not get the full value of the straw. Very frequently I see published the cost of a wheat crop, by a farmer who is supposed to be "way up," better than the average by quite a little; and he has written something like this: "I do not include the cost of threshing, for the straw

will pay for that." True; and if he will use the straw properly, it will pay a good part of the other cost of the crop, also. I am loth to state it, yet I have this year seen the night sky reddened by burning straw; and I am safe in saying that of the straw not burned, scarcely one fourth of its value is secured. It is piled up in a mass that cannot be properly termed a stack; or it is well stacked, but the cattle are turned to the stack and trample under foot more than they eat; and finally, as if to make the waste complete, the straw is fed almost alone or with foods that have an excess of carbohydrates and a lack of protein.

The potential feeding value of wheat straw is fully sixty per cent. of that of average meadow hay, weight for weight. From your market report, average meadow hay must be selling in Albany for at least $12 per ton: it is selling here for a figure that indicates at least $11 per ton before Christmas. Every ton of wheat straw saved in good shape may be made to pay the farmer from $6 50 to $10 per ton inside of a year.

The amount of straw to the acre varies with the variety of wheat, the character of the soil and the season. Some fields here this year have threshed only eleven bushels of grain per acre, and some have gone above forty bushels per acre, and these last fields have not shrunk since last fall either. The amount of straw has not varied so much. Sixteen bushels of grain and a ton of straw to the acre would not be far from the average. Wheat is selling at 70 cents per bushel; hence we have as the proceeds of an acre of wheat:

Grain	$11.20
Straw	6.00
Total	$17.20

Now, it makes all the difference as to profit and loss whether we get $11.20 or $17.20 for the acre of wheat. If we get $6 00 for the straw, the wheat makes a fair profit; if we get nothing for the straw, the wheat will not pay. That $6.00 for straw will pay for—

Plowing (one acre)	$1.25
Harrowing, three times	60
Rolling and dragging, one each	40
Seed, five pecks	87
Drilling	25
Cutting and binding (self-binder)	75
Shocking	10
Threshing—from shock	1.25
Total	$6.47

Leaving above $1 to apply on rent of land or to cover incidentals.

To get this price for our wheat straw, the most of us must feed it at home, and that is just what we should do. Further, we must feed it with foods rich in protein, such as linseed or cottonseed meal, malt sprouts, bran, &c., and we ought to consider that *one half of the grain is grown to be exchanged for feeds to be fed with the straw.* When we devote enough of the proceeds from the grain to the purchase of foods complementary to the straw to make a well balanced ration, we will find that wheat, at even 70c. per bushel for the grain, is a mighty good crop to raise. If, instead of putting the money we get for the grain of the wheat into our jeans, we would put it into feed, and put that feed and the straw into good animals we would not doubt if wheat paid. Further, our lands would be kept more productive than now. The manure from the straw will have almost as great value with the animals as without them, and in addition we will have a nice lot of valuable manure from the rich foods we have bought and fed. If the manure from the straw and bought foods is carefully saved and returned to the land, and the land is well tilled and a sensible rotation of crops is followed, the land will be richer with than without the wheat.

An animal fed on wheat straw alone would starve to death. An animal fed nearly altogether on straw cannot gain, and we do not get a cent for the straw. Just so long as we continue to feed the straw in this way, or to waste it before we get it into the animal, shall we find little profit or no profit in wheat, and our land will grow poorer. But we can get for each three pounds of straw nearly the value of two pounds of good hay, and make our lands richer; and if we do this, we shall find a good profit in wheat at present prices. We cannot reasonably expect so much for a bushel of wheat as we got not so very long ago, when into into a bushel of wheat there went twice as much labor as now, and when prices of other articles were much higher. Nevertheless, I look confidently for "dollar wheat" before a year; and even if it does not come, we can make money out of wheat.

Adams County, Ill. JOHN M. STAHL.

Poultry Manure.

An Overestimated Fertilizer.

EDS. COUNTRY GENTLEMAN—Of all the fertilizers and manures that are used to-day, I know of none whose real value is so much overestimated as the droppings of poultry. That it has a value for manure I will admit, but that it is one of the strongest and best fertilizers I most decidedly refuse to believe. Keeping the year round so many fowls as I do, I of course make an enormous quantity of this material, amounting to many cartloads, and I have yet to see any great results from its use, or that it is of half the benefit of many other kinds.

In collecting, caring for, storing and handling this manure, I am very particular, and use the utmost care to preserve its strength. My roost floors are covered thick with plaster or gypsum, to absorb all the wet and gases. They are carefully cleaned off every week, and the droppings are thoroughly mixed with the plaster and put in a pile under cover, and this pile covered with dry road-dust. No ashes, lime, or anything of the kind, is allowed to become incorporated with the same. The pile is packed solid, and every week during the warm months it is dug and shoveled over, and never allowed to heat too much. My fowls are fed only the cleanest and best of food.

Now it seems to me that everything is done that can be, to give this manure its greatest value, and yet everywhere that I use it I am disappointed in its effectiveness and usefulness. I have used it many years, on almost every kind of crop—on my strawberry beds, about my fruit trees and on my grass land—and with the exception of grass, I fail to get satisfaction from its use; and yet one can hardly read an agricultural paper to-day wherein some one does not write what a wonderful manure this is, and we see its value reckoned from one dollar a barrel up. It seems strange to me that I cannot find it. I have used it on all kinds of land—high and low, on clay, gravel, sand, muck and loam—with nearly the same results. The only place where I have used it that it seemed to give satisfaction, was as a topdressing to a piece of orchard grass on high ground, spreading it in the fall. From my experience with its use, I would not give fifty cents a barrel for it, and even at that price I should prefer to buy fine-ground bone, muriate of potash and nitrate of soda, properly proportioned and mixed. I can buy leached ashes for twenty cents a bushel, four bushels to a barrel, and I should very much rather have a half barrel of the ashes than a whole barrel of poultry manure, and I can get far better results from the same and more lasting. Ashes, at the price named, I believe to be the cheapest and best manure to day, good barnyard manure excepted, but I should only except it a little. Speaking of ashes, which is the cheapest to use for general purposes everywhere—unleached at 25c. a bushel, or leached at 20c.? It is an important question, and I wish some of your readers who have had considerable experience in the use of both, on all kinds of crops, would tell us what they think, or rather *know*, about it.

Poultry manure is a good deal like some people—makes a great bluster and show for a little time, starts in to do lots of work, and then suddenly fags and lags, flattens out, soon becomes exhausted and gives up the job. I find it of so little value that I will gladly sell all I make, and buy ashes or some other kind of fertilizer with that money. I believe that those farmers who have used it extensively know this to be true. I have prepared land by spreading it on thick and also thin, and have thoroughly worked it into the soil, and supposed I had my ground in fine condition and well manured for a big crop; but I have never got it from the use of poultry manure alone, and I have learned not to depend on the same, but use other manures with it.

In many cases where I have attempted to raise the crop by the use of this fertilizer, about the middle of the season I have noticed invariably that the crop was lagging—not looking well, not growing as it should—and I have been obliged to go all over the same and brace it up with some other fertilizer, the poultry manure having lost its force and given out entirely. The following season I have doubled the dose, with no better results. I would not give much for a manure (commercial fertilizers we expect to feed to the crops during the growing season) that I cannot put enough on and into my ground in the spring, when I prepare it, to make the crop grow from the start to the finish and make a good yield. GEO. Q. DOW. *Rockingham County, N. H.*

From Southern Ohio.

A COOL SUMMER—LONG HAYING—LATE CLOVER—EARLY PITTING FOR WHEAT—SORTING AND SACKING POTATOES.

EDS. COUNTRY GENTLEMAN—After eleven weeks of weather in which the rain may be said to have been excessive, we seem to be once more verging on drouth, but the corn is so nearly matured that none but very late plantings will suffer. Corn will not make a full average, however, as the season has been too cold to make a first-class crop. So far in August (now the 17th) we have scarcely had a hot day, mercury usually ranging between 70° and 80° in the middle of the day, while the nights are fairly chilly. I do not recollect a season for twenty five years in which there were so few days in which the mercury reached 90° in the shade, and I doubt if there have been more than three days this year in which it has reached that temperature, and none, I think, in which it was higher.

This has hindered the development of the corn, yet there is a fair yield except where the white grub has worked on it. I never remember seeing so much damage by this pest before. Haying is at last done, but I do not recall a year when the farmers were so long in getting done with this crop. The first clover was cut for hay in my neighborhood the first week in June, and it was not until August that the last of it was secured, and then it was cutting two crops in one, the earliest growth being dry and dead with a new growth coming up through the dead straw, and as one was too old and the other too young the quality of the hay was very poor. This was the case all over the State. Since August 1, I have traveled through sixteen counties of the State, and everywhere the clover fields have the same appearance; on one side will be a strip nearly ready to cut for seed, next to it one in full bloom with some heads turning, next one just coming into bloom, and so on to the opposite side of the field where the clover will be but a few inches high. The prospect for a crop of clover seed is not flattering for that cut earliest is not filling very well, while fully half of the clover was cut so late that it is doubtful if it will mature at all.

Farmers are not well along with plowing for wheat; the ground now is in such a condition that it is very hard on the teams, and the land turns up lumpy and hard. It will require a large amount of work to get it into good condition, and this cannot be done at all until we have good soaking rains. It is astonishing how much difference there is in the amount of rain required to moisten two fields, one of which has been pulverised and leveled as fast as it was plowed, while the other was left to dry out rough and cloddy. A nice little shower in which half an inch of water falls will fit the first field for the seed, while it will make no impression on the hard, cloddy field. I have been urging farmers for years to keep either a roller or drag in the field, and use it each day as they plowed, and I have this year noticed several farmers who have done this, and their land is in wonderfully better condition for it. The two most important things for the farmer to do toward insuring a good wheat crop are early plowing and thorough pulverizing. On Eastview Farm we started a little after the middle of July, and kept our iron pulverizer in the field, and followed up with it from day to day, and then when we were done we used the Acme harrow. By the first of August our land was all in good condition, and now we are getting out the manure and doing such other jobs as are needed, and our horses have not had a real hard day's work this fall.

We are now digging our potatoes, for I have found from many years' experience that potatoes dug early keep well, providing they are not allowed to get heated by the sun. It is never safe to allow them to lie in the sun all day until they are hot, and then bulk them, but after the vines are dead I find it perfectly safe to put them away for winter if they are picked up as fast as dug. I have never yet found a better way to handle potatoes than by sacking, filling only half full so that the sacks need not be tied, and can be handled easily by one man. We plow them out with the potato digger, and first pick up only those that are saleable, and as we do this the rest are thrown into piles, 12 or 15 feet apart, throwing three rows into one. I then pick out the smooth, uniform-sized ones for seed, and the best are put away in bulk for the stock in winter. There is no time so good for sorting potatoes as when they are dug. I usually sow my potato land in wheat, which is another reason for early digging. If there are no weeds on the potato land (and we take pains to see that there are not) it requires but little labor to prepare a good seed bed after the potatoes are dug, for the potato digger often the land pretty well, and we need only to harrow and drag until it is level, to finish up the job. WALDO F. BROWN. *Butler County, O.*

Farming in North Dakota.

It requires little observation, and less experience, to become convinced that the first settlers of a new agricultural country are not the actual settlers. There is a class of restless, roving frontiersmen, who appear to be created on purpose to build cabins, and roughly prepare the way for a different class of settlers—those who come in to make permanent homes for themselves and families. In the vast majority of cases a man can buy out a so called "improvement" on the outskirts of civilization, and with this as a basis, make a home much more cheaply and easily than to take up free public land. One who takes free government land, or buys out a "claim" for a moderate sum, with the idea of making it a home, if economical in buying stock and machinery, does his own work, and heeds not the siren voice of speculation, is almost certain to meet with a fair measure of success. He may have assumed a mortgage, but it rarely happens that a farmer who is industrious cannot make a living and pay the interest on his indebtedness even in a bad year. The man who fail in farming, like those who fail in other enterprises, are usually those of a speculative tendency. They buy large quantities of land, making a small cash payment, and assuming a heavy mortgage debt. They invest large sums in machinery, and give notes for this, using what cash they have on hand to pay for seed and hired help. The expectation, which is based on hopes, is that two or three large crops will pay for all the land bought. This will then have increased in value, and can be sold at a great profit. It is evident to all that such chances are akin to gambling. Debts are incurred that can only be met by large crops and good prices, or by selling land at a marked advance. This may be done, but as a rule, the result is far different. Everything is staked on a single crop; it often fails, or the prices are so low that it gives little or no profit. This makes it impossible to sell the land, and everything is lost.

All calculations failed. Dollar wheat went down to fifty cents. Instead of twenty-five bushels per acre, the average was less than ten. At this crisis nobody wanted to buy farm land; the debts matured, and the failure was complete. From what I can learn, such failures have been quite common in Dakota. I suppose they occur everywhere. Some of them are unavoidable, and due to conditions or circumstances beyond control. A far larger proportion, however, are due to bad judgment, extravagance and mismanagement. Most of those who thus signally failed, fully counted on getting possession of large areas of land for almost nothing, and selling them in two or three years at an advance sufficient to make a fortune. In the meantime they just as surely expected to raise enormous crops of wheat, at an expense of not more than twenty-five cents a bushel, and sell the same at one dollar per bushel and upward. In this way they hoped to scrape up wealth in a few short years. Failing in this, the whole blame is placed on soil, climate or other conditions, and new fields are sought, where the same experience will be repeated.

The true causes of the failures may be summarized as follow: Expecting a few hundred dollars to make a fortune, without adequate time or labor; borrowing money and buying what was not absolutely necessary; allowing their machinery to rust and decay without shelter, while their stock or crops were being foreclosed to pay for it.

The course pursued by those who succeed is in marked contrast to this. The wise man "makes haste slowly." He takes time to look around, becomes acquainted with the country, and carefully compares the different claims or farms offered him with government land open for settlement. He chooses as nearly as possible the place where he is willing to live and die. He chooses with reference to his means, his tastes, his expectations.

Our settler ought to have money enough to buy a team of horses, necessary seed grain, and the necessary machinery, confining himself to

what is absolutely essential, and reserving something for the cost of living until his crops are ready for market. Depending upon proximity to railroad, or convenience to market, a farm of 160 acres, of which from one-third to one-half has been broken and cultivated, can be bought for five to ten dollars per acre. This will include a cabin or small frame cottage, in which one can live until better buildings can be put up. With a good team, an industrious man can sow, or plant, and harvest from forty to eighty acres of cultivated land, besides "breaking" from twenty to forty acres of his unbroken prairie. This work can usually be done during the months of June and July.

The facts cited above make it plain that the prospects of having a comfortable home in five or six years are excellent for such settlers as possess perseverance, courage, industry and economy. By that time, should there be no unforeseen accident, he should have a farm under a good state of cultivation, with comfortable buildings, all needful farm implements, and a good start in live stock.

Not the least interesting of the many facts I have learned during a western trip is this, that those who migrate to-day have little or none of the hardships of eastern pioneers. In fact our numerous railroads make possible nearly every comfort, convenience and advantage of an old settled community.

One thing should be emphasized. Men with families ought not to go west if they are entirely destitute of means. Some have done so, and been successful. The risk, however, is great, and it usually results in disappointment and misfortune, if not absolute suffering.

After land is secured, a capital of a few hundred dollars is necessary, in order to begin operations. The settler opening up a new farm can often find plenty of work among his neighbors. Team work is the kind in demand, so a good span of horses is one of the first requisites.

Let no one be deceived. There is an old saying among sailors that "a stern chase is a long chase." This applies to the man who buys a farm mainly on credit, with the intention of paying for it out of its proceeds. His expectations are often blighted, and his calculations deranged by sickness, bad seasons, hail, frost, drouth, &c. Interest and taxes must be met and sometimes one cannot stem the tide. Despite all obstacles and discouragement there are hundreds and thousands of families throughout the West and Northwest who are growing into good farms by seeking homes where land is still cheap, and can ever be had for the asking. Undoubtedly some move westward, who might better have forborne; but the instinct to possess land is a true one, and I am sure that many by emigrating are able to make pleasant homes, more cheaply and more speedily, than they can by remaining where they now are.

WILLIAM R. LAZENBY.

Farming in Georgia and Alabama.

Eds. Country Gentleman—The letter signed J. E. B. (p. 576) gives a fair and truthful account of farming opportunities and advantages in that section of Georgia. In fact, take all of Georgia, and Alabama, and no country in the United States can surpass it for the variety of crops it can produce under intelligent farming and cultivation. I can endorse what J. E. B. says, as I am well acquainted with that part of Georgia, also with Alabama, having farmed 28 years in Georgia and 31 years in Alabama.

For the last 18 years, through the columns of the Country Gentleman, I have endeavored to draw the attention of northern farmers to the South, but only in the last few years have they begun to come south and settle, and most of them are well pleased with their change, and are doing well. In this county (Floyd) there are some from several of the Northern States, also from Canada, who have procured fine farms at very low prices compared to northern figures, and are engaged in diversified farming, raising fine stock of all kinds, and succeeding well. Had northern farmers moved south 15 or 20 years ago, when fine farms could have been bought for a song, they would now be prosperous and in fine condition, so far as farming is concerned, and even now, excellent farms can be bought on most reasonable terms, with advantages that were not to be had at that time, such as railroads and schools. The State is being checkered with railroads, and the legislature is making

better result, with yet cheaper food. The steer must be fattened as well with a ration costing less money and labor. The sheep must, on the same food, give us more wool and mutton, and so on through the list. Can we accomplish these desirable results by making no change in our methods, and making no inquiry as to the demands of the times?

Possibly if farmers would fix up some sort of a programme to work by, they could not only accomplish more with less exertion, but find time to do many odd jobs that they are now paying some one else to do. Two jobs of this character come to my mind. Last spring the new barn and the one "done over" needed painting. The professional painter figured that the job would be worth, for paint and labor, about $30; so I concluded to turn painter. Twelve gallons of paint, at 90c., cost $10 80; five gallons oil, $3; brush, 75c.; one gallon white paint, $1 10; total, $15 65. I painted the barn in about a week, and did not hurry much, and had $64 saved. I then hired a painter for a day to trim the barn, and still had $60 that I did not have to pay out to represent my week's work.

Last week, with the help of my hired man, we built a 100-foot silo in the barn, that saved another little sum, and later on I shall, with gas tar and gasoline mixed half and half, paint the gutters and troughing to the barn; and so with the tin roofing, earlier in the season, saving $100 at least for my labor, that would otherwise need to have been paid out. Ten dollars worth of carpenter's tools purchased a few years ago, have paid for themselves over and over since then. Not the least in the profits of this economy, and doing some mechanical work for one's self, one finds what the actual time of doing such things amounts to, and if he contracts a job he is able to know whether the time item is in harmony with the work proposed to be done.

A lady, a well-known writer for the agricultural press, wrote me the other day asking what it was worth to cement the bottom of a silo 17 feet square, the work to be done on the solid clay foundation, saying that the mason wanted $30 for the contract job. Not long since I did a similar work in one of my silos, and I estimated that for time, sand and lime-cement, the outlay should not exceed $2.50. It is not necessary to pay a mason $37 50 for the "know how." It may do on government and State contract work, but it is a little too steep for farmers who sell milk in August at 70c. per 100 lbs. It is knowing some of these things that have enabled the owner of a new barn, that I know of, the building 30 by 41 feet, 18-foot posts, overhead floor, walls of double matched lumber, with paper lining, and all built in the most thorough manner, to have the carpenter work done for less than $50. Notwithstanding that full day wages were paid, there was a faint echo of "Jaw" heard in the distance, possibly by some one who figured such a job at about $150, if "everything was furnished." *J. C. Western Reserve, O.*

Sowing Grass and Clover Alone.

Edr. Country Gentleman — For several years past I have practiced and advocated the sowing of grass and clover, or either by itself, alone and without a grain crop. I have sown these seeds with oats in the spring and with millet in the summer, and successfully, when the land has been well prepared and *the seeds have been harrowed in.* I emphasize these words, because I have invariably found that this covering of the small seeds affords a depth of root which protects the exceedingly tender growth from dry weather that may follow the sowing. I have known a few days of dry, windy weather to completely destroy an apparently good catch from surface sowing—the shallow roots having no depth, and as yet not contributing nutriment to the minute spires or seed leaves, quickly perish for want of protection; hence I have covered them well by harrowing them in with a light-toothed harrow such as the Thomas, which I consider the best grass-seeding harrow made. I have now a five-acre field in which I sowed millet in June, and seeded with one peck each per acre of clover and timothy. The millet seed was two years old, having been left over from last year. Doubtless, on account of its age and loss of vitality, the millet was an entire failure; but the grass and clover seeding is perfect, and at this writing covers the ground almost high enough for mowing. It will certainly afford as much winter pasture for young stock as the millet would have made of fodder, and appears far stronger in growth and promising for next year's mowing than if the millet had germinated and made a crop.

One experience in this case may be useful to state. The field is on a distant part of my farm, about three miles from the house and barns. The man neglected to take the light seeding harrow with him, and harrowed in the grass and clover with an Acme harrow, which must have covered it two inches deep at least, if not more, as the land was quite mellow. Learning, on his return, what he had done, I feared the seed would not germinate, but, on the contrary, it soon did so, and in three weeks the field was wholly carpeted with the soft, delicate verdure, and is now as above stated. I have sown clover with grass and alone as late as September, and had a successful catch, the young plants going safely through the winter—no doubt on account of the depth of the roots, and the thorough preparation of the soil. I am quite convinced that if grass and clover, which make our most valuable crop when successfully grown, are given as much thoughtful and generous care as grain crops are, the frequent complaints of failures would not be made, for these really hardy and vigorously growing plants, with deep and rich soil, would quickly establish themselves in spite of dry weather, and become so firmly rooted as to resist all the vigors of the winter. Thorough preparation of the soil and abundance of food, I firmly believe, will always insure satisfactory results. H. Stewart.

Our Agricultural Life.

Edr Country Gentleman—On page 473 of your excellent journal, I find a complaining article concerning farm life, the high prices we have to pay for all we buy, and the low prices we receive for nearly everything the farmer has to sell. I imagine that the writer has been reading the tracts of the Cobden Club, when he might better have been reading some good agricultural papers. If you had space for a political discussion, I would like to present the other side of the question—"What effect does the tariff have on the farmer's condition?"

I think I could show that the positions of "F. H. C." on this subject are all wrong. His homily over that carpet he bought in Chicago last fall is all nonsense. Carpets were never as cheap as they are to-day. He closes as follows:

"At the end of the year the farmer finds that instead of having a whole pie for his labor, he has only a piece, and a bite of that is gone for interest, indirectly, at least, on government bonds, watered railroad stock, &c.; another bite is gone for taxes to pay a horde of officials big salaries; another to support the liquor business with its train of evils; another for protection; another for trusts; another for excessive profits to agents and middlemen; and after a few more for natural causes—drouth, bugs, sickness, &c.—he finds his pie all gone and only a piece of crust left."

As an offset to the above, I quote the following paragraph from "Public Opinion," page 238, which will go to show that farmers have been enjoying some of the benefits of our material progress as well as other people:

"In 1816 it took just one bushel of corn to buy one pound of nails; now one bushel of corn buys ten pounds of nails. Then it required sixty-four bushels of barley to buy one yard of broadcloth; now the same amount of barley will pay for twenty yards of broadcloth. It then required the price of one bushel of wheat to pay for one yard of calico; now one bushel of wheat will buy twenty yards of calico."

How do those prices of "the good old times," before we had any corporations, trusts, syndicates or monopolies, compare with those that are consuming the profits of the farmer of to-day? Let your correspondent read up on our tariff legislation, and he will find that the tariff of 1816 was only one remove from free trade. Let him ask some of the old men who settled Michigan and hauled their grain to market over mud roads, what were the profits of farming and the comforts of agricultural life "away back," and he will hear stories that will make him stare. Does he know that western produce is now carried from Chicago to New-York at the rate of one cent per ton per mile? Does he know that a skilled workman in Boston can earn money enough in a single day to pay for transporting the flour his family needs for one year from the West to the East? Does he know that the aggregate reduction of freight rates on through lines between the wheat fields of the West and the seaboard markets, during the past twenty years, has been greater than the reduction in the national debt since the war closed in 1865, and that this immense sum of money has mostly been added to the profits of western farmers? A. M. T.

New-Rockford, Dak.

Our Illinois Correspondence.

Champaign County, Aug. 20.

Within a day or two we have had a change to a higher temperature, and a mean for the day and night of not less than 75° Fah. This with a steady, if not strong, south or southwest wind, and clear skies, is the true corn crop weather, without which in August and the first half of September good crops are rarely made. As to the yield, the burden of the testimony of competent observers is not over one-half of the average of 1887 and 1888, and in case of early frosts, something less. The clear weather has dried out the oats in the shock, and those lately threshed are dry and sweet, but the weight is considerably lighter than last year, and that is not a flattering statement for the quality of this year's crop.

Pastures were never better at this date in August, and the second growth in meadows is coming on strong. Clear timothy hay, for a hay-producing county, is very scarce—for home consumption a scarcity made good by heavy crops of clover and clover and timothy, half and half.

After two years of failure of Irish potatoes, we have a full crop, and they are now so abundant that wagon and carload lots cannot be sold for over 25c. Nobody can guess what prices will be when, after the threshing and wheat seeding season is over, the crop is put on the market in the usual rushing fashion.

The black soil this year sustains its reputation for growing tomatoes beyond all comparison, large, round, smooth and high-colored in outward appearance, and a uniform texture inside, without that amount of acid that degrades more northern products. The yield is very good, and the supply in a course of a week or two, will be so large that thousands of bushels will rot on the vines.

For the successful growing of sweet corn and tomatoes, the consumption of which canned, equals all other vegetables combined, forty counties in the black soil of Illinois are admirably adapted, and manufactures in these counties are reasonably certain to mainly control the industry. R. F. J.

Employers and Hired Men.

Edr. Country Gentleman—Your correspondent Hugh G. G., p. 586 of your valuable journal, mentions a plan of interest to all those who are dependent on hired help for aid in carrying on either farm work or inside labor, i. e. "do not hire incompetent hands." This is all very well in theory, but I for one would like Hugh G. G., to tell us what we are to do under this rule, where *all* available hands are incompetent? I do not mean incompetent to do the work from lack of knowledge, but from lack of desire to work at all. To give an instance: My neighbor having a crop of hay cut and ready to stack, his three colored day-hands left him without warning to go on a debauch: all of his neighbors were cutting hay at the time and had the entire force of day-hands living in the neighborhood engaged, and there he was, utterly helpless. By kindness of several farmers, who each lent him a hand, his crop was saved. Now then, when thus dependent upon such help what can the farmer do? He cannot afford to keep more than one or two steady hands the year through, and *must* hire what he can get to save his large crops, like wheat and grass.

I think this question of labor is a most serious one. I am engaged in a business in which I need the very best of help, yet succeed in hiring the most incompetent. The press teems with lachrymose accounts of the terrible sufferings of the poor who only need *work* to be happy and comfortable. I have at the present time four situations for able-bodied intelligent young women, who would earn good wages at first, with better as they increased in value for my work; yet applicants for work refuse the places mentioned because it is in the country, because the work is menial, because the work is confining, because there is no society, &c., *ad nauseam.* "Soft snaps" with large wages are perhaps to be had, and any who fall into such places are to be congratulated; I doubt if there is any work honest and legitimate in which the worker does not earn his or her bread by the sweat of the brow, and surely one who needs work should not scan too closely the situation which first offers, glad of any chance which may be an opening to something better.

Good assistants, no matter how humble the capacity in which they labor, must always command a premium, but who can tell what a man or woman is until they have proved by their work what they can do? I have had lads hire to bind wheat who did not know how to make a band; cooks who did not know how to broil a steak; waiters who did not know how to wait; nurses who did not know the first rudiments of nursing; house-girls who did not know how to make a bed—and so on through the list. All wanted first-class wages, some had good references. I ask again, what is one to do who absolutely needs help, and whose business does not permit the constant change necessary to exhaust the supply of incompetents? Will Hugh G. G., or any one else who knows, rise and explain? S. S. P.

Howard County, Md.

In Southwestern New-Jersey.

Horse Breeding—Hedge Fencing.

Edr. Country Gentleman—1886, dry; 1887, wet; 1887, wetter; 1888, wettest; 1889, most wettest. This describes our weather for the past five years, and I think the double superlative perfectly allowable for this year. Rain? Nobody ever saw anything that ever approached this season. Dusty, musty hay, sprouted, spotted and light wheat, rotten oats, and the prospect of a light crop of tomatoes—these things seem to be the farmer's portion for 1889. The only bright spots in this dark picture are a pretty good crop of corn and an extra yield of milk.

Our crops started off nicely, and the farmers were jubilant over the promise of a good year. In conversation with a gentleman whose business calls him over the best counties of Pennsylvania, Delaware and Middle New-Jersey, he told me that nowhere had he seen such luxuriant growth of grass and wheat as in our county. But alas, for human hopes and calculations! "The rains descended and the flood came."

Just now we are drier than at any other time this year and aftermath is yielding a good cutting; wheat stubbles are giving a good crop of cow and sheep fodder, clover having taken remarkably well. Tomatoes, too, are setting rapidly, but it is the last call, and it depends altogether on the length of time frost keeps off as to what kind of a yield we shall finally have.

The fairs approaching, the horse-loving farmers are using their leisure season now to speed their fleet footed pets. I think our county fair will show some very creditable performances in point of speed by some of our fine home-bred young trotters. We have already sent out some good ones, but I think there are now many more youngsters grazing peacefully in our pastures which a few years more will see within the "charmed circle." The recent performances of Axtell, 2.10¾, and Nelson, 2.15, prove that the ability to breed speed is not limited to Kentucky or California, but is just as possible in any other State where good judgment, skill and a proper knowledge of blood-lines and the science of breeding are united. I think the performances of these successes of breeding efforts are full of interest to breeders of all kinds of stock, and not alone to the man who only wants to breed a fast horse. The same principles that are the foundation of their success underlie all branches of breeding. Take these principles and apply them to your own branch, and you will come out ahead of your competitor who does not.

The Dayton Hedge Co. is introducing its method of treating hedges down here now, and the farmers who have seen specimens of their work think it comes the nearest to an ideal fence of anything yet. They claim to make a fence "hog tight, mule high and bull strong." This claim seems to about cover all requirements, and the scarcity and high price of rails and other fencing materials, including the dangerous barbed-wire, make this novel system of fencing very little, if any, more costly, and its beauty, durability, ease of management and general effectiveness recommend its construction to all who like to do something whose good effects will benefit future generations. Once built, it is built forever, you might say, since after the natural life of the hedge is over, there are still many years that it will be a good fence. It is suits

ble to be around your house and lawn, pastures and crops; your live-stock are free from danger from the fence and your crops are free from danger from your stock. No high wind or freshet is going to make you a week's work in a busy season, and you can have a hedge that you can grow a full crop of anything within three inches of it. S. M. S. *Salem, N. J., Aug.* 20.

Nitrogen from the Air.

THE COUNTRY GENTLEMAN—The article in your number of May 16, p. 383, written by U. H. Hillman, so fully corroborates my experience in practical farming that I feel it right to repeat what I have written time and again respecting the folly of buying ammonia to apply to the land artificially. The articles I have written for years, for your and other agricultural journals upon the subject, have called forth harsh criticisms in many instances, but I have the satisfaction of knowing that quite a number of my brother farmers have tested the matter fully, and are convinced of the consistency of my views, and are now realising the advantage of dispensing with a useless and unprofitable expenditure for a fictitious article. My experience is, after spending thousands of dollars for ammoniated fertilizers, and making exhaustive tests with them, that what the land needs is *thorough working*, and the elements added that have been taken from the soil, and which do not exist in the atmosphere. For seven years I have used these elements at a cost of about $15 per ton, with an average application of 400 lbs. per acre. Every field on my farm is well set in grass or clover (except the corn field). The crops have increased to such an extent upon Manina Farm since abandoning the use of ammoniated fertilizers that the last crop of corn grown caused universal admiration, the field averaging 12 bbls., or 60 bu., per acre. The same field produced less than 2 bbls., or 10 bu., per acre, when I purchased the farm. There is to-day more cultivated grass upon the farm than exists within a radius of ten miles, and every one of the farms *without grass* use *ammoniated* fertilizers, or fish scrap and bone.

I could procure testimonials from every one who knew Manina Farm when I purchased it to the effect that it has been more rapidly improved in fertility than any farm they ever knew, and the subjoined extract from letter would be corroborated by every one who knows the property. Mr. Brockenbrough is a representative gentleman owning a farm of 1,318 acres near Manina, and the letter, of which the following is a portion, was written to me while I was in Baltimore. His address is Warsaw, Richmond Co., Va. T. R. CRANE.

Northumberland County, Va.

T. R. CRANE, Esq.—*Dear Sir*:—The whole tone and system of farming has changed in your locality since you took charge of Manina, and seeing the rapid improvement you made on your place, the people around you are imitating your mode of doing things, and their lands, like yours, are improving, but not to the same extent. I have never seen a farm improve as yours has done; indeed I did not suppose it was possible to make such a change in so short a time. Your land is all now in grass, and in the most beautiful state of cultivation, and I know this has all been done with comparatively a small outlay of money. It only shows what good farming will do, in being poor only a few years ago when you purchased it. W. F. BROCKENBROUGH.

Winter Oats in the North.—The remarks in the foot-note under the article on winter oats and oats hay, by P. F. Kefauver of Tennessee (page 611), in regard to the doubtful success of this crop in the Northern States, recall to my mind my experience of ten years ago, when I tested the question thoroughly for two years in New Jersey, and induced several friends in other Northern States to do the same. Not a single plant survived the winter in any one of all these cases. Had a few survived, it was my intention to keep on sowing the product in the hope of acclimating this kind of oats. From this result, and further knowledge of the growth of winter oats in the South, I feel convinced that it would be waste of time and money to attempt to grow them in the North. HENRY STEWART.

North Carolina.

The Humming Bird.—I have discovered quite a new position for our beautiful humming bird. Besides extracting the sweets, &c., from the pollen and flowers, the little creature is an insect-catcher. I noticed one flying close to one of the windows of my house, examining every portion of it. I saw the little fellow catch a spider. Then again I saw him catch two flying moths, one at a time. The ease and certainty of the creature's captures convinced me he was used to the business. WILLIAM HOMER. *Janesville, Wis.*

From Recent Letters.—I cannot farm without the COUNTRY GENTLEMAN. C. S. WHITMORE. *EstAbonsville, N. Y.*

——I would as soon think of farming without a plow as without your paper. AND. DRYSDALE. *Goderich, Ont.*

Inquiries and Answers.

Uncut Ensilage.—I should like to inquire whether it is practicable to put corn in silo uncut. On page 145, G. W. B gives his experience with it with good results. (1) Can I cut up my corn and let it stand in shock a week or ten days before putting in silo, as I wish to cut as late as possible so as to be rightly matured? In order to do this will have to cut fast when the time comes to escape liability to frost, which generally comes the second week in September. (2) Is there a book published on ensilage? (3) F. A. *St Paul, Minn.* [1. Corn may be placed uncut in the silo, if it has been sown thick, so as to be rather small and fine in growth, placing the stalks as nearly parallel as practicable. It should also be subjected to rather heavy pressure in order to reduce the cavities between the stalks. But a common objection to leaving the stalks uncut is the long and coarse character of the manure. As cutting short (say half an inch) saves more of the fodder than with long stalks, the work of cutting may be done with about half the power required for cutting when hard and dry. 2. It will depend on conditions and weather; if the weather is moist, the stalks will not dry enough to do any harm, but you can judge best by inspecting it. Partial drying will not be injurious. 3. Yes, several. The latest is Prof Miles', which may be ordered through this office at the publisher's price, 50 cents.]

Root Pruning.—Many years ago much was said by some distinguished writers in favor of root pruning fruit trees to make them bear. Has the practice proved a useful one? S. C. [The practice, formerly used to some extent, has gradually fallen into disuse, as it was found to be laborious and expensive, and at the same time rather uncertain in its results. The same labor required for root pruning a tree of some size, would set out or cultivate half a dozen. As the digging and cutting have to be done underground and in the dark, the operator cannot see just to what extent he is working. Productiveness may be secured in a better way, by selecting good bearing varieties, and giving them a fair chance. If necessary to retard growth in order to make the trees bear, it may be more easily and safely done by seeding the trees to grass. If the grass is allowed to grow like a meadow, to be cut for hay, the trees would soon become sufficiently stunted to make them bear. Cutting it short like a lawn, or grazing with sheep, the trees would be less retarded. If greater vigor should be required for them in future, top-dressing with manure would effect it, and cultivation and manuring both together would be likely to restore all the vigor desired. Some orchardists claim the additional advantage of higher prices where increased risk is met with, and increased skill required to encounter difficulties.]

Ice Houses.—Owing to absence from home I have lost some numbers of the COUNTRY GENTLEMAN, which my farmer tells me have had plans for ice houses. I must make a new ice house, and wish to have the best. Can you tell me where I can find directions for the best kind? Are the plans given in RURAL AFFAIRS as good as more modern or later made ones? And is there any person to whom I could apply for plans and directions? Do you still consider that publication—RURAL AFFAIRS—the best authority for farm matters? I should like to have really the best hints and directions, and should be very sincerely obliged and indebted to you for any information. MRS. C. F. S. *Fryeburg, Me.* [The plans given in vol. VIII of RURAL AFFAIRS are the best to which we can recommend you, as they give full details with the reasons. There has been no improvement on the principles there laid down. A small and neat ice house, large enough for a small family through the season, is figured and described, with cost, on page 393 of the COUNTRY GENTLEMAN for 1884; and some additional details as applied to refrigerators are given on page 12 of the same work for 1885. You may determine approximately the proper size for the interior, by multiplying the length, breadth and height, for the number of cubic feet, and allowing one cubic foot daily, for a small family, and two cubic feet for a larger one. This will allow one-half for melting or waste.]

Asparagus.—I have an asparagus bed some twenty years old and played out. How ought I to treat it to have a new one on same spot? If I should sow it with clover this fall, dig it in next spring and lay down to clover again, would land probably be in condition to start a new asparagus bed in spring of '91? G. S. [You want to obtain a bed of deep and rich soil, which may be partly effected by plowing in clover, but the addition of barn manure well worked in will be an improvement, and if your soil is not already strong the manure will be essential. If superphosphate has been found useful to your lands, it would be well to add a quantity. In planting, give the plants plenty of room if you wish a copious supply of large shoots; three or four feet apart is not too great. The old custom of planting near together is going out of use with the best cultivators.]

Cabbage Worms.—Please advise us of some way to rid ourselves of our worst enemy, the cabbage worm. Our cabbage fields are thronged with butterflies; the larvæ will soon follow. Would you consider it safe to use Paris green while cabbage are small? J. J. A. *Magnolia, N. J.* [Many remedies have been recommended, but for several years past pyrethrum has been most generally successful. A tablespoonful of the strong and fresh powder is mixed in two or three gallons of water, and driven on the plants with a syringe. Several correspondents of the COUNTRY GENTLEMAN described remedies in the last volume which had proved successful. One of these was to add a pound of concentrated lye to a barrel of water and apply it with a watering-pot. This appears to have been quite effectual. Another correspondent said he had never failed by throwing a small quantity of earth on the plants with a hoe—a cheap and simple remedy. Another occasionally applied a spoonful of fine salt. Arsenic is of course effectual, but it would be safer not to use it.]

Potato Digger.—Is there a fairly successful potato digger manufactured? If so, where? Do not see any advertisements in your paper. Have heard the "Hop Digger," from the International Seed Company of Rochester, N. Y., and the "Bose Digger," manufactured at Corning, N. Y., by Rawson & Thatcher, mentioned as successful diggers, but would like further information. SUBSCRIBER. *Kingsley, Mich.* [Write to Hoover & Prout, Avery, D, and Aspinwall Mfg. Co., Three Rivers, Mich.]

Oats.—I am disgusted with three or four kinds of oats which have been tried here. I am looking for a large heavy yielder, good, large berry, and a first-class oat every way. What is it called and where will I find it? I must try and get something before next spring. I am looking to see two purchasers of Bohemian oats get bit almost any time now. J. F. P. *Wisconsin, N. Y.* [Not having been able to test the many kinds, on all the different soils which may be variously adapted to them, we ask the favor of our intelligent correspondents to furnish the result of their ample experience.]

Oak-Tree Pruner.—Enclosed is section from branch of red oak tree, showing work of a borer whose history I should like. The tree is quite large, and I have noticed during this season many twigs cut off in same manner; but none before so huge as this specimen; nor have I been able until now to discover who was doing so nice a job of pruning. I should like to know the name of the insect and its habits, and specially why the grub or borer cuts off the limb. C. W. W. *McGregor, Iowa.* [The branch of which sections are sent, showing the extent of the burrow of the grub and the beautiful cutting off of the branch, almost as neatly as if done by a saw—illustrates the operations of the oak-tree pruner, one of the long-horned beetles, known as *Elaphidion parallelum*. The branch, at its excised portion, measures one inch in diameter. The cutting was unusually thorough, passing entirely through the wood and into the bark, leaving only a thin outer film of the bark, so that the branch would break off by its own weight. Another section of the larger branch measuring 1¼ inches shows one-fourth of its plane uncut, so that the action of the wind was necessary to its breaking and separation. This interesting insect was noticed at some length in the COUNTRY GENTLEMAN for Sep. 2, 1886, page 677. Its method of boring and cutting off oak twigs is there described, the object of its dropping the twigs containing it to the ground discussed, transformations given, and the remedy for its attack. This notice may be consulted in files of the COUNTRY GENTLEMAN, or the number containing it may be obtained by sending a dime to the publishers.]

Dishorning.—I have had calves dishorned by a veterinary surgeon at various ages, between six weeks and one year, and the horns have grown again. Will any of your correspondents give information as to age and method for successful performance of the operation? C. *New-Haven County, Conn.* [The cutting off was probably not deep enough. Properly done, the horns do not grow again.]

Bean Harvester, p. 616.—Bean planters, harvesters and threshers are made and used in this section. Quite a good bean harvester is made by removing the mould-board from a plow and fastening the handles to land side; then drill two holes through the point and bolt on a steel blade, well sharpened, about 15 inches longer than the point, which can be done by any blacksmith. One horse is generally used by lengthening the clevis that the horse may walk between the rows. A man follows with fork to shake earth and pitch into piles. The point runs just under ground, and cuts off roots and stalks. The most common bean cutter in use is mounted on two wheels, with a seat for driver and two steel blades, that cut two rows at a time, and drawn by two horses. They are made at Caledonia, N. Y., Holley, N. Y., and Waterport, N. Y., and cost about $40. L. *Orleans County, N. Y.*

Mechanical Fans, p. 616.—For the benefit of "A. A.," let me describe the "punkah," a device universally used for fanning rooms, &c., on the plains of India. It is an oblong framework of light wood, varying in length according to the size of the room, and usually 18 inches to 2 feet wide; it is covered with wall-paper, and finished at bottom with a heavy fringe. This is suspended to the ceiling by straps and pivots, near each end; a cord is attached to the upper part of the frame, which cord passes over a pulley in the wall to the verandа, where a "punkah-wallah" sits and pulls it. It does more fanning than a half dozen revolving fans. A. A. can easily have this made out of wood and wire-screen, and instead of carrying his cord through the wall carry it over the pulley and down to the stove where it may be fastened to a treadle, such as is used on a grindstone, or it ought to be easy to rig a spring-pulley to the "punkah," where labor is grudged. JAMES MACPHERSON.

Mercer County, N. J.

Poison Ivy.—I give an unfailing remedy if applied in time. As soon as there is an appearance of poison, apply freely a solution of sulphate of iron (copperas). One or two applications will cure it. Dissolve the copperas in hot water. It is safe and sure.

Plattsburgh, N. Y. E. J. L.

—— A gentleman writing to the American Field a few years ago, gave his brother sportsmen his remedy for poison ivy, which was simply citric acid dissolved in water. I had used everything that any one would recommend and never was relieved much until I used the acid. We get an ounce for five cents, dissolve it in a half pint bottle of soft water, and use it whenever needed. Citric acid, I think, is made from lemon juice and is used in making lemonade, instead of the tartaric acid—so cannot be dangerous to use. F. T. *Brewster, N. Y.*

Kicking Cow.—S. S. G. wants directions for milking a kicking cow. Of forty years' experience, I will give directions: Use half-inch rope; put round the cow, back of the hips and in front of udder; make a loop in one end of the rope, so that it can be drawn up middling tight. The object of this is that the cow may not be able to get her foot forward. The rope will not interfere with milking. I. O. *Dryden, N. Y.*

Horticultural Department.

Editorial Notes and Comments.

EARLY PEACHES.—The thermometer last winter went down to about 10° below zero, and killed a part of the fruit buds of the peach trees, but enough were left for a moderate crop if they had survived the subsequent unfavorable weather. Fluctuations of temperature and continued rains caused some of the young peaches to drop; and as the few which remained were subjected almost daily to storms of rain, nearly all rotted. The few which ripened, and which were not destroyed by rotting, being thin on the branches, became large, handsome and excellent, showing what might be gained in abundant seasons by early thinning. The Alexander, Ameden, Waterloo, and other similar varieties, nearly all rotted as they approached ripening; Brigg's May, which is usually nearly a week later, rotted much less, and afforded some fine specimens. The variety which has withstood unfavorable influences much better than any other, the tree giving a moderate crop of large and fine peaches, was Early Rivers. The uniform excellence of this peach renders it eminently worthy of a place in every owner's home collection.

NEAT SURROUNDINGS.—We meet occasionally with persons who refuse to give neat and polished surroundings to their homes, fearing the cost. One gentleman who drives a carriage and horses which cost some hundreds of dollars, could not afford a lawn mower costing twelve, nor ten dollars' worth of shrubs and cost of planting. He had a fine house, but the grounds had produced a crop of coarse grass. It would not have required five dollars' worth of labor to run a lawn mower once a week over his half-acre grounds. The foot-walks might have been few, but what there were should be in perfect order. A few handsome hardy shrubs would be a pleasing addition. This improvement, with a garden cultivated with horse labor, with such easily raised fruit as raspberries, grapes, strawberries and currants, would make the home far more attractive to the occupants.

WORK AMONG FRUIT.—A late writer lays down the rule in relation to raising the finest peaches, that one peach to each square foot of foliage is a heavy crop. This rule has in view the successful growth of the trees, the size of the peaches, their beautiful appearance and excellent quality. For aphides on pears, he gives tobacco water, washing it off with pure water through the hose.

LARGE REPORTS.—A writer in the Canadian Horticulturist says he reads in the papers that a great deal is said about the man who grows from 5,000 to 10,000 quarts of strawberries (150 to 300 bushels) to the acre, and sells them for fifteen or twenty cents a quart; while nothing is said about the man who gets from 1,000 to 2,000 quarts per acre (30 to 60 bushels) and sells them at four or five cents. It is well to give the product obtained by both men, in doing which it is especially requisite to give an account of the mode of cultivation adopted by each. The editor of the same journal makes a very favorable report of some of his cherries, the Mezel and Elkhorn excelling any other black cherry for profit. The Mezel has yielded with him as many as a dozen twelve-quart baskets to a single tree, which sell in the Toronto market at $1 50 a basket. This product is at the rate of four and a half bushels a tree, and at the market price named would be eighteen dollars each. The Napoleon was found to produce still heavier crops, although not so good in quality. The Yellow Spanish proved very liable to rot.

FAILURE.—The same journal reports some bad failures with fruit crops from disease, which has been unusually fatal with some varieties this year. The editor had a beautiful orchard of Angoulême pears, a variety well known for its freedom from blight. They were of bearing size and the pride of the owner till June of this year. But the blight visited them, and whole rows present the appearance of withered leaves and scorched bark, telling a tale of ruinous desolation. One gentleman in Canada has a vineyard of Niagara grapes, and said a few weeks ago he would have scorned $700 for his whole crop; now he says it is not worth five cents. Such disasters may be turned to valuable account by observing what varieties and what treatment enable the owner to escape them in future.

The Bonnie, Bonnie Broom.

Botanically this is known as *Cytisus scoparius*, and commonly as yellow broom or Scotch broom. I was interested in Mr. T. Bowick's reference to it, page 596. We grow it here as a hardy ornamental shrub, and, I can assure you, a handsome shrub it is, too, when in bloom; its blossoms are so bright, and borne in such vast profusion, that in its season it is by far the gayest yellow flowering shrub we have. This from my diary of this year: "May 9th, first flowers open; May 23d, splendid in bloom; June 7th, pretty well past."

But it is not very hardy here, though it lives along nicely at the Arnold Arboretum, Oakley Gardens, and other places around Boston. It thrives well with us on Long Island on sandy land, but suffers in winter on rich level land. It ripens seed abundantly.

Riding between Philadelphia and Baltimore, I observed large quantities of it naturalized on the railroad embankments. It is a very pleasing shrub in this position, which is its natural one—poor soil and dry "feet"—and forcibly reminds the traveler of the European railroads, whose gravelly embankments are so heavily clothed with broom.

Beyond its use as a decorative shrub, and for binding the surface of sandy and gravelly embankments and wastes, however, I am not sure that it has any economic claims upon us here. But in Northern Europe, although it is a pest in one way, it is a blessing in another.

In my early boyhood many a pile of broom I helped to cut and haul home. We used the young even switches for thatching our hay and corn (cereals) stacks, also for thatching our dwelling houses and farm buildings; and we made brooms or besoms of them for sweeping our houses; we kept some of it in the dog-house all the time to drive away fleas, and, though I blush to confess it, many a good whipping did my poor old mother give me with a switch of broom. For lighting the fire in the morning, dried broom eclipses anything else inflammable, but my wife objects to this, and insists that bean (*Faba*) straw will boil the kettle in less time than broom.

The furze, *Ulex europæus*, is not quite hardy here. Occasionally it will survive. It is not our summer, but our winter, that kills it. But it is hardy and plentifully planted about Washington. As a gay, yellow-blooming shrub, the typical form is bright enough, but it is much eclipsed by the double-flowering form. Here, beyond its ornamental character, it has no economic properties that I know of. In Europe the young growths are cut, bruised and fed to stock in winter, and horses get sleek and fat upon them. Even in Europe it is not as hardy as the broom, and is seldom found far up the mountains. It is a vile thing for tearing the wool off of sheep, and barefooted children have good reason to avoid it. But we always dyed our Easter eggs yellow by boiling whin blossoms in the pot with them.

Queens County, L. I. W. FALCONER.

A Possible Preventive of Pear Blight.

For the few trees on my premises, I had a large crop of pears last year, and for this year the crop is a very heavy one. For three years I have not seen a trace of blight, where for years previous I had not been without more or less cases, so severe as to cost me the life of the trees. This exemption, and the fruitfulness of the trees, I attribute to the liberal application of bone and potash fertilizers, with copious watering of the roots in the months of September, and a second watering, still more copious, in March or early in April, just before the bursting of the buds into blossom and leaf.

My experience is that blight commonly appears in its most virulent and destructive forms some time in June, when the wood-growth and foliage development are at their best, but that it is by no means confined to that month, and may appear as long as the leaves are still green. Usually, too, the disease shows itself in moist, warm weather in which thunder and lightning play a conspicuous part. Atmospheric conditions like these promote rapid growth in all vegetation, and in the case of ripening small fruits, six or twelve hours will sometimes do the work of a full week. These facts have led me to think pear blight due to a want of a healthy and hearty *rapport* between the radical system below ground and the arboral above; that is, a larger demand for plant food is made on the roots by the foliage than the former are able to supply, in consequence of a deficiency of moisture in the soil where the roots feed. Therefore, I have been led to this hypothesis—if it is a hypothesis—that deficient moisture and nutrition being the cause of pear blight, supplying both at the proper time will prove a preventive. Among the facts which have led me to such a conclusion are these: In several instances where the roots of the blight-stricken subject have been dug up and removed just after the attack, the earth in each case was found, if not as dry as an ash heap, nearly so, and this in seasons when if the rainfall had not been copious, there was sufficient for surface vegetation. If blight is not confined to young trees, it is rare on those of middle life, while those of great age are exempt, showing apparently, that when the tree has sent its roots down to permanent moisture, it is beyond the point of danger. The gigantic and venerable pear trees planted by the early French settlers on the banks of the Kaskaskia and Wabash rivers, in Illinois and Indiana, a few of which have lived over one hundred and fifty years, and come down to our own time, were set out on the second-bottoms, and under the bluffs of those rivers where they had a moist soil always, and for months and months a wet one, but not without a healthful drainage.

Perhaps on account of the English origin of many of our notions in regard to the apple and the pear, orchardists and fruit-growers have adopted the conviction that both dread water and a moist soil as decidedly as the peach, the olive, and the fig; whereas, in the case of the apple, the fact is being demonstrated on the eastern slopes of the Alleghenies, in the Willamette valley in Oregon, and the Kings county region in Nova Scotia, that it requires for perfection almost as much water and air-moisture as the orange, the cranberry, and the high blueberry of our northern swamps. And probably when we have come to investigate further, we shall find the pear only a little less exigent of similar conditions, because its radical habit is to send its roots down deep.

After blight has appeared in an orchard, my impression is that watering, however copiously, will prove too late, but I have faith, as shown by my works, that if pear trees are given a copious watering in March or April, and that repeated in August or September, the practice, though not perhaps successful in every case, will prove so nearly so that many intelligent amateurs and fruit-growers will adopt it.

Champaign, Ill., Aug. 1. B. F. J.

My Little Flower Garden.

For years I wanted a flower garden, a spot of ground where I could plant things and nobody would dig them up. I tried faithfully to raise flowers in the big vegetable garden, on the wide borders along the broad walks where old-fashioned honeysuckles, peonies and big rose bushes grew and spread in wild luxuriance. But occasionally, at long intervals, somebody concluded they were taking up too much room, and a man was sent in there to reduce them to order, at which times my poor little delicate plants were sure to suffer. I remember once a green farm hand went in there with a briar hook and mowed them all off.

At length it was decided in family conclave that I should have a little garden all to myself, and with much glee I selected a spot in the large yard toward the front and almost even with the house yet at some distance from it, for the yard contained several acres of ground. As it would be plainly visible from the front, the fence that enclosed the garden must be of such a nature as not to obstruct the view, so we selected barbed wire and attached it to slender iron posts, having some of the strands near the ground only a few inches apart.

There were sixteen posts in all, and the wire being stretched from one to another made a regular geometrical figure having sixteen sides, each about fifteen feet in length. The space enclosed was divided into six central beds, having walks between, and a border two feet wide next the fence. At the end of the principal walk a pit was dug in which to keep tender plants during winter. This was fitted with shelves, and covered with three frames containing small panes of glass, the sash being so arranged as to be easily raised or pushed back, to admit fresh air in pleasant weather.

In due time the beds were spaded up, the soil pulverized and enriched, and the whole smoothed over and covered with fresh black earth from the woods. Then came the pleasure

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serving as a foundation and support for the more delicate wire netting. Now not a chicken can enter; they can only peep through the meshes and sigh for seasons past, as I look on and glory in their discomfiture.

This spring my little garden is truly a thing of beauty; some of the rose bushes are ten feet high, luxuriant Hybrid Perpetuals, splendid Moss roses, and the smaller Bourbons, Noisettes and Teas, with their wonderful variety of exquisite shades, all covered with glowing masses of beautiful blossoms, while the almost invisible fence serves to enhance rather than conceal their loveliness.

Logan County, Ky. A FARMER'S DAUGHTER.

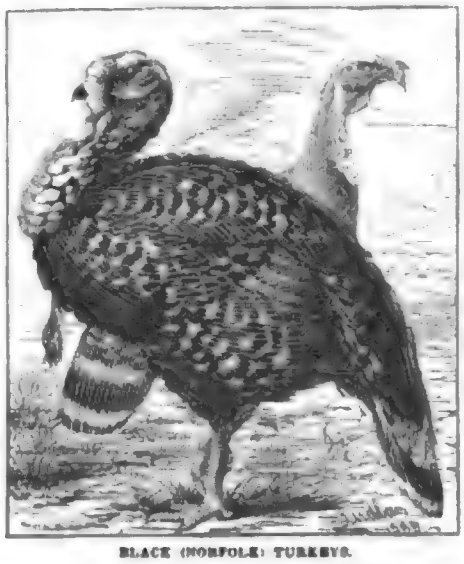
The Poultry-Yard.

The Norfolk Black Turkey.

In this country the two varieties of the domestic turkey best known are the Cambridge and the Norfolk, and it is very evident that they were originally the same. The two counties from which these names are derived are adjacent, but while the character of the Norfolk turkey has been maintained without any intermixture of foreign blood, it would seem probable that the American Bronze turkey has been intermixed with the Cambridge, as bronze is the predominant color. This is further supported by the fact that the Cambridge is the larger of the two, and we have to look to the bronze chiefly for size. From the evidence of Wingfield & Johnson's poultry book, published in 1866, it would appear as if the bronze color of the plumage was only of comparative introduction, for the variety is spoken of as the "Grey" Cambridge turkey. In that work this variety is described as the hardiest and most profitable of all the varieties, and the following remarks by a then well known authority are quoted: "The Grey breed is the one most common in Cambridgeshire, being considered hardier than the others. Attempts have been made to cross this breed with the White and Black breeds; but in every instance within my knowledge these attempts have signally failed. As a proof of the excellence of the Cambridgeshire turkey, it may be remarked that that county has for several years past supplied the Royal table on Christmas day." Since that time there has been evident crossing with the Bronze, and thus a more determined type of fowls. Tegetmeier writing a few years after the work in question was published, says the prevailing hues are grey or bronze, the latter varying from a light copper-color to a very dark tint, which is generally preferred. The color of the Cambridge is now a deep bronze, with a beautiful glossy tint when viewed in the sun, every feather showing the beautiful bronze shade of a peacock's tail feathers.

On the other hand the Norfolk turkey has maintained its original black color, and there does not appear to have been any crossing, at least not to an appreciable extent. Of course all black birds are more or less liable to throw bronze feathers, but this is not more seen in the Norfolk turkey than in any ordinary black fowls. We do not know that the abstinence from crossing has been a direct benefit to the breed, for size is a most important factor in turkeys raised for market, the largest birds commanding the best prices. Norfolk people claim that their breed of turkey is the finest of all for flavor, and I am disposed to think that they are correct in this, but that is not entirely sufficient, and if the birds had size they would be perfect. This point of the more profitableness of the Cambridge variety was known nearly forty years ago, for in Wingfield & Johnson's poultry book, already referred to, it speaks of the black or Norfolk turkey having all its plumage glossy black, except the tips of the tail feathers, which are brownish, as are a few upon the back. It adds that, although the black "Norfolk turkey" is a combination of terms familiar as household words, and a part and parcel of our associations with Christmas fare, yet "that breed is not the most preferable where profit is regarded, nor indeed is Norfolk the county from which our metropolitan markets are chiefly supplied. On the contrary there are parts of Cambridgeshire which probably produce more turkeys than any other district of other counties. To one of these districts a London dealer goes down annually, and sees to the slaughtering and picking of about 1,800 turkeys the week before Christmas." That at an earlier date Norfolk had been the great centre for turkey breeding would appear from the earlier editions of Mowbray, for in these it is stated that "in December, 1795, the number of turkeys sent to the metropolis, by the stage coaches from Norwich only, amounted to two thousand five hundred and upwards, weighing nearly fourteen tons. On mentioning this fact to several poulterers, they assured me that, far enough from falling short of the above quantities during the late season, there can be no doubt that they were greatly increased, even probably to half as many more."

As there have been quite a number of articles



BLACK (NORFOLK) TURKEYS.

of late in your columns on the rearing of turkeys, I will quote the description of the method adopted in Norfolk from the work referred above. In this it says: "The chicks must be withdrawn from the nest as soon as hatched and kept very warm. It is a very old and general custom to plunge them instantly into cold water, and then give them each whole pepper corn, with a small teaspoonful of milk. This baptism is used as a prophylactic against catching cold, to which the young chicks are so peculiarly liable; but it is a practice which I have never used, and from which in severe weather I should suspect danger; however, their being instantly thereafter wrapped in wool or flannel may secure them. The hen and brood must be housed during a month or six weeks, dependent on the state of the weather. First food, curd or eggs boiled hard and chopped, and oat or barley meal kneaded with milk, and frequently renewed with clear water, rather than milk, which often scours them. In case of the chicks appearing sickly, and the feathers ruffled, indicating a chill from severity of change of the weather, we generally allow half ground malt with the barley meal, and by way of medicine, powdered caraway or coriander seeds. Also artificial worms, or boiled meat pulled into strings, in running after which the chicks have a salutary exercise. Superfluous moisture, whether external or internal, is death to chickens, therefore all slop victuals should be rigorously avoided. The utmost cleanliness is necessary, and a dry gravelled layer is most proper."

Such was the system of a by-gone day.

E——, England. STEPHEN BEALE.

Questions and Answers about Capons.

In the course of a month I receive hundreds of letters from all over the country, which contain all sorts of questions in regard to capons and caponizing; to reply to all would take every moment of my time. There is nothing about the work which is a secret, and I desire very much to give the public all the information on the subject possible, for I believe it to be to the interest of all poultry-raisers to caponize many of their cockerels. With this result in view, I herewith give a list of questions that have been often asked me, with their answers, condensed as much as possible:

Question—At what age do you caponize?

Answer—Any age. Go more by size than age. Usually when they are from three to six months old.

Q. What size should a cockerel be?

A. For best results they should be caponized when they weigh from one to two and a half pounds.

Q. When are they too old?

A. Never. But little benefit is, however, obtained in caponizing after they have matured their growth; and rather difficult to do then.

Q. What benefit would be derived from caponizing a rooster?

A. His meat would be made sweeter and more tender; he would take on more flesh and fat, but his frame would not increase much.

Q. Why are they difficult to do when old?

A. Their testicles are very large then, have become established, and the skin and cords are tougher to break or pull away, and likely to rupture the veins and arteries.

Q. How long does it take to caponize a chick?

A. I can take the bird from the pen, caponize him, mark him, put him back, and not hurry, in five minutes—could do it in two minutes.

Q. Where do you caponize?

A. Where I can get good light, out of doors, and on a table I made for that purpose, that has proper straps to hold the birds, and the right height.

Q. When do you caponize?

A. On pleasant days, from 9 A. M. to 3 P. M., when the sun is overhead, and from March until November, or at any time I have birds suitable.

Q. What instruments do you use?

A. I use tools of my own invention, and which I manufacture, consisting of a lancet for making the cut; a spreader for spreading the ribs, with gauge attached to it for large or small chicks; a pick hook for picking open the film of skin enveloping the bowels and testicles; a tube and horse-hair for removing the testicles and sac; and a pair of nippers to pick up any foreign matter that may get into the cut, and also to push the intestines back when in the way.

Q. Is the operation difficult to perform?

A. No. A boy ten years old can do it.

Q. Can the testicles be taken away successfully with spoon-forceps, pincers, or the fingers?

A. No. By their use you only make dead birds or slips. Don't use them.

Q. Do you make an incision on both sides of the bird; if so, why?

A. Yes. For the reason that it is much easier to get at the testicles, less danger of hemorrhage, and the work can be performed much more quickly. Cuts on the outside quickly heal, while cuts inside may cause inflammation.

Q. Where do you make the incision?

A. Between the last two ribs.

Q. How large an incision do you make?

A. About one inch.

Q. Do they bleed much?

A. No. None at all unless the flap of flesh between the skin and ribs is cut, and which should be pushed back. No harm is done, however, if it is cut.

Q. Do the birds suffer much pain?

A. No. They make more fuss on being caught than they do being caponized.

Q. Which side should be operated upon first?

A. It is immaterial. I prefer to do the left side first, looking from the tail.

Q. Is it necessary to get the sac?

A. Yes, or else the bird will be a "slip," and not a capon.

Q. Do they struggle during the operation?

A. No. They do not seem to mind it much. Remember, the sense of pain in dumb animals and prize-fighters is not nearly as acute as in the human race.

Q. Do the birds require preparation? If so, what?

A. Yes. They should be deprived of food and water thirty-six hours before performing upon, that their intestines may be empty.

Q. Why must intestines be empty?

A. If full, they lie in the way of the testicles, and make it inconvenient to get at them.

Q. Can one see the testicles plainly?

A. Yes. If the intestines are empty, the testicle is in plain view, directly in front of the cut.

Q. Where are they located?

A. On each side and close up to the back bone, about centre of the same.

Q. How do they look?

A. In two-pound chicks they have the shape of a kernel of oats or wheat, or a long bean. They vary in size however—the larger they are, the more round. In color they also vary somewhat; are usually yellow, but may be red, black, brown or white. In roosters they vary in size from a large bean up to a robin's egg, or even much larger.

Q. How many birds do you kill when operating upon?

A. Not a single one. Once in a while one gets cold and inflammation may cause him to die, but not one in a hundred will do so.

Q. How long does it take for them to heal up or recover from the operation?

A. In two weeks they are generally all right. In a month one can hardly find the scar.

Q. Does it change their appearance and habit?

A. Yes. They begin to be capons at once—begin to grow fast, become more quiet, are more tame, more awkward in their carriage and ways; comb and wattles become pale and cease to grow; they become lazy, and take on a very heavy, handsome plumage.

Q. How should they be fed?

A. Soft food for a week, and then anything that you feed other fowls, with plenty of bone and water.

Q. Do they require extra care and food?

A. No. They will not eat as much as cockerels, and only require a clean, warm place to live in. Not quarter the care hens are.

Q. How much is their weight increased?

A. From forty to fifty per cent.

Q. How much their price?

A. Depends upon your market. In some localities their value per pound is doubled. There is seldom less than fifty per cent. increase in price to be obtained. You can easily add one dollar to the value of your bird.

Q. How long do you have to keep them?

A. Until they are from eight to twelve months old. It is better to let them mature. A plumper, heavier and nicer bird is thus obtained.

Q. What breed make the best capons?

A. All are improved. The larger the breed, the larger the capon. I use the pure Plymouth Rocks and Light Brahmas, because I breed that kind exclusively, and do not cross them.

Q. Can they be raised successfully north?

A. Yes, just as well as in New Jersey.

Q. Is there a good market for them?

A. Yes, for all you can produce, at a high price.

Q. Are they apt to be weak and sickly?

A. No; they are very hardy, strong, and much less liable to disease than other fowls.

Q. Do you feed right away after the operation?

A. Yes, all they will eat of soft food, and water.

Q. What care do you give them?

A. None; let them run.

Q. Do you sew or close up the cut?

A. No; the skin will slip back over it all right.

Q. Can a woman caponize?

A. Yes, better than a man, as her fingers are more pliable.

Q. Is the demand for capons growing?

A. Yes; the supply is pretty well exhausted in February and March.

Q. Do capons ever fight or crow?

A. No; the fight and crow are both taken out at same time. GEORGE Q. DOW.

North Epping, N. H.

New Advertisements.

Adams, James H.	Jersey Bull.
Ackerly, E. S.	L. I. Live-Stock Fair.
T. B.	Farmer Wanted.
Berkswyth Kennels	Fox Terriers.
Box 16	Gardener Wanted.
Box 951	Man and Wife Wanted.
Cobb, C. M.	Hereford Cows and Heifers.
Cochrane, M. H.	High-Stepping Colts.
Davison, C. H.	Bull Terriers.
Hubbard Co., T. S.	Grapevines.
Hasbrouck, Ira H.	Shropshire Rams.
do. do.	Syracuse Sulky Plows.
do. do.	Scotch Cattle Ritchey.
Havens, W. H.	Farm for Sale.
King, Wallace	Jersey Calves.
Lurman, G. W.	Grade Jersey Cows.
M. S.	Working Farmer Wanted.
Miller, D. P.	Farm for Sale
Madison, Geo. W.	South-Down Rams.
Paine, Dial A. Co.	Self-Pouring Tea-Pot.
Perfect Clothing Co.	Leather Clothing.
P. O. Box 16	Carriage Horses.
Quinn, P. T.	New-Jersey State Fair.
Sale, H. K.	Farm for Sale.
Shaw, Root. G.	Irish Terriers.
Smith, D. C. Wharton	Guernsey Cows.
Stevens, W. O. G.	Virginia Estate for Sale.
Shepard & Co., J. E.	Agents Wanted.
Stiles & Co.	Iron Measures.
Thorp, John	Prize Boar.
The Idaho Pear Co.	Pear Trees.
Traynor, D.	Irish Setter
X. Z.	Situation Wanted.

Subscribers' Wants.

LOUIS DE LA CROIX, *Hampton Falls, N. H.* Horse-power with sweep—not tread mill.

Pamphlets, &c., Received.

COLBY & HARTWELL, *Gardner, Mass.* Circular of Windsor House.

FORD, E. W., *Lexington, Ky.* Catalogue of Ultra-Fashionable Standard Trotters at Castleton Farm; pp. 48.

GREAT AMERICAN TEA CO., 31 Vesey St., *New-York.* Circulars—see advertisement, p. 654.

HENION, ALEX., Sec'y State Board Agriculture, *Indianapolis, Ind.* Invitation to Fair, Sept. 13-18.

HOWATT, D. K., *Hyde Park, Dutchess Co., N. Y.* Circular of Acme Water-Heaters for buildings, baths and water-tanks.

HOYT'S SONS, STEPHEN, *New-Canaan, Conn.* Circular of Green Mountain Grape.

PALMER, Hon. T. W., President State Agricultural Society, *Monroe, Mich.* Invitation to Fair at Lansing, Sept. 9-13.

PEYERE, W. R., *Lobelville, Conn.* Illustrated Circulars of Road-Making Machinery—see advertisement.

PILLING & SON, G. P., 1107 & 1109 St., *Philadelphia, Pa.* Illustrated Circulars of Veterinary Instruments—see advertisement.

SMITH & SON, *New-Carlisle, O.* Fruit Tree List.

WILLIAMS & CO., F., Hay, Straw and Grain Commission Merchants, 261 W. 11th St., *New-York.* Circular.

The Royal Show—Just held at Windsor is estimated to have cost the society between $25,000 and $30,000 more than the receipts.

Personal.—Mr. JAMES CHEESMAN, the well-known dairy expert and late secretary of the New-England Creameries Association at Boston, has just become manager of the noted Deerfoot farm, Southborough, Mass.

French Oyster Breeding.—Whatever concerns the oyster must be of interest to those who are such great oyster-eaters as are Americans. France cannot rival the United States in the size and variety of its oysters, but it does an enormous work in the cultivation of this fish. At one place alone, the basin of Arcachon on the west coast, upwards of 200,000,000 are sold annually. From statistics which have recently been published, it would appear that during the past twelve months the French beds have produced 600,000,000 of oysters, or ten times as many as in 1876. This progress does not concern quantity alone, for the quality also shows an equally noteworthy improvement. In 1883 France exported 31,000,000, but this year the exportation will be double that number. The cultivation of what is known as the Portuguese "naissain" has been eminently successful in France. At one time France imported great quantities of this young oyster. In 1888 she imported 184,647 kilogrammes, of a value of $400,000. Instead of importing she now exports them, and for the present year the exports of Portuguese oysters will amount to over 500,000 kilogrammes. The extension of the oyster trade in France during the last ten years is one of the most extraordinary gastronomic features of the time. Not long ago the oyster was eaten only by the bourgeoisie, except in the districts where it is produced. Now, even in the poorest quarters of most French towns, every wine shop has its oyster-stand outside, and the working classes indulge daily in the succulent bivalve.

London, Eng. S. B.

From Several States.—Your paper is part of our household. W. A. B. MCCOMB. *Louisa C. H., Va.*

—— Your issue of March 21 is alone worth more than the subscription price for a year to any wide-awake farmer. J. D. TOLLEY. *Lynchburg, Tenn.*

—— I read *everything* in the COUNTRY GENTLEMAN, and it is the only paper of seven that I take of which I can say that. JOHN WILSON. *Colerain, N. C.*

Acknowledgments.

Communications for publication have been received during the week ending August 26, from R. J. Larkin—J. P. K.—S. M. Cathcart—Henry Wallace—Miss Hortense Dudley—E. L. Hoffman—R. W. Norfleet—J. G. [illegible]—C.—Prof. E. W. Stewart—E. H. S.—E. S. Titus—E.—Henry Stewart—Chas. E. Westbrook—Prof. J. A. Lintner—L.—F. D. Curtis—G. H. C.—M. N. R.—Edward A. Cockey—Lillian Mayne—Wm. Horne—E. F. J.—Mary Land—E. Bodee—Stephen Beale—Elmer E. Summey—Stephen Horine—Lex—T. S. Terry—Thos. Meehan—H. W. Seies.

"." We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

"." We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Aug. 20, 1889.

Obituary.—We notice the death, in his 78th year, of WILLIAM CHORLTON, an Englishman by birth, but a resident of Staten Island for the last forty years, and the author of a well-known book that has had a long career of usefulness. Originally published, in 1853, as "The Cold Grapery," it was enlarged and reissued, three years later, under a more comprehensive title, "The American Grape Growers' Guide," and we believe is still kept in print.

"California Fruits—and How to Grow Them," is the title of a copious treatise on this subject, by EDWARD J. WICKSON, Secretary of the California State Horticultural Society. The author has availed himself of the many valuable reports of State institutions, monographs on several semi tropical fruits, and numerous contributions from practical cultivators to the columns of periodicals, in connection with his own continued experience in past years, and he has thus brought together in one work the existing knowledge on California fruit culture, a task which he has performed with ability and judgment. The proper local management of fruits well known at the East is fully treated, as the apple, pear, cherry, apricot, small fruits, and grapes, as well as the kinds specially adapted to that climate, as the date, fig, olive, orange, lemon, nuts and others, and full directions for their cultivation in nurseries and the subsequent management of orchards. Ample information is give as to the character of the climate and soils; on canning and drying; and in relation to fruit packages and marketing generally. Injurious insects receive a proper share of attention. The whole work is amply illustrated with accurate engravings. Nearly all the information given is reliable and the result of careful observation, but as in all cases when much is copied from other authorities there are occasional mistakes. The entire work is however, a valuable contribution to California fruit culture, which will be of great use to cultivators in that region, and especially to beginners. It is issued by Dewey & Co., Pacific Rural Press, San Francisco.

Petroleum and Coal Tar.—The practice, first adopted many years ago, of using petroleum to preserve wood structures, has gradually extended of late years, and many now employ it. But from the frequent inquiries made, it is obvious that its use is not properly understood. Many mistakenly suppose that it is to be applied to the surface of wood like paint, and some wish to employ a pigment and make of it nothing but a paint. Its operation is quite different from that of a paint. It does not remain on the surface like a coat of paint, but penetrates the pores of the wood, and if a sufficient quantity is applied, converts perishable wood to a nature nearly as durable as cedar. Those who use it commonly apply it too thinly. It may be laid on heavily with a coarse white-wash brush, and it soon sinks and enters the wood, and where much exposed, two or three coats will be better, if applied at intervals of a few days.

Its operation is the opposite of that of coal or gas tar, which remains on the surface. Petroleum is best for wood exposed to the weather, or to alternations of sunshine and storms; coal tar succeeds well if applied to wood in moisture and shade, as fence posts, or underground structures. Superficially or carelessly used, neither of them succeed well on fence posts. The coal tar should be applied hot, so as to form a perfect casing. Petroleum should be repeatedly applied, so as to penetrate the wood perfectly. It will then render the wood very durable. For shingles, they should be dipped in a tub of the petroleum. Whether used for shingles, siding, or fences, the coating should be repeated every eight or ten years. Coal tar injures shingles by becoming hot and warping in the sun's rays, as well as other wooden structures. A strong recommendation of petroleum is its cheapness. The light oil is best, both on account of color and penetrating the wood, but a small portion of the heavy oil mixed with it is best.

Out-Doors at Charlton.—Five miles from South Ballston station on the railroad from Saratoga to Schenectady, is the village of Charlton, near which David Dows, an old time grain merchant of New-York, was born, and our well-known contributor, Col. F. D. CURTIS, lives. The road thither winds through a pleasant country, with abundant shade and frequent well-kept farm-houses. The deep green of meadow and wood last week was that of June; only the reaped fields and the golden-rod told that it was August. The rains that have ruined crops have given a beauty to midsummer as rich as it is rare.

Charlton is simply a roadside village. The houses thicken up a little; a store, a tavern, modestly meet you; a white-walled church and an academy form a centre; but all are embowered in shade, and quiet reigns. On the broad green between academy and church a stand had been erected, seats filled the space next the road, and here, on Aug. 21, the Charlton Agricultural Association held its fourth annual festival. It brought together a goodly company, chiefly families of the township, intelligent and attentive, an audience which any speaker might have been proud to face. And good speakers were there, whose labors were lightened by music.

The day was very warm, but a filmy veil of cloud tempered the sun's rays to the lambs and lions on the platform. David I. Wicks, the young president, made the address of welcome, and REV. NORMAN F. NICKERSON of Glenville, the response. A paper on "Horse Breeding" was read by F. O. Ives of Easton, whose line of thought has been heretofore reported in the COUNTRY GENTLEMAN. Mrs. R. H Stearns of Charlton, read a thoughtful essay on "The Open Door," or the opportunities of the present for noble living, closing with an appeal to the women of Charlton to form a circulating library of the best books. Col. Curtis followed with a lively talk on "The Coming Farmer," introducing those progressive ideas familiar to our readers, with special application to Charlton needs.

Then came the basket picnic; generous supplies of appetizing food were served, with time for social intercourse. Everybody was then ready, when the music sounded, to listen to Mr. JAMES WOOD of Mt. Kisco, president of the State Agricultural Society, on "Agriculture in America and England." Mr. Wood is fresh from a visit to the old country, where he had unusual opportunities for observation and inquiry, and the historic parallel which he drew, and the conclusions he reached, are of interest to every American farmer.

American agriculture, he said, is based on that of the American Indians, who, contrary to the schoolbooks, were as much farmers as hunters. From them the settlers received the corn, the bean, the pumpkin, which they planted in the wilderness and on which they lived. This was the *experimental* period of our agriculture, the settlers learning how to live in a new country, each family a sufficiency to itself and independent of all the world. It was this agriculture that raised a David Dows, who went out to seek his fortune clothed in home spun woven and made up by his mother. These things made the American character what it is, lacking which the war of Independence and subsequent growth would have been impossible. So strong is it, that the millions of foreign population coming in, of whatever nation, habits, customs, under this powerful die are stamped Americans—by the second generation at least. No other nation has done this or can do it. Then came the period of *growth*. The inventive genius of America is the child of American independence, and gave us the wonderful machinery for sowing and reaping the enormous crops raised by the millions who poured into the great West and took up lands under homestead and other acts. The growth of transportation kept pace with all this, carrying immigrants and machinery one way, and their products the other. Then slowly but surely arrived the present period of *depression*, when here at the East we cannot raise a bullock or a bushel of wheat without loss. It was the result of natural causes, not of legislation; deplorable but not hopeless; a period of transition, leading to better things if we study the situation thoroughly and lift our agriculture to a higher plane. In this State we must turn from the exhausting grain and beef to the non exhausting dairy products. Our wheat goes to England, and is sold in competition with that produced by the cheap labor of the world—of India especially, where men work for six cents a day. But dairy products are not raised by cheap labor. These we must send abroad and consume our wheat at home.

In English agriculture we find in the past a totally different condition of things. When William the Conqueror went to Salisbury and summoned the land-owners to swear allegiance to him, to those who submitted he confirmed their lands; the rest were given to the Norman nobles. Hence arose two classes of land owners—the yeomanry and the noblemen, and from these come the landlords of to-day. The English farmer chiefly *rents* his land, he does not own it. We go to England for nearly all our breeds of horses, cattle, sheep, pigs and poultry, and their improvement began with the first quarter of this century. It was the period of the Napoleonic wars. All Europe was in a turmoil except England, and she supplied the world. Wealth flowed in, and much of it came to the farmer, giving him the means to improve his live-stock. An opportunity he was quick to embrace. But the landlord saw *his* opportunity also, and rents were raised. The tenant did not object for he could stand it. But here was the beginning of the trouble of to-day. Then, too, what has hurt us has hurt them, and transportation has brought the world's products to their doors. To-day the English farmer is poor, and thousands of acres lie idle. The speaker had been invited to shoot on the estate of the Marquis of Salisbury—900 acres whose only return is the sale of shooting privileges. Still, England has great wealth, and yet larger tracts of land are likely to be given up to pleasure, and products chiefly raised that cannot be transported. In the old church of Amesbury the squire and the landed proprietors sit in the choir, the farmers in the transcept, the tenant laborers in the nave. This would not suit Americans. We should thank God that in our country there is an "open door" for every man who will honestly and earnestly work with hand and brain.

MR. GEORGE T. POWELL of Ghent gave a practical talk on "The Butter Factory and the Silo:"

He had that morning visited the new and finely-appointed factory at South Ballston, and was surprised to find there was a lack of support, the product being only 300 pounds per day. In these days of depression, farmers must be alive and alert. The old methods of butter making no longer hold the market, because the growth of critical taste demands an article of uniform quality. Hence the necessary change to the cooperative system. But with this must come another change—from summer to winter dairying, to avoid the overstocking of the markets in summer, and to supply the great city demand for fresh butter in winter. Cows must be selected for butter production. Probably one-half of the Charlton cows were non-productive of profit. Their food must be studied; the ration made better in quality and quantity. By careful personal experiment, using only timothy hay and wheat bran, and then cottonseed meal, cornmeal, oatmeal and ensilage, he found his cream product a loss on one hand, and a profit on the other, after paying for the feed. In the system of winter-dairying the silo becomes an important factor. Its contents of nearly matured stalks and ears giving a product rivaling the summer make. With more butter, and less grain and hay sold off, the depletion of the soil of potash, nitrogen and phosphoric acid will cease. The silo will cheapen food when dairy products are the highest, and with good business management on the farm and in the factory, Mr. Powell believed there was a prospect of better returns than even in war times. It was the farmer's opportunity, an "open door" set before him. Will he enter it?

The closing address was made by Rev. George A. Kerr of Charlton, and resolutions of thanks to speakers, committees and people of Charlton were passed.

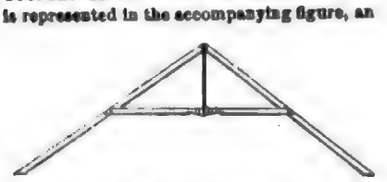
—— A trip to Charlton would be incomplete without a visit to Kirby Homestead, a mile away, which, in company with Mr. Powell, we were glad to make. In the necessary absence of Col. Curtis, we were shown about by his courteous foreman, W. A. Dane. Kirby Homestead is not a place kept for show, but for every-day working and living. The broad, substantial house, deep shaded in front, is flanked by a well-kept yard, beyond which are ranges of farm buildings of a plain, practical order. What was worth seeing was inside. Here were the cow stables, snug and warm for winter, with V-shaped manger-bottoms, through which water flows from an iron pipe connecting with a tank supplied by a windmill. The cows have no occasion to go out doors. Adjoining was the new silo built last year, and described by Col. Curtis in these columns. Next came the five beautiful Jersey calves, also kept indoors, away from heat and flies, the 3 year-old bull from Mrs. Jones' herd, Lady's Rioter, grandson of Stoke Pogis 2d, and his son, Doll's Rioter, which will be exhibited at the State fair this fall. Then came the Duroc-Jersey pigs, among them a litter of 11 which had kindly arrived the day before. The little terra-cotta-colored chaps were all hard at work

carrying out one of the colonel's favorite maxims—"feeding for growth." In the dairy house, fully equipped with horse-power, revolving churn, Stoddard creamer, butter-worker, &c., we found Mr. W. B. Freer busy with a batch of tempting Jersey butter, which to our surprise was salted 1¼ ounce to the pound, by request of the New-York customer. This did not look like a growing demand for unsalted butter. Near the buildings we saw a magnificent stand of silo corn—some 17 acres—from "B. & W." seed matured near Rochester. Its pennons, fluttering far above our heads, seemed to signal good tidings to the twenty cows or so at pasture, which will feed upon it next winter.

We left Kirby Homestead with hearty good wishes for the prosperity of the man who is giving so much time and labor to the bringing back of prosperity to the farmers of our State—not forgetting the good wife who, as Mr. Wood suggested in his speech, by her efficient management enables Col. Curtis to devote so much of his energies to the State.

Grading the Bottoms of Ditches.—A large portion of the underdraining performed by farmers is done during different parts of autumn, as spare time from other work permits. If the land is very nearly level, it is important not to make any mistakes in grading, and an accurate leveling instrument may be necessary in laying out the drains, to give them a uniform descent, and not to make the blunder of trying to make the water run up hill. But a large portion of the land requiring underdraining has more descent, and with a moderate degree of care any intelligent farmer may lay out his drains.

We observe in several of our exchanges that directions are given for grading the bottoms of ditches, by what they term a simple mode, but which strikes us as needlessly complex. A succession of simple frames are made and inserted in the ground, a cord stretched from one to the other, and under this cord the laborer has to do all the digging, continually measuring down from the stretched cord to the bottom of the ditch to see if it is right. We have adopted a much simpler mode, and a few years ago published an account of it in the COUNTRY GENTLEMAN. The instrument used is represented in the accompanying figure, and



has a space of say twelve feet and three-eighths, or three-fourths of a rod. The arms are made of light half-inch pine, screwed or nailed together. The brace or cross-bar is graduated at the middle by testing on a level floor. It would do to suspend a cord from the top, but a small square iron rod is better, making it easily carried. If the surface of the land is quite level, the rod will hang at the central mark; if sloping, it will incline towards the downward descent. With this simple instrument, the surface of the ground may be examined, whether up or down, and the drain laid out accordingly; and then when the ditch is dug, the grading of the bottom may be accurately completed by using on it the instrument. It will do the grading whether a rod or a mile long. The graduation at the centre of the cross-bar will show whether the descent is steep or gradual. At the same time, being three-fourths of a rod span, it is easily used by one person in measuring the length of the ditch, or making any other measurements of land. The whole weight of our instrument is less than five pounds, and did not cost a dollar. For rough ground, a second cross-bar may be added, connecting the two points on the arms.

American Florists.—The fifth convention was held last week in the spendid Music Hall at Buffalo, the exhibits being shown on the same floor, except heating apparatus which had space below. The exhibition was very creditable, Pitcher and Manda's of New Jersey being specially noticeable for the display of orchids. The first session was opened by address of welcome by Mayor Becker and response by A. P. Calder of Boston, after which President May delivered his annual address. The reports of secretary and treasurer were satisfactory, no loss of membership having resulted from increasing the dues from $2 to $

The Grazier and Breeder.

Wheat in Milk Ration.

Eds. Country Gentleman—What is the value of wheat as a balance in ration for milch cows? A large quantity of our wheat (probably 50 per cent.) is damaged in the shock, on account of continuous rain, and it cannot be used to make the fine Virginia flour we are accustomed to. Can I utilize it economically as a cow food? T. L. *Runcles, Va.*

T. L. may utilize his damaged wheat in the milk ration. An average of 310 analyses of all varieties of wheat showed it to contain of organic substances—albuminoids, 11 80; fibre, 1 80; carbo hydrates, 71 89; fat, 2 11; ash, 1 86. Of digestible nutrients it contained—albuminoids, 9 29; carbo-hydrates, 66 53; fat, 1 70.

The average of 190 analyses of all varieties of maize (corn) contained, of organic substances—albuminoids, 10 56; fibre, 2 03; carbo hydrates, 69 81; fat, 5.46; ash, 1.55; and of digestible nutrients—albuminoids, 8 86; carbo-hydrates, 64.51; fat, 4.74.

Wheat has a nutritive ratio of 1 to 7.4; corn a ratio of 1 to 9.2.

It will be seen that wheat is superior to corn in albuminoids, but inferior to it in fat; consequently it is a little better balance for poor fodder than corn, and not quite so good a fattening food.

We cannot tell what variation to these analyses there would be in L.'s damaged wheat, but it may be injured for making the best flour without being correspondingly damaged as a cattle food.

Let us suppose that L. has good red clover hay, and we will make up a ration of 16 lbs. clover hay, 10 lbs. ground wheat, and 2 lbs. decorticated cottonseed meal. The following formula will show its digestible nutrients in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
16 lbs. clover hay.....	1.76	6.69	0.24
10 lbs. ground wheat.....	0.93	6.65	0.18
2 lbs. dec'd cotton'd meal.	0.78	0.44	0.13
Total.....	3.47	13.49	0.54

Nutritive ratio, 1 to 5. This should be a good milk ration. Or if he has Japan clover (*Lespedeza striata*), he may use the same formula; it is not quite as strong in albuminoids as red clover, but it would do very well. Or, if he has crab grass (*Panicum sanguinale*), he may use the same formula. Or, if he uses 16 lbs. of the best corn fodder, he may then use 10 lbs. of ground wheat and 4 lbs. cottonseed meal.

The digestible nutrients in this latter ration is shown in the following analyzed formula—amounts stated in pounds:

	Albuminoids.	Carbo-hydrates.	Fat.
16 lbs. best corn fodder	0.43	6.80	0.35
10 lbs. ground wheat.....	0.93	6.65	0.18
4 lbs. cottonseed meal.....	1.60	0.80	0.34
Total.....	2.96	13.25	0.87

Nutritive ratio, 1 to 5.4. This last should be a successful ration. L. will see, from the examples given, that it will be easy to utilize all his damaged wheat in the production of milk, and he will see the proper proportion to use. E. W. S.

Calves for Veal and Dairy.

Eds. Country Gentleman—As I expect to have some forty or fifty calves born on my farm this fall, I should like to convert most of them into veal, and sell to the butcher, instead of to other farmers as "bobs." I can get plenty of skimmed milk from a creamery near by. Can I accomplish what I wish by using skimmed milk and a combination of grain foods? If so, please give me formula for ration. Some calves I purpose to raise for future use in dairy. Please give me the best manner of procedure from time of birth, ration, &c.

Forest Glen, N. Y. J.

1. J. should have mentioned how the cream is raised from the skimmed milk. If raised by a centrifuge, it would be completely sweet; if by any other process, it would be more sour. But we will suppose that J. can obtain his skim milk sweet and can feed it warm. J. cannot produce strictly what is called veal by any artificial food, or by any addition to skimmed milk. He cannot produce flesh as white as when the calf takes the milk of its dam, but he can produce wholesome veal, and if the calf is kept to three or four months, will sell at a fair price. The first thing to do is to restore a portion of the cream taken from the milk by some oil as a substitute. Flaxseed jelly supplies this in the best form. If he has a number of calves to feed at the same time, he may use the following formula: To 100 lbs. of skim-milk he will add 4 lbs. of flaxseed, or 4 per cent.; 2 lbs. of wheat middlings, or 2 per cent. Let him boil the 4 lbs. of flaxseed in 16 qts. of water for about twenty minutes, then stir in 2 lbs. of wheat middlings and boil for five minutes more. Let this mixture be added to 100 lbs. of skimmed milk, and it is then ready for feeding when blood warm. This food should always be given warm to the calves. The calf soon learns to take this with a good relish, and the quantity to be given depends upon the age and weight of the calf.

This combination is right till the calf is 60 days old. Then add 1 per cent. more of wheat middlings. If the calves are fed by a skillful feeder, in this way to 10 or 12 weeks old, the butcher knows how by a little extra bleeding to pass them off for veal. In this way he whitens the flesh.

2. Those heifer calves that J. wishes to raise for the dairy may be fed in the same way to 60 days old. Then let him add a little linseed meal and increase it gradually to ½ lb. at 80 or 90 days old. These should also have a little hay to chew after 30 days old, to develop the rumen. At 90 days these heifers may be fed as follows: 1½ lbs. of cut clover hay, 2 lbs. fine bran, ½ lb. linseed meal. This is a ration per day for each heifer calf, besides the skim-milk. The cut clover hay will be moistened and the fine bran and linseed meal mixed with it.

As it is presumed that J. can purchase skimmed milk at a low price, let him feed 10 lbs. of warm skim-milk with 1 pt. of flaxseed jelly mixed with it. This constitutes the entire ration. The next month let him add 1 lb. to the clover hay, and the following, or 5th month, another ½ lb. of hay and 1 lb. of bran. The 6th month he may leave off the skim-milk and feed 6 lbs. of clover hay, 3½ lbs. bran and 1 lb. linseed meal. After this, each month, let him add 1 lb. to the clover hay and ½ lb. to the bran, the linseed meal being kept at 1 lb. This will give a fine development to the heifers for the dairy—will develop the muscular, nervous and vital system and frame, but will produce only so much fat as is required to give symmetry to the body. The heifers will breed early, and drop their first calves at 20 to 24 months. E. W. S.

Developing Heifers for Cows.

Eds. Country Gentleman—I want a ration for Jersey heifers from birth till next May. I will feed them a mixture composed by boiling a gill of flaxseed in a gallon of water for 20 minutes, then stir in a pound of wheat middlings, a tablespoonful of linseed meal, and a tablespoonful of molasses, and boil 20 minutes more. Unless you propose a better, this ration will be fed all winter in connection with the best grain ration you can construct from the following foods: Fine or coarse wheat bran, linseed meal and cut clover hay. Mill feed is cheaper this month than any time in the year; will it be good if bought now and kept dry till winter? Is it better to keep such calves loose in box stalls all winter, day and night, or open the doors so they can go out during day for exercise in yard? M. *Olney, Md.*

M.'s compound for his heifer calves will do very well up to six and perhaps eight weeks old, but after the calf is four or five weeks old use 2 gallons of water instead of one, and add ½ lb. of wheat middlings. As the calf should have a little hay to eat after three weeks old, when the water and middlings are added, there may be ½ lb. cut hay stirred in and cooked with the other food. At eight weeks old the ration may be the following: 1 gill of flaxseed and 2 tablespoonfuls of cheap molasses boiled in 8 qts. of water for 15 to 20 minutes, then stir in 2 lbs. of wheat middlings, 2 spoonfuls of linseed meal and ½ lb. of cut hay, and boil for 5 to 8 minutes longer, keeping it well stirred to prevent scorching—feed warm. This will be quite thick, but the calves will eat it well at that age, and grow well on it. This may be given for some five weeks.

Then it will be the least labor to prepare flaxseed jelly by boiling the flaxseed in six times its bulk of water for 20 minutes, and mix into the feed for each calf 1½ pints of this jelly per day.

The ration besides the jelly for these heifer calves for the 4th month should be the following: 2 lbs. cut clover hay, 2 lbs. fine bran, ½ lb. linseed meal. This may be given in two feeds. It is better to have them tied separately, so that each may be fed separately, and the wants of each attended to. They will not all eat just alike.

The careful feeder will study the wants of each animal; perhaps from constipation or otherwise one calf will need a little more of the flaxseed jelly; and it should be understood here that the flaxseed jelly has a beneficial effect upon a calf, even when scouring. It is soothing, not irritating, to the digestive organs.

This ration is given for the fourth month. If these calves grow finely, they will need a little addition to the food each month as they progress. When they show clearly that they can eat and digest more, it should be added. Say, add ½ lb of clover hay and ½ lb. of fine bran. It will not be necessary to add anything to the oil meal; that will remain the same from month to month; also the flaxseed jelly.

In fine weather they may be let out in the yard between feeds. There will be no trouble about their coming to their places again, and if the feeding times are regular, as they should be, these calves will know exactly when to expect their food.

The fine bran may be laid in now and will keep perfectly sweet all winter, provided it is not allowed to get wet. This ration should develop the muscles, bones and frame of these calves steadily and in the best way to make good milch cows. When 10 months old they should weigh from 600 to 650 lbs., and at a year old 750 lbs.

We have constructed the ration out of the foods mentioned by M. If it is convenient and costs no more, he might substitute ground oats for one-third of the fine bran; in fact this would be an improvement, as it would give greater variety of food. E. W. S.

Horse Surviving Loss of Tongue.

Eds. Country Gentleman—On July 7 a valuable mare of mine, and because of her intelligence, amiability and absolute fidelity in all her conduct, a special favorite, was deprived of her tongue, or the greater part of it, in a manner almost inexplicable. I was absent from home, and did not return for nearly a month afterwards. The account of the matter given to me by my tenant is as follows:

Sunday afternoon he was walking through the pasture field in which Belle (this was her name) and her mate, each with a foal at her side, were licking salt in a path. In about an hour he returned and, to his amazement, saw lying in the path before him, about five inches (it was not measured at the time) of a horse's tongue freshly severed, though not clean cut. About two inches from the tip was a gash about half way through. A little blood had dropped about the path. Belle was not there, though the other mare was near the place where he had first seen the two. Tracing the blood-spots a little way, he saw Belle standing near a fence with her foal beside her. There was blood on her sides as if she had smeared them with her mouth biting at flies. She was entirely quiet, and did not seem to be suffering any pain. Opening her mouth, he saw, far back, what remained of her tongue.

He started off immediately to consult a veterinary surgeon in Lexington, something more than a mile distant. The doctor told him that he had never known but one similar case, and that one had ended fatally. He said that nothing could be done to unite the severed parts.

The next day the tenant offered the mare a bucketful of sifted meal and water, not so much with the expectation of saving her life, as with the compassionate purpose of relieving her thirst. To his surprise she drank it without difficulty, and with evident relish. This was repeated at intervals during Monday. Encouraged by this, he went to a druggist and procured a carbolic acid lotion with which he washed out the mouth, in which, by this time, the short remnant of the tongue had become swollen and inflamed. The washing out and the supply of meal and water were continued, and to his great surprise and satisfaction, Belle so far recovered that in a few days she was eating grass as usual, and now, after more than a month, she takes her ration of chopped food as well as ever, though she cannot eat corn. She has not fallen off in flesh, and discharges her maternal duties to the entire satisfaction of her beautiful colt. I suppose her mouth will never bear a bit, but so intelligent and tractable is she, that with a properly made halter she can, if necessary, maintain her place as leader of my four-horse team.

With my limited knowledge of the anatomy and functions of a horse's tongue, two puzzles present themselves to me: 1. How she could bite off her tongue so far back. (The circumstances of the case forbid the supposition that some villain cut it off.) 2. How, with so little of this important organ left, the act of swallowing anything other than fluids, is performed. There is now no part of the tongue left with a free motion. All is fastened down to the jaw.

Incessant rains have prevented most of our farmers from securing their crops. Wheat and oats sprouting in shock and hay rotting in the field. The depreciation in value of what promised to be one of the finest crops ever harvested in this county, is estimated by some at one-half. E. V. L. P.

Rockbridge County, Va., Aug. 23.

American Horses.

Every season American horses become more prominent. The trotter is an American institution, and the question which is becoming quite interesting to the breeders of future "two tenners" is, what part of the country is best adapted to breeding him, or where shall be found the best land for putting into horse food all the brain, muscle and staying qualities necessary in the coming horse? The blue-grass region of Kentucky has long been noted for good horses, and doubtless Kentucky will long be devoted to horse-breeding. Good saddle horses come from the neighboring States, while occasionally a writer asserts that Illinois, with its wonderful prairies, possesses equal qualifications with Kentucky. From California, we hear of Senator Stanford's stables at Palo Alto, and of the horses raised in other parts of the State. Montana raises immense numbers of horses, and way off at the other end of the route comes in little Jersey with her claims as a horse-breeding State.

All over the country, men of intelligence are going into the business. He who gives to the world the best production of its kind, has made the world just so much the better for his having lived in it, whether it be a fine horse or a fine grade of grain. A fine horse is a most desirable possession, no matter what his work may be, and Americans are not going to be satisfied with second class horses when it is shown to be possible to raise those that are first-class upon American soil. That this is possible is already proved, and the day is not far distant when it will not be necessary to import stallions for breeding purposes. Most attention at present is paid to speed, since the thoroughbred and the trotter are the rage of to day. By and by we shall have somebody raising the best "walker" for farm use, the "biggest" horse for the trucker, and the finest-formed animal for stylish turnouts.

A writer in a recent number of Harper's Weekly says of the Montana horse:

"At the present day he is a fine animal, graded up from the Indian ponies by the introduction of full blooded or high-grade Clyde, Norman or Percheron, and stallions of many other excellent breeds. Of medium height and weight, long winded, with great endurance and fairly speedy, with good hoofs, strong legs, muscular body, intelligent head, and an eye as keen as a hawk's, he is an animal which is forcing recognition in the horse markets of the world as an all-purpose horse."

These horses are raised on ranges. A hundred mares are bought and then two or three stallions of any breed desired are brought from the eastern markets. They feed out on the range nearly all the year round, and the owner's profit comes with the colts. Nearly half of Montana is grazing land, and it is claimed that when Montana comes in as a State, "her beautiful and spirited horses will figure next to her gold and silver as her greatest source of prosperity."

California sends us trotters chiefly. Kentucky runs the saddle horses, and a good recommendation for your "cob" is that he came from Kentucky. New-York and Pennsylvania spend more time and attention upon the work horse, while from New Jersey some of the best trotting stock of the country may be obtained.

So the answer to the question, what part of the country is best adapted to horse breeding?—might be, all parts of it, according to the kind of horse desired. S ffice it that the American horse is an institution, and American soil can be made to furnish him with all the requisites for power, muscle and speed, if only our farmers will fertilize and till it with this end in view, viz: here horses are to be bred which shall be first-class in every respect. R. C. TITUS.

Feeding Little Calves.—When I have one that will not take hold of feed, I take a quart bottle, fill it with milk, turn up the calf's head, and pour it down. It will not have to be done more than two days—stomach will want it. I saved a fine Jersey calf last winter that came when the thermometer was sure in the barn, and 20° below outside. Just as soon as I could milk the cow, I put two quarts down the calf, put a forkful of hay for it to lie on, and one on top of it, and then went to bed at 11 P. M. The next morning it was up and all right. S. C. B. *Ovid, N. Y.*

Pleuro-Pneumonia in England.

The London Field draws the following discouraging picture of the present condition of affairs:

A case is reported this week in the Norfolk weekly papers, which deserves wider perusal than an article in any local paper can often command. There is a wide and growing conviction that the reason why the present endeavors to stamp out pleuro-pneumonia fail—and they do fail—is for want of wider cooperation in the attempts to trace the real origin of each outbreak. A county finds this cause of waste of men's means, and of suffering in men's most cherished sentiments, suddenly appearing in its midst. Wholesale slaughter follows, interruption of business, with a heavy loss to individuals, and a big bill for the county authority to discharge. It seems to be thought sufficient to publish—if, indeed, so much as this is conceded—that Mr. A. (upon whose farm the disease has been "spotted") got this or that beast in such and such a market; and there the matter (so far as the public is concerned) is supposed to end. In real truth the interest is only just beginning. The name of every person concerned in bringing the animal supposed to have conveyed infection—from its breeder to the farm upon which pleuro-pneumonia on it was diagnosed—ought to be sought out; and, if obtainable, have the fierce light of publicity turned upon the information in order to get the truth of statements made at each stage of the inquiry tested. The only possible "cross examination" in these cases must come from the public who read the evidence put before the local officials. In the Norfolk case, a dairy farmer, having a large number of cows for milk selling, had, in May, one cow which seemed so suspicious that he sent for the butcher to kill it, and the butcher told him—as he admits—that it was "lunged." This did not prevent the dairy farmer from having a portion of his dairy cows offered at the local auction mart, where those sold carried pleuro-pneumonia into several other herds widely apart. The loss to the county is assessed at some thousands, and that to individuals at some hundreds.

The dairy farmer was summoned last week before a local bench of magistrates and fined £15 and expenses for not acquainting the local authority with the fact that he had pleuro-pneumonia on his premises. At each step of the inquiry there is something strongly deserving attention. But the point—in which, as we believe, the large world of cattle breeders and owners is most interested—is that at which inquiry seems to have been allowed to stop. There seems small doubt that the animals which brought pleuro pneumonia into Norfolk were not the "Irish stores" who act as scapegoats nine times out of ten in these investigations, but four Jersey cows, purchased in Southampton for £73 from an importer. This lot was introduced upon the Norfolk farm in January. The first suspicious case occurred in May, and two, if not three, of the four had been "killed to save their lives" before the public authority were cognizant of, or investigators, of the matter. Now, this story of the newly-imported Jersey cows—bought at £18 per head—being the "hosts" of the disease, is true or it is not. If true, ought not inquiries to be made in Jersey whence those cattle came? If false (i. e., if there be any better authenticated cause for the outbreak to be ascertained), is it right that a business of this extent (the importation of cattle from the Channel Islands) should have suspicions of this character thrown upon it?

If pleuro-pneumonia be treated, as it has been, as a local affair only, what county has the power to conduct the far-reaching investigation which alone can track the disease to its origin? If pleuro-pneumonia be, as we maintain, a matter of national importance, what better task could the new Minister of Agriculture undertake on behalf of the landed industry, than to follow up, with the trained staff which it already possesses, such statements as these?

Surely it is not one of the expectations of the farmers, which, we are assured, can never be realized, that some one on behalf of the Government should take such an inquiry up, and surely this is not one of the cases which are so admirably dealt with already, that there is no need for any Government interference at all. Whose cattle are safe if this story be anything like supported by fact?

The Dairy Department.

Three Butter Conferences.

Ithaca—Groton—Slaterville.

EDS. COUNTRY GENTLEMAN—The Cornell estate connected with the university contains 300 acres. The magnificent campus absorbs quite a portion. The portion set apart for farming and experiment includes 110 acres. A large dairy is kept to supply milk to those connected with the university, and it is managed to make it a paying dairy. The milk for the churnings was taken from this college herd. Prof. Roberts and W. H. Gilbert had charge of the conference.

The first churning consisted of the cream from 206 lbs. of milk. It was churned by steam-power in the neat little dairy-house belonging to the university, in a broad churn similar to the Stoddard. Butter worked in a butter bowl with a ladle—not very modern implements. Salted 1 ounce to the pound; pounds of butter, 8½; ratio, 1 pound of butter to 23.54 of milk. Salted with Genesee salt. The cream churned was raised by the Cooley process, and was from milk mixed and ripened 36 hours. Motive power, a small upright engine, built by the students.

The milk was from 12 of the herd of 23 cows, of which four were high-grade Jersey, one pure-blooded Jersey, two pure-blooded Holstein, and five grade Holstein. The rest of the herd, not then in milk, consists of nine Holstein grades. At the head of the herd is the Jersey sire Cornell's Valentine, No. 17406, from Houghton Farm, and Netherland Remus—number not given—from Smiths, Powell & Lamb's herd, Syracuse. Feed, plenty of white clover and timothy pasture, with water both in pasture and barn, and salt always accessible. Cows run in a small night pasture, and are shut in the barn and kept from the flies during the heat of the day. Grain ration fed, two quarts of wheat bran, in two feeds, night and morning.

In the afternoon 184½ lbs. of milk was used which had been aërated before setting. After being skimmed, the cream was set in a Ferguson bureau over night, when it was taken out and warmed up to 58°; then it was left in the dairy house, at a temperature of 60°, when it was churned, and the same process pursued, by Mr. Gilbert. "Cream churned at a temperature of 58°; time, 34 minutes; temperature of butter, 56°; pounds of butter, 7¾; ratio, 1 lb. of butter to 25.51 lbs. of milk.

At Groton, Mr. S. C. Goodwing furnished the cream churned in the morning, from his herd of 12 Jersey grades, raised by Cooley process, skimmed after twelve hours; 218 lbs. milk, churned in an Isbell churn, at 61°; time 13 minutes. Butter, 10 lbs.; ratio, 1 to 21.8.

In the afternoon, 200 lbs. of milk, from the herd of Nelson Stevens of West Groton, Jersey grades, churned in the churn used in the forenoon. Grain ration, 1½ lbs. corn meal and 2 lbs. wheat bran, mixed; fed in the morning before milking; pasture native grasses, land never having been plowed. Cream churned at 60°; time, 23 minutes. Pounds of butter, 11; ratio, 1 of butter to 15 18 of milk. This conference was largely attended, and was held at Mr. Goodwing's in his attractive grounds. There was a table one hundred feet long, on which the ample lunches were spread. The social part of this meeting was of an interest and enjoyment parallel with the more practical part.

The conferences afford the women an opportunity to ask questions and obtain facts relating to butter-making which they always improve, more or less. After the public exercises are completed, they will ask questions and bring out replies on points which have puzzled them, perhaps for years. They are always interested in the instructions regarding the winter care of milk. The benefits of thinning milk from ten to fifteen per cent. to admit of the cream rising better, and of thinning the cream so that the butter will come better, of warming the churn and the cream, are all points of decided interest to women. That the milk should always be warmed up to its normal temperature, 98°, when set in an open room, with a temperature of 60° to 70°, is another fact, which the dairywoman can see is an improvement over the custom of setting the milk at any temperature it may happen to be at when brought into the house. With such, the common management, she sees, as explained at the conference, that the rising of the cream must be slow, and that this is why she gets so little cream before the milk sours. Mr. Curtis makes very plain that there can be no more cream after the milk begins to coagulate, because it cannot get up, as the butter globules have no lifting power, and cannot force their way up through the clots of thick milk or the fibrin. The butter-makers are also taught that to leave the milk, hoping for more cream to rise, after the milk has begun to get sour, will speedily injure the quality of the cream and reduce the quantity of the same. These important facts are carefully illustrated by the making of bread and other familiar things or processes with which housewives are acquainted. The laws which govern ferment and putrefaction are explained and applied to the care of milk, cream and butter. The instructors teach the benefits of a less quantity of milk to be put into the pans or the cans, when the conditions for the cream rising are not favorable. The cream rises best when the temperature of the milk is falling; hence the importance of warming the milk in cold weather, when no ice is used, and of cooling it with ice-water in hot weather, as by both of these means falling temperature is obtained. The milk should fall to get the best results, from 60° to 50°, and the cream should all be up before any acidity is developed in the milk.

The butter product of New-York is gaining ground. The increase of butter factories is bringing about this desirable result. The Northwest will make a gain on us this winter when our summer-made butter comes in competition with their fresh-made. By and by the New York dairyman will broaden out and carry his operations into the winter months, and so increase the value of his butter, and at the same time relieve the market of the glut of old butter, and too much in the market, in summer.

A conference was held at Slaterville, in Foote's Hall. Prof. Roberts gave one of his interesting and practical talks. He wound up by asking Mr. Gilbert if there was any way by which farmers could make butter in summer and be assured of a good price in winter. Mr. Gilbert thought the chances were against them. He would rather sell his butter as fast as made than hold it and have it lose in shrinkage, get off flavor, and perhaps meet a low market. If any one had special facilities for keeping butter good, that would make a difference. He said the market was all the time demanding more and more fresh-made butter. It is also a fact that the best consumers want moist butter, bright and glossy, and that which will spread readily. The old dry-worked butter does not come up to this standard. It cannot, for if the moisture is left in it, which pertains to the average fresh butter as it goes upon the table, it will not keep well, and the old butter, dry-worked to keep well, gets drier, and is dull, and lacks in flavor and sprightliness.

The first churning was the cream from the milk of 190 lbs. from two dairies, G. S. Higgins furnishing 90 lbs., native cows, and C. H. Dewel 100 lbs., from grade Durhams; pasture, red-top and timothy. Mr. Dewel fed three quarts of corn meal and bran mixed; proportion, three parts, by measure, of bran to one part meal—two feeds; Mr. Higgins no grain. The cream from these dairies was mixed, as well as the cream for the afternoon churnings. The results show a larger ratio than many single dairies. Query: Is it a good plan to have all sorts of cows in one's dairy? I say no. The dairy should be as uniform as possible in blood, and in all characteristics.

Mr. Dewel's cream was raised in old-fashioned open pans, in the house cellar; set 24 hours, in a temperature of 60°. Mr. Higgins' milk was set in long cans, submerged in water at 45°, cans holding 25 lbs. each; cream cooled down to 50°, and ripened 24 hours; churned in an "O. K." churn, No. 4; time of churning, 26 minutes; worked on a lever worker, and salted with Warsaw salt, one ounce to the pound. Product, 8 lbs. 9 oz.; ratio, 1 lb. of butter to 24.61 lbs. of milk.

The second churning was 200 lbs. of mixed milk from the dairy of C. L. Wattles' Short-Horn grades and Mr. R. G. H. Speed's dairy of half-blood Holsteins. Milk from both dairies set in pools—submerged cans, holding 25 lbs. each; milk, when skimmed, 30 hours old; ripened 24 hours in a temperature of 50°. Pasture, red top and timothy. Mr. Wattles' grain ration, 3½ lbs. of corn, oats and wheat bran, in two feeds; Mr. Speed's ration is 3½ lbs. of corn meal and wheat bran in two feeds, fed morning and night. Churned in an "O. K." churn in 25 minutes, cream having been ripened 24 hours; worked on a lever worker, and salted with Warsaw salt one ounce to the pound. Weight of butter, 8 lbs. 2 oz.; ratio, 1 lb. of butter to 24.61 lbs. of milk. F. D. CURTIS.

Milk in Denmark.—The milk supply of Copenhagen is one of the largest monopolies in this line which you can meet with anywhere. The company controlling it was established in 1878, and agreed to pay a higher price for milk than farmers could obtain elsewhere, and was thus, from the first, enabled to insist upon stringent regulations as to the conditions of the supply. The cows are regularly examined by veterinary surgeons, and an inspector visits the farms supplying the company. An elaborate system of filtration is carried on at the company's dairy, and the milk is very carefully kept in the dairy hall from the time of filtration till it is sent out. Special precautions are taken to prevent the milk from spreading infectious disease, no one in whose house a disease has broken out being allowed to work on the farms which send milk to the company. All milk has to be cooled with ice water, so that its temperature on reaching Copenhagen shall not be above 50°; and strict rules are laid down for the food to be given to cows, and stall-feeding in summer is strictly forbidden. The company distributed 1,900,000 gallons of milk in 1887. Denmark is the only country where I have seen the cows wearing waterproof jackets, to keep the night dews or the cold rains alike from chilling them. S. B.

London, Eng.

A Seventeen Dollar-Creamer.

Reading the description of Mr. W. F. Brown's home-made creamer in a recent issue of the COUNTRY GENTLEMAN, has prompted me to describe to your readers one that we had made not long since by the mechanics of our nearest village.

For some time we have been using one of Stoddard's sixty-dollar creamers, which gives satisfaction in every respect, except that it accommodates only 30 gallons of milk, and this last spring, when a number of Holsteins came into milk with their heavy flow, it became necessary to make some additional arrangement at once. And being unwilling to exchange another calf for a Stoddard creamer, as we had done before, a family council was held to see if we could not invent a creamer of our own that would hold 60 gallons of milk, and yet could be made at less expense. After no little discussion the dimensions were decided upon and full instructions given to the wood workman and tinner, and in a few weeks the creamer came home, and has proved to be just what we wanted.

It consists of a large wooden water-box made of well seasoned oak plank, one inch thick, three inches wide, dressed, and tongued and grooved, with one coat of paint inside and out, and standing one foot from the floor supported by substantial wooden legs. The top or cover is in two pieces, hinged to a piece of scantling placed across the top of the box, so arranged that one lid can be raised and laid back over on the other, or should it be necessary to raise both at once they can lean together, catching on each other, so as to retain an upright position without being held.

The inside measurement of the box is five and one-half feet in length by two in width, and is two feet deep. It is lined inside, top, bottom, and sides, with a good quality of zinc tin. This water box holds twelve movable tin cans, made of the heaviest tin that could be procured, each can holding five gallons, being eighteen inches deep and nine inches in diameter, with one and half inch feet, so as to allow the water to pass under them. For convenience in handling, the cans have ears placed one-third of the way down from the top, while the covers, which fit closely down over the tops of the cans, also have handles extending nearly across the tops. The water box is filled with water coming through fifty feet of hose, driven by a hand pump placed over an eighty-foot well (being the same that the water which discovered last summer). The water is emptied by simply attaching the hose to a faucet placed in the side of the box near the bottom, and is conducted back to a large trough in the lane near the well, where the cows like to stop for a drink on their way to and from the pasture.

The temperature of the water is 50°, and the water box is filled once in 24 hours, or oftener if fresh milk be added, but in very warm weather some ice is used.

Firmly attached to the inside wall of the water box is a wooden frame, the lower edge of which is half an inch above the tops of milk cans, which are held stationary by slipping over them wooden slats whose ends are caught beneath the lower edge of the wooden frame. These slats are very elastic and fit tightly under the frame and over the cans, so as to hold the milk cans as stationary as the water box itself—a most important consideration in cream raising.

Another benefit to be gained from having the cans stationary is that the water in the box can be raised higher than the milk within the cans. In this respect we think our home-made creamer is an improvement over Mr. Brown's, for in his, should the water be raised higher than the milk in the cans, the cans would then float on top of the water, though

the partitions would prevent their turning over. The zinc lining is also preferable to wood, even though the wood be painted, for water keeps purer much longer when it comes in contact with zinc; beside, the zinc is much more easily cleaned. We also like the shape of our water-box better than Mr. Brown's, for the reason that the nearer a body, whether a solid or a liquid, approaches to a square, the more nearly a given temperature can be preserved both during summer and winter. Though there is no arrangement for letting off the milk from the bottom, as in the Stoddard creamer (which, by the way, is exceedingly convenient,) yet having the cans movable so as to be able to take them out and wash them thoroughly outside as well as in, when fresh milk is put in, is a considerable advantage. The inside of the water-box can then be perfectly cleansed too, every inch of it being accessible. When the weather is moderately cool, once a week is often enough to wash the water-box, the water being of course changed every day, but when ice is used, or the weather is very warm, it should be thoroughly cleansed twice a week or oftener.

Logan County, Va. HORTENSE DUDLEY.

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]*

PUERPERAL FEVER.—Is puerperal fever in cows epidemic? It is very common in this neighborhood, for the first time. W. A. T. *Geneva, Ky.* [In some seasons, when grass is luxuriant, and cows are in high condition, the disease is apt to be more prevalent. Give one general cow drink immediately after calving, and you will have very little trouble.]

SWEENY.—My horse, 7 years old, has sweeny or atrophy in shoulder. What are the causes and remedy? E. W. S. *Union Mills, Md.* [The causes are external violence, collar pressure, &c. Also from muscular pain or from resting the leg as a result of pain. A seton followed by blister is the best treatment. Blisters may be used successfully in many cases without seton.]

—— A 7 year old horse has sweeny; shoulders not lame, nor have they been. J. H. B. *Sing Sing, N. Y.* [Apply golden blister, and repeat in three weeks, also in three more if necessary. If the cavities are where the harness lies, rest for a few days after each blister would be necessary; otherwise he can work right along.]

HICCOUGH IN MULE.—A mule is affected with something similar to hiccough; has a jerking in the stomach; mule has a good appetite, and is in prime condition. S. M. C. *Alberta, Ala.* [Give a dose of physic, then mix in feed twice a day some of the following powder: Powdered bicarbonate of potass., 8 oz.; hyposulph. of soda, 8 oz.; mix. You do not say how long he has had this trouble, or give data by which one can form an opinion.]

FOAL FOOT LAME, p. 418.—Colt much improved; swelling considerably reduced, and no lameness except when foot is placed on a stone or other hard substance. Enlargement between hoof and pastern remains prominent at one place only, where two large scars cross. Colt is still in perfect health and fine spirits. H. B. L. *Lampsville, O.* [This is certainly a great improvement. Repeat the blister every three or four weeks, until no further progress can be made.]

ANKLE JOINTS WEAK.—A brood mare was six months gone with foal when she broke into a bin of corn and ate a quantity. June 12 she gave birth to colt, born weak in the forward ankles and continually knuckling over. The corn instead of foundering the mare very much seems to have affected the colt's ankle joints. S. H. B. *Rhea, N. Y.* [Shampoo the parts with some of the following liniment twice a day: Spirits camphor, 4 oz.; tincture aconite root, 2 oz.; tincture opium, 4 oz.; chloroform, 4 oz.; alcohol, 1 pt.; mix.]

LAMENESS RECURRENT.—A 4-year-old stallion, weight 1,065 lbs., about a year ago suddenly went lame in right hind leg after being ridden ten miles on a walk, and then allowed to stand a few minutes. He was not used any more during the year, and showed no symptoms of lameness while running about. On breaking him to harness last spring lameness developed again, but not continuous; will not appear in several miles' driving, and next time will go lame in a mile or two; is always worse after standing a while after being driven. In going at a slow trot he steps a little short of and a little inside of the forefoot on the same side, and seems to bear to the left with his hinder parts instead of going straight. H. V. H. *Hoosick, N. C.* [I am of the opinion that it is spavin lameness. Apply golden blister and give a month's rest.]

PERIODIC PAIN.—Mare ten years old raised a colt last year, and has foal by her side about two months old; is subject to sick spells; seems in severe pain; throws up and straightens out her head; rolls up upper lip; looks around at sides and will lie down often if she has a chance. C. M. *Sylvania, Pa.* [Such cases may result from a variety of causes, such as indigestion, worms, calculi, &c. Give tablespoonful of the following powder in feed twice a day: Powdered sulph of iron, 1 lb.; bicarbonate of soda, 1 lb.; mix.]

PERSISTENT COUGH.—Cow has cough which seems to be more frequent and violent. She is still hearty and licks salt with relish. Has lost greatly in richness of milk and the rich color of skin, and horns and hoofs. R. C. F. *Goldsboro, N. C.* [Give 2 oz. spirits of turpentine, 8 oz. of raw linseed oil. Repeat in twenty four hours. Give tablespoonful of the following powder, put back on tongue, three times a day: Powdered Cape aloes, 8 oz.; powdered nitrate potass., 8 oz.; powdered chlorate potass., 8 oz.; powdered belladonna leaves, 2 oz.; sulphur, 1 lb.; mix. Give ½ lb. whole flaxseed, steeped, in feed daily.]

KNEE SPRUNG.—A 4½ year-old horse is weak in forward legs, slightly sprung. Think he has been driven too hard, as he has some speed and has just come off city pavements. Has small corn on left front foot that is a little troublesome. Am obliged to use him night and morning every day for about an hour. Can anything besides blistering be done and still use him? S. *Hiendale, Pa.* [Cut corn out, then put on bar shoes on fore feet, have no bearing on the quarter where corn is situated. The heel calks of shoes should be of good length, the toe calks very short. Blistering is the best, and any treatment for this difficulty should be aided by resting the patient.]

SWOLLEN SCROTUM.—A bull coming one year in November has a badly swollen scrotum; is now about three times its normal size; the right testicle seems the most affected. I had the same trouble with him last spring, though not as bad; after treatment with physic, and washing with warm water and laudanum, he improved. I then put him at pasture, with result as stated. H. K *Hereford, Pa.* [These cases are sometimes very obstinate, and often result in loss of the testicle. But even then your bull would be just as good in all probability. Gently rub some of the following liniment on testicle once a day, and give the animal ½-lb. epsom salts. We may change treatment in a week or two: Tincture of iodine, 3 oz.; tincture of aconite root, 2 oz.; tincture of opium, 3 oz.; alcohol, 3 oz.; mix. The scrotum should be suspended in a bag to relieve the parts of the weight.]

TAPE-WORM IN LAMBS.—A number of lambs have died during the last six weeks, apparently of tape-worm. They fell off in condition and generally died suddenly, sometimes while in the act of eating. Tried turpentine and areca nut at different times, always preceded by a purge. In some that afterwards died, the worm, I felt sure, was dead, while in others it was undoubtedly alive. M. *Rhinecliff, N. Y.* [Should any more appear, please put one in a bottle, fill with alcohol and send it to the veterinary editor. Remove the lambs from present pasture, especially to high ground if possible; otherwise put them in yards. Feed them Moore Bros.' worm powders, and in two or three days give them a dose of physic. Do not wait until they are sick. This is a bad season, on account of the frequent rains, as moisture facilitates the production of many internal parasites.]

SCRATCHES.—A six-year old mare has had the scratches for nearly two years. Nothing was done until she came in my possession this spring. Granules form on all the ankles and back of knees on front legs; both hind legs and one front one are swelled to twice their natural size; every night one hind leg swelled ear worse than the others, finally broke and discharged freely for more than a week. Syringed it out with carbolic acid and it has been healed over for ten days. This morning it has the appearance of again breaking. Have fed her 5 lbs. of Glauber's salts in ¼ lb. doses: also sulphur and saltpetre and bicarbonate of soda with tartaric acid. The last seemed to reduce stocking of legs. Washed ankles with castile soap and hot water, which removed granules, but came back in two or three days. Mare in poor condition. C. B. B. *South Hannibal, N. Y.* [Poultices of grated raw carrots will soften the scabs. This should be done nights for a week. Give horse a dose of physic, and use crude petroleum on legs daily.]

HIGH-BRED POUTER PIGEON.

The Fancier.

The Pouter Pigeon.

This beautiful pigeon has been rightly termed the "King o' Doos" and it is generally accorded the first position, even by the most ardent devotees of other varieties. This is warranted by the antiquity of its ancestry, its handsome appearance, and the difficulty there is to obtain first class specimens. Before dealing with the variety as it is to day, it may be desirable to hear what old Moore said of it 150 years ago. He remarks:

"This pigeon, which was first bred in *England*, and is therefore called the *English* Pouter, is originally a mixed breed between a Horseman and a Cropper, and by marching their young ones over and over to the Cropper, experience teaches us, it will add a wonderful beauty to this bird, and raise it in the five following properties:

"1. As to the length of body, the longer they are from the apex of the beak, to the end of the tail, the more the pigeon is esteemed. I have seen one that measured in this way near twenty inches, tho' seventeen or eighteen is reckoned a very good length.

"2. The length of the leg, is the next thing to be examined in a Pouter, i. e., from the upper joint of the thigh in sight, to the end of the toe-nail; and in this property some pigeons have been very considerable, wanting a mere trifle of seven inches, yet the bird that produces six and a half or three-quarters, must be allowed a very good one.

"3. The next property to be considered is the crop, which ought to be large and round, especially towards the beak, filling behind the neck, so as to cover the shoulders, and tye neatly off at the shoulders, and form a perfect globe.

"4. The smaller the girt the better, because by this means a contrast of beautiful shape is given to the whole bird.

"5. The last thing that is generally allowed as a property in a Powter, is the feather, and indeed its plumage affords a very great variety.

"The Pieds are most universally esteem'd, and under these may be rankt, the blue-pied, the black-pied, the red-pied, and the yellow-pied. Each of which advance in their worth according as they answer best the foregoing properties; for instance, if the blue pied and the black-pied are equal in the measure of the other properties, the black-pied will be reckon'd the best pigeon, on the account of the feather, and the yellow-pied if equal, better than any.

"Before we leave this head of feathers, we must take notice how a Powter ought to be pied; and in the first place, the chop ought to be white, girt round with a shining azure, intermixed with the colour with which he is pied. By the chop, is meant, the front part of the crop, and this white ought by no means to go behind the neck, for then he is said to be ring-headed. He ought to have a bib or round patch, of the same colour with which he is pied, coming down from his under chop, and falling upon the chop, which makes it the shape of a half moon; but if this bib be wanting he is said to be swallow-throated. His head, neck and back ought to be of one uniform colour, and the tail the same, and if the pigeon be blue-pied he ought to have two barrs or streaks of black across the lower part of both wings; but if these happen to be of a brown colour, he is said to be kite barr'd, which is not so valuable. The shoulder or pinion of the wing ought to be mottled with white, lying round in the shape of a rose; this is called a rose-pinion, and is reckoned the best, tho' but very few arise to be compleat in this property; but if the pinion runs with a large patch of white to the outer edge of the wing, he is said to be lawn-sleev'd. His thighs ought to be clean white, tho' sometimes the joints of the knees will be edg'd round with another colour, but let it fall here, or on any other part of the thigh, he is foul thigh'd. The nine flight feathers of the wing ought to be white, otherwise he is said to be foul-fighted, and if only the external feather of the wing be of the colour of the body, it is called sword fighted or sworded.

"Besides the five properties before mentioned, there is another, which tho' not generally allowed, will be found to be one of the best. I mean the carriage; under which I comprise the following heads:

"1. The crop ought to be so far filled with wind as to show its full extent, without being or being slack winded, which are esteemed very great faults. The pigeon that bufes fills his crop so full of wind, that it is thereby strained, in such a manner that he is ready to fall backward, because he can't readily discharge the confined air, which renders him uneasy and unwieldy, and many a good bird has, by this means, either fallen into the street or become a prey to those fatal enemies of the fancy, the cats. The other extreme is being slack-winded, so that he shows little or no crop, and appear not much better than an ill-shaped runt.

"2. The second beauty in carriage is their playing upright, with a fine tail well spread like a fan, without scraping the ground therewith, or tucking it up between their legs. Neither should they set up the feathers on their rump when they play, which is called rumping.

"3. The last beauty of carriage in a Powter is to stand close with his legs without straddling, and keep the shoulders of his wing tight down to his body, and when he moves, to trip beautifully with his feet, almost upon his toes, without jumping, which is the quality of an upleper.

"A Powter that would answer to all these properties might be said to be perfect, but as absolute perfection is incompatible with anything in this world, that pigeon that makes the nearest advances towards 'em, is certainly the best.

"Some have answered them so well, that I have known eight guineas refused for a single pigeon of this breed."

The description here so quaintly given to a large extent stands good to day. There have been modifications in some minor respects, and variations in color, but not to any great extent. One variety, not mentioned here, is the mealy pouter, which has always been a favorite in Scotland. Lyall says many of the best birds ever produced have been mealies. There are various shades, the correct color being the same as best show Antwerps. The neck and wing bars ought to be lustrous red, and the wing coverts of a clear light tint, but still decided enough to show up the rose pinion. The tail should be so light as to appear nearly white. There are several colors of mealies, varying according to the various colors of pouters.

The points now most sought for are size, shape, carriage and feather, which provide a combination that taxes the skill of the best breeders. To secure in any one specimen these qualities is no easy task, and good pouters have never been nor are they ever likely to be common. A pouter may be perfect in nearly every point, but if he fails in one his chances are gone. For instance, if all the qualities are right except girth, and he is thick there instead of slender, no judge would ever think of awarding him a prize, as he would look clumsy, if not coarse. The pouter needs, also, careful training before he goes into the show pen, or he will never show off his points to advantage. A wild bird would have no chance whatever, and it is essential that he be tamed and familiarized with his surroundings, and taught to fill his crop at the right time. He is, perhaps, rather sulky in disposition, and when much so, often makes himself look worse than he really is. Ball cages are usually provided for pouters in Britain, and when the birds are on the round block of wood placed therein as a stand, they are a great source of attraction to the show. It need scarcely be pointed out that good birds of this breed are very valuable. The eight guineas mentioned by Moore meant a good deal at that time when money was not so plentiful. Now thirty and forty guineas are common prices, and fifty or sixty is now and again paid for a first rate specimen.

London, England. STEPHEN BEALE.

Record of the Times.

Review of Passing Events.

The President Goes West.—The laying of the corner stone of a soldiers' and sailors monument at Indianapolis, Aug. 22, was attended by President Harrison, Secretary Rusk and Attorney General Miller, a reception being given them on the way at Cincinnati. Eight thousand militia and G. A. R. veterans were in line. Speeches were made by the President Governor Hovey, Generals Manson and Coburn and others. The monument, designed by Bruno Schmitz of Berlin, will be 268 feet high. The legislature has appropriated $200,000 for it. On the 23d the President attended a reunion of his old regiment, the 70th Indiana.

Wrecks by Rail.—The second of the three trains of Barnum's circus, carrying part of the animals, was derailed by a broken axle near Potsdam, N. Y., on the way to Montreal, night of Aug. 23. Two cars were telescoped, 33 riding and trick horses and two camels killed, and 36 others injured. Eleven employés were rescued through the roof of a car. The elephants' car did not leave the track. The loss is about $40,000.—Owing to conflicting orders a Baltimore & Ohio train collided with an inspection train of railroad men near Silver Run tunnel, West Va., Aug. 23, killing four men and injuring many others. Part of the accommodation train went over a cliff, killing engineer and fireman. The special's inspection car was smashed to bits.—A special train with Knoxville citizens on the new Knoxville, Cumberland Gap & Louisville road, Aug. 22, jumped the track on a trestle at Flat Creek, and rolled to the bottom of the ravine. Three men were killed and 18 seriously injured.

Chautauqua's Commencement.—The class of 1889 of the C. L. S. C. was "recognized," Aug. 21, with appropriate ceremonies. It contains 580 readers, among whom are attorneys, preachers, farmers, artists, mechanics, physicians, one manufacturer, bankers, dressmakers, proof-reader, millers and dentists. Two are over 70 years old. The reading circles now belt the globe with a graduate membership of 21,000, while the higher order embraces 26,000. Readers are found in Micronesia, New Zealand, South Africa, Persia, Siam and Japan.—The lecture of Rev. Washington Gladden on trusts offended the Standard Oil Company, and they sent a special lecturer, George Gunton, to reply.

From Abroad.—In the House of Commons, Aug. 23, a debate took place on the prisons vote, and the treatment of Irish political prisoners. Mr. Parnell said they were half starved, and the older prisons were in bad sanitary condition. Mr. Balfour was guilty of culpable neglect. The vote was adopted, 11 to 69.—William O'Brien and James Gilhooly, M. P., are on trial at Clonakilty for violation of the crimes act.—The sentence of Mrs. Maybrick has been commuted to penal servitude for life. The decision was based on the conflict of medical testimony. Home Secretary Matthews is still of the opinion that poison was administered with intent to kill.—The English government is thought to be willing to negotiate a settlement of the Behring Sea difficulty.—A strike among the London dockmen has been joined by the railroad carmen, lightermen and others. Thousands of vessels lie idle, and Indian mail steamers are detained.—Two memorial brasses of the Washington family have been stolen from the parish church of Sulgrave, Northamptonshire.—A dinner was given to Mr. Edison at Paris, Aug. 22, with speeches by Premier Tirard and Minister Reid.—Emperor William has visited Strasburg, creating much enthusiasm; 9,000 persons marched by the palace.—The Shah has visited Munich and Vienna where he was received by Emperor Francis Joseph.—The Bulgarian authorities have bought 10,000,000 cartridges in Vienna, and have ordered of a Belgian manufacturer 50,000 rifles.—Ex-King Malietoa arrived in Samoa recently, and was warmly received.—Two more vessels have been seized in Behring Sea by the Rush.—A week of fighting occurred in Hayti with a heavy battle at La Coup; the peace mission of the English and Spanish consuls failed, and Aug. 23, Legitime surrendered, and Hyppolite entered Port au Prince.

In the habeas corpus proceedings at San Francisco, growing out of the Terry shooting, Justice Field charged that there was a conspiracy against him. Hearing in the Nagle case was set for Sept. 3. An eye witness says that Mrs. Terry took a bowie knife from her husband's body and concealed it.

The Fireside.

Recent Publications.

Days out of Doors.—This is a delightful book, certain to fascinate every real lover of nature, and it ought to give some idea of the charms of life in the open air to those who are not so fortunate as to appreciate them already. The author, Dr CHARLES C. ABBOTT, is already known to a select (though we hope not restricted) circle of readers, by his previous work, "A Naturalist's Rambles about Home;" and it is high praise of the volume before us to say that it amply fulfills the expectations excited by its predecessor. The true spirit of Thoreau—minus all transcendentalism—breathes through these pages; and the book, like "Walden" and "A Week on the Concord and Merrimac Rivers," should hold a permanent place in our literature. It is published by Messrs. D. Appleton & Co. of New York, and the price is $1.50.

Fiction.—The Messrs. Appleton send us also, in paper covers, "The History of a Slave," a terribly realistic sketch of life in the western Soudan, by H. H. JOHNSTON, illustrated with very striking pictures; and three novels—"American Coin," by the author of "Democracy;" "The Light of her Countenance," by H. H. Boyesen; and "The Story of Helen Davenport," by Violet Fane. Price, 50 cents each, and the first, at least, is well worth the money.

Education at the South.—The Bureau of Education of the Interior Department at Washington issues octavo pamphlets giving the history of the schools and colleges of North and South Carolina, Georgia and Florida. They are all freely illustrated, and present, in the whole, a very favorable and encouraging picture, of which the States concerned have no reason to be ashamed.

Periodicals.—Persons accustomed to doing much running around the country are well aware that the "Traveler's Official Railway Guide" is the standard authority on all questions of routes and time-tables; and we trust appreciate the great service that was performed for them by the editor of that monthly, (Mr. W. F. ALLEN, 46 Bond St., New-York,) when he succeeded in bringing about the well-nigh universal adoption of that great blessing, our present system of standard time. A smaller but equally excellent compilation under the same management, called the "Traveler's Ready Reference Guide," but more easily recognized perhaps by its red cover, will be found especially convenient in the Eastern, Middle and Southern States, and costs only 25 cents per copy or $2 50 per annum, being just half the price of the larger publication. Each of them is a model in its way.

Have we called attention to the fact that our great illustrated weekly, Harper's, appears now regularly with a cover, giving subscribers twenty pages, and often twenty-four, instead of the sixteen for which they pay? Such is the case, at all events, and a grand periodical it is.

The Atlantic Monthly for August is perhaps most noteworthy as containing a six-page poem, "How I consulted the Oracle of the Goldfishes," by James Russell Lowell. The goldfishes as he saw them as a child, as he sees them now, and the analogy between the notions which goldfishes have (if they have any), as to the curious appearances outside their little sphere, and man's notions about the occurrences which take place outside his universe, form the subject of the piece.

The August Lippincott contains a somewhat peculiar paper—"Why I deny Evolution." The author, Mr. W. G. A. Bonwill, maintains that the Darwinian hypothesis is in conflict with the laws of geometry and mechanics—which, it will be admitted, is a pretty serious matter for the Darwinian hypothesis. The paper has diagrams, illustrating an alleged discovery made by the author—"that the lower jaw of man is an equilateral triangle; and that all races have it, and that it has so existed from the advent of the first man"—from which discovery, in part, the conflict above mentioned is inferred.

That very pretty, very bright and very cheap magazine, the Cosmopolitan, grows better month by month. Particularly noticeable is the opening article in the August issue, descriptive of "social life at Ottawa," and illustrated with a number of interesting portraits.

Feminine Accomplishments.

In addition to a good education in all the branches ordinarily taught in our schools, it is a great advantage to a young person to possess some one accomplishment, which is a source of pleasure to others, and which renders its possessor sought after.

A few years ago it was only music that was considered an accomplishment by people generally, and small fortunes were wasted on girls who had no special talent in that direction, as perhaps but one out of fifty ever played or sang after leaving the hands of the teacher. Not having any genuine love for it, their enforced interest in it ceased as soon as they quit "taking lessons."

Foolish parents who did not wish their daughters eclipsed by their neighbors' daughters, never stopped to investigate whether Sally or Susie had any talent for music before purchasing a piano or organ, but blindly took it for granted, and locked up three or four hundred dollars in a useless piece of furniture, only to deplore their unwisdom when the novelty of possession wore off, and the child had to be coaxed or driven to practice; not to mention, in many cases, the more imperative uses to which the money could have been put.

Application and perseverance will accomplish much, but in the matter of a merely ornamental adjunct it is a sad waste of time to attempt what one has not decided taste for, and on which may be expended years in making oneself only mediocre.

My dear young friend, no matter if it is fashionable to play the piano, be unfashionable rather than waste years on it if you cannot learn it easily. You doubtless envy the girl who enchants her friends with sweet strains drawn from that most graceful instrument, the violin, but don't aim to be a violinist unless you have a very correct musical ear, and are willing to labor long and strenuously.

You watch the cornetist leading the church singing and think it seems an easy thing to bring out those clear, round tones that bear the voices of the congregation upward like a peal of bells, but you forget the hours of practise the player has devoted to it.

The old motto "there is no excellence without great labor," applies here with force, for unless you love an art so well that you are willing to make sacrifices for it, it is hardly worth your while to begin. Skill in an accomplishment means hours of application when other girls are out riding, walking or lounging around, "having a good time." It means steady, regular, everyday work. It means to give up this little pleasure or that recreation. It means to *be in earnest* to do that one thing well.

A young neighbor of mine, recognizing the advantage of being mistress of an accomplishment, coaxed her guardian to buy her a piano.

"It is not at all certain that you have any talent for music," was the answer, "and until we discover that such is the case, it is better to hire an instrument."

A trial of a term of lessons proved the folly of wasting money on a musical education, and the young girl turned to the study of French. But the teasing French verbs were lions in her path, and after worrying through a half year, trying to get interested in the language, she gave it up. Now, if she had persevered, she might possibly have become in time—that is, a good long time—a tolerable player on the piano, or perhaps been able to read and translate a little French; but who is willing to work so hard and be inferior after all one's pains?

This young lady did what was better. She gave it up before she had wasted a great deal of time and money on it. Not long after she found in wood-carving her true talent, and devoted herself to it with an energy that showed in beautiful results. Her patience never flagged, and as the sympathetic wood developed under her practiced fingers into artistic designs for chairs, tables and desks, she rejoiced that she had found out how much better it was to be an expert in wood-carving than a poor musician or a smattering linguist.

Perhaps no other art, except music, has had so many dabblers and tinkerers engaged in it as painting and drawing. The horrible daubs, in excruciating coloring, that are proudly paraded by many fond parents as exhibitions of Sarah Jane's talent, fill one with sadness at the thought of the valuable time wasted, which might have been turned into other channels, productive of less pain to the visitor, to say the least. Fortunately this much-abused art is not so fashionable as it was a few years ago, and people are spared much consequent misery, as well as the sin of pretending to think pretty what is positively odious, as is so often the case where the proud parents expect a compliment for their gifted child.

To achieve local distinction as an elocutionist is also pleasant for the young lady who thus contributes towards an evening's entertainment. Is there a literary social, a church programme to be made out for the coming church entertainment? Be sure that girl is not selected who has given no promise of excellence—who is not superior to other girls who have studied this branch.

The world will not put up with mediocrity. It wants the best. In every small community as well as in the great marts, whether in social, literary or business channels, this is an accepted fact. It may be that a young girl has a taste for botany. If so, let her cultivate it, let her get beyond the mere outlines of the text book, which is a part of the school curriculum, and make herself an authority on the subject among all her circle of acquaintance. I remember hearing a lady friend discuss this matter with her nephew, a young man just out of college. He was an enthusiastic collector, carrying with him in his rambles a small lens to aid him in his examination of the flora of the neighborhood, and he could correctly analyse all the specimens, but when questioned by his aunt as to the habits of the plants whose blossoms had attracted him, she found that his observation had not carried him so far. His study had not been thorough. He did not know whether a plant grew in the marsh or whether its home was on the border of the rivulet with only its feet dipped in the water. To use the lady's words, "You cannot be a thorough botanist without also being a naturalist."

Some ladies have made a specialty of the culture of a certain flower, and are celebrated in local annals for the beauty of the roses they grow, the variety and size of their pansies, or their beds of exquisite pinks. People like to visit such attractions, and go away not only gratified at the pleasure which has been given them, but full of admiration for the mind that has an aim and which has carried out a project.

GARRY OWEN GAINES.

Sundry Matters in England.

It is an astounding fact that over thirty of the transatlantic steamers are now filled with refrigerating chambers and machinery, for bringing over meat from America. Two of the largest firms engaged in this trade have just amalgamated, and form a very powerful concern for handling colossal bulks of dead meat. By means of shops directly under their control, some three hundred of them in the United Kingdom, they also lessen the distance between the ranch-owners and the consumers, though I do not know that the latter gain very much thereby. However, the sources of our home supply appear to be drying up, 1888 having shown 371,000 head of cattle, and nearly half a million fewer sheep than in the previous year. We find it an advantage to have the markets of the world open to us. A leading English house has just offered New-Zealand shippers to take any amount of first class mutton for the next three years at five cents per pound free on board, and to pay forty per cent. in advance, when the meat sells at more than nine cents per pound here. There has been a considerable rise in the price of that mutton since the new year. I ought to have said that the coalition of commercial interests that I referred to is the union of the firm of Eastman's of New-York, with that of John Bell & Sons in this country, and their prospects are very promising.

Our strawberry supply has held out to an unwonted period, and the quantity daily used in London is so vast that I should be surprised if means are not taken to give an almost all-the-year-round supply by bringing them shortly from the Sierra Morena region of Spain, where you meet them eight or nine months out of the twelve. Keeping up the far-past Moorish customs to an unlimited extent, the peasantry are as nearly as possible equal to the Chinese in respect to fruit growing. Their chestnut trees, although hundreds of years old, bear fruit as freely as ever, while other ancient rural industries also thrive in their midst—specially cork growing, v
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remarkable distance one seems to be ascending. The descent to the mines, which are about 1,088 feet deep, occupies about a half minute.

At present the mines are located in the upper stratum. There are two strata of salt, the first about 9 feet thick, the second, separated by 12 feet of rock, is about 60 feet thick. Excavation is commenced at the top. Then, of course, when the second stratum is being worked, supports will be left at different points, so that there will be no danger.

The main gangway extends due east about a quarter of a mile. This is about nine feet high and from four to eight yards wide. Leading off on either side there are 25 chambers at right angles to the gangway, on the north 13, on the south 12. These chambers extend about 30 rods on either side the gangway and are nearly as large as the gangway. The chambers, as buildings of a city, are designated with even numbers on the one side and odd numbers on the other.

The shaft enters the mine at the west of the main gangway, while a little to the north there is an air shaft in construction. It is calculated that half as much salt will be left in the pillars as there is taken out, i. e., one third of the salt will be left for support.

The process of loosening the rock salt from its firm bed is accomplished by blasting. Holes made into the salt with air drills are filled with dynamite, which is exploded by electricity. Then the loose salt, on cars holding about four tons, is drawn to the shaft over a railroad by mules. At present eight mules are employed in hauling the salt. They are kept in the mine all the time, either in the stables or in the barnyard. Nearly one hundred men are employed in the mine, either as foremen, mule drivers, miners, or their assistants.

In the mine the air is quite pure. This condition is obtained by drawing out the foul air and forcing fresh air in. The air is dry as well as the mine, and has a chloric smell and saline taste. The temperature is about 60° Fahr. The most noticeable feature to a novice is its darkness and absolute stillness. It has a peculiar silence of its own. All disturbances elemental and otherwise, which prevail in the open air are unknown and unfelt. The nervous person can there feel secure from the feeling of alarm which a thunder storm excites.

The miners use tallow candles to dispel the depressing darkness, the foremen, drivers, and shovelers use kerosene lamps, while the poor mules have to stumble around in the dark.

One of the strangest sights to a visitor is the blacksmith's shop under ground. It is a very convenient and important feature of the mine however, and Vulcan has a busy time indeed shoeing mules and sharpening the miners' drills.

The mine seems to be supplied with all modern conveniences. Among them is a telephone where one can converse with the superintendent above, an air whistle used as a signal for commencing and quitting work. There is also a system of pipes running to the different chambers which supplies the drills with compressed air.

The largest part of the salt taken out of the mines is of a dark gray color, and is claimed to be purer than that of a lighter color, being free of magnesia. Other portions of salt are of a reddish cast, while occasionally clear crystals the size of a man's hand are obtained. These crystals are found next to the rock, and are fastened so tightly to it that they are usually destroyed in separation. The crystal salt is chiefly found on the north side of the mine.

Domestic Economy.

"A Man's Views of Good Living."

Eds. Country Gentleman—Referring to the article on the above subject, p. 604, allow me to confront Mr. Titus with two facts, easily traced up:

Jude Cross, an early settler in the Blackwater country of New-York, when a young man, offered his services in the rough lumber business. It leaked out that he ate little meat; his main living was coarse bread and milk. The lumbermen discouraged him, but Jude said he could stand the work, and when subsequently he was ridiculed as the "porridge boy," he told them he could handle the butt of a log as well as any of the pork-eaters and tobacco-chewers. And he did. His favorite dish for dinner was a bowl of milk, with Indian "hasty pudding." At about fifty he had acquired a competence and quit work, lived on the interest of his money, read newspapers and played checkers till he was 70, and on his death-bed he said to his son, now in Vineland, N. J.: "Jude, I stopped work too soon; as a man's years advance, he should keep up his active habits."

B. C. Skinner of this place has been road superintendent for over a quarter of a century and employs for the township a great many men. He never asks a man to do more work than *he* does. He is a large, strong man, and now past seventy. Some three years ago he felt bilious, and said that he would go without much eating for a week. He only ate an apple for breakfast, took a glass of milk for

Weather, Crops and Prices.

Meteorology for Aug. 10-25.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30.25	inches.
Lowest	do.	do.	29.74	do.
Mean	do.	do.	30.00	do.
Highest temperature		do.	86°	
Lowest	do.	do.	54°	
Mean	do.	do.	73°	

Three clear days; three fair; one cloudy. Two days on which rain fell; total precipitation, 0.12 inch. Prevailing wind, S.; maximum velocity, 12 miles per hour, on the 20th and 23d.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	19th	20th	21st	22d	23d	24th	25th
Day							
This year	64°	74°	76°	78°	71°	78°	78°
Normal	70°	71°	71°	70°	69°	66°	66°

Total excess for the week, 21°.

General Review of the Week.

The week ending Aug. 24 has been cool from the lake regions southward to the Gulf and South Atlantic coasts. The daily temperature in the Ohio Valley, Tennessee and the South Atlantic States was from 3° to 5° lower than usual. Over the greater portion of the cotton region the average temperature was about 2° below the normal. In New-England and the Middle Atlantic States the average temperature prevailed, while it was warmer than usual from Texas northward to Minnesota and Dakota. The thermal conditions for the season remain practically unchanged from the conditions previously reported. Over the principal agricultural regions, including the cotton region and the tobacco, corn and winter wheat States, the daily temperature has differed less than 1° from the normal. The season is slightly retarded from the lake region southward to the Gulf coast, and slightly advanced in New-England, and from Kansas northward to Dakota.

There has been less rain than usual during the week in all sections, except in Texas and Eastern Minnesota, where slight excesses are reported. The rains in Texas were timely, and must have proved of great benefit to the cotton crop. Only light showers are reported in all other portions, excepting in Kentucky, Indiana, Illinois, Southern Missouri and Arkansas, over which region no rain occurred during the week. The seasonal rainfall continues in excess on the Atlantic coast from New-England to Florida, and from the Missouri Valley southward to the West Gulf coast. Over the principal corn-producing States, and over the central portion of the cotton region, the seasonal rainfall generally exceeds 50 per cent. of the normal; but from Central Tennessee northward to Lower Michigan the seasonal rainfall ranges from 60 to 70 per cent. of the normal.

The weather has been favorable for harvesting in Minnesota, where an unusually large wheat crop has been secured. Late crops have been somewhat injured in Dakota by drouth, excessive temperature, and high winds. From New-York and Pennsylvania westward to Iowa and Illinois the weather was specially favorable for corn, which is reported as maturing rapidly, although the development of the crop has been retarded about two weeks by excessive rains in the early part of the season. In Michigan cool nights and continued dryness were unfavorable for corn, potatoes and pastures. Over the greater portion of Kansas and the western half of Missouri the corn crop is in excellent condition, but in Eastern Missouri the crop has been injured by drouth. Numerous reports from the corn belt indicate that this crop will be secure and safe from frost by Sept. 15. Reports from Kentucky and Tennessee state that rain is needed to insure the full development of the corn and tobacco crops. In the west Gulf States, including Arkansas, Louisiana and Texas, the staple crops are much improved by the dry weather and excessive sunshine. The cotton was improved. Rice cutting and cotton picking are in progress in Louisiana, and, up to this date, boll worms and caterpillars have caused but slight damage. Crops are also much improved in the east portion of the cotton region, and while the weather was favorable in Mississippi and Alabama, boll worms and caterpillars are doing much damage to the crop, causing serious apprehension. The weather of the week was generally favorable in New-England and the Middle Atlantic States. Corn was improved, although previous heavy rains have caused permanent injury to various crops, namely, in Pennsylvania the tobacco crop will not meet expectations, and in New-York little more than one-half the usual crop of hops is expected. Reports indicate that potatoes are still rotting in New-England and Pennsylvania; a fine crop of tobacco is reported in Connecticut, and in New-Jersey all crops were improved, and the prospect for fruit is more promising. On the North Pacific coast recent rains were favorable for grasses and an excellent fruit crop, while an average yield of wheat has been secured, but the hop crop in this section will be short.

Pennsylvania—*Dallas, Luzerne Co, Aug. 24.*—Hay is one-quarter more than an average, but poor quality; price $10 to $12 per ton in the Wyoming Valley. Potatoes will not be half of an average crop, owing to the blight; price, wholesale, 50 to 60c. per bush. Other crops about an average. Having used several thousand bushels of wood ashes, I have made them pay well on my land. I took poor land and applied ashes in plenty. Crop, two tons of timothy hay yearly for 20 years. Commercial fertilizers do not pay here. I have tried them carefully many times. W. E. G.

New-Jersey—*Plainfield, Union Co, Aug. 20.*—We are getting a little dried off after the terrible freshet we have had, although it will take some time to make us whole again. Oats, hay, corn and potatoes have suffered most. All my hay, peas and oats cut green and dried for hay, were just out of the way when the storm came, but I cannot say that much for hundreds of acres all about us. O. H. U.

Ohio—*Irondale, Jefferson Co, Aug. 20.*—For some time past the weather has been very cool, with rain enough to meet demands. Grain is being threshed with satisfactory results. Wheat is making from 20 to 35 bushels per acre, mostly 25, and oats 45 to 55. Corn promises a good crop, but will require seasonable weather up to October. Clover seed is likely to be a large crop, but does not appear to come in bloom as it should. Potatoes are blighting in this part of the country, will be short in yield and besides are rotting. Pool wheat gives the largest yield, in some instances making over a bushel to a dozen sheaves. M. N. B.

West Virginia—*Dunkar Hill, Berkeley Co., Aug. 19.*—Up to Aug. 1 the season was unusually wet, and all kinds of vegetation made a wonderful growth. Wheat is a fair average crop, but not of quite as good quality for milling purposes as last year; some portion was injured by the excessive rains through July. Corn is now suffering for rain, and unless we get a shower soon that planted late will be cut short. Farmers are busy plowing for wheat and getting out manure; ground getting exceedingly hard from so many heavy rains in the earlier part of the summer. Rain is needed to put the ground in condition for plowing, and many complain of difficulty to break for wheat—some are done while others are just beginning. Oats are a fine crop, hay also, but much of it damaged by wet weather. E. L. H.

Wisconsin—*Janesville, Rock Co., Aug. 21.*—We are having a rather dry time of it—not very bad. The last three days have been hot, 98°, 96°, 94° in the shade. Harvesting is all done, and a large percentage of the grain is already threshed—chiefly by steam. Grass is quite short—feeding is necessary in a large district. Rain is needed. The harvest, on the whole, is a good one so far as I can learn. Corn and tobacco are doing well. Some tobacco is already cut and shedded, and cutting will begin in earnest. The crop is fine and yield good. Our State and county fairs are exciting unusual interest generally. This is so with other agricultural fairs. The little Jersey is drawing more and more the attention of practical dairymen in the Northwest. Wheat, 65@70c. per bu.; barley, 29@48c.; rye, 40c.; corn, 33c.; oats, 26c.; potatoes, 25@30c.; bran, $10 per ton; butter, 11@12c. per lb.; eggs, 10c. per doz.; cattle, $2 40@3.50 per cwt.; hogs, $4; tobacco, 2½c., 3½c., 5@11½c. per lb. W. H.

Annual Fair List.

STATE AND GENERAL EXHIBITIONS.

Alabama, Birmingham	Oct. 31, Nov. 2
American Institute, New-York	Oct. 2, Nov. 30
Arizona, Phœnix	Oct. 16, 19
Arkansas, Pine Bluff	Oct. 22, 25
Buffalo International, Buffalo	Sept. 3, 13
California, Sacramento	Sept. 2, 21
Canada Central, Ottawa	Sept. 9, 14
Colorado, Pueblo	Oct. 8, 9
Connecticut, Meriden	Sept. 17, 20
Dakota North, Grand Forks	Sept. 17, 21
Dakota South, Aberdeen	Sept. 23, 27
Delaware, Dover	Sept. 30, Oct. 5
Detroit International, Detroit	Sept. 17, 27
Georgia, Macon	Oct. 28, Nov. 1
Illinois, Peoria	Sept. 23, 27
Indiana, Indianapolis	Sept. 22, 28
Illinois Fat Stock, Chicago	Nov. 19, 21
Iowa, Des Moines	Aug. 30, Sept. 6
Kansas, Topeka	Sept. 16, 21
Kentucky, Lexington	Aug. 27, 31
Louisiana Shreveport	Oct. 14, 19
Maine, Lewiston	Sept. 10, 13
Maryland, Pimlico	Sept. 9, 14
Massachusetts ("Bay State"), Boston	Oct. 7, 12
Massachusetts Horticultural, Boston	Sept. 17, 20
Michigan, Lansing	Sept. 9, 13
Minnesota, St. Paul	Sept. 6, 14
Montana, Helena	Aug. 26, 31
Nebraska, Lincoln	Sept. 6, 13
New-England, Worcester, Mass	Sept. 3, 6
New-Hampshire Grange, Tilton	Sept. 10, 12
New-Jersey, Waverley	Sept. 16, 20
New-Mexico, Albuquerque	Sept. 30, Oct. 4
New-York, Albany	Sept. 12, 19
New-York & Pennsylvania, Elmira	Sept. 16, 27
North Carolina, Raleigh	Oct. 14, 19
Ohio, Columbus	Sept. 2, 6
Ohio (Tri-State), Toledo	Sept. 9, 13
Ontario Provincial, London	Sept. 9, 14
Oregon, Salem	Sept. 16, 21
Rhode-Island, Providence	Sept. 25, 27
St. Joseph, Mo	Sept. 3, Oct. 5
St. Louis, St. Louis	Oct. 7, 12
South Carolina, Columbia	Nov. 11, 15
Texas, Dallas	Oct. 15, 27
Toronto Industrial	Sept. 9, 21
Vermont, Burlington	Sept. 3, 6
Washington, Cheyenne	Sept. 17, 20
West Virginia, Wheeling	Sept. 9, 13
Wilmington, Wilmington, Del	Sept. 2, 7
Wisconsin, Milwaukee	Sept. 16, 20
Wyoming, Cheyenne	Sept. 17, 20

COUNTY AND LOCAL—NEW-YORK.

Allegany, Angelica	Sept. 10, 13
Antwerp, Antwerp	Aug. 27, 29
Brookfield, Brookfield	Sept. 10, 12
Broome, Whitney's Point	Sept. 3, 6
Cattaraugus, Little Valley	Sept. 2, 5
Chautauqua, Jamestown	Aug. 26, 29
Chenango, Norwich	Sept. 24, 27
Clinton, Plattsburg	Sept. 10, 13
Columbia, Chatham	Sept. 10, 13
Delaware, Delhi	Sept. 17, 19
Delaware Valley, Walton	Sept. 10, 12
Dryden, Dryden	Sept. 24, 26
Duchess, Poughkeepsie	Sept. 24, 27
Erie, Hamburg	Aug. 27, 30
Essex, Westport	Sept. 3, 5
Franklin, Malone	Sept. 24, 26
Fulton, Johnstown	Sept. 9, 12
Genesee, Batavia	Sept. 19, 21
Greene, Cairo	Sept. 4, 6
Jefferson, Watertown	Sept. 17, 20
Lewis, Lowville	Sept. 17, 20
Livingston, Geneseo	Oct. 1, 3
Long Island, Huntington	Sept. 10, 12
Margaretville, Margaretville	Aug. 29, 30
Montgomery, Fonda	Sept. 3, 6
Niagara, Lockport	Sept. 19, 21
Oneida, Rome	Sept. 16, 20
Ontario, Canandaigua	Oct. 1, 3
Orange, Goshen	Sept. 24, 27
Orleans, Albion	Sept. 19, 21
Oswego, Oswego	Sept. 10, 13
Otsego, Cooperstown	Sept. 23, 25
Putnam, Carmel	Sept. 10, 13
Queens, Mineola	Sept. 24, 27
Richfield Springs, Richfield Springs	Sept. 30, Oct. 2
Rockland, Spring Valley	Oct. 1, 4
St. Lawrence, Canton	Sept. 17, 19
Saratoga, Ballston Spa	Sept. 9, 14
Schoharie, Schoharie	Sept. 16, 19
Schuyler, Watkins	Sept. 10, 13
Seneca, Waterloo	Sept. 24, 26
Steuben, Bath	Sept. 17, 20
Suffolk, Riverhead	Oct. 1, 3
Sullivan, Monticello	Sept. 3, 5
Tioga, Owego	Sept. 10, 12
Tompkins, Ithaca	Sept. 10, 13
Warren, Glens Falls	Sept. 3, 6
Washington, Fort Edward	Sept. 9, 12
Wayne, Lyons	Oct. 2, 4
Westervil e, Westerville	Sept. 3, 6
Westchester, White Plains	Sept. 23, 26
Western New York, Rochester	Sept. 23, 26
Yates, Penn Yan	Sept. 23, 25

MAINE.

Androscoggin, Livermore Falls	Sept. 3, 5
Androscoggin Valley, Canton	Sept. 24, 26
Aroostook, Houlton	Sept. 25, 26
Aroostook North, Fort Fairfield	Sept. 3, 5
East Eddington, East Eddington	Sept. 25, 26
Eastern Maine, Bangor	Sept. 3, 6
Franklin, Farmington	Oct. 1, 3
Gray Park, Gray	Aug. 27, 29
Kennebec, Readfield	Sept. 24, 26
Knox, Camden	Sept. 18, 21
Knox North, Union	Sept. 24, 26
Lincoln, Damariscotta	Oct. 1, 4
Naples, Naples	Sept. 4
Oreipee Valley, Cornish	Sept. 3, 6
Oxford, Norway and So. Paris	Oct. 1, 3
Oxford West, Fryeburg	Oct. 8, 10
Penobscot North, Le	Sept 25, 27
Penobscot West, Exeter	Sept. 24, 26
Ramshackle, Newfield	Sept. 10, 12
Sagadahoc, Topsham	Oct. 9, 11
Sanford, Sanford	Oct. 1, 4
Shapleigh and Acton, Shapleigh	Oct. 8, 10
Somerset, Skowhegan	Oct. 1, 5
Waldo and Penobscot, Monroe	Oct. 1, 3
Washington Centre, Machias	Sept. 18, 19
York, Saco	Sept. 17, 20

NEW-HAMPSHIRE.

Belknap, Laconia	Sept. 3, 5
Cheshire, Keene	Sept. 25, 27
Elm Park, Peterboro	Sept. 12, 13
Grafton, Plymouth	Sept. 17, 11
Grafton and Coos, Haven's Mills	Oct. 2, 3
Kearsarge, Warner	Sept. 18, 19
Rochester, Rochester	Sept. 24, 27
So. Hampton Farmers', South Hampton	Oct. 8, 9
Upper Coos and Essex, Colebrook	Sept. 25, 26

VERMONT.

Addison, Middlebury	Sept. 2, 11
Champlain Valley, Vergennes	Sept. 16, 18
Dog River Valley, Northfield	Sept. 10, 13
Franklin, Sheldon Junction	Sept. 4, 6
Lamoille Valley, Morrisville	Sept. 10, 12
Mad River Valley, Waitsfield	Sept. 3, 4
Rutland, Rutland	Sept. 17, 18
Valley, Brattleboro	Oct. 2, 3
Western Vermont, Fair Haven	Sept. 24, 27
Windham, Newfane	Sept. 11, 12
Windsor, Woodstock	Sept. 24, 26

MASSACHUSETTS.

Amesbury and Salisbury, Amesbury	Oct. 1, 3
Attleboro', Plainville	Sept. 19, 20
Barnstable, Barnstable	Sept. 24, 25
Berkshire, Pittsfield	Sept. 10, 11
Blackstone Valley, Uxbridge	Sept. 24, 25
Bristol, Taunton	Sept. 24, 26
Brockton, Brockton	Oct. 2, 5
Deerfield Valley, Charlemont	Sept. 12, 13
Essex, Beverly	Sept. 24, 25
Franklin, Greenfield	Sept. 26, 27
Hampden, Westfield	Sept. 13, 15
Hampden East, Palmer	Sept. 17, 18
Hampshire, Amherst	Sept. 19, 20
Hampshire and Franklin, Northampton	Oct. 2, 3
Highland, Middlefield	Sept. 4, 5
Hillsdale, Cummington	Sept. 24, 25
Hingham, Hingham	Sept. 24, 25
Hoosac Valley, North Adams	Sept. 17, 19
Housatonic, Great Barrington	Sept. 25, 26
Marshfield, Marshfield	Sept. 11, 12
Martha's Vineyard, West Tisbury	Sept. 3, 4
Middlesex, Concord	Sept. 25, 26
Middlesex North, Lowell	Sept. 24, 25
Middlesex South, Framingham	Sept. 17, 18
Nantucket, Nantucket	Sept. 4, 5
Oxford, Oxford	Sept. 17, 18
Plymouth, Bridgewater	Sept. 18, 19
Spencer, Spencer	Oct. 3, 4
Union, Blandford	Sept. 11, 12
Worcester, Worcester	Sept. 3, 4
Worcester North, Fitchburg	Sept. 24, 25
Worcester Northwest, Athol	Sept. 17, 18
Worcester South, Starbridge	Sept. 12, 13
Worcester West, Barre	Sept. 26, 27

RHODE ISLAND.

Washington, West Kingston	Sept. 17, 19
Woonsocket, Woonsocket	Sept. 10, 12

CONNECTICUT.

Bristol, Bristol	Sept. 30, Oct. 4
Berlin, Berlin	Oct. 2
Chester, Chester	Oct. 2
Clinton, Clinton	Oct. 9
Danbury, Danbury	Oct. 7, 12
East Granby, East Granby	Oct. 9
Farmington Valley, Collinsville	Sept. 11, 12
Guilford, Guilford	Sept 25
Hartford, Hartford	Sept. 30, 27
Madison, Madison	Oct. 2
New-London, Norwich	Sept. 24, 26
New-Milford, New-Milford	Sept. 10, 12
Simsbury, Simsbury	Oct. 9, 10
Southington, Southington	Sept. 11, 12
Stafford, Stafford Springs	Oct. 8, 9
Tolland, Rockville	Sept. 10, 12
Union, Broad Brook	
Union, Huntington	
Watertown, Watertown	
Willimantic, Willimantic	
Windham, Brooklyn	
Wolcott, Wolcott	
Woodstock, So. Woodstock	

NEW-JE

Atlantic, Egg Harbor City	
Burlington, Mt. Holly	
Cumberland, Bridgeton	
Hunterden, Flemington	
Monmouth, Freehold	
Salem, Woodstown	
Somerset, Somerville	
Sussex, Newton	
Trenton Inter-State	
West Jersey, Woodstown	

VIRG

Augusta, Staunton	
Chesapeake, Cape Charles	
Fairfax, Grange Camp	
Farmville, Farmville	
Lancaster, Kilmarnock	
Loudoun, Leesburg	
Northampton, Cape Charles	
Prince Edward, Farmville	
Rappahannock, Frederick	
Shenandoah, Woodstock	
Tazewell, Tazewell	
Wade and Penobscot, M	
Tidewater, Franklin	
Washington, Abingdon	

OH

Allen, Lima	
Ashtabula, Jefferson	
Athens, Athens	
Auglaize, Wapakoneta	
Belmont, St. Clairsville	
Brown, Georgetown	
Butler, Hamilton	
Champaign, Urbana	
Clarke, Springfield	
Clermont, Owensville	
Clinton, Wilmington	
Clyde, Clyde	
Coshocton, Coshocton	
Cuyahoga, Chagrin Falls	
Defiance, Defiance	
Delaware, Delaware	
Erie, Sandusky	
Fairfield, Lancaster	
Fayette, Washington C.	
Fostoria, Fostoria	
Greene, Xenia	
Guernsey, Washington	
Hamilton, Carthage	
Hancock, Findlay	
Hardin, Kenton	
Harrison, Cadis	
Hartford, Hartford	
Highland, Hillsboro	
Holmes, Millersburg	
Huron, Norwalk	
Jefferson, Smithfield	
Lake, Painesville	
Lawrence, Ironton	
Licking, Newark	
Logan, Bellefontaine	
Lorain, Elyria	
Mahoning & Shenango,	
Marion, Marion	
Mercer, Celina	
Miami, Troy	
Morgan, McConnellsville	
Morrow, Mt Gilead	
Ohio and Indiana, Hicks	
Ohio Valley, Gallipolis	
Pataskala, Pataskala	
Paulding, Paulding	
Perry, New-Lexington	
Portage, Ravenna	
Putnam, Ottawa	
Richland, Mansfield	
Ross, Chillicothe	
Sabina, Sabina	
Sandusky, Fremont	
Scioto, Portsmouth	
Shelby, Sidney	
Somerset, Somerset	
Southern Ohio District,	
Summit, Akron	
Tri-State, Toledo	
Trumbull, Warren	
Tuscarawas, Canal Dove	
Union, Marysville	
Van Wert, Van Wert	
Washington, Marietta	
Wayne, Wooster	
Wood, Bowling Green	
Washington, Abington	

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THE CULTIVATOR AND Country Gentleman

Albany, Sept. 5, 1889.

Size of Pipe Tile.

EDS. COUNTRY GENTLEMAN—Mr. Terry gives on page 626 the proper size for pipe tile in draining his land. Will he allow me to add to his remarks some definite rules for estimating more accurately the required size for drawing off the surplus water of the soil?

The first thing in determining the quantity of surplus water held by the land, and the proper time to be allowed in drawing it off. After our longest and heaviest rains, or in early spring when deep snows have melted, the amount of needless water, down to the depth reached by cultivation, and which should be drawn off by drains below, may be estimated as equal to at least three inches. This would be more than 1,000 hogsheads an acre. The land should be sufficiently well furnished with drains to carry off this needless and hurtful amount in 24 hours. Each drain should draw off the water a rod off on each side. It must therefore be 80 rods long in order to drain an acre. To get rid of the 1,000 hogsheads it must discharge 42 hogsheads every hour, which is three-fourths of a hogshead each minute. Now, what must be the character and size of the tile to do this?

A pipe tile, with a 2-inch orifice, if perfectly smooth and straight, with a descent of 1 foot in 20, would give a velocity to the water in the pipe of over 4 feet in a second. This would give the three-fourths of a gallon each minute. But with crooks and imperfections in the tile, more time would be required; and it would be safe to allow 48 hours for the 80 rods of tile, with the foot in twenty of descent. With a descent of 1 foot in 10, the current would be 6 feet a second; and on the other hand, with only 1 foot descent in 80, the current would be but little more than 2 feet a second, and twice as much time would be required. The 2-inch tile would then be necessary, especially if not laid very smooth. FARMER.

Commercial Production of Ensilage.

Packing It to Ship and Keep.

EDS. COUNTRY GENTLEMAN—I am not a farmer, but have spent years of time and thousands of dollars in trying experiments on ensilage, of which I wish to give you a history and to ask your advice. I am no youthful enthusiast, having lived in this beautiful world over sixty years.

When ensilage was first talked about I became deeply interested in the subject. When it seemed to have become a settled fact that crops could be ensiloed, the question presented itself to my mind: Why cannot ensilage be made a commercial article? And my experiments were in the direction of packing ensilage in portable packages, for transportation and use all the year, same as baled hay. My first idea was to pack in casks or crates directly from the field, but I found it would require such a large number of crates that I concluded to pack the crop in silos, and from these pack it in the portable packages for the market, to fill orders. My first great obstacle I met in the fact that farmers knew little or next to nothing about ensilage, or the best time and manner of planting and gathering the crop. I found that I must commence very near the bottom of the ladder, and "go it alone." Even now the farmers here know little about ensilage. I have been the cause in several instances of inducing farmers to build silos, and to raise a crop of ensilage under my direction. In fact, in several instances where they were very doubtful, I have guaranteed success if the farmers would follow my suggestions. In every case they have realized perfect results, and it would be hard to induce them to give up their silos; nothing but money would do it.

As but one crop could be raised each year, arriving at results has been very slow work. My experiments in silos have proved the fact that they can be easily and cheaply built; that a silo can be put up in the open field, covered with nothing but a lap-board roof, and the ensilage kept in it just as well as in a silo in the barn; so a farmer must be very poor who cannot have a good silo. It is perfectly easy to raise first-class ensilage, just as easy as to raise it poor. Land that will not grow hay or marketable corn, will grow corn that will make the best of ensilage; and thousands of acres that are practically worthless, can be made to raise a paying crop of ensilage now that it can be packed and sent to market as easily as can baled hay.

I commenced my experiments by packing ensilage in common barrels, pressing it down no harder than was considered necessary in a silo. It did not keep very well. I pressed it harder and made a gain. Pressing it still harder, I kept the ensilage in perfect condition from September of one year to the last of the following June; but the moisture from the ensilage warped a large proportion of the barrel heads, letting in the air and spoiling the ensilage.

I next tried syrup casks, with eleven strong hoops on each cask, and thick, solid heads—the top head made removable, and fastened in place by a device of cleats and bolt. I have kept ensilage perfectly nearly two years in these casks, but the casks were too expensive to throw away when emptied, costing $1.40 each; consequently they had to be freighted back to be refilled, which seemed useless expense. In addition to that, the filled casks were too heavy to handle conveniently on and off cars and wagons. If the teamster lost his hold, the bottom head was quite sure to burst out.

My next problem was to make a crate that would answer the purpose and be cheap. I now have it. I take two heads twenty inches in diameter, and cut cheap laths thirty inches long; nail the laths at one end around one head, and close together. I put a wire around each end of the cylinder so made, and a wire around the middle of its length; place this crate in a cylindrical tube of sheet iron, made in halves, hinged and hasped. Fill the crate with ensilage, and press it down with a common tobacco press; nail in the top head, unhasp the metallic cylinder, and that crate is ready to go to market. These crates cost ten cents, and will hold 200 pounds. I have kept ensilage in a crate of this description six months, and when the ensilage was fed to the cows, they ate it with avidity and the milk was No. 1. The ensilage would probably have kept much longer, but six or seven two months is sufficient time, as it would be packed in crates only to fill orders.

The number of milch cows kept by private parties for family use is very large, and the food fed to the cows is all bought. According to reports made by veterinary surgeons, there were in 1886 over 17,000 stall-fed cows in New-York and adjacent cities. The laws of New-York State forbid feeding fermented food to milch cows, except ensilage. Why not supply these cows, as well as tens of thousands more kept in cities and manufacturing towns by mechanics and operatives?

I read in my papers that the western corn-grower is beginning to silo his cornstalks for winter feeding. Why not silo it all? Why not make up whole train-loads of ensilage and send it east and south, same as they do flour? Ensilage in portable packages will keep all the year. I have placed packages of ensilage where it froze as solid as possible, and let it remain frozen several weeks; when thawed out it was as sweet as before, and the cows appeared to relish it full as well as from the silo.

There is a perfect and reliable way to raise corn ensilage, and every farmer should be taught what kind of corn to plant, how to plant it, when to pluck the ears and silo the stalks, or when to silo both ears and stalks. It is all very simple when once they know how.

I think here is an opening for a new industry which will pay those who take hold of it. Organize a parent company, which in turn will organize local companies of farmers all over the country, who would like to raise what they call "another cash crop." Furnish the local

companies with approved cutters and presses, so as to insure good work, and let the local companies pay for them. Hay is very combustible; ensilage is not. Hay requires 512 cubic feet of space per ton; ensilage requires only 50 cubic feet per ton. The farmers would pack it in crates during the winter, when they have the most spare time. Corn ensilage can be gathered and packed without regard to weather, and if the farmer uses good seed, good fertiliser and good implements, and if he has just a few brains in his skull, he can raise ensilage at a good profit. A. C. C.

Franklin County, Mass.

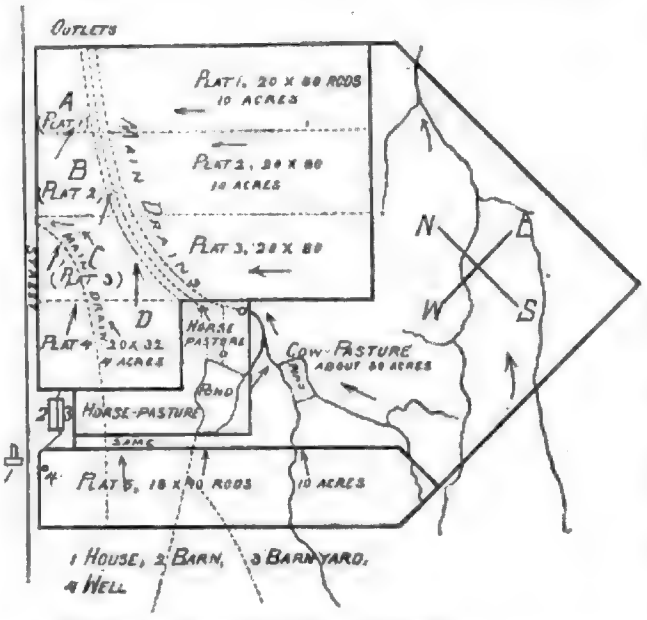
Benefits of Drainage.

Eds. Country Gentleman—In cutting the hay and grain on my farm at Hudson, O., this summer, I was again greatly impressed with the benefits of tile drainage on rather heavy clayey soil, even where it is quite rolling. What I have to say will be better understood by an examination of the diagram herewith. It is a plan of that part of my farm, about 80 acres, that lies southeast of the highway. The house, orchard and about 46 acres of land lie northwest of the road. Of this 46 acres, 25 are thoroughly tile drained, with laterals 33 feet apart. Of the 80 acres nearly 25 are drained in the same way. In the figure the unbroken straight lines indicate fences. The crooked lines indicate dry brooks, part of them leading to the two ponds, also the outlets before entering the tile drains. The curving dotted lines indicate main tile drains, chiefly of 5 and 6-inch tiles. The straight dotted lines indicate imaginary lines between the plats where there are no fences. In plats 1, 2 and 3 the small parts *A B* and *C* lying towards the road (N W) from the three main drains are not drained with laterals at all. The parts lying beyond (N E) of these mains are all drained with laterals 33 feet apart. Plat 4 is not drained except by one main near the road, which extends also through plat 3. Plat 5 is not drained except by two mains through depressions. One of these mains divides at a fork. See figure. The scale is 40 rods to the inch. The ponds or "cavities" are artificial ice and stock water ponds, one of about a third of an acre, and the other of nearly an acre when full. They serve to store the water in time of heavy rains, so that the drains below can better take the overflow through the silt basins or receivers, marked as small circles below the larger pond. A 2 inch pipe through the dam of the larger pond with globe valve draws off (under 6 feet water pressure) a large stream beneath into a 4-inch and then 6 inch tile drain below. Horse pasture and cow pasture were arranged with reference to water, convenience and roughness of land.

The land is quite rolling, the highest parts of the large field being 40 feet higher than the outlets of the main drains near the northeast corner of the figure. The water surface in the ponds is 33 feet higher than these outlets, parts of plat 5 are 45, and the sills of the dwelling-house and the land immediately west of it are fully 50 feet higher than the same outlets. There is quite a broad, rich valley along the line of the main drains, richer by ages' wash of the higher land. In places the ground rises somewhat abruptly from this valley, rising some 20 feet to the 100. There is no spring water or permanent brook, but in wet weather quite a large brook used to flow down where these three large main drains now are—the drainage of a "watershed" of some 200 acres of land, chiefly not tiled. This water cut the valley badly, and hence it had to be kept in permanent pasture until the mains were laid. Except in flood, they carry the water beneath the surface now, and make tillage, rotation, rectangular fields, fine crops and straight work possible.

Such is the land, partly drained thoroughly, partly not. The plat is not absolutely accurate, as it is from memory, and some of the pasture distances are estimates. It is sufficiently accurate, however.

The first result was to turn a rough pasture into a fine field for cultivation, rotation and excellent crops. Now for a comparison of the drained and undrained portions. Remember that all the "draws," valleys or depressions are drained with mains. Also that the undrained parts *A, B, C* and *D* of plats 1, 2, 3 and 4 form a long, high, crowning ridge between two main drained systems, *with rapid and perfect surface drainage*. The surface drainage was so perfect that I doubted whether tiling would



Part of farm lying S.E. of Street. 80 acres.

pay. It was the part of the whole field that least needed draining, and was therefore left for time to settle whether it should ever be tiled.

1. *Gullying.*—The tiled portions do not gully except when a great flood comes through the main valley from the large undrained water-shed above, too much for ponds to store and the mains to carry fast enough. Even then the surface-wash gullies very little if the ponds, outlets and silt-basins are properly watched and the vent under the dam opened when the storm or thaw begins. But the undrained portions gully considerably just where the slope toward the main drains is steepest in *A, B* and *C*.

2. *Firmness and Texture of Soil.*—The firmness of the soil in wet times is marked on the tiled parts, and the mushy, muddy condition of the untiled which dries down into tough clods. This year heavy rains came, up to and including July 3. July 4, 5 and 6 we were making and drawing hay on the parts *A, B* and *C* of plats 1, 2 and 3 and on all of plat 4. Water stood in the depressions; and almost all over these plats, especially in slight natural "draws," the horses sank above their hoofs, and a loaded wagon sank six inches in the clover and timothy turf. You could not have run a binder then if the land had been in wheat. But in the *tiled* parts of plats 1, 2 and 3, more level and hence with poorer surface drainage, there was not a drop of standing water; the horses and wagon did not sink in; and the soil instead of being soggy, over-saturated and muddy, was simply a well saturated, porous, friable soil, fit for plow or cultivator. In my wheat field, across the road and west of the house, the surface is, to the eye, almost a dead level. It is tiled 33 feet apart, and the twine-binder ran with perfect ease for two horses. Not tiled, it would have been almost or quite impossible to run a binder for a week or more after the rains stopped.

3. *Productiveness.*—Plats 1 and 3 were this year in clover and timothy, second year's cutting. Plat 5 and *A* of plat 1 (not tiled) being nearer the barn and the road have naturally, and to my certain knowledge *actually*, had more manure for years than the rear part of plat 1, which is tiled. But the crops on that tiled part are always better than on plat 5, or on *A* of plat 1, not tiled. This year in particular I judge that the tiled part gave from 50 to 75 per cent. more hay. I judge this from walking through the plats and examining carefully, as only *A* of plat 1 was cut when I left.

4. *Quality of Crops.*—The crops are uniformly of better quality, more free from weeds and wild stuff. This year the difference was marked. On the drained parts of plats 2 and 3, all of which were cut before I left, the clover and timothy (first year's cutting) were not only far heavier, though the other parts had had most manure for years, but of better quality and more free from weeds and rubbish.

My observations this year added to former ones convince me that I must as soon as possible tile the untiled portions of all the plats across the road, from the house (fig. 1), as is the case already, with slight exception, on the same side with the house; the pastures being excepted in both cases. I do not think it will pay on my land to tile rather rough permanent blue-grass pastures.

Iowa Ag'l College. W. I. CHAMBERLAIN.

Changing Seed Wheat.

Good Crops without Stable Manure.

Eds. Country Gentleman—In a late letter to you, the writer brought up the point as to whether farmers in a good winter wheat section like this had better change their seed, or whether a careful selection each year would keep a variety from "running out."

My impression is that I could not get Fultz wheat from a distance that would yield any better than my own, because we are in the best of the winter wheat belt, and my land is well adapted to wheat growing. I change seed potatoes, getting the same variety that I have been growing, to advantage, because I can get them from points where the climate is decidedly better for potato-growing. This would not be the case with wheat. But there is another point. With careful selection of seed, will a variety eventually yield less and less, under favorable conditions of soil and climate, or can the yield be kept up? I have been sowing the Fultz a dozen years or more, without changing seed, except from one part of the farm to another. It has done well for me. Could I expect a new variety to do a little better now? This is a question of importance to me, and to others of your readers, judging from the letters that have come in during the past week.

Well, I have decided to test this matter in a way to know, for my farm. I intend to sow half my field this fall with the best new red bald wheat—something like the Fultz—that I can hear of. It is the Rochester Red. One of your readers, Mr. M. D. Averill of Kentucky, kindly wrote me his experience with this wheat, and suggested that I try it. Mr. A. raised 46 bushels from a measured acre, and thinks that, but for late frost and other causes, it might easily have produced over 50 bushels.

Friend A., like myself, depends largely on clover, and reports "34 bush. per acre of Mediterranean hybrid wheat on 25 acres, with no fertilizer except clover." Through the kindness of the International Seed Company of Rochester I have obtained enough of this new wheat to sow about six acres. I do not take much stock in little experiments. The above firm take and read the Country Gentleman, and are anxious to have this matter fairly tested. From all reports received, I think I have got as promising a new red wheat as there is before the public, and I assure you that the test between it and my old Fultz shall be made with the greatest care, so that each shall have, as nearly as possible, an equal chance. I shall attend to every detail in person.

For years I have tried to get 40 bushels per acre of Fultz, but, though coming near to it, I have never been able to quite reach that figure on all the land sown. Possibly a new strain of wheat may be what is needed. This year I reached 36 bushels per acre on all the land sown, and just 40 on one field. Perhaps some of your readers may say I had better let well enough alone and not try any other wheat; but I shall not be satisfied until I know that new blood, so to speak, in wheat will not pay me just as it has done with potatoes.

The above yield of wheat has some figures connected with it that are deeply interesting to me. It was raised on two separate strips of land. One, which I will call M, had a fair dressing of good stable manure, in connection with the clover sod applied for the potatoes. The other, which we will call C, had clover sod and clover haulm, from which seed had been taken to fertilize the potatoes. Both lots were prepared the same for the wheat crop. The wheat was sown in both lots the same day. Lot M brought close to 36 bushels per acre; Lot C brought 40 bushels per acre.

Was the "expectation" for a crop the same in both fields? Lot M has been farmed perhaps 60 years, and is all natural wheat land. A part of lot C I first plowed some ten years ago. Should this cause any increase in yield? Certainly not, for a part of this same lot C has also been farmed some 60 years, and on this part was the heaviest wheat decidedly. Lot C, as a whole, is not as good wheat land naturally as lot M. I think certainly there can be no unfairness in calling the chances in lot C no more than equal to those in M.

The clover haulm put on lot C was about equivalent to 10 loads of manure per acre, perhaps. That is, the same clover cut for hay and fed out would have furnished about 10 loads of manure per acre. From 15 to 20 loads per acre of good manure were put on M.

Lot C has had no stable manure to amount to anything since I plowed the new portion about 10 years ago. Four crops of wheat have been taken off during that time. The yields were 28, 35, 36 and 40 bushels per acre. The year that it produced only 28, a sudden thaw followed by a quick freeze covered considerably many spots with ice that smothered the grain, although there were tile drains right under the ice. This field has been practically farmed with clover during this time. Certainly the yield of wheat would indicate that clover had kept up the original fertility. It is my honest opinion that I have not said enough in its favor in the past. Of course these experiments of themselves are not conclusive; but under my own observation have come many others equally as favorable to clover. Parts of fields have been manured heavily in years past, and parts treated with clover only, and no man can tell any difference in the crops on the different portions.

These experiences show me that for the present at least stable manure is not a necessity on my farm. It matters little to me what the great authorities say as long as I know that I can make the most money and live the easiest by doing as I do. There is another point: Is my farm decreasing in fertility? Well, in the face of such magnificent growths of clover as I can show to-day, and 36 bushels of wheat to the acre, weighing 64 lbs. to the measured bushel, and the large yield of potatoes last year (have not dug any yet this year), I think no one would dare to say this. As I verily believe, my farm was never in a more productive and satisfactory condition than it is to-day.

Years ago when I used to push this point I had the same opinion of clover that I now have, based on careful observation; but I had not so much of the works to back my faith. I remember at the time the discussion was going on in your columns some years ago, in regard to the clover question, that Prof. Henry remarked to me: "I believe you are right; but I cannot prove it." The matter is proved on my farm to its owner's satisfaction. Of our 36 acres 18 are in clover, and covered (literally all over) with a heavy growth. Our wheat stubble has a thick mat of clover on it (has been mowed over once to kill weeds and thicken it). We could probably cut 50 loads of hay and rowen this fall; but none will be saved—rather all will be used to increase directly the fertility of the land. The income from our wheat, potatoes and clover seed is ample to support us well.

It is a question whether our income would

be as great if I cut that clover and worked all winter feeding it out and tending stock—whether it is not worth more to me used as I use it. This is bold talk perhaps; but big crops and plenty of money have a tendency to make one feel that way.

Please take notice: I am taking the time out of my sleep to write this, farm work is pressing so; not for the pay, not to ride any hobby, but because I know that the good ship that has brought me safely over would do the same for thousands of others if they did their share. No reader of your paper can be harder up than we were before "clover and tillage" came to our assistance. T. B. TERRY.

Summit County, O., Aug. 21.

Care of Tools and Wagons.

ED. COUNTRY GENTLEMAN—One need not push his investigations far to conclude that on many farms there is large loss from neglect of vehicles and farm implements. This neglect takes different forms; sometimes it is leaving them exposed to sun and rain, or it may be neglect to use lubricating oil, or to keep tape tightened up, or woodwork painted, and often unnecessary expense is incurred and much time lost in going to the blacksmith for repair when, if material was kept on hand, and the work done in time, the farmer could himself do the work and save both time and money. There are farmers who expect to have their tires cut and set every summer, and before I learned better, I had to have this done twice in a single summer to the same vehicle. I believe that the farmer who will adopt the plan of oiling fellocs can dispense entirely or very nearly so with tire setting.

During the extremely dry weather of the the past spring I found the tires loose on my buggy, carriage and spring wagon, and determined, on the recommendation of a friend, to try the boiling oil application. I went to my tinner and had him make a pan of heavy galvanized iron, three inches wide, four deep in the middle and two and a half feet long. The bottom was curved so that the oil would be deepest in the centre, and less oil be required to cover the fellocs than if it was straight. The pan cost 50 cents, and a gallon of oil at 65 cents was ample for three carriages and a road-cart, fourteen wheels in all. In using it, I dug a trench eighteen inches long, six inches wide and deep enough so that when the pan was set over it there was four inches space under it for fire. The pan was placed close to one side of the trench, so that no blaze could come up on the side where I stood to hold the wheel. I put half a gallon of oil in the pan, started a fire with some fine chips and rotten wood, and when the oil began to boil I set a wheel in and let it stand ten seconds; then turned it a foot or more, so as to bring the next section under the oil, and thus kept slowly turning, until I had turned the wheel twice around. It took about five minutes to a wheel. On examining these wheels the next day I found that tires which I could see under before the application were perfectly tight, and I am told by farmers who have practiced this, that one need not have tires set at all if the fellocs are kept saturated with boiling oil. My blacksmith charges 50 cents per wheel for cutting and setting tires, and wheels are often nearly ruined by being run with them loose before being taken to the shop, and if this oiling process will keep them always tight, it will make the wheels last many years longer than if they are loose and shaky a part of every summer.

I think not every farmer has learned the value of kerosene (coal oil), both as a preservative of wood and to prevent and remove rust. I think it pays to saturate with kerosene all the woodwork of plows, harrows, rollers and such implements as are necessarily exposed to the weather a good deal. Pour it into all joints and cracks before painting, so as to get the wood full of it. It is wonderfully penetrating, and if tape are so tight that they cannot be started, it will soon loosen them. Last summer a spring wagon seldom used was was found with the wheels so gummed on, that it was impossible to either turn them or get them off the axle. All the strength of two men would not start them, and we could not take it to the blacksmith without loading it on a sled or wagon, for the wheels would not turn. I tipped the wagon up on one side so as to make the hubs stand perpendicular, and poured the cup at the end of the hub full of kerosene, and let it stand. I passed it twice during the forenoon and still found the wheels tight, but when I came to the barn at noon, every wheel was loose and came off with perfect ease. When the axles and tops on the end of them get gummed, they can be cleaned perfectly by washing in kerosene, and a half pint will be enough for the tops and axles to a wagon. If you get your hands daubed with wheel grease, a half teacupful of it will cleanse them perfectly, and leave them feeling soft and velvety.

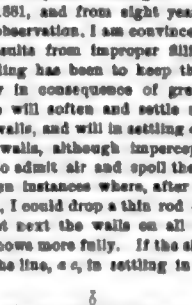
Do farmers generally keep a supply of carriage bolts of all sizes on hand? I have in my workshop a small cupboard with 24 pigeon holes 6 inches square, like post-office boxes, and in it I keep a full supply of carriage bolts of all sizes. I buy fifty or a hundred at once, and my hardware merchant charges me one cent each, and often in an emergency one bolt is worth the price of a hundred. In other pigeon holes we keep screws, spikes, harness rivets, open rings and links, washers, &c. It is a great comfort when something breaks about a machine when the work is pushing, to know where to lay your hand on what you need to repair it with. Care in the use of lubricating oil and paint, and attention to see that machinery is kept in order will double the time of service of many an expensive piece of machinery, besides saving time and expense. On a large farm I believe it would pay to have a portable forge, and let one of the boys learn something of blacksmithing. Excellent portable forges are for sale at moderate prices, and in many cases would prove valuable. The fact is that in my town our mechanics charge exorbitantly for repairing, and at the present prices of produce we cannot afford to pay a man fifty cents an hour for jobs which we can do ourselves.

I have done employing a carriage painter, for with the hard-finish gloss paint which we can buy, any careful man can paint a buggy so that it looks well enough, and the farm buggy or carriage that runs in all weather will look about as well after one or two trips as if painted by a professional. I have lately had my carriage and buggy both painted at home at a cost of a little over $3 for material for both, and just one day's work for each to clean, sand-paper and paint. It would have cost me $25 to have had them painted at the shop, and I should have been kept from using them for two weeks, but this rubber paint requires but one coat to cover perfectly and dries hard in twenty-four hours. I used both buggy and carriage on a dusty road in just twenty-four hours after painting. WALDO F. BROWN.

Butler County, Ohio.

Filling a Silo.

ED. COUNTRY GENTLEMAN—I find many complaints of spoiled ensilage. I built my silos in 1881, and from eight years' experience and observation, I am convinced that the trouble results from improper filling. The rule in filling has been to keep the ensilage level; now in consequence of greater heat, the centre will soften and settle more than next the walls, and will in settling draw away from the walls, although imperceptibly, yet sufficient to admit air and spoil the contents. I have seen instances where, after settling a few weeks, I could drop a thin rod down four to six feet next the walls on all sides—the drawing shows more fully. If the silo is filled level to the line, *a c*, in settling in mass, the



points *a c* will be drawn as shown, leaving an air-space next the walls. The rule I have adopted for several years has been to keep the surface convex in filling—filling to the dotted line, *a b c*, and in settling to a level the points *a c* will be constantly crowded to the walls. My silos are each 13 by 20 feet inside and 16 feet deep. I find it best in filling to keep the centre about one foot higher than at the walls, and I have the best results in keeping ensilage.

My walls are made of cement, gravel and field stone, and there is always about half an inch of dry, poor ensilage next to the walls, caused by their pervious nature. I believe a coat of boiled coal tar on the inside would obviate this difficulty.

About thirty years ago I built a brick stable, with only 8 inch walls. The northeast side was greatly exposed, and during the first winter the storms from that direction beat through badly so as to run down almost in streams. The next summer I applied two coats of hot coal tar to that outside, which prevented further trouble, and although nothing has since been done to it, that wall to-day is as glassy and impervious as a rubber boot.

Middlesex County, N. J. EDWIN ALLEN.

Notes at the Paris Exhibition.

ED. COUNTRY GENTLEMAN—We find devoted to agriculture the whole *Quai d'Orsay* (a long strip of land which connects the *Champ de Mars* with the *Place des Invalides*), and we meet further agricultural matter in several other places. So we find agricultural products which are not used as human food, in the industrial hall (especially hops, medicinal plants, hemp and flax); then an historical exhibition, which contains some old agricultural implements, in the *Palais des Arts Libéraux*, and things relating to the use of the fecal matter of Paris, at Genevilliers, in the pavilion of the city of Paris.

The exhibit of agricultural machinery is the richest of all the agricultural exhibitions. The United States are represented here very well. All the leading builders of mowers and reapers have sent machines, and W. A. Wood has erected his own pavilion, to show the work of his establishment. Of small machines, Allen of Philadelphia has shown very good things—a cultivator, a sowing machine and a plow, all three to be worked by the power of a man. These machines are of very good use for small farms, and especially for vegetable gardens. Similar machines are used in South Germany and in Bohemia to a great extent.

Most of the machines are exhibited by French factories. They show that nearly all kinds of machines used for agricultural purposes are now built very well in France; even self-binders have been exhibited from Pecard Frères of Nevers. The French manufacture of agricultural machinery stands nearly as high as that of the United States, Great Britain and Germany, though it is true that very few machines or improvements have been invented in France—Tosse's machine, trieur, and separating-drum, all three used for cleaning seeds. Such machines are also to-day built in France in a very good manner. In mowers and reapers, the French manufacturers take the American machines as patterns; in sowing machines, the English, and in machines for distributing chemical fertilizers, the German. In plow-building they are somewhat independent. The form of the plow-plane is taken from the old Flemish plow, but the manner of changing the depth of work by use of a screw is peculiar. Among the windmills in the exhibition I found a very remarkable one, the *turbine atmospherique* of the *Société de Construction des Turbines*, Paris. This machine need not stop work during heavy storms, and works also with very weak winds. Petrol-motors are coming in greater use; they have been much perfected (electrical lighting, automatic filling, &c.)

An English machine, the "Strawconiser," is worthy of attention. This machine casts out, through the power of compressed air, seeds, artificial manure, liquids, &c., and is able to spray the same in all directions, and also very high. A new kind of sowing machine has been exhibited by a factory of Switzerland; this machine is lighter than the common kind, but does not sow so regularly. The Danish centrifuge was the only one to be seen in the exhibition.

Beyond the other agricultural things, we can distinguish two groups—products and objects concerning agricultural schools and experiment stations. In the exhibition of products, the results of artificial crossing and selecting of plants are especially of interest. In the French division of this exhibition, Gatellier and l'Hôte show the descendants of crossings between the wheat de Crépy and three other wheats (Roseau, Victoria White and Golden-drop), and between the square head wheat and five other varieties (Crépy, Bergues, Bélatourka Bearded, Dattel-dyx and Hungarian Bearded). Another Frenchman, Dr. Vandercolme, has exhibited more than 300 different varieties produced by crossing beans, and furthermore, we see here the varieties of grains sown by Mr. E. Remond at Malmpincien through selection.

Another exhibition of the same kind is to be found in the English division, where Mr. Carter, London, let us see the result of a great number of crossings between varieties of wheat. Carter's crossings have attained much admiration, and all the agricultural papers speak of them in a high tone.

To the exhibition concerning agricultural schools and agricultural stations the Union has also contributed. It is to be regretted that only the Department of Agriculture has exhibited. None of the great number of American experiment stations or colleges are to be found. I hope they will be seen next year at the agricultural exhibition at Vienna.

Among the French agricultural schools, the highest, the *Institut National Agronomique*, has exhibited very well. Here are shown great plats, demonstrating root-growth of several plants, models showing the manner to obtain the roots of growing plants (Prof. Risler and Prof. Grandeau), tables illustrating the result of trials of how Indian corn uses the nitrogen in different manures, the plan of the experimental ground of the seed-control station (Prof. Schribaux), and a great number of cultures of the yeast (*saccharomyces*) of wine, beer and cider (Prof. Duclaux).

The other classes of agricultural schools have also participated very well in the exhibition. The first place is taken by the school at Grignon, which shows the publications and some tables and models relating to the work of Prof. Deherain on the value of the different varieties of wheat and on other subjects. Grignon is one of the *écoles nationaux* (only theory). The next lower grade of agricultural schools in France are the *écoles pratiques* (theory and manual training), similar to the colleges of the Union, and then the *fermes écoles* (theory and manual training) follow.

The several departments of France have each an agricultural professor, whose business is to hold lectures in the department and to watch the experiment and demonstration grounds in the same. The professors have also exhibited; they show products of the demonstration grounds, plans of the experiment grounds and work done on the same.

A world's fair is never a very good place for special exhibitions; it is the same now at Paris, but so far as agriculture is concerned, it would not be true if one should say that there is nothing, or very little, of interest. There is quite enough; but it is necessary to hunt it up, very often in places and in buildings where one does not expect agricultural matter.

Modling, Austria. C. FRUWIRTH.

Buckwheat in the Past and Present.

ED. COUNTRY GENTLEMAN—The production of buckwheat in the United States has not, like other grains, kept pace with the increase of population, and according to the census returns has been continually declining as a whole. In the year 1839 (in round numbers) 7 million bushels were produced; in 1849, 9 millions; in 1859, 17 millions; in 1869, 10 millions; in 1879 not quite 13 millions. The crop of 1889 would have supplied 91 lbs. to each inhabitant; that of 1849, 19 lbs.; that of 1859, 28 lbs.; that of 1869, 13 lbs; that of 1879, 12 lbs.

The crop is chiefly grown in the cooler parts of the country, in the regions that are hilly or mountainous. Relatively a larger proportion grows at higher altitudes than any other grain and with a lower temperature than any grain except rye. Fifty-nine per cent. of the crop grows between latitudes 41° and 43°, and nearly 81 per cent. between latitudes 40° and 44°. New-England produces over 1 million bushels, and the Middle States over 8¼ millions; the other States lying along the northern border—Ohio, Michigan and Wisconsin—with the mountainous belt of the Alleghanies extending down into Maryland, Virginia and West Virginia, produce a million and a half bushels more, these altogether producing upward of 94 per cent. of the whole crop of the country. It is raised in considerable quantities in Oregon, but the rich soils of the prairie region and the warmer climate of the South are alike unfavorable to its successful growth. It naturally belongs to the cooler and rougher regions that are not subject to too early frosts, and can be raised on hillsides and thin soils where other grain cannot be profitably raised, but it does

not follow, however, that it cannot be produced on good level land. It is true it can be grown on poor land and with careless cultivation, but it does better on better land with better treatment. A soil that is moderately fertile, well plowed and harrowed, will always produce the best crops.

Our name buckwheat is derived from the German word *buch-weizen*, or beech wheat, because the kernels are shaped like beech-nuts. Botanically, it does not belong to the same order of plants as wheat and rye, but to the order *Polygoniacea*, and the genus *Polygonum*, the same genus to which smartweed belongs. The varieties chiefly cultivated in this country are the silver hull or gray, and the black. A new variety, called the Japanese, is well spoken of by those who have tried it, the kernels being large and plump and the yield good. The "rough," "nigger," or Tartarian is not raised much except for feed. The kernels are rough, the corners slightly rounded; it is a hardier plant, and yields better than any other variety, but the flour is yellow and slightly bitter.

The time for sowing in the United States extends from the first of May till the middle of August. In Northern Pennsylvania it is usually sown about the last of June or first of July. The later in the season it can be sown and get ripe before frost comes, the better will be the yield, as the late sown is most likely to have cooler weather at the critical period when the kernels are just forming, and when it is sure to be injured more or less by dry, hot weather. Owing to its liability to be blasted by hot sunshine, and to be caught by an early frost, which destroys the kernels that are not ripe, buckwheat is not quite so sure a crop as some other kinds of grain. About one bushel of seed per acre is usually sown in this region, but on good land three pecks are sufficient and will produce the best results. In good years, and under favorable conditions, the yield is sometimes very large, rising as high as 30 to 40, and even 50 bu. per acre. In unfavorable seasons the yield falls as low as 5 bu. per acre. Thirty bushels are considered a very large yield in this locality, but last year several fields averaged 44 bu. per acre, machine measure. The average for the State of Pennsylvania for the year 1879 was 14.6 bush., and for Bradford county a fraction over 18 bush. per acre.

The straw is soft and tender, and on rich land is liable to grow too rank and fall down before it is well filled with grain, and then the yield will be poor and the cutting more difficult. The plowing should be done a little earlier than is usually the case, and before the ground gets baked by drouth, which makes harder work for the team, and turns up in clods that are not easily pulverized. As a plowed field will absorb and retain more moisture, buckwheat ground should be plowed long enough before sowing to make sure of getting it well soaked with rain. The ground can be got in better condition, and will be able to stand a drouth better, if plowed before it gets too dry.

The next census will probably show that in the buckwheat region of the Eastern States, more land is devoted to the crop, more attention paid to its cultivation, and many thousand more bushels raised than ten years ago. The ruinous business of raising wheat and corn, in competition with the great fertile plains of the West, has driven the eastern farmers to raising more buckwheat. Instead of the West being a competitor for the markets of the East, the western people are becoming excellent customers for our buckwheat flour. The mill at Sugar Run has frequently filled orders for flour from Iowa and Kansas.

When buckwheat is cut, it is set up in small bunches but not usually bound, the intertwining of the branches holding it together sufficiently well for handling, and it dries out better when not compressed with a band. Formerly, when it was threshed with a flail it was quite sure to be threshed when it was dry, because it could not easily be handled when damp; but now that threshing machines are so plentiful, it is often threshed when it is too wet, and consequently cannot be ground fine enough to get the greatest yield of flour, or flour that will keep long without becoming musty. Twenty-five pounds of white flour per bushel, is considered a good yield, but if the grain is plump and dry, 28 lbs. is frequently obtained. It is a cash crop and always finds a ready market as soon as it is threshed. It is quickly grown, and consequently gives a speedy return for the investment. The competition among millers and dealers who handle it, is so great that the farmers are certain to get its full value, and the first sales before the markets are full are usually the best.

Buckwheat is not used much as a bread plant in the old world outside of Russia. In England it is sparingly cultivated as a food for poultry and game. It is a grain peculiarly exempt from diseases, and the ravages of insects, and so great is its immunity in this respect, that the growing of it is sometimes recommended as a means of driving insect pests away from the fields. No other grain at the flowering season is so profusely laden with beautiful white flowers, and there is a delightful sweet perfume wafted from a buckwheat field in full bloom, that is very grateful to the senses of the dusty traveler. Bees find a bountiful foraging ground in a buckwheat field, and the honey made from the blossoms is the finest in the world. Some bee-keepers raise this grain chiefly for the benefit of their bees. The principal objection to buckwheat is, that it does not fit well into any regular rotation of crops, and is often raised several years in succession on the same field. J. W. I.

Sugar Run, Pa.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *Aug. 26.*

For the last two or three weeks, the corn crop has been making good progress toward maturity under the operation of two forces, so to speak, viz.: the heat of the days, that dries the vegetation up, and the low temperature of the nights, which retards growth, if it does not arrest it. Whether these features of the weather are essential to the successful development of the great cereal I do not know, but they are certainly those common to good corn crop summers. However favorable to early maturity, hot days and cool nights do not increase the total, and I have nothing to take back of my former estimate of half a crop for all that portion of corn-growing Illinois fifty miles north of the latitude of St. Louis.

The heavy rains of July compacted the soil, and the heats of August have dried and hardened it, and breaking the stubbles for wheat and seeding in the standing corn are difficult and laborious jobs, and will have a tendency to lessen the fall wheat acreage, unless there is a considerable advance in price within the next six weeks.

The roads, if dusty, are hard and smooth. The hay harvest is finished; the threshers' work is nearly done. It is too early for fall plowing. Wheat seeding engages the attention of a comparatively few, and the farmer has some weeks of leisure before him, a portion of which he may devote to the annual county and state fairs. So far as heard from, they have been quite as well attended as usual at the beginning of the season, and are likely to be so to the end. It is gratifying to be able to report improvement in the conduct of rural festivals—in that whiskey is never, and beer rarely, permitted; that gambling games are allowed no place, and fakirs and side shows are hardly tolerated. Still, the fast horse is quite as conspicuous a feature as ever before, employing half the time, drawing more than that proportion of the attendance, and is the main source of profit, without which no county fair will keep up, unless by a tax or contribution levied on the community.

Considering the extraordinary development and growth of horse-breeding in the central counties within the last ten years, and that if the demand for the heavy drafts is not as brisk as formerly, the breeds for speed and hard and fast work, like the Kentucky trotter, the *demi-sang*, or French or German coach, and the English riding and driving horses, have already representatives in nearly every county, it is not so much to be regretted or deplored that the exercises in the speed ring occupy so much space on the programme of the average county fair. The continental *demi-sang* and the English Hackney and the Norfolk trotter are recent importations, and are unknown and strange to nine-tenths of the farmers of Illinois, and in no better way can the latter be made acquainted with them and their great excellencies than to show them off on the mile or half-mile track, where the performances can be viewed from the amphitheatre. In horse-breeding counties, whether in Illinois or Kentucky, it is almost certain no county fair will prove a success where the leading place is not given to the fast horse and his performances, and therefore any and all attempts to eliminate him will prove unsatisfactory and fruitless.

There is already considerable inconvenience from drouth, and a threat abroad in the air of a long and comparatively rainless autumn. Stock and house wells are failing, sloughs are drying up and creeks are little more than connected pools with longer or shorter sandy stretches between. Without rain or more than enough to moisten the surface during September, by Oct. 1, the scarcity of water would nearly equal that date in 1887. And yet nobody seems to be ready to admit that reducing the water surface of the black soil counties of the State, from one-tenth to one-hundredth, has influence more or less on the measure of the rainfall.

However, public attention is likely to be called to the subject in the course of the agitation certain influential newspapers in Ohio and Indiana have stirred up on the necessity there is for the adoption of measures to protect from further devastation the wooded portions of the national domain, and the desirableness of creating and fostering a sentiment for wood planting among farmers and proprietors. These intelligent agitators have been abroad, and have learned something of the measures taken by leading governments of continental Europe to restore originally large wooded areas, and thereby to arrest the progress of surface devastation that threatens the present well being, and at a period not very remote, the existence of empires. R. F. J.

Notes from the Continent of Europe.

Harvest was well advanced throughout France as we came through at the beginning of the month, and samples of new wheat being shown at many markets—the quality being all that can be desired. Much more sun has been enjoyed by them than in England, but I confess to a feeling of regret at seeing bared fields so early in August. They are not however, apparently in a hurry to begin autumn cultivation, except it may be in the smaller holdings of Normandy, where certainly not a day is lost before preparations are resumed for successful following crops. The rains that we had in England had been shared throughout the west of France, but a far greater amount of sunshine had also been enjoyed.

The sugar beets, both in Belgium and France, are looking as well as ever I remember to have seen them, and the actual saccharine results are bound to exceed those of last year by a very considerable amount. An extended series of investigations shows that the actual sugar runs from 7 per cent. to 14 per cent., according to the season, giving perhaps a mean of about 11 per cent. This compares badly with the actual sugar from the cane, which runs to at least 20 per cent.; while the acreable results are quite as divergent—the finest beet soils of Europe being good for only half a ton of sugar to the acre, as against 40 to 50 cwt., which is claimed for the cane in the Mauritius. The greatly improved means of transit, and increased knowledge on the part of the planters as well, is gradually bringing the European and the colonial competition nearer to an equality. My impression is that the latter are bound to win, notwithstanding the temporary spurt which "bounty-fed" industry enjoys. It was the accident, so to say, of our driving Napoleon Bonaparte's ships from the sea that led the French to endeavor to produce sugar at home, for the sugar-cane has far greater natural advantages than the beet root, and at one time held the field without a rival. Is it not strange that among the secondary results of war must be reckoned this "bounty" matter over which England now makes such a fuss?

A forage crop which has of late increased vastly in acreage, both in France and Switzerland, is the *Holcus saccharatus*, popularly known as the Chinese sugar cane. It looks remarkably well this year. Potatoes always show badly in extent as compared with England, and well they may, seeing that we consume 178 lbs. in the year as against the 40 lbs. or so per head for the average Frenchman. Of apples, pears, plums and damsons (especially the two latter) the foreigner bulks up to an enormous extent. In raspberries and strawberries also they greatly outweigh us per head, and even where I am writing this, up at the top of the Pass of the Simplon in Switzerland, we have mountain raspberries in abundance at every meal. I learn, however, that these come from the Italian side when supplied so late in the season.

As with us in England, the selling value of land is greatly affected by local conditions, proximity to big towns and such like. One of my friends wished to buy a patch of two acres of land, in an outer London suburb not yet invaded by the speculative builder, some ten days since, but the price ran to $12,500 an acre, so that he was kept out of the accomplishment of his wishes. This is only a trifle less than what is given in the official statistics for sales in the Department of the Seine (which of course includes Paris) by the latest government returns. On the other hand the Department of the Lower Alps gets down to $39 50 per acre, while $600 an acre in the Nord corresponds more with the better English counties for small estates, where a mansion or good timber may be included. In 66 departments the price of land had dropped by varying percentages, between 1879 and 1884, while it was stationary in five, and had risen in 17 departments. Taking it as a whole the average to-day are just about $100 an acre, one department with another. There seems to be a considerable store of money still awaiting land investment, so that France is likely to hold her own among the nations, saving for the relatively small numbers in the French families as compared with her neighbors. If emigration went on at anything like the rate it does in the United Kingdom, France would soon be comparatively short of people.

An income tax for France on the English model is likely to be proposed soon. I am sorry for it, seeing the elasticity which is shown by many elements of natural prosperity. The consumption of coals has risen nearly 30 per cent. in ten years, in coffee and in tobacco a still larger ratio, while railways have almost doubled in mileage, and the passengers in like proportion. Banking transactions which passed through the clearing-house have more than doubled since 1876, and telegraph messages have trebled in the like period. The decline in stocks in the Paris Bourse is to be regarded as temporary, and this good harvest will do much to brighten every prospect.

There is no doubt about it. South Russia has yielded an extraordinarily bad harvest. The steppe districts also are black and bare, with neither grass nor water for the cattle; multitudes of those herds must die, and many of the remainder be sacrificed at a nominal figure to save from entire loss. Those districts which usually form the granary of the country are the most affected, and one shudders to contemplate the financial troubles that will run in the train of such failure. A country that has been long on the verge of bankruptcy, with greatly diminished exports, and with a prohibitory tariff as against other nations, is not in the healthiest possible condition. Rinderpest and other diseases are also rife, owing to the conditions named. T. BOWICK.

From Southern Ohio.

ED. COUNTRY GENTLEMAN—We are having our second drouth for the season. The first one—which was the most severe I ever knew in spring—ended the second week in May, and was followed by eleven weeks of wet weather, but August came in dry and it has not rained to lay the dust for just four weeks. That in August means very dry weather, and at this date, Aug. 26, the land is so dry that farmers have given up trying to plow, and stock-water is becoming very scarce on many farms. The May rains came in time to give us a good crop of hay, oats and wheat, and continued through the growing season for corn until the ears were well formed, and even corn that was planted after the spring rain has made a fine crop. Pastures also grew so luxuriantly that except where they were overstocked, there is still feed for the cattle for some time to come, and even if the drouth should continue, there is so large a crop of hay on hand and corn fodder will be so abundant that there will be little trouble in caring for the cattle. During all this dry weather the nights have been cool, often chilly, and the mercury has not reached 90° in the shade at the hottest part of the day.

Should this dry weather continue even a week or two longer it will make wheat sowing late, for there is much of the wheat land still to break. The few farmers who realized (as all should) the importance of early plowing, and started their teams by the middle of July, were able to get in about fifteen days, with the land in prime condition and the weather cool, so that the teams could work long hours without weariness. These farmers will be able to put in their seed in good condition as soon as it rains, while the slack ones must wait to plow and pulverize their land. An inch of rain will put the fields that have been plowed and mellowed in good condition, while it will not wet the hard, weedy fields so as to enable them to be plowed. It seems strange to me that a man who has farmed even five years should fail to learn how very important early plowing is, and yet many who have grown wheat for a quarter of a century will spend the good weather of July, when the land is in excellent condition, in drawing out manure, logging, or anything except plowing, get caught by drouth once in three or four years, and be obliged to sow their wheat two or three weeks too late and often on a badly-prepared seed-bed. WALDO F. BROWN.

Butler County, O., Aug. 26.

The Entomologist.

A Bombarding Beetle.

ED. COUNTRY GENTLEMAN—Not long since I met a bug or beetle in a squash plantation; black with a copper colored band on his neck, about 1½ inches long. On being touched with a knife-blade, it shot from its body, with a little explosion, a cloud of what appeared to be dust. At first I could not believe it, but it did so a number of times, so there could be no mistake. Will our State entomologist kindly explain why this bug tried to throw dust in our eyes, and give its proper name and place in the scientific world? S. V. H. *Cazenovia, N. Y.*

The insect—a remarkable habit of which is narrated in the above communication—is a carnivorous ground beetle, which, in common with other members of its genus, has been given a singular mode of defense to protect it from its enemies. When alarmed it has the power of emitting from anal glands at the end of its abdomen, suddenly and with force, a drop of fluid of such a character that upon its escape into the air it becomes so quickly volatilized that the discharge is attended with a sharp, crepitating noise, accompanied with a little cloud of bluish vapor (rather than dust, as described by the writer above). The vapor is quite acrid, as I have repeatedly observed on receiving it on my hands in captures made of the beetle, when taking it from its usual retreat beneath stones. Its effect has thus been described by a writer:

Upon one occasion when we were collecting insects, and, as often happens, saw at the same moment two rapidly running beetles, both of which we were desirous to capture, we thoughtlessly put one of the two, which happened to be a Bombardier, between our lips, so as to hold him securely while we caught and disposed of the other one. Forthwith he fired away the customary discharge of blue smoke from his tail; and the next instant our lips felt as if a bottle of the strongest aquafortis had been emptied upon them. But we were not to be fooled thus. The more he blazed away the tighter we held him; and after a copious discharge of saliva from our mouth, the disagreeable sensation passed off in some five minutes, without any further unpleasant results. (American Entomologist, II, 1869, p. 30).

I am unable to give the name of the particular species observed in the squash field, as there are a number of species of *Brachynus* (from the Greek, meaning *to resound*, in reference to the report made in the discharge), all of which, so far as I know, may claim the name of *Bombardiers*, which the French entomologists have applied to them. Our latest list of Coleoptera contains 28 species. Of these, one of the most common ones is *Brachynus fumans* (Fabr.), but this falls far short of 1½ inch in length, measuring only six-tenths of an inch. It is so closely allied to a noted European species of similar habits, *B. crepitans* of Europe, that Prof. Heets in writing to Dr. Harris, stated, "I can only look upon them as varieties."

Others of the *Carabidæ*, or carnivorous land-beetles, have the power of projecting to a considerable distance a caustic and acrid fluid, of a fetid odor, but not always dissipated in vapor. Among the Harpalidæ, species of *Anchomenus* of Europe, are said to combat their enemies with repeated discharges of smoke and noise.

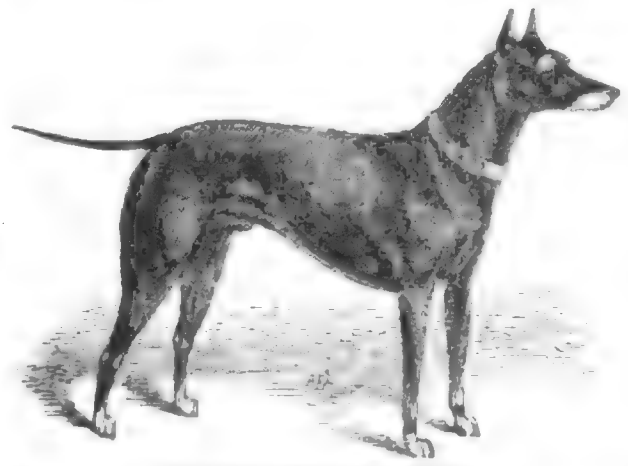
For some interesting statements relating to these Bombardier-beetles, Westwood's Classification of Insects, vol. I, pp. 75–77, may be referred to, where also several European writers are cited. J. A. L.

The Kennel.

The Black-and-Tan Terrier.

At one time this variety of terrier was commonly called the Manchester, from the fact, that it was more largely bred in the Cottonopolis district than elsewhere. As a variety largely kept, it is popular for its sprightliness and good looks.

At one time there were black-and-tan fox terriers, but since the rage for the white-and-tan markings, these have almost entirely disappeared. Therefore, a black-and-tan dog is no great novelty. But, at the same time, it must be acknowledged that the present breed, as we now see it, cannot claim a long pedigree. Probably, the black-and-tan fox terriers already spoken of were the basis; but the mode of production is really unknown. The breed was produced by the late Mr. Sam Handley, long a celebrated breeder and judge of dogs, and he kept the secret well. It seems to be



HIGH-BRED BLACK-AND-TAN TERRIER.

very generally admitted that the Italian greyhound was introduced to give that fineness and length of head for which the breed is noted, and the whole carriage of the dog indicates a cross of this kind. The result has been that the dog is regarded as much more of a toy, or a pet, than a true terrier. Of course, this is essentially true of the black-and-tan toy terrier, which is a miniature specimen of the ordinary breed, and only about one-third the size, but it is largely so of the black-and-tan terrier itself. Some of these dogs are really very game, and will tackle a rat or other vermin, but the sleek coat and effeminate appearance of the breed seems incongruous with terrier qualities, and the manner of life, and want of training in this direction, as well as the disuse of the killing disposition and of the courage, must have an effect upon the breed in causing them to lose these characteristics. Nature does not allow any of her faculties to run to waste. If they are not used they disappear or lie dormant, and it cannot be expected that dogs which are simply kept as toys will retain such characteristics as they can never use, and really have no further need for.

The black-and-tan terrier is a very handsome and beautiful breed of dog, with manners which make him very companionable. He is light and active, makes himself heard wherever he may be, and takes his own part, whether with friend or foe. His beautiful coat, bright, sparkling eyes and sharp features, all combine to his good looks and attractiveness. The following is the standard of points adopted by the Black-and-Tan Terrier club:

Head—Should be narrow, almost flat, with a slight indentation up the forehead, long and tight skinned, level in mouth, with no visible cheek muscles; it should be slightly wedge-shaped, tapering to the nose, and well filled up under the eyes, with tight-lipped jaws.

Eyes—Should be small, bright and sparkling, set moderately close together, as near black as possible, oblong in shape, slanting upwards on the outside; they should neither protrude nor sink into the skull.

Nose—Should be perfectly black.

Ears—Should be button, small and thin, small at the root, and set as close as possible at the top of the head.

Neck and shoulders.—The neck should be slim and graceful, gradually becoming larger as it approaches the shoulders, perfectly free from throatiness, and slightly arched at the occiput; the shoulders slope off elegantly.

Chest—Narrow between the legs, deep in the brisket.

Body—Short, with powerful loin; ribs well sprung out behind the shoulders; the back being slightly arched at the loin, and falling again at the joining of the tail to the same height as the shoulders.

Legs—Perfectly straight and well under the body, strong, and of proportionate length.

Feet—Compact, split up between the toes and well arched, with jet-black nails; the two middle toes in front rather longer than the others, and the hind feet shaped like those of a cat.

Tail—Should be moderately short, and set on where the arch of the back ends; thick where it joins the body, gracefully tapering to a point, and not carried higher than the loin.

Coat—Close, short and glossy, not soft.

Color—Black and tan, as distinct as possible; the tan should be a rich mahogany color; a tan spot over each eye, and another on each cheek, the latter as small as possible; the lips of the upper and lower jaws should be tanned, the tan extending under the jaw to the throat, ending in the shape of the letter V; the inside of the ear is perfectly tanned; the fore legs tanned to the knee, with a black patch ("thumb mark") between the pastern and the knee; the toes have a distinct black mark running up each, called the "pencil mark;" the tan on the hind legs should continue from the pencilling on the feet, up the inside of the legs, to a little below the stifle joint, and the outside of the legs should be perfectly black; there should be tan under the tail and on the vent, but only of such size as to be covered by the tail; in every case the tan should meet the black abruptly.

Weight.—A toy should not exceed 7 lbs; a medium-sized dog, 14 lbs; and a large-sized dog, 23 lbs.

It was customary, formerly, to crop all the black-and-tan terriers, and it has only been very recently than an uncropped dog has had any chance of a prize in the show ring. There have always been those breeders who were in opposition to the practice, for which no excuse could be offered, save that of fashion. It could not be even claimed that a cropped dog was better looking than one with well-carried ears, and thus no possible plea could be offered for the cruel practice, for cruel it undoubtedly is. At last, the club formed in the interests of the breed took the matter up, and has since that time been endeavoring to induce breeders and exhibitors to abandon cropping. Thus far, however, the effort has not met with much success. The fact is that cropping has induced a neglect of the carriage of the ears in selecting dogs for breeding, and the result is that many otherwise good dogs would undoubtedly be spoiled by their ears if cropping was abolished. This is the secret of the opposition to the abolition of the system. But the advocates are determined to carry their point, sooner or later, and have shown their earnestness in this matter by providing a cup, valued at £25, for uncropped black-and-tan terriers. They are also carrying the war into other breeds which are also shown cropped, and we may hope that ere long this senseless and cruel practice may be done away with altogether. STEPHEN BEALE. *H——, England.*

Weather, Crops and Prices.

Meteorology for Aug. 25–31.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.40	inches.
Lowest do.	do.	30.10	do.
Mean do.	do.	30.16	do.
Highest temperature	do.	89°	
Lowest do.	do.	54°	
Mean do.	do.	70°	

Six clear days; one fair. No rainfall. Prevailing wind, S.; maximum velocity, 16 miles per hour, on the 31st.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	25th	26th	27th	28th	29th	30th	31st
Day	25th	26th	27th	28th	29th	30th	31st
This year...	73°	67°	68°	69°	70°	71°	70°
Normal.....	66°	66°	66°	66°	66°	70°	71°

Total excess for the week, 13°.

General Review of the Week.

The week has been slightly cooler than usual in the Southern, Middle Atlantic and New-England States. The daily temperature in the South Atlantic and eastern portion of the Gulf States ranged from 3° to 6° below the average of the week. In the Northwest, including the States of the Missouri and upper Mississippi valleys, and the upper lake region, the week was unusually warm, the daily temperature from Lake Michigan westward to the Missouri valley ranging from 6° to 9° above the normal. The temperature for the season from Jan. 1 to Aug. 31, has been slightly below the average of previous years from the lake region southward to the Gulf and South Atlantic coasts, within which area the season is slightly retarded. It has been warmer in New-England, New-York and Pennsylvania, and generally throughout the States west of the Mississippi river; the greatest excess in temperature occurring in Dakota and adjoining States, where the daily temperature for the entire period has been from 3° to 4° above the normal.

There has been much less rain than usual throughout the country during the week, an excess of precipitation occurring only in Rhode Island, Southern Virginia, and portions of North and South Carolina, and West Florida. Well distributed showers occurred generally along the Atlantic and east Gulf coasts, and in Georgia and East Tennessee. Very light local rains were reported from the upper lake region and the Northwest, but no rain occurred in the States of the Ohio valley, Illinois, Eastern Iowa, Missouri, Arkansas, West Tennessee, Northern Alabama and Mississippi. The seasonal rainfall continues in excess from New-York southward to Florida, and from the Missouri valley southward to Texas. The entire cotton region has received more than 80 per cent. of the usual rainfall. The rainfall over the principal corn-producing States has been unevenly distributed, and while the greater portion of this area has received about 80 per cent., portions of Illinois, Kentucky and Ohio have reported less than 70 per cent. of the average rainfall of the season.

The weather during the week was unusually warm and dry throughout the corn belt and the extreme northwest, causing corn to mature rapidly, but the crop is much in need of rain in some localities. Hot winds and drouth have caused some damage to crops in Dakota, Illinois and Missouri. Early corn in the central valleys was much improved by the hot, dry weather. The absence of rain has affected grass, fruit and tobacco unfavorably in the Ohio Valley, while showers in Tennessee have improved the tobacco crop. Reports from Texas indicate that the weather for the week was very favorable for cotton, and the crop is being secured rapidly. In Arkansas, Louisiana and Mississippi the cotton crop was much improved by favorable weather, but more rain is needed, especially for cane in Louisiana. Considerable damage has been caused by boll worms in Arkansas and Mississippi, but injury from this source is less threatening. In South Carolina and Tennessee the weather was unfavorable for cotton, while in Alabama the crop was improved and is reported in good condition. In the Middle Atlantic States, including New-Jersey, Delaware, Pennsylvania and New-York, the weather was favorable, causing corn to mature rapidly, with prospects of a large crop. Potatoes were improved in New-York, but need more rain; while in Pennsylvania and New-England the potato rot continues, with a prospect of a short crop of inferior quality. In New-England the weather was cool, but an average crop of corn is ripening rapidly. The fruit crops in this section are generally in good condition, but the yield of apples will be light. A good tobacco crop and a large second crop of grass have been secured. Reports from the Pacific coast indicate that recent rains have been beneficial to the root crops in Oregon, and the forest fires previously reported have ceased.

Vermont—*Middlebury, Addison Co., Aug. 24.*—The first fine weather this season; very favorable for harvesting. Wheat is being finished with great rapidity. Oats yielding very light, many pieces struck with rust so they are hardly worth the threshing. Wheat on the whole a fair yield. Barley very good. Corn on lowlands a complete failure; many pieces on uplands very good. Potatoes seem to be faring about as hard as any crop; not a piece to be seen that is not affected with rust, and many pieces and kinds are rotting badly; the crop must be much short of an average. The prospect for apples lessens every day; hardly an orchard with any fruit on, and in many places there is a blight on the trees. Pears a very good crop; no plums. The last few pleasant days are very encouraging for work on lowlands. Many farmers have made a small beginning on the great hay crop that remains uncut in the intervales. C.

Ohio—*Tallmadge, Summit Co., Aug. 30.*—Warm and dry. Corn will hardly reach an average. Those who planted ensilage corn on last year's stubbles are badly left. Hay crop the largest in many years. Oats a heavy crop, and secured in excellent shape. Much less than an average breadth of wheat will be sown, and part of this will go in in poor shape unless it rains. Large numbers of sheep being brought in from Michigan. August milk 70c. per 100 lbs. L. B. F.

Wisconsin—*Janesville, Rock Co., Aug. 27.*—Hardly in my memory of 39 years do I remember so complete a drouth. So long is it since we had rain that I have forgotten when we had the last. In some former drouths we had an occasional shower, and generally heavy dew; now for a long time we have had neither. Everything is seared and dry. Large elm trees are shedding their leaves; grass, there really is none. Feeding is quite general. I fail to remember Rock river being so low. The harvest is reported good in Southern Wisconsin. Pearls of various sizes and tints have been discovered in our river clams. People have gone wild over the find. Some individual specimens have sold from $10 to $150. I heard of one yesterday found in Sugar river, Wis., that a judge offered $475 for and was refused. I saw a 9-drachm bottle nearly full last Saturday, which were raked from Rock river. Wheat, 65@70c. per bu., old and new; corn, 33c.; rye, 40c.; barley, 27@40c.; oats, 18@21c.; potatoes, 25@30; hay, $4.50@7.50 per ton; butter, 21@13c. per lb.; eggs, 13c. per doz.; cattle, $2.25@3.60 per cwt; hogs, $3.80@4. Hay fever very prevalent, never anything like it before horseboots; business fair. W. H.

Horticultural Department.

Editorial Notes and Comments.

Requirements for Fruit Rooms.—In order that fruit may keep well, the room in which it is placed should be kept uniformly but a few degrees above freezing, or as near as practicable at this point, through careful ventilation. In summer and autumn, turn in cool air on cool nights, and shut out warm air in the day time. Exclude air-currents of any kind, except for cooling the apartment. Keep all odors away from the fruit, especially such odors as come from badly kept cellars; the delicate flavor of fine fruit is easily spoiled in this way.

Varieties of Fruit.—It is interesting to trace the relative positions of some different kinds of fruit, for quality and productiveness. The Seckel pear, the Delaware grape, and the genuine Green Gage plum, are distinguished for their fine quality, excellent flavor, and moderate growth. The Baldwin apple, the Bartlett pear, the Concord grape, and the Ben Davis apple at the West, are widely appreciated for their great productiveness, while they have rather moderate quality. To the last mentioned group some would add the Champion grape, which, where better grapes are entirely unknown, is a profitable market sort.

Girdling Grape Vines.—This practice is well known with cultivators as increasing the size of the fruit, causing earlier ripening, diminishing the flavor, and producing some injury to the vine. Prof. S. T. Maynard regards the practice with favor, and not as injurious to the vine. Instead of taking out a ring of bark, he finds good results from twisting a wire around the cane, drawing it very hard with pincers, cutting into the bark, and doing the work late in June. He does not find that careful sugar tests show any injury to the quality of the fruit. Only a part or a branch of the vine should be girdled each year, and then cut away; branches or arms may be grown for this purpose.

Fruit for Money.—The owner of a small garden wishes to know what crops he can raise on a small scale, to sell in the neighboring village for money—his object being to secure in this way a little pocket money for objects which he cannot otherwise afford. In reply, it would be impossible for us to prescribe the kinds and course, without knowing the market, and what would sell freely to a certain extent. Even if we should know this year, there might be a great change another, and others might enter the same field and overstock the market. But there is one market which our correspondent can always rely on, and which will save much money if it will not make it. This is to plant a good succession of fine fruit, such kinds as may be most easily raised, for his own family. A daily supply for the table will save much from the butchers' and grocers' bills, and quite probably from the doctors' bills, as a regular eating of good fruit contributes greatly to health. He may then learn what his neighbors want, extend his plantation accordingly, and thus learn more about the market than in any other way.

Prices of Fruit.—P. C. Reynolds gives in the Rural Home a statement of the unusually high prices of early fruit in Rochester, in consequence of the scant supply. The retail prices of strawberries scarcely went below ten cents a quart—more than double the price in some former years. Black-cap raspberries were as high. Red ones, such as Cuthbert, sold as low. Blackberries sold as high as twelve cents, and occasionally at sixteen cents. Early apples were very scarce, and Red Astrachan and Oldenburg brought a dollar and a half a bushel. Peaches were scarce and poor.

Evergreen Screens for Fruit Trees.

The Minnesota Horticultural Society furnishes some valuable information on the utility of evergreens for protecting fruit trees from the intense cold of the winds of winter, which may be usefully adopted in all regions where the trees are thus injured. Wm. Somerville of Olmstead county, in the southern part of the State, planted trees eight feet apart, of Norway spruce, on the south and west sides of a seven-acre apple orchard, and some of them are now thirty feet high. A plum and a cherry orchard were shielded in the same way. The trees near the lines of evergreens are sound and healthy, and bear fruit almost every year, while those nearer the centre of the orchards and away from the protection of the screens, are either dead or declining. Mr. S. knows of no one who has raised apples successfully in that region without protection.

O. F. Brand, a well known cultivator of Faribault, protected the trees of one row in three, with an evergreen planted on the south side of each tree, to protect from sun-scald. The two other rows had no protection. The trees are Tetofsky, and those protected are in fair condition; while but few trees remain in the other two rows. In another part of the orchard trees of the Oldenburg were protected on the west by trees of pine and spruce. The most fruit is borne on the trees nearest to the screen, and very much less further away. Mr. Brand witnessed the effects of a severe cold wave in Florida, the thermometer going down to 17°, and the ice being four inches thick. A large orange grove had been planted, and the native live oak left among the trees. Near the oaks there was little loss or damage from the cold; but where the orange trees were fully exposed, the fruit was an entire loss and a part of the trees were killed.

Mr. Brand thinks (and his opinion is certainly well grounded) that if Dakota could be crossed with continuous unbroken lines of evergreens running east and west and one or two miles apart, the blizzards of that State would be broken up, and the damage which they occasion be greatly lessened.

The shelter of evergreens is doubtless of special value to orchards which are exposed to the severe winter winds of some of the western States; but they have likewise proved of much use where tried at the East. A screen formed on our grounds with a double line of Norway spruce trees thirty feet high afforded such valuable protection to a pear orchard on the lee side from prevailing winds that the crop of pears within seven rods of the screen was nearly double the crop twice that distance away; and two striking instances which we call to mind of the protection of evergreen screens, one in New-Jersey and the other in Genesee county, N. Y., gave greatly improved and nearly double crops within ten rods of the screens, as compared with those fully exposed.

A Woman's Garden—VIII.

Still August.

After the intense heat of July there is often, in early August, a pause, as it were, in the progress of the year; a few days of lovely, serene weather, without extreme heat, when all nature is yet in the perfect fulness of high mid summer. Now the beautiful days seem to have lingering movements, as though Earth herself cried out to us to listen and look, to rest from our toil, and delight in all her wonderful work.

It is a good time to take, as it were, the high-water mark of our gardens; to see just what we have achieved, and set up a standard at which to aim for another year.

A lover of flowers and an authority on their culture says: Love a flower in advance, and plant something every year. The hardy flower-garden is not produced in a year; it is slow-growing and capable of almost endless improvements. This is a favorable moment to consider what, of our own favorites, our garden lacks; what would especially accentuate and heighten its good effects, and what, if anything, detracts from the general beauty and order. If a weed is a plant out of place, there are showy and expensive weeds in many a gay flower garden.

The perfection of a garden consists very largely in continuity of bloom. The season is now so far advanced that it is easy to see to what a degree we have succeeded in attaining it, and where the gaps occur. There is a delicate skill required so to fill the hardy borders that throughout the season there shall never be a time when we have not beautiful and characteristic flowers in full bloom. Foliage plants and simple annuals, such as mignonette, asters and marigolds, are useful in this necessary filling in. Very small resources are often quite sufficient to obviate an appearance of barrenness at any time "between whiles." The various honeysuckles now in their full late bloom, the old favorite althea, or Rose of Sharon, gay at this moment in many gardens, and the great flowered hydrangea, verging now in its immense panicles from pale yellow-green to sparkling white, to remain conspicuously beautiful until frosts have left them a rich brown—these are examples of the great assistance we may have in shrubbery. Indeed, I sometimes think that, including roses, a very beautiful and satisfying garden might be grown, depending solely upon shrubbery for flowers! But who would willingly forego the lilies, daffodils and pinks, the larkspurs, columbines and chrysanthemums? Fortunately the hardy home-garden is not much given to running to extremes, and usually tries experiments on a small scale.

There are some old gardens that appear to have almost a monopoly of white flowers. There grow the waxberry and the snowball, the white day lily in immense circles, and the tall annunciation lily in the trim, narrow border beside the walk. The older and now less common flowers flourish there, such as the white flaxinella with its delightful fragrance, both of leaf and flower, and great white double poppy. These gleaming white flowers, amid a wealth of green, have a kind of haunting beauty, and suggest very truly that there is a peculiar and poetic effectiveness in white flowers, in sufficient mass. Where there is any doubt about contiguous colors, it is always safe to put white. It gives a relief that is almost invariably advantageous.

The escholtzias, the coreopsis, and the marigolds, are to the garden what the golden-rod is to hedge-row and pasture. Their gold is so profuse and so brilliant that it lights up that part of the garden in which they dwell, and makes the afternoon sun seem doubly bright. Even more sunny are the great sunflowers that quite put out of countenance all modest flowers, and are hardly to be tolerated except in a wild garden or at a discreet distance. Quite in the background they may have a lordly effect, but they must mingle with the mellowing tints of the landscape to be acceptable. There is no question that these brilliant yellows harmonize with the tone of the foreshadowed autumn. There is a ripening of the year that is expressed in these rich colors which nature herself insists upon. I know not why it is a color ascribed by the poets to unlovely human passions, but the gentle Herrick tells us of the marigolds that

> "Leak as girls these sometimes were
> While they lived or lasted here;
> Turned to flowers, still they be
> Yellow marks for jealousie."

But man forever mixes himself with what he sees in the endless pageant of nature. So the modern imitator of Herrick turns a little moral upon the ever-impending turning of the leaf.

> "O happy leafe
> (I to the vernal bed did say),
> Thou hast no griefe.
> Kissed by the loving sunne in May.
>
> Me envy not
> (The leafe replied),
> As sweet thy lot
> All summer tide.
>
> O pitious leafe
> (I to wild autumn's waife did say),
> Thy pride how briefe,
> How soon the frost and wind make way.
>
> Me pity not
> (The leafe replied),
> As vexed thy lot,
> As briefe thy pride."

DOROTHY.

American Florists' Association.

Fifth Convention, Buffalo, Aug. 20-22.

The president's opening address was in substance as below:

Long may our society grow and flourish. To advance the interests of all, we must elevate our business and our standing in the commercial world. Elevating means higher art, broader views, honorable and strict integrity in all our dealings, and I know of no better means of advancing our calling to this plane than the education of young men. As we train the boys now in our employ, so in a great measure will they conduct the future business. To be a successful florist a young man should have a fair school education, and natural taste and love for flowers. The florist's path is not all roses without thorns; neither can you be a successful florist without hard work, perseverance and strict application to business. Very many young men of to-day think they would like to go into the florist's business because it is nice easy work, soon learned and lots of money to be made. There can be no greater mistake made. When you start in business for yourselves, begin on a sound basis by meeting your obligations on time, live always within your income, incur no debts till you can see your way clear to pay them. This may be too slow for some, but it is the only safe way, and will save you many regrets in after life. If you wish to be a florist, you must make up your mind to work hard, both with your hands and head.

Horticultural exhibitions are not only educators of florists, but of the whole public at large, and we should do all we can to advance them; it may be they will not put money directly in our pockets, but they will educate the public to love flowers, and in the near future will bring their own reward.

In our haste we do not give the time to producing new seedlings that we ought, though I am pleased to say we have several very promising things in this line raised here, and as our demand increases, so will the desire to produce them, without depending on other countries for novelties. Many of those we get from abroad are novelties only in name, and not worth the paper it takes to describe them. This is particularly noticeable in many of the new roses from France of late years. Though there have been some grain among the chaff, very few are suitable to our climate, and the sooner we turn our attention to this matter and go to work in earnest, the better it will be for all concerned. A wide and interesting field opens before us, for although much has been done by man here to improve the carnation and some few other flowers, still a great many species have hardly been touched at all, and to those we should now turn attention.

It is much to be regretted that we should have to speak of our lack of method, but with many of us who do a wholesale business the fact is brought very plainly to our notice, and I think we, as a body, should take some means to protect the trade against those who buy goods, promising to pay at a certain time, and then after receiving the goods ignore the fact that they owe, and refuse to pay any interest. In every business with which I am acquainted, except ours, any party allowing his bill to go unpaid over the date specified expects to pay interest for all such time allowed, and no business can be expected to succeed where one party uses the capital of another without his compensation.

The renaming of plants to suit the seller's purpose is a very objectionable practice, and it should be the business of this society to aid its committee on nomenclature all it can, as the aim of the committee is to correct all such abuses. A flower needs only one name, and that should be its first, given to it by the raiser or introducer; and to any one buying an old variety at an advanced price under a new name it is an injustice, and works against the best interests of the trade all over the country.

Florists' clubs and like organizations can be of great value to our profession in diffusing knowledge; and we want also the cooperation of the retail florists, and I trust in the near future we shall see them taking the same interest in our society as the growers, and we should use our best endeavors to protect the retail florist all over the country. I have received letters complaining that the large wholesale growers are selling to private gentlemen at the same prices as to retail dealers. This is undoubtedly a hardship and should have careful consideration, for even where the dealer can buy at 25 or 30 per cent. below the regular retail price, the heavy express charges he has to pay reduces his profits to a minimum; and to make matters worse, eight leading companies have signed a code to charge 5 cents for each returned "empty."

The Hail Association offers protection against the destructive work of hailstorms, and deserves our earnest support. On the 1st of June last there were over 1,200,000 feet insured, with good reserve fund on hand. This shows that the plan has come to stay, and the increased interest on the part of the florists all over the country augurs well for its future prosperity.

Secretary Stewart in his report stated that the past year has been one of prosperity, as both the finances and the membership were in better condition than a year ago. The good work done was felt throughout the country; the organization was fulfilling the purposes for which it was organized.

Treasurer Hunt's report showed cash receipts up to Jan. 1, 1889, $3,018; expenses for the year, $1,369, leaving a balance of $649; the year previous, balance was $19.

An important special committee report was that concerning express rates. The leading express companies have adopted the following uniform schedule of rates on flowering and ornamental plants: When packed close in boxes or crates, regular merchandise rates; when packed open, charged double rates. Bulbs and seeds are taken to any direct office at the following rates: 1½ lbs. for 10 cents, and double that rate per ounce or fraction thereof for all in excess of that weight.

Another important report was from the committee on bulbs. C. L. Allen, grower of gladiolus and lily bulbs, informed the committee that he would rather see the duties removed from the bulbs which he grew, as he can raise them cheaper than can be done in Europe. August Rolker, an importer of all kinds of Dutch bulbs, believes that it would be wise to abolish the duty, as it only increases the cost to the flower-growers in this country, without benefiting them, as is shown by the fact that before Lily of the Valley pips were classed as roots they paid 30 per cent. duty, and the sales by Rolker were 250,000, while now he sells 2,000,000. Another evil resulting from high tariff, and one which affects the dealers, while it does not benefit the florist, is that it enables unscrupulous itinerant European bulb-growers to reap a rich

harvest on their sales, when by sharp practic they manage to evade the customs.

In the discussion that followed this repor Palmer of Buffalo said that he could rais tulip bulbs equal to those imported, an believes that he could also grow hyacinth Anthony of Chicago thought that bulb grow ing in this country offered the best openin that was to be had in any florist business. H had grown bulbs of the tulip Loraine as fin as any imported ones, not 20 miles fro Chicago, for 40 years; naturally they will no grow everywhere, as the soil required is of peculiar light, sandy nature. Siebrecht believe that it is a matter of dollars and cents to th greatest number, and if any particular kin can be grown to advantage it should be know and carried on, and the duty thereon retained while on all others the duty should be removed The committee was instructed by a vote of th convention to take the proper course for hav ing the tariff thus modified.

The committee on exaggerated cuts an catalogues, reported through Reynolds of Ch cago, the following plan for restricting thi practice: First, that catalogue makers b invited, before publishing a cut of any ne flower, plant, fruit or vegetable, to submit suc cut to three members of the executive com mittee, together with a specimen of the orig nal flower, &c., for comparison, and that sai committee or sub-committee be authorized t the name of the S. A. F. to accept and approv such cuts as they find them true to nature, an the publisher be given certificate of such ap provals with liberty to print the same. Second that all publishers of illustrated catalogues b invited to send in specimen copies for compet tive exhibition at our annual meeting, with certificate of highest merit to go to the bes while a special certificate would be given t all that are free from false representation an illustrations. Third, where a publisher re fuses to remove offending cuts, after prope notice being given him, the matter should b referred to the general convention that th name of the recalcitrant publisher may becom generally known. This report was accepte and the committee continued with power t get their plan into operation.

Mr. E. G. Hill said that in his recommenda tions last year he had no thought of divorcin theory and practice in a school of culture an training. While at the Kew Garden recently he could see on every side how a course the would have greatly helped himself in his bus ness. Mr. Henderson said that to him the pro pect of establishing a first-class training scho did not seem very bright. Mr. Siebrecht sug gested that a faculty of judges be selected b the convention to constitute a body befor which it would be necessary for any one wh aspired to be a gardener, to go and pass a examination and receive a certificate. Ther are many men in this body who would be com petent to give certificates of merit that woul command respect. Mr. Hendricks thought quite possible to enlist the government in aid ing to establish such a training school, esp cially in view of the liberality shown towar the experiment stations.

After discussion, it was decided to organiz the Florists' Protective Society, in accordanc with the report of the special committee wh had the matter in charge, which was accor ingly done by the election of H. B. Beatty, C City, Pa., as secretary-treasurer, with Robe Craig, Philadelphia, J. C Vaughn, Chicago, an Peter Henderson, New-York, as an advisor board. The object is the protection of mem bers from the designs of the dishonest. Th secretary is to prepare and mail, as occasio may require, three weeks in advance of eac issue of his reports, to every member of th association and to such others as he may dee expedient, a form on which "poor-pay" cu tomers are to be named, with particula to be afterwards reported by him to the me bers.

The membership fee is to be $2. Speci reports shall be furnished by the secretary o request of the members, accompanied by fee of 50 cents. It shall be the duty of eve member to promptly report new delinquent and on repeated failure to reply to the quarter requests of the secretary, he shall be deprive of his membership.

The National Chrysanthemum Society wa organized with JOHN THORPE, Pearl River N. Y. as president; Wm. K. Harris, Philade phia, vice-president; Edwin Lonsdale, Phil delphia, secretary; John Lane, Chicago, trea urer. Executive Board—W. A. Manda, T. I

New Advertisements.

Arnold, Seth	*Cough Killer.*
Brown, Spencer	*Coachman Wanted.*
Babcock & Buford	*Sale of Jersey Cattle, &c.*
Brown, S. H	*Partner Wanted.*
Bacon, Thos. H	*Heifers.*
Curtis Publishing Co.	*Ladies' Home Journal.*
Capehart, W. H.	*Farm for Rent.*
Crook, Andrew	*Duroc-Jersey Red Pigs.*
Cloud, Dr	*Jersey Heifers.*
Crocker, S. G.	*Berkshires, &c.*
Collins, David S	*Rhode-Island State Fair.*
Dayton, Edward C.	*Farm for Sale*
Dilwangar & Barry	*Trees, Roses, Grapes, &c.*
E. S.	*Situation Wanted.*
Fraser	*Axis Orcana.*
Gourse St. Baltimore, Md.	*Farm for Sale.*
Gray, J. P.	*Hay Press.*
Holt Mfg. Co.	*Portable Forge, &c.*
Hartman, F. M.	*Pears, Plums, Apples, &c.*
Hafer & Co.	*Agents Wanted.*
H. J. E.	*Situation Wanted.*
Johns, Henry E.	*Jersey.*
do. do.	*Percheron Mares Wanted.*
Lippincott, James	*Poland-China Pigs.*
Milder, A. J.	*Rhinebeck.*
Myer, H. Van W.	*Holstein-Friesians.*
Meadowbrook, R. C.	*Jersey Heifer.*
M.	*Farm Hand Wanted.*
Pike Co. Nurseries	*Trees, Root Grafts, &c.*
Powell & Clement	*Grass Plants &c.*
Parry, Wm.	*Nursery Stock.*
Peck, Corydon	*Guernsey Bull Calf.*
Pratt, H. C.	*Shropshire Sheep.*
Rolph, Wm.	*Jersey Bulls.*
Richardson Mfg. Co.	*Harness Snap.*
Smith & Pannill	*Farms for Sale.*
Sage, Geo. H.	*Farmer Wanted.*
Springfield Engine Co.	*Threshing Mill.*
Timpson, Lawrence	*Berkshires.*
Traver, Alex.	*Duroc-Jersey Pigs.*
Tims, Robert H.	*Guernseys.*
Trambo, G. H.	*South-Down Rams.*
U. S. Wind Engine Co.	*Corn Shellers, &c.*

Pamphlets, &c., Received.

MAHONEY, JAS. V., Sec'y Corn Palace, *Sioux City, Iowa.* Invitation to Festival. Sept. 30-Oct. 5.

MOSELEY, EDW. A., Sec'y Interstate Commerce Commission, *Washington, D. C.* First Annual Report on Railway Statistics; pp. 330.

MOSELEY & PRITCHARD MFG. CO., *Clinton, Iowa.* Butter-Maker's Guide. Illustrated.

MUNCASTER, JOHN R., Sec'y Montgomery County Agricultural Society, *Norbeck, Md.* Invitation to Fair, Sept. 4-9.

SHAFFER, JOHN R., Sec'y State Agricultural Society, *Des Moines, Iowa.* Invitation to Fair, Aug. 30-Sept. 6.

STEVENS, CHARLES, *Napanee, Ont.* Guaranteed Analysis of Beaver Brand Ashes—see advertisement, p. 667.

THORBURN & Co., JAS. M., 15 John St., *New-York.* Descriptive Catalogue of Bulbs and other Flowering Roots; pp. 32, illustrated—see advertisement, p. 667.

THUERER, JEANNETTE M., President National Conservatory of Music, 126 E. 17th St., *New-York,* Circulars.

Inquiries and Answers.

Onions.—Should these bulbs be covered with earth while growing, or does the whole plant except the fibrous roots belong above ground? The question is suggested by a difference among growers. W. W. S. [When onions are planted from "sets," the whole bulb is covered with earth, each bulb being pressed down, and the row closed with a rake. Raised from seed, the plants are allowed to take their natural course, the bulbs being partly covered.]

Unproductive Garden.—What can be the matter with a garden which has been for many years well cultivated and manured, but does not yield a fine crop of vegetables or fruit, though no expense has been spared to improve it? Could an expert tell if there was anything the matter with the soil, and could you recommend such a person? O. T. *New Rochelle, N. Y.* [An answer to this inquiry without further knowledge of all the circumstances would be mere conjecture. Analysis in the hands of an expert might indicate something, or it might not. The best thing you can do would doubtless be, to apply several special fertilizers to small plots, and observe the results. They might be fine ground bone, wood ashes, lime, superphosphate, nitrate of soda, guano, &c. These trials might lead to the real cause. We take it for granted that your subsoil is well drained.]

Ensilage—Knowledge Wanted.—Does it make any particular difference whether corn is cut one-fourth, one-half or one inch long for ensilage? I have a great deal to put in, so I want to get on as fast as possible; still I want the ensilage in good condition to mix the grain ration with. Will length make any difference about that? (1) I enclose sample of cottonseed meal; is it decorticated or undecorticated? (2) Oh, for knowledge! There is so much to learn! I have learned a great deal in the 16 years I have been on this farm. I commenced the study of farming when toddling around after my uncle before I can remember. What to raise? When to sell? How to buy? What tools to use? How to manage all the employés to keep them contented and interested in the work so that each will do his best? How to feed the cows and other stock most economically? All these problems and many more make me often sigh for knowledge and wisdom. (3) Allow me to thank you for the many useful things in your valued and valuable paper. G. L. A. *Whitehall, N. Y.* [1. The common practice is to cut corn stalks half an inch long for filling the silo, as a short cut is more likely to be all eaten by animals; but if an inch long, it will usually do as well, provided the stalks are rather small and soft. Large coarse stalks require shorter cutting than small ones. 2. Decorticated. 3. We think our correspondent is on the right track after knowledge, as labor and research, vigorously pursued, always results, in a greater or less degree, in success.]

Cultivation of Wheat.—Please give me address of firm that manufactures wheat-hoes or cultivators. How frequently is it necessary to cultivate wheat wheat sown in drills for cultivation? E. J. M. *Paris, Ky.* [We know of no "wheat hoes" manufactured at the present time for cultivating wheat in drills, a practice which was formerly used in England, but not sufficiently economical of labor with us. A much better way, whether the wheat is sowed in drills or broadcast, is to go over the whole surface with a smoothing harrow, which is simply a harrow with numerous small, round, slanting teeth. It pulverizes the surface, and glides over the wheat plants without injuring them. We have adopted this practice, with an average increase of five bushels of wheat to the acre, the harrow passing over the wheat as soon as the ground is dry enough in spring, and two or three times afterwards till the plants were a foot high. Timothy sown with the wheat the previous autumn, and a few inches high, is not injured or disturbed by this kind of harrow.]

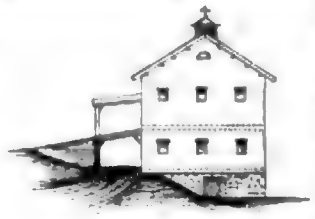
Ice-Pond.—Is there any advantage in flooding the frozen surface of a pond? Will not the formation of ice above retard the process beneath the frozen surface? (1) Can the water from a reservoir be properly distributed over the surface so that a too rapid flow shall not wear away the ice over which it passes, or a too tardy flow shall not freeze irregularly before it is spread over the surface? (2) W. W. S. *Mercer County, N. J.* [1. There is no special advantage in flooding the surface of the ice on a deep pond, as about the same thickness of ice will be produced whether the surface of the regular ice is exposed to the cold, or the new surface made by the flooded water. 2. The result will depend entirely on the amount of flowing water, its temperature, and the coldness of the weather. An abundant supply of spring water, with a temperature many degrees above freezing, and in mild weather, would melt the ice; under the reversed circumstances, it would increase it. This may be determined best by making the trial on the spot.]

Johnson Grass.—Will it grow a crop alone or without any moisture? Does it like a dry or moist climate? Is it easily killed by frost? Is it fit to be sown among grasses for a permanent pasture? Is it of quick or rapid growth? I have been told that it will succeed in Dakota where no other grasses (tame) will grow. I have had no success with red clover or lucern here, and wish for the experience of some who may have grown the above grass. W. T. M. *Jamestown, D. T.* [Johnson grass, when cut frequently, gives very heavy crops, of coarse grass in the Southern States, on rich, well-drained land, but we know of no instance of its proving permanently valuable at the North. An objection South is, the difficulty to eradicate it. Floods and standing water destroy it. It is often winter-killed at the North. Dr. Vasey says, as quoted by Dr. Beal, "It has been tried in Kansas with very promising results," and Prof. Shelton says it has been tried on the Kansas College farm four years, and "its total worthlessness has become conspicuous." These conflicting statements indicate the great uncertainty of promise as far north as Kansas.]

Poultry Book.—Please recommend some reliable work on poultry raising for eastern markets, in all its branches, giving estimates of the cost of keeping. F. T. B. *New-Haven, Conn.* [Beale; $1.50. Order through this office.]

Tile-Draining, p. 698.—I think Mr. Tenny might have extended his answer to advantage. Horse shoe tile should never be used, or boards either. In using sole tile the better way to lay them is the flat side up, so to dig a ditch for tile the point of bottom spade should be as wide only as the scoop (or hoe) with which to make final shaving, it having the exact size and shape of tile. Then if sole tile are used, the workmen can stand on flat side if desired, setting it to place. All crooked tile must be discarded; their only use could be in passing a boulder. If end of tile is defective, turn such below or on side. The word "tiling" is generally used nowadays to imply "thorough-draining," but putting one line of tile, no matter what size or shape, one-quarter mile long, through or across a ravine, is only sporadic, and size must be governed by the volumes. Horse-shoe tile are objectionable for such or for any other drain. A small tile properly laid will not fill up as soon as a large one. E. E.

Barn.—I wish to build a barn about 50 by 80 feet for storing hay and grain. Which do you consider the best style of barn for that purpose, one with the driveway in the middle or one with the driveway in the peak, avoiding the use of a horse-fork? W. H. T. [If we understand our correspondent, he wishes a two or three-story barn, so constructed that a load of hay or grain may be driven into the upper part, and the hay or straw pitched downwards or horizontally. Such a barn is represented in outline in the accompanying figure, the base-



ment built of stone being occupied with cattle stalls, and entered from below; the next above entered from the earth bank at the side; and the third story from the embankment and bridge over the one below. Such barns were more common before the introduction of the horse-fork. You will find details of construction in RURAL AFFAIRS, vol. IX, page 64, and vol. VIII, page 283.]

Manure Spreader.—I want to know what size manure spreader T. B. Terry uses. Please ask him. O. O. P. *Harmony, Ind.* [I use the common size Kemp spreader that was first sent out. I think they have since made a larger size. T. B. T.]

Botanical.—Plants sent by the following subscribers are identified as stated:

"T.," Missouri.—*Silphium angulatum,* "angular-stemmed American centaury." It is almost only a biennial; the notion that it flowers but once in seven years must be erroneous.

"H. M. C.," Poughkeepsie, N. Y.—*Acer campestre,* "common maple" or "field maple" of Europe, whence it has been brought to this country. The older bark becomes corky, but on the young twigs or branches it is smooth.

"J. W. I.," Sugar Run, Pa.—*Mulgedium leucophæum* of the Manual, *Lactuca leucophæa* of the Flora of North Carolina—"tall mulgedium" or "wild lettuce." Our wild species of Lactuca and Mulgedium are in some localities commonly called "milk weeds," because of their milky juice.

"G. M. C.," Sylvania, Pa.—*Solanum dulcamara,* "bittersweet" or "woody nightshade." Being a shrubby climber, it is sometimes planted near piazzas for the sake of its shade and the ornamental appearance of its berries. These have been said to be poisonous, but it is doubtful if they are excessively so. I have tasted them, but to me their flavor is not pleasant. The berries of its near relative, *Solanum nigrum,* the "black nightshade," have also been reputed poisonous; yet according to Prof. Bessey they are made into pies and other pastry in the valley of the Mississippi River. If they really have a poisonous property, it is doubtless expelled in cooking.

"K.," Charles City County, Va.—A luxuriant form of *Setaria glauca,* "fox tail grass," sometimes called "pigeon-grass," "bottle grass," and "tawny bottle grass." It is closely related botanically to Hungarian grass, to which it is similar in properties, but it is generally smaller, and to that extent less valuable for a fodder crop. It often grows in company with *Setaria viridis,* which scarcely differs from it in general appearance, except in its smaller spikelets and greenish bristles. Both species abound in cultivated fields late in the season, developing rapidly after cultivation has ceased. The seeds are very nutritious, and are said to be an excellent food for fowls and birds. The English sparrow is fond of them, and where these grasses are considered a pest, this may be regarded as one of the very few things that can be said in favor of these very undesirable birds. C. H. P.

Acknowledgments.

Communications for publication have been received during the week ending Sept 3, from Miss Hortense Dudley—Edwin Wing—Chas. H. White—G. Schabel—A. R. C.—C. Prewitth—J. D. Dodsons—J. W. Ingham—John Gould [2]—Prof. Chas. H. Peck [2]—E. W. Denman—E. K.—Geo. A. Stoddard—Dorothy—Prof. J. A. Lintner—Dr. Wm. Horne—John P. Pomeroy—Prof. E. W. Stewart—Waldo F. Brown—Oliver Cowan—E. S. Akin—F. D. Curtis—C. L. H.—Nellie Burns—John G. Iselin—L. M.—H. G. Adams—S. G. C.—Geo. Parr—A. Jeffers—L.—P. F. Infauor—W. B. Lasenby—E. E. Sumney.

°.° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°.° We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Sept. 5, 1889.

Raising Corn.—The preparation for a good crop of corn next season should be commenced the present autumn. This remark applies to the course where corn follows the grass sod of a pasture. Before this sod is inverted next spring to receive the seed, five or six inches of the top-soil should be well impregnated with liquid manure. To effect this enriching, a good topdressing of barn manure should be applied some time during autumn, or if not in autumn, it will do nearly as well as fast as the manure accumulates in the course of winter. Applied either in autumn or early in winter, the manure is much more effective than from spring application. The autumn, winter and spring rains carry the soluble parts down into the soil, which diffusion is aided by the roots of the grass; but if left till spring, it is left more or less in lumps, plowed under, and not diffused. Intelligent farmers assure us that the difference between the effect of fall-spread manure and spreading in spring, is about twenty five per cent. of the product in favor of the former. This difference will of course vary with the amount of the manure applied, as well as with the general treatment. It is well therefore for those who intend to adopt the common practice of planting on inverted sod, in the rotation largely employed, to secure and apply this autumn all the manure practicable on this grass land. The addition of the winter accumulations will assist in augmenting the product.

Since the introduction of harrows which pulverise the inverted sod without tearing it up, such as the Shares, disc, smoothing and Acme, corn may be raised with less labor and with more perfect freedom from grass and weeds than under the former mode. With this improvement, it makes very little difference whether the spring plowing is done early in spring or just before planting; for if the plowing is done in April and the planting in May, the grass which shoots up through the inverted sod is cut off, and the soil made clean and mellow by the efficient use of the Acme.

Planting was formerly done slowly, by hand, with too much labor for profit. Small fields of a few acres are now planted with a one-horse planter with a single row at a time where the crop is in drills. Larger fields are laid out two rows at a time with a grain drill, using only two tubes. But when it is desired to have the rows both ways, the check-rower plants rapidly and with accuracy.

Up to the time of planting there are three leading requisites to be observed, manuring on the sod in autumn and winter; pulverizing the soil thoroughly after the sod is inverted, to make it as clean and mellow as practicable; and planting regularly in uniformly straight rows. The cultivation follows. To do it right makes all the difference between a clean field free from weeds, and with a luxuriant growth of the heavy crop, and one encumbered with weeds; and in addition to this it is important to do this work at as little expense as possible. We therefore go back a little, and notice the planting. The smoothing harrow (which is simply a harrow with numerous slanting round teeth) by using it broadcast over the whole ground before the corn is up, and then three or four times once a week till it is a foot high, destroys the sprouting weeds within the rows as well as between them, saves much labor in trying to kill weeds when they become large, and invigorates the young plants. This harrow works best when the corn has been

planted in slight furrows made by the marker, the planter being run in such furrows. The subsequent cultivation is performed with several implements according to individual preference, keeping the surface as nearly flat as practicable. Plows of any kind, run between the rows, tear the roots near the surface, lessening the crop. The best kind of implements, therefore, are the slant tooth harrows with numerous teeth, which finely pulverize the surface, from the time that the corn is a foot high till it reaches above the horse's back.

Experiments made at the Geneva Station furnished strong evidence against the practice of deep cultivation after the corn had reached some height. When the plants were a few inches high, a spade was thrust into the soil three inches deep and three inches from the plants, cutting off many of the roots. Alternate rows left uncut yielded at the rate of fifty-two bushels of corn to the acre, while the root-cut portion gave only thirty-two bushels, making a difference of twenty bushels. Another series of experiments with similar results was performed by Mr. Smith of Crittenden, Illinois, who cut the roots eight inches from the hills at the usual time of hoeing. The cut plants gave fifty pounds of corn on an equal area with uncut hills which produced seventy pounds.

Fig. 1.

Fig. 1 shows the way in which this cutting of the roots was done.

In recapitulating some of the positions already taken in this article, it should be borne in mind, 1, that the first work to be done, and commencing in the previous autumn, is to top-dress the ground, copiously if possible, with barn manure, for heavy crops depend greatly on enriched land; 2, that cultivating and mellowing the soil before planting has an important bearing on successful growth, as well as for facilitating easy and thorough cultivation—making the difference between working among weeds, grass and clods, on one hand, (fig. 2), and in a fine clean well pulverized

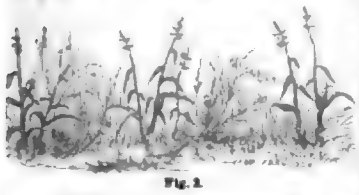


Fig. 2.

ground; 3, that thorough underdrainage is all-important, as any one may see in a wet season, when dry knolls bear a rank growth of stalks and ears in contrast with the puny growth in the low and wet spots. A large amount of labor may be avoided by doing as much of the cultivating with horse labor, beginning with the smoothing harrow before the corn is up,

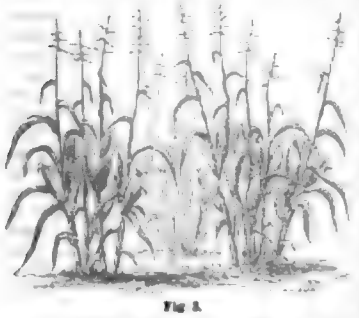


Fig. 3.

and afterwards until a foot high, the teeth passing in among the plants and cleaning out all weeds just as they reach the surface. On strong and clayey soils, care must be taken not to use the cultivator when the ground is wet after rain so as to adhere; otherwise by baking into a hard crust the work will do more harm than good.

In short—with plenty of manure properly applied, thorough underdraining, pulverizing culture near the surface, and the care which every practical man will observe, there will be no difficulty in raising from fifty to seventy shelled bushels to the acre (fig. 3). It may be well to add, that in damp autumns, matured corn often weighs twenty to twenty-five per cent. more when first harvested than after drying a few months in the crib, and hence the reason why some reports give over a hundred bushels (by weight) to the acre, where only eighty or ninety of well dried grain was produced. In dry seasons, there is less difference, but often much more than owners suppose.

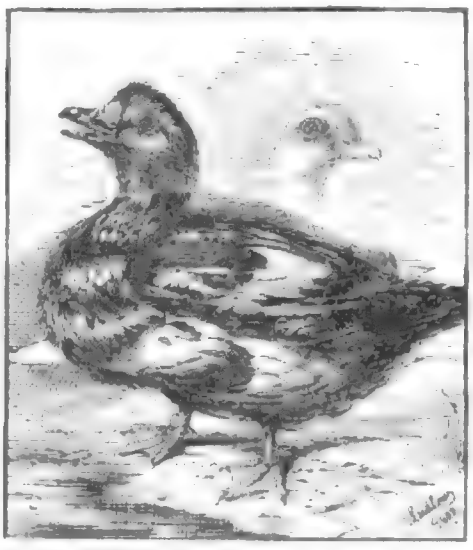
North-Carolina.—We are asked to mention the appointment of dates for the following fairs: Creecy Park, Oct. 15-19; Elizabeth City, Oct. 22-26; Edenton ("agricultural and fish"), Oct. 28—Nov. 1; Murfreesboro, Nov. 5-7.

Using the Soil, p. 629.—Your printer (or a slip of my pen) made me say just the wrong thing. The closing words of the article should read "*without* the aid of manure." C. L. H.
Freeborn County, Minn.

Green Mountain Grapes.—We send you sample of our Green Mountain grapes. We had a field day the 27th, with an attendance of over 40. They all tested the fruit, and most of the people took some bunches with them, each selecting the finest. We send to you such as we have left, which will show the character of the bunches, their earliness and quality. The season has been very wet, and the mildew and rot have about destroyed the grapes in this section. It has troubled us, and has retarded their ripening as well as injured their quality some. The vines and fruit, however, made a favorable impression on those who visited the nursery the 27th. STEPHEN HOYT'S SONS.
New Canaan, Conn.

Canada Entomology.—The Nineteenth Annual Report of the Entomological Society of Ontario is marked by the ability and thoroughness which has distinguished its predecessors, and in addition to this report the society has issued regularly each month the monthly Canadian Entomologist, the numbers of which have been supplied to many of the experiment stations in the United States. This report of ninety pages is copiously illustrated, and many interesting facts are presented in relation to insects and their habits. President Fletcher remarks in his annual address that it has been estimated that every plant has an average of seven or eight different insects which prey upon it, a number probably much too low, as Dr. A. S. Packard states that oak affords maintenance to between 500 and 600 species of insects, the hickory to 140, the birch to 100, the maple to 85, and the pine to over 100. It is asserted that at least one-tenth of all the plants grown as crops by farmers is annually destroyed by insects. It is not then surprising that the agricultural products destroyed by insects in the United States in one year was $300,000,000. The wheat midge destroyed in Canada 5,000,000 bushels of wheat, and the clover-seed midge destroyed in one year $650,000 worth of clover seed. Hence the great importance of the labors of the entomologist to avoid this great destruction.

We observe a statement of a method employed for checking the depredations of the wheat midge, condensed from Miss E. A. Ormerod's excellent work on insects, published in London. It is regarded as a complete cure in Canada to turn down the surface of the field with the Michigan double-plow, the first cut taking off two or three inches of the surface, together with the weeds and stubble, and the insect vermin in them and in the roots, and depositing them in the bottom of the previous furrow, where they are buried several inches deep. If the course of agriculture allows them to remain untouched till after their usual time of appearance the following year, it is found completely to destroy them. The suggestion is made by Mr. Fletcher that if the cultivation of wheat was omitted for a time, the midge would resort to the common noxious grass known as quack, couch, quitch or twitch grass, to which the wheat plant is nearly allied.



MUSCOVY DUCKS—See Article on Page 678.

JAMES FLETCHER, Ottawa, is president of the society; W. E. Saunders, London, secretary.

Wheat Growers' Convention.—The "Farmers' Federation" at Topeka, Kansas Aug. 14, adopted the following resolutions:

Whereas—By reason of new systems in business and the combinations against us, we are not, as an agricultural class, enjoying equal privileges with the manufacturing and commercial classes, and from the inequality of exchange have for the past ten years been sorely oppressed by the low prices of farm products; and

Whereas—In consequence of the depressed condition of the wheat market and the conflicting reports of the world's supply of this cereal, be it therefore

Resolved—That a convention of wheat growers of the Mississippi valley, be and is hereby called to meet at St. Louis, on Wednesday, the 23d of October, for the purpose of discussing measures for relief, and to form a wheat growers' association.

Resolved—That the apportionment of representatives of said convention be one delegate from each county in the respective States and Territories included in the Mississippi valley. And that the primaries to appoint delegates to said convention to be held at the county seats on the first day of October, and that we request that the proceedings of said primaries be immediately forwarded to this office, Topeka, Kansas.

Resolved—That any farmer in the United States or Territories who has grown 500 or more bushels of wheat the past year, and shall certify the fact to the president before the meeting of the said St. Louis convention, may be admitted as a delegate to said convention. Also, all editors of the agricultural press of the United States shall be entitled to seats in said convention.

Resolved—That we advise the farmers of the Northwestern States and Territories to hold their wheat off the market until after the meeting of the St. Louis convention of wheat growers, unless such prices be offered as will justify a reasonable profit over the cost of production, or $1 per bushel for wheat. Farmers assenting to this suggestion are requested to send their names to this office with statement of bushels of wheat on hand, grade, &c.

From Several States.—The COUNTRY GENTLEMAN contains too much useful information to lose one number; just the paper for the agricultural student. M. R. WIBBEN. *Buffalo, N. Y.*

—I have been reading a great many first-class agricultural papers. None of them can claim equality with the COUNTRY GENTLEMAN. I hope you may live long to bless your fellow man, as you have done in the past. JNO. W. JACKSON. *Bowling Green, Ky.*

—The COUNTRY GENTLEMAN is the best paper of its kind. ALEX. KITCHIN. *Inverary, Ont.*

—You have a right to be proud of the COUNTRY GENTLEMAN. J. W. INGHAM. *Sugar Run, Pa.*

Farm-Yard Notes and Items.

The admirable portrait of a pair of Muscovy ducks that appears on this page was specially engraved for the COUNTRY GENTLEMAN (as is the case with the whole series of poultry, pigeon and dog pictures that we are publishing, which will cover all breeds of any importance)—from drawings made in England. These pictures deserve the particular attention of breeders and fanciers. They may be relied on as presenting with great accuracy the highest ideal of excellence according to the present opinion of the very best British authorities.

The owner of the Beverwyck Kennels, who advertises Fox Terriers on p. 666, is a gentleman of high standing, and we have heard his dogs warmly commended by expert judges at bench shows.

The First Annual Exhibition of the Chicago Horse Show Association will take place in the Exposition Building, Oct. 30 to Nov. 9. Liberal prizes are offered for trotters—among others, $1,000 for best stallion, and $3,000 for stallion shown with five colts—and classes are provided, at the end of the list, and with very much smaller inducements, for French Coachers, Cleveland Bays, Clydesdales, Percherons, Shires and other useful breeds. The highest prize offered by the association in these divisions is $50, while $75 is offered for the best police horse, $100 for best jumping hunter, and $300 for best pair of fire engine horses. Entries close Oct. 15. C. H. CUMMINGS, president; Edw. C. Lewis, Palmer House, secretary.

Mr. JOHN W. AKIN, the well-known importer of Percherons and French Coach horses, Scipio, N. Y., had six valuable pure-bred stallions injured on barbed wire fence, during a recent terrific thunder storm in the night. Twenty-one stallions went through a six-wire fence in three places, breaking off 13 solid posts and tearing off 30 rods of wire. All but one of the injured horses are doing quite well. Mr. Akin arrived at "Elmwood" with his latest importation of French Coach stallions, Aug. 28.

The appearance of the Tenth Volume of the American Berkshire Record (containing 3,000 pedigrees, and a list of 2,257 transfers) within ten months after the appearance of Volume IX, containing a like number of pedigrees, attests the growing interest in the very useful breed represented. Col. CHARLES F. MILLS is president of the association; Phil. M. Springer, Springfield, Ill., secretary. Price of the book, $5.

The Western Massachusetts Poultry Association will hold its third show at Westfield, Dec. 10-13. WM. PROVIN is president; O. C. Towle, recording secretary; R. B. Crane, treasurer; J. L. Hanchett, corresponding secretray.

"The pleuro scourge is proving a very serious matter for the country [Scotland] just now," says the North British Agriculturist; "from Ayrshire on the west to Forfarshire on the east the disease is terribly prevalent, and fresh outbreaks are reported every day."

EDS. COUNTRY GENTLEMAN—Since advertising in your paper I have sold Guernseys to J. B. Wood, Round Lake, N. Y., two cows, and to D. L. Smith and Chas. Merrill one bull each.
Franklin, N. Y. GEORGE STILSON.

Mr. JOHN P. POMEROY, Berkshire County, Mass., writes to the COUNTRY GENTLEMAN as below:

The recent test of Melia Ann 2d 47464, A. J. C. C., by H. G. Westlake, gives Melia Ann 5444 four daughters with tests from 15 lbs. 6 oz. to 26 lbs. 12¼ oz. Melia Ann has a test of 18 lbs. ¼ oz. on grass only. Her daughters are Dona Marina 7049, 18 lbs. 8 oz.; Daisy Morrison 14035, 25 lbs. 12⅛ oz.; Lord Darlington's Melia 29087, 20 lbs. 6 oz., and Melia Ann 2d 47464, 15 lbs. 6 oz. Have any other Jersey cow and daughter, *on grass only*, equaled Melia Ann and Dona Marina tests? Has any other Jersey cow four daughters with an average test of 20 lbs. each? Have any other Jersey cow and her four daughters (five tests) made 19 lbs. 9 4-5 oz. on an average? Melia Ann is a granddaughter and great-granddaughter of both Victor Hugo and Pauline; sire Lord Aylmer 1067, dam Amelia 2d 1780.

The Grazier and Breeder.

Outline Plans of Barns.

The farmer who is about to erect a barn should in the first place ascertain how much space he will require for its different contents. The next thing is to arrange them to the best advantage. When he has completed these two arrangements, he has a plan perfectly adapted to his purposes.

For common farming there are three principal needs in the construction of a barn—1. Shelter and accommodations for domestic animals. 2. Space for storing their food. 3. Room for the products which he intends to send to market. There are many smaller requisites, properly connected with the foregoing, but the above embrace nearly all the general demands for the barn.

In determining the capacity for domestic animals, the probable number of horses and cattle will be fixed, and then the space for each horse will be about 5 feet or more in width for the stall, and 14 feet for the entire length of the stalls and passages; for cows, 4 feet in width and 10 feet long. There should be feed enough to last them from six to nine months for the horses, and five or six months for the cows. If hay is mainly fed, the horses would consume about three or four tons each, and the cows nearly two tons. If grain, ensilage or roots are fed, they would reduce the amount of the hay. The space for the hay would be 500 or 600 cubic feet for a ton; and for the ensilage there should be 250 cubic feet of space for each cow for six months. At these rates a silo for 20 cows should contain 5000 cubic feet; or a bay for hay for exclusive feeding would be about 15,000 or 20,000 cubic feet—equal to a bulk of hay 40 feet long and 20 feet high and broad. Similar figures may be applied to the horses. Many persons will be unwilling to take the trouble to calculate these measures; and although we have given them rather above the reality, they will aid the builder in avoiding empty space on one hand, and stacking his crops out-doors for want of sheltered room.

Before fixing on the amount of space for the barn, the owner will make a list of his requirements something like the following:

Space for stables.
" " hay.
" " threshing-floor.
" " horse-power and machines.
" " straw and chaff.
" " unthreshed grain.
" " silo or root cellar.
" " heavy tools and wagons.
" " granary.

The shelter for sheep may be in a separate building, or otherwise.

Having determined on the contents of his barn to meet his various requirements, the next and most important work is to arrange them in a manner for cheapness in building, and for convenience in the reduction of labor in filling and feeding out. Endless changes may be made.

In making the general arrangement of the different parts, it is well to make provision in time for such smaller details as the following: Hooks and pins for harness, saddle brackets, blanket rollers, boxes for sponge and brush, ventilators and ventilator caps, distinct places for all the different tools, &c. Perfect and ample drainage should be provided for all parts of the basement, by triple lines of tile, and deep and wide drains filled with broken stone. Copper grating will aid in excluding rats. A slope of two or three inches is to be provided for the floors of the stalls. All wood work exposed to the weather or moisture should be well soaked with crude petroleum; and wood in contact with the earth, or buried, is well protected with coal tar.

In the following plans, the correct dimensions of the different parts are not given, but only their relative position.

A cheap and simple cattle barn for a farmer with moderate means, who wishes to have his cattle and horses well protected from the weather, is represented by fig. 1, 34 feet wide

Fig. 1.

and 60 feet long. It has a single row of stalls below, with space above for the storage of hay and straw. The feeding alley in front of the animals is supplied from the bay above, through a series of openings or chutes. These are always accessible above, the hay, when the barn is filled, being kept from covering them by a row of posts six or eight feet apart, which prevent the hay from occupying this space, as show in fig. 2. These posts extend

Fig. 2.

from the floor of the bay to the rafters above. This barn, being only about 14 feet wide, is made of timber only strong enough to sustain the weight of hay, which is about one ton for each cow-stall, which with an equal value of ensilage will be all the feed each cow will require for five or six months. The silo, placed at one end of the barn, is quite accessible, and from it the cattle are fed on the same level with little labor. The same space may be given to roots, if desired.

The manure gutter, marked by dotted lines, a foot and a half wide, and seven or inches deep, extends along the rear of the animals, the passage allowing the manure to be readily wheeled out as often as desired.

This barn may be neatly built of rough boards at moderate expense, the upper part or hay-loft being battened, and the lower, or basement well double boarded, with building paper between. Such an exterior, protected by the hay above, will prevent the stables from freezing in the coldest weather if well filled with cattle, whose broad hides give off enough warmth to heat the air.

The basement of this cheap and simple barn may be on sloping ground, or on the level surface. If stone and other building materials are accessible, the walls may be of masonary. Otherwise, the walls of the basement may be double, of rough boards with building paper between. If roots are to be stored, the sloping bank may be necessary to protect them sufficiently from frost.

The hay is filled in from the outside through openings or doors, by hand-pitching or with the horse fork; or it may be taken in at the end of the building and conveyed where wanted by the fork and carrier.

In all these plans, a track may be laid for the passage of the feed trucks, and other tracks for the manure trucks, to convey the manure outside. In the smaller barns, this work is done by hand-carts and wheelbarrows.

This barn may be extended indefinitely in length, and receive any number of animals. The driest portion may be fitted for horses. It may be made of double width, and have two lines of stalls, as represented in fig. 3. In this case

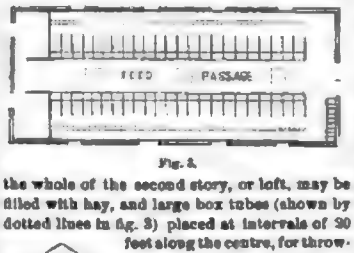


Fig. 3.

the whole of the second story, or loft, may be filled with hay, and large box tubes (shown by dotted lines in fig. 3) placed at intervals of 20 feet along the centre, for throwing down the hay. These large tubes will be fitted with dropping doors at different heights, through which the hay is to be thrown, as represented in fig. 4. This plan represents a barn 26 feet wide, and about 90 feet long, and will hold about fifty cattle. The loft or second floor is filled either at the sides or at the end with horse-fork and carrier.

Fig. 4.

This plan may be modified by placing the broad manure alley in the centre, and the heads of the animals facing the outside walls, as in fig. 5. On each side of the hay loft are set rows of posts like those in fig. 2, to keep the hay when filling from covering up the openings through which the fodder is thrown down to the animals below.

The hay loft of this barn, of the dimensions given, will have a capacity of about 30,000 cubic feet, or over 50 tons, and will hold hay enough for the cattle below through five months with a share of ensilage or chopped corn stalks.

Where grain is raised on the farm, this plan may be changed into one of a barn for all purposes, by occupying a part of the second floor with a threshing floor, granary, tread-power and chaff box; and a part of the basement with tool room, wagons and heavy tools, and

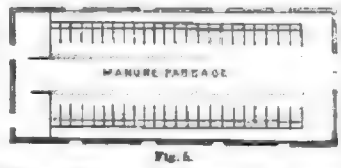


Fig. 5.

plows, harrows, &c. The barn should in this case be larger in proportion to the number of animals.

Fig. 6 represents the plan of the second floor of a large grain and cattle barn, placed on a

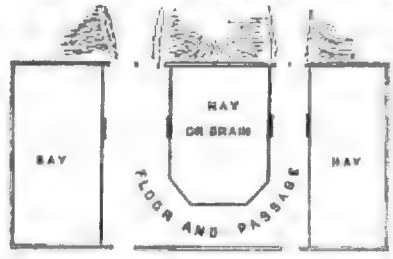


Fig. 6.

hill side or on sloping ground. The "floor" is used as a threshing floor when required, and as a general entrance in filling the barn. Passing around in a half circle, the empty wagon moves out on the narrower portion of the floor, if the wagon will make so short a turn; if not the team is unhitched, and the wagon backed out when empty. The space over the floor and passage, at a sufficient height to clear the loads, is partly covered with a timber floor for filling the space above. The openings or chutes with hanging doors for passing down the hay is represented by the parallel lines. The basement may be like that in fig. 5. [A similar plan was given in RURAL AFFAIRS for 1862.]

It is not necessary that the second floor, which receives the hay and unthreshed grain, should be separated into portions by partitions. If entirely open, in one space, the loaded wagon may be driven to any part from the entrance to the further end. Portions of the hay or grain are then built up successively. The loaded wagon is driven to any spot most convenient for the use of the horse-fork.

A clear passage is obtained by the use of trussed bents, as represented by fig. 7. Additional strength is given to sills over the base-

Fig. 7.

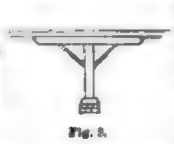


Fig. 8.

ment, by the use of timber caps resting on the basement posts, as shown in fig. 6, which may be employed to stiffen the cross timbers which receive the ends of the joists.

Mountain Sheep at South and North.

EDS. COUNTRY GENTLEMAN—The wonder expressed by your correspondent, Mr. James Wood, and repeated by G. G., page 613, to the effect that it is surprising that mountain sheep are not introduced into the hillside pastures of the Middle States, would be echoed by every person who is acquainted with the vast area of waste land along the great Appalachian and Alleghany ranges, from Alabama to the Gulf of St. Lawrence. I have traversed the whole length of it, and must say that I should have been equally surprised had I not experienced the reason why these exceedingly favorable mountain localities do not echo to the bleat of the golden-footed flocks. I have tried sheep-keeping in the mountains of Pennsylvania, and also here in the Blue Ridge country in North Carolina, where sheep may be reared for less cost than anywhere else I know of in any part of the United States, not even excluding the great western plains. All this great range, extending for hundreds of miles, has broad elevated plateaus and sloping mountain sides which produce all the best grasses with the easiest cultivation, and some of them are indigenous, covering the cleared lands, or those that are deadened by the fires, with a carpet of nutritious herbage. In addition to this, several kinds of grasses spring up in the woods, along with wild herbage, consisting of vetches (which I have seen covering whole acres waist high), and the usual undergrowth of the forest. With some provision for winter pasture, as orchard grass or blue-grass, perennial clover, and some fodder corn easily grown (it should be ensilaged), sheep will pass through the whole year without any shelter more than rough bark-covered sheds for occasional protection, and can be reared to maturity for less than 75 cents each with wool costing no more than 10 cents per pound. And this can be done even in Pennsylvania where winter feeding with better protection will be necessary, for the best of hay can be grown there and stacked for $3 per ton.

Why then are not these favorable localities full of sheep? Mainly because they are common hunting grounds, and the dog enjoys dominion over them; especially near the villages. Within a few miles of a village, sheep are foredoomed to rapid destruction by the prowling dogs, and the mountain farmers all keep a few hounds each for the excuse of hunting rabbits or coons occasionally. Three years ago I started a flock of over 100 native sheep here, and imported some Scotch Cheviots to improve them. The second year I had only 13 left. My costly experience has proved that except in the heart of the wilderness, and by the aid of a breech-loader and a quick eye and hand to use it, sheep cannot be kept anywhere within five miles of a village and some sort of civilization. Recently in traveling 70 miles on trails through the mountains here I came across several large flocks of sheep, 500 or more in some, grazing peacefully in the most beautiful forest glades, but 15 miles from the nearest house. Freedom from prowling dogs ensured safety, and weekly visits to the flocks for the purpose of salting them and gathering them on the range comprised all the labor needed through the summer, and far into the winter. There are still abundant opportunities for this kind of pastoral enterprise, but the shepherd must banish himself far from the haunts of men and dogs.

G. G. would like to know into what condition the pasturing of sheep brings the land. In a mountain country it is impossible to manure the land, except the fields that are near the homestead, and are somewhat level; and for the greater part the cheapness of the land and the large extent of the farms render it impracticable to make much more manure than can be used on a garden and fields close by. But with sheep, manuring land is not required—at least in the way usually understood. I have just finished haying on a field on which I pastured my flock of about 100 three years ago through the late fall and winter. It was an old field which had been in corn, rye and oats since 1866, when it was cleared by "deadening." The land was grown up with sorrel and many other weeds, chiefly beggar lice (*Hidens frondosa*), with a good deal of wild red-top and some blue grass. Clover and millet hay were fed on the ground through the winter. Next year the land was well plowed, sown with oats and seeded with timothy, orchard grass, English blue grass (*Poatura pratensis*) and red clover. The grass made an excellent growth last year. I cut from about 15 acre 31 loads of hay, and pastured over 20 head of yearling cattle on the aftermath until January. This year I have 34 loads of hay (our mountain loads will average not more than 1200 to 1300 pounds), and now eight head of horses and colts and four cattle are finding excellent feeding on the second growth. Another old field, managed the same way, a sheep ridge, is in timothy and clover for the first year, and the clover has fallen down over a large part of it. The sheep ran over this one winter before it was plowed for the oats and grass, and when in corn stubble.

This condition of things applies to the whole of the eastern mountain region, saving the difference of climate in the North.

The most desirable mountain sheep for this region are the Herdwicks of the Westmoreland and Cumberland mountains in the north of England, and the Welsh mountain sheep. Both of these are used to precisely the same conditions that exist here, while the Scotch Cheviots are too much mixed with the tenderer lowland English sheep, and are not so hardy as they were when I visited their home 20 years ago. One cannot successfully keep the more refined breeds in these wild and exposed pa-

tures. Hardiness and the ability to feed on rough herbage for a large part of the year, are indispensable to profit. A flock of Shropshire sheep kept by one of my neighbors has been pastured on fields that should have been kept for hay for winter feeding, because they would not feed in the woods. This sort of sheep requires too much cleared land, while the right kind needs no more than one acre cleared for the subsistence of twenty sheep in the short winter, and in favorable years half as much will do.

In conclusion let me ask why a dog has the privilege of wandering at large over "all creation," so to speak, while a sheep is to be kept on its owner's farm. If the owners of dogs could be obliged to keep their animals on their own premises and prevent them from trespassing upon the property of others, the sheep would have a fair chance. We could easily keep enough sheep of various breeds to supply our own factories with wool and to ship abroad; and America could be the world's purveyor for wool and woolen fabrics as it is for cotton and its products. We have the land; we have the men; but the unequal laws convey all the rights of the shepherd to the owners of the dogs. Four years ago I was invited to address the North Carolina legislative committee on this subject, and did so, and drew up a bill in which was a provision that owners of dogs should be compelled to keep them on their own premises, and not suffer them to run at large; no tax was asked for and no other provision than this. The bill was defeated by only four votes. No doubt if the farmers who are concerned in this matter would set to work and persevere, this monstrous injustice might be remedied, and the sheep industry doubled in a few years. The mountain pastures might then be musical with the pleasant bleating of sheep and their lambs; the rapid mountain streams would turn thousands of woolen mills; woolen goods, free from the wretched shoddy, would be cheap enough to afford every person the most comfortable and durable clothing at half the prices now current; mutton of the best kind and of that exquisite flavor and tenderness found only in the mountain sheep, would be common in the markets, and in the farmers homes; and the fat lambs of early spring would no longer be the *bonne bouche* of the more wealthy purchasers unattainable by the envious "common" people—and moreover the tariff question would be settled so far as wool and woolens are concerned.

Macon County, N. C. HENRY STEWART.

The Dairy Department.

Needs Deserving Attention.

EDS. COUNTRY GENTLEMAN—There are some practical points in the business of the dairy which seem to me to be most important to be kept before the attention of dairymen besides the scientific information, of which much has been given of late that is, to say the least, open to some doubt, and at any rate does not help the ordinary working dairyman in his every day practice. Milk is no different from what it has always been, excepting that there may be a change in its composition due to improved methods of feeding, and it is these changes that are of much importance. It may be said that the most interesting of these changes is the increase of butter yield due to feeding. I have always insisted that the butter yield may be increased by high feeding of highly oleaginous foods. I know it has been so in my own practice, and am quite sure that the feeding of cottonseed meal and palm-nut meal will, with the right kind of cows, increase the quantity of butter in the milk; and just here I would point out what I believe to be a misunderstanding of my good friend and accomplished writer, "J. G.," in his recent valuable article on "Some Points in Milk Production," where he quotes Prof. Babcock as saying that the food influences the viscous or sticky quality of milk, but does not add to the amount of the fats. I will merely quote, in explanation, Prof. Babcock himself, who, in a recent bulletin of the Wisconsin Station, says "the variation in the serous solids" (these contribute to the viscosity of the milk) "in cows of the same breed is usually less than one per cent.; this holds true when the fat varies as much as 7 or 8 per cent." Dr. Startevant's experiments in feeding cows at the New-York Station had this same result, and I gave in the COUNTRY GENTLEMAN, some years ago, examples from my own dairy, which proved this same thing. Hence the feeding of cows is a most important matter to be studied and tested experimentally in every dairy.

No doubt practical education in the various manipulations of the dairy are of supreme importance to the quality of the products, but this subject is now engaging the attention of leading experts and teachers of the art, and does not call for mention at this time. I would refer to some other primary needs of the dairy which come before this, because the most skillful manipulations are secondary, and always must be, to the quantity and quality of the milk that is to be worked up.

And first, in regard to the point of profit, I would mention the advisability of adding some cognate and easily associated industries to the dairy, the products of which go naturally to consumers with the milk and butter, and are in many instances actual *quasi* dairy products. Poultry, eggs, small market pigs, and their various products; market vegetables; small and large fruits, of which pears and plums are by far the most profitable; the rearing of a colt or two; a small flock of sheep for market lambs—all of which require but little attention at odd times and intervals, and which will turn to good account the usual wastes, time included, of the dairy.

Second. The growth of green feeding crops, which are indispensable to the full provision for the support of the maximum number of stock kept. Partial soiling is positively indispensable for the full profit of a dairy, and in some cases full soiling should be practiced.

Third. The continuous breeding of the cows; cows should be coming in all the time. A summer dairy is not one third so profitable as one in operation all the year round, and when one has two or three cows coming in fresh every month the quality of the product and the ease of work are both increased. Why should a mill in profitable business run only in times of high water, when in dry seasons a stove may be improvided to keep the wheels always turning out the grist? And why should not a dairy be run on the same principles as all other business?

Fourth. This necessitates the keeping of a stock bull in every herd, and a record of the cows as regards breeding and calving. And the bull, which is the better half of the herd, should always be pure bred, of whatever kind may be chosen as the best for the circumstances. It is too commonly the case that as the herd becomes too closely bred, a bull calf, a grade from the best cow is retained, and the old animal is discharged. This is not judicious. Dairymen can very easily change bulls, or procure a bull calf from a neighbor's herd where there are pure bred cows, or from a breeder, and sell his worked-out bull, or even beef it, and so keep his stock replenished with new blood. This is most important, and should be made a leading principle in every dairy. No dairyman can afford, to escape the cost of keeping a bull, to run at all hours, Sundays not excepted, to a distant farm to get the services of a bull. This savors too much of the slipshod and unprofitable poor farming, for the present day, when time is really money, and gold coin at that.

Fifth. The feeding is also of primary consideration. Cottonseed meal is an exceedingly valuable food, unquestionably, but on account of its excessive albuminoids (42 per cent.), it cannot be fed safely in sufficient quantities for the full yield of fat in the milk. Some years ago I was able to procure some palm-nut meal, which contained 16 per cent. of fat (ether extract) of a bright yellow color, and increased the yield of butter more than any other food. I wish some experimenters would try this food and report upon it, so that a demand could be made for it to encourage its importation. I would rather use the cottonseed meal as a fertilizer, for which it is worth all its cost (containing over 6 per cent. of nitrogen, or more than an average guano) if palm-nut meal could be procured, on account of its safer nature, and the digestibility and safe assimilation of it. But finely ground corn meal, pea meal (the southern cow pea, analogous to the English bean rather than to the pea, is equally as good as the weevil infested pea) with a due proportion of bran, will furnish an excellent mixed food for the production of butter of the best quality, where the oil meals (always excepting linseed, which should never enter a dairy for its bad effect on butter,) cannot be easily procured.

Sixth. The best possible water supply should be secured, and the water should never be colder and never much warmer than 60°. I have noticed my cows, feeding in a pasture where there are half a dozen cold springs flowing, rarely touch this pure, fresh water, but fill themselves on the roadside from a trough kept for watering horses, and supplied from a spring 600 feet away, and which is exposed to the sun, and is warmed by this exposure to 60°, and a little over where the flow is not fullest. Abundance of water is of prime need, and the quality and temperature are signally important.

Seventh, a supply of salt is quite important to a cow in full milk. My cows are doing better with a regular daily ration of a handful which is taken eagerly, given at milking time, than when they get it occasionally, and sometimes miss getting it through press of other work on the farm. It is not that the thirst is excited and they drink more water, but the salt is actually needed for the manufacture of milk through the full digestion of food. Hydro chloric acid is required for the production of the gastric juice, and this acid is secreted in enormous quantity in the stomach of a cow; the much smaller human stomach secretes from five to ten quarts of it daily, and the other analogous digestive fluids, the bile, pancreatic fluid and the saliva, all contain sodic chloride which is simply common salt. This small matter—usually so considered—is of far more importance than some others which receive greater attention, for the animal system depends very much upon the adequate supply of it. The blood contains 3 to 5 parts in 1,000 of salt; the serum of the blood which supplies the milk has nearly 10 parts in the 1,000, mucus (an important part of the system) contains nearly 6 parts in 1,000; the fluid of the eye, the tears, contains 11 parts in 1,000; in fact there is no part of the animal system which does not require it for its healthful operation. A full supply of it therefore is certainly not to be omitted in considering the needs of the dairy.

One more need of the dairy which should not be passed over is, the production of all the domestic supplies that can be grown on the farm. A dairyman's pocket should not be a mere spout for the conveyance of his hard earned money into the hands of go-betweens, who distribute the products of distant farmers. A dairy farm should have its few steers reared and fed for home use; its acre or two of wheat for the family bread; its corn field for the feeding of the stock; the oats or barley for the horses; the vegetables, pork and poultry; in fact nothing should be purchased that can be home grown. Much may be done by association of neighbors in this way. I know of meat associations which take sheep, pigs and beeves from the individual members, and hire a man at stated prices for preparing and distributing the meats. The animals are thus sold at the full market prices, and the meat is bought at actual cost—not over 7 to 8 cents per pound. In short, the keeping of the money earned is quite as important a consideration as the earning of it, and should be made a matter of equally earnest study.

HENRY STEWART.

Clinton County Conferences.

SARANAC—MOORES—WEST BERKSHARTOWN—ELLENBURG—DAIRYING ON ROUGH LAND—CENTRIFUGE CREAMERIES.

EDS. COUNTRY GENTLEMAN—There is a confusion of terms in connection with the manufacture of butter. It is well to settle down upon some specific names for certain things. A butter factory is often called a creamery, and the device in which milk is set for the cream to rise is also called a creamery. My idea is to call the establishment where milk is gathered and set to raise cream a *creamery*, and to give the same name to the business where the cream is brought or is separated by the centrifuge. The establishment where the cream is brought in and made into butter should be called a *butter factory*, as this is all that it is, and the various devices in which milk is set for the cream to rise should be called *creamers*.

Clinton county is an interesting dairy field. Butter factories and creameries are located in most of the valleys, and some of them have been in operation for a number of years. The most of the farmers keep but a few cows, and they have wisely accepted the idea that a good creamery could do their dairy work, with its special adaptation for the business, better than it could be done in the hundreds of farmhouses, with no natural or specific conditions. This sensible idea has undoubtedly put thousands of dollars into the pockets of these sturdy farmers, who look out from their mountain homes upon most attractive scenery, but land hard to till.

It seemed to me that every mare was a mother. It is a common practice for the farmers to raise a pair of colts with the farm team, which is generally a pair of mares. As a result, this county has horses and colts to sell; and unlike many other counties, the income of the farmer is not depleted by being obliged to purchase his horses. The great influx of summer visitors, who court the pure air, grand scenery and invigorating life in the woods, makes a demand for horses for transportation and a home market.

This is a section of country where dairying should be followed as a conservator of the fertility of lands easily worn out. What would these farmers do with their little lots of butter if they were in individual hands? In the aggregate, they are of much more uniform quality, and if not sold for consumption as fast as made, they are stored in large coolers, where they will be preserved in good condition. The dairymen of New-York cannot afford to suffer the great loss they do every year on account of the depreciation in the quality of their butter from imperfect and unwholesome storage. It may be set down as a rule that not one cellar in ten is a good place in which to store butter; yet the cellar is the farmer's butter storeroom. The depreciation in the value of butter kept in cellars is simply immense. In the great round-up or aggregate, it amounts to hundreds of thousands of dollars in our State. The butter factory saves this loss, and saves a vast amount of hard work for the farmers' wives. The farmers of Clinton county take the milk home and utilize it in the rearing of calves and pigs. This is a wise thing to do.

A. B. Boomhower is a citizen who deserves special mention for his enterprise in developing and maintaining the dairy interests of this section. Mr. Boomhower is the owner of six creameries and one cheese factory. He pays a liberal price for the product, or works it at a most reasonable price—four cents per pound, which includes the manufacture, the salt, packages and the sales. The milk and buttermilk are returned. In the most of his creameries he takes out the cream with the Danish-Weston centrifuge. The farmers bring their milk or they unite to do it, and it is rapidly run through the machine while they are chatting with a neighbor, and then it is ready for them in the milk vat. They take the milk to the factory only once a day—in the morning. Sometimes a careless farmer has to turn back home with his milk, because it is sour. Mr. Boomhower has contracted a large quantity of butter at 20 and 22 cents during the boarding season. The tubs in which it is packed are spruce, and hold 10, 24 and 32 pounds. Tubs holding 60 pounds are used for summer storage.

Two thousand pounds of milk are run through the centrifuge at the Saranac creamery. The milk of 400 cows is brought to this establishment. The quantity of milk now is about 7,500 lbs. daily. It has been as high as 9,500 lbs. The average quantity of milk required for a pound of butter is 24½ lbs. No grain is fed to the cows, and in many cases the pasture is thin and the quality of the grass poor. There is, in other words, a harmony between the appearance of the pastures and the results. The pastures need reseeding, as the grasses are becoming wild, coarse and non-nutritive, with lots of weeds.

The operations of this creamery interested me. Mr. Boomhower does not churn the cream sweet, as it makes greasy butter, which lacks in aroma. He handles the cream with great care and skill. The cream is first cooled down to 55°, the milk being run through a separator, at a temperature of 85°. The cream is held for ripening 24 hours, and is frequently stirred. It is allowed to warm up gradually, and is kept at a temperature of about 70°. It is churned at a temperature of 58° or 59°. The centrifuge is run with 2,700 revolutions per minute. The engine is a 6-horse power, and 60° on the steam gauge will run the separator.

A churning by hand of the cream of 200 lbs. of milk, furnished by Thos. Ward, and run through the separator, resulted as follows: 7 lbs. 15 oz. of butter; time of churning, 60 minutes; cream sweet; cows grade Ayrshire

and Durham. Another churning, cows natives, and owned by Solomon Brelis, from 200 lbs. milk, gave 8¼ lbs. of butter; time of churning, 25 minutes. This cream was better ripened. Both churned at the same temperature, following the rule at the creamery, 58° to 60°. One ounce of salt to the pound was used.

At Moocrs one lot of cream was churned from the dairy of H. J. Hill, one of the patrons of the creamery. Cows, grade Ayrshire and Durham; pasture, native grasses, June grass, timothy and white clover; running water; salted every other day, and fed 8 qts. of wheat middlings per cow in two feeds. Pounds of milk, 184; butter, 8¼; ratio, 21 64; churned at a temperature of 65° in a Stoddard churn; time, 23 minutes; salted 1 oz. to the pound—Warsaw salt; cream ripened on the piazza of the house; temperature 65°; carried four miles to the conference; cream raised in a Fairlamb creamer, in spring water, temperature 50°; cream from several skimmings, mixed and ripened together. When it reached the creamery it was cooled down to 60°. Surely this was eventful cream; but it came out all right in the skilled hands of Mr. Gilbert, and made a good showing in the end.

At West Beekmantown the creamery was owned and operated by Thos. McGauley. Both Mr. Boomhower and Mr. McGauley did all in their power to make the conferences successful. Mr. Boomhower owns the other creameries where the conferences were held.

At Saranac and Ellenburgh the town halls were opened for the general meeting and the speaking. At Ellenburgh the town brass band was in attendance, and did its part to promote good feeling, and the people, with ample lunch baskets and ready hands, provided a grand feast for all during the recess. Mr. McGauley uses a Danish-Weston separator, which makes 2700 revolutions per minute. His system of ripening the cream is similar to Mr. Boomhower's. The cows are natives, and are fed no grain; salted at least once a week; milk delivered once a day, and centrifuged at 80°; cooled and held at about 60° for ripening; temperature regulated with ice, which is put into the cream. This is a poor plan. Churned in a 200-gallon Blanchard churn, temperature 60°, with 40 revolutions per minute. The cream is ripened in a large vat, and is held 27 hours before churning. There are 60 patrons, with a total of 400 cows.

In the afternoon a special churning was had from the milk of one pure bred Jersey cow, two grade Jerseys and one grade Holstein, with two natives. Food—pasture and grain ration, 2 lbs. wheat bran and 1 lb. cottonseed meal per cow daily in two feeds. Milking done at 6 A. M. and 6 P. M. Cream raised in a Cooley creamer at a temperature of 40°, regulated with ice. Milk set 24 hours. Cream ripened 24 hours, at a temperature of 62° to 64°. Churned at 63° in a Stoddard churn. Time of churning, one hour. Temperature of butter, 66°. Worked on the creamery worker, salted on the worker with Syracuse salt, 1 oz. to the lb. Pounds of butter, 11 8 oz. Pounds of milk, 267. Ratio, 1 lb. of butter to 23 21 of milk. Cows owned by L. A. Rea, East Beekmantown.

At West Beekmantown there was an enthusiastic meeting in the school-house, and at the close a committee was appointed to bring about the organization of a farmers' club, to include Plattsburgh. At Ellenburgh the cream is raised in the Whitman & Burrell vats. A narrow tank through the centre contains ice, and also one on each side of the vat. The ice-water from these tanks runs down underneath the milk, so that it is cooled above and below. The process is a good one for the rapid cooling of the milk, but it requires a larger amount of ice. There was no cream ready at this place for any special churning. The usual churning of the creamery was had as follows:

Time of churning, 34 minutes. Butter worked on a revolving "Mason's improved centre drip" worker. Salted 1½ oz. to the lb. with Ashton salt. Pounds of milk, 6,682. Pounds of butter, 293¼. Ratio, 1 lb. of butter to 22 76 of milk.

This creamery is one of the largest and best equipped I have seen. It has 86 patrons. The daily supply of milk has reached 11,200 lbs., but is now only 9,000 lbs. The butter now being made is held, and there are in the store room 500 tubs waiting for the later trade. The cream is raised in this factory at a temperature of 48°, and is held 24 hours for ripening. The average yield of butter has been 1 lb. for 22 59 lbs. of milk.

At each of the conferences the instructors endeavored to interest the people, and the meetings were continued until late in the afternoon. The usual variety of questions were asked and answered. Prof. Cook of the Vermont Experiment Station was present at the Moocrs conference, and made an interesting talk on the losses of fat from mixed cream. He said where cream is mixed, churn a little cream and churn slow. He advocated reducing the temperature for sweet cream. In answer to the question, "Can the dairyman do as well as the factory?" Prof. Cook gave results from experiments. He found that, with a number of tests on a large scale, there were less fats percentage in the buttermilk than on a smaller scale. The average amount of butter fat was 4 per cent. in milk. One half of one per cent. was left in the skim milk in the private dairy, and one per cent. in the buttermilk. In the creameries the little losses are proportionately less. It was pleasant to have Prof. Cook with us, as he is a painstaking and scholarly gentleman. Clinton county is now beautiful with her healthy potato fields, many of them in blossom, and the fine fields of spring wheat, now just ready for the reaper, and the barley still green. F. D. CURTIS.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

RINGBONE.—A yearling colt is getting ringbone on both hind feet. It first showed itself about three months ago. J. J. R. *Rowland, N. Y.* [Apply golden blister; repeat in four weeks and again in four more, if necessary.]

DISCHARGE FROM NOSTRIL.—My horse, 20 years old, has a discharge of offensively smelling yellowish matter from right nostril; was noticed three days ago. Have twice had tar mixed with a smaller portion of salt placed in his mouth. Yesterday the discharge had increased, but to-day there is a decrease. FAUQUIER. *Buckland, Va.* [Rub the throat once a day with strong liniment. Inject nostril twice a day with some of the following lotion: Powdered acetate of lead, 1 oz.; powdered sulphate of zinc, 4 dr.; tincture of aloes and myrrh, 2 oz.; creosote, 2 dr., and sufficient quantity of water to make 1 quart; mix.]

DEATH OF BULL.—A bull was seen to be a little gaunt one evening, but still grazing; worse next morning, but served a cow; refused to eat; staggered and walked with difficulty; was past walking at noon of same day, drew back head and seemed to be in great pain; pulse 120°; extremities cold; died at 8 P. M. Post mortem at 9 showed internal organs healthy except gall bladder distended to size of man's fist; manifold dry and distended with fecal matter. I had given one pound epsom salts without effect; and rubbed spinal column with oil of mustard. W. A. T. *Logan's Store, N. C.* [There is no evidence on which to form a diagnosis. Surely you must have observed other symptoms.]

HAIR ROUGH—TAIL-RUBBING.—A mare 14 years old is in good condition generally, but hair looks rough, bunchy and dry; will rub her tail whenever she can. (1) Two of her colts, one and two years respectively, rub their tails a good deal. Colts look well on the hair; the 1-year-old is rather thinner than the 2 year-old; both on the same pasture. (2) F. H. R. *Ridge Road, N. Y.* [1. Give physic ball, then in a week give one of the balls as below, and repeat in 5 days: Powdered aloes, 7 dr.; powdered gentian, 10 dr., and sufficient quantity of venice turpentine; mix. Make two balls, then feed Moore Bros.' worm powders. 2. The colts may have their tails wet with kerosene; twenty minutes later wash them. Also give the colts some worm powders.]

MULE SICK.—Lost a mule last April, which seemed to have some kidney affection. Have another, which is affected in same way. He urinates about every half hour while plowing; water generally highly colored. Is growing thin, although with good appetite, well fed, and not over-worked. R. A. C. *St. George's, Md.* [Stop work and give only moderate exercise for two weeks. Give one of the following balls every four days: Powdered Barbadoes aloes, 1¼ oz.; powdered gentian, 2 oz.; Venice turpentine, sufficient quantity. Mix and make into four balls. Give two tablespoonfuls of the following powder in feed three times a day: Bicarbonate of soda, 1 lb.; bicarbonate of potass., 1 lb.; mix. After the balls are used, feed Moore Bros.' worm and tonic powders.]

COUGHS IN MARE AND COLT.—A sorrel driving mare, four years old, has had a cough for two months or more; if driven in evening, and left to stand a while, has a rattling in her head—sounds like a blubber; coughs worse next day, and discharges a little from nose. A veterinary surgeon says it is lung trouble. Gave treatment twice; cough comes back as soon as treatment stops. (1) A yearling colt has had a cough for six months; if he runs or exerts himself, will cough several times. No discharge from nose. (2) A READER. *Bucyrus, O.* [1. Rub the throat once a day with liniment. Inject nostrils daily with some of the following lotion. Use a hard rubber syringe and squirt the lotion with force up into the head: Powdered sulphate of copper, 1 oz.; chloride of zinc, 2 dr.; tincture of compound aloes, 3 oz.; water, sufficient quantity to make 1 qt. Give the animal a dose of physic, and report in two weeks. 2. Give tea-spoonful of the following powder on tongue twice a day: Powdered sinniber, 4 oz.; powdered nitrate of potass., 3 oz.; powdered chlor. of potass., 4 oz; mix. Rub throat daily with liniment.]

LEG SWOLLEN.—About a month ago a 3 year-old mare in some way knocked the skin from her hind foot about three inches above fetlock in two places, about as large as a 25 cent piece. Kept it greased, and hair came in all right; has not been lame, but two weeks ago the leg began to swell; was not bad; put on cold wet bandage, covered with dry, and swelling partly went down. W. D. S. *Cowaville, N. Y.* [Rub leg twice a day with some of the following lotion: Powdered nitrate potass., 4 oz.; powdered muriate ammonia, 6 oz.; tincture arnica, 8 oz.; tincture aconite root, 4 oz., and a sufficient quantity of water to make 3 qts.; mix. Water should be hot at time of mixing, and always warm some of the lotion when about to apply it. Give colt a tablespoonful of powdered chlorate of potass. in food or drink daily for a week. Let the animal have plenty of exercise.]

Transfers of Thoroughbred Cattle.

American Guernsey Cattle Club.

NAME.	SELLER.	BUYER.
Presto of East View	J J C Abbott,	E B Brow
Rosecrans, N K Fairbank,	H G Ossanne	
Royal M, E Michener,	I J Clapp	
Select 8th and Cottie Bon Bon,	S P T Willets,	H M Whitney
Spruce and Toby,	W M Sheppard,	S C De Cou
Variety,	Williams & Chapman,	J H Oglivie
Zylphie,	I J Clapp,	M R Wood
Zoolo,	N K Fairbank,	L P Smith
Gypsy Maid,	Fiorsie H and Jessie H,	C B Hoff, E Michener
Henry Hayes,	L F Whitcomb,	S S Thatcher
Hymetta, Imp Daisy Maud 3d,	Queen Augusta and Imp Magnet 3d,	Culvern & Otis, I L Otis
Lord Oliver,	A J Cassatt,	J M Fox
Lulu Pittsburgh,	E H Hodgson,	T M Ware
Lilysnik,	A J Cassatt,	L & J M Edienhim
Lewiston Boy,	E P Brown,	S Townsend

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Amaria's Pogis,	E L Van Deusen,	Hst of W H Black
Cadeaux,	W L & W Rutherford,	I H Pillars
Cayeto,	F H Chapin,	S A Griswold
Compile,	H C Taylor,	G W Nussum
Discount,	Richardson Bros,	S J Miles
Exile of St Lambert 33d,	P J Cogswell,	P Falling
Fleurie's Rex,	R M Du Bois,	S P Allen
General Gallup,	J W Holmes,	H Gallup
Gen U S Grant, Kas of	W A Welch,	S Baker
George Hill,	Mrs F M Leigh,	W D Humphries
Italian,	Richardson Bros,	S F Holway
Ivan Cisco,	N A Davis,	Est of W C McGown
Jake Chestnut,	W H Sloan,	J Cooper
John Bull's Alexander,	T R Proctor,	H T McDonald
Lexicon,	Richardson Bros,	W J Sears
Lord of Elmwood 2d,	J W Webster,	G J Cole
Luna's Pedro,	I Marston,	J Rutherland
Madison Chief,	S Campbell,	J F Randolph
Metaphor,	Richardson Bros,	W Barnard
Pedro Lachawanna,	C J Foster,	J F Lindsley
Pedro of the Valley,	E Miller,	J O Couch
Polinty,	R Morris,	G Payne
Prince of Christiana,	Mrs M N Rogers,	Peters & Appleby
Queen's Pedro Pogis,	I Marston,	S C Goodyear
Rhet Act,	R H Norton,	F T Child
Rioter Khedive Pogis,	Mrs A N Martin,	R S Kingman
Rioter's Robin,	The Echo Farm Co,	Mrs S C Goodhue
Rissalto,	N Brownell,	W Haden, Jr
Santa's Best,	W M Bell,	M W Walker
Sentiment,	Richardson Bros,	A D Cady
Sir Henry S,	H F Pillsbury,	J P Ellis
Tilda's Vasse,	W L & W Rutherford,	G M Beeman
Africa Darling,	C W Sprague,	G H Patrick
Anatin's Belle,	Green Mountain Stock Farm Co, Sewickley Dairy Co	
Brown Maid S,	D W Voyles,	J W Melton
Carlo's Rosette,	J K Wilfong,	G W South
Christine Le Roy,	J A Perdue,	C Knowles
Clara Hill,	Belmont Jersey Cattle Co,	White River Jersey Cattle Co
Cricket's Tomboy,	J Bailey,	C L Ridley
Crystal Edith,	Miss D Fisher,	S D Brandt
Deeda Pogis,	Belmont Jersey Cattle Co,	White River Jersey Cattle Co
Dewdrop of Deerfoot 2d,	H F Pillsbury,	J P Ellis
Dumbella 2d,	W L & W Rutherford,	G M Beeman
Edith Weller,	G Weller,	P Connor
Elmleaf's Minnie,	Green Mountain Stock Farm Co, Sewickley Dairy Co	
Eula 2d,	J Manwaring,	Mrs W Bliven
Fir Shade Maud,	G Blanchard & Bro,	J F Reed, Sr
Florence of Barton,	H F Pillsbury,	J P Ellis
Ford's Ollie S,	Green Mountain Stock Farm Co, Sewickley Dairy Co	
Frisk,	R H Norton,	F T Child
Golden Butterstar,	T F Sallo,	Platter Bros
Golden of the Valley and Grace Fletcher 2d,	Green Mountain Stock Farm Co, Sewickley Dairy Co	
Hannah Du Bois,	E M Dubois,	S Kelly
Hattie J,	A Le Gory,	H J Arledge
Holly Tree Rose,	J W Brumby,	J T Reed, Sr
Ino Belle and Jersey Wonder,	Green Mountain Stock Farm Co, Sewickley Dairy Co	
Jessie C,	E Darecourt,	F C Zacharie
Kitty Rioter,	Green Mountain Stock Farm Co, Sewickley Dairy Co	
Lady Alfani,	W C Page,	S D Jackson
Lady Cowslip 2d,	S H Godman,	White River Jersey Cattle Co
Lady Polk,	J W Johnson,	L H Lapham
Lady Rutlecourt,	Green Mountain Stock Farm Co, Sewickley Dairy Co	
Lassie's Picture,	C Holkins,	G F Smith
Leonore Le Brun,	Mrs M N Rogers,	Peters & Appleby
Lily Blackpoint,	J L Sheppard,	J F Jones
Lucy of Clairemont,	J H Gillelan,	W H Garrett, Jr
Lucy of Valley Home,	P Y Brown,	A W Harrold
Magneda,	W L & W Rutherford,	G M Beeman
Maid of Neatham,	J W Bright,	G C Bird
Mamie Pink,	D H & S S Tripp,	L S Harrison
Mandie of White Lick,	S H Godman,	White River Jersey Cattle Co
Midnight Daisy and Midnight Daisy 2d,	H F Pillsbury,	J P Ellis
Minnie Long,	B T Bennett,	R P Willing, Jr
Moty,	J Manwaring,	Mrs W Bliven
Myrtle of Fairvale,	G S Bicknell,	H A Holmes
Nadjy,	R H Norton,	F T Child
Nahant,	W S Oliver,	H Hilbert
Narcissa Pogis,	Belmont Jersey Cattle Co,	White River Jersey Cattle Co
Nehushta 8th,	W L & W Rutherford,	G M Beeman
Nellie Hazeltine and Nellie of Ninevale,	W S Oliver,	H Hilbert
Nervine,	H Du Bois,	Mrs C M Roberts
Nettie N,	Belmont Jersey Cattle Co,	White River Jersey Cattle Co
Nifty,	J Manwaring,	Mrs W Bliven
Nourmahal,	F P Miles,	H M Pratt
Pansy Upcrest,	Est of W A Welch,	J Markwell
Passion,	Mrs E C Bersey,	A Mickey
Pedro's Cream Cup,	G E Morse,	G H Bryant
Pogis Lass,	J S Hart,	H G Bauld
Pogis Ligna,	J S H	
Princess Sadie,	W	
Pogis' Sciturota,	J	
Pyramid,	R H Nor	
Quarter Albert,	C	
Sewickley Dair		
Queen Flora,	J O C	
Queen Mollette,	D	
Queen of Orchard		
Rexie Magnolia,	C	
Rioter Lovely and		
Stock Farm Co,		
Roslia of Wolfate		
St Le bert's Daisy		
Sciturota Polono,	J	
Signally St Heller,		
Signal's Golden, S		
Silver Fairy, H All		
Spatter from Crear		
Star of Lyndham,		
Sewickley Dair		
Stella's Sapphire,	I	
Stockholder's Gips		
Tapestry, Richards		
Trudie's Granddau		
Vernon Pogis Belm		
Jersey Cattle Co		
Vittoria, W H Sing		
Young Florence, S		
Zeita Pogis, W R O		
Zilliah Zu, J Manwa		

1 & 2 *Broadway, Ne*

Holstein-F

NAME.		
Alameda Boy,	J H S	
Alma Kuperus' Nero		
Baron Jantje,	J C C	
De Deugd's Prize W		
Dorlesky's Prince,	J	
Duke of Peabody,	H	
Eldsmar,	Roberts,	D & Co
Elevation,	J M C Ad	
General Aaggie Way		
Furnace		
Hammill,	O R Cole,	
Ijabrandia's Violet Byers		
Jim Wortzel,	W S Str	
Lammermoor Brides		
Lord Baker,	S S Man	
Lord Galla,	J B Dute	
Marietje's Ademus,		
Nin's Hendrik,	T C	
Onetta's Edgely,	Sm	
Farm		
Protector,	Scatheord	
Whist's Prize,	Dudle	
Zem's Prince,	Lashb	
Aaggie Dorothy,	J W	
Aaltje Mate,	A M B	
Alwene,	O R Cole,	F
Amerillie 4th,	W S St	
Annie of Creek View		
Astersia,	O J Hubbar	
Bonnie Ethel's Merc		
periment Farm		
Carlotta B and Cree		
Marsh		
Damaris,	S S Gardner	
Electa D,	N F Sholes,	
Fabje,	H Darcourt,	C
Flaunt,	J Wilson,	H S
Francesca,	E Hulsker	
Heewstra,	O R Cole,	F
Hiltje Tolsma,	E M	
Jochimtje,	W A Rusc	
K Adriania,	E K Sea	
Lady Branksmere,	O I	
Lady Zonderwan,	N F	
Maid of Middlesex' T		
Malinda 2d,	S S Mann,	
Merca,	S G Hollinger,	
M F Manetta 2d,	T C C	
Nin's Memento,	T Cor	
Polly Hilwood,	J E M	
Pioneer Farm's Cumali		
Queen Abbekerk,	W A	
Ruth Morgan 2d,	J L T	
Siepsje 2d's Queen,	Sm	
Farm		
Ternesse,	E M White,	
Tola 3d,	S G Hollinger,	
Villia of Creek View,	T	
Winigan Key 2d,	J L T	
Witch of Otsego,	J S T	
Zippia 2d,	J F Fairchil	

Iowa City, Iowa.

Record o

Review of

The G. A. R. a annual encampment at Milwaukee, Aug. ties were largely a were in line the 27th, Warner and General battle took place the and their friends wer tain Pabst, a wealth man spoke to the Home, saying it w General Russell A. elected commander will be at Boston. 410,685; posts, 6,711; last year, 4,666. Te Georgia and Alabama ministration was en asked, and last year's re-affirmed.

Old Times in celebrated its 250th with a procession in senting the purchase Indians, settlers' life dustries, woolen worl of 60 people in costu settlers and their fami Haven to Milford. G tor Hawley and othe the grandson of W baptised on the spot Fowler built his house being the tenth Willi Wepowaug river has bridge and tower of st of the first settlers.— on the 8th of Septembe

Deaths.—Dr. Edwa dent of the State No Aug. 28, aged 58.—G actor and dramatic auth 29, aged about 60.—Ja

Mills, Ia., Aug. 29, aged 112. He was the oldest Mason in the United States.—Mrs. W. E. Christian, only child of Stonewall "Jackson," at Charlotte, N. C., Aug. 30.

London Labor Idle.—The strike of the dockmen reported last week has become the most extensive ever known in England, embracing carmen, coal porters, gas stokers, iron workers and the printers employed by Eyre & Spottiswoode, Cassell & Co., and Waterlow & Son, affecting 200,000 men. Good order was generally observed, and Aug. 27, 100,000 dock laborers marched in procession. Although business was at a standstill, and 250 steamers were without cargoes, public sympathy was with the strikers, and ship owners contributed to their funds, both capital and labor having suffered from the despotism of the dock companies or middlemen. The Salvation army, cottage mission and other societies have furnished cheap or gratuitous meals and lodgings. Socialist John Burns addressed 6,000 men, Aug. 30, and the committee issued a manifesto calling on all the workmen of London to strike Sept. 2, if the dockmen's demand for 6d. an hour regular work and 8d. over time, or 8d. and 12d. under 4 hour contract, be granted. Cardinal Manning, Sir Andrew Lusk and others conferred with the dock companies. Shippers are arranging to unload steamers at Dover. A meeting of 150,000 strikers was held in Hyde Park, Sept. 1.

Other Foreign News.—Parliament has been prorogued until Nov. 16.—Queen Victoria was warmly received on a recent visit to Wales.—The hop harvest is quite forward in Kent and Sussex, and growth very heavy.—Mrs. Maybrick was removed to the convict prison at Woking in Surrey, Aug. 29.—O'Brien and Gilhooly were sentenced, one for two months, the other six weeks, in jail.—The Czar and Czarina were received at Copenhagen, Aug. 29, by King Christian of Denmark and King George of Greece.—The Shah started for home from Budapest, Aug. 28.—The village of Tscheriach in St. Gall, Switzerland, was destroyed, Aug. 30, by the fall of a part of Mount Rufibisberg. The villagers escaped.—An earthquake at Kuenzorik on the Russian frontier, Aug. 27, buried 129 persons alive.—A series of typhoons, with great loss of life, have occurred in North China and Japan.—Port-au-Prince has been quietly occupied by Hyppolite's 7,000 men. Legitime sailed on a French corvette for Santiago de Cuba.

Minor Items.

The second State food exhibition opened at Albany, Aug. 28

Forest and prairie fires have prevailed in six States and Territories.

An earthquake shock was felt at Pasadena and other points, Cal., Aug. 27.

Andrew Carnegie and Russell Harrison returned on the City of Paris, Aug. 28.

Carlisle Graham went over Niagara Falls Sept. 1, in his barrel. He came out alive.

Dr. Peters of Hamilton College, N. Y., has discovered a new planet of the asteroid group

A negro of Yorkville, S. C., ate 84 fried eggs in four hours. At night his wife was a widow

The Rush has taken another British sealer in Behring Sea—the Lily, with 300 skins on board.

The boiler of a rolling-mill at Towanda, Pa exploded, Aug. 27, killing five men and fatally injuring two.

The cardboard for the new postal card will be made by Wilkinson Brothers & Co. of Shelton, Conn.

A fire at Sackett's Harbor, N. Y., Aug. 28 destroyed the business portion of the place with loss of $40,000.

A colored U. S. supervisor was waylaid and whipped by eight white men in Assumption Parish, La., Aug. 28.

Gen. James M. Warner has been appointed postmaster at Albany, and John M. Bailey surveyor of the port.

Dr. O. W. Holmes was 80 years old, Aug. 29. Letters and telegrams poured in on him at Beverly Farms, Mass.

A farewell meeting was given in Boston Aug. 29, to 49 Unitarian missionaries who go to Turkey, India, China and Japan.

Judge McConnell of Chicago has decided that all the Cronin suspects, except Woodruff, must be tried together. Trial began Aug. 30.

Sheriff Flack of New-York is to be indicted for conspiracy in securing a divorce from his wife. He will probably resign his office.

Cattle are said to be dying by hundreds in the pasture lands of Indian Territory. The symptoms are the same as of Texas fever.

The rope of an elevator in a Philadelphia hospital broke, Aug. 30, at the third floor, and the car fell, injuring five nurses and the boy.

An excursion train collided with a stock train on the Vermont Central road near Brooksville, Aug. 31, killing conductor, engi

See Advertisement of the
FEARLESS
THRESHING-MACHINE,
in a late number of this paper, and for the best
ENSILAGE-CUTTER,
send to the old and reliable Empire Agricultural Works, over 30 years under the same management, Minard Harder, Proprietor, Cobleskill, N. Y., for fully illustrated, descriptive and free Catalogue, showing "why ensilage pays."

The Fireside.

Recent Publications.

Mispronounced Words.—We receive from Messrs. G. P. Putnam's Sons, publishers, New-York, a sixteenmo volume of some 500 pages entitled "Seven Thousand Words often Mispronounced—a Complete Handbook of Difficulties in English Pronunciation, including an unusually large number of Proper Names, and Words and Phrases from Foreign Languages." The author, Mr. WILLIAM H. P. PHYFE, is already known to students of orthoepy by his book, "How Should I Pronounce?", published four years ago and commended in these columns at the time. The present work may be considered as in some sense an amplification of its predecessor—that is to say, the list of words is four or five times as long, though the discussion of principles is much briefer, so that each book has a place of its own, and the possession of one will rather incline the discriminating student to obtain the other also. A great improvement has been made in one important particular—the use of authorities; Stormonth, Haldeman and others are now cited, as well as Webster and Worcester. Take it all in all, it is certainly an excellent manual, and whoever follows its teachings will speak good English, so far as his phonology is concerned. Yet there are a very few points in which we wish Mr. Phyfe would make some trifling improvements in future editions. It may be well to specify:

The *o* in *orange*, which careful speakers certainly make very short, just as in *other*, is marked to be sounded like the *o* in *dog*.

The accent in *Bilocm*, which is properly on the second syllable (Bi-*lo*-am) is indicated as optional, thus admitting the very incorrect pronunciation *Bil*-o-am.

In *Cleopatra*, the author takes pains to prohibit the sounding of the first *a* as in *father*, which seems very unfortunate, that sound being so much more musical than the *a* in *fate*, to say nothing of its unquestioned historical accuracy. We wish the absurd mispronunciation Cle-*o*-pa-tra, occasionally heard from persons of some pretensions to elegance, had been denounced instead—though perhaps Mr. Phyfe disliked to admit that such an atrocity could be possible!

Finally, there has certainly been a little carelessness with German names. The first syllable of *Bismarck*, which rhymes with *kiss*, is wrongly marked to be sounded *Biz*. The particle *von* preceding a name (as *Von Bulow*, *Von Bunsen* and the like), is given with the *o* long, making it *fone*, which is certainly an exaggeration, and may mislead. On the whole, however, Mr. Phyfe's markings of foreign words seem to us very successful. It is a difficult task at best, and whoever accomplishes it even fairly well, deserves much credit.

Human Anatomy.—The very best low-cost device we have ever seen or heard of for presenting a clear idea of the bones, muscles and interior organs of the human body, is what is called "The Man Wonderful Manikin," arranged by ADELBERT GARDENIER, and published by the Fowler & Wells Co., 775 Broadway, New-York, at the insignificant price of $5. To describe adequately this ingeniously planned and beautifully executed piece of work, would take too much space. But we can say unhesitatingly that every parent and teacher—yes, and every intelligent reader not already thoroughly versed in the subject—will do well to place it in his library at once.

Other Publications.—Notice of the receipt of the Albany and Troy Directories for the current year has been deferred until now by oversight. They are model works; and that is not said off hand, but after somewhat careful comparison with those of other cities. The publishers, Messrs. Sampson, Murdock & Co., 448 Broadway, Albany, have had long experience, and succeed in reducing directory-making almost to an exact science.

—— The Messrs Putnam issue a useful little book called "Great Words from Great Americans," and containing the Declaration of Independence, the Constitution, Washington's inaugural and farewell addresses and letter to the governors of the States, Lincoln's inaugurals and Gettysburg speech, and other matter. A good thing to have in the house.

—— From Messrs. D. Appleton & Co. of New-York we have a novel called "Mistress Beatrice Cope, or Passages in the Life of a Jacobite's Daughter," by M. E. LE CLERC; and a volume called "Christianity and Agnosticism," consisting of recent notable English review and magazine papers by Principal Wace, the Bishop of Peterborough, Prof. Huxley, W. H. Mallock, and Mrs. Humphry Ward.

Periodicals.—Harper's Weekly of Aug. 24 has a four-page supplement devoted to "The Development of the American Trotting Horse"—an interesting sketch, with 14 admirable engravings.

The September St. Nicholas gives its readers a very bright tale, with capital illustrations, which they will surely enjoy. It is called "the dragon's story," and is quite out of the usual line.

The July Westminster Review takes occasion, in the opening of a literary essay, to pay the following well expressed and well deserved tribute to a great American historian:

"Among the great writers of the present century there is no one whose name ought to be dearer to lovers of freedom on both sides of the Atlantic than that of John Lothrop Motley. It is impossible to find anywhere an historian inspired with a higher moral purpose, and there are few, indeed, whose perceptions of right and wrong have been so keen and so uniformly sound. His love of justice and liberty was an even stronger passion with him (and that is saying much) than was the admiration of Carlyle and his disciple, Mr. Froude, for tyranny and brute force. Mr. Motley, in his judgments, is no respecter of persons. Even in the present day there is a tendency to visit the sins of kings and emperors with less censure than those of ordinary persons. But Mr. Motley evinces no such tendency. He is almost the only historian who has spoken with due reprobation of the character of Charles V., a sovereign who still finds admirers, although a far less amount of treachery and cruelty than he displayed would be considered amply sufficient to brand the perpetrator of them as a monster of villany."

Ironing Song.

Oh! what a world were this,
A paradise of bliss,
If, wielding dextrous flat-irons, we could each
Furnish long unwonted smoothness
To all the rough uncouthness
And misery that lie within our reach!

But often when we will
To eradicate some ill,
And move our busy flat irons briskly o'er,
Tho' our strokes are firm and bold,
Yet the touch is all too cold,
And leaves the world as rough-dried as before.

Or perhaps in all our hurry
To relieve our friends of worry,
And leave all smooth and polished as a glass,
Our impatience burns so high
That the irons grow hot thereby,
And scorch the dainty fabric as they pass.

So when human woes distressing,
Iron ill hand, you would be pressing,
Heat your irons at the flame of holy love—
Heavenly patience lightly sprinkle
Over all; and many a wrinkle
And roughness may your willing hand remove.

Making Calls.

In the entire category of social duties there is none in the practice of which so much harm results as in the social call. The conventional farcical call accomplished by driving to the door and leaving cards is the least harmful, although it may be ridiculous. I acquired a detestation for fashionable calls years ago while visiting relatives in New York. They were people of good standing, prominent in church work, and supposed to be models of manners and morals. While I was in the sitting room one morning engaged in fancy work with the mother and her daughters, the servant announced a visitor. Various expressions were indulged in. "How provoking!" said the mother. "Doesn't she know better than to call at this time of day!" said one of the daughters. "I've half a mind not to go down," said the other. As a matter of courtesy, I suppose I was invited to descend to the parlor and be introduced to the caller, whom I expected to find extremely disagreeable, but who proved to be very pleasant and entertaining. My hostess greeted her with such cordiality that I was astonished, being prepared by what I had heard for at least a coolness in the reception.

Being quite young at the time I was very impressionable, and I shall never recover from the prejudice then received against the practice of making calls. As I have grown older I have had no reason to recover from it. The time spent by women in making calls is in nine cases out of ten wasted—aye, it is worse than wasted, the effect is demoralizing. If the time were spent in harmless small-talk, in the use of which there are a few gifted people, the practice might be encouraged on the ground that such talk is a relaxation to the busy thinker, but it is oftener spent in gossip which is far from harmless.

Many an innocent person has been made to appear guilty, and many a guilty one has been painted blacker than he deserved to be in some of the parlors where perfection of taste is displayed in the surroundings, and where hostess and guests pose as exponents of charity and refinement. Mrs. Lofty would scorn to receive her visitors in a dress or house similar to that of Biddy O'Flaherty, yet she gives them the same mental feast, a little more fashionably served, which Biddy offers to her visitors—indeed, Mrs. Lofty's feast has probably less of the flavor of charity than has Biddy's. Women of education and refinement—particularly those who have always had the advantages of good society—so called—ought to find more elevating topics of conversation than those that satisfy the most ignorant.

By such callers as I have described, I have heard many different topics discussed. The new minister is by them always considered as to the style of his coat, the cut of his hair, the size of his family, and their possible extravagance or parsimony, but his mission is left entirely in the background. The new neighbors are classified according to the size of the house, their dress, their entertainments; but if great wealth is indicated, their manners and morals are not considered in the estimate.

Years ago I gave up the practice of calling on people for whom I cared nothing and who cared nothing for me. Where is the sense in people who have nothing in common boring each other with calls simply because it is fashionable to do so! In the country, it seems to be the custom in some neighborhoods, to "run in at any time," as the phrase is. Many farmer's wives could tell a tale of a slatternly neighbor, who will neither do her own work nor allow her neighbors to do theirs—her mission in life seeming to be boring her neighbors with morning calls in which she relates the latest gossip.

But the really dangerous caller is the insinuating gossip who half asserts, half insinuates an uncharitable piece of news, and in a wily manner influences her hostess to express an opinion, then goes from house to house with the original tale and all its accumulations; yet such women are tolerated in "good society."

A young friend of mine who was working hard to pass a difficult examination for a teacher's certificate, came to me one day begging that she might use a little room in my house for a study. "I shall never accomplish anything at home," said she. "Yesterday I received ten callers, and to-day I may have as many more. At this rate, I shall never get a certificate to teach." I pitied the poor girl. It is hard enough for women who have nothing else to do, to receive ten callers a day, but for a working woman, the drain on her strength is enormous.

Some people pride themselves on the length of their calling list. I take pride and pleasure in the shortness of mine, not because I wish to be eccentric (I do not admire eccentric people), but because my mission in life is more important than that of entertaining people in whom I have no interest.

A few tried, trusted and congenial friends are sufficient for me; the rest of mankind I can treat with kindness and courtesy whenever occasion demands, but I cannot throw open my house or devote my time to their entertainment. LILLIAN MAYNE.

Family Affection Repressed.

No home can be truly happy in which the members of the family circle are ashamed to show their affection for each other. There comes a period in the life of all children, boys particularly, when they regard a kiss or any other lovable demonstration as too babyish for them, and they shun it as they would poison.

Perhaps this is the outgrowth of neglect on the mother's part. The care of younger children crowds the older ones aside, and before she knows it these dear little ones have become accustomed to do without the endearments that were showered on them in infantile years, and can hardly be won back. Bishop Vincent says the average boy at the age of thirteen or thereabout, has not a friend on earth except his mother. He is a terror to every one, but for all that his young heart probably often yearns for a little petting and loving.

Too often we take home-love as a matter of course, just as we take the air, the sunshine and other blessings of life; we fail to realize that it is like a plant, and that to give the best returns it must be fostered and cultivated carefully. It is no uncommon thing to find a household of half-grown children who can scarcely remember when they have been kissed by father or mother, unless, perhaps, on a return from a long journey. But a good-night embrace, a little hug, a sympathizing pat on the shoulder when they are in trouble, is so remote an experience, dating back so many years, that they have utterly forgotten it. However, let one of these boys cut his hand or fall out of the haymow and get a bloody head, how quickly the whole family are alarmed, and run to his assistance with loving service! Through his wounds he sees they really have hearts, that they do care for him after all, and secretly he rather enjoys being bruised since it has revealed to him that his family have an interest in him beyond merely seeing that he has enough to eat and a place to sleep. How sad it is that he must nearly break his neck to find it out!

As for the attitude of the children among themselves, any loving demonstration toward each other would be almost as overwhelming as if a cyclone had struck them.

They are ashamed of the pet names of babyhood, and are distressed beyond measure if their mother addresses them as "dear" in the presence of a stranger. To grow up ignoring or cultivating a contempt for these little tendernesses makes boys boorish, and does not add one whit to their manliness or dignity. The manners of girls are, somehow, less influenced by the absence of these demonstrations—at least, it is less painfully noticeable, but all the refinements of society cannot balance the gentle schooling of home, and although sister may not be as clownish and rude as is her brother under the same surroundings, yet her character soon take on petty deceits and habitual dissimulations.

This repression of the emotional side of our natures in our family life, is a grave mistake, and to it may be attributed one half the heart burnings and little gnawing griefs that beset us daily. Many a good mother lives her life through, and goes to her grave misunderstood by those she would have died to serve, because she never gave expression to her real feelings. She has kept back her greatest self until her children have come to regard her as unemotional and cold. Like begets like. This is a law from which there is no deviation. The children in turn soon learn to check any show of tenderness, until as the years go by, they have so well learned the lesson of indifference, that when they have arrived at manhood and womanhood and come to separate each to take up his own life work, they do so without a pang, and henceforth care no more for each other than for strangers.

Many years ago I was visiting in a family, and after tea was engaged in conversation with the host and hostess in the parlor, when the door opened and in trooped the children to say good night to papa and mamma. As they ran in turn to the parents, clambered on their laps or clasped them around the neck to receive a loving kiss, I thought I had never seen a lovelier sight. I have never forgotten it, and to this day whenever mention is made of home happiness, my mind instantly reverts to that pleasant scene.

"It would have looked better had the mother and father gone to the children's room and bidden them good night, rather than have them make a show before strangers," did you say?

My dear Mrs. Punctilio, don't you know that in the beautiful innocence of childhood there are no shame—that everything is genuine? Their little hearts are too full of love and warmth to think of stage-effects. Let cold-blooded older people continue to enjoy a monopoly of repression and cultivated indifference, but for the sake of all that keeps life sweet, don't let us encourage it in the children.

In Mountford's "Euthanasy," we find the following pretty description of every day life: "It is to have friends to love one: it is to have a sight of dear, old faces; and, with some men, it is to be kissed daily by the same loving lips for fifty years; and it is to have themselves thought of many times a day, in many places, by children and grandchildren and many friends." GARRY OWEN GAINE.

Celandine for Ivy Poison.—On page 666, C. S. L. mentions as an antidote the so-called touch-me-not, or celandine, whose

leaves, in dried state, are used for tea in liver and kidney troubles. C. S. L. would oblige me very much, by stating if those leaves are obtainable of wholesale druggists, or where I could procure seed. W. W. *Ewats, Tex.* [We should be glad also if C. S. L. would send us some of the flowers of the celandine referred to, for examination.]

The Wanzer Lamp, p. 641.—I obtained mine from T. J. Wallace, Mt. Jackson, Lawrence Co., Pa. I like mine very much and think it is worth all the money asked for it.
Elliott, Ill. E. W. D.

A Horse Home.—From an appeal by Anna Lindo in the London Live Stock Journal we learn some facts about the "Home of Rest for Horses," of which the Duke of Portland is president. It is intended to aid the man whose living depends upon their horses. When the latter are disabled they are received into the home for rest and good feeding; and a substitute is furnished on moderate terms. Last year ninety patients were received on subscribers' letters, but many cases have to be refused for lack of funds. The patients' home is at Neasden, and there is another farm, used for recreation, at Sudbury.

Change as an Appetizer.—Mrs. Brown—"Is this hotel on the European plan?"

Mr Brown (in preoccupied tones from behind his paper)—"Yes, my dear."

Mrs B—"I am not feeling hungry this morning. I think I'll merely take some coffee and rolls."

Mr. B. (laying aside paper)—"What were you asking me, my dear? On the European plan? No; it is not."

Mrs. B (to waiter)—"You may bring me an omelet, some shad, mutton chops, with a bit of bacon, baked potatoes, rolls and coffee, and afterward some griddle-cakes and syrup."
—Harper's Magazine.

Boys and Milk Barrels.—At Ayr last week a local dairyman was charged with having contravened the regulations under the Dairies, Cowsheds and Milk Shops Order of 1885, by allowing two boys to sit on milk barrels in a milk cart owned by him. Accused stated that the cart was returning to the dairy and that the barrels were practically empty. The sheriff said that according to the regulations a person cannot sit on a milk barrel whether it is full or empty. It would lead to great irregularity if a purveyor of milk, returning home from his sales with even empty barrels, would be entitled to have boys sitting on them. Although there was no milk in the barrels at the time, the boys might be dirty or have infection, and the meaning of the regulation is that milk barrels are to be kept perfectly clean from any chance of contamination, and one manner of keeping them clean is that persons are not to be allowed to sit on them. He imposed a fine of £1.
—North British Agriculturist.

American Education.—We have no right to flatter ourselves that there is anything peculiar in the quality of the American boy which will enable him to dispense with that long and patient training in prescribed studies which does so much for the German student in the secondary stage of his education. Indeed, there is so much flexibility and versatility in the present character of the American boy, and so much lack of stable institutions which have to do with education, that it is not possible to pronounce with confidence upon the question what his typical national characteristics will prove to be. At present it may be said that if the average pupil in this country is bright, enterprising and inquiring, and is ready, with a commendable reliance upon his own resources, to skip from branch to branch on the tree of learning, and to pluck at an incredible variety of the flowers of knowledge in a short space of time, we are not so sure that he possesses certain other equally desirable qualities. These are the staying qualities—the patience, endurance and steady industry on which scholarship depends.
—Scribner's Magazine.

A Pelican Defrauded.—While they were stopping to overhaul a huge pile of sea-weed their attention was attracted by the comical, asthmatic cries for food made by some young pelicans from their nests of drift-wood in the mangrove trees near by. The old birds were hard at work, diving for fish in the lagoon. The boys watched one, which was quite near them, with considerable curiosity. It would flutter an instant over its prey, then plunge down, and with open, dip net bill resting on the water would adjust the catch in the capacious pouch beneath. In one of these expeditions a gull, with trained and eager eye, hovering near, settled down on Papa Pelican's broad head, and as the fish was tossed about so as to drop into the pelican's pouch, the thievish gull would adroitly snap it up and sail away with a derisive "ha ha!" while the pelican, as if accustomed to this sort of pocket-picking, simply flapped heavily up again to renew its search for food. But the gull, as the boys speedily saw, had laughed all too soon. For down upon it from the neighboring shore swooped a strong-winged fish hawk. With a shrill cry of alarm, the gull darted now this way and now that, in zigzag lines, striving with all his power to escape. Fear and fatigue prevailing, he let his choice stolen morsel slip from his grasp. Then the hawk, with a lower swoop, clutched the falling fish and bore it away to the nearest rock.—*St. Nicholas.*

Domestic Economy.

Sensible Economies.

To have an under tablecloth of colored cotton flannel on your dining-table. It will not only make the linen one look better, but dull very much of the noise caused by moving dishes, and will repay its original cost in one year, in the added wear of the linen ones, principally on the edges of the table, where they otherwise wear out first.

To use clean white tablecloths every day, even though it necessitates rigid economy in washing and ironing in some other department of the house. Nothing more surely shows good breeding than fine table manners, and you can never teach your children these while habitually eating off an oil-cloth spread or a slovenly linen one.

To use Turkish towels for the kitchen as well as for bath towels; they wear well, wash easily and require no ironing.

To make "tacks" or comfortables for every-day use, of domestic gingham instead of calico. It only costs a trifle more, will wash better and wear as long again.

To use honeycomb or crochet bedspreads for all common use. They can now be obtained of fair quality as low as 75 cents, and an excellent one for $1.25. They are not heavy to wash, and look better when not ironed, but pulled out straight to dry.

To bring out all the winter underwear, and thoroughly repair it during the few odd hours and days of the busy month of September, which with its canning, preserving and pickling of fruit, leaves the tired housewife indisposed for any nicer sewing.

To cut over the half-worn merino drawers and vests of adults for the children, as the latter are more expensive in proportion than the former.

To buy all standard cotton goods, and all such as come under the head of notions, and are either annually or semi annually needed in every family, at wholesale of a jobbing-house. The little saved on each article amounts to a snug little sum during the year.

To purchase all drygoods of large dealers. Shopping by mail is now so easy that the dweller in the most remote country town is under no necessity of paying the exorbitant prices her local dealer invariably charges for all, except, perhaps, a few standard cotton goods.

To buy many kitchen supplies also at wholesale. If you cannot buy hard soap by the box then buy it by the dozen cakes, and either stand it up on a high shelf, first removing the papers, or else put it in a flour-sack, and hang it near the kitchen range. Age or dryness has more to do with the durability of this article than the brand has. To use a tin soap shaker, and so utilize every small piece without waste.

To make kitchen holders and dish-cloths by the dozen during the lull which comes semi annually in other sewing, but do not sit and bind and quilt them beautifully as our grandmothers used to; their edges run together or sewed coarsely over and over, then quilted three or four times across on the sewing machine, is a far more sensible way.

After beating an egg thoroughly in a bowl, add a coffeecupful of cold water, and use enough of this to wet your coffee when making. Keep on ice or in a cold place, and so waste no more egg by drying. Boy agate ware rather than tin for kitchen cooking utensils. The latter is made so cheap now that it is scarcely worth the buying. To get cedar wash tubs instead of the cheap pine ones; the former will outwear three of the latter.

For farmers to put in ice enough to last their families through the summer, then buy a refrigerator, and so not only save the overworked wife the almost endless running up and down stairs which she is now compelled to do, but have your food brought on to your table just as cool and appetizing as is the town residents'. One year's trial will suffice to convince the most skeptical.

If you have heavy articles of furniture without casters on, buy a few sets; they cost only 25 cents, and you can put them on yourself—if John is not that sort of a husband. Lifting them around for one weekly sweeping is harder than putting on a dozen sets.

If you are compelled to dress yourself and your family on a small allowance, to buy the best materials you can. It costs no more for lining or making an all-wool dress which will wear well two seasons and then make over for a child, than it does a cotton and wool one, which will be faded and dowdy-looking before one season is over.

If the housewife does either the making or re-making of her own and her children's clothes, to subscribe for one of the journals especially devoted to that purpose. There are three now which illustrate and carefully describe practical styles, and are far from being the reprints of elaborate Paris fashions they were a few years ago.

For the hard-worked farmers' wives and daughters to read—or, with folded hands, quietly rest—and let the muslin underwear go without any trimming, rather than shorten your lives by giving every spare moment to knitting or crocheting lace.

It is impossible to do everything in the most thorough manner. She is the wisest woman who best judges what can be slighted
Onondaga County, N. Y. KATHERINE B. J.

Peach Marmalade.

Each family has its special preference in the way of homemade sweetmeats, and with us peach marmalade comes very near holding the post of honor. Being so very fond of it, particular attention is always paid to its making, and we think we have learned to have it in perfection.

Soft freestone peaches, juicy, sweet, and just ripe, are preferred. They should be gathered without bruising, peeled, quartered and dropped from the fingers into a vessel of cold water. Then lift the fruit from the water into the kettle, and after weighing pour the water from which it was taken back over the fruit, for peaches do not contain a sufficient quantity of juice to cook them.

From the moment the kettle is put on the stove until it is taken off, the most careful attention and almost constant stirring is necessary, as peach jam is worse if possible about sticking than blackberry, and will burn if neglected one minute either before or after the sugar is put in. If it is desired to have a smooth paste, the fruit should be taken from the fire after about an hour's boiling and run through a sieve, after which, without allowing it to cool, return it to the fire and put in the sugar. If the peaches are very sweet, half a pound of sugar to a pound of fresh fruit is sufficient, but if considerably acid more should be added. A good quality of dry white sugar must be used. Stir constantly after putting in the sugar, for although the contents of the kettle may be somewhat thinner, yet if anything, its propensity to stick is rather increased.

About this time the peach kernels should be put in. We usually crack half the stones and put the kernels directly into the preserves without any previous boiling. They impart to it a most delightful flavor and are themselves as delicious as the plums in a pudding. Peach marmalade should be cooked until it is stiff enough when cold to be sliced with a knife; then, if in perfection, its color will be a clear warm amber. In addition to its being delicious to the taste and beautiful to look at, peach marmalade has the somewhat rarer quality of being exceedingly wholesome.

We use it in the same way as blackberry jam, eat it with cream and hot biscuit as an impromptu dessert, spread it upon bread for the children's lunch at school, or as a filling for layer cake and the inside of rolls. It is very easily kept, either in stone jars in the manner described in a former article for blackberry jam, or put up in glass jars and sealed air tight. When kept in a moderately cool closet, or a dry dark cellar, the taste of well-cooked peach marmalade is rather improved by age, which gives it a sort of candied-fruity flavor, thus adding additional deliciousness. Hostetter Dudley.
Logan County, Ky.

Home Remedies Worth Knowing.

Cholera Infantum.—Prepare a broth from a piece of fresh lamb, (do not by any means use mutton), carefully skimming off every particle of grease, and give to the child from its nursing-bottle. Take one quarter pound each of allspice, cloves, pepper and mustard, mix together, and put one half of the mixture into each of two flannel bags, each one large enough to cover the child's bowels. Heat the bags in a steamer over a kettle of boiling water, and alternate them as they cool, keeping one hot on the child's bowels. Continue this treatment until the child is cured—it may be twenty four hours. This remedy has been the means of saving children that were so far gone that their very breath was cold, and were given up by physicians as past help.

To Cure Quinsy—Use boiled beets, sliced and applied hot. As fast as the pieces cool, remove and burn them up, and replace by fresh, hot ones.

For Insomnia.—Stop thinking, and roll the eyeballs downward—make them stay down as if you were looking at your chin. If you allow your mind to wander off they will roll up again; think about nothing but your eyeballs, and it will be the last thing you know until morning. I read this advice in the N. Y. Tribune years ago, and nine times out of ten have found it reliable. J. D. D.
Bournedepart, N. Y.

German Coffee Bread.—Prepare at evening a sponge of one quart of sweet milk, three pints of flour and one-half teacupful of good yeast (one yeast cake which has been soaked for an hour in tepid water may be used, but is not so nice). In the morning add three-quarters of a cupful of nice sweet lard, one cupful of sugar, two eggs, one-fourth of a nutmeg grated, a teaspoonful of salt, one teacupful of raisins, stoned, and sufficient flour to make as stiff as bread dough—just stiff enough to handle lightly. Knead vigorously for fifteen minutes, and let rise until perfectly light. Then roll it out an inch thick, lay it in long pans and, when light, brush the top over lightly with white of egg or sweet cream, sprinkle brown sugar and ground cinnamon *thickly* over the top and dot liberally with bits of butter. A tablespoonful of cinnamon to one cupful of sugar is about right; tastes differ. Bake in a moderately hot oven and if the top browns too much before the loaf is done, cover with white paper. Half this receipt is sufficient for a small family.
—Good Housekeeping.

Cheese Straws.—Mix two ounces of flour, three ounces of grated cheese, a half teaspoonful of salt, and a dash of red pepper together. Beat the yolk of an egg with two tablespoonfuls of ice water, add this to the flour and cheese, work all into a smooth paste. Roll out on a board an eighth of an inch thick. Cut some of the paste into small rings, and the remainder into strips of one-eighth of an inch wide and five inches long, place both on greased sheets and bake in a very moderate oven till a light brown. Put the straws through the rings like a bundle of fagots.—*Table Talk.*

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Annual Fair List.

STATE AND GENERAL EXHIBITIONS.

Alabama, Montgomery ..... Oct. 21, Nov. 4
American Institute, New York ..... Oct. 2 to 31
Arkansas, Little Rock ..... Oct. 14 to 19
Augusta, Ga. ..... Nov. 4 to 9
Buffalo Mechanical, Buffalo ..... Sept. 4, 12
Cincinnati, Cincinnati ..... Sept. 4, 12
Colorado, Denver ..... Sept. 4 to 9
Columbia, Pacific ..... Sept. 11, 16
Connecticut, Hartford ..... Sept. 25, 30
Delaware, Wilmington ..... Sept. 18, 23
Delaware, Newark ..... Sept. 30 Oct. 2
Detroit Industrial, Detroit ..... Oct. 2 to 9
Florida, Tallahassee ..... Oct. 28, Nov. 4
Georgia, Macon ..... Sept. 23, 27
Illinois, Chicago ..... Sept. 18 to 25
Indiana, Indianapolis ..... Sept. 18, 23
Iowa, Dubuque ..... Aug. 28 to 31
Kansas, Topeka ..... Oct. 5 to 10
Louisiana, Shreveport ..... Oct. 8, 14
Maine, Lewiston ..... Sept. 11, 16
Maryland, Timonium ..... Sept. 25, 30
Massachusetts, Bay State, Boston ..... Oct. 2, 10
Michigan, Detroit, Kalamazoo, Jackson ..... Sept. 18, 23
Minnesota, St. Paul ..... Sept. 18, 23
Mississippi, Jackson ..... Oct. 14, 19
Missouri, Lexington ..... Sept. 25, 30
Nebraska, Omaha, Nebraska City ..... Sept. 18, 23
New Hampshire, Concord, Tilton ..... Sept. 25, 30
New Jersey, Waverly ..... Sept. 30, Oct. 2
New York, Albany ..... Sept. 18, 23
North Carolina, Raleigh, Salem ..... Sept. 18, 23
North Carolina, Hamlet ..... Oct. 2, 9
Ohio, Cleveland ..... Sept. 4, 12
Pennsylvania, Pittsburgh, Yorkville ..... Sept. 4, 12
Pennsylvania, Reading ..... Sept. 11, 16
Oregon, Salem ..... Sept. 25, 30
Rhode Island, Providence ..... Sept. 4, 12
South Carolina, Columbia ..... Sept. 4, 9
St. Louis, St. Louis ..... Sept. 4, 12
Texas, Houston, Galveston ..... Nov. 1, 7
Texas, Dallas ..... Sept. 4, 9
Vermont, Brattleboro ..... Sept. 11, 16
Virginia, Richmond ..... Oct. 16, 21
Virginia, Petersburg ..... Oct. 21, 28
West Virginia, Wheeling ..... Sept. 9, 12
Wisconsin, Milwaukee ..... Sept. 11, 16
Wisconsin, Oshkosh ..... Sept. 18, 23
Wyoming, Cheyenne ..... Sept. 17, 19

COUNTY AND LOCAL—NEW-YORK.

Allegany, Angelica ..... Sept. 11, 12
Broome, Binghamton ..... Sept. 18, 19
Broome, Whitney's Point ..... Sept. 4, 5
Cattaraugus, Little Valley ..... Sept. 4, 5
Cayuga, Auburn ..... Sept. 18, 19
Cayuga, Union Springs ..... Sept. 11, 12
Columbia, Chatham ..... Sept. 18, 19
Columbia, Hudson ..... Sept. 25, 26
Cortland, Cortland, Willett ..... Sept. 11, 12
Dryden, Ingersoll ..... Sept. 4, 5
Dutchess, Poughkeepsie ..... Sept. 18, 19
Dutchess, Millbrook ..... Sept. 25, 26
Franklin, Malone ..... Sept. 4, 5
Fulton, Johnstown ..... Sept. 11, 12
Genesee, Batavia ..... Sept. 18, 19
Jefferson, Watertown ..... Sept. 11, 12
Livingston, Geneseo ..... Sept. 25, 26
Livingston, Dansville ..... Oct. 2, 3
Long Island, Hempstead ..... Sept. 11, 12
Long Island, Riverhead ..... Sept. 18, 19
Madison, Canastota ..... Sept. 18, 19
Oneida, Rome ..... Sept. 11, 12
Onondaga, Syracuse ..... Sept. 25, 26
Ontario, Canandaigua ..... Sept. 18, 19
Orleans, Albion ..... Sept. 18, 19
Oswego, Fulton ..... Sept. 18, 19
Otsego, Cooperstown ..... Sept. 18, 19
Putnam, Carmel ..... Sept. 18, 19
Rensselaer, Spring Valley ..... Sept. 18, 19
Rensselaer, Sandy Hill ..... Sept. 25, 26
Rockland, Spring Valley, Willett ..... Sept. 18, 19
Saratoga, Ballston ..... Sept. 18, 19
Schoharie, Cobleskill ..... Sept. 18, 19
Schuyler, Watkins ..... Sept. 18, 19
Seneca, Waterloo ..... Sept. 18, 19
Steuben, Bath ..... Sept. 18, 19
Suffolk, Riverhead ..... Sept. 18, 19
Sullivan, Monticello ..... Sept. 18, 19
Tioga, Owego ..... Sept. 18, 19
Tompkins, Trumansburg ..... Sept. 18, 19
Ulster, Kingston ..... Sept. 18, 19
Washington, Salem ..... Sept. 18, 19
Wayne, Lyons ..... Sept. 18, 19
Westchester, White Plains ..... Sept. 18, 19
Westchester, Mt. Vernon ..... Sept. 25, 26
Yates, Penn Yan ..... Sept. 18, 19

NEW-HAMPSHIRE.

Belknap, Laconia ..... Sept. 4, 5
Carroll, Ossipee ..... Sept. 4, 5
Cheshire, Keene ..... Sept. 18, 19
Grafton, Haverhill, Bath ..... Sept. 11, 12
Hillsborough, Amherst ..... Sept. 18, 19
Merrimack, Boscawen ..... Sept. 18, 19
Rockingham, Hampton ..... Sept. 18, 19
Strafford, Dover, South Hampton ..... Sept. 18, 19
Sullivan, Newport ..... Sept. 18, 19

VERMONT.

Addison, Middlebury ..... Sept. 4
Champlain Valley, Vergennes ..... Sept. 4, 5
Chittenden, Essex Junction ..... Sept. 11, 12
Franklin, St. Albans ..... Sept. 18, 19
Lamoille, Hyde Park ..... Sept. 18, 19
Mad. River Valley, Waitsfield ..... Sept. 18, 19
Orange, Chelsea ..... Sept. 18, 19
Orleans, Irasburgh ..... Sept. 18, 19
Western Vermont, Fair Haven ..... Sept. 18, 19
Windsor, Woodstock ..... Sept. 18, 19

MASSACHUSETTS.

Agricultural and Mechanic, Worcester ..... Sept. 4, 5
Amesbury, Amesbury ..... Sept. 4, 5
Attleboro, Attleboro ..... Sept. 4, 5
Barnstable, Hyannis ..... Sept. 4, 5
Berkshire, Great Barrington ..... Sept. 4, 5
Bristol, Taunton ..... Sept. 4, 5
Bristol, Attleboro ..... Sept. 4, 5
Bristol, Fall River ..... Sept. 4, 5
Essex, Danvers ..... Sept. 4, 5
Franklin, Greenfield ..... Sept. 4, 5
Hampden, Springfield ..... Sept. 4, 5
Hampshire, Northampton ..... Sept. 4, 5
Hampshire, Franklin, and Hampden, Williamsburg ..... Sept. 4, 5
Highland, Middlefield ..... Sept. 4, 5
Hoosac Valley, Adams ..... Sept. 4, 5
Housatonic, Great Barrington ..... Sept. 4, 5
Marshfield, Marshfield ..... Sept. 11, 12
Martha's Vineyard, West Tisbury ..... Sept. 4, 5
Middlesex, Concord ..... Sept. 4, 5
Middlesex, South, Framingham ..... Sept. 4, 5
Middlesex North, Tyngsboro ..... Sept. 4, 5
Nantucket, Nantucket ..... Sept. 4, 5
Oxford, Oxford ..... Sept. 4, 5
Plymouth, Bridgewater ..... Sept. 4, 5
Quinebaug Valley, Brooklyn ..... Sept. 4, 5
Shelburne Falls, Shelburne Falls ..... Sept. 4, 5
Springfield, Springfield ..... Sept. 4, 5
Union, Palmer ..... Sept. 4, 5
Upton, Upton ..... Sept. 4, 5
Worcester, Worcester ..... Sept. 4, 5
Worcester North, Fitchburg ..... Sept. 4, 5
Worcester West, Barre ..... Sept. 4, 5

RHODE-ISLAND.

Washington, West Kingston ..... Sept. 11, 12
Washington, Hopkinton ..... Sept. 18, 19

CONNECTICUT.

Berlin, Berlin ..... Sept. 4
Bridgeport, Bridgeport ..... Sept. 25, Oct. 2
Canaan, Canaan ..... Sept. 4, 5
Clinton, Clinton ..... Oct. 2, 3
Colchester, Colchester ..... Sept. 4, 5
Connecticut Valley, Middletown ..... Sept. 11, 12
Farmington Valley, Unionville ..... Sept. 11, 12
Fairfield, Fairfield ..... Sept. 11, 12
Hartford, Hartford ..... Sept. 11, 12
Madison, Madison ..... Sept. 11, 12
New Haven, New Haven ..... Sept. 11, 12
New London, New London ..... Sept. 11, 12
Simsbury, Simsbury ..... Sept. 11, 12
Stamford, Stamford ..... Sept. 11, 12
Tolland, Rockville ..... Sept. 11, 12
Union, Union ..... Sept. 11, 12
Union, Broad Brook ..... Sept. 25
Union, Stafford Springs ..... Sept. 25, 26
Windham, Brooklyn ..... Sept. 11, 12
Windham, Willimantic ..... Sept. 11, 12
Windsor, Windsor ..... Sept. 11, 12
Woodstock, So. Woodstock ..... Sept. 18, 19

NEW-JERSEY.

Atlantic, Egg Harbor City ..... Sept. 11, 12
Bergen, Hackensack ..... Sept. 11, 12
Burlington, Mount Holly ..... Sept. 11, 12
Camden, Camden ..... Sept. 11, 12
Monmouth, Freehold ..... Sept. 25, Oct. 2
Morris, Morristown ..... Sept. 11, 12
Salem, Salem ..... Sept. 11, 12
Trenton Inter-State ..... Sept. 30, Oct. 4

PENNSYLVANIA.

Adams, Gettysburg ..... Sept. 4, 5
Bucks, Bristol ..... Sept. 4, 5
Bucks, Doylestown ..... Sept. 11, 12
Butler, Butler ..... Sept. 4, 5
Bradford, East Troy ..... Sept. 4, 5
Bradford, Towanda ..... Sept. 11, 12
Cambria, Ebensburg ..... Sept. 4, 5
Carbon, Lehighton ..... Sept. 4, 5
Centre, Centre Hall ..... Sept. 4, 5
Chester, West Chester ..... Sept. 4, 5
Columbia, Bloomsburg ..... Sept. 4, 5
Cumberland, Carlisle ..... Sept. 4, 5
Cumberland Valley, Chambersburg ..... Sept. 4, 5
Cumberland Central, Cumberland ..... Sept. 4, 5
Delaware, Media ..... Sept. 4, 5
Erie, Erie ..... Sept. 4, 5
Fayette, Dunbarton ..... Sept. 4, 5
Franklin, Chambersburg ..... Sept. 4, 5
Huntingdon, Huntingdon ..... Sept. 4, 5
Juniata Valley, Mifflintown ..... Sept. 4, 5
Lancaster, Lancaster ..... Sept. 4, 5
Lebanon, Lebanon ..... Sept. 4, 5
Lehigh, Allentown ..... Sept. 4, 5
Lycoming, Williamsport ..... Sept. 4, 5
Mercer, Mercer ..... Sept. 4, 5
Montgomery, Norristown ..... Sept. 4, 5
Northampton, Nazareth ..... Sept. 4, 5
Northumberland, Sunbury ..... Sept. 4, 5
Perry, Newport ..... Sept. 4, 5
Pike, Milford ..... Sept. 4, 5
Schuylkill, Pottsville ..... Sept. 4, 5
Susquehanna, Montrose ..... Sept. 4, 5
Susquehanna, Susquehanna Depot ..... Sept. 11, 12
Tioga, Wellsboro ..... Sept. 4, 5
Union, Lewisburg ..... Sept. 4, 5
Union, Mifflinburg ..... Sept. 11, 12
Union, New Berlin ..... Sept. 11, 12
York Farmers', Wrightsville ..... Sept. 4, 5
York, York ..... Sept. 4, 5
Washington, Washington ..... Sept. 4, 5
Washington, Washington ..... Sept. 25, 26
Wayne, Honesdale ..... Sept. 4, 5
Westmoreland, Greensburg ..... Sept. 4, 5
Westmoreland, Youngwood ..... Sept. 4, 5
Western Pennsylvania, Washington ..... Sept. 25, 26
Wyoming, Tunkhannock ..... Sept. 4, 5
Wyoming, Wyoming ..... Sept. 4, 5
York, York ..... Oct. 2, 3

MARYLAND.

Baltimore, Timonium ..... Sept. 4, 5
Cecil, Elkton ..... Sept. 4, 5
Frederick, Frederick ..... Sept. 4, 5
Harford, Bel Air ..... Sept. 4, 5
Howard, Ellicott City ..... Sept. 4, 5
Montgomery, Rockville ..... Sept. 4, 5
Prince George's, Upper Marlboro ..... Sept. 4, 5

VIRGINIA.

Accomac, Accomac ..... Sept. 4, 5
Chesapeake, Cape Charles City ..... Sept. 4, 5
Fairfax, Fairfax ..... Sept. 4, 5
Fauquier, Warrenton ..... Sept. 4, 5
Loudoun, Leesburg ..... Sept. 4, 5
Nelson, Central Tarrytown ..... Sept. 4, 5
Northampton, Eastville ..... Sept. 4, 5
Rockingham, Harrisonburg ..... Sept. 4, 5
Tazewell, Tazewell ..... Sept. 4, 5
Warren, Front Royal ..... Sept. 4, 5
Washington, Abingdon ..... Sept. 4, 5
Washington, Washington ..... Sept. 25, 26

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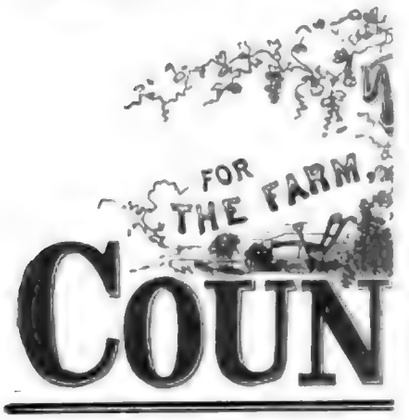

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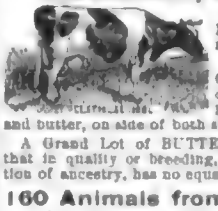

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JOHN F. SHULTZ, V. S.

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THE CULTIVATOR AND Country Gentleman

Albany, Sept. 12, 1889.

Meeting of Agricultural Scientists—I.

During the last week of August the annual meeting of the Society for the Promotion of Agricultural Science was held at Toronto, Canada. Fifteen States besides the Province of Ontario were represented. A large number of papers were presented, and the subjects treated were discussed by those present, whether members or not.

The society was organized and held its first meeting in Boston, 1880. As its name would indicate, it was organized for the purpose of bringing together those who are interested in the applications of science to agriculture, to consider the methods and results of investigation and to provide for publications relating to the same.

The officers of the society are Prof. R. C. Kedzie of the Michigan Agricultural College, president, Prof. William R. Lazenby of the Ohio State University, secretary and treasurer, and Pres. H. E. Alvord, who makes the third member of the executive committee. The ideal of the society is to have all papers presented adhere closely to original work and truly scientific methods and results, without unnecessary argument or illustration, the end sought being to point out the practical aim and application connected with the subject treated. The membership is limited; only those engaged in work of scientific value are invited to become members.

The following brief notes will indicate the character of the papers this year:

President Kedzie presented a paper on the temperature of the air at different distances from the ground. He called attention to the importance of both soil and aerial temperature in relation to agriculture, and exhibited elaborate tables of temperatures by months taken at the Agricultural College at Lansing, also at Grayling, on the Experiment Farm on the Pine Plains. He also called attention to the great importance of sunshine temperature in relation to plant growth. The meteorologist studies the shade temperature for his purposes, but record of the amount and intensity of the sunshine is much more important to the agriculturist and horticulturist. Dr. Kedzie pointed out the means as well as the necessity of studying the question of agricultural temperatures.

Prof. W. J. Beal presented a paper on "Birdseye Maple," describing the development and various appearances of this rather remarkable and ill-understood peculiarity. It has long been a popular belief that one cause for "birdseye" was the injury to the bark by the pecking of birds. There is, however, little or no reason for believing this theory, neither has it been proved that the peculiarity results from insect or fungus injuries. As far as known, no plausible explanation has yet been offered for this strange modification of natural timber growth.

Dr. H. W. Wiley of Washington read a very interesting paper on the influence of food on butter. From the milk of cows fed on cottonseed meal, a butter was produced which fell below the standard of good butter, and would at first sight appear to be adulterated with lard. The very high melting-point of the butter proved, however, that this was not the case. Another interesting point in the investigation was this. It is well known that cottonseed oil possesses the property of reducing silver to the mineral state. This power appears also in the butter made from the milk of cows fed upon cottonseed, showing that certain substances can be carried directly from the food to the butter. Dr. Wiley is satisfied, however, that the butter fat is the product of the digestive processes, and does not come from the food direct. These investigations prove conclusively that the present methods of analysis for the detection of adulterations, and the accepted standards of pure butter are untrustworthy and must be changed.

A bacterial disease of corn was the subject of a paper by Prof. T. J. Burrill of the University of Illinois. An interesting account of the first appearance, the development, characteristics and extent of this disorder was given. It is a contagious or infectious disease due to the growth of minute organisms or "disease germs" in the tissues of the plant, especially those of the root. No remedy was known, but a rotation of the corn crop sometimes acted as a preventive.

Dr. R. C. Kedzie presented some valuable notes of investigations of certain feeding stuffs. He first spoke of swamp or marsh grass, which is usually composed of a variety of sedges. Some of these are so coarse in texture and contain so much silicious matter that their feeding value is very small. Others of finer and softer texture, if cut and cured at a sufficiently early stage of growth, afford stock food of considerable value. A sample of marsh hay from the swamps of Van Buren Co., Mich., was analysed and found to contain albuminoids, 7 per cent.; fat, 2.6, and carbohydrates, 50.

The next topic discussed by Dr. Kedzie was "Wheat Screenings and Shrunken Grain." Shrunken wheat, which is of small value in making flour, is of relatively high value as a stock food, because it contains less starch, and is proportionally richer in nitrogen compounds. Two samples of wheat screenings, taken from carload lots, were analyzed. They consisted of broken grain, shrunken wheat, chess, cockle and various weed seeds. The composition of the two samples was found to be as follows:

	No. 1.	No. 2.
Water	7.00	8.40
Pure ash	3.80	3.76
Crude fibre	4.05	6.10
Protein	12.63	13.87
Amides	2.25	1.00
Fat-ether extract	2.05	3.15
Carbo-hydrates	61.02	63.62
	100.00	100.00

Another substance examined was "roller-process bran." This consists mainly of the germ of the wheat separated from the rest and re-ground. This material is generally run into "coarse middlings" and sold as such. Almost any roller mill can and will separate it. It costs about $11 a ton. The analysis shows it to be of high value for stock food. The amount of moisture driven off at boiling heat was 12.76 per cent., leaving 87.24 per cent. of dry matter. The composition of this is as follows:

Pure ash	6.74
Crude fibre	3.94
Protein	17.15
Fat-ether extract	4.30
Carbo-hydrates	61.87
	100.00

A material containing more than 17¼ per cent. of nitrogenous substance, that can be bought for $11 a ton, can scarcely fail to be profitable to the stock-feeder.

Prof. A. J. Cook of Michigan read a paper on "Arsenical Poisons as Insecticides." After a long series of experiments, Prof. Cook feels warranted in presenting the following conclusions: The arsenites and carbolized plaster will protect against the plum curculio if they can be kept on the tree or fruit. In case of very frequent rains, the jarring method will not only be cheaper, but more effective. For the apple, to prevent injuries by the codling moth and curculio, we can use London purple, one pound to 200 gallons of water. For plums we must use Paris green, one pound to 400 or 200 gallons of water. If the carbolated plaster is preferred, we should use one pound of crude carbolic acid to 50 pounds of land plaster. This is thrown freely over the tree, so as to strike every plum. These poisons should never be applied until after the blossoms fall. Bees are quite susceptible to these poisons, and we not only injure them, but seriously interfere with their good work of fertilizing the flowers.

There is no reason for spraying trees at so early a date, as neither the curculio nor codling larvæ commence their attack until the blossoms fall.

Another practical question is the danger of injury to the foliage of the tree treated. Careful experiments lead to the following conclusions: London purple is more injurious to the foliage than is Paris green, and white arsenic is more harmful than either. With solutions of the strength named above there is not the slightest danger of poisoning stock, should they feed upon the grass under the sprayed trees. C. M. Weed of the Ohio Agricultural Experiment Station reached the following conclusions by a series of elaborate experiments:

1. That about three-quarters of the cherries liable to injury by the plum curculio can be saved by two or three applications of London purple in a water spray, in the proportion of one ounce to ten gallons.

2. That a sufficiently large proportion of the plum crop can be saved by the same treatment to insure a fair yield, when a fair amount of fruit is "set."

3. That if an interval of a month or more occurs between the last application and the ripening of the fruit, no danger to health need be apprehended from its use.

4. That the spraying of arsenites is cheaper and more practical than any other known method of preventing the injuries of this insect.

WILLIAM R. LAZENBY.

Silos and Silo Talk.

EDS. COUNTRY GENTLEMAN—Will you kindly give me space to answer as best I may, the following inquiries from "A Reader" in Michigan, addressed to me direct?

1. What is your idea as to the value of hay and dry food in general, as compared with ensilage?

2. On fairly productive land for wheat, should ensilage be grown and put into the silo?

3. What do you find to be the best and cheapest ration for your cows when in winter milk? What grains, and how much?

4. Would you sprinkle on the bran, &c., when filling the silo, so as to make a thoroughly mixed ration, without further bother of mixing?

5. What do you consider the best and yet the cheapest method of silo building, and of what material?

6. What is now considered to be the best silo book published?

7. Had clover best be ensilaged or made into hay?

8. Is it profitable to build a silo that must cost $1,000, as asserted by Prof. Sanborn, to store food, which if dried would go into a $100 shed?

1. My "idea" is that hay and dry food in general is not worth twice as much as ensilage made from good corn fodder. As a rule, I would say that one ton of bright hay might be counted as against two tons of good ensilage. Last winter on a trial of dry corn fodder, ears and all, as against ensilage, ears and all, both cut from the same field, we found that 50 lbs. of ensilage would make more milk and of better quality than 40 lbs. of cut fodder, the bran ration being equal in each case. When the cows eating the dry fodder were put upon ensilage, and no other change in food or treatment, they showed a gain of ½ lb. in milk. The ensilage, fairly well dried, would weigh about 33 lbs. as against 40 lbs. dry fodder.

2. On fairly productive land with a favorable season, you should cut 15 to 20 tons of well-eared fodder. On better land and a favorable season, 25 and 30 tons are produced from an acre, and this extra weight is a gift, as it costs no more to plow, plant and care for big than for medium corn. Corn for the silo, exclusive of fertility, should be raised for $8 an acre, and should be gathered and cut into the pits for $8 per acre more, making a 20-ton yield cost 80 cts. per ton. If one adds interest on land, taxes, superintendence, wear and tear, &c., that has no influence upon the cow's appetite or her yield,—one can, by the twist of the pen, make the ensilage cost him any amount he may choose.

3. I found that for an average cow, giving four gallons of milk per day, 50 lbs. ensilage, 3 to 5 lbs. of hay at noon, and 7 lbs. fine middlings, gave me the best return for the money of anything I could feed. The best quality of bran, with a dash of oil-meal, or a handful of cottonseed meal and a little salt, every day, was my best ration for the money that I found.

4. I would not attempt to mix mill feed and the like with the ensilage when filling the silo, for you cannot mix it in so that each cow would come anywhere near getting her regular and proper share. Then the heating up process of ensilage curing would no doubt become a ferment, and the ensilage, instead of cooling down, would continue to ferment, and soon get beyond control. It takes no great amount of time to add a dish of bran to the ensilage when put before the cows, and then one knows just what each cow is getting in the

way of grain. However, I know of no experiments of mixing grain with the ensilage at the time of filling; this is my theory in the matter, for however successful the result of the ensilage and the grain mixture in the pits may be, the trouble of even distribution, so that the feeder shall know that each cow gets her share of the grain, will act as a bar against the system proposed.

5. While "open to conviction," I am a firm believer that the balloon-frame, wooden-lined silo, made of two thicknesses of inch-boards, with tarred paper between, the whole, when finished, well painted with hot gas-tar, with a percentage of resin in it, is the best and cheapest silo yet devised. The massive silo built of stone seems to have been "dropped" by mutual consent, and the question is now between the silo of all boards, or half built of boards, and then lathed and plastered, and then this whole matter turns upon the point whether lath and plaster is more durable and better than an inch board saturated with gas-tar.

6. The best silo book published now is that of Dr. Manley Miles, if one wishes to go into the whole detail, science and all. Several enterprising manufacturers of ensilage machinery publish complete hand-books upon the subject, some of them even having illustrated texts on silo building, &c., the whole supplying a "long-felt want."

7. Had clover best be made into hay or put into the silo? That depends. If one only has enough to partially fill a silo, I would say make it into hay; but if one has enough to fill a fair-sized pit, then fill it with clover. The experience of the past two years is, that clover which is allowed to stand until the blossoms begin to turn, and then cut and not allowed to wilt very much, or any, and filled in expeditiously, makes excellent ensilage; and when fed in part with corn ensilage, very nearly does away with the bran ration. Those who are half soiling with clover this season, pronounce it a great success. It needs no cutting into the pits, and in this respect is cheaper than corn ensilage.

8. No one need figure the cost of a $1,000 silo as against a $.00 hay-shed. No man who has a silo can see how Prof. Sanborn can figure out a silo so as to make it cost $4.50 per ton of storage capacity. The best of silos, holding 200 tons of ensilage, can be built for $120, and if built in the barn, as are my silos, $90 is ample. My new 100-ton silo, just complete, built in my barn, cost me less than $45, and others are being built about here for a like sum. Builders are somewhat disposed to estimate cost high enough to cover any possible chance of loss, and as a rule place their figures 33 per cent. above a reasonable compensation for labor and material. Others insist that the lumber of a silo shall be of the most expensive material and elaborate foundations, which possess on trial no superior qualities in making a durable silo, or a better agent in preserving the ensilage, over one built of cheaper lumber and with less costly foundations.

—— In reply to C. R. of Troy, I would say that it does not need much of a receipt to prepare gas-tar for use. Take the gas-tar and put it in an iron kettle or pan, four or five gallons at a time, build a slow fire under it, and let it come to a boil. Stir occasionally for a half hour or more. It takes fire readily, and one needs a tight or rather close-fitting cover for the kettle, so that in case it does flame up, it can be smothered, which is not at all difficult. When thin, as it will soon become by boiling, add to each gallon from one-half to three-quarters of a pound of powdered resin, stir for a few moments, and the paint is ready to apply. It is pretty hot, and one must use care, or a blister of varying size may be the penalty. If I can build another silo, I shall, before putting on the lining boards, lay them on the ground in the hot sun, and paint them lying flat. The boards will then be warm, and if laid closely, edge to edge, the paint can be "mopped" on, and the sun assists in striking it in, and doing it better than can be done in the cool interior of the silo.

Towards the last of the painting of my new silo, I ran out of cooked paint, and to hasten matters, took a gallon of the gas-tar and mixed with it two quarts or more of gasoline, and by a little "churning," soon had it thoroughly mixed, and then applied to the interior walls. To my delight, it spread better than the hot tar, and "struck in" almost immediately, and in 24 hours I had a dry wall, while the hot tar and resin was several days accomplishing the same thing. I cannot see why it is not as good in every respect as the hot paint, and far less bother to mix and apply. In painting, one gets his hands somewhat colored with the paint, but it can be readily removed by turning some coal oil upon a basin of water, washing in this mixture, and finishing up with Ivory soap. *J. D. Western Reserve, O.*

Those Weedy Meadows.

Eds. Country Gentleman — Your correspondent J. G., page 557, speaks of the unusual weedy growth this year in the meadows of his neighborhood. As the unusual conditions responsible for such growth have been widespread, it is safe to say that tens of thousands of meadows and pastures will be seriously damaged and thousands will be ruined, unless their weedy condition receives early attention. On account of the antics of the weather, work piled upon me to such an extent during the past few weeks, that I have been compelled to forego my usual trip for harvest observation and pleasure, but wherever I have been able to observe, this has been a mighty good year for weeds, and this is confirmed by correspondence. Land that ordinarily is quite clean, is now so fouled that if the weedy growth is allowed to mature its seed, the land will be foul next year, and some years thereafter. By killing one weed now we kill one hundred in the future, and we ought to paste this at the foot of the bed, where we must see it first thing in the morning.

In one of our fields there stood for years a house, barn and blacksmith shop. This was under the *regime* of a settler from South Carolina, who did not move the manure from the stable, but the stable from the manure. The hogs had the run of the door yard. The result was that several acres were made very fertile—too fertile for good crops—and seeded twenty times over with every weed growing within a radius of fifty miles. We have fought weeds on that ground for twenty-five years. During the past five or six years the ground has been nearly clean—a few velvet-leaf and wild morning-glories only remaining. But I find that since the wheat was harvested a considerable growth of weeds has sprung up. I mention this because others may have just such land, and a warning may save them much hard work in the future. For the growth this year will, if allowed to do so, mature enough seed for a heavy growth for several years.

Shed seeds will lie dormant in the ground for years, until there are exceptionally favorable conditions, as there have been this year. Search for weeds where you do not expect to find any.

The man that pastures meadows this fall is unwise or very fortunate. If his meadows are not weedy, I would not object so strongly to his pasturing them, although I do not believe it ever pays to pasture meadows. You gain cents in the fall, and lose dimes the next summer. But if weedy meadows are pastured, the grass, already crowded and weakened, will be crippled, while the weeds will not be damaged. The animals will not touch the weeds until they have eaten the grass down so closely that it will be much injured. Sheep will eat weeds, even cocklebur and velvet-leaf, but their close cropping makes their use on meadows out of the question.

The weeds will come up much quicker than will the grass; hence, three to five weeks after the meadow is cut they may be mown down without much injury to the grass. Use the reaper, so you can set the sickle high. Take off the real and the platform. If you have only a self-binder, and don't want to use it or fix it for this use, you can fit a foundation to the shoe of the sickle-bar, bringing the sickle up higher. Mow the meadow again if the weeds make a considerable growth. At this season weeds mature in a fraction of the time they occupy when they start in the spring. They will form and mature seeds when not near so high as they grow when they begin growth two months earlier. Hence they must be watched closely. If cutting is deferred until the weeds reach the usual height, it will be too late; seeds will have formed and matured. The catastrophe cannot be avoided; it can be only slightly lessened, by gathering up the cut weeds and burning them. Many of the seeds will be hulled out and escape the fire, and I have known a heavy growth of weeds the next year where every bunch of the cut stuff was burned. The stuff was so dry that the fire went through it very fast, and while it killed the grass its effect on many of the weed seeds was so slight that they germinated. This may seem improbable to some of my readers, but I know it to be true. The cut stuff will be very poor feed, and it will hardly pay to gather it up for feed. In this section, at least, grass is growing so strongly that the pastures will get short unusually late; forage crops are good; hence we will not need such poor stuff for feed.

Many of the pastures are in about the same fix as are the meadows. The timothy, on account of the very dry spring, made a late and slow growth, giving the weeds a fine opportunity. Clover, weakened by the winter, often succumbed under unfavorable spring conditions, making sparse or bare spots, which are now occupied by weeds. Recently, grass and clover have grown so rapidly in the pastures, that they furnish excellent grazing, although part of the ground is occupied by weeds. Hence the animals do not touch the weeds; their growth is unrestricted. We cannot afford to allow them to go to seed. We must use the mowers on our pastures, and most of us must use them at once. Likely it will not be necessary to mow all the field. There will be considerable patches free from weeds. These we should not mow; we can spare the grass here for feeding without much damage. There are yet other patches of considerable extent in which there are only occasional bunches of weeds. It may be best to go through their these patches with the scythe, cutting out the weeds. But in case of doubt, let the mower have a whack at the weeds. Better cut ten blades of grass than allow one weed to escape. Don't rake the stuff up for feed; it is worth more to manure and mulch the ground. If there are heavy bunches of the stuff, scatter them, that the mulch may nowhere be too heavy. John M. Stahl.

Adams County, Ill.

Rust in Wheat—Nitrogen.

Can any of your readers, either farmers of scientific men, answer the question—does the barberry bush cause rust in wheat? The barberry does not grow in this part of Ohio, but many years ago my mother brought some seed from New-England, and I planted it and set a row of the plants in the garden. For three or four years past, there has been rust on the wheat on my farm and adjoining ones. In 1888 I had a splendid field about twenty-five rods northwest of where the barberry plants stand, and the rust began at that corner of the field and spread across it.

This year a neighbor had twenty acres of wheat in a field, the corner of which was but ten rods to the southeast of my barberry bushes. An acre in that corner of the field had been manured with stable manure, and was heavy, bidding fair to make twenty bushels or more to the acre, and there had been a ton of phosphate used on the field, with every prospect of a profitable crop, but before the wheat was filled, the rust started in that corner of the field and spread across, ruining it, the twenty acres yielding but eighty bushels of shrunken grains weighing only forty pounds to the bushel. My field of wheat nearest to the barberry (about six rods away) also rusted badly, while two fields further away, and separated by a tall hedge from the first field, had no rust. I had not thought to connect the rust with the barberry bushes until this season but recalling the fact that I had often read that the barberry caused rust, it seemed as though it was confirmed. I looked up what is said about the barberry in Chamber's Encyclopedia, and it speaks of the opinion that it causes rust as erroneous, as the fungus was of a different order from that which produces rust on wheat.

On the other hand Professor Hagitt, the botanist of Miami University, tells me that by careful examination with the microscope he has determined that the same fungus which produces rust on wheat is found on the barberry, as well as the yellow fungus described in the encyclopedia. I shall certainly destroy my barberry bushes, which so far as I know are the only ones in Southern Ohio, and shall be glad to hear from any of your readers who can give any light on the question. [See article by Prof. Peck in Country Gentleman of March 1, 1888. Eds.]

I am somewhat interested in a new theory as to the production of nitrogen in the soil. A fertilizer new to me is put on the market in Ohio, made from a kind of iron ore which could not be profitably worked for iron. An analysis of it shows that it contains all the elements of plant food, 33 per cent. of it being oxide of iron, and ten per cent. phosphoric acid. It is claimed that the oxidation of the iron in the soil generates ammonia in large quantities. It is also stated that the use of this fertilizer makes the land loose and friable, not hard and heavy as does South Carolina phosphate rock. On consulting the chemist of Miami University he confirms the statement that ammonia is generated by the action of iron in the soil.

The chemist of the company that is manufacturing this fertilizer, claims that the red soils, which are the most lasting of any, contain little humus, and some of them not a trace of nitrogen, but all show large quantities of iron, and all of them are productive and lasting. I am not a chemist and cannot prove or disprove these statements except by testing the fertilizer on my own soil, and this I propose to do. There is a greater interest in commercial fertilizers in this part of Ohio than ever before, for the fields on which fertilizers were used last fall, are threshing out heavy yields of fine plump grain, and it is hard to find a farmer who used bone meal or superphosphate, but found that it paid him. I intend to use several brands of fertilizer, note the results carefully, and report impartially. Waldo F. Brown.

Butler County, O., Aug. 28.

The Farmer's Condition.

Farther Answers to Those Questions.

1. *Are the farmers in your community as prosperous as they have ever been?*

Yes. They handle more money than ever, except perhaps for a short time when the currency was so inflated by the war. They live better, dress better, take more time to read (in our town, purely agricultural, we have a well-patronized circulating library of over 2,000 volumes), have better buildings, both houses and out-buildings, better furniture and more convenient, better turn-outs, get around more, go on more pleasure trips and mingle more in society. True, there are some farmers, as among other occupations, that never read or work until starvation stares at them, but spend their time in saloons discussing politics, saving the Union, and the like. But the farmers do not lay up as much money as formerly. Just think of the immense sums that have be expended within a few years in machinery, both in their dwellings and on their farms. There is where much of the money goes.

2. *If so, to what do they chiefly owe their prosperity?*

In short, to advance in common school. Compulsory education awakens a mind to vie with people of other occupations. As a consequence they get better bargains when buying and selling. As an illustration, a few years ago in going to a neighboring city with a load of vegetables, demanding and getting an advanced price at a grocery store, the man said: "I don't know what we are coming to; when I set up here, 20 years ago, if there was an advance in the price of anything the farmers have to sell, we could buy out or drain the country before they would know it; but now if potatoes advance one cent a bushel in New-York to-night, you would all be posted before morning."

3. *Do the farmers take less or more interest than formerly in economic discussions?*

As I understand the question, they take much less. That is, they live and dress better, use more labor-saving machines, and use their money more freely.

4. *What effect does the tariff have on their condition?*

I cannot see any difference, either way, in the section where I live, in the midst of manufacturing;—manufacturers bring population who are not producers but consumers. The farmers here grow what the village consumers require, and sell mostly to the consumer direct, thereby saving the commission of middlemen. Also the farmers refuse to let the village dealer set the price both ways and take what they are willing to turn out to us. The dealers seem to ignore the fact that a rich country makes a rich village, especially when they refuse to give the near-by farmers an equal chance with those more remote; there is too much antagonism between the two classes. But I suppose this will not apply in many sections of our country.

5. *Will a bushel of wheat or a barrel of corn buy*

as many necessaries of life as it would 30 years ago?

Potatoes, apples and butter will usually buy more; last year was an exception with potatoes and apples. Just think of what children have now compared with what they had thirty years ago! The toys that now fill our country stores would probably ruin any dealer then, because they could not be sold, but now the farmers manage to buy and pay for them.

6. *Have they gained or lost social dignity, as compared with other classes such as merchants and mechanics?*

They are advancing in social dignity faster than those of any other occupation, according to my observation. I was forcibly reminded of this at the last meeting of the State Board of Agriculture, held in Danbury last December. In our winter debates it is a constant thing for our farmers' sons to get the advantage in political and scientific discussions. As for its being such a life of drudgery, it is not; we do not go by any bell but our own. If any farmer gets ten hours work a day from his help or himself (that is effective) winter and summer, he is smarter than I am. He may, and probably does, for a short time in harvest. Take the present time for example. To-day is the ninth day, not including two sabbaths, that no hay or grain can be stored; rainy, showery, ground too wet to plow or hoe, or pull weeds, and no signs of a change, help choring, lounging, boarding, and seven months men drawing pay. In winter you cannot light a farm as you can a factory, and it would not pay to work with one hand and hold a light with the other.

7. *Do the farmers' sons show any less willingness than formerly to become farmers?*

I do not see much change. Some are leaving while others are coming and buying. One great fault is, small families, few young men to take our places. SIMON HUNT.

Tolland County, Conn., Aug. 13.

P. S.—Enclosed please find clipping from the New-York Tribune, inviting people to go into the country and see the boys putting in seventeen hours a day! Why, our country boys can go any morning to our cities and see that the city boys have opened their stores and places of business, and in winter, long before the sun's light has taken the place of gas, and return home, *do their day's toil*, and go back to the city to find them still at their post—stores and offices still open!

Fertility of the Soil.

EDS. COUNTRY GENTLEMAN—Under the heading of "Nitrogen from the Air," on page 383, Mr. U. H. Hillman touches upon some of the vital points in the practical solution of the problem, how to furnish the proper elements for the growth of our crops; and calls attention to the absorption of nitrogen from the air by decaying vegetation, and also to the fact that the nitrogen in commercial fertilizers, being mostly in a soluble form, is in all probability mostly lost before the roots of the plants can appropriate it for use, especially if applied when the seed is planted. The reports of the Massachusetts experiment station at Amherst, show that the application of nitrogen alone has no material effect upon the crop, and thus, so far as they go, prove the correctness of Mr. Hillman's conclusion.

Have we not, in our eagerness to produce large crops, in a measure lost sight of nature's way of measuring the fertility of the soil? It is generally taught by scientific writers, that all soil is formed by the disintegration of rocks and minerals, and the decaying of vegetable and animal matter, and that the first plants have to subsist upon such elements as they can take from the air, water and rocks. The correctness of this theory is demonstrated by the growth of plants on islands formed by volcanic action, there being no soil but rocks and volcanic ashes; and these plants furnish the first organic elements of our soil, and the greater the proportion of this thoroughly decayed vegetable matter in a soil the greater its capacity to produce more vegetable growth, agricultural chemists to the contrary notwithstanding, as there is no land so poor but what it can be made to produce a crop by the addition of vegetable matter and moisture.

Now, if this be true—and most thinking men know it to be so—then may we not hope to improve our soils by the practice of feeding, as much as possible, of everything produced upon the farm, and returning to the soil all ex-

been summer fallowed, and doubtless would under ordinary circumstances, but all our people seem to have been of one mind (the writer not excepted.) We crowded in every available acre, to try and retrieve our losses of last year—an aim that was very commendable, but it has turned out a very unwise one in many instances. Our new lands and summer fallowed lands will average from 25 to 35 bush. per acre, while second-crop lands will average 6 to 8 bush.; third-crop lands 3 to 4 bush.; fourth crop 5, and 6, 8 and 10th-crop lands from 4 bush. per acre down to nothing. Bear in mind, the above estimates are inside the wheat belt described; west of that belt there is little or no grain of any kind, on account of the drouth in May and June, and the continued cold, dry winds that prevailed during those two months. Take the counties lying west of the ones named, say Bottineau, Nelson and Ramsey; those three will not have a bushel to export, but will have to import for seed and bread next harvest. To sum up, after inspecting thousands of acres in the counties of Walsh and Pembina, Dakota, and Marshall Co., Minn., and conversing with men who have traveled extensively in Minnesota, Dakota and Manitoba, the general opinion is that the export of wheat from Dakota, Minnesota and Manitoba will not be more than one-third the estimates given earlier in the season—that is, instead of 100,000,000 bushels, 30,000,000 will cover the out put from all three combined.

Walsh County, Dakota, Aug. 26. GEO. PARR.

Letter from Western New-York.

THE MONTH OF AUGUST—PREPARING WHEAT LANDS—LIGHT OATS AND ROTTING POTATOES—APPLES FEW AND POOR—CURRENT PRICES.

EDS. COUNTRY GENTLEMAN—The weather for August, 1880, may be briefly summed up thus: First half, moist and generally favorable; second half, dry and very unfavorable. It is difficult to account for the parched appearance which vegetation has so suddenly assumed with the recollection of cornfields covered with water for the space of two or three weeks, still fresh in our memories. The last ten or twelve mornings have been decidedly cool, with the thermometer low down in the forties, making overcoats acceptable to those having to visit market betimes. Last year, as early as Sept. 6, damaging frosts were reported at Troy, Elmira, and in New-Hampshire, when the indications were not nearly so favorable for a premature visit from Jack Frost as they are at present. Nothing, however, suffered in this neighborhood during this month. To-day (Sept. 2) the heat has been intense, thermometer standing at 89° in the shade. When pulling the onion crop this afternoon the bulbs were uncomfortably hot to the hands.

The mean daily temperature for August in 1866 was 63°; in 1867, 64°; in 1868, 65°, and this year 64°. According to my records August has the evenest average, for a term of years, of any month. With the advent of longer and cooler nights the temperature of the soil will probably be reduced near the surface, and it will be interesting to note how long it will retain its present average of 66° at 12 inches deep. Should we have no cold rains I do not expect to see a great change at that depth for some time, but the effect of a rainstorm is almost magical. It will be noticed that on the 17th and 24th of August the temperatures at the different distances were the same, but that on the 31st there was a slight rise at the lower depths; this was caused by the hot days of the preceding week, only the surface being affected by the cool nights.

Depth.	*Aug. 3.*	*10th.*	*17th.*	*24th.*	*31st.*
4 inches	69°	69°	64°	65°	64°
6 do.	66	66	64	65	66
8 do.	67	64	64	65	66
10 do.	67	64	64	65	66
12 do.	66	65	64	65	67
Mean tem. of air..	76°	64°	61°	66°	61°

The frequent and heavy rains of June and July left the ground in such a solid condition that plowing for wheat is quite a task. Rollers, pulverizers, harrows, new plow-points and horses' sore shoulders, with lots of (principally foreign) language more or less polite, are now in order. With land in its present state here I think there is no more wearisome job than fitting land for wheat; anxiously awaiting the labor-saving rain, which will not come, yet obliged to keep at the pulverizing process for fear of being too late for sowing, these days spent in the heat and clouds of dust are by no means the pleasantest of a farmer's life. Still when he finds, after much labor, that he can walk ankle deep in dust through his field he has the satisfaction of knowing that upon the arrival of the first storm of rain he will have a seed-bed of the best kind for his wheat. Much the same amount of land seems to be under preparation for this cereal as was planted last year. The average wheat yield for this section is, as I mentioned in my last, about 20 bushels per acre; millers are not very enthusiastic about the quality of the flour.

Oats yielded well, but one hears many complaints about their lightness. Straw stacks are of a respectable size this year, and their contents have a nice, bright appearance. Corn was doing well until ten or twelve days ago, since when it has been at a stand-still, owing to drouth and cool nights. A generous rain with warm nights may yet do wonders, but the chances are that the crop will be below the average, and of medium quality, with no greater quantity of cornstalks. With regard to potatoes, my report must be the same as that of the majority of your correspondents, that they are badly blighted and fast rotting: only a week ago most of the late kinds appeared to be doing nicely, but now they are rapidly becoming blasted.

In this neighborhood the man who will be able to stow away a few barrels of good apples for winter consumption will be considered one of the most fortunate of individuals; most of us will have to be content with a single barrel—many will not get even that—of scabby, wormy, small fruit. There promises to be a moderate supply of fairly good autumn and winter pears grown in sheltered situations, where the frost of May 29th did not penetrate. Recently I noticed in several gardens attached to houses in Rochester, besides pears, some capital peaches, plums, grapes and quinces, to find which, in the country hereabouts, one might drive almost as far as would be necessary to discover a passable cross-road.

Wheat, old, is quoted at 80 to 83c. per bush.; new, 75 to 82c.; corn (State), 43 to 45c.; oats, new, 30 to 33c.; hay, new, $8 to $10 per ton, old, $12 to $14. Butter, new dairy, 15 to 17c. per lb. Eggs, 17c. per doz. The price of potatoes ranges from 45 to 65c. per bush., owing to variable quality. Onions sell at from 50 to 60c. Cabbages, $4 to $5 per 100 heads. Sweet corn, 8 to 10c. per doz. cans. Tomatoes sell at from 60 to 75c. per bush., but are of medium quality. Apples realise 75c. Pears, 75c. to $1. Peaches sell by the basket at from $1 to $1.75.

September is the month of fairs. Farmers, even if they do not exhibit, should attend them by the thousand. Before going, they should consult their pocketbooks and consider in what way they can be used to advantage at these gatherings. For instance, whether the scrub bull and ram in the yard could not profitably be replaced by thoroughbred substitutes, whether the extra cost of an improved implement or two would not be amply repaid in the saving of toil and inferior work of the old ones. Their wives and daughters, too, should have a chance to invest in the dairy department. After exchanging experiences when there, inquiries should be made as to the number and location of the institutes to be held during the ensuing winter and pledges given to support them by their influence and presence. In fact there is no end to the benefits a farmer may derive from his State, county or local fair if he will only attend and make active use of his eyes, brains and tongue.

Monroe County, Sept. 2d. J. H. C.

Crops on the Lake Ontario Shore.

EDS. COUNTRY GENTLEMAN—If the old saying be true, that the last Friday and Saturday of each month rules the weather for the succeeding month, then surely September will be the banner month of the season. All through Central and Western New-York the months of June, July and the fore part of August will long be remembered as extremely wet. And all our crops have suffered, some more, and some less, depending upon their location, whether on low, or high ground from the excessive and long continued wet weather.

Barley, our main crop, is not more than two-thirds the average, and the quality is poor. The most of it will be light weight and badly stained. Oats are not turning out well from the amount of straw we have, and they too are light weight; many of them will not weigh over 26 pounds to the measured bushel. Winter wheat is a fair average. I have heard of a few pieces yielding 25 bushels per acre, but the average will not be over 15 bushels.

The warm, dry weather of the past three weeks has done much to help out the corn crop, but at best it will not be over half a crop, and unless the warm weather continues all through the present month it will fall far short of that. Potatoes are nearly a failure; the growth of vines was good and promised to yield well, but the hot, showery weather the last of July brought the blight, and that ended our prospects for a good crop, for in a few days the vines looked as if we had had a heavy frost—were dead stalk and all. Those planted early will yield about half a crop, while many pieces will not be worth the digging. Low prices and the rot, last year, discouraged many from planting as largely as usual. The blight and rot this year will discourage many more from planting more than they will need for their own use, another year. Hay was a large crop, and mostly secured in fine order.

Last fall our orchards were breaking down with the finest of fruit, while this year there will hardly be enough for home use. Taking it all together the season of 1880 has been a very unprofitable one for the farmers of Central and Western New-York. And yet it may bring its benefits, as I see many putting in tile drains where they were thought not to be needed before. Most farmers have their wheat ground prepared, and a very few have sown. I notice the tendency is to prepare the ground better than was done a few years ago, by plowing early, then by harrowing and rolling prepare a finer and better seed bed.

Red Creek, Wayne Co., N. Y. J. D.—

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *Sept. 3.*

The corn-crop weather, bright, hot days, and nights not so cool, keep on, to the great benefit of fields early planted, and having a full, strong stand, and to the detriment of all that are late and all that were prematurely cultivated after the heavy rains of June and July. There have been many and heavy clouds passing over from the south and southeast, but light showers, and those only here and there, since the first of the month. The barometer is falling, after a long spell of high range, and is so near the rain limit (30.10), that a period of large precipitation is probably not far off. Drouth is making rapid progress, and a week or two more like the two weeks gone will parch pastures so severely that they will not recover a full bite this autumn.

Grapes are the worst failure for years, and it is rare to see apples on the market not defaced by the all-prevailing scab, and carrying the mark of a worm at the core. We have the first full crop of peaches for years—small, and most of them seedlings, but pretty free from worms, which have been the scourge of the southern crop.

The second crop of herbage having been taken off the alfalfa patch Aug. 17th, the *third* crop has already reached an upright growth of six to eight inches, and is as fresh and bright as blue-grass in early June—rejoicing apparently in the burning sun, and quite indifferent to the prevailing drouth. I see no reason why the third crop may not be as heavy as the second, that having been quite equal to the best red clover of the country.

If the growing season has been favorable in a marked manner to Irish potatoes and tomatoes, it has been no less so for the sweet potatoes in variety, large and handsome specimens having been on the market for a week or more. And, by the way, I never remember to have seen Irish potatoes develop so near the top of the ground, due I suppose to the excessive rains about the time the tubers were forming.

B. F. J.

From Southern Minnesota.

EDS. COUNTRY GENTLEMAN—The last week of August was a hot one—the rays of a clear sun on the parched earth sending the mercury near 100° every day. The month entered with the fields suffering from drouth, and during its stay it gave us but one shower, worthy of mention. September comes in slightly cooler, but with no signs of rain. Pastures are now bare and brown, corn is taking on its October hue, and the leaves are fast falling from the trees. However soon Jack Frost may make his appearance, he will find but little that is green awaiting the touch of his icy finger.

Our county has suffered much worse from the lack of moisture than the average throughout the State. The rain has fallen in streaks or belts. Some of the favored localities report the corn and potato crop as very much above the average; while this county will not harvest more than two-thirds of a fair crop. Throughout the State the average will probably reach about 75 or 80 per cent. All kinds of small grains were good, with the best of weather for taking care of them. The returns of the thresher are seldom disappointing, this season, even among the most hopeful ones.

The courts declared our meat inspection law unconstitutional, as interfering with inter-State commerce, before it had scarcely time for a fair trial. The price of beef cattle continues discouragingly low. We are told by those who have made a study of the problem that it is not over-production but under-consumption that has figured more largely in the present state of affairs. Our local butchers recently reduced the retail price of all kinds of beef about 20 per cent. As a result they report an increased trade of from 20 to 30 per cent. Thus the price of a staple article of food is seen to materially affect the amount consumed. With beef cattle begging for purchasers at 1½ to 2 cents per pound there seems no good reason why consumers should go hungry for beef. Certain it is that the margin between the price of beef on foot and in the ret been too wide. To narrow thi stimulus to trade at both ends

A receipt for making milk ha to parties in our larger cities, commissioners have kept an e vent the sale of such manufactu receipt sold as high as thirt seller claimed he could make m stand the test of the chemist, a one cent per quart. It is said duct really is such as might d nary consumer. This seems t frauds. Some men seem ha slippery hold on the fraudule over the solid grip on the 100 even though the former ex brain or muscle as the latter. the farmer's blessings is the knowing that he can largely with what he knows to be pu some. C. L. B. *Freeborn Coun*

Prizes Awarded at

[See Report of the Exhibitio

QUERNSEYS.

Aged Herd—1. Levi P. Morton, tting, Pittsfield, Mass. *Young Her* Rochester; 2. Walter Cutting. *Ju* I. L. Otis.

Male any age—L. P. Morton, Mi *age*—L. P. Morton, Blenfaltrice 4th

Bull 3 years—1. Sam'l Townsend Lewiston Boy; 2. S. H. Hammond, Diamond. *Two years*—Walter *One year*—1. L. P. Morton, Mid Rondor. *Bull Calf*—1. L. P. Mort Stuyvesant, Allamuchy, N. J.

Cow 3 years—1 and 2 L. P. Mo 4th and Lily Orange. *Two years* Lady Marion 2d; 2. I. L. Otis, Hy 1. Morton; 2. Otis. *Heifer Calf* 2. Otis.

SHORT-HORNS.

Graded Herd—1. Nelson & Sons 2. Varner & Son, Indianola, Ill. Nelson & Sons; 2. Renick & Br *Five Animals by one Bull*—Varne *Male any age*—Nelson & Sons, *any age*—Nelson & Sons, Isabella *Bull 3 years*—1. Nelson & So Boak & Son, Gerry, N. Y., Heir *years*—1. Varner & Son; 2. Re *year*—1. Nelson; 2. Renick. *Bull* & Son, Westboro, Iowa; 2. Varne *Cow 3 years*—1. Nelson & Sons, rell 2d; 2. Varner. *Two years* nick. *One year*—1 and 2. Nelson Nelson; 2. Varner.

DEVONS.

Aged Herd—1. D. J. Whitmore O.; 2. Irving York, Brock, O. Y ing York; 2. J. Hilton & Son, Ne *Bull and Produce*—1. Whitmore *Male any age*—Whitmore, Breme *Female any age*—York, Sies *Bull 3 years*—1. Whitmore. *Two years*—Whitmore. *One year* ton. *Bull Calf*—1. Whitmore; 2. *Cow 3 years*—1. York; 2. Whitm 1. York; 2. Whitmore. *One ye* 2. York. *Heifer calf*—1 and 3. 4. B. F. Peck & Son, East Bethany

GALLOWAYS.

Graded Herd—1 and 2. D. M. Ind.; 3. W. B. Nimmons, Bin *Herd*—1 and 2. Kay; 3. Clarke Ill. *Five Animals by one Bull* Clarke & Norris.

Male any age—Kay, Topeman *male any age*—Kay, Baily Blackie *Bull 3 years*—1. Kay, Anthony mons, Kekionga; 3. Kay, Beacon laris. *Two years*—1. Kay; 2. C Oaklawn Farm, Fort Wayne, Ind. 3. Clarke & Norris; 2. Kay. B Clarke & Norris; 2. Kay. *Cow 3 years*—1, 2 and 3. Kay. 2. Kay; 3. Clarke & Norris. *O* Kay; 3. Clarke & Norris.

SHIRE HORSES.

Stallion and 4 of his get—Jas. *tion 4 years*—1 and 2. J. E. Bro ris, Stone & Wellington, Wella Crosby, Greenville, Mich.; 3. J *Three years*—1 and 4. Brown & C 3. Ormsby & Chapman, Spring Ont.; 5. W. H. Millman, Woodstoc —1 and 3. Brown & Co.; 2 and 4 man; 5. Morris, Stone & Wellin Ormsby & Chapman.

Mare 3 years—1. Green Bros., W. H. Millman; 3 and 4. Morris ton; 5. Ormsby & Chapman. Ormsby & Chapman; 3. Morris, ton.

CLYDESDALES.

Stallion and 4 of his Get—1. Lamb, Rufus; 2. E. J. & H. B. N. Y., Brave George. *Stallion* rell; 2. Chas. Dalglish 3. J. S Kay; 5. Smiths, Powell & Lamb Waller & Mitchell; 2. Andrew Gregor; 4. Smiths, Powell & La *Two years*—A. Marshall. *One y* J. & H. B. Treichler; 2 and 5. Lamb.

Mare 3 years—1. A. Dunn; 2 a ell & Lamb; 4. E. J. & H. B. Kay. *Two years*—1. D. M. Kay H. B. Treichler; 4. George Will Powell & Lamb.

COACH HORSES.

Stallion 4 years—1. F. S. Peer, E. Wilson, Meadville, Pa.; 3 and & Lamb, Syracuse. *Three year* Scipio; 2 and 3. G. E. Brown 4. Peer. *Two years*—1 and 4. Sinclairville; 2. Smiths Powell *One year*—E. J. & H. B. Treichle *Mare 3 years*—Lord & Son, Wilson. *One year*—1. Smiths, P Wilson.

OXEN DRIVEN

Silver Cup offered by the Eng ram, *two ewes and two ewe lamb* Stonington, Ill.

Gold Medal offered by Ameri

rum and Use of Ale yet—J. R. & W. A. Shafer, Middletown, O.

SHORTHORNS.

Prizes to Geo. H. Hammond, Detroit; Geo. Ingersoll, Fonda (including the English cup); Williams & Sons, Muncie, Ind.; Randel & Son, Birmingham, Mich.; Butler & Sons, Ridgeway, O.; John Kelly, Jr., Shakspeare, Ont.; J. S. & W. G. Crosby, Greenville, Mich.; Mrs. Ann Newton, Pontiac, Mich.

SOUTH-DOWNS.

Prizes to John Jackson & Sons, Abingdon, Ont., and Robert Marsh, Richmond Hill, Ont.

LEICESTERS AND LINCOLNS.

Prizes to John Kelly and Mrs. Ann Newton.

SUFFOLK SWINE.

Prizes to Frank Wilson, Jackson, Mich.; A. C. Green, Winchester, Ind.; M. H. Walworth, Hillsdale, Mich.

ESSEX SWINE.

Prizes to Jas. Seeley, Geneva; F. Wilson, A. C. Green and M. H. Walworth.

Weather, Crops and Prices.

Meteorology for Sept. 2—8.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.32	inches.
Lowest	do. do.	30.08	do.
Mean	do. do.	30.19	do.
Highest temperature	do.	86°	
Lowest	do. do.	59°	
Mean	do. do.	74°	

Two clear days; four fair; one cloudy. Two days on which rain fell; total precipitation, 0.69 in. Prevailing wind, S. and S. E.; maximum velocity, 16 miles per hour on the 5th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	2d	3d	4th	5th	6th	7th	8th
Day	74°	78°	73°	70°	74°	68°	72°
Normal.....	70°	69°	69°	67°	67°	67°	66°

Total excess for the week, 25°.

The Month of August at Albany.

According to the reports of Sergeant Ryan of the Signal Service, the highest temperature for August was 93° on the 24; lowest, 51°, on 16th. Warmest days, 24 and 25—mean temperature, 79°; coolest, 12th and 16th—mean, 68°. Prevailing wind, S.; highest velocity, 24 miles per hour, on 24. Clear days, 13; fair, 12; cloudy, 6. Rain on 11 days. Mean temperature and total precipitation for last ten Augusts as below:

1889—Mean Temperature,	69°	Precipitation,	3.63 inch.
1888	do. 70°	do.	1.74 "
1887	do. 68°	do.	4.61 "
1886	do. 71°	do.	0.97 "
1885	do. 76°	do.	7.58 "
1884	do. 72°	do.	3.27 "
1883	do. 70°	do.	3.69 "
1882	do. 73°	do.	1.35 "
1881	do. 73°	do.	2.07 "
1880	do. 71°	do.	2.84 "

General Review of the Week.

The week has been warmer than usual in the upper Mississippi valley and in the Northern States east of the Mississippi, also in Kentucky, West Virginia, Minnesota and Dakota, the greatest excess in temperature occurring in the lake regions, Minnesota and East Dakota, where the daily temperature ranged from 3° to 6° above the average of the week. It was slightly cooler than usual in the Southern States, the most marked departures in temperature being in the interior of Texas, Arkansas and Northwest Louisiana, where the daily temperature averaged from 3° to 4° below the normal. The thermal conditions for the season from Jan. 1 to Sept. 7 continue substantially as previously reported. Over the entire country south of the lake regions, and generally over the States of the Mississippi valley, there exists a slight deficiency in temperature, the deficiency increasing to the southward, and along the gulf and south Atlantic coasts, the average temperature of the season is about 2° below the normal, and the season is about one week retarded. Over the greater portion of the cotton region and in the States of the Ohio valley, including Illinois, the season is only slightly retarded, and the average temperature in these sections differs less than 1° from the average for the same period for many years. The season continues in advance in the States of the Missouri valley, Minnesota, Dakota, New-England, New-York and Pennsylvania, but the excess reported differs less than 1° from the average, except in Eastern New-York, Massachusetts, Connecticut, and the extreme Northwest, where the average daily temperature for the entire period has been about 3° higher than usual.

There has been an excess of rainfall from the lake regions southward to the Gulf coast, and from Missouri southward over Texas, the heaviest rainfalls occurring in the States of the central valleys, over which region the precipitation ranged from two to four inches. These heavy rains also extended over Georgia, Northern Florida, and the western portions of the Carolinas. The week continued dry along the Atlantic coast, and only light showers occurred at the close of the week over the Middle Atlantic States. Light rains also occurred in the Northwest, over which region the rainfall was below the average, except in Northern Dakota and Minnesota, where slight excesses are reported, and at the central Rocky Mountain stations, where the average rainfall occurred.

The weather during the week has been specially favorable throughout the principal corn producing States. The much needed rains have occurred over the entire corn region, and the light frosts which occurred on the 5th are reported to have caused no material damage to the crop. Corn cutting is now progressing in Southern Michigan, and a large percentage of an abundant corn crop will probably be secure from frost during the coming week. Drouth and high winds caused some damage to late crops in Dakota. In Kentucky and Tennessee heavy rains caused some damage to ripe tobacco. In the west gulf States, including Texas, Arkansas and Louisiana, the weather was generally favorable for cotton, except in some localities, where rain retarded picking. The general effect of the weather for the week in this section was to leave the growing crops in an improved condition. The cotton crop was also damaged slightly in Tennessee, but the condition of the soil has been improved, and the outlook is better. The damage to the crop from worms in Arkansas is not as great as was anticipated, but considerable damage has resulted to the crop from this source in Mississippi. In the Carolinas the weather was favorable; cotton picking is in progress, and there is prospect of a fair average crop. In New-England and the Middle Atlantic states the weather conditions for the week were especially favorable for all crops. In these sections the potato crop was improved, and the damage from rot will not be as great as was first reported. In New-England the bean crop is improving, a heavy crop of buckwheat is ready for harvest and cranberry picking is in progress, with prospect of more than an average crop.

New-York—*Setauket, Suffolk Co, Sept.* 2.—The month of August gave us 11 clear days, 10 fair and 9 cloudy. Rain fell on 8 days; precipitation 4.16 inches. Highest barometer, 27th, 30.04; lowest, 15th, 29.76; mean, 30.10. Highest temperature, 31st, 89°; lowest, 30th, 58°; mean, 69°. Thunder showers on the 1st, 3d, 10th, 14th and 23d. S. B. S.

Richford, Tioga Co, Sept. 6.—After the very rainy season we have had until the last days of August, we are now enjoying a season of dry weather, just in time to finish off the corn crop, which is progressing rapidly toward maturity. Potatoes are nearly a failure in this vicinity, and will of necessity be dear; many crops will not be harvested on account of decay. Oats about two-thirds of a crop; apples are an entire failure, as also most of the small fruits. Hay a full average crop. Butter very low, and has been all the season—very little to encourage farmers to continue making it, but we look forward to winter for better prices. C. H. B.

Canton, St. Lawrence Co, Sept. 5.—Since August 20 we have had delightful weather, and farmers have been enabled to finish harvesting and cutting such low meadows as were flooded at haying time. Crops, as a whole, are not satisfactory. The hay crop, a large one, was much damaged by wet weather, and barns are well filled with rather poor quality of hay. The oat crop is the lightest for years. Corn is nearly a failure, while potatoes, a light yield, are threatened with rot—digging has commenced with a few to save as many as possible. Apples will be very scarce, as few have any at all. The only redeeming feature for the farmer is our pastures, which are excellent, and cows doing well. Cheese sold on the Board Saturday at 6½c. per lb.; butter, 15@15½c. L. V.

Geneva, Ontario Co, Sept. 2.—For the last two weeks it has been dry and hot, which has made it almost impossible to plow and prepare the land for wheat seeding, as the heavy rains of the summer ran the land all together, so that it is all lumpy when plowed. There has been a very large amount of pears picked in the last week; Bartletts ranging in price from 75c.@$1 per bushel. There are a good many plums that have dried and shrunken on the trees on account of the foliage being rusted and fallen off, which makes them almost worthless. The peach crop is light, just commenced to pick Crawfords. The wheat crop in threshing fell short 10 to 20 per cent., also oats are very light, some not weighing over 20 to 25 lbs. per bushel. Corn has improved a good deal, and if the weather keeps good for two or three weeks without frost there will be a fair crop where it could be cultivated. J. W.

Maine—*West Madison, Somerset Co., Sept.* 6.—The grain crop is finally harvested in good shape. The past two weeks have been all that farmers could desire. The warm days are sending the corn along toward maturity, which will require about two weeks more of warm weather. The potato crop will not be more than half a crop, and on many fields they will not be worth digging. There is about the usual amount of rot, but not as much as expected. The apple crop will be light in this section of the State, and some complain that the quality is below the average. The sweet-corn crop is fairly good on the average. T. D. S.

Connecticut—*Hartford County, Sept.* 5.—The weather for the past three weeks has been very dry, only one light shower. The tobacco crop nearly all harvested, and a good average one. The rowen crop now being gathered—the heaviest that has been cut for a number of years; the barns will be crowded full all through this and adjoining counties. Corn will nearly all be stacked in one week more, and is cured well with a large growth. Potatoes rotting more or less through the State; some pieces will barely pay for digging; prices at wholesale, 70c. per bu. Winter apples being bought up by local buyers, white varieties, 75c. per bbl., and red, $1, without barrels. Fall fruit in fair demand at $1 per bbl. About 25,000 basket of peaches will be picked in this county this season, and are selling from $1.50@1.75 per basket, wholesale; creamery butter, 23c. per lb.; dairy, 20c.; eggs, 25c. per doz.; live chickens, 10@16c. per lb.; dressed, 20c.; beef, 6c.; pork, 6c.; pigs $5 per pair at six weeks old. A. S. W.

New-Jersey—*Somerset County, Sept.* 3.—The past week passed without rain, thereby giving some chance for farmers to prepare for fall work. The total rainfall thus far this year exceeds the average yearly fall of this section by over seven inches. During the months of July and August the greatest damage was caused. Hay on many farms was left uncut, while oats, though cut, could not be cured, much being drawn to the barnyard to serve as manure. Considerable damage was also experienced by the washing of meadows and hill fields. The fine promise of early spring has been realized by only a few fortunate ones. The hay crop was very large. Wheat a fair yield, though the straw was short. Oats a full crop, though complaints are heard as to the quality of that safely harvested. Corn is good on land reasonably dry, and is maturing well; if favorable weather continues will probably be an average crop. Pastures good, and aftermath heavy. In many cases the clover on wheat stubble is heading, and if it fills well will be cut for seed, a crop very unusual in this county. Pears are a fine crop; apples scarce; peaches are not a full crop, but coming up nicely, and prime good; potatoes are rotting badly on low ground, though not as bad as was feared—the yield will probably be about half the usual crop. Prices of grain and hay are ruling lower. Wheat, 85@90c. per bu.; potatoes, 40c.; hay, $10 per ton; good beeves, 4@4½c. per lb. on foot; butter, 18@24c.; chickens, 14c.; eggs, 24c. per doz. E. B. V.

Virginia—*Birdsnest, Northampton Co., Aug.* 31.—This has been quite a stormy month. There was rain on 10 days, and 12 days were cloudy; the prevailing wind was N. E., and on the 26th and 27th it blew a gale, and a good deal of corn was prostrated. Some sweet potatoes are being shipped. Maximum of thermometer, 87°; minimum, 68°; mean, 75°; rainfall, 4.05 inches. The mean temperature is below the average, which is 77.92, as is also the rainfall, the average being 4.80. The rainfall for the year so far is 32 inches. Annual average rainfall for 19 years, 44.82 inches. We have the so called Texas fly but coal tar seems a very effectual protection. C. S. M.

Illinois—*Vandalia, Fayette Co., Sept.* 3.—We have just passed through a most severe drouth, which has shortened the corn crop to some extent, but there will be a pretty fair crop after all. We had a heavy rain yesterday, the 2d, which will help the late planting to mature a good crop if the frost stays off long enough. The threshing is about over, and wheat has turned out very good; oats rather short. Markets unchanged; everything very low. S. A.

Ohio—*Irondale, Jefferson Co., Sept.* 6.—Two weeks of drouth and heat are being followed by a soaking rain, in time to soften the clods of plowed ground so that they can be pulverized and made fit to work. On dry, sandy or clay ridge land the corn has suffered quite serious damage, but the general injury to the crop will perhaps not be very great. Potatoes are rotting badly, and with the check late ones have had from dry weather the crop is likely to be a short one. As threshing progresses, the yield of wheat continues to meet expectations, many fields making over 30 bushels, and some as high as 40. There is a large acreage of clover seed, but some fields are damaged by grasshoppers. There is a fatality among lambs, which are dying off rapidly.

Kentucky—*Bonnettstown, Christian Co., Sept.* 2.—After several weeks of sunshine, but cool weather, for August, we are having fine rains; enough, I think, has fallen for tobacco and corn, yet it is threatening a downpour as I write. Some tobacco was housed ripe last week, while more was cut only half ripe to keep the green worms from eating it up. They are worse than they have been since 1875, the year we raised so little on account of scarcity of plants. There is a prospect for only half as much as was made last year, and much of it will be worm-eaten. In the main the prospect is for a good share of fat oily tobacco, of which there was but little in the big crop last year (unless the rains continue as they did last September). A large acreage followed for wheat. W. B. H.

Georgia—*Cave Spring, Floyd Co, Sept.* 1.—An abundant corn crop has been made throughout the South, so reported, also a fine crop of other provisions, and the incessant rains have produced one of the largest crab-grass crops ever known. So if this grass is mowed, the largest and finest hay crop ever produced at the South will be made. The only drawback to its being mowed and saved, is that it comes on at the time of cotton picking, which may interfere. But there will still be saved a very large amount of it. The caterpillars are hard at work on the cotton crop, and this rainy weather will increase their numbers, and cause greater damage, but there is no telling yet how much damage they will do. It rains every day, and so long as such weather continues the worms will increase their work of destruction. Cotton is later than usual, hence the chances of destruction by the worms will be greater. Since the first of June, to date, we have had a superabundance of rain. I never saw before such a wet summer. The contest with the farmers still continues over the bagging question, and they are determined to put up their cotton in cotton bagging, in the place of jute. This is the first big fight the farmers have made against a trust, notwithstanding the Liverpool Cotton Exchange have entered their protest against cotton bagging. Liverpool must have cotton, and the farmers are aware of that, and pay no attention to what Liverpool says. They are determined to break up the trust. J. G. D.

Missouri—*Kansas City, Sept.* 2.—August was a lovely month. There were only a few days that the mercury ran up to a 100°, and the evenings and mornings were cool and delightful. Frequent showers kept vegetation fresh and green, and the flowers look as bright as in June. The perpetual roses are in full bloom. The same varieties of flowers grow here that are cultivated in the East, but they are more luxuriant in their size and bloom. The various kinds of grain are harvested, and mostly threshed. Owing to the frequent rainfalls potatoes are suffering, and fears are entertained that the crop will be a failure, as they have already become affected with rot. Corn is looking splendidly, and will be an immense crop if wind and hail keep off a little longer. Apples and peaches are good and plentiful. Grapes and melons are abundant and cheap, as well as large and delicious. Market prices for provisions are advancing, except flour, that is weekly falling a trifle. Coal is very cheap here—$3@3.50 per ton. There are a great many new buildings being erected and the city limits have been enlarged, taking in miles more of territory. There is a constant rush and bustle by night and day, and the police courts are crowded with both business and prisoners each day. Perhaps there is not another city in the union where there is such a conglomeration of every nation and tribe, consequently crimes are frequent, and the penitentiaries are well filled with criminals. A. E. S.

Nebraska—*Falls City, Richardson Co., Aug.* 29.—So far this has been an uncomfortable month. Some days from 90° to 100° in the shade, and the nights cold and chilly. A great amount of rain has fallen and heavy showers have been frequent, at times doing much damage. A few miles from here a terrible hail storm swept over a space of five miles in width and fifteen miles in length, sweeping everything in its route. Apples and peaches were blown from the trees and destroyed, and acres of corn, melons and potatoes were cut down and ruined. There has not been the usual amount of hot winds however, and the foliage keeps verdant. Grain harvesting is completed, and crops turned out well. There has been too much rain for the good of potatoes. Corn looks first rate, but has not ripened quite as early as usual. Flour is falling a little in price, but other marketable commodities are rising in value a trifle. The new creamery is flourishing and well patronized. The canning factory is not in operation this year. A few private residences have been erected by the landed proprietors, who were obliged to make themselves more comfortable homes. Farmers are rejoicing over good crops, and prospects of brighter days. Live-stock of all kinds are looking first rate, as the pasturage has been unusually good this season, and feed has kept green and sweet. The wild grass is almost all cut, but not cured as well as usual. S.

Wisconsin—*Janesville, Rock Co, Sept.* 2.—Never in my knowledge of Janesville have I known so long a drouth—drouth without any appearance of dew, even; all things are withered and apparently dead, except a few strong and drouth-resisting trees. The heat has been perfectly intense; for eight days the mercury has ranged from 101½° to 104° in the shade, excepting yesterday and to-day, 98° and 90°. There has been no rain yet, and all things are suffering for it. With yesterday ended the the 9th consecutive hottest day upon my record or in memory for the last 26 years. All the mills are shut down for lack of water. Rock river has not been so low for many years. Large trees are shedding their leaves. Tobacconists are busy cutting and shedding tobacco. The pearl fishing still continues unabated. It is confidently stated that the village of Albany, Wis., has received $10 000 in cash for pearls fished out of Sugar river. Health and business just fair only. Wheat, 60@70c. per bu.; barley, 25@40c.; rye, 40c.; corn, 35c.; oats, 19@20c.; potatoes, 25@30c.; hay, $6@7.50; bran, $10; butter, 13@15c. per lb.; eggs, 11c. per doz.; cattle, $2.40@3.50 per cwt.; hogs, $3.90@4.10; tobacco, 2½c., 3½c., 5@10½c. per lb. W. H.

Fond du Lac County, Sept. 5.—Up to yesterday we had the hottest spell of weather that we have experienced for a number of years. Every day the thermometer marked from 75° to 100° in the shade. Cattle have died in the field overcome with the heat. In some instances large patches of corn have been burnt to death, and apples have been baked under the trees. Threshing very variable; in yield wheat is averaging 14 bu. per acre, oats 40, barley varies from 27 to 45 bu. There is no market established for wheat. No demand for oats. Barley is moving very rapidly at prices ranging from 30@35c. for 51 lbs.; No 2 sells readily for 48@50c. for 51 lbs., or cleaned 50 lbs. During the heated term corn has made long strides, and now the dent varieties are in good roasting ears. Since writing the above I took a stroll through my cornfield and I find a very few ears commencing to dint, and flint beginning to glaze, but many ears just silked out. Never was corn more uneven in size and in maturity than now. Now that we have got rain, two weeks of hot weather, such as we have had during the past three weeks will give us two-thirds of a corn crop. With our enormous hay crop and the yield of small grains the farmers of this section of Wisconsin ought to be pretty well satisfied. If your correspondent Jno. H. D. at Wilkes to induce farmers of the North to settle in the South he should give his full address that we may correspond. S. S.

Horticultural Department.

Success in Tree Planting.

Nothing surprised a leading English nurseryman more on visiting our grounds one day in the early part of August, than to see our men transplanting long rows of Austrian and Scotch pines some three or four feet high. He was sure they would all die if transplanted in August in England. He was shown a block of some thousand Norway spruce, set out the same time last year, without one apparent failure in the whole block. And why should there be? There can be no more reason why they should not be planted at the same time there as here, except that they never have been planted at that time.

In our practice we have long concluded that there is no best time to plant trees anywhere. Local circumstances must guide the planter, and these local circumstances will vary from year to year. There are seasons when we would never think of planting in August or September, or even in October if we could help it—we should leave all we could till spring, and we have seen many a spring when we heartily wished that we had done a great deal more in the fall than was done.

Few stop to consider that a tree transplanted is very little more than a cutting. The roots we take with the tree are not of very great importance in themselves. Roots, once formed, draw in moisture to some extent. A cutting without any roots at all put into a bottle of water, will draw in water to some extent, but this is only when in direct contact with water, and it does not last long as a general thing. In the ground it is a different affair. There is no water there but moist air only, and the water, or juices in the plant, must be taken into the plant by root-hairs, which form the liquid out of this moist air. These root-hairs are only on the tips of the growing roots, so that we want a growth of these white, hair-tipped fibres as rapidly as possible to ensure any great measure of success in transplanting. The biggest mass of fibrous roots we can imagine to any tree is of no material consequence, unless it throws out at once young white fibres with root-hairs. Indeed some wonderment is often indulged in that trees with immense masses of fibrous roots die, while miserably rooted things seem to live. It is no uncommon event that hemlock spruce with matted roots are the first to die. It is often more difficult to get earth in among a mass of fibres, than where the mass is thinner. The new root fibres do not push well unless in immediate contact with earth, and moist earth too it must be. Experience shows that these new fibres push out more rapidly in August and September than in any other time of the year in our locality. A young Norway spruce with a mass of roots not larger than one's fist, will be found nearly to double itself in size within two or three weeks after an August planting.

But success depends on a number of incidents. When a tree is in a perfectly normal condition—growing in the ground in one place for several years, physiologists contend that the juices do not evaporate, but are lost by transpiration, while a dead tree loses its moisture solely by evaporation. But a cutting, though of living material, will dry out—it evaporates. It has been already noted that a transplanted tree is of the nature of a cutting, it certainly loses moisture by evaporation. The only art in transplanting is to guard against excessive evaporation, until the new root fibres are freely formed. Now if August and September are very hot or dry, we lose by evaporation what we gain by rapidity of new made roots.

Just how this thing works may be illustrated by a weeping willow. If we take a young tree with a fine bushy head of young twigs, and plant it here, say in May, no matter how good its mass of roots, it would surely die. But take a weeping willow pole, with just the same thickness of stem as the tree, without any head of branches, or any roots at all, a mere bare pole, and it roots at once and grows like a weed. Everybody knows this. The only reason for the difference is that there was no evaporation from the pole as from the mass of young twigs forming the head of the tree.

One can readily see from this that there can be no general answer to the question whether it is best to plant in fall or spring, or early or late in any one season—whether a tree should be pruned at transplanting or left with all its branches on—whether the leaves should be left on at transplanting or all or many taken off. A locality exposed to keen, cutting, cold north winds in fall and winter would be unfavorable to fall planting; the moisture evaporates too readily. On the other hand a locality in which a hot, drying sun will follow immediately after a spring planting will be bad for that season, for again evaporation is too great.

What is the best time for planting, then, each one must decide for himself. The best time to plant is when the roots will push out their new white hair-tipped fibres the most rapidly, and when excessive evaporation is at the same time likely to be under the best control. This may be the spring in many localities. In other localities the conditions will be best secured in fall.

All of this is, of course, chiefly for the amateur, or for the nurseryman in managing his own planting. It is not safe to send trees long distances on these ventures. The nurseryman must have his regular seasons for digging, about the fall of the leaf in the autumn, and as soon as the frost is out of the ground in spring. THOMAS MEEHAN.

Philadelphia, Aug. 12.

Celery-Growing near Boston.

EDS. COUNTRY GENTLEMAN—I have been much interested in the articles on celery growing by Mr. Summey, but wish to make a few criticisms thereon, and additions thereto, as I have grown celery for several years for Boston markets.

His method of preparing the soil is very good; here we do not think it would be any better even in a small patch to open trenches and put manure in the furrow before setting plants. We think it much better to have all the land made rich. We also prefer, where possible, to sow the seed in the rows where we wish it to grow, and thin out to proper distance.

We have rows from six to eight feet apart for large varieties, depending something upon the character of the soil. A sandy loam will not bank up as well as a clay loam, and rows must be farther apart to get sufficient broad base for the banks.

We sow usually five or six rows of onions or lettuce between each two rows of celery, or one row of large or two rows of small cabbage, or plant a row of early potatoes. We also sometimes set celery on ground from which early crops have been taken, that which is pulled up in thinning the rows being used for that purpose.

We use plants of all sizes, from two to six inches in height for setting, and do not practice either top or root pruning unless plants are very large and the soil very dry. We keep the land between the rows stirred as often as we can, consistent with care of other crops growing there, and as free from weeds as possible. Do not begin hilling for the winter celery (that which is to be blanched in the pit) until Oct. 1, and usually not before the 10th. The early varieties require but little banking, excepting just to turn a light furrow against them. Some are devoting land entirely to celery growing, alternate rows of a dwarf early sort and Boston Market or Arlington. As the dwarf is taken out in season to begin banking the later crop, the rows are then made about 3½ feet apart.

Instead of the old process of "handling," or holding the tops together while banking up, we are now tieing the tops together with bands of the grass used for bunching vegetables, or with a soft twine. They only need drawing together into proper shape, but are not tied tight enough to cut the stalk. The advantages of this plan are the better protection of the heart of the plant from getting dirt inside when earth is plowed up against the row. No need of an extra man to hold the plants when banking is done with a spade, and they have a better shaped head. They also hold together better, and have fewer stalks broken when being moved to the pit, and will pack more compactly there, requiring less room for same number of plants. We also think the tieing makes the plants "shoulder out" more, making a more showy head when cleaned.

I like the plan of celery-house as shown in No. 3 of Mr. Summey's articles, but must offer one or two criticisms thereon. He shows no method of ventilating it. Without ventilation celery will "sweat" so that the plants in the pit will be as wet as if out in the rain, and will rot almost before it blanches at all. There should be a board under the peak of the roof at each end, that can be taken out, leaving a space not less than a foot wide and twelve foot long for air to draw through the whole building. This can be closed at night, or when very cold, but should be opened at every opportunity when it can be done without danger of freezing inside the building. A few days' sweating will hurry the blanching process, but if continued too long will cause decay.

We prefer to have the room for drying, washing and bunching entirely separate from the pit or celery house, as we want a warmer temperature there, for the comfort of the workmen, especially the washer, than we care to maintain in the pit; therefore we would dispense with the windows in the end of the house.

Mr. S. says the house is roofed with boards, then with a foot of straw, then matched boards again, then another foot of straw, and a third covering of boards; yet he says the roof requires something over 5,000 feet. As I figure it, it would take at least 5,200 feet to give two coverings of boards, and 7,800 feet for three coverings.

I think one covering of matched boards, and that covered with waterproof paper, then a covering of salt hay about one foot thick, will fully protect when the thermometer falls to 15° below zero, and we seldom have it colder than that. Probably it would need a thicker covering of straw than of salt hay.

As a common length for hemlock boards is 16 feet, he might as well have his roof eight feet high in the centre, or four feet higher than the sides, as to have it only six feet high. This would give better air, better standing room (for our Down-Easters are nearly all six-foot tall without their hats), and better room for the horse to lift his head when drawing in celery. A 15 or 16 hand horse likes to hold his head higher than he could under a roof only six feet high.

We have no use here for the trenches described by Mr. S. If we wish to keep celery later than we can in the house in which we put the main crop, we put up another temporary house, similar but smaller, select the best and greenest roots for it, and try to give the plants a little more room, by putting boards between every three or four rows while packing, and keep it as cool as we can, without danger of freezing. We also allow a little more light, and we take more care in packing earth about the roots when put into the house. In this way we can keep some until quite late, if desired.

Mr. Summey says nothing about packing celery in the pit, which we consider a matter of the greatest importance. When not too hurried about housing it, we handle very carefully, guarding against bruising or breaking, pick off all broken or decayed stalks, and stand upright, throwing earth enough back against the roots to hold them quite firmly. Digging up this earth will leave a sort of gutter two or three inches deep in which to stand the next row of roots. But for further protection against falling over, which would cause heating and rotting, we put a board across as often as once in ten or twelve rows of roots, and begin anew, and in the house where we desire it to keep the latest, as said above, we put a board as often as once in three or four rows. L. M. *Middlesex County, Mass.*

Peaches in Connecticut.—Mr. J. H. HALE, South Glastonbury, Ct., states in a Hartford paper that in shipping peaches to market he assorts them carefully in three grades, and packs the middle and bottom of each basket with just as good fruit as is placed on top, pastes a label on each basket and guarantees the contents. Of course extra help is required to do this work, but it more than pays in quick sales at good prices. The labels are of three colors, *red* for extra, *white* for No. 1, and *blue* for No. 2, and customers soon learn what to expect when either color is ordered—a uniform grade every time. The Hale Brothers have over 12,000 peach trees in bearing this year in three orchards, and loaded down. Nearly half the yield was picked off early and thrown away to save the trees and remaining fruit. As it is largely sold in the home market, the fruit is allowed to ripen on the tree instead of being picked off green, like southern peaches. The leading varieties are Mountain Rose, Oldmixon, Stump, Early and Late Crawford, and Smock.

American Florists' Asso

Notes of the Buffalo Conve

VARIETIES OF ROSES—ROSE

A paper on "Some of the Best R Years" by Wm. C. Barry of Roch the essayist explaining the fact space being devoted to the h saying that nurserymen can har the rose from a florist's point of v ally must know something abou ally the hardy classes. "One what becomes of all the new brought out," said Mr. Barry, total of 378 kinds that had rece duced, only 108 had been cultiv eral way, while only about 40 we value for exhibition, yet all of more than ordinary merit." H tioned the following as being a of the finest varieties:

Gloire de Margottin, vigorous b shoot, large flowers, dazzling brightest rose yet raised, and m ble for forcing from its being tinct color. *Gloire de Bourg L* red, hardy and floriferous, its br up for its lack of fulness. *G* flowers large, moderately full, becoming white, good subtanc Tea rose in form and fragrance. remarkably vigorous in grow handsome foliage; promise of and most distinct dark colored of good shape, with delightful ing a long time, will doubtless being nearly a continuous b *Helen Stewart* greatly resembles of vigorous growth, and brigh let color; large, full flowers, carried erect on long, stiff s perfumed; very distinct and b flowering all through the seas the fall, when it is especial *Brunner*, flower of the finest beautiful cherry red, petals changes of weather, foliage will be of value for forcing vigorous grower, with flowers rose color, with brighter cent and full. *Mrs. John Laing*, flowers large, finely shaped, fragrance; one of the best a outside bed, where it flower also fine for forcing, as each magnificent bloom. *Dinsmor* sort, valuable bedder, profuse double and very fragrant, *Heinrich Schultheis*, large, good full; pinkish rose, and sweet- *Dumesnil*, charming flower, rose color. *Rosieresis Jacobs*, full, fine globular form; bri shaded with blackish crimson, short, large flowers of a satiny tinctly striped and dashed wit mine; decided novelty, will ta public; fragrant, and free *Singer*, a bright-red climbing habit; flowers, as they grow pale rose. *Mad. Georges Bruan* race of Japan Hybrids, betw and the Tea rose Sombreuil; valuable of recent acquisitio double, beautiful creamy white of six to eight; the fore-runne ble class of garden roses. has been specially fortunat crosses of great interest, and future value, one especially Japan rose seedling of violet cious in fragrance. Rosa rug desirable shrub for even the

TEA AND HYBRID TEA ROS *Wootton*, is a new hybrid Ame forcing; bud of good size and double, very fragrant and Bennett does not do well; f erect on long shoots. *Visco* fine creamy pink forcing ro and very sweetly scented. A colored dark velvety crimson that holds its color remarkab bloomer, and specially valua under glass through the su fall; very healthy, no tend *Mad. Etienne*, rose colored, go free-blooming and distinct carmine rose, tinted with saf the base of petals coppery y and well shaped, very fragra an American seedling of Bo delicate shade of pink which during winter under glass. *Dreuil*, one of the best tea color, coppery rose-tinted cen double and very fragrant. large and full, delicate ca formed bud, long and pointe very promising. *Princess de* size, brilliant velvety hue. haps hardly large enough ment of the florist, but w broad and thick imbricated color yellowish white with d shading. *Blanche Moreau*, rose, old, but deserves t grown. The large perfectly dowers are produced in clu furnished with a setting of *Sir Rowland Hill*, claimed hybrid perpetual in cultiva testing.

Americans are more c French in sending out new v of late years the latter ha

more cautious. The recent crosses with Japan roses are most promising, and may give us a class free from many of the common faults of our roses as now known.

Animated discussion followed this paper. Mr. Hill said that heretofore a rose has been measured by its forcing quality, but a reform is at hand and in the near future hybrid perpetuals will be better appreciated. While in England this summer, he thought the finest rose he saw was Mrs. John Laing, which in Europe is really permanent, but the bright colors are much finer in England than here, and then they often have a great quantity planted together; a very striking mass was one composed entirely of dark crimson hues. Brightness of Chestnut was much brighter there than here; grows very strong and is splendid in masses. Ulrich Brunner is very suitable for early forcing.

John Thorp thought that as of 2,000,000 roses which each year are sold, only one-fourth are sold for greenhouse purposes, the question of having roses in the yard was of far more importance, and the influence of the S. A. F. in this respect ought to be felt. In the hybrid rugosas of Carman's, some will equal Hermosa in blooming, but are of Jacqueminot color, with foliage unaffected by the black spot. The American people are going to raise the roses for America; English roses do not do well here, mainly because of the difference in climate. Hardy plants of all kinds are becoming more and more popular, especially such as are natives of this country, and this society must encourage every native flower that grows here.

Peter Henderson advised that we should grow for summer flowers the Tea and Monthly rose sections, as for summer flowering the hybrid perpetual is a decided misnomer, and often deceives those who want something hardy, and that will bloom all the time. Roses of all kinds grown in 3-inch pots are as cheap as geraniums; they will give much better satisfaction while blooming, and do not bother with them during the winter.

Mr. Anderson said that the Bengal, Hermosa and other discarded roses are still the best we have for summer flowering or for bedding, and we should not neglect the Polyantha or mignonette roses, for they are beautiful when in bloom, as they are all summer. He thought that the finest bed of flowers was simply a round bed that had for the centre a clump of Camoise roses, while next to them came a row of the Archduke Charles, and in the outside row the little Polyantha roses; these formed a bed that appeared far better than the finest mass of geraniums that was ever planted. About all the hybrid perpetuals that are really fall-blooming are Paul Neyron and Mrs. John Laing, no others being hardly worthy of being so called.

Mr. May believed that rose culture is in its smallest infancy yet in this country; many sorts are far more desirable than geraniums either for cutting or bedding purposes; where one bedding rose was sold a few years ago, 1,000 are now sold.

In reply to inquiry which roses of recent introduction are especially useful to the florist, Mr. Hill said the ideal rose is yet to be found, but the most useful are those that are the most suitable for greenhouse growing, and he knows none better than Mad. Hoste and Duchess of Albany, which he would name as best for forcing during the winter; the former is a most remarkable bud producer, a very fine grower, with a good but somewhat variable color, some times pure white and then yellow, while in hot weather it is poor. The latter is a greatly improved La France, larger and much stronger grower, with equally floriferous habit. *Souvenir de Wooton* has many points to recommend it. These three are valuable for forcing; yet a good pot rose is of almost as great value to a far greater number of growers. A trouble with new roses is that oftentimes they cannot be relied upon, as in many cases the descriptions of them by the introducers are the best part of them.

Replying to a question, Chas. Anderson said the ordinary rose bug will not freeze, as the bug has too much sense to get where it is cold enough; the larva would suffer, but it will doubtless burrow out of the reach of the frost, returning to the surface in the spring.

As to southern-grown rose bushes, A. C. Oelschig of Georgia said that rose-growing there was a failure from various causes; roses on their own roots had not found their proper soil which is the rice land, not habitable by white people, and there is great loss in spring from protracted drouth on the young rootlets of cuttings which are just starting. As a rule the wholesale growing of roses on their own roots for forcing purposes is not profitable, except with such kinds as Anna de Diesbach, Prairie Gem and Queen, Magna Charta and Paul Neyron. Cuttings planted in the open fields, as is the ordinary plan in the nursery, have proved so poor that many are becoming discouraged.

Mr. Lonsdale answered that to kill green fly without fumigating, one must use tobacco stems under the plant tables or benches, in the walks, on the beds, among the plants and wherever there is space, and they must be kept moist at all times.

Vice-Pres. Palmer said he does not fumigate but fills a barrel half full of stems and then entirely full of water. He has gutters fixed on the steam or hot water pipes, and these are constantly kept filled with this tobacco fluid which then evaporizes, and prevents any green fly from getting a start. These gutters or boxes are placed 20 feet apart on each side of a 20-foot wide house. The boxes for the small steam pipes are each 18 inches long, 1 inch deep and 1 inch wide, and made of galvanized iron, straps running down from the side to wind around the pipes.

As to where the rose-bugs deposit their eggs, Mr. Henderson said that Prof. Riley showed him where the eggs were, just at the juncture of the stem and soil; when hatched they immediately descend to the roots and get to work on them. Prof. Riley said that placing paper about the stem and then removing and destroying it, would prove a preventive wherever the number of plants was not too great.

Mr. Reynolds of Illinois said that on white and yellow Banksia stock he budded Perles, about six inches high, some years ago, and they now are very fine. He thinks it will make a grand stock, as the Perles have bloomed unceasingly on it.

Other Questions and Answers.

Mr. Swayne said that with carnations it made no material difference to transplant them from light to heavy soil, or *vice versa*, but that it is a gain to use loose soil for potting them; while plants on loose sand seemed rather poorer than those from heavy clay, yet from either soil the plants, when planted inside in light soil, did equally as well. It is important to plant firmly when setting the plants inside, as this often makes the difference between success and failure.

Mr. Wm. K. Harris of Philadelphia recommends the following as the six best varieties of winter-blooming azaleas: Duchs Pearl, double white; Albert Indica, pure white; Mad. Van Der Cruyssen, very finely colored; Mad. Cam Van Langdenbove, semi-double striped; Siegmann Ruckner, flesh-color; Co-rise, single-striped.

President May said that in growing fine mignonette, three elements are required—good soil, dry atmosphere and common sense. Sow the seed very thinly, keep the house as cool as possible in winter, water only when strictly necessary, and secure heavy spikes; disbud all below the main flower stem. For Christmas bloom sow the seed before September 1st, in rows 18 inches apart, and in the row 12 inches apart. Prefers growing it on solid beds rather than on shallow benches, as in the former the roots can easily be kept cool.

Mr. Giddings of Illinois mentioned his success with asters in the winter. Florists must have a greater variety of flowers than is allowed by carnations alone; dwarf white asters, he thought, were coming to the front as winter flowers, and may be grown in beds among roses near the glass, and which will bloom when only four inches high. They go farther than carnations, and can be grown more profitably, for as soon as one lot of plants are through blooming, others should be had in shape to take their place.

The Elevation of Our Business.

This was the title of a paper by Robert Craig of Philadelphia, considered of such excellence that the society ordered 500 copies to be printed. We give a synopsis:

We should have proper pride in our connection with a calling so noble, and should feel responsibility to advance the cause. There is room for all who do good work, and jealousy should have no place, but the aim of each should be to deal equitably and to maintain pleasant and harmonious relations. Our contracts should be held as sacred as those in any other business; in some cases contracts have been made to supply certain goods at a certain time in specified amounts, and not complied with because of the flimsy excuse that the cuttings did not strike, or that the weather was dull, so that the flowers did not open. These possibilities should be thought of before making an unqualified contract.

An exchange should be established at our annual meetings, where stock can be sold by sample; the meetings will thus offer an inducement to growers from all parts of the country, as they will then have a chance to show what they have to sell. Such an exchange would afford peculiar advantages in offering specialties that are usually scarce. A bureau of information should be started also, for the benefit of those who desire employment as well as for those who wish to secure help.

The vast number of catalogues annually published are a great power, and as they embody truth or misrepresentation their influence for good or evil is determined; if the latter, it is a detriment to the whole trade, as the effect is to create doubts as to the accounts of all new things. Cuts have sometimes been wide departures from the truth: even the same cut has been made to do service in representing in a dozen catalogues as many varieties. But a hopeful sign of the times is that a prominent firm had all their cuts made from photographs from nature. Anxiety to be the first in obtaining a large sale for a novelty, should not influence one to give misleading accounts; while but few of our "great acquisitions" survive the second year, we have many sterling and tested productions worthy of continued praise. Each individual should devote himself to specialties, for the field is so large that no one can reach the highest excellence in many departments. Improvement in any class of plants like the geranium or petunia, is slow, it being hardly noticeable from year to year, but shows so decidedly in a decade, that we are struck with the advancement.

Horticultural exhibitions are essential in securing the cooperation of the public, but the latter has not been educated up to a liberal support of these shows. Chicago has a special tax for the support of the parks and connected greenhouses, which is cheerfully paid, and that city would not give up the pleasure derived from the floral features of the park for twice their cost. Mr. Craig could see no reason why the different cities should not willingly place at the services of the local horticultural societies a suitable hall for holding exhibitions; as an educational and moral force, and as a popular branch of science, horticulture deserves such support, and florists' clubs can do no better work than to bring these matters to the attention of the "powers that be."

This association should also take a lively interest in the horticultural department of the World's Fair of 1892; and we should also be more adequately represented by a national botanic garden.

It is admitted that, while the American constructive sense is superior, the decorative sense is inferior, to the European, and that the French especially excel us in tasteful arrangements requiring a keen perception of color, form and composition. This, however, does not apply to the work of the best American cut-flower artists, for in no other country are cut flowers so gracefully and beautifully arranged as in our own; the barbarous custom of wiring flowers is nearly abandoned, and the blooms are used with long stems, clothed in the appropriate setting of their own foliage. In contrast to this is much of the work done in Europe, in this line, as there it shows a hardness and stiffness, and disregard for the harmonious disposition of color, that is highly objectionable. The indications are that a constantly increasing proportion of our florists are waking up to the necessity of close study on these points, so that we can look to the future with confidence, giving our best thought and labor to the end that horticulture shall keep pace with the general advancement.

The following resolution (which we condense) was adopted:

Resolved, That the National Society of American Florists recommend Dr. F. M. Hexamer to the mayor of New-York as a man in every way fitted to take charge of the agricultural division of the International Exposition of 1892. Furthermore, that this society recommend that floriculture, which would come under the agricultural division, be represented by John Thorpe of Pearl River, N. Y.

E. H. S.

California Fruit Packages.—The Fruit Grower gives the weights of fruit in various packages as shipped from that State: Pears and quinces in box, 40 lbs. net; peaches, 20 lbs.; cherries, 20 lbs.; grapes in baskets in crate, 40 lbs.; half crate, 20 lbs.; plums in box or half crate, 20 lbs.; prunes, apricots and nectarines in half crates, 20 lbs. Four baskets of five pounds each to the half crate.

Assorting Apples.—J. H. Hale in the Hartford (Ct.) Courant says he saw last fall at Bridgeport two car-lots of Baldwins sold. One was of large and medium fruit, all mixed, which sold for $1.35 per bbl.; the other was assorted in two grades, No. 1 selling for $2 and No. 2 for $1.25, the car averaging 50 cents more per barrel than the unassorted lot which were really better apples, if they had been properly handled. He further says that 75 per cent. of Connecticut apple trees are growing in sod land, and never get any manure except by accident, and it is a wonder that any good apples are had.

The Apiary.

The Crowding of the Hive.

The chief cause of failure in bee-keeping is the weakness of the colonies. The beginner starts with ten colonies when two are more than he can handle. They dwindle, but he coaxes them and waits, and at the close of the season, although his colonies are strong, yet he obtains no honey.

It is encouraging to have strong colonies in the fall. There is a better prospect of all-winter life, and more vigor in the spring. But we do not keep bees merely to make them strong for the winter campaign; we keep them to gather honey in the summer. They must be strong in the spring, and be kept strong through the summer.

The man who makes a business of bee-keeping, who wants honey and not increase of colonies, is continually reducing the number of colonies—provided, of course, that there are weak colonies, and there are always, in all apiaries, weak colonies or colonies weaker than others. These are strengthened by uniting. Here are three colonies that lag behind. It is evident that they will only build themselves up during the summer. Each colony is united with a stronger one, or the three made into one, and are now ready to render some service.

A small farmer and gardener caught the "bee-fever," and bought "at a bargain" of a disgusted dabbler, twelve colonies of hybrids, set them up, admired them on Sundays, waited till fall, giving them no attention in the meanwhile, except to catch four runaway swarms, and then expected to reap a great harvest of honey.

Not a pound did he find. He and the members of his family, and some sympathizing neighbors, passed a unanimous vote that bees were humbugs and ingrates. For their occupancy of a beautiful garden, and for many fine words bestowed upon them, they had returned nothing except an occasional sting. They were abandoned as worthless.

In the spring following, only seven colonies out of the sixteen remained. The bee-keeper wished that none had escaped the winter. Convinced that they had no value, and tired of the sight of them, he decided to unite the seven colonies, or what was left of them, and place them in a large dry-goods box, the presence of which suggested the idea. The bees were on American frames about a foot square, nine in a hive. Out of the seven colonies, or the 63 frames, he found enough—30—with brood, to cover the bottom of the box by placing them upright, shoulder to shoulder, having the space and frames of four colonies.

All queens except one were destroyed, and all the bees were united on these frames, after sprinkling them with sweetened water; inch auger holes were bored for an entrance, and they were left to die or to thrive. Late in June the farmer's attention was attracted by unusual activity around the dry-goods box. The bees were not swarming, only going and coming in streams. Opening the box, he saw an immense mass of bees. When the mats, which had been thrown carelessly over the frames to keep the bees down, were removed, the bees "boiled up" till the tops of the frames could not be seen.

The farmer had no faith in them, strong as they were, but if they wished to make up for their laziness in the summer before, he would give them a chance, and he filled the space above the frames with one-pound sections and empty brood-frames. Some of the sections had combs made in the previous season, and all had combs or foundation. At the end of the season, the farmer had taken out of that drygoods box four hundred and thirty pounds of honey.

The bees did not swarm, or if they did, it was when the farmer was not looking. The colony was equal to four large single colonies, and if they had remained single, or had been separated, it is safe to say that the four colonies would not have produced what the one large one did.

Bees are like other workmen; the greater the number at work on the same "job," the quicker will the job be finished. S.

Providence, R. I.

New Advertisements.

Adamson, W. R.	*South-Down Lambs, &c.*
Arnold, Seth	*Cereal Killer.*
Brown, Homer J.	*Cheshires.*
Boyce, Arthur	*Jerseys.*
Booker, John	*Farm for Sale or Rent.*
Cereal	*Position Wanted.*
Card, J. R.	*Trotting Stock.*
E. W.	*Situation Wanted.*
Empire Spreader Co	*Manure Spreader.*
Ezell, J. Horatio	*Jerseys.*
Farmer	*Situation Wanted.*
Gill, H. D.	*New-York Farm's College.*
Hazlehurst, R. F.	*Collie and Shepherd Pups.*
Laverty, James	*Jersey Bulls.*
Rose, John J.	*Windmills, &c.*
Rodger, A. M.	*Shropshire Ram Lambs.*
Springfield Eng. & Th. Co.	*Threshing Mch.*
Steele	*Situation Wanted.*
Seeley Brothers	*Portable.*
Staples & Co., Henry L.	*Farms for Sale.*
Sandycroft Farm	*Jerseys, Heifer.*
Strong, R. M.	*Working Foreman Wanted.*
Smith & Allen	*Farm for Sale*
T. K.	*Situation Wanted.*
Taber, Mrs. G. F.	*Sale of Red-Polled Cattle.*
Wilson, John F.	*Jersey Herd.*
World's Disp. Med. Ass'n.	*Golden Medical Discovery.*

Subscribers' Wants.

CHAS. E. FARNELL, Queens, *N. Y.* Back volumes or odd numbers of Agricultural or Horticultural papers or books, in exchange for greenhouse plants.

Pamphlets, &c., Received.

BABCOCK & BUFORD, Columbia, Tenn. Circular of Live-Stock Agency.

COLLINS, DAVID A., Sec'y Soc'y for Encouraging Domestic Industry, *Providence, R. I.* Invitation to Fair, Sept. 21-27.

DINGEE & CONARD Co., *West Grove, Pa.* Catalogue of Roses, Hardy Plants, Bulbs and Seeds; pp. 34. Illustrated.

GARRARD, W. C., Sec'y State Board of Agriculture, *Springfield, Ill.* Invitation to State Fair, at Peoria, Sept. 21-27.

GOLD, T. S., Sec'y State Agricultural Society, *West Cornwall, Conn.* Invitation to Fair at Meriden, Sept. 17-20.

GREEN, CHAS. A., Sec'y American Nurserymen's Association, *Clifton, N. Y.* Proceedings of 16th Annual Meeting, at Chicago, June, 1889.

GREEN'S NURSERY CO., *Rochester, N. Y.* Illustrated Circular of Wilder Early Pear.

KESSLING, H. G., *San Jose, Cal.* Circulars of Pacific Grove, near Monterey.

NEWTON, T. L., Sec'y State Ag'l Soc'y, Madison, Wis. Invitation to Fair at Milwaukee, Sept. 16-21.

REDFIELD, FRANK B., *Batavia, N. Y.* Catalogue of Percheron, French Coach and Trotting Horses and Shetland Ponies; pp. 19.

RICHARDSON MFG. CO., Bath, Steuben Co., *N. Y.* Circulars of Kitchen and other Utensils.

ROGERS, U. C., President Orleans County Ag'l Soc'y. *Albion, N. Y.* Invitation to Fair, Sept. 17-21.

WILSON, WM. A., 513 *Delaware St., Kansas City, Mo.* Circular of Galveston National Bank.

Inquiries and Answers.

Asparagus—Pruning Hedges.—On page 651 you give some advice about asparagus, but I need more information. After the eating season is passed, should we allow the stalks to grow and go to seed, which makes a full heavy growth four feet high and more. When grown, should it be cut or left till spring? (1) We hear about salting asparagus beds. When should that be done, how much and often? (2) Another inquiry: When should arbor vitæ hedges be pruned or trimmed? (3) J. D. *Valley Springs, So. Dakota.* [1. After the plants have ceased growing, it will make little difference whether the stalks are cut away or allowed to remain. If the plants which bear seeds are removed before the seeds grow or ripen, it will reduce the exhaustion which their ripening occasions; but as asparagus is heavily manured every year, this reduction will be of comparatively small consequence. It is a matter of convenience to cut away the growth in autumn to admit the free application of manure. 2. Salt is commonly recommended in inland districts, away from the range of a saline atmosphere, but is of no use near salt water. We have never found more than a very moderate benefit from salt. Two or three pounds to the square yard is a sufficient quantity applied early in spring. 3. Do the work in spring, cutting back all protruding shoots with a knife, and not shearing. A light pruning may be given early in autumn.]

Filling a Silo.—I built a silo this season, expecting to depend largely on a four-acre field of B. & W. corn for ensilage, but the seed was poor, and having planted but ten quarts per acre, got a very thin stand, and that came on slowly on account of wet weather; and now, Sept. 1st, it is just tasseling out, and there will not be nearly enough for our purpose. I shall depend largely on a crop of Dutton corn, on which the ears are now in about good roasting condition. Now the question is, how best to use the two lots of corn—put in the most mature when fit, and leave the B. & W., or mix the two lots together? It is quite desirable to have the product as even as possible to feed cows for butter-making. The Dutton corn is heavily eared, and the probability is the B. & W. will not mature very well this season under the most favorable conditions of weather. The weather is now most favorable, and both crops are coming on rapidly. (1) In case the first is put in with an interval of two weeks before the second is fit, would it be necessary to cover the first to save heat? (2) W. P. C. *Shenandoah, N. Y.* [1. You may first fill the silo with the matured Dutton corn, as far as it will go, and then, after an interval of two or three days, finish the filling with the large corn, which by that time will doubtless be sufficiently mature for the purpose, although not so much so as the Dutton. A difference of some days in the two kinds will be admissible. But there will be an objection to this course—the heavily eared Dutton will be stronger feed than the lightly and immature eared large corn. If, therefore, you cannot mix the two together when the ensilage is cut down and fed out, or cannot add additional grain to the large sort, it would probably be better to mix them in alternate layers during the operation of filling, one sort being rather over ripe, and the other hardly ripe enough; but this would be better than the unequal amount of grain. These different modes of treatment are now before you, and you can adopt the one most suited to circumstances. 2. In case there should be an interval of two weeks in filling, it would be well to cover the first filling with a layer of several inches of straw evenly spread.]

Black Blister Beetle.—I send specimens of small black beetle, which has this summer appeared for the first time on the German asters in the northern part of the city of Poughkeepsie, and seems to move southward. It destroys the blossoms very much as the rose bug does the roses, and has quite destroyed large numbers of the beautiful flowers. Can you give us the name and species, and suggest any method of destruction? C. W. C. *Poughkeepsie, N. Y.* [The insect is the black blister beetle, *Epicauta Pennsylvanica* De Geer, formerly known under the specific name of *atrata* (black). It is described and figured by Dr. Harris in his "Insects Injurious to Vegetation" as *Cantharis atrata*. In common with our other species of blister beetle it possesses strong vesicating properties, which almost equal those of the green cantharis or Spanish fly. The beetle is not uncommon, but is seen almost every year in moderate numbers. At times, where it abounds, it becomes quite destructive in potato fields, where the winged insects feed ravenously upon the leaves of other garden crops, as cabbages and carrots are occasionally attacked by them. They are frequently attracted by the blossoms of the golden-rod in August and September. Asters have previously been reported as injured by them, and in one instance they were known to nearly defoliate in a brief time a passion flower vine at Ithaca, N. Y. The usual remedy employed, when the plants on which they occur admits of its use, is to beat them into a broad dish of water with some kerosene. When more convenient pyrethrum powder diluted (one part with four of flour) may be applied to them with a powder bellows. They are quickly affected by this powder, very soon falling from the plants, and but few recovering from its effects. When the application was made to the large number that had gathered upon the passion flower vine above mentioned, the plant was almost immediately freed from their presence, and remained so for a week until after a heavy rain. J. A. L.]

Names of Grasses.—The specimen sent by W. E. H., Bethany, N. Y., is *Andropogon scoparius*, "broom grass." It is a perennial, growing especially on dry or light sandy soil, flowering late in the season, forming tufts, and having a hard stem. It is not considered a valuable grass.

—— The sample from A. F. McK., Forest Hill, Tenn., is *Eragrostis reptans*, "creeping eragrostis," sometimes called "creeping meadow grass." It is an annual grass of procumbent or creeping habit, late in flowering and sparse in foliage. It is therefore of little or no agricultural value, except for the small amount of parturage it may afford late in the season. C. H. P.

Average Egg Production.—What is a good average of eggs in a year for a hen, where they are kept in flocks of fifty with a large green run, plenty of good food and pure water and good house? And how much grain or its equivalent does it take to keep a hen a year, say Brown Leghorn? H. J. H. *Washington, D. C.*

Acknowledgments.

Communications for publication have been received during the week ending Sept. 9, from F. D. Curtis [2].—H. C. D.—Sam'l Ireland—M. G.—W.—J. W.—C. B. Moore—W. C. Morton—J. M. Stahl—A Farmer's Daughter—Fred. M. Hawley—J. W. Ingham—J. H. Dent—Geo. E. Brown—W. F. M'K.—J. A. S.—F. P. Root—Mrs. M. J. Ashton—C. C. S.—H. C. Greene—Miss Anna Carpenter—M. F. Ames—S. B. Strong—Nellie Burns—J. Denham—W. R. Lazenby—E. W. Stewart—J. R. Clark—H. J. K.—K. B. Johnson—R. B. V.—E. A. Jones—F. S. Hunter—C. de P. Field—D. N. C.—B. F. Johnson—W. Horne—Mrs. S. H. Howell—L. T.—L. B. Pierce—P. T. Quinn—W. B. Embry—R. A.—J. E. Bivins—A. S. Wells—G. E. Barney—C. P. D. V.—J. Dimon—J. D. Frost—M. M.—J. G. S.—C. L. Hill—Sanders Spencer—Stephen Beale—Mrs. C. I. Allen—Dr. J. A. Lintner—Prof. C. H. Peck—E. Reynolds—A. H. Lindsay—D. J. R.—T. D. Seller—O. F. E.—J. Meyer—E. Humphreys.

**** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

**** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Sept. 12, 1889.

The Buffalo Show.—The Second Exhibition of the Buffalo International Fair Association, in progress as this paper goes to press, marks a decided gain on its predecessor in the extent of the live stock departments, the other classes being mostly about as last year—which is saying a good deal. The attendance, up to the end of last week, had not been as large as for the same days in 1888, partly due, no doubt, to rainy weather. The general management, considering the immensity of the show (which in many very important classes greatly exceeded expectations and far overflowed the accommodations originally provided) is remarkably good; the only noteworthy improvement that needs to be made is a rigid closing of entries long enough in advance to permit the preparation of a complete catalogue. A catalogue is issued, to be sure; but a very considerable number of the exhibits do not appear in its pages, and time was apparently lacking to edit and index it with the desirable care. Exhibitors' cards are also largely lacking, and what with this omission and the imperfections of the catalogue, it is not easy to study the individual classes with full satisfaction.

The live-stock department is certainly very, very big. There are said to be 600 exhibition horses on the ground; our own estimate is considerably smaller—say 450, but even that is a large number. Cattle are 443; sheep fill 230 pens, and swine 204; poultry, 578 coops. When it is remembered that the largest shows at our recent State fairs have not exceeded 240 horses, 450 cattle, 190 pens of sheep, 185 of swine, and 550 coops of poultry, and that in no case have these numbers been combined *at a single fair*, it will readily be seen that a show which excels them all at once is a very grand exhibition, well worth going far to see, and that its prizes—awarded as they are by competent and painstaking expert judges—are high honors.

HORSES.—Beginning with the largest division of the live-stock exhibit, the horses, we should say that the most striking show is that of Savage & Farnum of Detroit—thirty magnificent Percherons and French Coachers, all good by pedigree and individual merit, and all in the pink of condition.

Next, perhaps, in its appeal to the eye of the strolling visitor is the exhibit of those enterprising importers and skillful breeders, Messrs. George E. Brown & Co. of Aurora, Ill. It consists of 18 grand Cleveland Bays and Shires, headed respectively by the well-known prize-winning stallions Consort and Holland Major—both imported as colts, if we remember right, by their present owners, who would certainly have found it difficult to secure two better representatives of these extremely useful breeds.

Another imposing display is that of Messrs. Smiths, Powell & Lamb of Syracuse, consisting chiefly of Clydesdales, Percherons and French Coachers, together with a few standard-bred trotters. Perhaps the most notable horse in their stalls is the very powerful and symmetrical Clyde stallion Rufus 1608—an imported seven-year-old by Cornwall 1490 out of Nancy of Crofts 550.

Messrs. B. B. Lord & Son, Sinclairville, N. Y., make a fine show, well deserving study. We noted particularly a recent importation—the French Coach stallion Janville 211, a white-footed brown, sired by the government stallion Valparaiso, and born April 5, 1887. He is a splendidly put-up horse, fine everywhere, limbs and feet perfect and best of action. The Messrs. Lord will put him at the head of their coaching stud next spring. The mare Déesse 2d (daughter of the same breeders' noted Déesse) also deserves a word, as she seems to perpetuate the excellencies of her remarkable mother, who we believe never failed to win any prize for which she contested.

Mr. John W. Akin, Scipio, shows a fine French Coacher, and six excellent Percherons headed by the great Tonglenr 7513. The Dillon Bros., Normal, Ill., have a splendid lot of Percherons and French Drafts. C. J. Hamlin of Buffalo, president of the fair association, sends a number of his high-bred and fast-going trotters—not for competition, however. Prescott Lawrence, Groton, Mass, has a few excellent Hackneys; Ormsby & Chapman, Springfield-on-the-Credit, Ont., and Fred. Pabst, Milwaukee, a long line of Shires and Percherons, respectively; and there are many other exhibits, among which should be specially noted, as rather out of the usual line, the Arabs, Arab-Clays and Orloffs sent by Randolph Huntington of Rochester and E. S. Howland of Mt. Morris. Mr. Howland has, among others, the Arab called Leopard, which was given by the Sultan of Turkey to President Grant; Mr. Huntington, a son of this stallion out of the Clay mare Mary Shepard—a very handsome chestnut called Abdul Hamid 24, with great style and action, speaking well for this combination of blood; also a son of Abdul Hamid 24, by President Grant's Barb called Linden Tree, this colt representing the two Grant horses in sire and dam, while dams of both sire and dam were in-bred to old Henry Clay. Mr. Huntington shows also his noted pure Arab mare Naomi, whose importation to this country from England attracted much attention last year.

A capital show of ponies is added, prominent owners being J. Murray Hoag, Maquoketa, Iowa; Joseph Hickson, Montreal; F. C. Stevens, Attica; J. F. Converse, Woodville, and E. J. & H. B. Treichler, Sanborn. Whoever wants a miniature steed for a boy or girl will do well to write to either of these gentlemen.

CATTLE.—There is an extraordinary blank among the horned stock—not a Jersey on the grounds! How it happened, nobody seems to know, but such is the fact. Other breeds, however, are well represented, Holsteins much the most numerously, counting up no less than 79 head, and in large part the property of two great promoters of the Dutch breed, F. C. Stevens of Attica and Smiths, Powell & Lamb of Syracuse—other exhibitors there are, but names not easily ascertainable. It is a very striking display, the beautiful glossy black and white of the well-groomed cattle being set off with great effect by elaborate decorations in bright color; perhaps there is nothing prettier in its way in the whole exhibition. An allied race, the peculiar Dutch-Belted, appears also in good force—28 head—the property chiefly of two Goshen breeders, C. A. Knapp and J. A. Sanford.

Next in number to the Holstein class is the Devon, with 67 head, exhibited by Jos. Hilton & Sons of New-Scotland, B. F. Peck & Son of East Bethany, W. H. Jones & Son of South Montrose, Pa., D. J. Whitmore & Co. of Castown, O., and other breeders. Next come the Guernseys and Short-Horns, 57 each. The former class is chiefly notable for the superb animals sent by Vice-President Morton (J. L. Hope, superintendent), Rhinecliff—including among others the noted bull Safeguard, and the pretty near faultless cow Bonfaitress 6th. In Short Horns, most prominent exhibitors are Thos. Nelson & Sons (the old Bow Park establishment, John Hope, manager), Brantford, Ont., Allen Varner & Son, Indianola, Ill., and Abram Renick & Bro., Sycamore, Ky.

Herefords are 54, and all, we believe, from outside of the State. Geo. O. Holcomb & Son of Troy, Pa., who will be remembered as making capital exhibits at our State fairs once or twice, are here in force; and from farther West come two Ohioans, H. H. Clough of Elyria and Sayles & Frith of Shinrock, and two Illinoisans, Thos. Clark of Beecher and G. W. Henry of Chicago.

Galloways are 58, the finest belonging to David M. Kay of Fort Wayne, Ind., Clarke & Norris of Malden, Ill., and W. B. Simmons of

Bluffton, Ind. Ayrshires, 51, belong mostly to J. F. Converse of Woodville and the Ormiston Bros. of Cuba. In the way of polled cattle, there are 11 of Aberdeen-Angus blood and 10 of the reds—property respectively of J. P. Hine, Shamrock, O., and G. P. Squires & Son, Marathon, this State. And finally, in cattle department, there are 8 of the Brown Swiss breed from J. F. Hirsch of Williamsville, and 7 shaggy West Highlanders from Lewis F. Allen of Buffalo.

Other Live Stock.—The sheep and Swine classes proved far more numerous than was expected, and had in consequence to be a good deal scattered and mixed up. We noticed, in the former, particularly large and fine shows of Shropshires and Oxfords, stimulated no doubt to some extent by the cups offered in these breeds by the English societies. The Shropshires seemed remarkably uniform in their excellence—particularly perhaps those shown by George Ingersoll of Fonda, Geo. H. Hammond of Detroit, J. S. & W. G. Crosby of Greenville, Mich., and G. Allen & Son of Allerton, Ill. Of Oxfords, a very beautiful show is made by Stone & Harris, Stonington, Ill., J. R. & W. A. Shafor, Middletown, O., and other breeders. Another very strong class is the South-Down, most noticeable perhaps being the remarkable show from a Canadian establishment, Messrs. John Jackson & Sons of Abingdon, Ont., who are certainly importing and breeding some superb sheep. The comparatively novel Horned Dorsets are out in pretty good force, and of course attract much attention.

The Swine occupy, as noted above, 204 pens, and are said to number 746 animals. It is a good general show, pretty well distributed among all the leading breeds.

Implements and Machines.—The Vermont Farm Machine Co. of Bellows Falls has a large and instructive display of the Cooley system of butter-making, including among other comparative novelties the apparatus for the Short method of testing milk, and a half-can creamer which seems to deserve the particular attention of owners of one or two cows, whose needs we should think it would meet to perfection; also a tin-tray butter-carrier, lighter and more compact than the all-wood style, and hence cheaper in transportation by express.

A. H. Reid, Philadelphia, has a good general show of dairy appliances. We noted a new attachment for the head of a barrel churn, which seems to be a real improvement; a crank screws up the top hoop around the entire head, leaving all perfectly clear when head is out, and there is no metal inside around the head. Mr. Reid's Peerless creamer has been modified by making the cans oval in cross section instead of round, thus increasing the cooling surface, and making room for larger lumps of ice.

The excellent baling hay-presses made by George Ertel & Co. of Quincy, Ill., are shown in operation—about as made for the last six years, though it is twenty-three years since the factory was established. The firm are just getting additional works into operation at London, Ont., to supply their fast-growing Canadian demand.

The self-cleaning stable offered by Stewart Bros. of Lake View is shown in a less conspicuous place than its merits would justify, but attracts attention. It consists simply of a wrought-iron grating turning upon a hinge for the removal of the manure, which falls between the bars into a water-tight trough—a simple device, but we advise cattle-owners not to experiment with home-made imitations, as considerable experience was necessary in order to get it constructed just right.

An automatic swinging stacker made by the Pitts Agricultural Works of Buffalo, and intended to supplement the work of the ordinary stacker attached to a threshing machine, and to save the work of a number of men on large jobs, seemed to promise usefulness.

Among other harvesting machinery, we noticed the Aultman, Miller & Co., Akron, O., Buckeye reapers in operation; and a new arrangement shown by the Walter A. Wood Co. of Hoosick Falls, being a tedder combined with a mowing machine, in order to shake up the cut grass after the horses and wheels have passed over it.

A. W. Stevens & Son of Auburn show threshers, feedmills, corn-shellers, and their excellent spring-tooth harrow.

Among minor exhibits, we must mention—though it seems it has been on the market a year or two already—the easy-riding attachment for the seats of mowers, reapers and other agricultural machines manufactured by C. V. Beebe of Dunnsville, Albany Co. The seat is supported on the swing principle—no springs about it—and we have no doubt will relieve the operator from the inconvenience, and sometimes injury, resulting from the sudden jerks and jolts to which such seats are subject, from the dropping of a wheel of the machine into a hollow, or its coming into contact with an obstruction. There is no jar felt in the seat from the vibration of the knives, and it does not tip as the weight of the driver is thrown backward or forward.

Other Exhibits.—Two miniature farms, each about a hundred feet square, are in full operation in front of the main exposition building, forming an exceedingly pretty feature of the view. They are intended to show the results that may be accomplished on a hard clay soil in an unfavorable season by the use of commercial fertilizers without barnyard manure. One is run by the Michigan Carbon Works of Detroit, makers of the "Homestead" and "Jarvis" fertilizers, and has good crops of tobacco, corn, cotton, millet and flax. The other, operated by the Crocker Fertilizer Company of Buffalo, bears tobacco, corn, tomatoes and sorghum, and some of the corn, sown June 15 under unfavorable conditions, was 11 or 12 feet high the day of our visit, Sept. 6.

In the great main building—one of the largest of its kind in the world—is a varied display of the products and processes of the industrial arts, well worth seeing, but hardly susceptible of adequate description here. We may note, in passing, a fine show of scales from Jones of Binghamton; a collection of agricultural products from Laclede, Webster and Greene counties, Mo., another from the territory traversed by the Northern Pacific Railroad, and another from the Oregon Immigration Board of Portland; a rather meagre collection of fruit and flowers, ornamental plants and the like; bananas and cocoanut trees; tobacco in all stages, including cigar works in operation; Boomer-Boschert cider mills and presses; carriages, wagons and harness in variety; stoves and heating apparatus; a phonograph talking away at a great rate for anybody who chooses to listen to it; a laundry in full swing; refrigerating devices, art printing, type-writers; water motors and other hydraulic machinery, steam-engines, boilers, and sawmills; taxidermy; pottery, china and glass; musical instruments, photographs, jewelry and wax flowers; shoemaking and dressmaking; furniture, baby carriages, aquariums, drugs and soaps; whip-making, bottle-washing and bottling; preserves, &c., &c. The list is endless.

General Notes.—The management deserves special credit for its determined fight with two nuisances that threatened trouble at the beginning, but were pretty well subdued—the mud, and the people who were determined to sell intoxicating drinks on the grounds. Both evils were resolutely tackled, though each proved a good deal more formidable than one might suppose.

Considering the size of the show, and its distance from the centre of the town, it can be very comfortably visited. Means of transportation are abundant, arrangements good at the gates, and there is at least one very excellent restaurant, besides the usual cheap eating places.

Mr. Cicero J. Hamlin, the famous breeder, is president of the association; C. W. Robinson, secretary and general manager; J. F. Hawes, assistant secretary; Louis Brush, superintendent of cattle; C. J. Fenner, superintendent of horses; Geo. W. Johnson, superintendent of sheep and swine. They seem to be the right men in the right places, and certainly do their best to satisfy everybody, and especially to furnish all needed information to inquirers, and to facilitate the work of representatives of the press.

Prizes.—The work of judging goes slowly; it is the policy of the management to stretch it along pretty well through the entire show. On p. 690 we give the important awards in the live-stock classes down to the time of the closing of these forms on Monday, Sept. 9.

A Field of Ramie.—More or less has been said for several years of the importance of introducing the Ramie plant into culture in this country on account of the value of its fibre for manufacturing purposes. Messrs. D. Landreth & Sons invite those interested in the subject to inspect a field of three acres on their Bloomsdale Seed Farm, Bristol, Pa., at any date up to Sept. 18th. Their card makes the following statement—previously implying however, that proper machinery for utilizing Ramie fibre has not yet been developed, which is a somewhat important drawback:

The plant can be grown anywhere in the cotton States, and once planted, the roots, without replanting, will produce annually over a period of 10 or 12 years, two crops of stalks from 5 to 10 feet long, the inner bark of which yields, upon decortication, degumming and bleaching, a fibre superior to any vegetable fibre and a rival of silk.

Tennessee Grapes.—We receive a number of very large, handsome and well ripened bunches—unusually fine specimens—of Niagara, Brighton and Concord grapes, from Mr. S. F. Gettys, Sanfordville, Tenn., who is evidently a skillful manager of the vine.

"Perinite."—Berley Brothers, 39 Burling Slip, New-York, who advertise this preparation, send us samples of wood treated with it which have beautiful mahogany-like color and finish. It is recommended as more durable than paint, and spreads double the surface.

New-Jersey.—The Thirty-first Annual Exhibition of the State Agricultural Society will open at Waverley Park on the 16th inst. and continue for five days. We will have a large display (for our little State) of fine horses, neat cattle, sheep, swine and poultry from our best breeders. We will also have a creditable show of fruit and vegetables.

Newark, N. J., Sept. 5. P. T. Quinn, Sec.

American Association of Nurserymen.—We are indebted to Charles A. Green, secretary of this association, for a copy of the Proceedings of the Fourteenth Annual Meeting held at Chicago in June last. The value of such a report will be readily appreciated when it is borne in mind that hundreds of our most enterprising and intelligent nurserymen very freely discussed the great interests connected with the growth of fruits and fruit trees in all their aspects. The discussions were profound as well as singularly keen and sprightly, and they brought out an amount of valuable information not to be found in any other recent publication, particularly in connection with the latest achievements in nursery culture. Among the valuable papers presented, and which were the means of developing numberless facts in discussion, were one on the newer plums, by S. D. Willard of Geneva; on the improvement of the nursery business, by S. M. Emery of Chicago; fertilizers for the nursery, by Thos. Meehan of Philadelphia; packing and shipping, by N. H. Albaugh of Ohio; the nursery outlook by F. Davis of Virginia; forestry, by C. J. Carpenter of Nebraska; forest growths, by R. E. Douglass of Illinois; reform in names, by H. E. Vandeman of Washington; heating greenhouses, by Peter Henderson of New-York; winter protection, by Z. K. Jewett of Wisconsin; new peaches, by G. B. Thomas of Pennsylvania; strawberries, by M. Crawford of Ohio; the irresponsible salesman, by T. C. Ferrell; nursery agents, by W. Pitkin, Rochester, and several others. Although all these papers contained much that was valuable, it was the discussion which they elicited; and as secretary Green justly remarks, "an essay gives the opinions of one man, while a discussion gives the opinions and sense of the entire membership present."

We intend, on future occasions, to give in brief form many of the interesting facts variously scattered through this volume.

British Agricultural Returns.—A summary of the Agricultural returns collected for Great Britain for the current year, has just been published. The figures compare as follows with those of 1887 and 1888, the date of collection having been June 4th in all three years:

Acreage of Land in Great Britain Under

	Wheat.	Barley.	Oats.	Potatoes.	Hops.
1887...	3,367,234	3,883,150	5,097,980	560,654	69,796
1888...	3,174,337	2,986,361	7,963,333	560,160	68,494
1889...	3,449,000	3,121,514	5,998,871	579,200	67,154

Live Stock in Great Britain.

	Cattle.	Sheep.	Lambs.	Total.	Pigs.
1887...	6,441,260	14,146,260	9,813,549	30,400,769	2,260,220
1888...	6,120,375	15,726,947	9,530,208	30,377,140	2,404,344
1889...	6,140,046	15,965,311	9,772,980	30,878,091	2,510,206

It will be seen that the acreage of wheat as compared with 1888, has considerable decreased, though the figures show an increase as compared with 1887. Barley shows a small increase when compared with 1888, but a decrease when compared with 1887. Oats show a very slight increase over 1888, but a very considerable decrease when compared with 1887. The acreage of potatoes has slightly decreased compared with that of last year, but has considerably increased compared with that of 1887. Though the cultivation of hops is still on the decline, the decrease in the area of that crop this year is very slight compared with the great falling off in 1888.

In live-stock the number of sheep and lambs is well sustained, and the tendency to decrease in cattle shows some abatement, the number being slightly larger than a year ago, and pigs show an increase of nearly 4¼ per cent. compared with 1888, and over 9 per cent. compared with 1887.

To the above it may be added that the total reduction in the area of land devoted to wheat in Great Britain is 554,371 acres since the year 1882, or but little short of 20 per cent., and representing a production of something like sixteen millions bushels. The reduced production of barley is nearly as great, the area having fallen from 2,667,176 acres in 1879—a loss in ten years of 545,262 acres. The largest number of cattle on record was 6,640,683 in 1886, and of sheep 30,711,826 in 1888.

Farm-Yard Notes and Items.

It will be seen by our advertising columns this week that the valuable herd of Red Polled cattle belonging to the estate of the late G. F. Taber, Patterson, N. Y., will be offered at Public Sale at Ravinewood Farm, near that place, on the 23d of October next. Mr. Taber was one of our earliest and largest importers of this breed, and always made his selections with judgment from the best English herds. The number of animals to be sold is nearly seventy, which makes it the largest sale of the kind ever held. Catalogues are now ready.

Messrs. S. Brunche & Son, breeders and regular advertisers of dairy Short Horns, Klantone, N. Y., write us (just too late for last paper): "Please state that we shall have a herd on exhibition at the State fair, as we have many letters from the vicinity of Albany, and they would be pleased to see them."

Mr. George E. Brown, Aurora, Ill., writes to the Country Gentleman as below:

I have recently returned from England with my annual importation of Cleveland Bay and Shire Stallions. In order to be the first in the purchasing field, I set my agent at work early last winter with instructions not to let slip a first-class, well bred, young and vigorous stallion on account of price, but under no circumstances to buy one of those pampered show horses that, having been campaigned all over England, had become worthless as breeders. I never did believe in *Aces bonus*, and do not intend to impose on my customers by palming off a lot of old ringsters that have been excluded from further showing in England on account of their side bones and roaring capacities.

The outlook for Shires and Cleveland Bays is very flattering for the coming season. Believing this would be the case, I decided to fill our stables to their utmost capacity and now have over three hundred full blood and registered stallions and mares.

Our home bred stock from Gloster, Elcho and Holland Major has grown finely this season, and we will have a goodly number of our own breeding for this fall and winter trade. I find that a large number of buyers prefer stock of our own breeding, considering it quite an advantage to be able to see the sire and dam, and know that they are first-class. For this reason, stock of our own breeding usually goes off first. Those stallions, too, that we import as yearling and grow up on our own farm, give perfect satisfaction, as, being fully acclimated, they prove very sure breeders.

We are offering very choice Holsteins at low figures, to make room for our large stock of horses.

Extensive Tomato Show.—We clip the following from Garden and Forest, New-York, Sept. 4:

An interesting exhibition of tomatoes was on view at the seed warehouse of J. M. Thorburn & Co., in this city, last week. Eighty varieties were named, and although several of them were plainly duplicates, the diversity of form and color and texture was so marked that some fifty distinct types could be recognized. The smooth outline and solid flesh of some of the newer varieties, like Thorburn's New-Jersey, proves what can be accomplished by patient selection; and yet the tomato which, perhaps, showed the most compact and yet the finest texture, was Ignotum, which, as its name implies, is from absolutely unknown parentage. The Peach tomato, so called from its resemblance to that fruit in size, shape, color and even an incipient down upon the skin, was a novelty to most visitors, and so was another variety known as the Station tomato, because produced on the grounds of the New-York Experiment Station by hybridizing the upright Tree tomato with one of Livingston's varieties. The plant is upright, producing a fruit of fine quality, which begins to ripen much earlier than either parent.

The Grazier and Breeder.

Peanuts for Milk and Fattening.

I enclose you a sample of what you might call peanut meal—peanuts ground without the oil being extracted. I want to know its qualities as a feed for milch cows and hogs. My idea is that it is a first-class substitute for either cottonseed or linseed meal or cake. Please state what you think of it. Both cattle and hogs are very fond of it, and it makes the milk very rich and of a very fine flavor. I have fed considerable of it to my cows, but do not know what proportions to use in making up a ration of bran, corn meal and cut hay or ensilage. Will you be kind enough to have sample analyzed, and inform me at your earliest convenience. R. F. W. *Norfolk, Va.*

The samples referred to above were duly received some time last February, and were sent, together with a sample of peanut vine, to the New-York Experiment Station for analyses, which have recently been most obligingly made and sent to me by Dr. COLLIER the director of the station. These analyses include peanut hull, peanut meat or ground peanuts, whole or fresh peanuts and peanut vine. The analyses are the first made in this country, and throw much light upon the food value of this farm product. The following includes all the analyses except the formula of the whole peanut figured without water:

	Peanut meal.	Whole peanut.	Peanut hull.	Peanut vine.
Water	6.21	5.68	6.00	6.25
Ash	2.61	1.87	2.77	5.61
Albuminoids	37.37	19.47	12.41	12.05
Crude fibre	3.62	2.30	65.26	27.54
Nit. free ex.	25.69	38.15	13.30	34.60
Fat	25.50	31.54	0.71	14.13

In order to show the digestible nutrients in each of the analyses, we have figured them by using the proper digestion co-efficients in the following:

	—Digestible Nutrients— Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
Peanut meal	33.9	32.6	23.4
Whole Peanuts	17.4	30.4	27.3
Peanut hulls	4.9	30.3	2.0
Peanut vine	7.6	35.5	6.4

The analysis which W. was most interested in, ground peanut meat without extracting the oil, is very similar to what we anticipated and answered him, at the time the samples were received, in the COUNTRY GENTLEMAN, page 212, March 14, which we suppose W. must have read. But as he does not mention it he will do well to turn back and read it.

In this last communication W. supposes that the ground peanut meat can be used as a substitute for either cottonseed or linseed meal or cake. But W. will see that the cottonseed and linseed meal contain a much larger proportion of albuminoids and much less fat or carbohydrates, and that the oil is in much too large proportion to be fed except in small quantity with other foods, as advised in the answer on page 212. If the oil of the peanut were pressed out in the same way that the oil is from flaxseed or cottonseed, the cake or residue left would be quite similar to that of linseed meal, and probably could very well be used as a substitute, especially for linseed meal.

Let us suppose that W. makes a ration for milk with as large a proportion of peanut meat as would be proper for the health of the cow and economy in feeding; it would consist of a ration about in the following proportions: Fourteen pounds peanut vine, or clover hay, 6 lbs. wheat bran, 4 lbs. ground peanuts, 3 lbs. cow pea meal.

In order that W. may see what the digestible nutrients would be in this ration, the following analyzed formula is given:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
14 lbs. peanut vine	1.06	4.97	0.89
6 lbs. wheat bran	0.70	2.76	0.15
4 lbs. ground peanuts	0.91	0.12	1.33
3 lbs. cow pea meal	0.86	1.64	0.08
Total	3.23	10.19	2.60

Nutritive ratio 1 to 5.

This ration is rather low in carbohydrates, but the excess of fat balances it, and it would probably be a very good milk ration, producing, with good cows, very rich milk after feeding for some weeks.

But W. would find whole peanuts ground to give a little better balanced ration. He may also use 5 lbs. of peanut hulls in lieu of so much clover hay or peanut vine.

If W. wishes to use ensilage in the ration, he may feed 25 lbs. ensilage, 5 lbs. clover hay or peanut vine, and 5 lbs. of peanut hulls, in lieu of the coarse fodder given above.

W. may make a ration for fattening hogs by grinding 25 lbs. of wheat bran, 25 lbs. ground peanuts, 5 lbs. cut clover hay, all mixed well together. This would fatten grown hogs rapidly and keep them in fine health.

For growing pigs he would require a greater proportion of bran and a less proportion of oily food. He will find directions on page 212 appropriate for growing young pigs. When near the end of fattening his hogs, he would make the pork a little firmer, and not liable to waste so much in cooking by substituting corn meal for one-half of the bran. This would improve the pork for market, also the lard. E. W. S.

Castrating Colts—Precautions.

EDS. COUNTRY GENTLEMAN—There is a great deal of difference in opinion as to age for castration of colts. I have had some experience in castration of various animals, and have come to the conclusion that at a year old is the best time, for various reasons, but there are exceptions to this.

If the colt is intended for draft, a good neck and shoulder is wanted; castrated at a very early age, he loses a great deal of the neck that he would have if let run to a year or two years old. Weakly and ewe-necked colts are improved by letting them run till two years old, as they get the crest and muscular neck of the stallion, which would not deteriorate their market value as much as a ewe neck. I know that it is troublesome to keep some colts in bounds after a year old, but then a man must act as he thinks best. There is one thing—a colt that is in the least weakly or undeveloped will give any one trouble in turning him out with other stock. In my own neighborhood, nine-tenths of the colts are castrated at a year old. The trouble of operating at any earlier age is that colts are liable to hernia, and more so than one would suppose. The inguinal ring in a colt is much larger than in most domestic animals, therefore more prone to hernia. It is not uncommon to see a suckling colt ruptured, and at the age of a few weeks to several months it will all disappear, but still there is a tendency to hernia. I often hear of a colt dying from being improperly castrated; either a rupture comes on, or undue inflammation, caused by unclean instruments, &c.

Precautions before operating: 1. Examine the scrotum in order to see if there is any abnormal growth or hernia, also if the testicles have descended, for in some cases, either from narrowness of the injured canal, deficiency of force in the contraction of the gubernaculum testis, or some other cause, the testicles, or one of them, may be retained in the abdominal cavity. 2. Not to operate upon a thin, weakly colt, nor upon one suffering from any disease. 3. Not to operate during very cold weather, when an easterly wind is blowing, nor in sultry weather when flies prevail. The best time is in the months of April and May, also October. 4. Not to operate upon an animal of any age which is confined in an ill-ventilated, ill-drained, or otherwise unhealthy shed or stable, or upon one stabled along with a great number of horses. 5. I recommend that colts intended for the operation should have a daily allowance of grain for a few weeks prior to being castrated. 6. Be very careful that all the instruments required for the operation are scrupulously clean and the scalpels sharp. 7. If the practitioner has conducted a post-mortem examination on any animal, or has attended a case of parturition, or has performed any operation calculated to produce taint that may cling to his clothes, hands or instruments, he is to delay performing the operation of castration for at least one day thereafter.

Preparation for the operation: If the colt be in good condition and fit for the operation he is merely to be kept short of bulky food, and to be stinted in his water for a few hours prior to the operation. He cannot possess too much health and strength. In fact, a horse to stand an operation well ought to be in the condition of a prize fighter when prepared for battle. This important operation of castration in this country is largely in the hands of men who know nothing of anatomy or surgery; they simply know how to perform the operation and nothing else, and if anything serious happens it is the colt that suffers and his owner's pocket; all such traveling operators care for is the fee. Horse-raisers, farmers and owners of horses, get such operations performed by professional men; have your work scientifically performed. They can show where a difficulty exists, if there is any. H. S. ADAMS, V. S.

Clarksville, Md.

Folding or Penning Sheep.

It is the penning of sheep so as to eat forage and root crops on the land by moving the pens or extending them day by day, which enables English and Scotch farmers to keep such great numbers of them in comparison with the few found on the farms in the United States. It is also this system of folding which enables the shepherd to pay so much more attention to the flock, and keep them in uniformly thriving condition from their birth till sold to the butcher, and also it is the reason why on every farm of any importance there is a shepherd who has generally become an institution, for on good farms the best of workmen are employed, and seldom change places. The climate of Great Britain permits sheep to remain in the open air day and night all the year round, and there are very few which are ever put under cover, except ewes, for a short time, when they have lambs early, so this penning of sheep is better than soiling, for it not only saves the hauling of the crops to the homestead, but costs nothing to cart out the manure, as that is returned at once from the dung and urine of the animals dropped regularly as they are moved daily on fresh ground, and the oilcake from the United States, which is given to fattening sheep, has an extra value in the extra worth of the manure.

If southern planters could keep enough sheep to have a shepherd, their winters would allow of folding, and enriching their fields for cotton crop by eating crops of turnips, rape and early forage, with cottonseed meal, &c., to put flesh, fat and wool on sheep, and fine, fat fertility on the soil penned over by the flocks. Stress is laid on having a shepherd, for when one is not employed, and there is no regular system of management, there will soon be no flock worth looking after. If the fields, which lie in woods in the South, resting as it is called, could be growing early forage with some crops to follow, such as rye to commence, then clover, millet, rape and turnips, mutton and wool would make double what cotton does now, and from the soil enriched by the droppings of the sheep the cotton would be double what it formerly was.

As now the land has to be fertilized by purchased manure, if that was used in future to increase the bulk of the forage to be eaten by the sheep, nothing more than the fertility left by the sheep would be required.

It is very plain to be seen that the English farmers could not pay their rents without the system of sheep husbandry, on the arable districts at any rate, therefore it seems well worth while to dispassionately consider this subject. O. O.

Horse-Breeding—Light Wanted.

The Department of Agriculture.

It would be a matter of no small interest to farmers and live-stock breeders if the Department of Agriculture at Washington, in its efforts to increase the value of its monthly and annual reports, would recognize the fact that live-stock breeding has undergone a great change in the last twenty years. The founding within this time of forty or more live-stock associations, each publishing pedigree records of the breed to which it is specially devoted, attests the wonderful advance in the breeding and dissemination of pure-bred stock throughout the country.

Public records of breeding stock are no longer looked upon as experiments. In the mind of the intelligent breeder, and before the law, they have a place and value as fixed as is the title to ownership in the animal itself.

What will wheat be worth at threshing time, and is it advisable that we sow more or that we sow less than usual next fall? The information gathered and analyzed by the Department of Agriculture, and given us from month to month, is intended to help determine such questions, and we are disposed to rely on the conclusions reached by the Department.

We recently sold several good horses from the farm, and have been thinking of replacing them with as many brood mares. The Percheron and Clydesdale breeders tell us there is no danger of the heavy draft-horse business ever being over-done here. The Cleveland Bay breeders assure us of a great future demand for coach horses, and breeders of trotting, pacing and running horses each insists that his respective favorites are at the front, or rapidly coming there, and that we shall make a mistake if we stock up with other than what they recommend.

We turn to the Department of Agriculture. Its stores of information throw no light on the future of horse-breeding. It tells not which breeds have been or now are in the greatest demand, nor does it even approximate the number of pure-bred horses in the country. The time was when carefully gathered statistics, showing annually the number of horses and cattle of different ages, as well as of sheep and swine, in each State, was all that we could expect. Values were then based on age, the animal being near or remote from its highest value for use or for market according to its age.

The breeding and rearing of live stock on the farm is in many respects quite different now from what it was some years ago, and it seems fitting that a corresponding change should be made in the series of questions given out by the Department of Agriculture for its correspondents to answer.

I will venture to say that it would be of greater interest to hundreds of breeders and farmers to know, for example, the number of pure-bred sires of a given breed, used in a given territory or in the State at large, than to know the whole number of horses, cattle, hogs and sheep grown during the year in the same locality. PHIL. THRIFTON. *Springfield, Ill.*

Sheep and Wool in the Ohio Valley.

The tributaries of the Ohio river drain the best sheep lands of Pennsylvania and Ohio. It is on the hillsides from which these waters flow, that the famous wool of the Ohio valley is grown; indeed, good judges have pronounced it unsurpassed by any in the world. In its best condition it will furnish as many scoured pounds per hundred as any of the Australian wools, and it has also a greater strength of fibre. Our wools have stood the test in the great expositions of the world. We do not yet know the result at the present Paris exposition, but at the last one held in that city the prize was awarded to Mr. Wood of Jefferson county, O.

Sheep came into the Ohio valley with the first settlers, and they must have rendered no mean assistance in subduing the wilderness and making it ready for cultivation. They also furnished comfortable clothing for settlers' families. These sheep were large, strong, and went from one shearing time to another, without any attention from the owner. Their fleeces were light, and must have been well filled with burs.

The first blooded sheep brought here were known as the Wells and Dickerson sheep. They traced their pedigree back to Spain, and were smooth and fine wooled, as, indeed, were all the Spanish sheep of that date. It is to this importation that two of our most popular classes of sheep trace their origin, the "Blacktops" and the Dickersons. The National Delaine claims to be a cross between the "Blacktop" and Spanish Merino, made about forty years ago, and inbred since that time. These three classes of sheep are much alike in their best specimens, and are furnishing most of the rams used in the valley to-day. Their rams shear from 12 to 16 pounds of white wool, of good length and appearance. They are generally smooth, never having more than one wrinkle around the neck. Their offspring make good feeders, maturing early, with well rounded ribs and quarters.

The day of the American Merino was from 1865 to 1875. When wool was selling from 50 cents to $1 a pound, the farmers wanted the sheep with the most wool, and the Merino ram, with his wrinkles and fleece of 25 or 30 pounds, seemed to be just what was wanted. There is no denying that the American Merino did bring thousands and thousands of dollars into the West. The first of these sheep were smooth, with silken wool; then came the rage for wrinkles, and money was lavishly spent for the sheep with the greatest number of folds. From that time dates the downfall of the American Merino. These greasy, wrinkly rams, in a few years, did more to destroy the high character of our wools than can be regained by years of careful breeding. What remains of this class of sheep is being rapidly sent farther west, and even if it be not charitable to indulge the hope, it is still probable that the use of these sheep will have the same effect on the cheap wools of the West that they have had on ours. Twenty-five years ago the American Merino was a grand sheep, and

a small fortune is in store for the man who can make him what he was at that date.

The Saxony is still the choice of a few of our breeders. The wool is very fine, weighing from three to four pounds per fleece, and usually bringing 45 or 50 cents a pound. There are no quotations for this wool in our leading market reports, and it is used only for a few special lines of goods.

On the whole, the present outlook for wool-growing in the Ohio valley is not the brightest. The life of the sheep is coming to be a fight with disease. Every election or change in the tariff is made an excuse for putting down prices. How could it be expected that we should feel firm when we are building on such a sandy foundation? The recent history of cattle-raising is full of suggestions to the wool-grower. If the "Big Four" control the cattle trade, how long will it be until some such corporation controls our industry? Our hillsides were made for sheep, and they will be kept as long as they yield a profit, but, as much as we love them, will be kept no longer.

Updegraff, O. J. G. I.

Calf-Raising without Milk.—It is often asked: How can I raise a calf without milk? By the loss of a Jersey cow with milk fever, never recognizing her calf, I was obliged to raise the calf without milk. At first I boiled flaxseed, strained, and mixed the jelly with paste made of good wheat flour. I also used O. P. oil meal, which was scalded before using a short time, and a fresh egg was broken into the ingredients. After the calf was about two months old the flaxseed jelly was discontinued, and only the scalded oil meal and paste was used, in the form of a drink. This drink does not fatten the calf, but its frame is well developed, with a very glossy and sleek skin, and up to the present time it has never refused a meal, nor has it been in any way sick. O. S.

Lockport, N. Y.

The Dairy Department.

Butter Conference at Geneva.

EXPERIMENT STATION DAIRY—TEST OF BREEDS—JERSEY AND GUERNSEY—IDEAS VERSUS FACTS.

Naturally there would be an unusual amount of interest connected with a butter conference on the State farm at Geneva. The locality is not one where dairying is much practiced, and therefore the attendance was not equal to that of the conferences in Tompkins county, but those who were present were earnest inquirers.

At the morning session the cream obtained from 170¼ pounds milk was churned by Mr. Gilbert. This milk was from the station dairy. Five cows are Jerseys and one Short-Horn grade. They are milked regularly at 5.30, morning and evening. Milking is done in the stables, and cows are fastened in stanchions. They have all the pasture grass they desire, and are fed 1½ lbs. bran, morning and night, on coming into the stable. Food is ready in the manger when they enter, and there is ready access to pure water and salt.

The milk was set in Cooley creamer, submerged process, and skimmed every morning. Morning's milk was set 24 hours, night's milk 12 hours. The mess of cream churned was from four milkings; ripened at temperature of 65° in 30 hours. The 170¼ lbs. milk gave 30 lbs. 6 oz. of cream; taking 5.61 lbs. milk for a pound of cream, and 20.2 lbs. milk for a pound of butter. Cream churned at a temperature of 62° in a Gifford box churn; butter obtained in five minutes; temperature of butter 64° when in granules; buttermilk was drawn and butter washed with cold water, till latter was clear; butter taken out of churn at a temperature of 48°; placed on butter-worker and salted one ounce to pound, stirred into the butter. After salt was dissolved, the butter was worked so as to be compact and to break showing grains about as large as broken steel.

For the afternoon session the cream was furnished by Hon. S. H. Hammond of Geneva. Mr. Hammond set his milk in the Cooley creamer, submerged in ice water. Two churnings were made, one being the cream from 100 lbs. of Guernsey cows' milk, and the other from 100 lbs. Jersey milk. The cream was taken from two milkings, night and morning; milk set to cream immediately when drawn, at a temperature of about 92°, and skimmed in 12 and 24 hours.

Cows ran to pasture, and were fed 8 lbs. a day each of equal quantity of a mixture of corn and oats, ground together. This feed is given the cows before they are milked, and immediately on coming into the stable. Cows are milked regularly at six in the morning and six at night, and have ready access to pure water, and all the salt they desire, at all times.

The Guernsey cream was churned in a Stoddard barrel churn, at a temperature of 60°; butter came in granular form in eleven minutes; temperature of butter, 63°. This butter was washed in ice water at 50° temperature, placed on worker and salted one ounce to pound, salt stirred in; butter worked to a proper consistency and packed. It took 22.2 lbs. milk for a pound of butter.

The Jersey cream was churned in the Gifford box churn, at 60°, and butter came in granular form in ten minutes; temperature of butter, 63°. The milk was drawn and the butter washed with water at 50°; salt stirred into the butter at the rate of one ounce of salt to a pound of butter, requiring 18¾ lbs. milk for a pound of butter.

Both of these creams were ripened in a temperature of about 66°, and in about 30 hours.

It is to be noted that at the first or morning-session churning, the cream from the milk of five Jersey cows and one grade Short-Horn cow belonging to the station, it took 20 2 lbs. milk for a pound of butter. The next churning was from Jersey cream, and only 18¾ lbs. milk was required for a pound of butter. At the same time, and apparently under the same conditions of temperature and care, 22.2 lbs. Guernsey milk made a pound of butter.

The Guernsey butter was higher colored than either of the Jersey lots of butter. The Guernseys required 22.2 pounds milk to a pound of butter, and the five Jerseys and the grade, of the first churning, 20.2 pounds milk. These results can only be accounted for, on the supposition that the conditions varied; either in the temperature of the milk while creaming, the ripening of the cream, or the temperature of churning, or in the richness of the milk. A similar note may be made between the two lots of Jersey butter. The one requiring 20.2 pounds milk, and the other 18.75 pounds for a pound butter.

While I shall not attempt to make any point on breeds, I do wish to urge upon dairymen that their *notions* of breeds do not count in the churn. They may have it bad, very rank, that one breed is just the thing and no other has any merit; but the churn, even in the hands of so skilful a butter-maker as Mr. Gilbert, cannot granulate men's notions. Let it be remembered, that it takes butter fats to make butter, and some kinds of foods conduce mightily towards producing these fats. Some cows have an individual capacity to secrete butter fats above the ordinary ability of cows so to do; and some cannot do it to save their lives. The last kind may be fed till doomsday and they will never pay; while the rich cows, or those which have a capacity to throw out butter globules, will always increase in their yield when well fed.

It is foolishness to follow notions and prejudices, and come out shim, when we can find out where we are. These butter tests ought to start dairymen to thinking, and into a "notion" to know more about their cows, and they ought also to start a great many cows off the farm. New-York State is full of grade bulls, and the most of them graded without much sense. None of these bulls should be used in a dairy. The dairyman has no excuse for using such animals. Bulls of thoroughbred breeding, of the best of families of butter breeds, can be bought at low prices, and not more than a third of what they would have cost 10 or 15 years ago.

It undoubtedly takes, with all the mixed cows, and mixed and unyielding ways of setting milk, 20 lbs. of average milk to produce 1 lb. of butter. Under the favorable conditions attending the cows and dairy operations of those who have furnished cream for the conferences there are many above 20 lbs., and quite a number reaching up to 23 and 24 lbs. There is no profit in a dairy where more than 20 lbs. of milk are required, and the average should be less. What is wanted are cows with 6 to 8 per cent. of butter fats. A clear knowledge of this proposition can only be had by an actual churning test of each cow's yield of milk. The quantity of milk may deceive, as the bulk will not always come out ahead.

There are always some circumstances which may tend to reduce the amount of butter obtained. Mr. Gilbert has given it as his opinion, that the mixing of ripe and unripe cream together, will occasion a loss of full 15 per cent. in the unripe cream. This kind of loss will continue to take place as long as the heresy is taught and believed that sourness is ripeness. Anything to secure sourness is the doctrine some teach, and to secure sourness a "starter" is employed. In mixing sweet and sour cream there is a big "starter," and the mess may, and doubtless does, all taste sour, but it is not all sour nevertheless, and if it is, it is not all ripened. How would *matured* do to express the right idea of perfecting cream? I like it. By "maturing," I mean a full development of the butter aroma and a condition which will result in the most butter. It takes time, oxygen and natural chemical changes to bring about the full and perfect development of the delicate and volatile oils which give butter its perfect flavor. But little lactic acid is required to secure this *maturity*. A good deal of acidity, and especially if it is of doubtful quality, and is loaded with the germs of ferment and the bacteria of putrifaction, is not desirable. I want no such ferment nor beginning of putrifaction as a "starter" for fine butter, but I do want sweet cream slowly matured to its most perfect condition, and then is the time to churn for the most and the best. F. D. CURTIS.

How a Woman Makes Butter.

EDS. COUNTRY GENTLEMAN—I enjoy and am very much interested in many articles printed in your valuable paper, though I cannot say that I try all the experiments. I have found that two persons cannot, and do not, succeed in doing the same thing just alike. I have known women to take the same receipt for corn bread, and the results would be different—one was a success, the other a failure. Why? I suppose there was wanting the knack that some people seem to have to make a success out of life. Others merely exist, and everything they touch stands still.

But I started to notice an article entitled "Temperature in Ripening Cream" (p. 619). I suppose it is nice to be methodical and go about your business in a scientific manner, but if guessing will do, why not make use of the shortest and least troublesome way? I keep my cream on ice until five o'clock Wednesday morning (which is my churning day); then put it right into the churn, and I never churn more than three quarters of an hour, more frequently only half an hour. The butter comes out firm, sweet and good. I used to think it necessary to take the chill off, and regulate it by the thermometer, but the other way works just as well.

I have two cows; when fresh, one makes 18 lbs. of butter, and the other one 19 lbs; one came in March 4th, the other May 24th. They are on good timothy and clover pasture, and get only four quarts of bran a day, no meal, and this week I had 13½ lbs. butter, besides using one quart of cream for table use every day, sometimes three pints.

I have a very poor way to keep milk for raising cream—no spring house, only the cellar floor which is not very cool. I skim the milk twice a day while it is so hot, thoroughly stirring the cream each time, by constant care mixing the old and fresh cream. I mean by old cream that skimmed on Thursday, to which is added the Saturday and Sunday gathering, and so on until churning day comes around, and if done properly it can be nicely mixed free from mould, strong smell and a bitter taste. I aim, like most women, always to make "first-class butter just churned." I must say that where I once sell butter I can do so again. As we despise bad butter I try to make it good, but the very best of us fail sometimes.

When it comes to salting the butter, tasting answers there instead of weighing—just enough to give it life, and we are all fond of salt. The butter should be taken from the buttermilk just as soon as it is sufficiently gathered, salted, and as much milk as possible worked out without getting it soft, and put in a stone crock on ice until the next morning, when after giving it another thorough working, print for market or home customers.

Butter has been very low with us this summer; many getting only 15c., some few 18c. per lb. There was such an abundance that one of our marketmen carried 400 lbs. for several weeks, not all salable either. I do not know anything that can create more ill feeling, bad humor and sworn enemies, than opinions on the various grades of butter. I used to be a clerk in a country store, and we were obliged to take bad butter and give good sugar in exchange. A lady came in one day with a large quantity; we were already overstocked, and I refused it. She was very indignant and said: "I want you to know that I make *butter*, not axle grease, and there are plenty of storekeepers who will be very glad to get my butter!" That was one customer lost. MARY LAND.

Brighton, Md., Aug. 21.

Tests of Several Jersey Cows.

I would like to report the tests of Jersey cows Catchfly 25405, sired by Rocco 4517, dam Phoebe 4th 2271; age 5 years 2 months. Dropped last calf March 1st. Her test began Aug. 2d, ending Aug. 8th. She gave 207 lbs. milk, which made 18 lbs. 4 oz. butter, weighed when ready for market. Butter salted 1 oz. to the pound. She gave 7,113 lbs. milk last season, and has given since dropping calf to Sept. 1st, 5,160 lbs. milk.

Phoebe 4th 2271, is dam of three in 14-lb. list, and Catchfly 25405 is dam of the two following tested cows, and she is dam of two more that will go in the 14-lb. list next year. Catchfly 5th 35433, two years old, made 11 lbs. 8 oz. butter in three days on ordinary feed, and over four months after dropping her calf. Catchfly 2d 26495, five years old, calved Feb. 22d, and has given 4947 lbs. milk to Sept. 1st, and is due again in Dec. She makes 4 lbs. butter in 2¼ days, over five months after dropping her calf, and about 4½ months in calf again.

Catchfly 3d 35499, sired by Master Richmond 7499, dam Catchfly 25405, age 4 years 1 month; dropped her last calf March 10th. Her test began May 19th, ending May 25th. She gave 231 lbs. of milk, which made 14 lbs. 6 oz. butter, weighed when ready for market, butter salted 1 oz. to the pound. She gave 5,365 lbs. milk last season, as a three-year-old, and has given since dropping calf to Sept. 1st, 4,729½ lbs. milk.

Catchfly 4th 47082, sired by Ramapo Chieftain 13334, dam Catchfly 25405, age 3 years and 3 months. Dropped her first calf June 17th; her test began July 19th, ending July 25th. She gave 247 lbs. milk which made 17 lbs. 4 oz. butter, weighed when ready for market, butter salted 1 oz. to the pound. She gave 4,296½ lbs. milk last season as a two-year-old, and has given since dropping calf to Sept. 1st, 2,338 lbs. milk. W. C. NORTON. *Aldenville, Pa.*

The South and the Dairyman.

EDS. COUNTRY GENTLEMAN—With great satisfaction we have been reading a little tilt between Hoard's Dairyman and the Jersey Bulletin. The question under discussion was "Cheese-making in the South." The former takes the ground that the southern farmer should make cheese during hot weather. The latter asserts that the great heat of the South renders it quite out of the question to make cheese or even to make good butter then.

The arguments of the Dairyman are good, but too long to be reproduced here. The statement that "In the matter of winter dairying the South has advantages that are the envy of the intelligent dairyman of the North" is true to the letter. As regards the heat of the South we can say that that point is always overestimated by those who have never been there. The days are few and far between when the heat of summer goes above 90°. There may be places where the heat is greater; but you will not find them at the seashore nor in the mountain sections of the South. The best plan for the southern butter-maker to follow is to arrange it so his cows are in full flow of milk all winter, and let them "lay off" in July and August; this puts his product on the market at the time to get the best prices.

In the matter of butter and cheese the South is rapidly becoming self-supporting. The introduction of Jersey, Holstein and other choice breeds of cows is rapidly revolutionizing the ideas of the southern farmer. It has long seemed strange that where the grass grows so abundantly and for such a long season there are so few cattle to eat it.

The Dairyman also made another statement that will set some to thinking, viz.: "There are many industries it (the South) is growing into that it did not practice years ago. Some of the grandest dairies in the world are in the South." Such is the fact, and northern breeders of choice stock must look well to it that

the South does not soon begin to carry off the laurels. N e is upon the side of the South in this contest. A long generous growing season and a short mild winter are both very favorable to the rapid full, and steady development of all kinds of stock.

We venture to predict that in a very few years the South will make its own butter, cheese, beef, pork, hay, oats and corn. Why not? She has every variety of soil adapted to all kinds of produce. She has a climate like that of France and Italy. She has great and busy seaports. She is becoming well supplied with transportation facilities both by water and by rail. A. JEFFERS. *Norfolk, Va.*

Oat Hay and Grain for Milk.

Will Prof. Stewart give a grain combination to be fed with oats cut in milk and cured as hay, and green millet; buckwheat bran and middlings at $10 per ton; wheat bran, $15; middlings, $16; rye feed, $15; corn meal, $17; cottonseed meal, $1 50 per cwt.; linseed, $2. Cows are natives, good milkers, giving 13 to 14 qts. per day on green oats, 4 qts buckwheat bran and 2 qts. wheat bran each per day. B.

South Hannibal, N. Y.

1. B. should have mentioned whether the millet was to be fed in the form of hay, or cut green and fed; and as there is considerable difference between buckwheat bran and buckwheat middlings, he should have mentioned whether the two were mixed together or both regarded as one feed. The first buckwheat middlings has a large proportion of albuminoids, and is an excellent balance for comparatively poor fodder in the milk ration—and at the price he gives, $10 per ton, is the cheapest food mentioned. I am surprised at the price named for linseed meal, $2 per 100 lbs., as it can be purchased in Buffalo, of Mann Bros., in 5 ton lots or more, at about $34 per ton. B. should try to get a number of dairymen to join and get a carload, when it would probably cost but a little more that half the price he names.

2. It is presumed that B. produces milk for the cheese factory, or to sell by the quart. If he were producing milk strictly for making butter the combination would be made slightly different, adding somewhat to the carbohydrates and fat of the ration.

It is presumed that he feeds his grain food with his cut hay so as to feed it most economically, and to produce the best results in the health and milk of the cows. The following ration will probably be as good as any: 16 lbs. cut hay, 3 lbs. rye feed, 6 lbs. buckwheat middlings, 3 lbs. wheat middlings, 2 lbs. corn meal. The following analyzed formula will show the digestible nutrients of this ration:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
16 lbs. cut hay.....	0.41	7.03	0.20
3 lbs. rye feed.....	0.30	1.65	0.05
6 lbs. buckwheat middlings.	1.41	1.26	0.31
3 lbs. wheat middlings	0.35	1.44	0.08
2 lbs. corn meal	0.17	1.26	0.10
Total	2.64	12.13	0.74

Nutritive ratio 1 to 5. This would be an excellent practical ration, and we do not require to use any stronger nitrogenous food than the buckwheat middlings to balance it. I might have made the ration with a less number of foods, but variety in the ration is very important. It makes a more appetizing food, and gives milk a better flavor.

When mixing foods for a considerable number of cows, it is easy to get the proportion of each feed. I should be pleased if B. would report the result of this ration in yields of milk. The ration may be given in three feeds, and it will be mixed evenly with the moistened cut oat hay. E. W. S.

Transfers of Thoroughbred Cattle.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Admah, A H White, E M Cross		
Avonmore, J D Wing, A Boyce		
Chestnut Hill Boy, E Burnett, C F Chase		
Christiana Pogis, Mrs M N Rogers, Peters & Appleby		
Dido's Count, I W Dorsey, T C Pearre		
Khedive's Koffee, G L & A C Dayes, C H Schmidt		
Mayhew's Koffee, J T Connell, H W Trussell		
Noisy Pogis, J C Bilderstadt, N Saltzman		
Obelia's Blister, G G Creamer, W T Moore		
Octavius, J C Witherspoon, J W Betts		
Pride's Lad, A B Betts, R Linsey		
Prince of Olney, J Ridgely of H, H C Norris		
Queen's Pilot, Est of J O Pearre, I W Dorsey		
Rial Side Boy, E Burnett, W W Rogers		
Ribbon's Pogis, S Strawbridge, M M Small		
Roaring Cloud, G E Nichols, J Fisher		
Royal Harry, Sperry & Taylor, H M Curtis		
Sir Hugo of Grinnell, W Conner, T Penrose		
Uemaxky, T H Malone, C D Berry		
Wilson's Stoke Pogis, G S Hutchinson, W Wilson		
Worden's Goldcust, C R & M H Smith, H R Worden		
Alfoxa's Lass, H C Moorman, J K Crawford		
Beetle of Olney, J H Sallin, G W Handley		
Calliope, J Durzan, J G Caldwell		
Carlo's Souvenir, J J Van Deusen, H S Ambler		
Carlton Fawn, D J Kerk, I M Shannon		
Clem Pogis, Jefferson & Freeman, J S Clark		
Clyda St Heller, E Burnett, L Klipfel		
Complaisance, S Bailey, Mrs S T May		
Desdemona of Coal Hill, J G Bigham, W C McCaughey		
Dolly Lint, E Burnett, T Magown		
Ethel Hotchkiss, H M Kinney, Mrs W E Hotchkiss		
Etta of Locust Hill 2d, W Wood, R Olven		
Eula Coomassie, G E Mottit, M A Wheat		
Fauro Albertine of C H, J G Bigham, W C McCaughey		
Favorite Franklin, J O Couch, Mrs P Skinner		
Fleda's Pansette, J McClellan, A Matthewson		
Frosine's Fancy, J B Castleman, J G Caldwell		
Frumi of Bovina, S D Jackson, W C Page		
Furina, H M Kinney, Mrs W E Hotchkiss		
Ida Crocus, H J Gilbert, W H Haley		
Josie Dunn, A L Northrop, Mrs M W Dunn		
Lalla Rookwood, J F Brown, W Woodbury		
Manie Dunn, A L Northrop, Mrs M W Dunn		
Maudine Pogis, Gray & Hardin, Mrs G W Burkett		
Miss Mosetta of C H, J G Bigham, W C McCaughey		
Miss Naomi, A O Bulkley, S K Schwenk		
Pansy De Polonius of C H, J G Bigham, W C McCaughey		
Pansy Kate, D Bigler, D C Harrold		
Pearl Cargo, U F Shaffer, E L Clarke		
Princess Enid, R Morris, S S Peterson		
Prince's Trinket, W Cosey, J A Seaman		
Pyrrha of Coal Hill 2d, J G Bigham, W C McCaughey		
Ramona Lass, A O Bulkley, S K Schwenk		
Reresh, W Craik, J C Sharley		
Rieter's May, R W & C W Williams, C H Shellhammer		
Roberta 4th, J E Ambler, H S Ambler		
Rose M A Moody, G W Kimble		
Signal Jessie, W Craik, J C Sharley		
Sourille 2d, A L Northrop, Mrs M W Dunn		
Thorndella, J S Ambler, H S Ambler		
Young Florence, J O Couch, T A Havemeyer		
1 a f *Broadway, New York.*		F. W. WOOD, *Sec'y.*

Holstein-Friesian Association

NAME.	SELLER.	BUYER.
Adyia's Mercedes's Byron, J C Wade, E B Winship		
Colonel Dirk, J Mathews, D W Cass		
Dreadful, T Welling, W E Brooks		
4th Sharrit Kerndyke's Beter, J W Mack, W H Mo-Coll		
Friesland Boy 2d, M T Allen, O T Hambleton		
Huron Chief, C F Lamprandt, H Elmers		
Ketchum, F T Underhill, C W Merritt		
Keyser's de Kontz Friesland Maid's Mercedes Prince, D B Taylor, O Welch		
Major Philipsell, H V Pumpler, M E Moore		
Netherland Mevelar, G R Reed, Smiths, Powell & Lamb		
Pink Thompson, J McChord, J Howk		
Prince of Belaire, T Wellins, L Brooks		
Radie Daphne's Dandy, Brown Bros, D A Bacon		
Venice 2d's Prince, W F Landers, H Gissendanner		
Belle of Memphis and Bessie Brocton, W D Bigler, H S Adling		
Betty Stowe, H B Phillips & J McChord, J Howk		
Cute, L M Payne, E P Miller		
Cyrene 2d, J C Wade, E B Winship		
Daisy Miller of Germantown, F C Peirce, O H Forbush		
2d Vermont 2d, J E Gale, J C Pinor		
Hilda 6th, J N Robbins, C B Smaltzer		
Krino, W L Ewing, N B Judah, Jr		
Floreatana, B F Barclay, Home Farm Fine Stock Co		
Grietje Hartog, W H Mann & Co, C T Tilson		
Inder and Kamdens, B F Barclay, Home Farm Fine Stock Co		
Kismet, F C Pierce, O H Forbush		
Lady Lee, A Brown, L H Thompson		
Lilly Pypor, H V Pugsley, M E Moore		
Lodina, B F Barclay, Home Farm Fine Stock Co		
Maid Fairfax, W A Russell, J E Rowell		
Minnie F, W R Fish, J Q Dix		
Phyllis, H V Pugsley, M E Moore		
Promoter's Lady, S L Warner & Son, J Q Dix		
Queen of Bachanan, B F Barclay, Home Farm Fine Stock Co		
Regina, W L Ewing, B H Judah		
Rixa Silva 2d, Estate of J Toft, Grote & Church		
Rosie Cowles, J Cummings, J M Swallow		
Sadyie, Sannell and Sannell's Pride, B F Barclay, Home Farm Fine Stock Co		
Schoebah, E S Gardner, J Baxter		
Siemke 2d's Beauty, H V Pugsley, M E Moore		
Thia Silva, Estate of J Toft, Grote & Church		
Thula D 2d's Netherland, D Severy & Son, J J Hadley		
Valley Beauty 2d, G R Reed, Smiths, Powell & Lamb		
Wapsie Blossom, Wapsie Maid, Wapsie Princess and Wapsie Queen, B F Barclay, Home Farm Fine Stock Co		
Waverly, H C Warner, J Q Dix		
Winta 3d, J C Wade, E B Winship		
Zereida 2d, B F Barclay, Home Farm Fine Stock Co		

Iowa City, Iowa. THOS. B. WALES, *Sec'y.*

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*)

SWOLLEN HOCK, p. 435.—Have used liniment without alcohol, as prescribed. Believe the hock is doing well; still it is very obstinate, and remains soft to the touch. Had I better continue the use of last liniment? A. J. B. *Allegan, Mich.* [Use the liniment as advised with alcohol.]

SPLINT.—A mare bought last December had a well defined splint on front legs just below knee. Did not seem to trouble her if all until a month ago, when she went lame, and has been so ever since, whenever driven for a day or so. J. S. P. *Batesville, S. C.* [Apply golden blister; give five days' rest. Repeat in three weeks. This is presuming that the splint is the cause of lameness.]

HIP AND SHOULDER LAME, p. 435.—Put seton in shoulder 18 inches long; it ran freely; was in five and a half days. The openings were closed in four days, relieving her very much. She can get her foot partly off the ground going backward or forward. A. J. *Martinsburg, W. Va.* [We are glad your efforts were rewarded. You may now blister the shoulder, and repeat in a month if lameness is not entirely gone.]

PERSISTENT THROAT-SWELLING.—I bought a mare first of March, 1880, that came from Indiana in February; was coughing some, and soon her hind legs began swelling, and pea-sized lumps came out on body. By advice of horsemen I bled her in neck; blood was very black for first half gallon, then changed to natural color. It was several weeks before cut healed, and proud flesh appeared, which burned alum took off. Then throat and side of head swelled, and bran poultices would not reduce. Had it blistered three times, but swelling remained. Mare keeps thin, and drawn up at the flanks; is lazy in harness and under saddle. When skin gets scratched, it takes from one to three weeks to heal. In traveling, she will dung four times to the mile—one to three small balls at a time. O. C. *Shelbyville, Tenn.* [It was nonsense to bleed the mare; had you written prior to that, your mare would never have got into such a plight. Inflammation in the vein (phlebitis) is a very bad thing, and proud flesh in a cut made for the purpose of bleeding an animal is another thing to be avoided at all hazards. Give the mare one of the following balls every four days: Powdered gentian, 1 oz.; powdered aloes, 1½ oz.; powdered iodine, 20 grs.; powdered nitrate of potass., 1 oz.; syrup, sufficient quantity; mix and make three balls. Give 1 dr. powdered iodide of potass. and 6 drs. Fowler's solution in feed twice a day for two weeks.]

FAILURE TO BREED.—A 2-year-old heifer gets in heat regularly, and will take bull, but fails to get with calf. When in heat she runs considerably, and continues to discharge for one or two days. S. L. *Clarkson, N. Y.* [If she has a discharge from the vagina, she should be treated for that first; then use Moore Bros.' injectio vaginæ.]

—— A 2-year-old heifer, calved May 1, 1880, did well, is in good order, but does not come in heat. J. D. B. *Monticello, N. Y.* [Use injectio vaginæ. Examine the vagina and mouth of womb, and report any irregularity if found.]

INJURED BY HOOK.—A mule in kicking at a fly struck the single-tree hook in his leg about two inches above ankle joint. Hook went in behind the big leader of leg. I used lard, camphor and coal oil, which relieved him for a few days, but healed it too quick. It broke and ran for a while, but has since healed and is feverish. He stands and moves that leg up and down as if in great pain. W. T. C. *Campbellsburg, Ky.* [I fear that the sheath of the tendon was ruptured, and in that case it is apt to form abscesses and break and run at any time. Apply golden blister over the seat of injury and all around it, covering a space four or five inches long at least, and on both sides, also the back of the leg.]

SETTLINGS IN MILK.—A cow for three months after calving was all right. For the past six weeks there has been a settling of dark-colored stuff in the bottom of the pail, and we have not used the milk. It seems all right when milking, and we have kept that from each teat separate, but it is all the same after it has stood over night. C. B. W. *Whitesville, Mass.* [Give one general cow drink, and in three or four days give half a one, and repeat the half doses every third day until several such quantities are used. Give in feed twice a day two tablespoonfuls of the following powder: Bisulphite of soda, 8 oz.; sulphur, 10 oz; powdered wood charcoal, 8 oz.; mix. Change the cow's diet as thoroughly as possible.]

SWELLING ON NECK.—My 8 year-old mare has a large swelling on both sides of neck just forward and against the withers; is not painful, and from its appearance seems like a scrofulous swelling in humanity. It began to swell several months ago, and as yet does not interfere with light driving under breast strap—a collar is impossible. Is not hard except in spots—has the fluctuating touch of scrofula. No signs of breaking or suppuration. Mare likes to have it rubbed. S. S. L. *Washington, D. C.* [It is probably a fistula—they sometimes swell and then remain so for months without much apparent change, but of course eating and diseasing the internal structures. Employ the best veterinarian in your section—one who understands surgery.]

VARIOLA BOVINA.—My cows are troubled with sores on their teats. At first a small pustule appears, which soon enlarges and becomes filled with a yellowish and bloody matter, and my German farmer says that it looks like the "cow pox" which they have in Germany. After a time the pustules discharge and scab over. This has been going on for nearly three months, and the cows all the while at pasture. E. C. D. *East Greenbush, N. Y.* [Give a full can of general cow drink; then a half one every three days. If teats are very sore, use a milk tube. Apply some of the following lotion to sores, always after milking: Powdered acetate of lead, 4 dr.; tincture of compound aloes, 8 oz.; glycerine, 4 oz.; tincture of opium, 2 oz.; mix.]

BUNCH IN STIFLE.—A yearling colt was found in pasture about six weeks ago with a bunch on stifle as large as a man's fist and very lame. Has had no treatment; is not lame now, but a bunch as large as a goose egg remains; is not sore and is soft to the touch. SUBSCRIBER. *Susquehanna County, Pa.* [Apply golden blister, and repeat in three weeks and again in three more if it is not all right. If this treatment is not persevered in the actual cautery (firing) will have to be resorted to.]

BUNCH ON SHOULDER.—A horse, five years old, has had sore breast for some time past. There is a bunch on point of shoulder nearly as large around as a dollar, and is almost constantly raw; horse has to work almost every day. Have used Moore Bros.' gall powder, and been careful to keep sore and collar clean, but cannot reduce the bunch. H. C. *Cornwall Hollow, Conn.* [Is there a tumor or swelling of the parts with an ulcer on the crown? Send us a good description of the case, as it is an extraordinary one. Wash it off twice a day, then rub on some of the following lotion: Powdered acetate of lead, 2 oz.; chloride zinc, 1 oz.; tincture aconite root, 2 oz.; water, 1 qt.; mix. Paint it with Moore Bros.' gall lotion before harnessing.]

OUT OF CONDITION.—A 3-year-old colt was used last spring at general farm work until June 1, and then turned out to pasture. Has not done well; rubs mane and tail considerably, and looks unthrifty generally. H. C. *Pittsburg, Ont., Can.* [Feed Moore Bros.' worm powders. Give three drachms of liq. potassium arsenitis twice a day in feed. Use at least three pints of this. Wet mane and tail with kerosene; rub it in well and in twenty minutes wash off with soap and hot water.]

—— I have a young horse that has been running down in flesh for the last three or four months. Is now hide bound, and skin very easily abraded by harness. Ration consists of two quarts cracked corn with two quarts oats and bran alternately with uncut hay; appetite ravenous. Has been worked hard and constantly. Dung and other discharges seem normal. The other horses with same treatment are in good condition. W. *Gloucester County, N. J.* [Use treatment advised in above reply to M. G., and in a week give a dose of physic.]

Record of the Times.

Review of Passing Events.

The Old Log College.—In 1726 the Rev. William Tennent opened a school for training Presbyterian ministers in a log house on his farm near Hartsville, Bucks Co., Pa. It flourished until 1742 and was practically the mother of Princeton College. To commemorate the event and the founding of the Presbyterian church in America, 20,000 persons gathered at the spot, Sept. 5, and were addressed by President Harrison, Postmaster-general Wanamaker, Governor Beaver, Dr. Patterson of Philadelphia, Dr. Murray of Princeton, President McIlvaine of Hampton Sidney, President Knox of Lafayette, and others.

State Conventions.—The State Prohibitionists met at Syracuse, Sept. 2, and nominated for Secretary of State, James H. Griffe of Westchester; comptroller, Benjamin L. Rand of Tonawanda; treasurer, J. W. Bruce of Canastota; judge of court of appeals, W. J. Farrington of Duchess county. The platform declares prohibition to be the dominating political issue; opposes high and low license and local option; protests against submission of a prohibition amendment by any party that favors its defeat; favors a ten-years' naturalization law, the guarding of Sunday, disfranchisement for purchase and sale of votes, protection for laboring men and justice to veterans.—The Liquor Dealers' Association met in Rochester, Sept. 3, 300 delegates being present; George Campbell of Syracuse, president. The platform opposes prohibition, high license and the civil damage act; favors a reasonable license without discrimination for six working days, with local regulation of night and Sunday business; character and conduct to be tests of restriction; favors legislative candidates who will vote against submission of prohibition amendment to the constitution.

The London Strike.—Some violence has occurred the past week. Workers at the Albert docks were driven off by 800 strikers, Sept. 2. Police fired on obstructing strikers the 4th, and killed one man. Ship-owners

asked leave of the dock companies to use their own men in loading and unloading, and were refused. Five wharfingers yielded to demands of their men. Contributions for strikers were received from France, Germany and Switzerland. Sept. 6, Cardinal Manning, the Lord Mayor, the Bishop of London and Sir John Lubbocks conferred with dock companies and shipping merchants, and the former agreed to consider a 6d rate for next January. This the strikers rejected. Burns has allowed men to coal steamers in the West India dock. The Steam Navigation Company has conceded the strikers' terms.

Other Foreign News.—A dynamite explosion in a cartridge factory at Antwerp, Sept. 6, killed 200 persons, injured 550, burst 2,000 tons of cartridges destroyed the city water works and set fire to several Russian petroleum stores. The heat was so intense that firemen could not get within 100 yards of the flames.—It is reported that the English government declines to interfere in the Behring Sea difficulty, preferring to have Canada settle the matter. The opinion prevails that the United States will relinquish claim to exclusive sovereignty in the sea.—Three sealers reached Vancouver, B. C., Sept. 5, with over 5,500 skins on board. They saw nothing of the Rush.—The proposal for an endowment of an Irish university from the English treasury meets with much opposition.—Henry Chaplin has been appointed Secretary of Agriculture for England, with a seat in the cabinet.—An explosion at the Maurice Wood colliery, Midlothian, Scotland, Sept. 5, resulted in 50 deaths.—At the Trades Union Congress, Dundee, the census report on the eight hour movement showed 39,629 names for, and 62,883 against it: the resolution was rejected by vote of 88 to 68.—Mr. Gladstone is visiting the Paris exposition.—The various parties of the German Reichstag are preparing independent bills on the labor question.—Captain Wissman with 400 men has started for Mpwapwa to punish Bushiri for killing officer Nielson of the East India Company.

Minor Items.

The "bobtail" car has at last been banished from New-York.

The bankrupt wool merchant Brown has been seen recently in Boston.

Governor Hill spoke at the Sullivan county (N. Y.) fair, Monticello, Sept. 6.

Race troubles prevail in Mississippi, Missouri, Georgia and West Virginia.

The senate irrigation committee were at Tucson, Arizona Territory, Sept. 5.

Musgrave & Co., a leading stock firm on Wall street, New-York, has failed from over issue of options.

Dick & Meyer's sugar refinery, Williamsburg, L. I., was burned, Sept. 7, with loss of nearly $1,000,000.

The Douglas Ax Manufacturing Company of Boston is insolvent, and Treasurer Dana has disappeared.

Stratford and Guilford, Conn., and Yarmouth and Sandwich, Mass., have celebrated their 250th anniversaries.

A young woman, supposed to be from Binghamton, N. Y., threw herself into the rapids at Niagara Falls, Sept. 5.

Henry W. Genet, a notorious politician and member of the Tweed ring, died in New York, Sept. 6, aged 61.

Mrs. Anna Wittenmeyer was chosen president of the Woman's Relief Corps of the G. A. R. at the recent Milwaukee meeting.

A German syndicate has bought the six pulp and paper mills of the Remington company at Watertown, N. Y., for $1,800,000.

Labor day, Sept. 2, was extensively observed in the large cities, Philadelphia excepted. In the country the workers kept on at work.

Prof. Brooks of Geneva, N. Y., successfully photographed the occultation of Jupiter, Sept 3. The views are said to be the first ever secured.

Armour, Swift and other leading dressed beef men refused to appear before the senatorial investigating committee now sitting in Chicago.

John Grass, the well-known Sioux chief and orator, is said to be dying from effects of poison administered by Sitting Bull's adherents. The latter deny it.

The new steel cruiser Philadelphia was launched at Cramp's shipyard Sept. 7, Miss Minnie Wanamaker christening it. Mrs. Wanamaker and Mrs. Harrison were present.

General Legitime and party, late of Hayti arrived in New York, Sept. 5. They sailed for France on the 6th. Legitime denied that there was any treaty with, or surrender to, Hyppolite.

In 1880 New-York had 377,460 persons engaged in agriculture; 537,897 in professional and personal service; 339,419 in trade and transportation; 639,869 in mechanics, manufacturing, &c.

Pearls continue to be found near Albany, Wis. For one found, Sept. 5, a New-York buyer offered $3,500, and was refused. The banks of the river are dotted with tents for miles.

The ladies of the Seidl society, Brighton Beach hotel, Coney Island, N. Y., listened to an exposition of Wagner's "Parsifal," Sept. 4, by H. E. Krehbiel, with piano illustrations by Anton Seidl.

Darwin A. Henry, electrician, in changing wires for the East River electric light works

The Fireside.

August among the Sioux.

The prospective opening of the great Sioux reservation to white settlement, giving access by rail to the Black Hills, and tending, as it undoubtedly will, to the rapid development of South Dakota, gives a peculiar interest just now to all fresh facts in regard to the Indians concerned. The story of an August vacation spent among these people, as given in frequent and unrestrained letters, emphasizes with peculiar force the real conditions of their existence.

The location is an attractive one on the White river, not far from its junction with the Missouri, to which and to the agency at Lower Brulé a picturesque road winds among the bluffs. At White river camp the United States government school-house strikes the keynote of civilization, and here a successful day school has been in progress for three years. There is a little mission house near by, with a low piazza, and this, through the kindness of eastern friends, has been made a comfortable dwelling, in which the great object-lesson of civilized living has been subject to continual inspection.

The curiosity of the Indian is manifested gravely and quietly; he sees all, but keeps his cogitations to himself. Yet the gradual changes in habits and mode of living, such as putting on citizen's dress and cutting the hair for the men, adopting the institution of regular meals (the Dakota plan is for each individual to eat when he or she is hungry, provided there is food), and in general making some systematic disposition of resources, has been most gratifying. Already in many families clocks, crockery, chairs and tables have been acquired by labor and are now in regular use. The earnest desire to follow "the white man's road" is plainly manifested, not so much in words as in most significant deeds.

At the little mission-house, during the present month of August, a devoted woman has been living entirely alone, *ten miles* from any other white person. There has been an unusual prevalence of sickness in the camp during the past year, and instead of spending her vacation among friends, she remained in camp for the sake of ministering to those poor sufferers from hopeless disease, that she could not bring herself to leave uncared for. Surely it is work done "in His name." Some simple extracts will show the tenor of the life and reveal something of the pitiful need of a people still in a condition not unlike the helplessness of childhood:

"I had intended to start for Cincinnati Aug. 1, but I cannot leave my poor sick ones without any one to look after them. * * * One man, the worst case of scrofula, the doctor says, that he has ever had, is one continuous mass of sores from his hip to his foot, and lies on a miserable straw bed on the ground. E. had some unbleached muslin, and gave the wife enough to make a sheet to cover him; he used to lie without anything over him, and with nothing on but his breech-cloth.

"Now the rations are short, and there is nothing extra for the sick—not even coffee (of which the Indians are extravagantly fond)—and it is very hard. Think of lying in that way through this hot weather, with nothing to eat but beans, meat and their black bread!

"Another case of a young girl in lingering consumption, is most miserable. She has no appetite. When I went to see her yesterday, and to carry her some fresh bread, I found her eating her supper. She had water in a tin cup and an ear of corn—just that and nothing else."

Later she gives an account of the Christian baptism of the poor scrofulous patient:

"When he asked to be baptized I could hardly believe my ears. He has been 'a great heathen,' and as he had more intelligence than the average, he had some influence among the people. He was greatly opposed to Christianity, but now he seems so changed, I thought of you and wished you could see the strange scene. It was dusk when Mr. W. came, and a good many of the people came in, and sat around on the floor and on boxes, and a washtub that was turned upside down. One woman who lost her husband not long ago was there, with her baby, neat and clean in nice flannel skirt and white dress. It is to be baptised on Sunday. They have driven sticks in the ground around the sick man's bed, by taking hold of which he can move himself a little. He was evidently in great pain, but did not utter a groan. It is one of the very poorest houses; in almost all there are some comforts, but here there was absolutely nothing. The only object upon which the eye could rest with comfort was a pair of new moccasins hanging on the wall. They are intended for his burial, I suppose. It is their custom when all hope is given up, to make a nice new pair and hang them up over the bed for the last use.

"There is a child here, too, eaten up with the same disease."

This man is still living, but Susan, the poor consumptive, will eat no more "mission bread:"

"She went Thursday night. I was there after six o'clock, and although she seemed worse, I left her sitting up, and with no thought that the end was so near. She had been baptized, but her whole family are heathens, and even have a ghost tent, and I was afraid that when she came to die they would refuse her a Christian burial. But they behaved well. Sam and Mark brought her and put her in the school-house that night." [The Indians are very superstitious about keeping a dead body in the house, and it is the Dakota custom to bury the dead almost before the warmth has left the body. Many a child's mortal frame has been brought in the night to the little mission house, in the arms of some faithful young Christian Indian, and left on the teacher's bed until the minister from the agency could be brought for funeral rites.]

"The next morning he took her to the agency, it being their wish to have her buried there. They did not get the coffin made until very late, and it was getting quite dusky when we started for the graveyard. It is about a quarter of a mile from the church and we always walk. I thought of you as I was walking along, the only white person, and the wonderful strangeness of life took great possession of me.

"The Indians all left the yard, one after another, it being so late, until the poor mother and I were the only ones there while the grave was being filled up. It is their custom after that to stay and 'wail.' E. says that she has known them to stay all night, but this poor woman, being alone, was quite willing to come away with me, after crying a few moments."

At the risk of making this paper too long, I must add a word or two of matters less closely connected with the too frequent misery of their lot:

"Yesterday I went out with Sam to the corral, to see the beef issue. There one realizes that he is among Indians. It was a very wild scene. A man gave away a pony yesterday, which made it an extra occasion. I asked Sam why he gave it. 'Oh, to show how brave he is!' The women danced and sang his praises; it was a strange, strange performance."

Speaking of the young man "Sam," who is the son of the old chief Medicine Bull, and one of the best and most progressive of the young men, she says:

"There are a good many, like Sam, who show that they can be raised, but it is *very slow work!* I don't think that he will ever go back, no matter what surroundings he is thrown among. Even the Indians themselves respect him so much for it, and say, 'Sam Medicine Bull will never do Dakota ways!'"

D. H. R. GOODALE.

A Connecticut Nursery.

The Connecticut State Board of Agriculture held a field-day meeting at the nurseries of STEPHEN HOYT'S SONS, New-Canaan, Aug. 27, which was one of the most interesting of those held this year. A large number gathered, many gentlemen from neighboring States being present, and all expressed themselves as well repaid for their visit. Carriages were in waiting at the depot; and after a pleasant drive arrived at the nurseries, through which they were driven, and everything of interest explained. As field after field was traversed, many began to query when the end would be reached, but as the nurseries comprise 450 acres, it is quite an undertaking to inspect them; most of the company were not aware that New-England possessed one of the largest in America. The success of this firm is clearly seen in the efficient management and clean culture everywhere, although this has been a very unfavorable season.

Among things worthy of mention was a large field of the "Yale Strawberry," which had been grown especially for plants, showing such vigorous, healthy growth as is seldom seen. The silver medal at the Massachusetts Horticultural Society's Strawberry Exhibition in June last, for best seedling strawberry not before exhibited, was awarded to this variety, which has received high encomiums for its great yield, color, flavor, firmness, and carrying qualities, and its *lateness*.

A halt was made at the piggery where the Cheshires are seen in all their beauty. The herd of no-horned cattle was also greatly admired; barns and silos were inspected, and then the carriages drove to the residence of Mr. Edwin Hoyt, where on the lawn two long tables were spread with a bountiful repast. To sit under the cool shade of the trees, to watch the conversation of the guests, the happy play of the children, the romp of the dogs, and to hear the song of the birds overhead, was more than enough to rouse a love for the country, and cause many of those who had left the old homestead for the allurements of the city, to sigh for the happy life lived on the farm. After the repast Ex-Gov. Hyde made some remarks, and called on State Pomologist Augur to speak on what had been seen during the day. Mr. Augur gave the highest praise to the Messrs. Hoyt, and spoke of the excellence of the new berry, and also of the Green Mountain grape, which was inspected by the company later. Dr. Hexamer said: "It is a long time since I have spent such a pleasant day as this; it is a wonder to me how it happens that such an establishment as this should be in New-England, and not be better known to the world at large, and it is an injustice to the Messrs. Hoyt that they are not more widely known. It is the detailed attention given to the business that makes it so successful." T. J. Lovett and others spoke in the same strain, and after a vote of thanks to the Messrs. Hoyt for their hospitality the company adjourned to the vineyard, where the Green Mountain was seen, the vines hanging full of delicious clusters of fully ripe grapes two or three weeks earlier than most of the grapes grown in the neighborhood, and bearing promise of future worth. F. M. H. *New-Canaan, Ct.*

Berlin's Food Bill.

The city of Berlin seems to be growing with portentous rapidity, the additions to its population during the last three years amounting to 135,000, a rate of increase which would in little more than half a century make the capital of the German empire the home of as huge a mass of human beings as that which London houses at the present time. Its inhabitants already number 1,450,000, so that every other city in the two empires of Central Europe is put completely in the shade. What do these people eat? In many respects, of course, the diet of Berlin resembles that of other great European cities, but it has several clearly marked peculiarities. Among the foremost is the prominence of animal food. The North Germans in general are great meat eaters, and their capital in this respect represents them admirably. It has been estimated that 127,500 head of cattle, 407,800 pigs, 131,500 calves and 346,000 sheep are consumed every year. This is said to mean 141 pounds per head, that is, a little more than 2¾ pounds for each person every week. As children are included in the total, the quantity consumed by each adult must be considerably larger. One item in these statistics arrests attention above the rest, the enormous importance of the pig. Four hundred thousand of these animals are demanded by the tables of Berlin in one year, almost one-third of an animal for each person, so that the modern Prussians seem to be treading faithfully in the footsteps of that old German tribe, which considered the swine of such consequence that it devoted to it a whole section of its law book, consisting of nineteen clauses. To all this must be added an immense quantity of poultry, among which the goose is *facile princeps*. This bird, which has not inaptly been called "the pheasant of the middle classes," is so highly prized by the people of Berlin that not fewer than two millions—one million imported alive and the other dead—are required to meet the demand. Many of the live geese are brought by railway in special vans, and deposited at a special station which has been appropriately spoken of as "the goose-station."

The greatest oddity however, in this department of Berlin life is the extensive use of horseflesh. About 7,000 horses are eaten yearly, the flesh being partly sold as butcher's meat in shops devoted to the purpose, and partly worked up into sausages which are sometimes sold by hawkers in the street at night, and in the small hours of the morning. This viand, though used mainly by the poor, is said to be not unknown in the west end of the city. The price ranges from a little over a penny to a little under two pence, whereas the price of beef is much the same as in England. This paramount importance of animal food is made evident, even to a cursory observer, by the colossal cattle market in the north end of the city, which may be said to constitute a town of itself.

Other important items, in the food of Berlin, are cucumbers, millions of which disappear annually; cheese, the annual consumption of which amounts to about 225,000 pounds; and the mysterious product known as sauerkraut.

In drink, beer is supreme, alike in the cottage of the artisan and the palace of Prince Bismarck. It is said that 110 millions of imperial gallons are consumed per annum, that is, nearly seventy-six gallons per head, or a little more than a pint and a half per day.

The greater part of this beer i
in the city in eighty-four br
considerable quantity is importe
If these figures are correct,
drink is strongly developed in
as well as in England. Veg
tectotalism are evidently not
don London. Spirits are also in
The curious underground rese
the city in which these dang
are stored, contains more th
of gallons, and it is propose
another to hold half that quan
ever, of this goes abroad, h
France, for example, under Fr
B——, England.

The National Fl

(A Child's Quandar

They have asked me to vote for a
Now, which will it be, I wonder?
To settle the question is out of m
But I'd rather not make a blund

And I love the Mayflower best—in
Smiling up from its snowdrift-co
With its breath that is sweet as a
That the reign of winter is over.

And I love the Golden-rod, too—f
And because through autumn it
And offers more wealth than his h
To the grasp of the poor man's f

I should like to vote for them bot
But I do not feel positive wheth
The flowers themselves would be
Pink and yellow don't go togeth

O yes, but they do!—in the breez
The darlingest daughter of sum
Whose heart with the sun's yello
And whose blushes so well beco

Instead of one flower, I will vote
The Mayflowers know that I me
And the Golden-rod surely my ch
With the sweet Brier-rose betw

You see I'm impartial. I've no w
My vote, with a rhyme and a re
For the Mayflower, the Wild Rose
A blossom for every season

—*Lucy Larco*

Various Torments.—I w
at J. T. L. (p. 629) thinking
the only class approached by
am amphibious, that is, bot
city man, and to one tree
home, I have a score or m
not only book agents, but l
endowment agents, who try
that there is much more pr
than in my business, even us
that their companies are im
as though even a farmer wou
what wealth they have has
the insured! Again, while
have been swindled by Bob
many more merchants and s
city have been swindled by
and January corn! Some
not know what November w
are more option dealers w
not! S. O. C. *Baltimore, Md*

Farm Profits.—Does n
472, make some statement
misleading? Why should
wages of clerks, book-keep
income of the farmer? Wo
reasonable to compare the
ployés with the wages of farm
with the farm *employers?* T
for instance: Mr. S. says th
to $65 per month. Does the
(hired by the year, boarding
such wages as that? Mr.
"city worker must be at hi
day." What about the far
he not have to be at his post
and *Sunday* too, in the majo
cows have to be milked o
same as any other day, and
have to be done. Does the h
holidays than the city wor
If a farm hand gets more
law provides, it is an excep
Mr. S. cannot deny that
worker puts in 12 hours fo
an average, for the whole ye
days," the hired man will
none—so far as stopping wo
my idea to make out that
pay, or that it is such "a
But I like to see such thing
equal footing. BRANT
Canada.

THE RATTLESNAKE.—Let
happens when the rattlesna
He throws himself into a

one-third of his length, carrying the head, rises from the coil and stands upright. The attitude is fine and warlike, and artists who attempt to portray it always fail. He does not pursue, he waits. Little animals he scorns unless he is hungry, so that the mouse or the toad he leaves for days unnoticed in his cage. Larger or noisy creatures alarm him. Then his head and neck are thrown far back, his mouth is opened very wide, the fang held firmly erect, and with an abrupt swiftness, for which his ordinary motions prepare one but little, he strikes once and is back on guard again, vigilant and brave. The blow is a stab, and is given by throwing the head forward while the half coils below it are straightened out to lengthen the neck and give power to the motions which drive the fangs into the opponent's flesh; as they enter, the temporal muscle closes the lower jaw on the part struck, and thus forces the sharp fang deeper in. It is a thrust aided by a bite. At this moment the poison duct is opened by the relaxation of the muscle which surrounds it, and the same muscle which shuts the jaw squeezes the gland, and drives its venom through the duct and hollow fang into the bitten part. In so complicated a series of acts there is often failure. The tooth strikes on tough skin and doubles back or fails to enter, or the serpent misjudges distance and falls short, and may squirt the venom four or five feet in the air, doing no harm. I had a curious experience of this kind in which a snake 8 feet 6 inches long threw a teaspoonful or more of poison athwart my forehead. It missed my eyes by an inch or two. I have had many near escapes, but this was the grimmest of all. An inch lower would have cost me my sight, and probably my life.—*Century.*

Obsolete Words.—I conjure my brothers and sisters of the writing fraternity, if they can cope with the proof-reader, not to fear those dreadful letters *Obs.*, with which the dictionary makers seek to bury out of good company many noble words with which Shakespeare and Spenser made mirth and spoke wisdom. What was fit for those authors to use may still, at a pinch, help us in the nineteenth century. I would indeed go further, if I might, and plead with the dictionary-makers themselves that they should in future omit those condemnatory letters from their columns. Let them still tell us what great masters have employed certain words, that we may be stimulated thereby to emulate the knowledge possessed by these writers as to the essential significance of syllables, and that we may recognise the skill with which those syllables have been in former days subordinated to the highest purposes of thought and art in literature; but let them spare us the sight of those discouraging italics, *Obs.*, just as we begin to glow with a sort of intellectual passion for a word, and would fain seize upon it for our use. The sight of those three condemnatory letters—the very abbreviation has something of contempt in it—makes us think of stupid fashions in speech; it makes us doubt, and while we doubt inspiration flies away and fancy grows pale. Language then becomes a question of times, of mode, of manners, and not what it should be, a question of power and fitness, of usefulness and beauty.—*Atlantic.*

On a Locomotive.—If one wants to get a lively sense of what it means to rush through space at fifty or sixty miles an hour, he must get on a locomotive. Then only does he begin to realize what trifles stand between him and destruction. A few weeks ago a lady sat an hour in the cab of a locomotive hauling a fast express train over a mountain road. She saw the narrow bright line of the rails and the slender points of the switches. She heard the thunder of the bridges, and saw the track shut in by rocky bluffs, and new perils suddenly revealed as the engine swept around sharp curves. The experience was to her magnificent, but the sense of danger was almost appalling. To have made her experience complete, she should have taken one engine ride in a dark and rainy night. In a daylight ride on a locomotive, we come to realize how slender is the rail and how fragile its fastenings, compared with the ponderous machine which they carry. We see what a trifling movement of a switch makes the difference between life and death. We learn how short the look ahead must often be, and how close danger sits on either hand. But it is only in a night ride that we learn how dependent the engineer must be, after all, upon the faithful vigilance of others. The head-light reveals a few yards of glistening rail, and the ghostly telegraph poles and switch targets. Were a switch open, a rail taken up, or a pile of ties on the track, we could not possibly see the danger in time to stop.—*Scribner.*

Domestic Economy.

French Dishes for American Tables.

My husband and I have lately been in France for a short holiday, and while there we had set before us some of the most delicious dishes imaginable. If the French are famous for nothing else they certainly are noted—and deservedly so—for their excellent style of cookery, which is not only delicious but economical. Why, they can make any article of food serve twice the number of people that we can, for the simple reason, I believe, that they are willing to bestow more time and thought on

The Poultry-Yard.

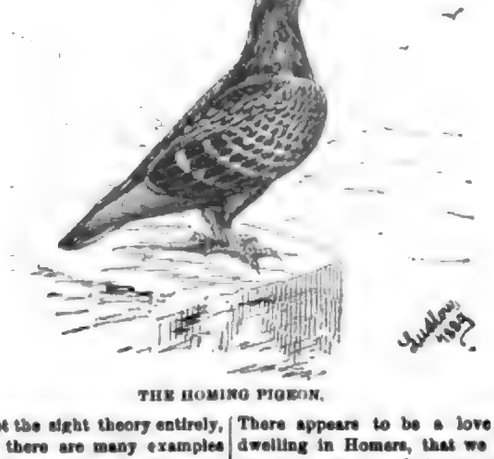
The Homing Pigeon.

TRIALS OF SPEED IN EUROPE—PRACTICAL USES OF THE HOMER—HOW THEY FIND THEIR WAY—THE HOMING INSTINCT—THEIR POWER OF SIGHT AND MEMORY.

The training of Homing pigeons has of late years considerably extended in England, and there are numerous first-class clubs which hold long races every year. In Belgium the sport is almost a national one, and in Antwerp and other large cities thousands of birds are bred for this purpose. In the city named there are upwards of twenty clubs, and the stakes sometimes amount to as much as are run for in a good horse race in England. Some of these clubs are very select, and it is with very great difficulty that any one can become a member. Many of the chief citizens take part in the sport, and the excitement when a great race is about to come off is intense. The owners are on the look out, and as soon as a bird arrives may be seen rushing at headlong speed to the club room, where the officials are ready to record the time of arrival and decide the winner. The distances between the lofts of all the members and the club house is accurately measured, as an allowance in accordance with the distance, is made for the time when the birds are brought to the club, so that the arrival of the bird at the loft is really taken. Of course, the birds are marked for identification, both with the stamp of the club and by a private mark, which is known only to the liberator and one of the officials, and thus all that is possible is done to prevent fraud. These races are sometimes very long, and occasionally have been from Madrid to Brussels, a distance of 800 miles, but races of 300 to 600 miles are common every season. The Belgian and French railways make great provision for this traffic, and when the racing season is at its height run special trains for it. On one day last year no less than three long specials crossed the frontier into France laden only with panniers, as the pigeon baskets are called. The station masters at the various stations are placed at the service of the clubs, and liberate the birds for training purposes at the time specified on the baskets sent to them. In England we are not so favored; though individual officials on the railways may be willing to liberate birds, yet the companies discourage the practice; and two or three years ago one of our great railway companies issued an order forbidding the sending of hampers to their servants in this way.

There was not much general interest taken in the Homer in England until the Franco-German war, when the real value of this bird as a carrier of messages became apparent. We need not repeat the story, as it has been told so often, but your readers will remember that the balloons coming out of Paris during the siege brought baskets of pigeons, and the messages which they carried back were the only ones received by the inhabitants of that city for upwards of three months. This caused an immediate attention to be paid to the birds, both by individuals and the various governments, and since then the number bred and trained has been very large. They have been found useful for many of the ordinary purposes of life. Country doctors have been known to use them for sending messages home in urgent cases, and there are a number of pigeons in use by Lloyd's agent on the Scilly Islands, which the pilots, who go out to meet homeward bound ships, take with them, and are thus enabled to announce the vessels hours before they otherwise could. Many other instances could be shown of the uses to which these intelligent birds are put, but these will suffice.

There has always been a considerable difference of opinion as to whether sight is or is not the means by which the Homing pigeon finds its way home, and certainly it is more reasonable to suppose that this has much to do with it. If we watch a bird's actions on being liberated we find that it rises overhead, and flies round and round in an ever increasing circle as it gets higher, as if it were trying to find some mark to guide it. Bye and bye it darts off in the right direction, apparently as if it had found the object for which it was looking. And again it is the practice, and rightly so, of breeders to train their birds by first liberating near home, and then gradually increasing the distance, this being found the best plan of action. If we had only such examples to guide us we might accept the sight theory entirely, but unfortunately there are many examples which upset it and go to show that there is some other influence which guides the bird in its discovery of home. An example of this occurred not long ago in the district where I then lived, when a gentleman bought some pigeons in Belgium and had them sent over in a box. Two days after one escaped, and, though it had never been in England before, found its way to its loft in Brussels, a distance of over 300 miles. Many cases like this could be given, and we quote one of the most wonderful, which was reported by a well known Scotch fancier in the Journal of Horticulture a few years ago. The gentleman in question had bought some Homers simply as feeders for his Pointers, and bred them only for this purpose. A friend from Ledbury, in Herefordshire, was on a visit to him at his residence in Glasgow, and having seen his Antwerps wished for some to breed for table use. Three pairs bred in the loft were put into a box and addressed to a mutual friend in Manchester, who fed them and rebooked them to Ledbury the following evening, but during the time they were en route they were never removed from their box. Before being sent away the flight feathers were pulled out of the right wing of each bird, and the instructions sent were: "Keep them confined with such netting as will let them see the locality, till they have each a nest of young ones, and are sitting upon their second eggs." The instructions were rigidly adhered to, and when the second eggs were in process of incubation the netting was removed, and the birds given their liberty next morning. The cocks were seen to take sundry short flights, and then went back to relieve their mates, who when they came out at once took wing. This was on July 18, and on the morning of the 20, the gentleman in Glasgow received a letter dated the 19, from his friend, stating that "the birds were yesterday morning let out, but two of them have not returned." While this was being read his man came in and informed his master that the two birds were in the loft. The distance between the two places is not less than 300 miles, and the fact that the birds had never been trained over the ground, that they were sent in a wooden box by railway train, and that they could not, therefore, be guided only by sight, explodes this theory, and we must seek for another.



THE HOMING PIGEON.

There have been for many years, if not for centuries, various theories advanced with respect to the homing instinct, and fierce have been the discussions upon it. We think, however, that probably all the theories contain a germ of truth, and that no one power of the bird is alone accountable for the marvelous way in which Homers return to their lofts. It is very evident that the homing instinct can be greatly developed in domesticated pigeons; but if we take the wild birds, or that section of them known as birds of passage, we find that they annually make journeys which must cover hundreds, if not thousands, of miles. We at once see that this instinct is by no means uncommon to the feathered tribe. In all probability the natural migratory instincts were first taken hold of and gradually developed until we have the present race of birds, which can fly hundreds of miles.

It is necessary, in the first instance, to give the birds a home to which they can become attached, and which can be distinguished by them from every other place. Given this home, they never lose their affection for it, and we have known them to return after years of absence upon the first opportunity. There appears to be a love for the first dwelling in Homers, that we human beings never experience. It is not what is found in the home, but the home itself.

Of the natural powers of the birds we must place in the forefront that of sight. Wonderful instances can be found, similar to that related previously, in which the birds made their way home over hundreds of miles without having been trained or knowing the road. But there has never yet been related an instance of a blind bird, or one whose eyesight was injured, finding its way home. More than this, old homing-pigeon fanciers pay more attention to the eye than to anything else. And be it noted that the structure of the eye is calculated to enable the birds to see very long distances. To compare in any way the human eye with that of birds is faulty reasoning. We have been created for the purpose of remaining on the ground, they to fly in the air. We may conclude therefore that a higher power has provided them with all that is necessary. A bird ascending right up into the air can see things which we would consider beyond their range of vision, and there is nothing unreasonable in the thought that they may know the movements of the sun as well as we do. Very small things may be sufficient to guide them; the view of a distant range of mountains might of itself be enough. It is impossible to imagine that birds could find their way home unless they were quick-sighted. Of course vision would not be sufficient if the birds were not hardy and capable of very great endurance.

There are, therefore, three things which go to make up the homing instinct. First, the intense love for home possessed by this splendid race of birds. This causes them, immediately they are liberated, to fly round and round, seeking some indication of the direction in which is their home. In the second place, there is the power of sight and also of memory, enabling them to recognize places at a great distance; and, in the third place, there is the determination to reach home and the strength to get there. Combined, these make a perfect Homer; without any one of them the bird would be useless.

H——, England. STEPHEN BEALE.

The Moulting Season.

The most trying period in the life of an adult fowl is probably that of the moulting season. And this, unfortunately, is just the time that the farmer's wife is apt to conclude that her poultry need almost no attention at all, the season for raising chicks being virtually over and the supply of eggs small. Then, too, her chickens do not present a very attractive appearance, some moping about looking dull and stupid, with their apparel rusty and ragged, and evidently much the worse for wear; others showing the bare skin in patches, or here and there a bright new feather, which only makes the rest look duller by contrast. But this very reason—their unsightly, forlorn appearance—should cause the owner to redouble her attentions to her charges in order to tide them well over the painful process; for the better the flock is cared for while moulting, the more rapidly the new feathers will replace the old, and the sooner will the industrious old hens take up again the burden and the delight of their lives—egg-making. Although the weather may still continue mild and pleasant, yet their food should be increased both in quantity and quality, for we must first satisfy their systems in flesh and fat-producing substances before the work of manufacturing
materially aided. In the m
fowls a good warm meal of
boiled grain, or boiled corn
thickened with wheat bran or
soned with chopped meat o
pinch of salt should be adde
not only preserves the tissues
it also destroys internal paras
to the above mess, half a ratio
dessert is very much relished,
weather, adult fowls which h
should be fed only twice a
pelled in the long interval be
grasshoppers, scratch for wor
visit all the fruit trees within

At evening give them the
lected during the day (whic
over night), and also a lib
dry grain, as wheat or oats.
the allowance should not h
as corn contains too large a
heat or fat-producing subst
a suitable food for warm
matter how well-balanced th
the same combination should
for any length of time, a va
more essential during the
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a neglect of fowls at this t
cause of disease.

A small quantity of flaxse
their morning meal gives s
adds gloss to their feathers,
and earlobes bright, and
whole system in good wo
cating and strengthening e

A little sulphur given tw
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laxative and blood purifie
rienced poultry-keeper tol
that he was in the habit o
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Cures Coughs and Colds
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to insect life, caused the parasites to drop off.

A few small lumps of copperas and a half dozen rusty nails put in the water trough will form an excellent tonic. Fresh dust baths should also be provided them, for at no time do they stand more in need of them, there being considerable irritation of the skin caused by the shedding of old feathers and the outgrowth of new. An abundant supply of grit, which somebody calls the teeth of the hen, should be constantly within sight. All their surroundings must be clean and wholesome, and as the season advances convenient shelter should be provided, for if moulting fowls are not protected from cold and dampness, roup is apt to ensue.

Unless one is prepared to raise fall chicks, no hens should be allowed to sit while moulting. It keeps them back in the process of feather-making, so that when the rest of the flock are resplendent in new suits, these hens will only be shedding their old feathers, and will therefore be unprotected from the chilling winds and cold rains of early winter.

I am aware that caring for poultry in this way entails a considerable expenditure of time and attention, and I fear that my remarks will be received with small favor by the busy housewife who thinks herself entitled to a short respite from her labors in the poultry-yard; but those who will give the subject their thoughtful consideration will, I hope, find in these suggestions a remedy for the common complaint of scarcity of eggs during the fall and early winter, when the demand is greatest, and the price, of course, at its highest.

A FARMER'S DAUGHTER.

Tumors in Hens.

Last spring I noticed that one of my hens was in trouble, and on examination found on her side, evidently recently ruptured, a fatty tumor, from whence a little pus exuded, but mostly solid. After decapitating, I carefully dissected the carcass, which, though poor apart from the tumor, appeared to be in a perfectly healthy state.

Yesterday, noticing another hen unable to stand, and discovering no specific cause, I applied the best remedy yet discovered for a sick hen—a hatchet to the neck—and then, by dissecting, found a fatty tumor binding the whole mass of the intestines together. As in the other case, the body was poor, but every organ, even the intestines themselves, appeared in unimpaired health.

Between the dates of these two discoveries, at different times, I have found two dead hens, both of which, regardless of manifest duty and interest, were, without careful examination, buried. Of course I now think both died of tumors. Knowing that the other two so died, what caused the tumors? Writers who ought to know, say that all tumors result from mechanical injury. How were my hens mechanically injured? By broken crockery, with which I have liberally supplied them, and which they have greedily eaten? How could a piece of that, too large easily to pass through the intestines, escape the gizzard? Then the internal tumor was on the outside of the intestines of the one hen, and anything internal could not have produced the external tumor of the other hen. What then was the mechanical injury? Perhaps careless handling of the hens.

This year I have let none of my hens sit, as an experiment to test profit. Last year from 50 hens I raised 110 chickens. The profit of the 50 from eggs and chickens, was $96. This year, from eggs alone, the profit, from Jan. 1 to July 1, was $48. Well, prohibition of sitting has made removal to the hospital, in numbers ranging from 5 to 15, frequently requisite. And, to save time, I have in a few instances carried four in each hand, and, perhaps without suitable care, dropped them down in a heap on the hospital floor. Did that bruise externally, or so jar or displace internally as to induce tumors? I should have doubted, perhaps denied. But now I prefer to ask the opinion of others, and to express the hope that some one, wiser than I, will illuminate this subject of tumors in hens.

Meanwhile, and from this on, they shall be handled more carefully by one who has always fancied himself to be the friend of all fowls, but especially of the HEN.

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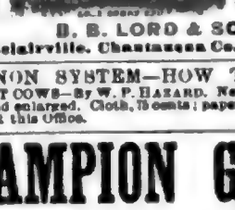

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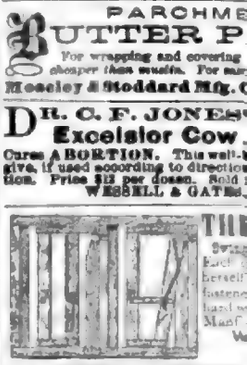

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THE CULTIVATOR
AND
Country Gentleman

Albany, Sept. 19, 1889.

Suggestions in Harvesting Corn.

There are several operations in connection with the harvesting of corn, which may be worthy of suggestion to the younger and more inexperienced portion of our readers.

Mowers and reapers may be employed for cutting the stalks, where the smaller northern varieties have been planted. A small reaper will cut one row, a large one may take two rows, although with more inconvenience. The large southern corn is too coarse for cutting

Fig. 1.

with a reaper. If the ground has been softened with rain, the wheels will sink too much and the work will be difficult. There are many instances, therefore, when the cutting must be done by hand. For this purpose a common sickle answers well, or the cutter made on purpose, fig. 1. Where corn has been sown thickly for fodder, and the stalks are small and not encumbered with ears, a self-binder has been successfully used, where the

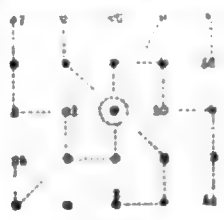

Fig. 2.

ground has been sufficiently firm. It is probable that in future wider wheels will be given to the reapers for this purpose.

In cutting up by hand, labor will be saved by adopting a regular system of steps. The accompanying plan of the 25 hills forming a shock (fig. 2), shows by the numbers how the operator begins and completes the work. He takes three hills at a time, beginning with number one. Many steps will be saved by adopting such a system. With small corn, a greater number of hills may be taken at a time, and larger shocks made.

The small northern corn, when sown for fodder, gives a heavier return when planted thickly, the more numerous stalks making up the deficiency of size.

For drawing the freshly cut corn, for clearing the ground, or for conveying it to the silo, the wagon represented by fig. 3 is very convenient, the platform on which the corn is placed being only a foot above the ground. It consists of a long, broad frame, suspended by chains under the axles of a common farm wagon. A reach 20 feet long gives sufficient length to the platform, and places the two axles 18 feet apart. Cut this reach from a green tree, curving downwards a foot. Small-sized shocks of cut corn are placed easily and rapidly on this platform and drawn off the field.

Corn fodder, sown thickly, is very apt to heat and spoil when placed in a stack without

Fig. 4.

ventilation. It is necessary, therefore, to provide a chimney in the centre for the steam and hot air to escape. A moderate-sized tree, with two or three rails placed about it in an upright position, answers a good purpose, fig. 4. In the absence of a tree, two or three rails, or longer poles of any kind, may be set upright a foot apart.

STRAIGHT ROWS.—Farmers who have tried the advantages of straight rows and the defects of crooked ones, will now have an opportunity of observing their comparative value. A straight row may be cultivated leaving very few weeds; the crooked one will be more or less infested with them. Fig 5 shows a straight row, and the close cultivation to the plants; fig. 6 a crooked row, where it is impossible to work closely to the row without tearing up a part of the corn.

A Cheap and Satisfactory Silo.

EDS. COUNTRY GENTLEMAN.—I wish to add a few lines on the silo question, having built one in the summer of 1888 very cheaply with the following result.

The silo is built above ground and the bottom is nearly on a level with feeding mangers; it is filled from the barn floor above with the aid of a Ross cutter and carrier No. 11, A, with a rise of 4 feet from floor. The silo is 12 by 20 by 16 feet deep, and built on stone foundation laid in cement; the uprights are floor timbers 2 by 10 inches by 14 feet. The first coat of boards was old, put on horizontally, covered with tarred building paper, and that with matched boards put on vertically.

The corn fodder (B. & W.) grew to enormous size, and was well cared. The whole field was cut before we began filling silo, and was quite wilted when drawn, making much easier handling. We were careful to tramp thoroughly

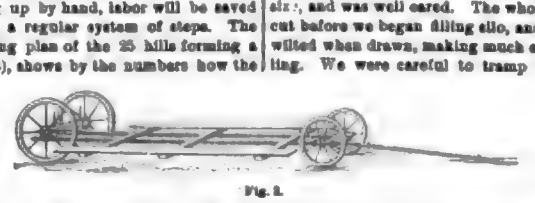

Fig. 3.

each run, and when through cutting the ensilage was left to settle and was never weighted. Began feeding in December, 1888, and fed from the whole surface, loosening enough for one or two feedings ahead each day. The cattle (milkers and young stock) had two feedings a day all winter with hay at noon. They ate the ensilage greedily and came through in good condition; the milkers did well getting 6 and 8 lbs. grain per day for each cow.

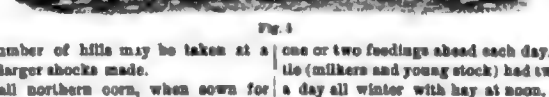

Fig. 5.

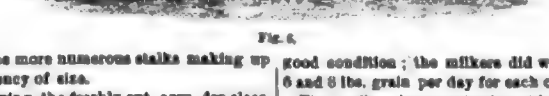

Fig. 6.

The ensilage kept perfectly, with the exception of a few inches around the three exposed sides which froze and rotted. The ensilage was brown and sweet, and saved me a heavy feed bill at the miller's. Covering the outside of silo with matched boards will do away with all freezing, and not a bushel of fodder need be wasted. I believe the weighting theory to be a delusion, and even a covering unnecessary, but the latter is little trouble and might ease the conscience of a skeptic. Those who have been in to see the above silo have wondered at its cheapness and its work.

Orchard Farm, Orange Co., N. Y. J. W. SPENCER.

Seed Clover and Seeding Clover.

We have a very heavy crop of seed clover this year, and the weather has been very favorable for its harvest. We have had no rain for two weeks. The ground and the air being dry, the clover has cured rapidly and nicely. The greater part of the crop is already cut. Some of it will be hulled direct from the field. This can easily be done when the weather is such as we have had this season. Three or four days of hot sun and dry air, with dry ground, will so cure the clover that no seed need be lost. But this plan is decidedly risky. A very little moisture will prevent good hulling. The clover cannot be well hulled while damp from dew. This is quite a serious matter some years, when the seed clover crop is late, and threshing must be done when the sun is slow. Besides, a heavy rain may, and showery weather certainly will, cause the loss of the crop if it is left in the field to be hulled.

Hence I do not think hulling from the field can be recommended, especially as seed clover can be kept in a stack, if a top of some other material is used. I would never put seed clover in the mow. Threshing it in the barn or near the barn is sure to be very disagreeable work, and the barn and nearby buildings will be thoroughly fouled. Few things are more persistent and penetrating than dust from seed clover being hulled.

I have stacked not a little seed clover, and have been uniformly successful in keeping it in good condition. I start the stack only eight feet wide. Do not try to lay out much, as if it is laid down square it will slip out enough to make a respectable bulge. When the stack is seven or eight feet high, I begin to lay in just a little—enough to have it perpendicular when it has slipped out, as it will, for from the bottom up you must keep the middle high and well trampled. When the stack is about sixteen feet high I level it off and put on a roof of boards. It will answer to lay poles along the stack, two or three feet from the edge, lay boards, lapped, on the poles, and then weight down the boards. But it is very little more trouble and much better to set a stout pole at each corner of the stack, vertically, and close against the stack. Fencing or other narrow boards are next nailed from the top of one pole to another. These boards serve a double purpose—they hold the poles together, preventing their blowing down, and they support the roof of boards, lapped. The poles are let into the ground a foot or so, that they may rest on solid ground and not pull away from the stack at the bottom. It is also well to brace them with boards nailed diagonally from one to another. Of course substantial barracks would be better, but this has always answered the purpose well. Get the roof close to the stack, to prevent rain from blowing in under the roof when the stack has settled.

Seed clover may be stacked like hay, except that the top is made of timothy. One year we cut the timothy out of the fence corners, and gained that much good hay—the timothy was green and good. Or the stack may be built somewhat as I have described when it is to receive a board roof, and the top be made of straw—two feet thick at the edge and rounded up well in the middle. I have seen stacks of seed clover covered with canvas stack covers, also. The stacks should be so arranged that no matter what the direction of the wind, the huller can be located so that the wind will blow the dust from the workmen. Seed clover can be saved, as I have described, out-of-doors; hence do not put it in the barn.

I notice that the favorite plan of cutting is to use a self rake reaper; but in these days of self-binders, self-rake reapers are scarce, and many are mowing the clover and raking it into winrows.

Seed clover is one of our most neglected crops. Its cost is certainly the minimum; while it is very rare that clover seed sells for less than five dollars per bushel in the spring. Not a few fields this year, that have already cut a heavy crop of hay, will yield from three to five bushels of seed per acre. This is better

than "six-bits-a-bushel" wheat. Further, I much prefer to sow seed that I or some neighbor has grown. Much of the seed sold in town is old or impure, or both. When you or some neighbor grows the seed, you may know what you are sowing—that you are not fooling your land with noxious plants, or paying money for and expending labor on seed, much of which has lost its vitality.

Speaking of this, reminds me that last spring again demonstrated that early sowing of clover seed is the best. The neighbor that got the best stand sowed very early. There were hard freezes after he sowed, and some predicted that his seed was lost, but he got a most excellent stand. Likely the very dry spring made the advantage of early sowing more than usually apparent, yet year after year the early sowing does the best. The better the seed the greater the advantage of early sowing. The man who sows on the last snows is the one that hits it. The melting snows soften the ground to an extent that the seed sink into it, and in the moist ground readily germinates, and the young plants root nicely. Do not be afraid of the clover seed getting a little frost.

I see correspondents of the various agricultural papers recommending the seeding of clover with oats. I have found it very difficult to get a good stand of clover with oats. Oftener I have met with complete failure. The oats grow so dense that much of the clover is smothered out, while what survives is so tender that it succumbs to the hot July sun when the oats crop is removed, unless there are frequent timely rains, and these rarely occur, and can never be depended upon. My advice would be not to seed clover with oats.

Adams County, Ill. JAS. M. STAHL.

Air-tight Walls for Silos.

Eds. Country Gentleman—Your correspondent A. C. C. gives us some excellent suggestions in his communication, p. 667, among which is a more general use of ensilage on a moderate scale for the one and two cows of mechanics, requiring less land to raise it than raising timothy and clover; or forming a company of mechanics, for a common ownership of cutters and presses. He mentions the important advantage that while hay requires 500 cubic feet for a ton, ensilage needs only 50 cubic feet; and also the advantage that corn ensilage can be gathered in wet weather, when hay cannot. But the plan of packing ensilage in barrels and hogsheads is singularly impracticable, the fixtures and the puttering work of filling barrels with cornstalks, and packing them solid, would require for a single ton more work and cost of barrels than would be needed for the rapid filling of several tons in a good, capacious silo.

But he makes another remark, recommending a mode still more inconvenient in any attempt to reduce it to practice. He proposes to build up the ensilage in an open field, with nothing but a "lap-board roof," open all around on every side; and he asserts that the ensilage thus stored "will keep just as well as in a silo in the barn." On what authority, or with what test of trial, does he make this assertion? If the ensilage is cut short, how will he build the smooth perpendicular sides of the mass with such granular materials, which would be about as difficult as to build a vertical wall with dry sand? Perhaps he intends to build with long or uncut stalks. If so, how is he to prevent the frost of winter from entering the green mass a foot or two of those naked sides? The winters of Massachusetts, from which State he dates, would on an average penetrate about two feet all around, and reduce much of the watery fodder to rottenness. I am aware that something of this kind has been practiced in England, where the winters are nothing like so intense as in Massachusetts.

The writer of the communication referred to says that he is not a farmer. Sometimes to such persons suggestions occur of great value, which farmers themselves do not think of, and we may thus derive valuable benefit from their hints; but it is important to discriminate between the valuable and the impracticable. Most of the writers who have given their experience with silos of late years in the Country Gentleman, and who have become acquainted with the absolute requisites for full success, urge as essentially important *air-tight walls*. Crevices and open spaces for the admission of air are more or less attended with decayed contents, sometimes on a pretty large scale. Leaving the ensilage open all around (even if the chopped stalks could be built into an upright wall) would let in the air without any limit.

In the same number of the Country Gentleman which contains this communication is another on page 669, half the length of the other, containing suggestions of great value, and among them the writer justly recommends as of great importance the coating of the inside of the cement walls of his silo with boiled coal tar, to render them impervious to the outside air. I should greatly prefer such tar-coated walls, dried into a glassy varnish, to open exposure. I think the occasional recommendation of such exposure as we see sometimes in the agricultural papers, will only lead the inexperienced into failure, at least if as far north as Massachusetts. Observer.

Bean-Growing in Western New-York.

Eds. Country Gentleman—In your issue of Aug. 22, page 667, Mr. W. F. Brown replies to inquiries of a Kentucky farmer about bean culture. His ideas are sensible, but hardly up with the progress of the day in harvesting and preparing the crop for market. Neither do I quite agree with him in the statement that beans will give better profit on poor land than any other crop, nor that the land is left in better condition for wheat than other crops leave it. I know the old saying is that "land too poor to raise white beans is barren," but we have learned that no crop pays better for good condition of fertility than this. A poor soil may produce ten bushels per acre, perhaps, and with about the same labor a fertile soil will produce thirty bushels or upwards.

Why the ground is left in better condition for wheat after growing a bean crop than after any other farm crop, Mr. Brown does not tell us. It cannot be because the bean takes less plant food from the soil, for analysis shows it to contain more mineral elements, which must be taken from the soil, than either wheat, barley, corn or oats, and no stubble is left upon the ground to be plowed under, as in the grain crops. My experience in growing this crop for over 30 years on my farm, teaches me that it is more exhaustive of fertility than the grain crops, and that manures are as beneficially applied to bean land as for corn or other crops. I have sometimes sown wheat after beans, and frequently following other spring crops, but without manuring I have always harvested a light crop after beans.

There is no section of our country that produces more or better quality of beans than Western New-York, and we think that our methods of raising and preparing for market are not behind those of any other. Our soil is strong in the mineral elements of plant food, which are essential to successful bean-growing, and experience has taught us improved methods. Mr. Brown's way of harvesting the crop would be to us like taking the cradle and hand-rake into the wheat field to harvest the crop. Our beans are harvested by machine labor. A man and one pair of horses will harvest ten acres or more per day, and with less waste than by hand-pulling, and leaving them on the ground so as to require less time to cure them, thus avoiding much of the danger of damage by foul weather. When the pods are well cured and dry of rain or dew, they are put into the mow, pitched with horse-fork the same as hay, and are threshed at convenience, the same as grain, with machine. If the season of harvest is bad, so as to damage a portion of the crop, the farmer does not think of hand-picking at a cost of 25 or 50 cents per bushel, as Mr. Brown speaks of, but cleans his beans through the common fanning-mill, whether damaged or otherwise.

When in market, the bean-dealer takes a sample of one pound or more, accurately weighed, then sorts out all the defective ones, dirt, gravel, &c., weighs again, deducting tare, and the same percentage is deducted from the price of perfect quality. Our bean dealers are prepared to handle beans to the advantage of the farmer. All are screened and cleaned of every impurity, and sized by passing them over screens—so that often there will be three qualities when sent to market, graded according to size. Such quality of goods will command a higher price in market, which is advantageous to all parties interested. Bean-growing, to be made a success, requires much care and knowledge of the best ways, both on the part of the farmer and of the dealer. Our dealers employ steam power in running machinery to fit beans in the best manner for the eastern market. None are now put into a barrel for shipment until all dust and impurities are extracted, and the commodity is as pure as the finest quality of flour. The loss which the farmer suffers in reduced price for damaged stock in market, induces him to exercise the strictest care to keep the quality good.

Many varieties of beans are grown in this locality, but the standard varieties are the large marrow, the medium and the pea marrow. These are standard varieties, and always in demand. Other varieties are in limited demand, and prices are governed by the supply on the market. Profit in this branch of cropping depends more on good management and good cultivation than on any special advantages over ordinary grain crops, though a mixed husbandry is always to be preferred to a specialty. F. P. Root. *Monroe County, N. Y.*

Treatment of Poultry Manure.

Value of Ashes.

Eds. Country Gentleman—I notice in your issue of Aug. 29th, an article from the pen of Geo. Q. Dow, in which he styles poultry manure "an overestimated fertilizer." I agree with him so far—its value, *as farmers generally treat and use it*, falls far short of one dollar a barrel. Even with the pains taken by Mr. Dow, I should not care to purchase his poultry manure at that price. The trouble is that he takes too much pains. It may be a very good thing for the health of his poultry that he should use plaster under his roosts, to absorb the gases and liquid portions, and it holds all the ammonia so that it cannot escape. So far, very good.

Now if he uses 500 pounds of plaster to 1,500 pounds of the fresh droppings, he has a fertilizer containing 43½ per cent. of moisture, a little over 1 per cent. of nitrogen, ¾ per cent. potash, and a little over 1 per cent. of phosphoric acid, according to the chemists' tables; and it would also contain over 2½ per cent. of lime, and over 1½ per cent. of sulphuric acid.

At chemists' valuation, this material would be worth about $6.30 per ton, and if made as fine and dry as an average good commercial fertilizer, it would have a value of about $9.25 per ton. These figures are allowing that all these plant-feeding elements are in a condition to be available for the roots to take up. But as he handles them they are not. He says that he is careful to prevent heating, and does not mix any ashes with them.

Allow me to give him a rule which will make most of them available, with but little extra labor or expense: Handle them as he has been doing until a little before planting time; then cover a space in some of his sheds about six inches deep with his dry road-dust. On that turn a barrel of his hen manure, then a barrel of either dry or leached ashes, then another layer of manure, and so proceed until he has used it all up. If it is not moist enough to heat quickly, moisten it, and then cover it a foot deep with road dust. Visit it every morning early, and when his nostrils tell him that ammonia is escaping, work it well over and cover again. Do this about three times. When he has done so he will find a mass of dry, fine material, fit to use in hill or drill for almost any crop.

But he must remember that it was only about one-fourth as strong as the average commercial fertilizers at first start with the exception of potash, and as he will use about as much road dust as he had of the hen manure and plaster, it will be reduced nearly one-half more, so he will need to use six or eight times as much as he would of the fertilizer. If he thinks his soil needs phosphoric acid he will do well to add about one barrel of fine ground bone for each three barrels of hen manure, but as he gets such good results from ashes he may not need the bone. This fertilizer would be very strong in potash if he used dry wood ashes.

As regards his question about the comparative value of leached or unleached ashes, I will tell "what I think I know" about it, both from experience and a study of the chemical analysis.

In the first place either is a cheap fertilizer at the prices he names if made from good hard wood. If from soft pine the price is high enough. Unleached ashes from hard wood contain about 4 or 5 per cent. of potash. In leaching, about three quarters of that is taken out, but as three bushels go into the leach for one that is taken out, the percentage of potash is nearly the same. It also contains about 1 per cent. of phosphoric acid before leaching, and as this does not leach out there is nearly 1 per cent. in the leached ashes. The organic matter is also increased in the leached ashes.

In this I am speaking of ashes leached by the farmers who make their own soap. At soap factories the leaching is carried farther, and the potash in leached ashes will not exceed 2 per cent. Large factories also add other material to their leaches, which may make the percentage of potash fall still lower.

Unleached ashes will work more favorably for the first crop. Leached ashes will show their results a longer time.

Mr. Dow can figure from this, if he knows where his leached ashes come from, which may be the cheapest to buy. If from farmers or small soap factories, I should take the leached ashes. If from large establishments, I would prefer to pay the higher price for those which had not been leached.

There is also a difference in the crops and in different soils, as to which may be best to use when one has both at hand. If a soil is known to be greatly benefited by unleached ashes, or if the crop is known to require a great deal of potash, use the unleached ashes. Where bone shows very good results on a soil, probably leached ashes will do as well as unleached.

Middlesex County, Mass. M. F. A.

Varieties and Culture of the Frog.

[Answer to Inquiry on Page 668.]

There are five well-marked species of the genus *Rana* (the frogs) found in the Eastern United States, of which but two are used for table purposes, namely, the spring-frog and the bull-frog. The former species is known to zoologists as *Rana clamitans*, and is very familiar to every country boy, being our commonest variety. He is quite a handsome fellow, being a rich bright green in color; the flanks are darker, and the belly is pure white; the back is profusely dotted with black. Running from the eye to the end of the body, are two conspicuous glandular folds or ridges, which alone serve to identify this frog without trouble. I have captured a good many score of this species for experimental purposes, but have never seen one above five inches in length from nose to vent.

The spring-frog is very widely distributed. I have found them in tiny trickling springs on high mountains, in trout streams, and in the most noisome of stagnant pools. A few weeks ago I found a flourishing colony in a malodorous cattle pool near the barren eastern end of Long Island, within a half mile of the breakers, and miles from any other fresh water. There need be no difficulty, therefore, in securing an abundant supply for stocking purposes.

The bull-frog (*Rana catesbiana*) is the species most beloved of epicures, and brings by far the highest price, and should therefore be generally selected for breeding purposes. I have often measured a "belly" that stretched the tape at 13 inches, and three or four such fellows are a goodly weight to carry in a fish-creel, and in the winter are quoted, I am informed, at $5 per dozen. The color of the *catesbiana* is a rather yellowish, sickly green, quite different from the spring-frog. The glandular folds are practically absent, and the body is squat and clumsy compared to the finer form of the latter species.

The bull-frog, although common in most localities where it has not been exterminated by destructive boys and short sighted frog-hunters, is far less widely distributed than the preceding variety. Of course occasional individuals, particularly when young, may be found almost anywhere, but the habitat of the animal is in creeks or rivers and lakes of considerable size; small and dirty ponds, and still more small brooks, are avoided. The best way to secure adult specimens, is to paddle in a light canoe around the banks of a lake or shores of a stream; the "bullies" sit under overhanging banks or thick bushes, and can be noted or otherwise captured by a quick hand.

Holbrook is authority for the statement that this frog has been known to reach a length of *twenty-one inches!* I should consider a fifteen-inch specimen a giant among the genus *Rana*.

In considering the question of frog culture, the first necessity is to provide a suitable place for their propagation. Almost any pond of 10 feet or more in diameter, where the water

supply is constant the year round, will answer; but the ideal "frog farm" is a series of such pools, connected by ditches, and with a slow stream of water flowing through the chain. The pond or ponds must be encircled by a neat board fence, to keep out animals and confine the frogs, and it is well to cover one of the smallest pools with woven wire, to keep birds away from the spawn and young tadpoles.

For stocking purposes, the adult frogs, tadpoles or spawn may be selected, as is most convenient. The full grown batrachians may be caught in a long-handled landing-net in the localities already mentioned, and simply placed in the enclosure; they will increase and multiply in good season. The tadpoles can be caught in myriads in sunny mud holes along the shores of frog-frequented streams, in a fine-meshed dip-net, and transferred to the farm. The tadpoles of the bull-frog are large, light green in color, mottled and spotted with darker shades. If there is a soft muck bottom to the ponds, the tadpoles will need very little feeding; but an occasional small dead animal, or small piece of raw meat, will add to their food supply, which consists largely of decomposing animal and vegetable matter.

Frog spawn resembles a mass of jelly full of fine shot; it is deposited in sunny pools and back-waters early in May or June. These masses are to be dipped up very carefully in a dish, and transferred to your own ponds or hatching-troughs; the latter are not at all necessary, and the eggs need only be gently transferred to the frog farm and protected from enemies, to ensure their hatching, which occurs in from one to two weeks, according to the temperature. The young tadpoles grow rapidly, and in from one summer to two years develop into young frogs. Spawn, tadpoles and young frogs all have to contend with a multitude of enemies, and the principal duty of the frog culturist is to protect his charges from their ravages. Animals such as raccoons, minks, muskrats and weasels prey on the adult frogs; hawks, ducks and water birds on both frogs and tadpoles; and water turtles, snakes, fish and certain insects, devour both spawn and tadpoles. All such vermin must be exterminated from the frog farm before stocking, and subsequently a tight board fence and a reasonable amount of watchfulness will protect the plant.

The most difficult problem in frog culture is the feeding of the young and adult frogs; they will take only living prey, and subsist on insects, small fish, worms, smaller frogs, and on occasion mice, and even young birds that by chance come within their reach. If the farm is well chosen, there will be sufficient insect food to support a limited frog population, but a well stocked pond calls for special feeding of the inmates. Pieces of meat occasionally thrown on the grassy banks of the ponds and allowed to rot there will attract flies and carrion beetles, on which the batrachians will feed; grasshoppers and crickets are easily caught by the box-full, and thrown into the enclosure, and a cigar-box full of grubs and "bugs" can be picked up by a boy almost anywhere in a day. *Non-poisoned* potato beetles, and all naked worms are relished by the frogs, and a bucket-full of minnows can be poured into the pools occasionally in the late summer, *not* in the spawning season, as small fish eat the eggs greedily.

If well taken care of, bull-frogs attain their full size in about three years, and may then weigh a pound; if the conditions are favorable they are marketable in less time, but the large ones bring so much better prices that it is better to allow them to attain their full size, when they market for about the same price as trout.

During the winter all the members of the genus rana hibernate in the bottom and below the reach of frost, and require no feeding or other care, except that the ponds must be deep enough to insure their not freezing to the bottom and killing the frogs. They hibernate in colonies, and a bushel of "solid frog" has been taken from one spring hole in mid-winter.

Frog flesh, when properly prepared, is a most dainty morsel, tasting like nothing but itself, and that it is duly appreciated is shown by the fact that 60,000 pounds are annually sold in New-York city alone, and a single dealer on the Pacific slope supplies the trade with 300 dozen annually. In France the edible frog (*Rana esculenta*) is not only eaten in great numbers, and commands a long price, but is canned in quantities, and sent to all parts of the world. Our bull-frog being a much larger species, we see no reason why successful canneries cannot be established in this country. While statistics are as yet very limited, it seems that frogs can be cultivated at considerably less cost than brook trout, and as the market price is given as about the same, the deduction is obvious. I see no reason why carp ponds could not be utilized to a certain extent for frog culture without either species being molested to any serious degree, and should like to see the experiment tried.

In conclusion let me say that edible frogs have already been wholly exterminated from many sections, and great care should be taken to preserve the natural supply and prevent their wanton destruction, and not—as is so essentially American!—kill "the goose which lays the golden eggs" in order to pocket a few more dollars to-day. R. W. Sims.

Handling Potatoes—The Crop in Ohio.

Clover as a Fertilizer.

Eds. Country Gentleman—When I wrote you last fall about how rapidly we took out and stored potatoes, some thought we must have a good deal of help to handle so many in a day. I could not afterwards tell just what help we had when we did our largest day's work. But we have done a pretty good day's work to-day, and I take time to night to report to you just the help it took, while the matter is fresh in my mind. We put in the basement of one barn about 400 bushels to-day. I could not keep track to a bushel, but this is very near the amount. Three men did the picking up. My son and myself did the digging, and drew the boxes to the barn and emptied and returned them. One team stood on the digger all the time and the other on the wagon. We would dig a few rows and then draw in a load, and then dig some more. Two or three times my son and I had to have a little help about unloading, as we could not quite keep ahead of the pickers. We did a short day's work, as a heavy rain just before had made the ground so wet that no picking up could be done until after 9 o'clock. This is exactly what we did, and expect to do again Monday (only my son will be away at school, and I must get a man in his place). The potatoes were the Monroe Seedlings I wrote you about last spring. They are splendid. Of course the yield was large or we could not have got out so many. Also, there are no weeds in the field, and our bushel boxes, large wagons and convenient storing places make fast work possible.

It is safe to say that potatoes generally in this section will not yield over half what they did last year per acre planted. Many acres were ruined entirely by the wet weather, many could not be properly cared for. On our drained land, although considerable damage was done by the heavy rains packing the soil after it was too late to loosen it again, particularly on the clay spots, we have a crop almost if not equal to last year. Our house and barn cellars are filled, and we are now filling a basement stable 60 feet long, 3 feet deep or more, and fear that will not hold the crop.

Shall I tell you the great secret of this crop? It is the old story, "clover and tillage." Of course drainage and choice seed helped, but my big crops of clover and thorough tillage were very essential factors. This field, like the one that produced 40 bush. of wheat this year, has been fertilized with clover only for some time. No stable manure or fertilizer whatever has been put on since it was in potatoes last. The first crop of clover last year was cut and taken off for hay. The second crop was left to fall down and was plowed under this spring. It would have made about two good loads of hay per acre, if cut last fall. With this kind of manure, my potatoes are smooth and nice—no scab.

As to tillage, I think we never took care of a field so nearly the best we knew how as this year. You may have noticed that you did not hear from me very often early in the season. Well, I made up my mind last spring that I would not write a word to the neglect of my crops, and I have not. They have had almost perfect care, and the pay is ample.

I would not dare tell you how many times we went through those potatoes; some farmers would be so exasperated at me that they would neglect their work in this busy season. But I will tell you that all the tillage was of the most careful kind. After those terrible rains in June, some farmers gave the ground between the rows "a good loosening up." I think I know of fields where the loss from this source was greater than from the storms. Half the roots were torn off the plants, and then dry weather following, the vines died early from "blight."

I tell you, we farmers have got to be right on hand, and watch, and study, and think, or else we must be content with a very poor living. Potato roots grow unusually near the surface, during the wet, cold weather of the early part of the season. Cultivation 4 inches deep when they were half grown, as the season turned, was ruinous. We used the utmost care to prevent any implement going over 1½ inches deep after the plants were well started.

Will you kindly allow me to say to your readers that when I have anything to sell they will find notice of it in the advertising columns, as they will this week of my seed potatoes. Quite a number have written me for strawberry or raspberry plants that I wrote of. I have nothing whatever in that line to sell. My wheat article brought numerous letters inquiring for seed. Long before it was written, my wheat was engaged by one old customer in Kentucky. I was giving experience without a thought of advertising my crop.

Summit Co., O., Sept. 7. T. B. Terry.

Meeting of Agricultural Scientists—II.

At the recent meeting of the Society for the Promotion of Agricultural Science, Prof. M. A. Scovell, director of the Kentucky Experiment Station, reported results of experiments with potash salts on potatoes. These salts were applied as a fertilizer, but they appeared to have the effect of preventing the ravages of the potato blight. So marked was this that special pains were taken to note the effect upon all the plats in the experiment. The general result of this single test was that potash salts appear to be a specific for this dread disease.

Mr. C. M. Weed, entomologist to the Ohio Experiment Station, presented some notes on "An experiment in preventing the injuries of the potato rot."

The following provisional conclusions were announced:

1. That a large proportion of the injury done by potato rot can be prevented by spraying the vines with the Bordeaux mixture.

2. That the treatment apparently diminishes the amount of scab affecting the tubers.

3. That by adding London purple to the mixture, the same treatment may be made effective in preventing the injuries of both the rot and Colorado potato beetle.

In the Bordeaux mixture there were used 6 pounds of copper sulphate and 4 pounds of lime to 50 gallons of water, instead of 22 gallons as ordinarily recommended. London purple was added to the solution in the proportion of one ounce to ten gallons. This was found of sufficient strength to completely clear off the beetles.

Four applications of the Bordeaux mixture were made, but London purple was added to the first two only. The first application was made May 28, the second June 6, the third June 20, and the fourth July 16.

Prof. Myers, director of the West Virginia Experiment Station, presented a note illustrating the effect of food upon the keeping quality of butter.

Butter made from cows fed cottonseed meal had been kept with no special care, in the temperature of the ordinary living room, from February until June, and showed no rancidity. The butter was wrapt in a piece of brown paper and kept in a drawer.

Dr. W. H. Wiley, chemist of the United States Department of Agriculture, reported the results of an elaborate and pains-taking investigation of sorghum seed for food. He presented an exhaustive table showing the comparative value of this seed with wheat, Indian corn and oats.

The nutritive value of the above ranks as follows: First, wheat; second, sorghum; third, Indian corn; fourth, unhulled oats.

Prof. C. E. Bessey discussed "the grass problem of Nebraska." He described the localities where the buffalo grass is still found, and spoke of the comparative merits of the wild native grasses, which are most highly esteemed by ranchmen.

These wild grasses, however, are gradually dying out, and the best known of our cultivated grasses are taking their place. In the older portions of the State timothy is largely and once sfully cultivated. Kentucky blue-grass is being introduced and bids fair to prove exceedingly valuable for pasturage. It will soon be one of the most popular grazing grasses in the State. Where the soil has been thoroughly subdued and ameliorated by cultivation, clover does well. It will probably be grown much more extensively in the future.

Prof. William Saunders, director of the Central Experiment Farm, Ottawa, Canada, presented a paper on "Wheat grown as single plants." Seed wheat had been obtained in great variety from many different parts of the world, and careful observations made on their periods of ripening, productiveness and relative quality. All these varieties had been tested side by side on the same soil, grown as single plants. The wheats were divided into three principal classes, viz., the Fifes, the Russians and the Indian. The Fife wheats are deservedly classed with those of the highest quality on account of the large proportion of gluten they contain, yielding in the hands of the miller a large proportion of what bakers call "strong flour," from which bread of the highest quality can be made. The Russian wheats, although varying in quality, would probably rank next in importance. The Indian wheats tested, eight in all, proved less prolific. They averaged to each plant a little less than 9 heads, 41 kernels to the head, with a yield of 369 fold.

A comparison of these three groups of varieties of wheat, from which comes a large portion of the supply of the export trade, gives the following results: Ten samples of Fife wheat averaged from the single selected plant a fraction over 25 heads to each plant, and 25 kernels in each head, giving a yield of 731 fold. Five samples obtained from the Northwestern United States yielded an average of 550 fold, while the five samples obtained from the Canadian Northwest yielded 912 fold.

As all the samples were grown side by side on a very uniform, rather light, sandy soil, it would appear that the seed from the Canadian Northwest had more vitality and vigor, sufficient to make a large difference in the yield. If this conclusion is correct, the wheat grown in Manitoba and the Northwest should be much in demand for seed.

The selected plants of five Russian bearded wheats yielded an average of 31 heads, with nearly 46 kernels to the head, or 936 fold. Two samples of the beardless white Russian gave an average of 27 heads to a single plant, and nearly 31 kernels to the head, making 833 fold.

The six samples of Indian wheats gave from the selected plants an average of a little less than 9 heads, with 11 kernels to a head, or a yield of 349 fold. These great differences in results, where all the conditions of growth seemed to be precisely similar, would indicate that there is inherited in the individual varieties of wheat a variable degree of vigor and power of self-multiplication. This points to the importance of looking for seed wheat to those countries where the climatic and other conditions are favorable to the production of these fertile strains. W. H. L.

Plowing under Clover a Failure.

Eds. Country Gentleman—The instance quoted by your West Virginia correspondent (page 8, current volume) of the failure of a turned-under green crop to return value, recalls a case in my own experience which occurred some years since, though there is not much to constitute a parallel in the two, except that in both the crop plowed under was a green one—B.'s being young rye and mine a second crop of clover. The turning under was done in the early fall of 1866, and was a heavy second growth; a great deal of the clover had formed seed, and was almost knee-high to the horses. The first crop had been taken off for hay. Rye was drilled upon the land about the middle of September, in excellent condition, and naturally there is no better soil in Central Indiana—rolling gently, mellow and thoroughly drained; but, strange to say, the rye crop proved almost a total failure, though put in the ground in the most careful manner. Timothy seed sown upon this land failed to grow or was killed by the winter, scarcely a single plant being visible the following spring and summer. In an adjoining field, the land being of precisely the same character, an immense crop of rye was harvested, yielding over forty bushels to the acre—the only difference in the management of the two being that the latter was manured from the stables, while the other had the green clover turned under.

To give a clearer understanding and a pro-

vious history of the ground that failed under the green manuring process, it is proper to retrospect a little and to state that it was a strip of five acres across one side of a 20 acre field, all of which during the fall of 1883 was carefully prepared and well manured for wheat, and after the five acres had been drilled in good order, heavy rains set in which continued two or three weeks or more; this retarded work on the rest until quite late in October or beginning of November. An unfavorable winter following, operated disastrously to the crop, so that in March or April 1884, the field—except the five acres seeded before the rain—was plowed and sown with oats. The wheat on the five-acre strip promised well, and was left undisturbed, and 4 quarts of clover seed per acre, sprinkled over it. Grass seeds were also sown upon the land in oats with a view to forming a permanent meadow; the oats proved a good crop, but the grass failed. In the fall of 1885, the whole field was plowed again, carefully prepared and drilled in rye with the usual seeding of timothy, and in early spring four to six quarts of clover seed was put on.

This has been my unvaried plan of obtaining the renewal of the grass lands, extending over an experience of more than 30 years, and a failure in the past has been almost uncommon, but it failed and failed totally on the unlucky five acres, although the "catch" was fair on the remainder of the field. The rye crop also, like that of the preceding year, was very poor, short of straw and inferior in grain, a large proportion of the heads containing no grains at all; the rest of the field, however, yielded a good crop of rye, both in straw and grain. If a line had been drawn across the field from end to end it would not more definitely have marked off the five acres that had been treated to a green manuring two years before, than did the total absence of grass upon it and the inferiority of the crop of rye that was taken from it. This land had always been as productive, before the green crop was plowed under, as any other portion of the field of which it formed a part, or the farm of 250 acres to which it belonged, the whole plant being carefully formed by rotation of crops and liberal manuring. In the spring of 1888 the field containing the barren five-acre strip was selected for a summer pasture, and to even things up, early on—as soon as the ground could be prudently worked—about 2½ to 3 bushels of oats to the acre was sown upon the five acres. This afforded a fair return, but the growth was by no means what it should have been, considering the condition of the soil and the care that had been bestowed upon it, but it produced some pasture. It is my purpose the coming spring to plant the whole 20 acres in corn, and I hope to reap a uniform and good crop from the field.

Can Mr. T. B. Terry, or Mr. Waldo F. Brown, or any of the many intelligent and observing correspondents of the COUNTRY GENTLEMAN, having extended experience with plowing under green crops for manure, offer a solution of what appears to be a singular freak—so to speak—of a piece of land that has always heretofore made the finest kind of returns? I shall be very glad to have their views.

I have always believed in and advocated the practice of turning under green crops as fertilizers, though I have not adopted the plan extensively, nor observed results, particularly, and my faith in the benefits derived arises more from reading the experience of others who have been successful than from any actual knowledge of my own, and this experiment, adverse to success though it be, does not change my belief regarding the effects of the decomposition of vegetable matter in the soil, and its benefits to the growing plant. The laws relating to chemical action and its results, are fixed and unalterable, and if increased fertility and greater capacity to produce do not follow rotting the green crop under the soil, there is some other cause for its failure to do so, but just what that cause is, in my case, I have thus far been unable to determine. The action and effects of manures of all kinds are to a degree uncertain, depending in a measure upon the seasons and surroundings, and while, as a rule, the benefits arising from their use are immediate, sometimes they are delayed, appearing later increased in force. It may be so in the case I have cited, and I shall watch with interest the growing and maturing of the corn crop upon that ground. If another failure occurs, my remedy will be an extra heavy allowance of stable manure. There is no risk of getting a blank in that drawing; this I know from experience. GEO. JACKSON.

Beech Grove, Ind.

Farming in Arkansas.

The writer, having been engaged in scientific work, has spent two months of the present summer in Arkansas, and having lived with the farmers the greater part of the time, some observations about the farming industry there may be of general interest.

The part of the State visited was the northern middle portion, including Independence and Stone counties. The surface in this region is generally hilly or mountainous, and the soils of varying qualities and degrees of fertility. The alluvial lands of the river and creek bottoms are highly rich and productive, while the uplands vary in fertility according to the nature of the bed-rock from which they originated. Where limestone is the underlying rock, the soil is generally good. (It is to be understood that Arkansas lies south of the geological area of glacial drift, and hence upland soils were formed from the country rock underlying them.)

The chief crops raised are cotton and corn, the former generally taking precedence. Considerable oats are raised, and some wheat, but wheat does not appear to do well. The only grass cultivated to any extent is millet. Sweet and Irish potatoes, sorghum (for molasses), tobacco and garden vegetables are raised by some farmers (not by all) in quantities for home consumption. Peaches are produced in considerable quantities; apples, pears and small fruits sparingly.

Cotton is easily "king" in this part of Arkansas as in the Southern Mississippi States generally. And it is greatly to be regretted that the term "tyrant" would often be almost as applicable as "king." Nothing is more apparent to an observer than that farmers are held in the sway of the idea that cotton is the only crop by which they can prosper. Not a few evils flow from the prevalence of this idea. First, the land is greatly injured by the continued cultivation of one crop. I made frequent inquiries in regard to this point, and the universal testimony was that growing cotton on the same soil from year to year exhausts it. The best farmers recognize this and alternate corn with cotton. But too commonly the land is planted in cotton until the soil is actually worn out and abandoned. More land is then cleared and the virgin soil subjected to the same iniquitous treatment. This, of course, is true of only the less fertile, upland soils, but I was informed that the rich bottom lands, though not destroyed, yet suffer greatly, as shown by diminished yield, from this cause.

A second evil resulting from the mistaken notion of the exceptional value of the cotton crop, is one that obviously belongs to any one-crop system, namely, that when the crop fails, due to a bad season, the farmer is left without any source of profit. I am told that this occurs very commonly. The only resource then left to the destitute farmer is to give a mortgage on his cotton crop for the next year. Merchants sell provisions on such mortgages as security, charging exorbitant prices to insure themselves against the contingencies of poor crops and bad faith. This deplorable state of things is only too common. It is probably true that the practice is often resorted to as a makeshift by thriftless farmers rather than as a necessity to which they were driven by a crop failure. In any case the fact is that this pernicious custom prevails, and the cause therefor is the tyrannous sway of the idea that cotton is the only money-making crop. I am glad to say that the better class of farmers—and there are many of this class—recognize the real condition of things, and are anxious to remedy it. A prosperous farmer, with whom I conversed, suggested what is obviously the true remedy, as simple as it would be effective. Said he: "Let farmers, first of all, raise what they need for their own wants—corn, vegetables, fruit, corn and beef—and let them make cotton a *surplus* crop."

The need of cultivating a variety of crops, instead of staking the promise of a year on one or two, is the greater in Arkansas, from the fact that the seasons are somewhat unreliable. Periods of prolonged drouth not uncommonly occur reducing a crop to perhaps one half the full yield. The cotton plant is tender, and suffers quickly from extremes of weather. And from the fact that the critical periods of growth are about the same for both corn and cotton, it is desirable that other crops besides corn should be cultivated as safeguards against an unfavorable season. Oats, potatoes and sorghum could be relied upon in this way. Garden vegetables of almost every kind could also be grown, and would at least contribute much toward securing a living in a bad season. It is remarkable that vegetables are so scantily cultivated in a climate where vegetable food is naturally suitable.

In this part of Arkansas, fully two thirds of the land is still unbroken forest-ground. A considerable part of this is still government land, and is available under the homestead act. Of course the best lands are already taken. My observations were not close enough to enable me to say whether it is still easy to get good land by homesteading. But partially improved land is easily bought at moderate prices. Settlers are coming in slowly, mostly from the Southern States. Land is usually bought in tracts of from 40 to 160 acres at prices ranging from $3 to $8 per acre. Good land, highly improved and desirably located, sells at a higher price, and it would probably be difficult to find many such farms for sale. The White River bottom lands are valued at from $40 to $60 per acre, and owners who are out of debt do not care to sell at these prices.

Much of the forest ground is covered with fine timber. Magnificent specimens of red and white oaks are seen. Cedar, pine and gum trees abound in some localities. Most farmers live in log houses, though some good frame houses are seen. Settlers build houses of oak logs at an expense of from $50 to $100. Such houses are very comfortable in this climate.

Cattle need shelter and fodder only two or three months in the year. The rest of the time they are allowed to run freely in the woodland or "range." Butter is made only for home consumption, and beef is produced sparingly for local markets. Hogs are raised in considerable numbers; they have the liberty of the range in summer, and in the fall are fattened on corn. It would seem that much advantage would result from introducing improved breeds of hogs. Passing a farm-yard one day the writer noticed some smooth, round, handsome hogs, quite different from those usually met with in the woods. Upon inquiry it was learned that their owner had brought them from Illinois, his native State. It was gratifying to learn that his neighbors had asked for and obtained specimens to improve the stock kept by them.

The portion of the State of Arkansas here considered possesses much good land, excellent water, fine timber and a genial climate. What is most needed is a better method of farming. A greater variety of crops should be cultivated and attention given to a proper rotation of the field crops. Garden vegetables and fruits for home use should be raised in greater abundance. The use and economy of fertilizers should be considered and the improvement of lands by drainage. J. H. STOLLER.

From Western Massachusetts.

EDS. COUNTRY GENTLEMAN—The writer first observed the potato rot in a field at Southwick (Hampden Co.), July 19. The vines were but slightly affected. Ten days later, not a green potato plant was visible in the adjacent town of Granville. A large proportion of the crop was destroyed. The East appears to suffer much more than the West from this cause; the western crop is better this year than usual. Other crops are not so seriously affected, but in general plant diseases are worse than in 1888. This is chiefly due to the overabundant rains, which have favored the growth of the fungi, while the lack of sunshine hindered the growth of their hosts.

Nearly all grapevines have more or less of the downy mildew, of which there was little last year. Oats have been found to be badly rusted wherever examined, not with the common wheat rust which bursts out in black clusters through the epidermis of the stem, but chiefly with another form, whose black spores remain covered in roundish, effuse patches, looking more like fly specks. Corn rust is no more plentiful than last year. Little smut is seen.

The apple rusts are much more abundant and more fully developed than last year, and some trees are so infested that they look yellow a long way off. The spring rains have more to do with this than those of later summer. The "cedar apples" growing on red cedar, which are the source of apple rusts, develop in the first warm rains of spring, and then scatter their spores; so abundant rain at that time means abundant apple rust. The spring of 1888 was a dry one, while that of 1889 had a number of warm rains. Two rusts were observed on apple trees, very frequently growing together on the same leaf. The commonest is that which is connected with the common cedar apple, *Gymnosporangium macropus*; the other, by no means rare, has been shown by Dr. R. Thaxter's recent experiments to be connected with *Gymnosporangium globosum*.

Case-knife beans have rust upon their leaves, the same as for several previous years, and some bush beans are nearly spoiled by their special *Glœosporium*, which eats into the pods, forming reddish depressions.

Black knot on plum and cherry trees is as bad as ever, and plum-raising will be a failure till all are willing to cooperate to cut it out, burn it and start anew. A. B. SEYMOUR.

Cambridge, Mass., Sept. 12.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Sept. 11.

An inch of rain on the night of the 4th relieved the pressure of the drouth for a few days, and some say helped, and some say retarded the progress of the corn crop. The ninety days of mean temperature of 75° Fahr., necessary for the growth and maturity of a first class crop in these latitudes, are not of record for the current summer, and therefore even if the stand were a full one and the growth as large and regular as last year and the year before, there would be a heavy deficiency in mature and sound grain. At this date, few even of the earliest planted fields are so far advanced, more than 80 per cent. of the ears have passed the roasting-ear stage, while more than half of them have not reached that measure of development. Should frost hold off to the end of this month the corn crop as a whole is bound to be light in weight and poor in quality for the entire black-soil counties.

It is a curious fact worth recording that after 100,000 miles of tile drains have been laid in the black-soil counties, with open ditches to match, the corn crop is nearer a failure than for 26 years, viz., the year of the severe August frost in 1863. The causes have been severe drouth up to the first of June, excessive rain in that month and July, and a drouth in August, with a low range of temperature all the growing season through. But then, what other country or great body of counties can show a record of nothing worse than two partial failures of the grass and the leading cereal crop in 26 years?

I find that the Chicago market reports contain my estimate of the abundance and low price of potatoes, they being quoted there last week at from 80 to 90 cents per barrel of 2¾ bushels, to 35 cents per bushel, and less for loads and larger lots. From Nebraska to Ohio the current price of oats from farmers' wagons does not exceed 16 cents for 32 pounds, and they are not likely to advance until there is a satisfactory demonstration of the shortness of the corn crop. I am in receipt of letters from eastern readers of the COUNTRY GENTLEMAN inquiring if potatoes, oats and corn are so abundant and cheap, why it would not pay to buy here car-load lots from local dealers. My reply has been that previous transactions of the kind have proved neither profitable nor satisfactory, and that it were cheaper and safer to purchase from established commission houses grain of all kinds in Indianapolis and Chicago, and Irish potatoes by all means in the latter city. Chicago is the great Irish potato market of the western, if not the whole country, and the transactions there are enormous. In the case of grain, corn or oats bought at railroad stations, the grade is not guaranteed, as in the cities, and potatoes are not grown on a scale extensive enough to enable a shipper to load a car with one variety of even grade and quality. There are many reputable commission houses in Indianapolis and Chicago, with which eastern buyers can deal with entire safety, and I would be glad to "name names" were not such an act a gratuitous advertisement that might be resented by the majority.

The third crop of alfalfa for the season is growing vigorously, and the best of it now coming into bloom is fully two feet high. The stand is "as thick as the hair on a dog," to use a common colloquial expression, and the weight of the third will be as much as the second crop, that having been equal to the best of red clover. I have found the same difficulty in obtaining a stand of salsafois or sapercette as others report, having planted three separate times, once in April, June and July, and each one a failure. My seed came from Denver, and was probably imported from Southern Europe perhaps five years ago, and may be too. R. F. J.

Inquiries and Answers.

Raising Grapevines.—Will you please inform me if grapes are raised from seed or slip, and at what time of the year? M. E. *Framingham, Mass.* [We infer from this inquiry that you are not at all acquainted with grape culture. Raising the plants from seed is employed only by skilled cultivators for originating new varieties. Some varieties are easily raised from cuttings, but the easiest and most certain way for novices is by layers, represented by fig. 1. A branch of the preceding year's growth is bent down as represented, and covered with soil 3 inches deep; or a strong shoot of the present season's early growth is used in the same way. Roots are thrown out as represented, and before winter it is detached and taken up, forming the two plants in fig. 2. This is the simplest and easiest way to increase the plants on a small scale. Cuttings for out door work are made seven or eight inches long, each with two or more buds, fig. 3. They are placed in a sloping position in the soil which is compactly pressed, the upper bud just above the soil. Cover the surface with a layer of fine manure.]

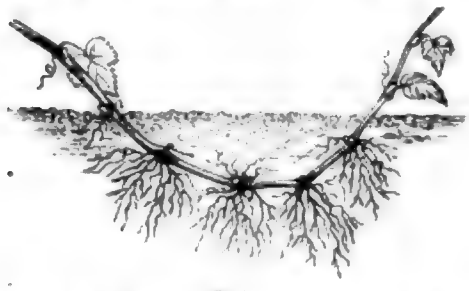

Fig. 1.

Fig. 2.

Fig. 3.

Weeds.—Can you tell me what means have been employed by truckers, and especially by strawberry growers, to prevent being overwhelmed by weeds the past few exceedingly wet months? The ground was never dry enough to use the plow, and I have found hand pulling ruinously expensive. How have they rescued their crops? T. M. M. *Fauquier County, Va.* [As horses cannot pass over such extremely wet land, the most economical form of hand-labor must be employed. Waiting until the growth of the weeds has become so large as to require "hand-pulling" is of course as you say, "ruinously expensive." If the land has been thoroughly underdrained with tile, a part of the trouble has already been avoided; and if you can use a sharp hoe or a steel rake to go over the surface early or before the weeds have reached the light, these embryo weeds may be thus destroyed with a tenth or twentieth of the labor required to pull them up by hand after they have grown a foot high. The great secret of success is to "take time by the fore-top," and destroy the weeds in time. This cannot be done the present season, but it may be borne in mind for another year and reduced to practice whether the next season is wet or dry.]

Granary.—I want a small granary, and there is none in the neighborhood such as I want. Will you be kind enough to tell me what I need, in plain style, so when my carpenter reads it, he will know exactly what I want, and when I go to the lumber-yard, I will just know what to get, for I have to buy the stuff. I only have thirty acres of land, but I raise as much as my neighbors do from forty. I give the COUNTRY GENTLEMAN credit for that. I work no other land but my own. I want a granary that will hold about 300 bushels of oats, 200 of wheat and about 500 of corn in ears, and room enough for the fanning mill. Now please tell me how to go ahead. J. M. *Carland, Mich.* [A granary, for holding 300 bushels of oats, 200 of wheat, and 500 of corn in ears, or 1000 bushels in all, should have a capacity of about 1,300 or 1,400 cubic feet. The corn in ears should be separate, leaving 800 bushels to be provided for in compact space. This would be equal to ten feet square and five feet high to the top of the bins; and this space may be divided or extended in any way desired, as for instance, five feet high and wide, and twenty feet long. The different bins should be equal to this capacity in whatever way they are arranged, with a passage between. A scale should be marked inside of every one, showing the number of bushels up to each mark. This will save a great deal of labor, the owner seeing at a glance how much grain he has. A short tube, with a slide to shut it, may pass down from each bin, so that bags in a wagon below may be easily filled. If the bins are made of best hemlock, rats will not be so likely to gnaw into them. If the bottoms of the bins are a foot higher than the floor in front, they will admit a half bushel under the spout. If two and a half feet higher at the back, all the grain will slide down, and may be drawn off at the spout. The corn-house is usually separate, so that the corn may be well ventilated on all sides. But it is sometimes placed in a corner of the barn, with a good slatted floor over the whole space. It should have rather more room than the granary, as a bushel of ears is larger.]

Celandine.—A plant sent in blue pasteboard box (address of sender mislaid) is *Impatiens fulva*, "spotted touch-me-not," sometimes called "celandine," though this name belongs rather to *Chelidonium majus*. C. H. P.

Piggery.—I want to build a piggery at my farm, large enough for six pens. Would you kindly refer me to some authority on the subject. J. F. S. C. *New York.* [You will find in vol. VII of RURAL AFFAIRS, an illustrated article of eight pages, giving several plans for piggeries of different sizes and modes of construction, some of which will doubtless answer your purpose.]

Panic Grass.—I enclose a sample of grass that grows on my farm on wet land. Please tell me its name, if good for hay or grazing, and what kind of stock like it, and of what country it is a native. HARVEY. *Portsmouth, Va.* [The name of the grass is *Panicum verrucosum*, "warty-flowered panic grass." It is a native of this country, and grows chiefly in low swamp or sandy land near the seashore. It is not commonly abundant, and I am not aware that any experiments have been made with it, looking to its utilization or testing its feeding value. C. H. P.]

Mites in Bran.—I notice in some fresh bran I stored this summer for winter use, a small white creature about the size of a head of a pin. They are almost imperceptible to the naked eye, and can, although there are myriads of them, be discovered only on very close examination. Are there any means for destroying them without injuring the bran, or any means of preventing their growth? Is the bran infested by them fit to feed stock that eat it with a relish? R. *Holliston, Mass.* [The creature infesting the bran, judging from the information given of it, is a species of mite, possibly the flour-mite, *Tyroglyphus siro*. No harm will result to stock from feeding them the bran thus infested. Should the mites(?) multiply to so great an extent that it is thought important to destroy them, it may be done if the bran is stored in such a manner that it can be tightly covered, by inclosing with it an open vessel containing bisulphide of carbon in quantity proportioned to the amount of the bran. The vapor descending and diffusing itself through the mass should destroy all the animal life present. Before feeding, it would be necessary to expose the bran to the air until the odorous gas is wholly dissipated. J. A. L.]

Making Compost.—Please give a good receipt for making a compost heap. I have pine-straw plentiful and but little stock. I should like very much to manure highly with a compost about thirty acres of land for corn and cotton, and should be greatly obliged to you for the ingredients that you would suggest to be added to pine-straw to make the best article under the circumstances. I should like to make my heaps in the field. C. P. D. *Edgefield C. H., S. C.* [A rich compost cannot be made without fertilizing materials. Pine-straw alone would be of little value on most soils; but if well-rotted and moderately dry, it would be a good absorbent for liquid manure, and the two together would be valuable. Or, it might be made into heaps in thin alternating layers of the pine and barn manure. If your soil needs potash and lime, a tenth part of these might be added. For soils which a trial has proved to be benefited by bone, a few thin layers of bone dust would be useful. In the absence of any of these, secure all the waste material of the farm, wood ashes, contents of vaults, dead animals, droppings of poultry, scrapings of barnyard, ditches, &c., and incorporate them in layers with the rest of the materials of the compost heap. Superphosphate and guano will be too costly, unless your soil has proved by trial to be particularly benefited by them. But to enrich thirty acres of poor land, you will need in addition the manure from a considerable herd of domestic animals, and the treatment must be more or less modified with the character of the soil—the result of trial.]

Fall Plowing.—I would like to have the experience of persons on fall plowing, preparatory for corn next year. Our land on this peninsula is pretty well run down; ten to twenty bushels is considered a fair average yield. The soil is a sandy loam, thin, and it seems difficult to get a stand of clover. Yet there is generally a heavy growth of hog weeds, Virginia bean, &c. This growth I have had turned under during October for two years, I think with good results, but I have not omitted unplowed strips, so as to decide satisfactorily. The practice however, is not usual in this section, and the theory is generally condemned. S. H. *Salisbury, Md.*

Weather, Crops and Prices.

Meteorology for Sept. 9-15.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.25	inches.
Lowest	do.	do.	.....	30.06	do.
Mean	do.	do.	.....	30.16	do.
Highest temperature	do.	.....	82°	
Lowest	do.	do.	.....	60°	
Mean	do.	do.	.....	70°	

One clear day; two fair; four cloudy. Five days on which rain fell; total precipitation, 0.44 in. Prevailing wind, N. E.; maximum velocity, 18 miles per hour on the 11th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	9th	10th	11th	12th	13th	14th	15th
Day	76°	70°	66°	64°	66°	70°	74°
This year...	74°	70°	65°	64°	66°	70°	74°
Normal.....	64°	65°	62°	62°	62°	64°	64°

Total excess for the week, 42°.

General Review of the Week.

The week has been warmer than usual over the corn and cotton regions and generally on the Atlantic coast, the daily excess of temperature in the central valleys ranging from 3° to 9°, while on the Atlantic coasts about the normal temperature prevailed. It was colder than usual from Dakota westward to the Pacific coast. The temperature for the season from Jan. 1 to Sept. 14 has been slightly lower than usual in the Southern States and the Ohio valley, and warmer in New-England, New-York, Pennsylvania, and the Northwest, the greatest excess in temperature occurring in Dakota and the adjoining States, where the daily temperature has averaged from 2° to 4° above the mean of previous years.

There has been less than the usual amount of rain during the week generally throughout the principal agricultural districts, including the cotton and corn regions. An excess of rainfall occurred on the Atlantic coast from Massachusetts southward to North Carolina, and excessive rains also occurred over limited areas in the northwest, including Northern Missouri, Eastern Kansas, Eastern Dakota, Western Minnesota and Southeastern Iowa. In the remaining States of the Upper Mississippi and Missouri valleys well distributed showers are reported, while no rain occurred in the lower lake region, the Ohio valley, Western Pennsylvania, Lower Michigan and over the greater portion of Tennessee and Mississippi. Only light showers are reported from the east and west portions of the cotton region. The rainfall for the season remains approximately as reported in the previous bulletin. The cotton region and the principal corn States have been favored with over 80 per cent. of the normal rainfall, while the region from Lower Michigan southward over Ohio, Eastern Kentucky and Central Tennessee has received less than 70 per cent. of the usual rainfall. On the Pacific coast the seasonal rainfall in California exceeds 70 per cent., and in Oregon it amounts to about 80 per cent. of the normal.

The weather during the week was especially favorable throughout the corn belt. Cutting of corn is in progress, and a large percentage of an excellent corn crop is now safe from frost. Recent rains placed the ground in a favorable condition for plowing in the States of the Mississippi valley, but fall farm work is delayed in Michigan, Ohio and Indiana, owing to the absence of rain. The prospects of the cotton crop have been improved by the favorable weather during the week in Tennessee, Mississippi, Arkansas and Louisiana. Cotton-picking is in progress, and worms have not proved generally destructive. Excessive rains in Texas have slightly injured cotton, but placed the ground in good condition for plowing. Reports from Alabama state that cotton is opening rapidly, but the rust is still spreading. In South Carolina the good weather favored cotton-picking, and other crops are reported in fine condition. In New-York, Pennsylvania and Virginia crops were improved by favorable weather, but the high winds were unfavorable for seeding. In these States the corn crop is reported as large, an excellent tobacco crop in Pennsylvania has been secured, and the hop crop in New-York is safe and in good order. In the northern half of New-England the weather was favorable, but high winds in the south damaged fruit. This condition extended over New Jersey, where little sunshine and heavy rains proved injurious to late truck, but were beneficial to pastures and favorable for fall plowing. Reports from Kentucky indicate a fair crop of tobacco if not damaged by frost. To protect this crop this service has secured, through the State weather service of Kentucky, over one hundred stations within the tobacco region of this State, which will receive and distribute the frost-warnings in time to enable farmers to secure the crop in case frosts are probable. The weather conditions were favorable on the Pacific coast for hop-picking, prune-drying and fall seeding.

Tennessee—*Brownsville, Haywood Co., Sept. 6.*—Crops are in prosperous condition in this county; cotton and corn give promise of large yields. Hay crop the largest for years. F. B. W.

Maryland—*Salisbury, Wicomico Co., Sept. 10.*—All crops of grain, small fruits and truck have been a failure with us this year, on account of heavy rains, except peaches—a good crop and excellent prices, and thousands of trees will be planted out this fall and next spring. S. H.

Wisconsin—*Janesville, Rock Co., Sept. 11.*—We have had two good, timely, refreshing rains during the week. All vegetation is again springing into life. I never saw such a sudden resurrection in my whole life. We shall have good corn after all. Pasturage will now be good. The rain was general and steady; it all penetrated the thirsty earth. Tobacco is now nearly all in the shed. It is, so far as I can learn, quite a good, flattering crop. Potatoes will now fill out to good size; they are plentiful and of excellent quality. Our pearl fishery is still in full rush—many have made quite large sums of money; one valued at $320 was fished up a few days ago. Our county fair commences to-day under favorable auspices, all space is already taken—the management expect one of the best fairs in our history. Wheat, 50@70c. per bu.; barley, 25@45c.; rye, 40c.; corn, 34c.; oats, 18@20c.; potatoes, 25@30c.; bran, $10 per ton; hay, $4.50@7.50; eggs, 18½c. per doz.; butter, 14@16c. per lb.; chickens, 12½c.; cattle, $2.25@2.35 per cwt.; hogs, $3.40@3.75; tobacco, 8½c., 3½c., 5@11½c. per lb. W. H.

New-Hampshire—*Hampton Falls, Rockingham Co., Sept. 8.*—The early spring and until the first of June was fair and dry, affording an excellent opportunity for doing farm work. After June came in the weather turned wet, frequent and heavy rains fell until the middle of August. The amount of water which fell during this time was unprecedented in this section. From this cause haymaking was delayed in many cases until late in August. On some meadows it has been found impossible to get the hay as they are flooded. The quality of hay this year will be much below the average; having grown in the shade it was hurt in curing, or by standing too long and becoming over-ripe. Good hay will be scarce in the market this winter. The wet weather has caused much complaint of rotting in potatoes. Corn is backward. Fall feed is abundant, and cows have not done as well as usual this year, grass not having its usual richness, and the cows fall off both in flesh and amount of milk. We are to receive 20c. per can for milk, 8½ qts., taken at the door, for September. Apples are a small crop; pears plenty. The past two weeks have been dry and hot; the early part of the season was much cooler than usual. Farm help scarce and high. W. A.

Horticultural Department.

Some Brief Notes and Comments.

GOOD GRAPES.—We have always regarded the Herbert as one of the best if not the very best of the Rogers grapes. E. P. Powell thinks it is the best late-keeping black grape, and that Worden is the best early black.

LAWNS.—Many persons over-rate the labor and cost of taking care of a lawn. A man will go over two acres a day with a lawn mower. Twelve dollars a year will be the whole cost for the season, or three dollars for a quarter-acre lawn.

MARKET STRAWBERRIES.—In a report of forty of the newer strawberries, made by J. W. Clark, Missouri professor of horticulture, where the scale of productiveness was 10 in the Crescent, the next was 9 in the Miner, Cumberland, Capt. Jack, Lida and Haverland.

BLACK KNOT.—The Canadian Horticulturist states through a correspondent that turpentine will prevent the spreading of the black knot on plum trees. Apply it carefully to the diseased part only. There is no doubt it would be useful if applied to the cut made by excision.

MISJUDGING FRUITS.—Wickson's work on California fruits, in the portion devoted to plums, says that Prunus simoni has a "sweet, rich, aromatic and delicious pine-apple flavor." This will surprise any one familiar with its worthless character, which can hardly be so greatly changed when cultivated in California.

LIQUID MANURE.—W. D. Boynton of Wisconsin writes to the Prairie Farmer that he finds all vegetables to thrive wonderfully when treated with liquid manure, made by filling a barrel half full of partly rotted manure, and the rest with rain water, keeping a stout stick to stir it, and refilling with manure occasionally.

MELONS MIXING.—A. S. Allen writes to the Agriculturist that he has planted for a dozen years or more separate rows of muskmelons and watermelons fifty feet long, parallel and not over sixteen feet apart, and never discovered the slightest indication of mixing, no more than when 500 feet apart. He has occasionally planted them much nearer with no mixing.

EVERGREEN BELTS.—Mr. O. F. Brand of Minnesota says that for a large belt of evergreens, the common white pine is undoubtedly the most valuable of all; but that a single row of white spruce will stop more wind than a single row of any other variety or species. A slow grower at first, it grows faster afterwards. Its dense growth below makes it particularly desirable for a single row.

POISONS.—Prof. A. J. Cook writes to the Rural New-Yorker, that he finds strong tobacco decoction an efficient remedy for flea beetles; and that London purple is far more injurious on plants than Paris green; the latter, a pound to 200 gallons of water, did well. The London purple always did some harm, and often serious damage. It is worst on the peach. Dr. Collier observed similar results.

THINNING GRAPES.—It is well known to vineyardists that allowing grapes to overbear permanently injures the vigor of the vine, but it is not so well known that the grapes are greatly superior if not crowded. S. Miller says he raised Concords over an inch in diameter by thinning the berries on the branches with a pair of small pointed scissors. Thinning the bunches to two on each bearing branch proves a great benefit.

LANDSCAPE ENTERPRISE.—Garden and Forest notices the enterprise of the people of Canandaigua, a village of some two thousand inhabitants in Central New-York, who formed an organization under a recent law of the State, for the purchase and preservation of the fine natural scenery of the neighborhood including the Chittenango Falls, of which that journal has given an excellent view. Such enterprise is commended to the imitation of other villages.

INSECTS CAUGHT BY LAMPS.—Prof. Comstock stated at a meeting of the Western New-York Horticultural Society that he placed an electric light in an orchard and caught many moths on a warm night, but there was not a single codling moth. He continued it several nights and caught thousands, many of them useful insects, but still no codling moths. His intimate knowledge of insects enabled him to discriminate. The old remedy of using lights to catch insects, still recommended by some writers, may as well be given up.

DEEP PLOWING FOR TREES.—Many years ago, when oxen for labor were common, we hitched three yoke of oxen to the largest size double Michigan plow, for inverting the sod of an old pasture. It went eleven inches deep, measuring from the sod to the bottom of the furrow, but the new mellow bed of inverted earth measured eighteen inches. This proved an admirable preparation for young trees, the growth of which exceeded any seen elsewhere, and the wood ripened perfectly.

Horticulture at the Ohio State Fair.

The exhibit of fruit in Horticultural Hall is not large, but in some directions very fine. I had supposed that peaches were a general failure, but the exhibit is very beautiful and much larger than expected. Pears are also very fine, and the exhibit is larger in proportion to apples than in average years. In grapes the show is attractive but small, while plums and quinces are conspicuous because of rarity.

The show of potted plants is small but fine, while that of cut flowers is large and beyond the average. In large exhibits of both fruit and flowers, there is a disposition to show just the number called for, and this weeds out much rubbish with which exhibitors in former years have been wont to pad their exhibits, much to the annoyance of awarding committees.

A new departure has been made in the method of distributing the large premium for county exhibits of fruit. Heretofore the award has been in three or four separate premiums, to best three or four exhibits. This year the total amount of $300 will be divided pro rata among all the contesting counties in proportion to the merit of the exhibits—the exhibits being judged by a scale of points. This it is thought will do better justice than the old way. I have not seen the scale of points, but I understand that it is so arranged as to make it possible to do justice to exhibits widely differing in varieties of fruit, as county exhibits are apt to—a grape county being rich in that fruit, while another display will have an undue proportion of peaches or pears.

Apples are very defective, and the general opinion is that Ohio will not more than supply her own wants this year, and this with an inferior article. Reports from the grape counties on the lake shore place the grape crop at less than one-half. The wine grapes in Southern Ohio are reported a full crop.

The most beautiful exhibit in Horticultural Hall is one of canned and dried fruits from California. By the side of this exhibit is shown a plant of alfalfa, showing the peculiar growth and enormous roots of this plant.

The State fair meeting of the State Horticultural society was held in the evening, and was largely attended. Vice-President G. W Campbell made a brief address, expressing his sorrow at the death of President H. G. Taylor, who died suddenly in April, and the address was followed by the appointment of Wm. R. Lazenby, N. H. Albaugh and L. B. Pierce as a committee to draft resolutions upon the society's loss in his death, and sentiments of regret and sorrow. Columbus was selected as the place of meeting in December.

Mr. N. H. Albaugh showed some beautiful specimens of Chenango Strawberry apple picked from a tree that last year bore only distorted specimens. The change he claimed was from spraying with arsenite. Four beautiful specimens of peaches were shown by a Miami county firm—the Albaugh Nursery and Orchard Co.—the Diamond, a peach as large as the Susquehanna, but much more beautiful, the Hill-House Chief, the Golden Drop and an unnamed seedling, originating in Athens county, a little later and larger than the Late Crawford, and by vote of the society named St. Clair, after the first governor of Ohio. Mr. Aldrich of Columbus has this year fruited two Chinese peaches and one Russian on trees received four years ago from Prof. Budd. The Chinese were purple inside and out, round and regular, and of good size, but third-rate flavor. The Russian was of excellent quality, but too small to raise unless in localities where hardiness was the chief factor.

Prof. Weed described a new strawberry pest now just getting in its work in Central Ohio. It is a very small plant-louse or aphis and was found in connection with small brown ants, who minced the earth from around the roots and assisted the lice in getting to them. In winter the ants protected the eggs, and when the young lice hatched, placed them in contact with the roots. Prof. Forbes described it four years ago, but it had not been seriously injurious until this summer, when it had destroyed two and a half acres of newly planted strawberries for Mr. Cramer, in Franklin county, Ohio. The insects began at the end of the roots and worked toward the crown, where they would gather to the number of a hundred or more. They were just visible to the naked eye, and it was thought had no winged brood. If this is true, a means is suggested of getting rid of the pest, which was, not to take plants from infected grounds, and to plow up old plantations. Roots could be disinfected by dipping in kerosene emulsion.

Frank Ford called attention to a seedling of the Bartlett, obtained several years ago by a neighbor, from California. It was a little later, and so far appeared less liable to blight than the parent. Prof. Green spoke of the Pitmaston Duchess, an English pear, that was doing finely on the experiment grounds. N. H. Albaugh spoke very highly of successful results of spraying with arsenites as a preventive of codling moth; also had killed millions of canker worms on a block of 75,000 nursery apple trees—three-fourths of a pound of Nixon's arsenite in 40 gallons of water. A general discussion confirmed the advantages of spraying, and it was the general opinion that there was little danger, if properly applied, of poisoning live-stock, with the very small portion that dropped upon the ground.

A commission of 35 gentlemen from Georgia, consisting of prominent agriculturists and horticulturists, on an excursion to the North, were in Columbus, and among the number present at this meeting was Dr. Hape of Atlanta, Ga., well-known to many readers of the COUNTRY GENTLEMAN. They had had in Georgia an enormous crop of peaches, and were making money growing the Wild Goose plum. He hoped some means could be devised to check the curculio and leaf blight, when they would cultivate the Bradshaw. A general discussion of grape rot and mildew preventives revealed the fact that the Bordeaux mixture was more efficient than the *eau de celeste*. Applied to plums, the fruit retained copperas stains for ten weeks, and required washing.

Prof. Weed called the attention to the danger of applying copperas mixtures to apple trees. Both leaves and fruit suffered from spraying with Bordeaux mixture for the leaf blight.

L. B. P.

Decorating Garden Walls.

EDS. COUNTRY GENTLEMAN.—A garden wall, built and decorated as Margaret Ryder, page 526, describes, has its possibilities, and under favorable circumstances can be made to look very well, but it requires harmonizing surroundings. Any decoration used upon a wall should be permanent, and nothing whatever of a tender nature should be used, nor should hardy plants that require renewing every year or few years be employed.

Our best landscape gardeners make wall decorations quite a feature of this work. But instead of using a large variety of plants upon their walls, they clothe the face of the walls completely with some close-clinging creeper, something that will attach itself to the wall without the aid of tacks or ties. This the common Virginia creeper does not do, but there are some forms of it that do cling closely to rough surfaces. The "Boston" or "south-side" ivy (*Ampelopsis tricuspidata* and *A. royleï*) are mostly what is used to cover stone or brick, and *Euonymus radicans* is not uncommon. The European ivy (Hedera), in New-York and south, is capital for covering the north or shady sides of walls where not exposed to bleak winds. But mixed plants of any kind could not be tolerated interlaced or interplanted in the wall with these.

Fashion now rules that ornamental garden walls shall be built of rough stones and with an uneven surface (this is in harmony with the style of architecture), and that these walls shall be covered with ampelopsis ivy. In olden times, columbines, snap-dragons, wall-flowers, saxifrages, house-leeks, stone-crops, ferns, and many such like plants, naturalized themselves on the old walls, on top and sides, and such walls are everywhere still to be found in Europe. But these flowery walls were seldom vine-clad.

On the coping of a vine-clad wall, a few naturally-disposed, becoming plants, may yet be admissible, but the variety should be very limited. Where the wall forms the face to an embankment then we have a good opportunity to decorate it, not bespattered through, but on the top. One sort of vine should cover its face, and a select variety of small shrubs or vines or neat perennial plants like moss pink, rock cress or erysimum, run along and spread or droop over the top.

Complementary to the wall-covering, ferns, Solomon's seal, hardy cypripediums, trilliums and many other plants may be massed up against the base on the north side; and sun-loving plants, as yucca, decorate the base on the south side. And to add variety and charm to the whole, opportunities, as an uneven surface, bend, stump, tree-stem or the like, should occur, by accidentles it were, but really on purpose, for *Hydrangea scandens* and *Schizophragma hydrangeoides* to climb up over.

And a handsome wall decoration may be made by planting celastrus, honeysuckle, periploca and the like, so that they may droop in mantles over a wall.

W. FALCONER.

Queens County, N. Y.

Oranges and Other Fruit in Florida.

EDS. COUNTRY GENTLEMAN.—The orange trees in this section of Florida began to look badly and to shed their leaves early in March. For some time the cause of this unusual condition was not recognized. It was then observed that a small insect in countless numbers was preying on the under side of the leaves, sucking their juices and causing them to turn yellow and fall off. A drouth of about seven weeks' duration came on about this time, in April and May, and these two causes combined caused the trees to throw off the greater part of their fruit. Some trees were almost entirely defoliated and cast off all their fruit. This prevailed all over the State, and orange growers became greatly alarmed, for it was a new thing to most of them.

Some of the insects could be seen with the eye, unaided, but the great majority only by the aid of magnifying glasses. To me it appeared colorless, almost transparent, very active, constantly running over the leaves. There seemed to be nothing about it to entitle it to the appellation of "spider," which it received, except that it spun a web on the under side of the leaf. It is generally termed the "California red spider," but this must be a misnomer, for it is not red, and it is very easily killed by spraying. The California spider is said to be very tenacious of life. A mild wash of lime and sulphur, or whale oil soap, or potash, sprayed on the trees, killed this spider.

Mr. Bean has patented a wash made of quicklime and sulphur, which has been extensively used to destroy the rust mite, the insect that pierces the rind of the growing orange and produces that discoloration of the ripe orange that gives it the name of "russet." This discoloration affects injuriously the sale of the orange, but not its edible qualities. The pores of the rind being occluded, the juices of the fruit are retained, and after keeping for some time the russet is found to be more juicy and sweet than the bright orange. For this reason also it is not so quick to decay as the bright orange. To destroy either or both of these pests many growers are using a preparation made somewhat as follows, which it is claimed does infringe on Mr. Bean's patent, as he uses quicklime: Three pounds of slaked lime and one pound of sulphur are boiled for half an hour in two gallons of water, this is added to 50 gallons of water and sprayed on the trees. The season has been very adverse this year to all crops. A seven weeks' drouth in the spring has been succeeded by rains that have been continuous from June 1 until the present.

Peento and Honey peaches—the best market varieties—came too late to be profitable. They were also few and inferior in quality. Seedling peaches are doing quite well, and disproving the once prevalent opinion that good peaches could not be grown in Florida. Strawberries are set here in summer and autumn for a crop the succeeding year. Moist lands are the best for them—indeed, it is useless to plant them for profit on thirsty lands. So far on most lands adapted to them, it has been too wet to prepare, hence little setting has been done so far. The acreage of this crop is rapidly increasing in Florida, and prices are well maintained. A large dealer in New-York, who runs his own refrigerator car

to carry strawberries, beans, cucumbers, &c., has bought 100 acres, to be planted at Lawtey, at 15c. a quart. He obligates himself to furnish packages and take all the berries up to May 1st. At Gainesville he also bought a large area at 12½c.; 3,000 to 5,000 quarts of marketable berries up to May 1st is considered a fair yield. If cared for they continue to bear until July, and probably yield as much after May 1st as prior to that date. For want of canning establishments, nearly all the berries after May 1st are lost.

In regard to egg-plants, tomatoes and cucumbers, as many are left to rot in the fields after shipping season is over as are shipped and sold. Vegetable growers generally came to grief this season, and many of them intend to plant less, and are inquiring what else they can plant for money crops. Tobacco is beginning to be grown with signal success in many parts of the State. The kind preferred is the Cuban, which is used for cigars. From 25 to 75 cents per pound is paid for the finer sorts.

The orange crop will be short, and good prices are expected. The health of the State is generally very good, and peace, plenty and prosperity prevail. R.

Eberdman, Marion County, Aug. 3.

American Florists' Association.

Notes of the Buffalo Convention—III.

EDUCATION—EXPERIMENT GARDENS.

A fine essay on Education was read by H. H. Battles. Among other things he said that no class better than the florists know what culture will do for the vegetable kingdom. Let us apply our minds to educating ourselves for what we are specially fitted for. Many a good blacksmith is spoiled by being made a poor doctor simply from lack of judgment. An unself-supporting man is to society what black spot is to our roses. Color knowledge is so absolutely essential to the arrangement of flowers that each florist should see that his education on this point is sufficient at least to preserve him from such glaring errors as have in the past been exhibited.

John Thorpe read a paper on "The Establishment of an Experiment Garden." He said the necessity for this is beyond question. Included in the work to be done are experiments with fertilizing material, testing new seeds and examining flowers and plants. An appropriation from Congress should be obtained. An experiment garden to be of practical value should contain from 5 to 12 acres of land, and its total original cost would probably be $25,000 to $35,000, with an annual expense for maintenance of $5,000 to $7,000. Such a garden would be the means of saving thousands of dollars yearly to the florists—as for instance, if we had such a garden, all the different boilers and all other appliances could be put to test, and only the best ones then would be in demand, and the sale of worthless contrivances would cease.

Mr. H. G. Bunyard, correspondent of the English Gardener's Chronicle, gave an outline of the working of the horticultural course at the Chesewick (Eng.) Botanic Garden, now established for eighty years:

Undoubtedly, he said, a garden in this country on the same lines of the famous one in England would prove of incalculable value to horticulture, but it should be situated in the centre of the Union, at equal distances from the four points of the compass, and of easy access by rail. I believe such a garden would prove the means whereby the florist could become familiar with all the novelties of the day; it would also checkmate all introducers of bogus novelties, and prove a stepping stone to all who would introduce worthy new plants, fruits or vegetables.

At Chesewick, as an incentive to the fellows, they are entitled to 25 or 50 plants per year; these are grown in 3-inch pots, and include stove, greenhouse and hardy plants, but are not necessarily new. The different methods of pruning and training fruit trees are illustrated, with experiments in grafting and budding on different stocks.

Fruit, plant and vegetable congresses are held, where the classification and true nomenclature are determined, and the results are compiled and the reports form such books as the standard works of the day. A journal of the proceedings is published monthly. Bi-weekly meetings are held at the garden in London, where new introductions are sent before their respective committees, and certificates of merit are awarded—"A 1st class" being the highest, and only genuine novelties can get it; groups of plants, collections of fruits and vegetables are invited (not for competition) to which medals are given.

In conjunction with this a show of seasonable productions for competition is held, and a paper on some popular class of plants is read. A useful institution is the Mutual Improvement Association formed in the gardens for the education of the young gardeners, not only for those in the garden, but any who care to become members; at the meetings, papers by prominent horticulturists as well as by the gardeners themselves, are read. A. F. Barron is the able superintendant of this famous school.

Questions and Answers.

A reply to the question—"What are the necessary qualifications for properly filling the following situations—1. Grower in commercial greenhouses; 2. Head gardener on a private estate; 3. Florist in a public institution; 4. Superintendent of public parks and grounds?"—was briefly given by Peter Henderson:

1. Long special training is not necessary to success, but one must be a willing worker, and an important fact is that American knowledge is essential; three years' experience in this country is worth ten years' in Europe; also, a commercial grower should have originality and fertility. 2. In this line European training is an advantage, as a man must be a good all-round gardener, and full of patience, even though poorly paid; as a rule, owing largely to this last fact, no doubt a head gardener generally drifts into some other business. 3 and 4. This work constitutes the highest part of our art, for one must not only be a landscape gardener, but must have such a general knowledge as only long experience can give, and beside being well up on the practical side, the superintendent must have an artistic eye for the grouping of colored masses; as a rule in this country, the men in charge of our public gardens have done the places great credit.

F. M. Huntsman of Ohio said that from his own experience the selling of flowers on the streets of the large cities was not generally injurious to business of the stores. This is a matter of more importance in Eastern cities than in the West, but he believed that there are different grades in flower buyers as well as in flowers, and he thought each class not likely greatly to interfere with others, but where this is the case, then either fight the fakirs on their own level, or else rise so high above them that they cannot interfere. There is plenty of room for each; only in cases where a grower has regular customers among the better class of retail dealers, he should not sell to the cheap street peddler, and thus cut prices.

"Is the practice of advancing prices of cut flowers on special occasions injurious to the trade?" J. C. Vaughn in reply said yes, but such changes were based on the law of supply and demand; for at such times the flowers must go to those who will pay the most, and especially is this the case with commission men, for their very trade depends upon their getting the very highest price possible, both in the interest of the grower and also to offset the losses when the market is glutted. In many of our cities there are people of fortune who will have flowers no matter what they cost, but the high prices at one time will not reduce the sale when the prices are within the means of the general public. At times of high prices the florist should take pains to have people understand the reason for them, so that his customers will not think that he is making such an enormous profit. Furthermore, the higher the prices, the better the quality of the flowers should be, it being a good plan to have the flowers graded closely and the prices arranged accordingly.

One hundred per cent. over cost, John Wescott of Philadelphia thought, would be about the proper thing as a general basis in conducting a retail cut-flower trade; yet this should not be at all times, or on all things, as it would be folly to expect to have a uniform profit of so much. In fact during the holiday season, when the highest prices prevail, we are very well satisfied if we come out whole, owing to the greatly increased expenses to which we are put. Still, a man who sells cheap will find himself left all the time. We should endeavor to handle the best obtainable stock at the lowest prices. During early winter there is little profit, but later in the season flowers are cheaper at wholesale, while we are able to get the same retail price as earlier, and so at the end of the year some gain is shown.

"How can local clubs and the national society best work together to promote their common interests?" J. D. Reynolds said that a word that covered the entire ground was coöperation, and this is so good a thing that we want more of it, and the fundamental idea of coöperation involves a community of interests. Most clubs have in attendance many growers, while the retailers think that there can be no benefit to them. Now, how can these be united? I believe that the only common ground is the floor of the exhibition hall. This is no new subject, but it is one that will bear repetition until words bear fruit. If exhibitions are the best bond in this case, they also are between the local interests and the S. A. F. Local clubs should organize as branches of the S. A. F., so that the exhibition would be under that title, and in addition to premiums, certificates of merit from the central society could be awarded, somewhat after the plan of continued shows, where the ownership of a certificate is only finally decided after three years of success. The judges should also be appointed by the central society. In this way local clubs would be encouraged, and this in turn would redound to the strengthening of the S. A. F., thus assuring its continued growth.

In small towns, Wm. Scott of Buffalo thought it would be the proper thing to do to continue the florist business with that of growing ornamental stock for lawn decoration. To be successful with the florist business in a small town, the person must use judgment. Both capital and experience will count in his favor, although the matter of competition must also be considered, according to Mr. Giddings of Illinois. With a population of 5,000, $2,000 might be invested in erecting three houses, two of which could be devoted to flowers, and the third to vegetable plants, until trade would justify its being used for roses. Carry a general stock, keep the place in nice shape, and treat your customers well.

Mr. Henderson, in answer to a question, said that it was utterly impossible to do anything to regulate the price of bedding plants throughout the country.

As to black spot on roses, Mr. Anderson said that there was no cure or treatment of any benefit, it being one of the most fatal diseases in the country; the time may come when it will be impossible to grow any hybrid perpetual roses anywhere out of doors. It seems to be an atmospheric trouble that affects the circulation of the sap. European growers call it rust, and it also appears on other things, but in a different form.

Replying to a question as to what had become of Her Majesty rose, Elmer E. Sammey of New York reported that after three years of patient waiting and care he had been rewarded with two splendid blooms—the foliage showing no signs of mildew, and the plant proving perfectly hardy with a light covering of marsh grass. The flower was very double, of a fine, satiny rose color, and of so much substance as to be in good condition for over two weeks. It is slightly fragrant, and so pleased was he with it, that it will always find a place with him if it only gives one bloom a year.

An inquiry as to the liability of the express companies when goods are not delivered promptly, was answered in a general discussion, that damages may be collected, but that it required a long time, unless the amount of business that you gave the company should be large enough to cause it to be an object for them to hurry matters along. It was said that no better service for the florist could be performed by the S. A. F. than to formulate some plan to fix this matter.

To get rid of cut-worms that are likely to injure roses, Mr. Carmody of Indiana said that he had been entirely successful by putting soil in a foot-deep sheet-iron box or pan 3 feet wide by 6 feet or so long, resting the sides on low stone walls, and putting a fire under it until the soil was thoroughly heated. He found that roses did just as well in such heated soil as in any other, and that not a single weed came up, nor was he troubled with any kind of worms. He said the time required was little compared to the benefit derived. Hammond, the Sing Shot man, thought that this was the best plan that had ever been presented for this purpose, and thought that it might be used to put an end to the rose bug and its larvæ. Steam may also be used for the purpose of heating the soil.

Mr. Craig, as chairman of the committee on standard pots, reported that the plan adopted by the committee seemed entirely feasible, and had been adopted almost generally by the large potteries of the country. Later the convention formally approved of the committee's plan, and of the pots as exhibited, and the committee was continued, with power to act in case any further improvement suggested itself.

Officers Chosen—Hail Insurance.

The following officers were elected: President, J. M. JORDAN, St. Louis; vice-president, M. H. Norton, Boston; secretary, W. J. Stewart, Boston; treasurer, M. A. Hunt, Terre Haute, Ind.

Boston was selected as the next place of meeting, on invitation of Secretary Stewart.

The Florists' Hail Association held its annual meeting, at which the following officers were elected: J. M. JORDAN, St. Louis, president; Ed. Lonsdale, Philadelphia, vice-president; John Q. Eshler, Saddle River, N. J., Secretary, and J. C. Vaughn, treasurer. The secretary's report was:

After two years of work, we assert that no better insurance exists in America than this. Members number 142, and paying all losses and expenses from June 1st, 1887, to August 12th, 1889, there is a balance of $561, beside reserve fund of $743. This has been secured to the members by the payment of six cents per hundred feet double-thick glass, and eight cents per hundred feet single-thick glass. The membership fee, at interest, has this year yielded $33. The total amount of glass insured is 1,327,940 square feet—734,386 of double-thick and 592,554 of single-thick. The total assessments collected have been $914, and the total membership fees $219.

No assessment, other than that paid by the members on joining, has been levied, and it still remains a question of the future as to how often it may be necessary to levy the same. The glass insured is located in twenty-two States and Territories and Manitoba. The losses paid have been a total of $160 for glass broken by hail during the past year. From Montreal to Mexico, and from Denver to St. Albans, the florists' pickle structures are as liable to be crushed by hail as to be burned out. The members are satisfied with the results attained, and it is safe to announce that the association is no longer an experiment, but an organization to which every florist, who is careful to consult his best interests, should belong, and with increased membership and strength, there is a field of future usefulness undreamed of. S. B. A.

Watermelons in Southwest Georgia.

Diversified agriculture is doing a great deal for the farmers in our section. Perhaps the most extensive branch of the new departure is the raising of watermelons for the northern and western markets. The growth of this business has been wonderful during the past three years, and it is as yet only in its infancy. Reduction in freight rates, fast lines and through cars, and the building of ventilated cars for the purpose have been prime factors to make watermelon-growing what it is.

Owing to the bulkiness of the crop, it has to be grown on or very near the railroads, as handling is a big item. The lands best suited for watermelons are our light gray loams, the flavor of melons grown here being unsurpassed to those from heavier soils. Ten years ago this crop, except for local demand was hardly thought of; now the Georgia watermelon is known all over the land. As a money crop, it has been a god-send to many of our farmers, bringing in what they call "quick money." (I presume this term is applied because of the short time required to mature and market the crop.)

The preparation of the ground and the cultivation of the crop are very simple, and owing to the light character of the soil the work can be rapidly and easily done. After being broken with a light plow, the ground is checked off about 12 by 12 feet, and in these checks the manure is placed and the hills made. Having secured a "stand," two, or perhaps three plowings and one hoeing are all that is needed. Here planting is done from the 1st to the 20th of March, and the melons begin to ripen about June 15. Some of the best growers sow peas broadcast over the land at the last plowing, which crop serves the double purpose of supporting the melon vines, and shading and adding to the fertility of the land.

If the yield is fair, a carload of marketable melons is obtained from two to two and a half acres. One farmer shipped from eighty acres thirty carloads, for which after paying commissions and freight he averaged $75 per car; the choice and earliest bringing as much as $180 per car, net, while some went as low as $45. This was done on land which would sell for about $5 per acre. This farmer had besides his melon crop, a good acreage in corn, cotton, oats, peas, West India cane, sweet potatoes, &c.

The past season has been a good one for the melon farmer. I do not remember ever to have seen them finer. I saw a number of 75-pounders on our streets, while 60 and 65 pounds were common. They sold very cheap in local markets, and "the darkies" were consequently happy. If there is one thing above another the darkey likes in this world, it is a watermelon, and a 25-pounder for "a nickel" brought happiness to many a heart.

The farmers of Georgia have been blessed this year with good crops. Corn is the best we have had in ten years, while cotton (our main money crop) is good, and what is better is bringing good prices, now about 10½ cents per pound. J. R. B. *Americus, Ga.*

New Advertisements.

Wm. H. Ten Eyck, Albany, N. Y. ... Fruit Trees
Ellwanger & Barry, Rochester, N. Y. ... Fruit Trees
Thomas Meehan, Germantown, Pa. ... Fruit Trees
Parry & Co., Cincinnati, O. ... Fruit Trees
Wm. Parry, Cinnaminson, N. J. ... Fruit Trees
Wm. Reid, Yonkers, N. Y. ... Fruit Trees
Wm. Reid, Yonkers, N. Y. ... Grape Vines
Wm. Reid, Yonkers, N. Y. ... Small Fruits
Wm. Reid, Yonkers, N. Y. ... Ornamental Trees
Wm. Reid, Yonkers, N. Y. ... Evergreens
Wm. Reid, Yonkers, N. Y. ... Roses
Wm. Reid, Yonkers, N. Y. ... Bedding Plants
Wm. Reid, Yonkers, N. Y. ... Greenhouse Plants
Wm. Reid, Yonkers, N. Y. ... Bulbous Roots
Wm. Reid, Yonkers, N. Y. ... Seeds
Wm. Reid, Yonkers, N. Y. ... Implements
Wm. Reid, Yonkers, N. Y. ... Fertilizers
Wm. Reid, Yonkers, N. Y. ... Books
Wm. Reid, Yonkers, N. Y. ... Catalogue
Wm. Reid, Yonkers, N. Y. ... Descriptive Circular
Wm. Reid, Yonkers, N. Y. ... Price List
Wm. Reid, Yonkers, N. Y. ... Wholesale List
Wm. Reid, Yonkers, N. Y. ... Retail List
Wm. Reid, Yonkers, N. Y. ... Trade List
Wm. Reid, Yonkers, N. Y. ... Amateur List
Wm. Reid, Yonkers, N. Y. ... Florist List
Wm. Reid, Yonkers, N. Y. ... Nurseryman List
Wm. Reid, Yonkers, N. Y. ... Seedsman List
Wm. Reid, Yonkers, N. Y. ... Implement List
Wm. Reid, Yonkers, N. Y. ... Fertilizer List
Wm. Reid, Yonkers, N. Y. ... Book List
Wm. Reid, Yonkers, N. Y. ... Catalogue List
Wm. Reid, Yonkers, N. Y. ... Descriptive Circular List
Wm. Reid, Yonkers, N. Y. ... Price List List
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milk overflows this wall, only a small portion going in at once, and comes into contact with the trundle-wheel *C*, the axis of which is parallel, *not identical*, with that of the large containing drum *A*. This rich cream is almost a solid mass of butter-globules, but each one is surrounded by a thin film of milk, which prevents them from adhering into a mass. Centrifugal force alone has not the power necessary to eject the milk so held. The function of the trundle-wheel, therefore, is to disturb and part the densely packed butter-globules, so as to allow the milk held between them to be driven off by the centrifugal force. It is evident that as the rapidly revolving butter-globules, moving in circles near the centre of the inner drum, come into contact with the trundle-wheel C, they force it also to revolve and, as it is swung from a different centre from that of the revolving mass, the range must rapidly enter and leave the cream wall. This action forces away the milk film from the butter-globules, and drives it, by centrifugal force, to the rim, where it joins the rest of the skim-milk, and is conducted out of the machine. The butter particles, as soon as freed from the adhering milk film, begin to coalesce and form grains of butter, which from their own weight sink into the chamber *E*. There the new-made butter circulates, and is scooped out by the tube *F*, in a fine granulated condition. The skim-milk is ejected through the outlet *H*. Like the ordinary centrifuge, this machine removes most of the fibrin and dirt from the milk, leaving it adhering to the wall of the outer drum. The milk which pours from *H*, it should be noted, is *not buttermilk*, but *fresh skim milk*, without any appreciable lactic fermentation—provided fresh milk is used to begin with. This is not essential, however; sour milk can be used to equal advantage, provided it is not "clabbered," in which case the feed-pipes would become clogged. In fact, any liquid containing butter globules can have them completely extracted by being passed through the machine.

The extractor, of the size now made, has a capacity of about 1,500 pounds of milk per hour, and produces butter at the rate of about a pound per minute. It actually requires from three quarters to one-horsepower to run it at full speed, but as more power is needed to start all centrifugal machines than to run them, a three-horsepower engine is used. The manipulation is very simple. When speed is up, the operator lets the milk flow in, and turns the lever, *D*, which swings the trundle-wheel, *C*, into the revolving mass in the drum, *B*. The butter formation begins at once, and the operator, taking hold of the handle, *G*, moves the tube, *F*, into position to scoop out the butter, the whole operation occupying but a few seconds. The handles, *D* and *G*, are screwed on to their respective levers with an undercut, and may be screwed fast as soon as in position. The extractor can now be left to do its work alone. A steady stream of fine, solid granulated butter appears.

Among other displays of Dairy apparatus we note—a new "Baby" separator, shown by the De Laval Cream Separator Company of New-York, capacity 150 lbs. milk per hour, runs by hand, 40 turns per minute, giving 6,000 revolutions of the bowl; a fine exhibit, in operation, of the Columbia County Creamery Association of Chatham; large general shows by the Moseley & Stoddard Mfg. Co. of Rutland, Vt., John S. Carter of Syracuse, and the Moseley & Pritchard Mfg. Co. of Clinton, Iowa—this including a new pyramidal strainer very unlikely to clog; and the "Common-Sense" creamer of A. J. Orr, Syracuse; it has only one can, this being provided with extensions which give large cooling surface, the milk being practically submerged and yet ventilated; the whole device is remarkably simple, and we should think easy to manage and clean.

Unusual attention is paid at this show to dairy interests, and rightly, the dairying of the State being so largely now, and probably still more so in the future, the sheet-anchor of our agricultural prosperity. Tuesday of the present week (17th) is specifically set apart as cheese day, experts from the State dairy commission attending to show how cheese should be made; Wednesday is butter day, with practical teaching by delegates from the State dairy association; and the plan includes lectures on each day at 11 and 2, by Col. Curtis, Prof. I. P. Roberts, and Mr. W. H. Gilbert—a two day dairy conference, full of interest and value.

—— Fruit and Flowers are under one tent, the latter including some very pretty displays of cactus, orchids, palms, and foliage plants. The collection of fruit is not large, the chief display being that of Ellwanger & Barry of Rochester—135 varieties of pears and 33 of plums. Among the former, the Souvenir du Congrès continues to lead in size, followed by the Pound. Two Japanese winter pears are shown—Madame Von Siebold, dark green, and Dalmio, grey-mottled. They do not ripen in this country. Among plums is the large, reddish Grand Duke. E. & B. make no show of grapes, their vineyards having been injured by hail. The exhibit of grapes is light throughout. C. B. Baker of Cedar Hill shows 80 plates of apples and 38 of pears.

Farmers' Fertilizers.—Prof. G. H. Whitcher, director of New-Hampshire Experiment Station, gives an account of some experiments made to show the effects of manure applied in autumn to corn; also in spring. Three acres of land were devoted to the experiments, divided into strips fifty-six rods long and three rods wide, and each strip divided into sections. A part had manure plowed in in autumn, another spread on the surface in fall, and a third spread on the surface in spring. The fall surface application gave the heaviest crop, the fall-plowed next or nine per cent. less, and the surface spreading in spring least of all, or a little more than one-half the fall spreading. Prof. Whitcher expresses the opinion that if manure is applied in the late fall or before the freezing of the soil, or in November instead of April, the average yield would be largely increased. This view accords with our own long-continued experiments. The fall rains and melting snows soften the manure and dissolve the available plant food, washing it into the soil.

Prof. W. further remarks that there are soils where phosphoric acid alone will give bountiful crops, showing that in such soils there is enough available potash; but in many cases all the credit has been given to the phosphoric acid, when careful experiments have proved that it was owing to the potash. He then asks the question, how we may satisfy ourselves of the requirements of any particular soil. The answer is, emphatically, *by field experiments*. This is the mode which we have urged for many years, and which he recommends for the three leading fertilizers—phosphoric acid, nitrogen and potash, the deficiency of either of which in the soil is to be determined by testing them singly, and in a variety of combinations, and varying proportions. "These tests," he observes, "when well conducted and properly duplicated, and made by the side of plats having no fertilizer, are capable of giving a great deal of practical information."

Labor-Saving Machinery.—A history of the improvements made in farm machinery within the last thirty years, would be a history which has no parallel since the beginning of the earth's tillage. To enumerate briefly, the following are some of these improvements: The steel and chilled-iron plows, the sulky plows, the disc, Acme, smoothing and spring-tooth harrows, the modern grain-drill and seed-sowers, potato-planters, check-row corn-planters, self-binding harvesters, hay and grain-stackers, hay-loaders and hay-carriers, improved threshing machines, ensilage machinery, traction engines and manure-spreaders.

The more expensive and complex of these machines, and those which require several men to work them, have not always proved real labor-savers. An example occurred several years ago, in a trial of a drain-plow, constructed nearly on the same principle as Fowler's, in which a rope strung with pipe-tile was drawn into the earth by a mole-plow. It appeared at first to be a great saver of labor, but when the cost of the machine was taken into the account, the wages of the several men required to work it, the horses to draw in the tile, and the liability to derangement and breakage, it was found that employing ditchers to cut the drains by hand was quite as cheap and economical. Threshing grain, if done with large machinery and on a small farm, requires the hunting up of several extra day hands, some of whom may be raw workmen of little value, and with the danger of derangement and other drawbacks, it often proves more expensive than smaller machines, worked by the regular farm hands.

On a farm of moderate size, which employs only two or three regular hands, the various operations are readily and rapidly performed by them from long practice, and all the machinery should if possible be no larger than these men can handle. Work will not then have to be postponed till day hands can be secured to perform work with which they are not familiar and at advanced wages. It will always be felt as a great advantage if all kinds of work are within the control of the regular farm force, and this should be the aim of every farmer, whether on a large or small scale.

The owners and managers of large farms often have peculiar advantages, and in the hands of experience and skill may perform large jobs with efficiency. An example of this sort was witnessed, in drawing in and threshing at one operation a forty-acre field of heavy wheat. It had stood long enough to be thoroughly ripe. Four two-horse teams were constantly employed in drawing in loads successively, the steam thresher running constantly as the load from each team was thrown into the hands of the continual feeder. An arrangement of this kind could not be adopted on a small farm, but if the best provision is made with lighter machinery, nearly the same advantages would result on a smaller scale.

Whether on large or more limited farms, it is of great importance that all implements and machinery be kept in good working order, and this is especially necessary where two or more men work in conjunction. A broken machine stops the whole work. The best and most durable tools should therefore be selected and purchased, and as soon as their season of use passes, they are to be cleaned, polished, oiled, or otherwise fitted for stowing away, that they may be ready without delay for future use when the time again comes round. For example, after spring work is completed, the plows, harrows and other pulverizing tools should be put in the best condition; and after haying and harvest, the rakes, forks, mowers and reapers should receive the same attention.

If the suggestions which we have made in the preceding remarks are efficiently carried out, if the machines and arrangements are made to fit the size of the farm and the amount of farm force employed, and if the tools, buildings and fences are never allowed to become broken or defective, there is nothing to prevent the whole year's routine of farm operations being carried on with very little interruption, with satisfaction to the owner or occupant, and without the annoyance and vexation attending the use of broken tools, delayed work and confused operations.

Agriculture of Maine.—We have received from Z. A. Gilbert of North Greene, secretary of the Maine Board of Agriculture, a copy of the Thirty-second Annual Report of the Board for 1888-9. The volume comprises the proceedings of the board, the annual report of the State Experiment Station, and the proceedings of the State Pomological Society. The proceedings of the board embrace lectures and papers on dairying, dairy cattle, butter-making, farm life, farm management, feeding animals, raising horses, and on other kindred subjects. The report of the experiment station gives, in addition to the results of station work, a large amount of information, compiled from other reports, with the more recent achievements of agricultural science. The proceedings of the State Pomological Society we shall notice more in detail on a separate occasion.

Farm-Yard Notes and Items.

Messrs. Smith, Powell & Lamb of Syracuse have just shipped six high-bred Holstein-Friesian cattle to Japan—three to the government, and three to a native farmer. Recent inquiries looking to future exportations include one from the Cape of Good Hope.

Mr. E. N. Howell, the well known Guernsey breeder of Poughkeepsie, has a fresh and valuable importation, consisting of a bull and about a dozen females, now at the Garfield quarantine; and has sold (through advertisement in the Country Gentleman) the bull Wonder of the World 1469 to Henry C. Eckert, Belleville, Ill., and the cow Dairymaid 3d 3089 to the American Guernsey Cattle Club for the New-Jersey State Experiment Station.

Pleuro-pneumonia in Great Britain seems to be almost beyond control. "We regret to see from many parts of the country," says the London Live-Stock Journal, "announcements of fresh outbreaks. The disease appears to be rapidly on the increase, and it has been asserted that the stamping-out system has lamentably failed. The state of the country is certainly a severe condemnation of the manner in which the system has been carried out. It is absolutely necessary that this matter should be taken seriously in hand." We should think so.

The North British Agriculturist says that "Messrs. Galbraith, Janesville, Wis.," ["that now famous Clydesdale town," the editor calls it in another article,] "generally contrive every season to send out more than one choice specimen of the breed to maintain the reputation of old Scotland, and last week they shipped, along with several Shires, four fine representatives of the Clydesdale breed. One of these was the splendid two-year-old colt Columbia 6631, purchased from Mr. Wilson, Maxwraes, Bridge of Weir, in whose possession he gained first prize at Paisley, beating the second prize winner at the Highland Society's show, and first and the special prize at Kilbarchan. Last year, when owned by his breeder, Mr. Meikle, Grougfoot, Columbia gained first prize at the more important shows in the Lothians; and there can be little doubt that, in view of the splendid style and rich color that characterise him, he will be a formidable opponent in American showyards this fall."

Gen. Sam. K. Schwenk, Holly Grove Farm, Plainfield, N. J., writes us Sept. 13:

"Our cattle and pigs are in excellent condition, and our crops have been very abundant."

M. Grollier, writing to the *Journal d'Agriculture Pratique*, says that nearly all the young French Short-Horn bulls (between 15 and 25 months) exhibited in Paris a month ago were purchased for Buenos Ayres, Chili and Montevideo, and that some of them fetched as much as $1,200. A few bulls over three years of age were also purchased for the same destination, while offers of $500 to $600 were made for many of the best heifers and cows, the owners of which, however, in all but five or six cases, refused to sell. M. Grollier adds that this is a subject for congratulation, as it shows that the current for the export of French Short-Horns has definitely set in.

The following awards at the Buffalo show came just too late to accompany those published on p. 717:

HEREFORD CATTLE.

Greatest Herd—1. T. Clark, Beecher, Ill.; 2. G. O. Holcomb, Troy, Pa. *Young Herd*—1. G. W. Henry, Chicago; 2. H. H. Clough, Elyria, O. *Five Animals by one Bull*—T. Clark.

Male any age—H. H. Clough. *Female any age*—T. Clark.

Bull 3 years—1. J. L. Northrup, Westfield, N. Y.; 2. Sayles & Frith, Shamrock, O. *Two years*—1. Holcomb; 2. Clark. *One year*—1 and 2. Clough. *Bull calf*—1. Henry; 2. Sayles & Frith.

Cow 3 years—1. Clark; 2. Holcomb. *Two years*—1. Clark; 2. Holcomb. *One year*—1. Henry; 2. Sayles & Frith. *Heifer calf*—1. Clark; 2. Sayles & Frith.

PERCHERON HORSES.

Stallion and 4 of his Get—Savage & Farnum, De Kalb.

Stallion 4 years—1. S. A. Brickman, Bedesville, Ont.; 2. 4 and 5. Savage & Farnum; 3. J. W. Akin, Salpio. *Three years*—1, 2 and 5. Savage & Farnum; 3 and 4. Fred Pabst, Milwaukee. *Two years*—1 and 2. Pabst; 3. W. E. Baker, Demorestville, Ont.; 4. Savage & Farnum; 5. Smiths, Powell & Lamb. *One year*—1. Dillon Bros., Normal, Ill.; 2. J. W. Anderson, Rosemead, Ont.; 3. W. E. Baker. *Mare 3 years*—1 and 2. J. W. Akin; 3 and 5. Savage & Farnum; 4. Dillon Bros. *Two years*—1 and 3. Pabst; 2. Dillon Bros.; 4. Akin. *One year*—Dillon Bros.

THOROUGHBRED HORSES.

Stallion 3 years—1 and 3. P. B. Pope, Mt. Morris; 2. S. S. Howland; 4. D. M. Kay, Fort Wayne, Ind. *Two years*—1. G. E. McGrady, Buffalo; 2. W. McGrady, Buffalo.

Mare 3 years—1. J. A. Logan, Jr.; 2. L. D. Ramsey, Buffalo.

HACKNEY HORSES.

Stallion 4 years—1. Prescott Lawrence, Groton, Mass.; 2. Henry Fairfax, Aldie, Va.; 3. J. A. Logan, Jr.; 4. J. B. Perkins, Cleveland. *Three years*—1. H. Fairfax; 2. J. B. Perkins; 3. P. Lawrence; 4. D. M. Kay.

Mare 4 years—1. Fairfax; 2. Logan.

TROTTING BRED HORSES.

Stallion and 4 of his Get—1. A. J. Caton, Chicago; 2. C. F. Emery, Cleveland; 3. S. C. Wells, La Roy; 4. H. M. Littel, Macedon; 5. S. B. Thomson, Batavia.

Stallion 4 years—1, 3 and 5. S. A. Brown, Kalamazoo; 2. Emery; 4. Wells. *Three years*—1. Emery; 2. Wells; 3. Littel; 4. Smiths, Powell & Lamb; 5. W. B. Held, Buffalo. *Two years*—1. A. J. Caton; 2. Brown; 3. J. H. Osterhout, Melrose; 4. L. Kirkover, Buffalo; 5. P. M. McGregor, Bracefield, Ont. *One year*—1. Littel; 2. Caton; 3. Smiths, Powell & Lamb; 4. Osterhout; 5. Wells.

Mare 4 years—1 and 3. Brown; 2. Wells; 4. S. S. Spaulding, Buffalo. *Three years*—1. Brown; 2. Caton; 3. Littel; 4. P. Farrell, Woodstock, Ont. *Two years*—1. Caton. 2. Littel; 3. Brown; 4. Smiths, Powell & Lamb; 5. Emery. *One year*—1. Littel; 2. Caton.

FRENCH DRAFT HORSES.

Stallion and 4 of his Get—1. Dillon Bros.

Stallion 4 years—1. Dillon Bros; 2. Rutherford Stuyvesant, Allamuchy, N. J. *Three years*—1. Dillon. *One year*—1 and 2. Dillon.

Mare 3 years—1 and 2. Dillon; 3. Stuyvesant. *Two years*—1 and 3. Dillon; 2. Stuyvesant. *One year*—Dillon.

In France the Society for the Prevention of Cruelty to Animals has resolved to do its utmost to obtain the abolition of blinkers. In London they are not used on our tramway-car lines, and apparently this is a great advantage. The horses are allowed to see everything, and in time get accustomed even to road rollers. Nervous backing and jumping aside are consequently unknown. If animals in their youth are carefully broken to such strange sights as are now commonly to be met with on our high roads, blinkers will be found unnecessary. If a horse is given full range of vision, he will soon go as quietly without, blinkers as with them.—*London Live-Stock Journal.*

The Grazier and Breeder.

Troublesome External Parasites.

Eds. Country Gentleman — Horses and cattle are troubled severely with several external parasites which may be termed out-door parasites, in contradistinction to those which infest the stables as have been mentioned in a previous article. But before describing these there, is one insect that should not pass unmentioned, for its voracity and pertinacity in annoying horses in the stable. This is the black stable-fly known as *stomoxys calcitrans*. This insect so much resembles the common house-fly that it is commonly supposed to be the same, and but little notice is taken of it, although its severe bites cause the horses to stamp and worry themselves all through the night. This fly has a very different method of attacking its victims from that of the house fly which causes annoyance only by the tickling sensation caused by its comb-like mandibles by which it scrapes its food from the skin. The Stomoxys has a powerful proboscis, by which it bites through the skin and draws blood which it sucks voraciously. Every one who has milked cows, which are equally infested as horses, may have at times felt its bite, like a sharp prick as of a needle, around the ankle protected only by the thin stocking, as he has stooped at his work; and it is this fly which alights on the cow's legs and body and causes her to switch the tail so violently to the intense annoyance of the milker. It attacks the horses mostly on the legs and is very active during the night. I have found washing the legs with carbolic soap suds, leaving it to dry on the skin, to be an effective remedy; but clean stables protected by wire-gauze windows and doors, and the liberal use of Persian insect powder dusted through the stable before closing them for the night, will relieve the suffering and weary beasts from their tormentors. The specific name of this pest relates to its effect in causing the horses to stamp and kick so furiously in the stable.

Out-door pests of live stock consist of mosquitoes (*Culex*), black flies (*Simulium*), horse flies (*Tabanus*), bot flies (*Œstrus*), and forest flies or ticks.

Mosquitoes are found everywhere, from the torrid to the arctic regions, except in some mountain districts, where the water is never stagnant and the summer temperature is low. They are unknown in the southern mountain region of the Blue Ridge, on the elevated plateaus, and their absence (as well as the rarity of other pests) is by no means an insignificant desirability of this district for stock rearing. The female mosquitoes only bite, the males being inoffensive. There are several varieties of this insect, 80 native species of them having been described. I have seen a variety in Kansas which is striped with white, and so numerous that a grey horse appeared brown from the myriads of them which alighted on the side which was not exposed to the wind, while the other side was quite free from them. This species bites fiercely and leaves sores which are difficult to heal, and in which the abundant flesh-flies often deposit their living larvæ, to the great misery of the animals, and the stock owners as well. Where it is possible to be done, the persistent attacks of these pests, and of the black flies, may be considerably mitigated by rubbing the animals with tansy or pennyroyal, or with a sponge moistened slightly with crude petroleum or infusion of Persian insect powder. Every farm should have a bed of tansy grown for this purpose, and even bruised tomato vines and leaves will be useful, in place of the former malodorous herb.

The black flies are exceedingly troublesome, and some species are actually fatal to cattle from their numbers. A large species, known in the West as the buffalo fly, is especially annoying, and horses have been killed by it. It is a species of this family which has given so much trouble farther east, where it has been called the "buffalo gnat," or "horn fly," from its habit of attacking animals at the back of the head around the horns, and has been charged with depositing its eggs in the flesh and causing purulent sores. This, however, may be doubted, and the "worms" are more probably the larvæ of carnivorous flies, as *Sarcophaga carnaria*, which is apt to deposit their larvæ in wounds of animals.

This flesh fly is frequently very troublesome to sheep, depositing larvæ in the matted unclean wool around the tail, from whence it spreads in the fleece, saturated with the pus from the wounded skin, over the flanks. Sheep that are not closely watched will sometimes be literally eaten alive by the maggots, before they are missed and found on search hidden in thickets to which they have retired in their misery away from the flock. This is a matter for present attention just now when the wool is apt to be fouled by the semi-liquid dung, or the rams may be attacked under the belly where the wool is kept moist by the urine. To shear the infested parts and pick out the maggots, smearing the sores with a mixture of pine tar and crude petroleum, is the only remedy, for grease and many other supposed remedies, turpentine or kerosene oil included, have no effect upon the pests. This mixture smeared around the horns of cattle will keep off the black flies, and horses may be rubbed over with the crude petroleum alone.

The horse fly (*Tabanus*) is a very large and blood-thirsty pest. The female alone is the aggressor, the male living honestly on the honey of flowers. This fly has a most effective weapon of offense in its biting jaws and lance-like proboscis. This is the fly which has been charged by some western story tellers with biting a piece out of a horse and sitting on a stump while it devoured the morsel. The wounds caused by this fly are really as severe as this, and blood sometimes flows copiously from them down the horses' flanks. A linen sheet strapped around the horses when at work or on the road, is an effective safeguard against these enemies. A small species (*T. lineola* named from a white line on the abdomen, a soft bodied insect, is exceedingly annoying to horses by alighting on the head or the ears in hot weather. The application of petroleum or juice of tansy, or a bunch of tansy stuck in the head-gear to cover the ears, will keep off this annoyance.

The forest flies are especially troublesome in the South, where they will sometimes be found by scores or even hundreds, concealed under the hair, with their heads buried in the skin and drawing blood. These flies, commonly called ticks, are leathery creatures with a tough skin, and the young are born in a case or egg, in which the pupa is found directly after birth, the larval life being perfected in a sort of uterus within the ovidact. The horse tick has been found on birds, especially the great owl, and deer and small animals (as rabbits and bats) are often infested with them. I recently found more than twenty of them on the skin of a rabbit which was shot as it was rolling itself violently in the dust on the road, evidently trying to free itself from its persecutors. Horses left in a wood pasture during the summer have been severely injured by these pests—the wounds spreading into large sores, which required weeks of careful treatment to cure. The sheep tick is a well-known and a wingless form of this fly, and just now it will be an appropriate work for the shepherd to look for it upon the lambs, which are sometimes reduced to the point of death by anæmia, caused by the loss of blood robbed from them by hundreds of these creatures. The tobacco dip used as a remedy for scab, or the carbolic preparation called thymo-cresol sheep dip, is useful to rid the sheep and lambs of these pests. Indeed, I have found the latter an effective application for all sorts of external parasites, and would refer your readers to the business columns of the Country Gentleman for information in regard to it.

The bot-flies need only be referred to as regards means of preventing their exceedingly annoying attacks by which horses in the field are sometimes rendered unmanageable, so as to interfere with the farm work. Sponging the skin with any of the odoriferous applications mentioned, especially the last, will spare the horses annoyance, and any eggs that may be deposited on the legs or flanks should be washed off in the evening or morning with warm water and soap. The horse bot-fly, contrary to some belief, will kill horses, when very numerous in the stomach; and the rupture of the coats of this organ through the weakening effect of hundreds of these creatures imbedded in the membrane, all busy sucking its secretion, is easily possible. I have seen more than one case in which the stomach was worn through and the bots were in large numbers loose in the abdomen. Cows may be protected from their bot-fly, which causes the small tumors in the back, each of which contains a larva busily feeding upon the pus in the wound, by applying some of the mixtures above mentioned. The attempt to remove the trouble by killing the grub in the tumor is not advisable, as an abscess which will be still worse than the disease, would be caused. The damage to the hides of cattle by this fly alone amounts to about two million dollars a year, so that some means of prevention would seem to be called for as a matter of economy. While practicable means may be difficult to suggest, it is quite certain that any method by which the reproduction of these flies may be prevented will tend towards their final extinction. E. S.

Berkshire and Other Breeds of Pigs.

Eds. Country Gentleman—Owing to my having been very fully engaged of late at our various shows, I have not had time to study your valuable paper so fully as I usually do, so I have missed the former letters of Mr. W. H. Bonner and Mr. A. B. Allen, as to whether or not such a variety of pigs is or has been known in England as "White Berkshires." I have paid some considerable attention to the breeding of pure bred pigs for more than a quarter of a century, and I have in my time tried all the known varieties, but I have never yet met with any pigs which were called White Berkshire. I do not of course for one moment contend that pigs have not been shipped to the States and called by the breeders or by the importers by that name, as this may have been the case, but that we in England have now or have ever had a variety of pigs called White Berkshire, is news to me. The statement that "the large Yorkshires were called Berkshires" may be correct, but I would point out that the Large Yorkshire was scarcely known as a distinct breed as early as 1843, when Mr. Bonner, Sr., obtained his so-called White Berkshires. Even within the last 30 years I have seen long, gaunt, coarse-boned animals shown as Large Yorkshires, which would require at least two years to fatten them, and when killed would need strong digestive powers and good teeth to convert them.

The opinion of Mr. Bonner and of Mr. Allen as to the alleged superiority of Berkshires over all other kinds of pigs for breeders, is not endorsed in England. If it be a fact that it is so in the States, you must either have more prolific Berkshires or most inferior specimens of the other varieties of pigs, than we have in the old country; indeed one would almost be inclined to think that all the most prolific and quickest growers among the Berkshire pigs sent out of this country were exported to the States, as in Germany, Russia, Holland, Sweden, Norway, Denmark, Italy, Switzerland, Buenos Ayres, Canada and other countries the Large and Middle White pigs are certainly and very rapidly taking the place of the Berkshires. During the last twelve months I have sold numbers of breeding pigs of the two principal white breeds to buyers in the countries named who had been in the habit of breeding Berks.

As to Tamworth pigs, I can only repeat what I am continually hearing from the large bacon curers in Germany, Holland, Denmark and Sweden. Their statement is that some six or seven years since the praises of the Tamworths were sung both loud and deep, and at that period the curers were casting about to find a pig more suitable for their trade than the short-headed, heavy-jowled and thick shouldered Berkshire. They flew to the Tamworth in as great a hurry as they have since dropped it.

At the present time, nearly every one of the principal curers on the Continent not only strongly urge the pig-breeders to breed from the Yorkshire boar, but are actually buying boars and sows from me and placing them in the various districts from whence they draw their supplies of fat pigs. The Messrs. Thompson, who are the second largest curers in Europe, have not only purchased Large White pigs from me, but have recommended many others interested in the business to apply to me for stock, and I believe in every case they are satisfied with the result. Several of the largest curers of Denmark have been to Holywell to purchase boars and gelts; among others, Mr. Magnus Kjaer of Holstein (the father of the curing industry in Denmark), Mr. Nellson of Holback, Mr. Norgeord of Horsens and Mr. Deesan of Slagelse, while next week I am shipping seven boars and nine young sows to Denmark. In Canada the improved Large White is also making many friends; for instance, the senior partner of the firm of Messrs. Davies & Co. has now a herd of Large Whites, and finds them far superior to any other kind of pig for his trade. I could write pages more on the subject, but your space is too valuable to be taken up at greater length.

SANDERS SPENCER.

Holywell Manor, Hunts, Eng., Aug. 24.

Ration for Farm Horses.

Eds Country Gentleman—Will you kindly request Prof. Stewart to compound ration for farm horses, weight from 1,000 to 1,300 lbs. from the following materials: Corn meal, $1 per 100 lbs; ground oats, $1.10; ground rye, $1; wheat bran, 75c.; clover hay, cut, 50c.; wheat and oat straw, cut, 20c. Would he also express his opinion as to Mr. T. B. Terry's mode of feeding his horses on clover hay only.

James River, Va. W. W. F. D.

F. D. would have improved his statement had he mentioned the work performed by the farm horses, or whether they had steady work. We must presume that they have regular and constant work. We will also presume that they are driven on a walk, as horses subjected to fast motion would require different feeding from those that perform their labor on a walk. Clover hay furnishes a very good basis for a ration. In order to combine the most economical ration we will allow 8 lbs. cut clover hay and 4 lbs. cut straw. It is presumed that this straw was cut before the grain became fully ripe. Let the grain consist of 4 lbs. of corn meal, 4 lbs. of ground oats, 6 lbs. of wheat bran. The digestible nutrients of this ration will appear in the following analyzed formula:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs
8 lbs. clover hay	0.67	3.31	0.13
4 lbs. straw	0.05	1.70	0.03
4 lbs. corn meal	0.53	2.54	0.19
4 lbs. ground oats	0.36	1.94	0.19
6 lbs. wheat bran.	0.70	3.20	0.15
Total	2.01	12.67	0.67

This has a nutritive ratio of 1 to 6.6, and will do very well for slow work. If the labor were very heavy, the corn meal and oatmeal would require to be increased one pound each. The cut hay must be moistened only so much as is required to cause the meal to adhere to it, so that all will be eaten together. It is presumed that the bran will prevent any tendency to constipation.

2. We can hardly express an opinion as to Mr. Terry's mode of feeding his horses upon clover hay alone, since we do not remember what his precise programme is. Clover hay, cut at the right time and nicely cured, would furnish an excellent maintenance ration, and perhaps would sustain very moderate work, but would not be sufficient to sustain a horse under constant work. The stomach of the horse is of very moderate size, and a sufficient quantity of hay consumed to sustain the horse on constant work could not be properly digested. The stomach of an average horse holds only about three gallons. The muscular coat of the stomach forces the food, when properly prepared, into the intestines. It would require 30 lbs. of the best clover hay to maintain a horse on full work, and its small stomach could not handle this quantity of bulky food while doing steady work. The horse, therefore, should have its food in smaller bulk, when subjected to steady labor. E. W. S.

Cheshires Worthy of Notice.

Eds. Country Gentleman—Of twelve animals used by E. W. Davis as foundation stock for his herd in vol. 1 of the Cheshire Herd Book, two animals, No. 8 and 21, owned by the writer, are worthy of mention, for to these two sows more than two fifths (299) of the whole number registered (715) in vol. I trace their origin—72 of them through both sire and dam.

About the year 1855 there was brought into the writer's neighborhood a boar (then called Cheshire) bought of the Englishman who then had charge of the swine at the State Lunatic Asylum at Utica, who in later years exhibited swine at Central New-York and State fairs. The above pig was a fine square-built animal, and was largely used in the place, proving a valuable sire by the improvement of the swine for miles around him. From this sire No. 8 traces her origin.

After A. C. Clark began to exhibit his Jefferson county swine at State fairs, a pig of this stock was brought into Vernon, which the writer began to use, and continued to use the stock, then begining to be called Cheshire; and

at the time E. W. Davis, editor of the Herd Book, began his herd of foundation stock, he was probably using the same sire with No. 8 as he first used in founding his herd. Then the writer began using his sires and selling him pigs, some of which he kept for his herd, he keeping a registry of the stock as well as myself, till the formation of the Cheshire Association, when what stock the writer had on the records were placed in writer's name.

In 1876, having to fat No. 8, to continue breeding, No. 21 was selected from a large litter of fine pigs, being on side of sire near same blood as No. 8, the dam from another family of Cheshires. The noted boar Vulcan, No. 215 (a great-grandson of No. 21), and many of the descendants, have been winners at county and State fairs in years past, although not shown by myself. C. C. PHELPS. *Oneida County, N. Y.*

Premiums at the Buffalo Show.

Continued from Page 691.

HOLSTEIN-FRIESIAN CATTLE.

Aged Herd—1. Smiths, Powell & Lamb, Syracuse; 2. P. C. Stevens, Attica. *Young Herd*—1. Stevens; 2. Smiths, Powell & Lamb. *Bull and Get*—1. Smiths, Powell & Lamb, Netherland Prince; 2. Stevens, Sir Henry of Maplewood.

Male any age—Smiths, Powell & Lamb. *Female any age*—Stevens.

Bull 3 years—1. S., P. & L.; 2. Stevens. *Two years*—1 and 2. Stevens. *One year*—1 and 2. S., P. & L. *Bull Calf*—1. Stevens; 2. S., P. & L.

Cow 3 years—1. Stevens; 2. S., P. & L. *Two years*—1. S. P. & L.; 2. Stevens. *One year*—1. Stevens; 2. S., P. & L. *Heifer Calf*—1. Stevens; 2. S., P. & L.

AYRSHIRE CATTLE.

Aged Herd—1. J. F. Converse, Woodville; 2. Ormiston Bros., Cuba. *Young Herd*—1. Ormiston; 2. J. P. Beatty, Petrolia, O. *Bull and Get*—1. Ormiston; 2. Beatty.

Male any age, and *Female any age*—Converse.

Bull 3 years—1. Converse; 2. Ormiston. *Two years*—1. Beatty; 2. Converse. *One year*—1. Ormiston; 2. Converse. *Bull Calf*—1. Converse; 2. Beatty.

Cow 3 years—1 and 2. Converse. *Two years*—1. Converse; 2. Ormiston. *One year*—1. Ormiston; 2. Beatty. *Heifer Calf*—1. Ormiston; 2. Beatty.

ABERDEEN-ANGUS CATTLE.

All prizes to J. P. HILL, Shamrock, Ill.

RED POLLED CATTLE.

All prizes to G. B. Squires, Marathon.

SHEEP.

Merino—Prizes to L. E. Shattuck, Stanberry, Mo.; P. Martin, Rush; Davis Cossitt, Onondaga; E. C. Harris, East Avon; and C. E. Tilsworth, *Hampshire*—Prizes to Woodward & Jaques, Wright's Corners; E. M. Bingham, Hopewell Centre; Mrs. Ann Newton, Pontiac, Mich. *Cotswold*—Prizes to G. F. Davis, Dyer, Ind.; Geo. Chick, Attica; J. B. Hearkless, Knightstown, Ind.; Hugh Crawford, Cranboro, Ont.; and Mrs. Newton. *Horned Dorset*—Prizes to Woodward & Jaques; Rutherford Stuyvesant, Rhinecliff; and Mrs. Newton.

SWINE.

Berkshires—Prizes to Clifford & White, Wellington, O.; C. Hammerschmidt, Buffalo; G. O. Holcomb, Troy, Pa.; Wallace Wachter, Akron, O. *Poland China*—Prizes to J. D. Spear, New Vienna, O., and E. F. Souter, Waterloo. *Chester White*—Prizes to J. H. Eaton, Smyrna, O.; F. A. Brensh, Medina, O.; S. H. Todd, Wakeman, O.; C. W. Baker, Delaware, O.; C. H. Gregg, Kramroy, O.; and W. C. Norton, Aldenville, Pa. *Duroc Jersey*—All prizes to W. A. Alexander, Neiplsville. *Small Yorkshire*—Prizes to Warren Hemstis, Belmont, Mass., and W. C. Norton. *Victoria*—Prizes to G. F. Davis, Dyer, Ind., and M. H. Walworth, Hillside, Mich. *Cheshire*—Prizes to G. S. Batton, Chittenango; Lucas & Vosburg, Waterloo; and G. O. Holcomb.

Protection from Insects.—Thirty years ago or more when we went into the woods to shoot and fish, during the fly season we used to anoint ourselves with what appeared to me to be a mixture of tar, lard and oil of pennyroyal, that as I remember lasted some time and was a perfect protection from flies and other insects inhabiting the woods. It pains me to see the suffering of animals, and the insect pests annoy our horses, cattle and mules to such an extent that the shod animals wear out a set of shoes in fiftime in half the time they do at other seasons; hence there is an economical as well as compassionate side to this question. In your varied knowledge you may be able to give me a remedy or obtain one from some of the frequenters of the Adirondack region. Steeped hickory leaves and a weak solution of carbolic acid are good, but only last for about a quarter of an hour. I often clear the house of insects by evaporating gum camphor, but it seems difficult for the average person to do this without special apparatus or setting the camphor on fire, when the smoke is detrimental and the flames not easily extinguished. When I used to travel on horseback and had to put up at the small inns, I always carried spirits of camphor to sprinkle in beds that were not above suspicion and found it very good, but in the present day of dear alcohol, I presume such a remedy would be too costly to apply to animals. I have tried a weak emulsion of kerosene, but it was not a success. C. D. F. F. *Parkshill, N. Y.*

[An article touching on this subject at some length appears on the previous page, and we shall be glad to have further suggestions from experienced readers.]

The Dairy Department.

Conferences in Orleans County.

LYNDONVILLE—KNOWLESVILLE—FROM GRAIN TO BUTTER—WISHING TO LEARN—REPLY TO LETTER.

There seems to be a general awakening all over New-York in regard to the steady drain upon the soil by old systems of farming. Even in Orleans county, where the soil is naturally adapted to the production of grain and fruit, with a climate admirably tempered for the growth of the finest of apples, pears, peaches and grapes, there was a call to learn of dairying, and two conferences have been held. At Lyndonville, C. H. Lum was made the chairman of a spirited meeting, and John Weld secretary. Mrs. Dr. Chas. E. Fairman gave a practical and eloquent address of welcome, which was responded to by Col. Curtis. There were two churnings. N. C. Moon furnished cream from 200 lbs. of milk, set in a temperature of 40° to 45°, in a Stoddard creamery; set 24 hours; cream allowed 24 hours to mature; temperature of room where cream matured, 70°; temperature of room when churned, 68°; churned in 18 minutes in Ellicot rocker; amount of butter, 11 lbs.; ratio of milk to butter, 18.18 lbs. Cows Jerseys; feed, grass with 2 qts. of corn and oats daily.

John Weld also furnished cream from 200 lbs. milk; Stoddard creamery. Keeps 9 cows; milk set 24 hours, and cooled down to 39°; temperature of room, average, 70°; 24 hours maturing; barrel churn; temperature of cream when churned, 65°; time of churning, 14 minutes; amount of butter, 10¼ lbs.; ratio, 19 04 lbs. of milk for 1 lb. of butter. Cows grade Jerseys; feed, second-growth timothy grass and fodder corn.

After the churnings were finished the people gathered in the hall and for more than two hours there was a continuous talk by the instructors, coupled with numerous questions. As many of those present were novices in dairying, there were inquiries regarding the setting of milk and the care of cream. Mr. Gilbert said no one could afford, now, to use the old milk pan and dash churn. There was too much labor about these old-time implements, and too much risk in the out-put. He very properly said that simply souring was not the perfection of cream. The trouble with this idea was that if a little was good, butter-makers were apt to think a little more was better, and the result was strong cream and frowzy butter. A good creamer was a necessity to make good butter, as the average butter-maker was situated. He risked the statement that "as the boy is father to the man," so the butter is really made before it gets into the churn.

Mr. D. S. Lewis of Knowlesville is a pioneer dairyman in his section. For a number of years he has purchased both milk and cream and made butter. His son, only just in his teens, is now the butter maker, and his work does him great credit. Mr. Lewis has done a business of $15,000 in three years in his butter output, besides making a large amount of pork The conference was held at his home, a large tent was erected on the fine grounds surrounding the dwelling, and here the people assembled.

The first churning was from the cream of 200 lbs. of milk from the herd of Mr. Lewis: Cows, grade Holsteins; food, grass; milk set in Stoddard creamer; average temperature 53° to 54°; set 24 hours and cooled down to 48°; cream held in the dairy room 18 hours; temperature when churned 65°; time of churning, 40 minutes; amount of butter, 9 lbs.; ratio, 22 23 lbs. of milk for 1 lb. of butter; butter of good quality.

H. M. Parker, Ridgeway, furnished the cream for the second churning: Milk, 200 lbs.; cows, natives; food, grass; cream raised in a cool room, the walls being packed with sawdust, and a spring inside; cream raised in 48 hours; milk changed on the bottom, being a little loppered, but not on the top; cream left 18 hours to mature in the springhouse; amount of butter, 8½ lbs.; ratio, 23.5 lbs. for 1 lb. of butter; churned in an Ellicot swinging churn.

This conference was one of special interest. The tent was filled. After the lectures many questions were asked. This spirit of inquiry is an encouragement, and augurs well for a more successful dairy future.

In this line I insert a letter from a prominent dairyman, referred to me:

EDS. COUNTRY GENTLEMAN—Inasmuch as Mr. Curtis in his report of the dairy conference at Carthage (p. 583), invites a "spirit of inquiry." I would like to know why that dairyman who reports the test of two cows for three days obtained only 5 lbs. of butter from 66 lbs. of cream, whereas he should have had 11 or 12 lbs. from that amount of cream. Was the cream churned while sweet, or was it over-ripe? There must have been something wrong in the management of the cream not to get half the butter he should have had. I hope that dairyman will not "weed out" such cows as worthless, until he has learned how to manage cream properly. Then he will see that he has cows such as are not found in every dairy—cows that will yield 2 lbs. of butter per day. There is nothing in your valuable paper that I read with more interest than the reports of the dairy conferences. I think they will have a tendency to open the eyes of those who are blind and who would like to see how good butter is made. W. D.

The trouble with this result was the use of a new-fangled churn and a waste of the cream by not being churned. As a rule, it should take from 20 to 30 minutes to churn cream. To get butter, is not the full idea of churning, but to get it *all*, and to get it in the best possible condition. The open churns which cause the butter to come by concussion are the best. Some cream is also thinner than other cream, being carelessly skimmed. F. D. CURTIS.

Faults in Factory Management

EDS. COUNTRY GENTLEMAN—While there is not much new to be said in dairy matters, there is at the same time much that can be repeated with profit, if the listener will take heed thereunto. One of the most important matters is the care of the factory and creamery. It is no use attempting to excuse or evade. The average factory, as often conducted, is far from a faultlessly-managed concern as regards neatness and sanitary precautions. This is a matter for which the superintendent is wholly responsible, and as such should be held to strict account. It is no use to lay all the blame for mishaps, remissness to duty and the like upon the patron. His stables and surroundings are not often found more redolent (?) of prolific smells than the factory in which his product is made. Any person with ordinarily developed perception of smell can detect a factory as usually managed, "while yet afar off." We are told that odors about the farm buildings are one of the frightful causes of inferior and damaging flavors and deterioration in dairy products; but this very law seems to be regarded as of no practical account at the factory. I wish to make exceptions, as now and then a factory is found that can be accepted as a model of all that is tidy and wholesome. These exceptions only prove the rule that where one is found about faultless, nine more, to a greater or less extent, need the authority of a health officer to enforce the second law—cleanliness, after order.

In some instances it would be impossible for any manager to keep a factory as it should be, owing to the original defective and faulty building. Wooden floors, set far above the ground, press-rooms where the exuding whey from the cheese must run upon the floor, nooks and corners which it is impossible to reach—these, one and all, contribute to the stock of supply for fermentation, putrefaction, and smells more or less offensive. Where the floor of a factory is somewhat above the ground, the soil beneath it soon becomes charged with whey, floor sweepings and rinsings, and in this damp soil, that cannot dry out, all sorts of germs find a congenial home and place of multiplication, and cannot but have a deleterious effect upon fine and desired keeping quality of product. There is no excuse, now-a days, for a defective floor in a factory. Glazed tile are so cheap, and Louisville cement so obtainable, that every factory can have not only its floor perfect, but ample drainage secured. The finest and cleanest floor I have ever seen is of this character. Large glazed tile brick are laid in cement first on the nicely leveled soil, and then a second layer over them, breaking joints. This floor is laid crowning, so as to carry all slop to the walls, where there is a slight depression, that discharges all fluid directly into a covered sewer of eight-inch sewer-pipe, and finally discharged far from the factory. These tiles are absolutely impervious to any penetrating power of whey or slop; and when, after the cheese are in the press, the hose is turned upon the floor, it emerges from its bath sweet and clean, and has no lurking-place for germs.

The open sewer is another great nuisance at factories. A ditch of unequal width and unknown depth, bordered with rank-growing weeds, and clogged more or less with filth of many descriptions, is the waste-way of thousands of factories; and when this ditch discharges—as it frequently does—into a near-by brook, one can follow it for a mile and find that stream polluted with the slime and decaying filth. The open ditch can be remedied with an 8 or 10 inch sewer-pipe; and far better would it be if this sewer, instead of discharging its contents into the brook, could be diverted so as to flow out upon a field, where the sun could dry it out and the plow occasionally bury it. The water that is used only about the vats to cool milk and cream could be run through another pipe to the brook, but the floor sweepings and the like should not be allowed to pollute any stream, much less a stream where milch cows drink.

The hog-yard, that is to many a factory an indispensable (?) accompaniment, should, if it must exist, be located at least 40 rods away, and should consist of at least three ample lots. The object of this is to rotate them, and, by growing crops upon them, absorb the vile odors that accumulate where only the one enclosure is used. This is easily accomplished by sowing two of the lots to corn as early as possible. As soon as the corn is of some size, turn the hogs into one of these lots, and sow the one just vacated thickly to corn. Lot No. 3 will in due time have a large growth, and then the hogs are shifted. No 3 will satisfy until lot No. 1 has its heavy growth of green food. The rich stores of fertility on the ground will force a great growth of corn. Some sow millet with the corn, the two making a dense mat of green, and furnish the hogs a goodly quantity of "grass;" and with whey and grain, will prove a fair remedy for hog cholera that so often visits the factory pens, which is, as a rule, nothing more than the results of over (and long-continued) doses of sour swill, with no corrective agent like green food to neutralize it.

The whey-vat itself needs more attention than it receives. The wooden boxes get completely whey soaked, and from the harmless germs of lactic acid the souring process soon includes other germs of ferment and even putrefaction until green mould and fungoid growth present themselves. These vats are rarely cleaned, each day new whey is added, and the remnants of yesterday act as a most prolific "starter" that soons sets the whole mass into an active compound ferment. The patrons eager to get a cheap feeding material for a few calves or pigs at home, fill the milk cans from this tank upon their return, and then often wonder why fault is found with their milk as having a foreign smell about it! Whey-tanks should be, when first made, saturated with boiling hot gas tar and resin, and should be thoroughly washed and scalded at least twice per week. These things are all the more important in a patron or co-operative factory. Where milk is purchased and the good name and influence of the patron ends at the factory door, he can only enter his protest against the shortcomings of the proprietor, but where the patron can, it is *his* business to demand and enforce cleanliness and tidiness not only at home but at the factory as well.

Now that many States have commissioners to enforce the laws, and prevent adulteration and fraud in manufacture and sale, I do not see why this official should not be also clothed with police powers, and have control of the sanitary surroundings of our factories, and bring them up to a point of order and cleanliness that is in a measure demanded if we aspire to make fine dairy products. It's "poor preaching" to be constantly exhorting the patrons to be clean, banish all odors, even chase down the flies, &c., and then visit a factory where this milk is manufactured and find it the place of rank smells, decaying wood and refuse, and bidding open defiance to sanitary precautions where ordinary prudence would suggest immediate abolishment. J. G. *Western Reserve, Ohio.*

Reducing Fat in Cow.—I wish to inquire how I shall proceed with my cow. She was three years old in March last; dropped her second calf the 4th of November previous; milked her up to calving, but she did not give much milk. Expect her to drop her third calf on the first of October next. How long is best to dry her up, and how can I increase milk? She is rather fat. G. S. *Lockport, N. Y.* [She should be dried off at once, if she can be dried without injury. She should be fed very sparingly. Put her on a ration of 12 lbs.

of cut hay and 8 lbs. of wheat bran per day, given in two feeds. Milk her only once in two days, but draw all the milk out then. This will be likely to reduce her flesh, but at the same time will give her nourishment to develop her calf. Continue this poor feeding for ten days after coming in, and then gradually increase the quantity of bran up to 6 lbs. Give her no heating food. But the bran may be gradually increased up to 10 lbs. per day in three weeks more. This will be likely to bring up her quantity of milk, and keep her in moderate flesh. When her milk is satisfactory as to quantity, then the bran may be reduced to 4 lbs. and 4 lbs. of corn meal, and 4 lbs. of ground oats added. This will slowly increase proportion of fat in the milk, and still have sufficient albuminoids to supply the casein, and keep up her muscular vigor. Clover hay will be best. When a cow takes on the habit of being constantly fat, it may take a long time to change this habit. H. W. S.]

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

COUGH IN PIGS.—A fine lot of young pigs have a hard cough. Would like a remedy. A. L. S. *Hartford City, W. Va.* [Give five drops hom. tincture of bryonia in a little swill to each twice a day.]

CRACKED FEET.—Three cows have their feet badly cracked, and are very lame. Skin drops off, exposing the flesh. Have washed in coal oil. Cows have been running in good pasture all summer. J. A. T. *Baltimore, Md.* [Give one general cow drink, and half one every few days to get the system in better order. Twice a day sop some of the lotion on sores with a sponge, (hind legs may be strapped together): Powdered alum, 4 oz; powdered sulphate copper, 2 oz; compound tincture aloes, 6 oz.; water, 1 gallon; mix. Keep animals up while grass is wet.]

BUNCH IN THROAT.—A cow for about three months has been coughing, with trouble in breathing; carries her head straight out, and usually has her mouth partly open. Could not until the past week discover any growth about the throat, but now there appears a fast-growing hard bunch on one side the neck near her head. She eats well; can discover nothing wrong with milk. W. C. C. *Mechanicsburg, O.* [Isolate her at once. She may be put in horse-barn but not with cattle. Have her examined by a veterinary surgeon. The symptoms strongly point to tubercle. You will find ample matter in back numbers of this paper on that subject.]

COLT WITH COUGH.—A three-year-old colt, driving single, had distemper last June; legs were swollen double size, with large bunches over body. In my absence a surgeon was called, and colt got better. Returning in July, I found he coughed hard by spells, which still continues. For five or six weeks past he has had a swing motion in nigh hind leg, as if stiff; hip seems to be falling away. Eats well and feels well. After driving a short distance can hardly see anything wrong. Fancy I can feel a little more heat on inside of leg, near sheath, and cord somewhat swollen. J. M. O. *Monterey, Mich.* [Get half a dozen balls as advised for O. C., Shelbyville, Tenn., page 606. Give one of the balls every five days. Rub the hip with some of the following liniment daily: Spirits camphor, 4 oz; tincture iodine, 2 oz.; tincture cantharis, 6 oz.; alcohol, 3 oz.; mix.]

SKIN DISEASE AND COLOR.—A heifer, 1-year-old last March, color black and white, was taken sick in pasture about Aug. 1, which ended in a fever, and hide on all parts where the hair was white became dry and hard, cracked, and peeled off of all parts covered with white hair, while parts covered with black seem all right. J. D. *Fort Wayne, Ind.* [Inflammation of the skin followed by desquamation of the cuticle is rather a rare thing. In animals that have two colors of skin, one of which is white, the latter is the more apt to suffer, or if both colors are affected the white usually shows more disease than the darker color. This is often seen among horses at pasture where certain poisonous weeds abound —e. g., St. John's Wort. If a horse has a white nose or leg the skin of this color inflames cracks, discharges, &c. You may give the cow a general cow drink, and apply oxide of zinc ointment to the skin.]

SORES ON COWS.—I pasture cows on upland, and small piece of low ground, which they seldom go into; stable nights, bedded with oat straw; lately straw has been a little musty; give small feed of fodder corn night and morning, also from 1¼ to 2 lbs. of corn and cob meal. Yesterday one was sore on back of front legs, from hoof up four or five inches, resembling scratches on horses. Small pimples form, rub off, and then discharge a watery substance which causes the sore to spread. This morning two more cows affected in same way, and at noon two more; some of them walk a little stiff. I have kept cows in and on the same place, and in same manner, for thirty years, and never saw anything like it. ** *Spring Valley, N. Y.* [Stop corn and cob meal; feed ground oats, bran, hay and corn fodder. Give one general cow drink to each animal, and half a can in three days. Sop some of the following wash on legs twice a day: Chloride zinc, 1 oz.; powdered sulphate copper, 3 oz.; powdered saltpetre, 6 oz.; tincture opium, 4 oz.; water, 2 gals.; mix.]

SWOLLEN UDDER.—A mare colt, foaled June 13th, was found ten days afterward to have the udder swollen, and discharging pus through three small holes. I have since taken all the pains I could, by washing clean, injecting with weak carbolic acid and water, &c., to heal it, but it is still swollen and discharges some matter. The general health of the colt is good; it is fat and sleek. What must I do to cure it? P. S. L. *Point Pleasant, W. Va.* [Chloride zinc, 4 dr.; compound tincture aloes, 4 oz.; tincture opium, 2 oz.; powdered saltpetre, 2 oz.; water, 1 qt.; mix. Rub the parts, and also inject twice a day.]

TUMOR—MILK LEAKING.—A saddler has a soft tumor (or aboe boil) on point of left elbow about size of large tea cup. Have blistered twice with golden blister, and while there was discharge caused thereby there was no opening into sac, and it was not reduced in size. (1) A cow is not able to hold her milk as it leaks from all teats. (2) What is treatment for above cases? R. P. S. *Pittsburg, Pa.* [1. The sac should be cut open, and if full of fluid it will only be necessary to inject once a day with some of the following: Spirits turpentine, 4 oz.; linseed oil, 4 oz; compound tincture aloes, 8 oz; mix. Twice a week apply a little of the blister to the enlargement. This treatment will gratify you. 2. Keep a lead probe in teat, bandage the leaky ones and sling the udder over the back.]

BUNCH ON SHOULDER.—I have a Berkshire boar 16 months old; on each shoulder, hanging down over shoulder blade, is a hard place about the size of a breakfast-plate, and about an inch thick; seems to be loose from bone, but tight to skin; can lift it up and out, putting my hand under edge of it. He is in good condition—no bruises and coat smooth; eats well, bran and green cow peas; gets plenty of salt and charcoal. W. A. C. *Orange County, Fla.* [I would not advise interference with them.]

BUNCH ON FORE LEG.—A horse 6 years old has a bunch on the arm of his fore leg, which appeared soon after being turned to pasture the middle of last June. When it first appeared it looked like the sting of a bee; it is at this writing as large as a hen's egg. The bunch is in the skin, is quite hard and sore; can work the fingers nearly around it; discharges a little; otherwise he seems well, hearty and all right. H. H. F. *Orwell, N. Y.* [Do you mean a capped elbow? State the exact locality, or send cut of a horse's leg marked. Have you probed the wound? Give a good description of it and we will advise you.]

MADNESS IN COWS.—A disease among cows is proving very fatal; none recover that are attacked. They become inert, lose appetite, seem restless, and about the fourth day become furious, butting against trees, tearing down fencing, and hooking at everything that comes in their way. At first it was thought to be hydrophobia, and they were shot, but cases multiplied fast, and no mad dogs were seen. The disease was unknown here, and not now outside of this neighborhood, an area of five or six miles square. The cattle not shot finally die from exhaustion, as they refuse to eat or drink. Examination show no inflammation of the viscera, heart or lungs; brain seems the organ affected, as their actions denote derangement or madness; not one thus affected has recovered. J. H. D. *Cane Spring, Ga.* [You do not describe the cases, but merely say that cows in your section are dying, none recover after being attacked, and they become furious, butt and run at things. So far as your letter indicates, we should incline to the opinion that rabid dogs had bitten them. See hydrophobia in back numbers, and make a thorough report of the symptoms. Rabid dogs are not always seen, as you may notice by recent depredations in the West, and most people do not know a rabid dog when they see one.]

—— A milch cow was found one morning in a thicket, apparently blind and stupid; got her to stable and put in open stall; at 11 o'clock she suddenly broke through the bars, rushed round the lot, twice throwing herself backward with violence, then dashed off, struck the fence at full speed, broke down two panels, tearing a terrible gash in the skin of lower jaw. Found her in the branch under some bushes; blistered her head severely just back of horns; that night she moved to another part of the run under a bridge; here she stayed 48 hours. On the third morning after the attack a yellowish matter ran from her nose, and from that time she began to improve, and is now almost well except the sight of one eye. F. W. M. *Stony Point, Pa.* [What was the cause of the mental trouble we do not know. Indigestion is a common factor in such cases, but there may have been some abscess in this animal's head in close proximity to the brain, which was broken and relief followed. Blisters are often very beneficial in brain affections.]

Record of the Times.

Review of Passing Events.

A Storm-Swept Coast.—A West Indian cyclone came up the coast the first of last week, remained centered off Norfolk several days, and finally retreated under a "high-area" pressure. It caused a tremendous tidal wave along the Jersey and New-England coasts, with high wind and driving rain. Numerous shipwrecks occurred, and seaside places suffered severely. Atlantic City, with 20,000 people, was cut off from the mainland for three days, and great alarm and suffering prevailed. At the Delaware breakwater the shipping losses reach over $700,000, and 39 sailors were drowned. Losses at other Jersey points are figured at $1,786,000. The bluff and driveway at Long Branch were broken in several places, and many cottages ruined. Ocean Grove and Asbury Park suffered less. Sandy Hook became an island, a passage closed since the Revolution being opened into Shrewsbury river. Coney Island was swept by the tide, flooding the great hotels, and destroying smaller buildings. Ocean steamers came in safely, and the cruiser Atlanta, for which fears were entertained, rode out the storm off Montauk Point, L. I.

Death of S. S. Cox.—In New-York, Sept. 10, Congressman Samuel S. Cox, aged 65. He came of Revolutionary and Democratic parentage, his grandfather having been a brigadier-general and member of Congress, his father a member of the Ohio Senate. Mr. Cox (who gained the title of "Sunset" from a glowing description of a stormy sunset in 1853, in the Ohio Statesman, of which he was editor) entered Congress in 1857, representing Ohio till 1865. During the war he was a National Democrat. He has since represented New-York. He served on various important committees, secured passage of bills favoring the life-saving service and the letter carriers, also the census law of 1877. In 1885 he was appointed Minister to Turkey. He visited the new States this summer, and had just finished a lecture on them, "The Wonderland." He was a witty, effective speaker and writer, and the author of ten works on various subjects.

From Abroad.—In the London strike Cardinal Manning continued his mediation, but his proposition for the advanced rate to begin Nov. 1 was rejected by both parties, the dock companies saying the concession could not be granted till Jan. 1, and then would cost £150,000 yearly. John Burns denounced American workmen for not sending money. Australia has sent £15,000. On the 13th the compromise was accepted, to take effect Nov. 4, and work to be at once resumed. On the 15th the dockmen marched in procession and cheered the Lord Mayor.—A sculling race on the Thames, Sept. 9, for £1,000 and the championship of the world, between O'Connor of Canada and Searle of Australia, was won by the latter.—The young daughter of William Winter, dramatic critic of the New-York Tribune, was baptized in Shakspere's church, Stratford-on-Avon, Aug. 30.—Another Whitechapel murder was reported Sept. 10. The head and legs of the victim were missing, and it is now thought that the body was brought from another place.—The emigration from Ireland last year was 78,684 persons.—A christening party was capsized on Lake Killarney, Sept. 8, and five persons drowned.—The fire loss at Antwerp is over 25,000,000 francs. The fire still smoulders. Large relief subscriptions have been made, King Leopold heading the list with 12,000 francs. Official reports make 135 killed, 300 injured, and 20 missing.—The latest government report makes the wheat crop of France less than half that of last year. —The Paris exposition will close Oct. 31. The daily attendance averages 150,000.—Thomas A. Edison before leaving Paris for Berlin gave $10,000 francs to the city poor.—A Zanzibar dispatch says that Stanley after failing to pass southward, and a long stay on the Victoria Nianza, marched toward Mombasa, expecting to reach the coast late in October.

Minor Items.

Mr. Depew reached New-York from Europe, Sept. 11.

Eight hundred Poughkeepsians visited Hartford last week.

Bell telephone stock has been increased from $10,000,000 to $12,500,000.

The Treasury department, Washington, celebrated its centennial, Sept. 10.

Washington Democrats have nominated Eugene Semple of Tacoma for governor.

A son of Eugene Kelly, the New-York banker, 23 years old, in passing from one car to another on the D. L. & W. road at Hackensack bridge, N. J., Sept. 10, was swept off and killed.

The Senate dressed-beef committee has been taking testimony at Kansas City, Mo.

A rush of water from an old shaft in a coal mine near Golden, Col., Sept. 9, drowned 11 men.

Pennsylvania veterans visited Gettysburg Sept. 11, and 44 regimental monuments were dedicated.

Two old sloops of war, the Quinnebaug and Juniata, have been condemned and will be broken up.

New-York's new custom house and appraiser's stores are to face Bowling Green, looking up Broadway.

Although 200 talesmen have been examined in Chicago, not a juror has yet been secured in the Cronin case.

A cloudburst followed the flood at Coney Island, Sept. 18, and damaged the interior lands and buildings.

Cardinal Gibbons of Baltimore has issued a pastoral letter denouncing the erection of the Bruno statue in Rome.

The recent forest fires in Oregon surrounded the school-house at Matatino for two weeks, and the children went to school in a tent.

An old man, aged 90, in easy circumstances, jumped into the North River, New-York, Sept. 11. His body was found near Hoboken ferry.

The Assembly calling fraud has been brought before the grand jury of Albany. Smith has filed his claim for $39,086.91 as balance due him on the work.

Georgia delegates to the National Colored Baptist Convention at Indianapolis were driven out of the cars at Baxley, Tenn., and some of them severely beaten.

A Lehigh Valley freight train broke in two near Warsaw, N. Y., Sept. 12, came together, took fire, and ten cars were burned, also 12 coal dumps on a siding.

Sir Edwin Arnold, author of "The Light of Asia" and editor of the London Telegraph, called on President Harrison, Sept. 12. He is on a journey round the world.

Pension Commissioner Tanner has resigned, owing to friction between himself and the Secretary of the Interior, and may be succeeded by Major William Warner.

The McArdle paper-stock building at Albany was burned, Sept. 9. Two women and one man were killed, and six persons seriously injured by jumping from the windows. Loss $150,000.

The Tenth avenue cable road, New-York, has put on a "palace car," costing $5,000. It has sofas and revolving chairs seating 32 persons, is lighted and heated by gas and richly finished.

The Scripp's League excursion of American workmen to Europe, reached New-York, Sept. 12. They spent six weeks in England, Scotland, France and Germany, studying their respective industries.

A farmer of Concord, N. H., 80 years old, was lately robbed of $9,500 by a man who pretended to wish to buy a farm and induced the farmer to draw the sum from the bank to prove his responsibility.

An Italian fruit dealer in Houston street, New-York, climbed up an electric-light pole to clear an obstructed roof pipe, Sept. 13, slipped, caught on the wires, hung there and was burned to death. His neck was cut half through.

George W. Lyon has been appointed surveyor of the port of New-York; Theodore B. Willis, naval officer, Ernest Nathan, collector of internal revenue for the 1st district. Henry C. Warmoth has been appointed collector of customs at New Orleans.

The 75th anniversary of the battle of North Point, Md., was celebrated last week in Baltimore, with a civic and industrial parade, witnessed by President Harrison and Secretaries Windom and Tracy. The Baltimore & Ohio railroad showed models of railroad trains from earliest dates to present time, and 500 employés walked in procession. There were also a military display and bombardment of Fort McHenry.

At the funeral of S. S. Cox in New-York, Sept. 13, the most striking tributes were from the letter-carriers whom he befriended. Boston sent a floral volume supporting a cross surmounted by a dove; Philadelphia a scroll; New-York a "Gates Ajar" and a mourning-bordered envelop with the inscription in violets: "9-10-80 6 30 P. M., N. Y. P. O." The New-York Life Saving association sent a floral life-belt with oar muffled in crape.

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Beecham's Pills cure bilious and nervous ills.

Farm Produce Markets.

Albany Markets—Sept. 16.

FLOUR.—The Argus says: Market has been steady, trade fair, receipts above average volume

	Sept. 14. 1889.	Sept. 7. 1889.	Sept. 15. 1888.
Com. State	$4.10@4.40	$3.90@4.00	$4.10@4.40
State Extra	4.15@4.50	4.15@4.50	4.45@4.75
Amb. State & W.	4.60@4.75	4.60@4.75	5.10@5.30
Q., Ind. & St. L. Ex.	4.75@5.00	4.75@5.00	5.15@5.40
Winter W. Ext.	4.75@5.00	4.75@5.00	5.15@5.40
Minn. " Bakers'	4.60@4.75	4.60@4.75	4.90@5.15
Sp'g W. Ext., new	5.00@5.00	5.00@5.00	5.75@6.00

Rye Flour—Trade has been good and values steady at $3@3.10 per bbl.; Graham, $3@3.60. Oat Meal doing moderately well at $4.50@4.90 per bbl. Corn Meal in good demand and firm at $2.40@2.75 per bbl.

GRAIN.—Corn in moderate demand; No. 2, 44@44½c. per bu.; No. 2 mixed, 43½c. Oats firm, easier at close; range on old, 32@34c.; new No. 2 white, 29½@30c. Rye quiet; receipts light; State, 55@56c. per 56 lbs.; western, 53@55c. per bl lbs.

HAY AND STRAW.—Hay receipts fair; trade good. Straw quiet. Timothy, prime, 14@15 per ton; good, 12@13; clover, $7@8; mixed, $10@13. Rye straw, best, $13@15; oat straw, 6@10; wheat straw, $8.

HOPS.—Market dull and declining. Recently picked hops show mould. Foreign crop promises to be the best in years.

N. Y. State, 1889	10	@16c.
N. Y. State, 1888	10	@11
Pacific Coast, 1889	12	@15
Bavarian and Bohemian	32	@38

Albany Street Market—Sept. 16.

BUTTER.—Fancy, 18@19c. per lb.; fair to good, 15@17c.

EGGS.—Near-by and new laid, 18@20c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 4½@6½c. mutton, carcasses, 5@6c.; lamb, hindquarter, 8@11c.; forequarter, 5½@6½c.; veal, 7@8½.

POULTRY.—Fowls, 11@13c. per lb.; chickens, 60c.@$1 per pair; capons, 18@20c. per lb.; turkeys, 13@15c.; spring ducks, 14@15c.; green geese, 11@12.

FRUIT.—Apples, $1@3 per bbl.; Crab apples, 50c.@$1 per bush.; Blackberries, 8@10c. per qt.; Grapes, Concord, 2@3c. per lb.; Delaware, 6@8c.; Niagara, 4@5c.; Huckleberries, 10@12c.; Muskmelons, Albany Co., 25@50 per bbl.; Peaches, $1@1 per basket; Pears, $2@3 per bbl.; Plums, 50c.@$1 per bu.; Watermelons, $10@$25 per 100.

VEGETABLES.—Beets, 10@15c. per doz. bunches; Cabbage, 1½@2 per 100; Celery, 10c.@$1 per doz. bunches; Cauliflower, $1 or $1.50 per doz.; Corn, 50c.@$1 per 100; Cucumbers, 50@75c per 100; Egg-plant, 75c.@$1 per doz.; Onions, $2@2.50 per bbl.; Potatoes, new, 60@75c. @ $1.65 per bbl.; sweet, $3.50@3 String beans, 40@50c. per crate; 75c@$1 per doz.; Tomatoes, 75c@$1 per crate; Turnips, new, 30@35c. per doz. bunches; Wax Beans, 40@50c. per bush.

New-York Markets—Sept 14

BEANS—Marrow, 1889	—	@	3.30
Medium, 1889, choice	3.20	@	3.25
Pea, 1889	3.30	@	3.35
COTTON—	Cents.		Sales.
Ordinary, per lb	9½	@ —	84
Middlings	10	@ —	1084
Fair	10½	@ —	1084
EGGS—State and near-by, per doz			19¼
Western and Canada			19
FLOUR—Spring Wheat pat., per bbl.	5.00	@	5.30
Winter	4.85	@	5.05
No. 1 extra State and Western	3.45	@	4.00
No. 1 extra	3.10	@	3.30
Minnesota clear	3.75	@	4.00
Straight	4.10	@	4.35
Rye Flour, superfine	3.65	@	3.90
Corn Meal	2.50	@	2.75
FRUIT—Apples, Gravenstein, per bbl.	2.25	@	3.00
Blush, Twenty Ounce, King	3.25	@	3.75
Holland Pippin	3.00	@	3.25
Cranberries, Cape Cod, per bbl	6.00	@	6.50
Grapes, Delaware, per basket	20	@	25
Niagara	20	@	25
Concord	18	@	20
Muskmelons, Mon. Co., per bbl	2.00	@	2.50
Peaches, Jersey, per basket	1.00	@	1.75
Del. & Md., per crate	2.00	@	2.50
Pears, Bartlett, per bbl	3.00	@	3.00
Sheldon	3.25	@	3.00
Beurre Bosc, Anjou	3.00	@	4.00
Plums, Damson, per bbl	2.00	@	2.50
Lombard	3.00	@	4.00
Green Gage, Reine Claude	6.00	@	8.00
Watermelons, large, per 100	30.00	@	40.00
Small	10.00	@	15.00
DRIED—Apples, sun-dried, per lb			4@4½
Evaporated			6@6½
Peaches, sun-dried, 1889			6@6½
Evaporated			10@16
Cherries			13
Blackberries			3@4
Raspberries			25
GRAIN—Wheat, State white, per bus.	80	@	80
Ungraded spring	75	@	85
No. 1 red, winter	86	@	86½
No. 2 red, winter	84	@	84½
Corn, No. 2, white	47½	@	47¾
No. 2, mixed	—	@	43
Oats, No. 1, white	29½	@	30
No. 1, mixed	28	@	28
Rye, State and western	60	@	66
HAY—Timothy, new, per 100 lbs	75	@	80
Shipping	60	@	65
Clover	65	@	70
Old hay	80	@	85
Straw, long rye, No. 1	70	@	80
No. 2	55	@	60
Oat	41	@	50
Wheat	40	@	45
HOPS—N. Y. State, 1889, best, per lb	14	@	15
Best, 1888	12	@	14
Common to fair	10	@	13
California, 1889	1c	@	2
Washington, 1889	1c	@	1b
Prairie States, 1889	3	@	6
POULTRY—Live fowls, per lb	11	@	13
Spring chickens	11	@	14
Turkeys	12	@	13
Ducks, per pair	60	@	70
Geese	1.35	@	1.50
Dressed fowls, per lb	9	@	12
Phila. springs	13	@	16
West. broilers	10	@	11
Turkeys	11	@	14
Ducks, spring, per lb	12	@	13
Geese	10	@	12
PROVISIONS—Beef hams, per bbl	15.25	@	15.75
India mess	13.50	@	14.00
Hogs, dressed, per 100 lbs	6.25	@	6.75
Lard, per tierce	6.10	@	6.35
Pork, new mess, per bbl	13.25	@	13.50
Short clear	11.50	@	12.50
Family	12.00	@	12.00
VEGETABLES—Cabbage, L. I., per 100	2.00	@	3.00
Cauliflower, L. I. & Jer, per bbl	1.00	@	2.00
Corn, Hackensack, N. J., per 100	1.25	@	1.75
Cucumber pickles, per 1,000	1.75	@	2.25
Lima beans, L. I. & Jersey, per bag	1.25	@	2.00
Onions, Conn., red, per bbl	2.25	@	2.50
Orange County, red	1.50	@	2.00
State, yellow	—	@	1.50
White	2.00	@	2.50
Potatoes, L. I., Rose	3.00	@	3.25
Jersey	1.75	@	2.00
Basis	1.75	@	2.00
Ya. sweet	2.25	@	2.50
Jersey sweet	2.25	@	2.75
Squash, Jersey, per crate	1.25	@	1.50
Tomatoes, Jy., & L. I., per crate	—	@	—
Turnips, Jersey, per 100 bunches	—	@	—

Cattle Markets.

NEW-YORK, Sept. 16.

BEEVES.—Receipts, 11,126 head. The week opened with a brisk demand and a recovery in values of 10c. per cwt. on herds of fair quality. Herds of inferior quality were in part unsold, and were weak in value. Wednesday trade opened active, but closed dull with a weak setting. Friday on a light supply and a brisk demand values were firm, being unchanged. One herd of Cherokee steers presented an unusually good appearance. Quality otherwise poor to fair.

(Per cental, net.)	This week.		Last week.	
Good beeves	$3.80	@ —	$3.80	@ —
Fair	3.60	@ 3.75½	3.65	@ 3.77½
Coarse	3.40	@ 3.60	3.45	@ 3.60
Poor	3.25	@ 3.35	3.30	@ 3.35

(Per central, gross.)	This week.		Last week.	
Good beeves	$4.25	@ —	$4.30	@ —
Fair	4.00	@ 4.20	4.05	@ 4.25
Coarse	3.75	@ 4.00	3.80	@ 4.05
Poor	3.50	@ 3.75	3.60	@ 3.75
Oxen	3.75	@ 4.00	3.80	@ 4.00
Dry cows	1.75	@ 3.15	1.85	@ 3.30
Bulls	1.00	@ 3.25	1.00	@ 3.25

MILCH COWS.—Receipts, 85 head. So unsatisfactory has the tone of business been that dealers have not furnished actual sales. Nominal range of prices, $35@45 per head; general sales, $35@45 per head.

VEALS AND CALVES.—Receipts, 1,600 head. On Monday last veals were firm and calves weak. This condition of trade was unchanged on Wednesday. The markets closed steady on Friday for veals and off 1@2c. per lb. for calves. The quality of the calves on sale is no poor and coarse that trade is hindered. Range of prices: Calves, grass-fed, 3½@4½c. per lb.; buttermilk-fed, 5@5½c.; western, 3½@4½c.; a few at 5c.; part meal-fed, with lean veals in mixed lots, 4@5½c.; veals from medium to fair, 6@7½c.; selected lots, 8@8½c.

SHEEP AND LAMBS.—Receipts, 12,944 head. The week opened with a recovery in values of 10c. per lb. Wednesday sheep were steady, while lambs declined 10c. per lb.; Thursday sheep were firm, with a lamb top of 6½c. per lb.; Friday the market closed steady at former values. Range of prices: Sheep, 4@5½c. per lb.; cull sheep, 2½c.; rams, 3c.; sows, 4½c.; ranch and sows in mixed flocks, 3½@5 per cwt.; lambs, 5@7½c. per lb.; cull lambs, 4½c.

SWINE.—Receipts, 12,304 head. Trade in hogs has been dull, with a weak tone in values. 250 Michigan hogs, grass-fed, 97 lbs., $5.15 per cwt.; 304 State hogs sold to several small lots at $5.30@5.35 per cwt.; 70 state pigs, 125 lbs., 5½c. per lb.; 19 pigs, 6½c.

BUFFALO, Sept. 16.

BEEVES.—(Per central, gross.)

	This week.		Last week.	
Extra steers	$4 40@4 60		$4 40@4 60	
Best butchers'	4.10@4.35		4.20@4.35	
Second quality	3.75@3.95		3.75@3.90	
Poor to common	3.40@3.70		3.60@3.60	
Stockers, light	3.25@3.40		3.10@3.75	
Stockers, good to choice	3.75@3.90		3.75@3.90	
Bulls	2.00@3.00		2.25@3.00	

Receipts, 15,400 head against 14,600 last week. The offerings were light compared with several weeks past, and the demand still fairly active to clear the yards early of good cattle. Common light stuff dragged, but everything was taken before the close, which was fair. Bulls quiet; stockers dull, except for good.

VEAL CALVES.—Strong and higher; receipts light; good to choice, $6@6.30; heavy fed, $4.75@5.

MILCH COWS.—Market strong for good to choice and forward springers; common, dull. extra, $45@55; good to choice, $35@40; common to fair, $20@30.

SHEEP AND LAMBS.—Receipts, 20,000. Firmer, with a fair demand and supply. Good to extra, $4.50@4.75; common to fair, $4.25@4.35. Lambs strong and fairly active; Canadian, $6.30@6.40; western, $6@6.25; com mon to fair, $5.25@6.

SWINE.—Receipts, 41,000. Market opened weak and lower, but before the closing great strength and activity was shown in Yorkers, which advanced that grade rapidly, closing 5c. on fed Yorkers, $4.85@4.90; heavy and medium, $4.70@4.85; mixed packers, $4.30@4.85.

BOSTON, Sept. 14.

BEEVES, NORTHERN.—Good oxen, dressed, 8@9 per cwt.; fair to good, $3.50@4.50; second quality, $3@3.25. WESTERN, Alive—Extra, $4.40; good to prime, $4.20; light to fair, $4@4.25.

MILCH COWS.—In good supply at $35@50 per head.

CALVES.—Sales active at 3½@5c. per lb.

SHEEP AND LAMBS.—Arrivals 6,000; one-third from Canada; in lots at $5@5.50 per head; yearlings, 6@6½c. per lb.; spring lambs, 6@6½c.

SWINE.—Western fat hogs, 6½c. per lb.; Northern dressed, 6@6½ per, nominal.

Dairy Markets—Sept 16

ALBANY.—Fine grades of Butter in demand; lower grades moving fairly. State creamery, choice, 20@21c.; Western creamery, 18@19c.; State dairy, 17@18c; fair to good, 16@17c.; Western dairy, choice, 15c.

Cheese in g od demand; receipts liberal. State factory, full cream, 10½@11c; fair to good, 9½@10½c.

UTICA.—Things looked more encouraging on the board of trade last Monday, and salesmen reaped the benefit of waiting. Transactions amounted to 4,000 boxes at 9@9½c., the ruling being 9c., but more cheese selling above than at that price. Little Falls sold 1,000 boxes at 9½@9¾c., the bulk going at 9½c., but good lot of small boxes of trade sold week at 10c. There was practically no difference made between white and colored cheese, demand for the former having improved. During the week there has been an advance in New-York to 9c., and in the case of some fancy lots to 9½@9¾c., although shippers claim that they are out of the market when it comes to paying the last named prices. Home trade, however, is picking up rapidly, and in the belief that September cheese will be worth more money, they are buying August stock with readiness at the best prices quoted. There seems to be safety in doing so, from the fact that the August make is free and solid, and will keep, it is believed, about as well as later made stock. It will take about two weeks more to market August cheese, then prices will probably advance again on the September make.

Butter is not active in the country, but holds its price firmly. At Utica there were 31 pkgs. of creamery sold at 19½@20c., while at Little Falls only 2 pkgs. creamery were taken at 18c. In New-York the price on some has advanced to 21c.

NEW-YORK—Fancy grades of Butter active; all others dull. Receipts, 4,187 packages. Eastern creamery, 19@20c.; Western creamery, 20½@22c.; State dairy, choice, 19@19½c.; Western dairy, 18@19½c.; Western factory choice, 16@17½c.

Cheese in good demand. Receipts, 93,317 boxes. Factory, best, 10½@10¾c.; light skims, 6@8c.; Ohio flats, 9@10c.

BOSTON.—Western creamery, extra, 19 1-2@20c.; extra firsts, 18@19c.; factory, 17@18c.; Vermont, extra, 19@20c.; dairy, choice, 18@19c. Eastern creamery, 20c. to choice, 18@19c.

Cheese, Northern choice, 9@10c.; western, 8@9½c.; sage, 10@11½c.

Wool Markets—Sept. 16

ALBANY.—Market quiet; sales 15,000 lbs.

Medium washed	30@32	Unwashed	20@ 0
Fine washed	29@3	Pulled	37@42

NEW-YORK.—Ohio XX, 33@34c.; Michigan, 32@33c.; delaine, 34@35c.; unwashed western, 20c.; pulled, 42@ 45c.; Territory, No. 1, secured, 38@39c.; No. 2, 32@ 33c.; Oregon, 30@31c.; scoured, No. 1 Texas, 37@38c.; scoured, 35c.; California, 30@32c.; scoured, 40c.; Australian, 46c.

BOSTON.—Demand has not been as heavy as dealers expected, yet considerable activity is noted and much inquiry. Buyers are offering quite near asking prices, except on fleeces creating too much per scoured pound. Credits are closely scanned and strong figures asked in cases of doubt. Buyers seem dissatisfied with the light-weight season, but much is hoped from the opening of heavy weights. Sales, 2,200,000 lbs., domestic and foreign; Ohio and Pennsylvania, 31@34c.; Michigan, 30@32c.; combing and delaine, 36@ 38c.; scoured, 42@45c.; pulled, 35@45c.; unwashed, 22@ 28c.; Territory, Eng'lish; Texas, 35c.; California, 19@30c.; Oregon, 30@31c.; Australian, 46c.

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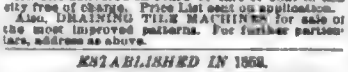

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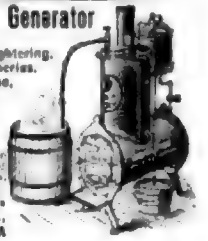

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We went a-fishing. Now, no doub',
You'll say, "The same old yarn again:
The sylvan brook, the speckled trout,
The reguiation mountain glen."
No! We went Staten Island way
And took the cars to Princess Bay.

Along the sandy beach we strayed
And gazed across the glistening water.
The man we hired our boat of said:
"Well, if you don't catch fish, you oughter."
I dare not state that boat's expense—
The bait alone cost ninety cents.

We rowed, and rowed, and then we baled
Our boat out with a skimming-dish.
Well-nigh to Sandy Hook we sailed,
And then, at last, began to fish.
That is, each held and watched his line—
The fishes never made a sign.

And yet, there were fish. Other craft
Went blithely back, their day's work done;
Our rivals showed their strings, and laughed,
While we lay luckless in the sun.
I afterward the reason learned:
Ere we got there, the tide had turned.

We gave it up and started back,
With blistered hands, to reach the shore:
And what had been a three-mile track
Now seemed at least a half a score.
Landing, we reached—what consolation!—
Only one minute late, the station.

That night, in mournful single file,
Three fishermen, starved, brown and gaunt,
Crept slowly home from Staten Isle,
All fishless from their fishing-jaunt.
Now, if their story won't attract,
Supply the fiction. Here's the fact.

—*Henry Tyrrell, in St. Nicholas.*

Our Mental and Social Standing

Edn Country Gentleman—If "J. T. L.," p. 639, is as good a farmer as he is a writer, surely he should be successful enough to write in a more cheerful vein, and instead of indulging in pessimistic views of the social standing of his brother farmers, endeavor to make them more interested in their business, and more happy.

He says that according to his observations there are none so poor to do the farmer reverence. Well, it may be so in his locality; in Pennsylvania, and I believe in most of the other States, the case is entirely different, and farmers, like all other classes, are esteemed by sensible people and papers in proportion to their worth, and occupy the position in society to which their education and natural abilities entitle them.

"What is there in the calling of the farmer," he inquires, "that makes him such a general target for the shafts of witticism?"—and he unconsciously answers his own question, that there is nothing—that "to be successful in his calling requires as large a share of industry, intelligence and business capacity as any other," and that "a larger proportion of farmers are successful than in any other business." If it is true that farmers are a general target for the shafts of witticism, it is probably because the comic papers of which he speaks can safely ridicule them without losing subscribers. Unlike J. T. L., most farmers cannot see much wit in the silly jokes and pictures of the comic papers, and so do not buy them to any great extent.

He broadly asserts that farmers "certainly are a peculiar people, easily recognized in a crowd." If he is correct in this, it is because of their stronger build, their ruddy cheeks and robust health, of which they have a right to be proud, and which no doubt many of the pale residents of the cities would gladly give half their fortunes to possess. He asks: "Does much association with the dumb creatures give them [farmers] something of the patient, simple, cud-chewing look of these—a look as of Issachar crouching between two burdens?"

If J. T. L.'s letter were dated from Chicago instead of Dixon, we should suspect that he was an anarchist in disguise, with the purpose of making farmers disgusted with their business, dissatisfied with their country, angry at society, which they are told scorns them, and fit subjects for insurrection. If the farmers in his vicinity really do have the "patient, simple, cud-chewing look of Issachar crouching between two burdens," they are not native Americans, and must have emigrated from some foreign country where despotism had crushed out their manhood. I can assure J. T. L. that the farmers in this part of the country, when dressed for church or a wedding, can scarcely be distinguished from lawyers, doctors or preachers.

He gives us to understand that he was raised in the streets of New-York, and therefore does not need any warnings "to look out for pick-pockets, three card monte men, and so on." The Scripture says: "Wherefore let him that thinketh he standeth, take heed lest he fall." It is frequently the men with the greatest faith in their own strength that fall the easiest prey to the confidence men. One of the ablest judges of the supreme court of Pennsylvania, himself a life-long resident of Philadelphia, was recently victimized by two confidence men in New-York. Some years since, a merchant of this place, who had often visited the city, and supposed himself invulnerable to all the wiles of the wicked, was swindled out of a hundred dollars by two mild-mannered, agreeable gentlemen who induced him to examine into the philosophy of a "little joker." These gentry have become such adepts in their nefarious business that they are capable of deceiving the very elect. The only safety for country people, and even city residents, is to have nothing to do with well dressed, polite and courteous strangers who seem anxious to make their acquaintance and get them interested in some wonderful thing.

J. T. L. says: "Not only do farmers pay but little attention to economic questions, but they will not listen to any discussion of them, and would drop any agricultural paper, even the Country Gentleman, if it allowed a free discussion of such questions in its columns." It may be that some men like J. T. L. would stop their paper if it allowed the discussion of questions which they did not like, but the great majority of farmers are not so intolerant and bigoted as that, and are becoming more and more interested in the discussion of economic questions every year.

He says: "To the majority of them, that the southern negro should be allowed to vote, is of far more consequence than the price of pork, and to exclude goods of English manufacture outweighs any consideration of farm produce." Surely Mr. J. T. L. would not like to slander the respectable and numerous class of people who till the soil, and to which he professes to belong; but those sentences sound like the words of a disappointed office seeker, defeated by farmers' votes. If farmers do not vote for free trade, it is no evidence that they are ignorant, or regardless of their interests, but it is proof that they believe a protective tariff is of benefit, and that by increasing the population and building up manufacturing towns, it provides good home markets for their products, and enables them to sell fruit and perishable articles which will not bear transportation abroad. The truth is, farmers read more, think more, are more incorruptible, and vote more conscientiously and independently than any other class of people in the United States. J. W. I. *Sugar Run, Pa.*

Footpaths to Success.

Doubtless many young persons who read this paper have seen a manufacturing village with its schools, churches, postoffice, its rows of comfortable dwellings (with flower-pots in the windows, busy wives at work and well-fed children at play) built up almost entirely by the energy and force of a single man. It is he who has drawn these people together, given them work and created the prosperity which they enjoy. Did you ever stop to think how many persons are benefited by the life of such a man? His pay roll includes, perhaps, hundreds of names. All these men and women, though they earn their own living, depend upon his skill and good judgment in managing his business, and are in a very real and immediate sense gainers by it. It furnishes them the work by which they live, and if he does not prosper in it they suffer at once.

But you must look beyond the mill operatives, beyond the school, the library, the various privileges which he provides for his little world, beyond his own home and all the advantages of wealth and culture which the members of his own family enjoy. If his business is a genuine success there are thousands of people, some of them in far off countries, who buy and wear his goods, and are made more comfortable and better off by doing so. There are many merchants who gain their profit by buying and selling them; ships that sail to carry them; laborers in the cities who handle the bales and boxes; machinists who work and thrive that he may have the machinery that he needs in carrying on his great enterprise.

This is only one illustration of the way in which an active life reaches out in every direction, and makes itself felt in constantly widening circles of influence. Not in any vague or doubtful influence, but by giving real, practical help to a great many people, and making their actual lives better worth living.

How little most of us think of the various sources of supply of all our comforts, and the many hands that contribute to what we daily enjoy! Let any one begin some morning and take special thought for just one day of every article that is used, stopping to consider where it comes from, who made it, and how many hands it has probably passed through. I am quite sure that before night he will have a new sense of the mutual dependence of mankind, and find a new meaning in phrases about the wide distribution of the results of labor. The very ease and convenience with which we obtain an almost innumerable variety of those objects and commodities in familiar use make us apt to take them for granted. It is worth while occasionally to reflect upon the personal exertion that each has cost, in order to realize in how many ways our lives are connected with other lives.

Each one of us has something to do in exchange for all these benefits received. It is a busy world; what can we contribute as our share to this vast amount of interchangeable productions? A time comes or should come to every boy and girl, when the great, pressing question is: "What shall I do?" It is all very well for a bright youth to look on for a while, but he soon begins to think about what he can *get* from the world. To find an answer to that question he must first decide what he can *give* to the world.

It is perfectly right and natural to wish for wealth, distinction, and the control of large and varied resources. But there is only one honest road to this desirable end, and that is *usefulness*. In a general way, what we do must be the measure of what we get. In choosing work, we all need to remember that the best thing for us to do is what we can do best. All useful work is or may be good—its quality depends upon the doer; the very best work for each person is that work by means of which he can best bring himself to bear upon the real wants of the world. The work into which you can put most of yourself, and your best self, will be the best work for you. Every trade or profession, once mastered, is a mere tool. Whether the lever be long or short, a railroad or only a spade, a pen or a hammer, it is the brain that moves it, the man behind it, that is the real power. It is the chance to make his own gifts tell, whatever they may be, that is the true opportunity of life for each individual. Sagacity, knowledge, imagination—these may be real forces just as truly as muscular strength. But to accomplish anything they must be put to some real service. Self-culture has been called "a storage of power." But sometimes these intellectual gains are sought merely for the sake of personal satisfaction. There must be earnest work to accomplish anything important, whether it be brain work or hard physical labor, and it is well to remember that brain work is the harder of the two. And the changes effected by ideas are just as real facts as compost heaps or brick and mortar.

The first step toward a successful career, and it is a very important step, is making up your mind what you want to do. A strong purpose in life comes as near as anything can to insuring success. If you have a definite object in view, know exactly what you want and care enough for it to make everything else bend to that purpose, you are tolerably sure of reaching your end sooner or later. Sometimes the most direct road is impossible, but as the old saying has it—"All roads lead to Rome." A firm will will carry one to the goal by a very roundabout road. There is a compensation in the struggle by which character is strengthened, even at the cost of delay. Headway is lost, but still advance is really made, as when a vessel tacks to catch the wind. It is never worth while to be too much discouraged by unfavorable circumstances; even when they seem the worst, a strong will and a clear head will get the better of them. It may be that only a little patience, or perhaps a good deal of patience is needed. The moment is sure to come when the way will open to a determined purpose.

There are two quite different courses open to every young person who has a definite object in view, as the special aim that is to give direction to a successful career. One presupposes what we call "advantages"—important help from others at the outset; the other course demands entire self-reliance, and is generally accepted as a matter of necessity. One boy is sent to school and college and supported by his father through a long period of training and preparation, and enters a profession when his education and personal expenses have cost quite a little fortune. Another begins, perhaps, at twelve or fourteen years old, to pay his own way by downright hard work, and has to earn every inch of advantage for himself. I doubt if the chances are, in this country at least, in favor of the boy who has most done for him. There are no worse failures than are made by many of our rich men's sons, and the plucky boy who is determined to succeed, learns the secrets of success as he goes along.

"Self-reverence, self-knowledge, self-control,
Are the three hinges of the gates of life
That open into power every way."

The boy who makes his own way becomes more sure of himself. He tests his knowledge and his ability at every step, and learns that if he rises it must be because he deserves to rise. He should have a high opinion of himself, but only as he does his duty. He should be his own master, but only to follow the true ends and uses of life. He has a good chance of learning the most important practical lesson of life, which is to know what you can do, and then do it!

Where every step is fought and earned, there is less risk of attempting what you cannot do than in the case of those favorites of fortune who are encouraged to strive for the high prizes of life while all their actual wants are supplied. But on the other hand, there is not one danger of making one fatal mistake—the work which you can do and must do to begin with, is slighted. That never answers. Where work of a low order has to be taken up, it always pays to do it as perfectly as it can be done. If it is worth while to do a thing at all, if the doing it really belongs to you, it is worth while to throw yourself into it and do your very best. It is often best to take the very first chance that offers, no matter what it may be, determined to do it so well that the next thing will be a higher and more responsible kind of work. Prove your ability, not by talking about something else that you believe you could do, of more value, but by the utmost excellence of your actual work. Thoroughness and intelligence will tell in every kind of work, if they are actually applied to the one in hand. There is always a demand for better work; it is the one thing that is wanted in every occupation of life. The boy or girl who does it, who raises the standard of the actual result produced by putting into it higher personal qualities, is certain to rise. Sometimes a better opening comes almost immediately; sometimes it comes slowly, but it is sure to come. D. H. R. Goodale

Hollow Trees.—Farmers who have hollow trees, walnut, hickory or ash, say 12 inches in diameter, can convert them into ornamental and useful articles. Sawed into two-foot lengths, the rough bark taken off, planed, sandpapered and varnished, they make good umbrella or broom-holders. Or fill with earth and set flowers in them, or plant flower seed. For an umbrella-holder, the log should have in the bottom a round tin-pan, painted, to catch water. The ends of logs should be painted as soon as cut, to keep them from cracking open. Sawed six or eight inches long, and covered, they make good footstools. Cut 12 feet long, they are the best thing out to put across lanes or roads where a small stream of water flows—better than tiles, because they do not break. Of course the log should be sound, and the hollow part six inches across. S. F.

The Oldest and Smallest Sect.—There is to be found in the heart of the small city of Nablus, in North Palestine, a little religious community—now numbering about one hundred and fifty souls—which has defied the ravages of war and poverty and oppression nearly three thousand years. Unlike the Yezidis, these Samaritans have had no friendly system of mountain buttresses to defend them through the centuries; and still more unlike the long-lived Savoyard Protestants, they have been right in the pathway along which the devastating armies have marched back and forth, from the time of Sargon to Napoleon. But they have lived on, and their unity has never been broken. They have clung to little Nablus and

to their sacred Mount Gerizim, as the very cactus roots to the granite sides of the sombre Ebal that confronts them across their little enchanted valley. The feeling with which the present Samaritans regard the Mohammedans is of that intense bitterness which they have always manifested toward the Jews. And why not? Does not the Samaritan date his faith from Abraham, or rather from Adam? And has he not a right to call that an infant religion which has been in existence for only the trifle of twelve centuries? Is not the Koran one of your new catchpenny romances, while that mysterious copy of the Pentateuch, made of sacred lambskins, which the Samaritans have been reading and kissing through these many ages, is the oldest copy in existence, written down by Aaron's own grandson, and the veritable original of all the Pentateuchs in the world?—*Harper's Monthly.*

Domestic Economy.

September Wisdom for Housewives.

Get the Underwear Ready.

There are housewives and housewives. There is one class, who by strict economy and a small amount of self-assertion, combined with a little suppression of their accustomed self-denial, have managed to obtain a week—possibly two weeks'—outing, and now, with the domestic harness well on again, feel new strength and courage for their work. There is another class, who could not compass an outing, but who, by persistent determination to do only the work positively necessary through the trying months, and rest, rest, rest, take a hopeful outlook on their work. And there is another class, who either from necessity or habit, never have any rest, but month in and month out is one continual round of hard work, always with the harness galling on the self-same spot. No wonder our American women are noted for their early decay and premature breaking-down. I should like to stop and give these same well-meaning housewives a vigorous lecture, because I believe with very many of them both the fault and the remedy lie within themselves; but I did not start on that subject.

To every thrifty housewife alike, whether she be rested or completely fagged out, the name of September is an almost endless necessary preparation for winter, and with all the canning and preserving and pickling of fruit with which this month is filled, there is little time or inclination for nice or difficult sewing. But it is the very best kind of a time for bringing out all the winter underwear of the family and putting it in readiness for that first cold spell when every one shivers and hunts it up. There are so many demands on our time during the busy spring, that the most exemplary housewife is compelled to do her weekly mending in a hurried manner, and many winter clothes are put away sadly in need of mending. Go now and bring them all out, no matter how formidable and discouraging a task it is; thoroughly examine and sort them over, making three grades, namely—those requiring a little nice mending, those requiring thorough overhauling and patching, and those only fit to cut over for the children or to make patches of. Put each grade in a basket by itself, get all the requisites together for mending them, and having all in a convenient place, you will surprise yourself, not only by the amount of work you will find time to do, at odd hours, but by the thorough, careful manner you feel like doing them in, when you are really making a business of it, instead of hurrying them off to get at other sewing, as is usually the way with our weekly mending. There will be many days when you can take them out under a tree or on the piazza, and they will not look half as ugly.

Using cloth to patch merino underwear is a delusion and a snare; use pieces either from fine worn out garments or from cotton or cashmere hose. The knees and bodies of drawers and sleeves of shirts (at the elbows) should have generous sized patches, rounded at the corners, cross-stitched finely with strong thread without turning in the edges, put on their wrong sides as soon as worn thin. By this means you can darn down into these patches with very little trouble, and will feel grateful every time you see one of them. Narrow bias pieces of fine cotton cloth are better for binding over the necks of shirts than tape is. When the edges of the sleeves are worn at the bottom, a good way is to cut them off a little and button-hole stitch them around with silk or worsted, and then crochet a scollop of the same material. The bottom or bodice of worn shirts make excellent skirts for small children, and by the addition of a fancy stitch to the hem or woollen lace to the edge are really pretty. Children's drawers can also be easily made from the worn ones of their elders by making a cotton yoke on which to sew them at the top.

By the way, I know of nothing more beneficial and helpful than these same cotton yokes, a pattern of which can be obtained of any dealer. One serious defect in our manner of making both cotton and woollen underwear is in having too many gathers, too much heat over the abdomen; and these yokes, which can be utilized on all muslin and woollen drawers and skirts, are a remedy for this as well as being very desirable to the women with large hips, as there are no gathers in them except a few at the centre behind, not necessarily even that. They can be varied from four to twelve inches in depth, thus being very desirable for lengthening down skirts. The latter require no goring when put on one of the yokes, merely regulate the fullness, so there shall be very little at the front, more at the sides, but most at the back. Patches of the same material put on in the same manner are an excellent thing for the knees of children's cashmere or woollen hose, and when done with cotton thread will show little, if any. It is also advisable to run the heels of all such, as our mothers used to their hand-knit ones.

I always put the yokes mentioned above on all women's merino drawers, before wearing, for the reasons mentioned.

Children and women should invariably wear warm woolen drawers from October till May; they are far warmer, and more comfortable in every way, than many skirts. One, or at the most two, of the latter is all that should ever be worn, and like all other underwear, the soft and fine is much warmer than the coarse and heavy.

Regardless of what fashion may dictate in the matter, a woman who wears a small bustle, on which are a pair of well-fitting skirt-supporters, under her skirts, will do her work in more comfort than she who does otherwise. Skirts for children can be made of various kinds of materials—the odds and ends of the household accumulations.

The domestic dyes are so easily and satisfactorily used that no garment is too faded to be made well-looking for some use. The lighter grades of men's clothing make excellent skirts, by pinking the bottoms of them and sewing to a yoke. A nice skirt for school-girls, or those compelled to be much out of doors, is one cut in princess shape, either with or without sleeves.

An excellent waist for children is cut with one dart, an under-arm gore and French back. Make without sleeves, and either high or low in the neck, as you prefer. Cut it three inches deeper than the waist line, and face up to that depth. On the bottom, at each side, sew a button for the stocking-supporters; at the centre of both the back and front, one for the underdrawers; at an equal distance on each side of the centre or both back and front, one (four in all) for the outside drawers, and at the waist line, four more for skirts. This waist does away with all superfluous ones, and still makes all the clothing secure.

All old people—and children—as well as all persons compelled to sleep in cold rooms, or to be up during the night, should wear flannel night dresses. Small children's are best cut with drawers, but men's can be made precisely as muslin night shirts are made. And for ladies'—especially for an over one—there is no style better than the Mother Hubbard, when cut long enough for both yoke and skirt, and the former made of inch-wide tucks, feather-stitched in a contrasting color, yoke depth, with cuffs and pockets to correspond, are very neat and pretty. One made of very dark grey flannel, and stitched with yellow silk, was among the most prized of a wealthy lady's numerous Christmas gifts.

Another comfort for old people is an over-night cap, crocheted out of soft zephyr or Shetland wool, with narrow ribbon ties. Old people are sometimes wakeful because their heads are cold.

I have said nothing of darning stockings, mittens and leggings. This is a matter in which experts are made by careful, painstaking experience, and little advice can be given in regard to it, save that I think it an art which all girls should early learn, and think it degrading to wear those needing it, as I have known well-dressed girls to do. I could easily go on and give some of the ideas I have learned by hard experience about re-making dresses, but this work is not usually undertaken until next month. And tidy, warm underwear is by far the most essential at any time, and she who succeeds in having this well repaired during September, may feel a very commendable pride in her work.

Onondaga County, N. Y. KATHERINE B. J.

Housekeeping in South Kentucky.

I thank Mrs. C. very much for her suggestions in regard to jam-making (page 605). It would be just play, as the children say, to make preserves that way; but I am afraid the domestic economy in her case and in mine is too different to allow either of us to adopt the receipt of the other.

I have always thought if our establishment could be smaller, if there were only our own family to provide for, that it would be a great help to have all the modern conveniences; but as it is, we have such a number of people to care for, so many coming and going, or "stopping" with us for an indefinite length of time, that everything has to be provided by the quantity. The unsettled state of labor in this section of country renders it necessary, in addition to the half dozen hired men who have families and of course live by themselves, for us to board permanently some hands, both white and colored, and every now and then the farm manager declares that beside his regular force he needs more help, and calls in a number of "transients" for the purpose of "saving a big lot of hay this pretty weather," "harvesting the wheat before he rains come," "raising a barn," or some other such pretext. And when wheat-threshing time comes, the whole community goes picknicking round from house to house in the most sociable manner. That performance was so long-drawn-out this summer, owing to frequent interruptions from rainy weather, that I mildly inquired of my father one day whether he thought it would last till Christmas! He rather thought it would, he said, to make a good job of it, but finally explained that though the wheat had been threshed long ago, there were oats, clover seed, orchard grass, and goodness knows what all, to be gotten out. And to add insult to injury, my father fell so in love with the engine, of which he is part owner, that he speaks of keeping it here permanently and setting up a mill to grind grain food for the cattle! My only hope is that it will not require 25 extra hands to run it, as during the wheat-threshing.

So you understand, Mrs. C., that an oil lamp would not go very far in preparing eatables for such a crowd, though of course we did not feed the wheat-threshers on preserves. They visit us when fresh fruits are in season, and you know there is nothing that touches a workingman's heart like *pie*. It does not matter what kind of fruit is used, so that it is well sweetened and served between two crusts.

Having to provide for so many, the housekeeper can do little more than overlook the servants, and our ingenuity is taxed to the utmost to invent simple methods of doing things that they can understand and carry out. Negroes are still the only dependence for servants, but we boast that we have the best the country affords, descendants of old family servants who were brought up in the belief that their "white folks" were infallible.

Rachel, my favorite of them all, is one of the most efficient women I know, but unfortunately she has such a flock of dependent little ones that she cannot hire out regularly, only comes for a few days now and then when we call upon her for a special job, her daughter and her younger sister being employed regularly as housegirl and cook.

Darkies are like race horses, they put in their best work in hot weather, and although Rachel is rather plump to be compared to a race horse yet she manages to put in very fair time, coming usually before breakfast and remaining till after supper, no matter how long the days are. But I think they consider three square meals a day, or what they call "board three times a day," no small item of their remuneration.

Rachel is very proud to be called on for special services, as jam making, which I impress upon her can be relegated to no one else, and is never more in her element than when standing over a hot stove on a summer day, stirring several large kettles of jam, each in its turn, and gratuitously bestowing a word of exhortation on the "young niggers," as she calls them, who are skirmishing over dinner, while I sit in the north door of the large white-washed kitchen enjoying the cool breeze and getting the jars and tops ready.

If I wish to make Rachel supremely happy at such times, I inquire particularly after each member of her family, being aware that she cherishes the delusion that each and every one of them is a confirmed invalid. Her proudest boast is that consumption and scrofula are both hereditary in her family.

I know in my heart that her children are perfect little pine knots, and that Rachel herself (though she came up that morning with a white cloth bound tightly around her forehead, and a casual mention of headache, which a cup of coffee instantly cured) is as strong as an ox and can do enough work to keep me busy directing, and putting the finishing touches to, all day. And at night she will go home carrying a load of provisions on her head and in both arms that a horse might object to.

So you see that the exigencies of the situation compel us southern people to cling to some of the old ways of doing things, though we are ready to acknowledge the advantages of new methods, and should be glad to adopt them were it at all practicable.

Logan County, Ky. HORTENSE DUDLEY.

Cereal Coffee.—A fair substitute for coffee may be made by mixing up wheat bran or "shorts" with molasses—two tablespoonfuls of molasses to four quarts of bran. It must be thoroughly worked together and roasted (in a large baking pan) slowly until it is of the color of coffee. The last half hour it will need frequent stirring. Make it, using the same quantity as of Java, and it would seldom be detected that it was not pure Java. It must be boiled to extract the goodness and cannot be injured by the process. In sickness it is very good to use where nothing as stimulating as real coffee is desired. J. W. A.

Ripe Fruit.—On a farm or country place well supplied with fruit, it is often difficult to prevent its going greatly to waste. Small quantities already prepared for the table can be converted into rich jam, which will keep indefinitely with very little trouble. Add, by measure, three-quarters the quantity of sugar. This is a general rule for solid fruit, as peaches, plums or grapes. Put into an agate saucepan, and simmer gently until the syrup thickens. Experience will soon teach when to consider them "done;" the time of cooking varies with the quantity of fruit and the heat of the fire. Many kinds are most palatably cooked with a little sugar, making a syrup with equal quantities of sugar and water, then putting in the fruit and gently simmering until tender. Most fruits will keep for a week or more in a cool place, cooked in this way, and it is much easier to prepare enough for several dishes at once, rather than to "cut up" fruit separately every time it is wanted. The heavy work of preserving and jelly-making comes when large quantities of fruit are taken in hand with insufficient strength and perhaps scant time. A little jelly or marmalade may be made in an odd half hour without feeling the task as other than a pleasure. Those who like better to take it as the whole business of a very weary day, may remember that there is an old Scotch proverb which says, "Many a little makes a mickle." DOROTHY.

Choosing a Cook-Book.—I have tried to show that a great number of the women who complain of the insufficiency of cooking books, do so because they bring no brains to their task, but having shown this, I admit that there are a very large number of young housekeepers for whom the most accurate and minute directions would be difficult to understand, and that there are also a large number of books that are entirely useless, some written by experts who expect every reader to be an expert, others—and these are simply got up to sell, and do, well pushed—outsell the reliable but less showy volumes, are mischievous in a very high degree, because the receipts are rarely correct, and the woman who broils over the kitchen fire and wastes her materials is little inclined to feel favorably impressed with cooking and will be reluctant to try again; yet if she has spirit and perseverance, perhaps she does try many times, always without success, and when one who knows, reads the receipts, they see there would be no possibility of success. Here again the victims are themselves largely to blame. If a large, showy book, guaranteed to contain receipts for everything edible, and many of them claiming to have a dozen different receipts for each dish, is offered them, they buy that book in preference to a smaller one with a responsible name to it. The books I speak of are compiled from newspapers, not from the columns contributed by some acknowledged adept in cooking, but the fugitive receipts for which no one is responsible, and which, even if they were originally good, are often misprinted. Usually these books, got up with gaudy covers and colored plates, have the name of some far-away publishing company. They are actively canvassed and sell largely; while the small, accurate book of some well known teacher, which does not pretend to tell everything that is to be told in that one volume, will be passed over, and sell only to the wiser few. The large book is worse than useless and it would be an economy to burn it, if you should have one in your possession.—*Good Housekeeping.*

The Poultry-Yard.

A Visit to the Chickens.

Plymouth Rocks—Cost and Profits.

My flock of chickens is now a pretty sight to behold. They have been culled and culled until there is not an ugly one left, and when one has to be sacrificed to the frying pan it takes my assistant and me fully five minutes to decide which we can best give up. Many of the early hatched pullets are as large as grown hens, and from the way they are beginning to cackle about in the weeds we think they will soon be laying. From the day they were hatched we have fed and cared for them in such a manner as to keep them steadily growing, and now that their handsome plumage and trim symmetrical appearance indicate full development, their ration is such as will tend toward egg production. Their mothers, stately old Plymouth Rock ladies, are in considerable disfavor just now because of their unconquerable penchant for sitting.

Last spring words were inadequate to express my approval of their behavior, during winter they had produced quantities of eggs, and early in the spring they all took a notion to sit just at the proper time, afterwards proving themselves such exemplary mothers that the yard was fairly alive with little chickens. I was entirely satisfied with the result, for almost every chick that was put out lived to be grown, but not so with the business-like matrons who wanted to repeat the performance again and again. All through summer about one-tenth of their number has been in prison to prevent them from sitting. I wish some one of greater experience would tell me whether there is not something one could feed to Plymouth Rocks to prevent their becoming so broody. In this advanced age the wise ones profess to be able to accomplish almost anything by a scientific course of feeding. The hens lay well enough but after every batch of eggs they persist in sitting, and it is so much trouble to get that idea out of their heads. Some one says, kill them when they get broody, but if I did that, pretty soon not a single hen would be left; besides, in summer we prefer spring chickens for the table. I suspect the best remedy would be to keep them poor, but then they would not lay any eggs, and after the chicks are nearly grown it is impossible to feed them separate from the rest of the flock, especially on the farm where there are no tight fences or any arrangements made for yarding poultry.

This inborn propensity of the Plymouths suggested trying a non-sitting variety, so I procured a number of beautiful brown Leghorn hens and pullets. These late arrivals are at present our especial admiration—they are such trim little birds, slipping about so gracefully among the rather cumbersome Plymouths, looking so neat and self-possessed in their modest brown dresses, with their keen bird-like heads, bright red combs and clean yellow legs. The comb of one of the hens is so large that it falls over on one side and hides one eye all the time. Pointing to her the poultry dealer said, "There's a hen that is good for 250 eggs next year," though he is impartial enough to predict that next winter I shall come round to the Plymouths again, as they lay best in severe weather, the little brown beauties being more delicate and more sensitive to cold. And for early broilers the Brown Leghorns cannot be mentioned in the same day with the Plymouths, two of the former making little more show on the table than one of the latter. We have fairly feasted on Plymouth Rock cockerels this summer, and noticed that no matter how long and gawky one looked he was always fat, tender and juicy. In fact the cook was so fond of catching them (they were so gentle one could pick them up anywhere), that in order to save a few to see how large they would grow, I took a pot of red paint out to the yard one evening at feeding time and painted the heads of some of the finest young roosters. The effect was quite startling, as if a brood of gigantic wood peckers, shorn of their tails, had lit down among us.

Mary Land (page 579) wants to know whether I keep any record of expenditure and profits. I do not, because it would be impossible to estimate the cost of the food, which consists of odds and ends picked up here and there about the place, shattered corn from the floor of the crib, wheat screenings (mostly chaff), some oats when there is a surplus, with an occasional bushel of cracked corn or a bag of bran from the cow-house, in fact anything that we can lay our hands upon.

We live too far from the market to admit of raising poultry for that purpose; our object is simply to raise enough chickens for home consumption, though that is no small matter I can assure you, considering the number of people that daily find seats at our table. There is a yearly engagement for the surplus eggs, but the proceeds of that go to paying for the labor of attending to the poultry. Such a time as I have trying to make the negroes do the work—it is simply impossible to impress upon the mind of the average darkey the necessity of doing such work with any degree of system and regularity. If Mary Land had some of them to contend with she would not envy me my "sable help." But while a mean darkey is the meanest thing in the world, a good one is about the best; and my present help is a jewel. She is very deeply colored, plump, cross-eyed, and the soul of good nature, always ready and willing to do anything I suggest, provided she is encouraged by personal supervision. But if left to herself, I don't believe she would ever remember to give the fowls a drop of drinking water the hottest day that comes, or would offer the slightest impediment to a hen's sitting for six months on a glass nest-egg.

A FARMER'S DAUGHTER.

Something about Fancy Pigeons.

"What is a fancy pigeon?" is a question frequently asked, and the misapprehension of the title is due to the indefinite term. Properly speaking, any bird might be a *fancy* bird, if it happened to be a pet or fancy of the owner, but in reality a fancy pigeon is the artificial product of the breeder's skill, exerted to produce certain types of form or color prescribed by the imagination or fancy. It is said that German fanciers claim the ability to produce a pigeon marked in color according to any given pattern, in a certain length of time, and it is the marvelous susceptibility of the pigeon to the art of the breeder or manipulator which affords this bird its peculiar charm.

The fancy pigeon, then, is any one of a large variety which has been produced by special culture for a particular standard. As all pigeons belonging to the domestic class were originally produced from the Blue Rock stem, they will, if left to breed indiscriminately, revert to parent types, and lose eventually the distinguishing characteristics which have been artificially impressed upon them. To produce what is called a "high-class fancy pigeon," requires years of persistent and careful effort on the part of the fancier. The highest result is perhaps achieved in the production of the Pouter. A pigeon developed to a specimen, standing upon well shaped limbs seven inches in length, and measuring from the tip of its beak to the tip of its tail over eighteen inches, with the other qualities of the high-class Pouter, is a wonderful product; and its exact opposite, the Short Faced Tumbler, reduced to its miniature dimensions of form, and almost total obliteration of beak, is next if not equal to the Pouter in result. Each variety of fancy pigeon has its peculiar standard, laid down by old, although sometimes conflicting, authorities, and the exhibition hall where competition is afforded, and prizes for strictest conformity to standard are awarded, is the school of the fancy. The Homing pigeon, or Carrier, as it is sometimes called, is not truly a fancy pigeon. It is a bird bred expressly for the development of the homing faculty, and color and shape are non-essentials, although there may exist a preference for particular marking and form. It is a composite bird—a bird formed by the blending of different varieties of pigeons, but its production is not due as much to the variety of pigeon to which its parentage may be traced, as it is to the selection of stock of actual performance.

All pigeons possess in some degree the homing faculty, but it is greatly more pronounced in some birds than in others, and in producing "long-distance" birds the best performers are selected and mated, regardless of color or shape. In breeding fancy pigeons, quite a different course is adopted. The amalgamation of some colors and some points of form, will result in the complete wreck of the fancier's hopes of achieving particular standards, and the cultivation of a strain of fancy pigeons becomes a real art as it advances. The peculiar fascination of this fancier's art can only be appreciated by its votaries, but the admiration of the pigeon as a domestic institution is quite universal. It cannot be denied that even this beautiful bird has its detractors and enemies, and grave charges are sometimes preferred by gardeners and housekeepers, but these charges are often quite groundless; and even when pigeons do become a nuisance, it is because no care is taken by the owners to supply their necessities.

No feature of rural life is more expressive than the well-appointed dove-cote and its inhabitants. Basking upon the roofs of the farm buildings, cleaving the air with strong and graceful flight, bathing in the shallow brook, or tripping over the green turf, they afford an animation and interest to the scene which is irresistible in its attraction. The bright eye, tight, burnished plumage, and dainty red-slippered feet of the pigeon, afford it a charm of appearance which is almost universal in its effect.

From the earliest ages we trace the history of the pigeon as a domestic favorite, and to all lovers of nature we would recommend the beautiful description of the Blue Rock, and its habitation in the caverns of the sea, which is found in Mr. Tegetmeier's book on pigeons. The author of this work, after showing the descent of all domestic pigeons from a common stock (the Blue Rock), describes this bird's habits and characteristics, and adds a most graphic picture of the wild homes of its adoption.

The greatest attraction in the culture of fancy pigeons, is the wonderful adaptability of the subject to the manipulator's arts. No other creature can be so moulded and shaped and colored, according to the will of the fancier. It is almost beyond conception that from a bird like the Blue Rock, so uniformly shaped and marked through all of its hosts of countless numbers, could have emanated the spotless white Fantail, for in the Fantail we have the whole structure of the creation changed. It carries its head thrown back against the root of its tail, twisting its neck in serpentine shape, while the Blue Rock holds its head and neck erect, and in expectant attitude, suitable to the perilous circumstances of its life. The Blue Rock has a straight, closely-fitting tail, while the Fantail spreads its constant fan, 12 inches in diameter. Shape, carriage, color—all are changed, and the marvelous beauty of the achievement rivets the eye of the spectator with delight. It is true that the fancier's art requires care and perseverance to accomplish its objects, and accommodations of a different kind from those usually afforded the barnyard pigeons are necessary for success in the culture of fancy pigeons. But in the result these efforts are abundantly rewarded, and the fascination of the pursuit increases daily with its progress.

P. S. HUNTER.

Poultry Manure.—I am glad to state that my success in the use of chicken manure has been very much better than friend Dow's, p. 643; the most noticeable case being on a field of corn where I used a few barrels, and had my men mark the fence to designate it, but it was not at all necessary to look for the marks, as the corn, all through the season, showed plainly where it had been applied. S. O. C.

Baltimore, Md.

Put Grass in the Pens.—The American Poultry Yard gives the following advice:

Rake off the lawn mowings every time the grass is cut, and shower the short, juicy, fresh blades over the floors or ground of your pens, where the poultry may be confined. This is a splendid way to dispose of the debris, and every morsel will be eagerly devoured by the chickens. For one kind of "green food," there is nothing so palatable or so satisfying—as far as it goes—as is this; and in no other way can fresh grass be so well fed to poultry. The fresh cutting is crisp, tender, nourishing, and highly nutritious too.

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JEWELS AND L

"Oh, girl with the jewel
Oh, girl with the laces

What are your jewels and laces worth to you if, from trying ordeals which fashion poses on its devotees, enough feal strength and endurance bust, you break down, lose become a physical wreck, a from such causes?

Under such circumstances ingly give all your jewels and regain lost health. This you but resort to the use of that known as Dr. Pierce's Favor Thousands of grateful wome it was made known to them.

For all derangements, ir weaknesses peculiar to wom remedy, sold by druggists, un guarantee from the manu will give satisfaction in ever will be refunded. This gu printed on the bottle-wrapp carried out for many years.

An invigorating tonic, it tu the whole system. For feeb ally, Dr. Pierce's Favorite P greatest earthly boon.

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the liver, stomach and bow Sold by druggists. 25 cents

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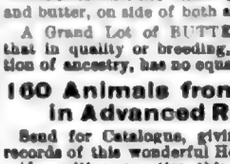

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THE CULTIVATOR AND Country Gentleman

Albany, Sept. 26, 1889.

Summer Notes from Europe.

BY T. BOWICK

Rhineland complains, as does England, of having had wet and unseasonable weather during August. Russia, on the other hand, still cries out for rain, and her big rivers are in many cases too shallow for ordinary navigation. But I must say that these conditions have been extremely partial, for this is only the second morning that I have seen rain that would stop harvest operations, for a month past. On the first occasion we were located at the southern end of the St. Gothard Tunnel, and what was a cold drizzle in the Alpine valley was snow on all the peaks around, which lay, the temperature being low, for three or four days. Down here, again, on the sandy plains of Belgium, a good soaking rain can be well tolerated every week in the year. I saw, yesterday, some excellent potato fields—and nowhere have you better quality than here—with the haulm in a decayed state, but examination showed not one symptom of disease.

With the exception of the uplands of the Duchy of Luxemburg, nearly all crops are safely stored, and entire satisfaction is expressed with the quality. This does not of course refer to hops, which are later than in Kent; nor to the second cut of grass, that has yet to be saved nearly everywhere. The bulk to which this second crop can be grown, and the methods of saving it in good condition whatever weather the early autumn may bring, are surely as near perfection in Switzerland as can be attained. Would that English farmers might take a leaf out of their book; but, then, we are slow to learn, and our large holdings are ill adapted for many details that can be thoroughly carried out under the system of small ownerships. There is not a doubt that these small ownerships have tended to maintain a spirit of independence among the people, which is of itself a bostage to fortune, in whatever land it may be found. Not a square yard of possible ground seems to be lost sight of by them, whether for arable or pasturage. A country less than half the size of Ireland, and with one-third of its surface sterile, has necessarily a big fight with nature to hold its own, as against its more favored neighbors on either side. The latest statistics show 28.5 per cent. arable, of which 1.6 per cent. ranks as vineyards, and about a similar amount devoted to gardening purposes.

It is surprising at how great an elevation you meet with patches both of grain and potatoes—up to some 5,000 feet, or even more, where the aspect is sunny. Still the country does not nearly support its population, and breadstuffs have to be imported to the extent of $10 per head of the population per annum. We were fortunate enough to be in the Canton Vaud, which is one of the chief wine-producing parts, at the time when the rare occurrence (not oftener than once in twenty years) of the great feast of the wine-growers came off at Vevey. For two days of well managed mediæval jollities and amusement, combined with the object of stimulating vine culture and awarding honors to the most successful growers, commend me to that anniversary. Those who propose crossing the Atlantic about the year 2000, please make a note of it! The average annual production of wine runs to about 450 gallons per acre, and the value to about 28 cents per gallon. The wine produced, however, is not sufficient for the wants of the population, and 11,000,000 gallons have to be brought in from other countries. The foreign wines are chiefly consumed by the army of tourists that each year invades the land.

The cattle industry is necessarily an important one in Switzerland, the latest statistics (1886) showing:

	Head.
Cows and oxen	1,219,530
Horses	108,410
Pigs	394,917
Sheep	361,694
Goats	434,225

It will strike you that the number of goats is relatively large, and in fact, of 330,000,000 gallons of milk produced annually, not less than 13,000,000 gallons are from these hardy and nimble animals. It is a pleasant sight of an evening to see the goatherd descend from the upper heights (above the reach of cows) with his two or three hundred of a flock, and each wending its way to its own cottage stabling to be milked. About 6,000,000 gallons of cows' milk is exported, in the form of condensed milk or of infants' food; 13,000 tons of cheese are also sent out of the country, and rather less than 300 tons of butter.

Under the head of agriculture, the confederation takes charge of the forest lands, and also of confining mountain torrents to their proper channels. The forests cover nearly 2,000,000 acres, the great bulk being communal in their nature, 500,000 acres private, and 80,000 acres that belong to the State. To a country that has not a coal mine within its borders, and scarce any peat worthy of the name, the oversight of this department is of essential importance. I should like to return again to some of the more special features (contrasts, if you will) in the socio-economic side of your European sister republic.

Ghent, Belgium, Sept. 3.

From Central Indiana.

EDS. COUNTRY GENTLEMAN—In a ride over the O. I. & W. R. R., I find that the corn crop is not very promising in some localities. A few fields where they have been well underdrained and cultivated promise a very fine yield, from 60 to 75 bushels of shelled corn per acre. By the way it would be well if everybody could understand that when we speak of bushels of corn out West (not the far West) we mean shelled corn or its equivalent in weight. We never speak of corn as a "bushel of ears." We never estimate corn by ear measurement. Returning to our subject—a large proportion of the corn where the land is level and has not been underdrained, and the corn not well cultivated on account of the wet weather in June, the promised yield is poor indeed. There are many fields where the weeds and corn are neck and neck in Hendricks and Boone counties. Those who own level land with retentive clay underlying the top soil will learn by and by that the only sure way to have the soil in condition in wet seasons, so as to have little delay or hindrance in the cultivation of the crop, is to thoroughly underdrain their land. The past season has again enforced this practical lesson, and piles of tile may be seen upon almost every farm, where they have been recently drawn preparatory to the work of underdrainage. Much of the corn along the line of the road from the city (Indianapolis) to Crawfordsville, a distance of 45 miles, will not average to exceed 25 bushels of corn per acre.

From the latter place we traveled several miles in the country by private conveyance. A mile west of Crawfordsville we came to a strip of country over which a hail storm passed the last days of July—such destruction by hail we never witnessed before. At the time of the storm the corn was beginning to silk and very promising; to-day the blackened mouldering stalks are all that remain. In many fields not an ear is to be seen. The fields of corn thus destroyed have in most part been seeded to wheat. The hail stripped every green thing of its foliage, and now the young leaves are putting forth as fresh and tender as in the spring. The strip of country most severely injured is probably a mile in width and five or six miles in length.

The western portion of Montgomery county through which we traveled by private conveyance is one of the best farming sections in the State. The farm lands, though in most part lying high along Sugar Creek, are rich. The white grub has done serious damage through this portion of the country. They have ruined the meadows to the extent that scarcely one is left of any promise. Many of the farmers are breaking them up and reseeding for a crop of grass next year. The grub has also damaged the corn seriously, eating the roots near the stalk, so that a slight rain storm blew down or badly leaned whole fields. Before the rain storm many stalks had fallen of their own weight, so that the damage to the corn crop in this section of country will be quite 30 per cent. The farmers are sowing as much or more wheat than common. And we have never seen more pains taken in the preparation of the soil—the fields are made to look like garden beds. The late rains have been general and sufficient to put the soil in the best possible condition for seeding. The pastures throughout the State are excellent, and live stock are generally in good condition.

Purdue University.

Here we find them filling the silo. The corn ensilage is being cut about half an inch in length, by the "Ross up cut," and elevated into the silo, where it is tramped down compactly. The silo being filled is 11 by 12 feet inside and 18 feet deep—double walls a foot apart, paper lined and pitched on inside. The ensilage corn is cut in strips of an equal number of rows alternately for ensilage and fodder corn, the latter being shocked on the ground in good condition. The ensilage and the shock corn and fodder are to be fed to stock the coming winter, under like conditions to test their values—the per cent. of loss, &c. Prof. Sanborn, if not right in his estimated loss in ensilage, has done a good thing in causing a very general and close investigation of the facts. Dr. Stockbridge and Prof. Latta will make some valuable experiments in stock feeding for the farmers of the State during the next six months. We have not the time to give a detailed description of the preparations that have been made for the work. The United States Experiment Station at Purdue, is probably as well equiped for valuable service as any in the United States. Those having charge of the several departments are live men.

Farmers' Institutes.

The law passed by the last legislature appropriating $5,000, for the holding of farmers' institutes, very properly placed the work in the hands of the authorities of Purdue University, who have made Prof. W. C. Latta superintendent of farmers' institutes for the State. The work of organizing in the several agricultural districts of the State is going on rapidly.

The list of institutes to be held is being prepared, and will be made known to the public soon, so that we may reasonably expect a good deal of enthusiasm in the institute work in this State this fall and during the winter and spring. We are glad to see a move in this direction provided for by legislation. The large area of natural gas (already developed) in this State and the unprecedented growth of population, growing out of the vast number of manufacturing interests established and under way to completion open new fields for agricultural enterprise.

A market has been brought to the very door of farmers for products in growing which they have had little experience, and also for products that are commonly grown. The institute work will aid much in directing the agriculture of the State along the lines best suited to the new conditions. It is probably not known to many that Indiana is one of the best agricultural States in the Union for the growth of cereals, vegetables and grasses, and is centrally located, touching the lakes on the north and the rivers on the south. We are a modest people, and seldom indulge in blowing our trumpets, but a little State pride is admissible where there is so much to back it up.

Sept. 13. J. J. W. BILLINGSLEY.

Trench Culture of Potatoes.

EDS. COUNTRY GENTLEMAN—I send you list of three varieties of potatoes grown by the trench system:

1. A gentleman gave me seven fair-sized tubers of Rose's Beauty of Beauties, which I planted April 10th—yield nine pecks, true measure, and nearly every one marketable.

2. Twenty tubers taken from barrels of Early Rose bought in New-York—I do not know of what kind; they were white skin, oval, and very deep eyes—yield 10 pecks, true measure.

3. One tuber of the Rural New-Yorker Seedling No. 2. The tuber the Rural sent me was about the size of a Leghorn hen's egg, had seven eyes, and was stem-rotted; cut it to six eyes—yield 16 tubers, largest about size of hen's egg, and smallest the size of quail egg.

Land very heavy; amount of fertiliser used at the rate of 1,600 lbs. per acre. I like the shape of the Rural No. 2, but vine is a very poor grower and very spindling. I might have done better with the No. 2 if I had had a good tuber to work with, but I like the Rose's Beauty of Beauties ten to one the best of all kinds tried. The fertiliser used was a standard kind, all planted the same day, and all had the best of care. There was no blight, and no rotten tubers found. I think the trench system good for a small plat, but too expensive for field culture.

C. A. B.

Manalapan, Monmouth Co., N. J.

The Season in Southern Ohio.

Some Novelties in Farm Machinery.

EDS. COUNTRY GENTLEMAN—Our second drouth for the season ended the first week in September, when copious rains fell for several days across the entire breadth of the State, greatly to the benefit of the farmers, but proving quite a hindrance to the State fair, which was held at Columbus in that week. We had been thirty-three days without rain, and all plowing or working of the soil had been stopped for nearly two weeks, but the rains came in sufficient quantity to enable farmers to plow sod, and those who had plowed early were able to make a splendid seed bed, and quite a breadth of wheat was sown between the fifth and tenth of the month. Contrary to expectation it cleared off very warm, and the past week, September 8 to 14, has been the hottest of the season, mercury ranging from 85° to 96° in the shade at noon.

The dry weather has hastened the maturity of the corn crop and many farmers are now cutting it up. The crop will fall below the average, although fifty or sixty per cent. of it is heavy. There has been greater damage to corn from the grub worm than was ever known before. I have traveled through twenty counties of Ohio and Indiana since August first, and everywhere the work of this pest can be seen; sometimes it is only a half acre or an acre in a field, and again from half to three-fourths of the field will be ruined. This is a pest that our entomologists have not learned to combat successfully, as it works under ground and its presence cannot be detected until the crop is ruined. On many farms the crop is damaged seventy-five per cent., and taking a number of counties the estimate is ten per cent.

I attended the State fair and was much interested in the display of agricultural machinery. It is wonderful how much progress has been made in a single generation, and nothing now seems impossible to inventive genius. I was most interested in the machinery for handling the corn crop, for that is the one operation of the farm that has as yet scarcely been relieved of heavy drudgery. The machine for husking corn, and at the same time chaffing the fodder, was in operation, and will, I think, do all that is claimed for it, namely, husk perfectly clean every ear, and deliver it in the wagon, while it cuts the fodder short and elevates it to the place where it is to be stored. The machine is very simple, and probably will not be costly when enough can be sold to keep a manufactory busy making them, but like any new thing it must work its way into public favor. I did not examine it critically, but it looks as though it could be built as cheaply as a binder. The corn, as taken from the shock, is fed butt first between rollers, which crush the stalk but will not let the ear pass through. The ears drop on to two cylinders, which revolve towards each other, and are set at an angle so as to pass the ears along to an elevator which deposits them in a wagon. I think, with dry corn, that nearly every ear will be husked by the rollers, but if any husk remain, the cylinders are provided with spurs which take them all off. At the State fair they were husking corn at the roasting ear stage with it, and it did not leave a husk on it.

Another machine that I was greatly interested in was one for cutting and shocking corn. It was intended to be drawn by one horse walking between two rows, both of which it cuts. Two men ride, and as the angling knife approaches the hill of corn, they catch hold of it, and when it is cut, set it against a lever in the middle of the platform. When the shock is large enough, the horse is stopped and two ropes attached to the rear of the lever are brought round the shock, and being provided with iron hooks, are in an instant fastened together. One of the men now turns a crank at the front of the lever, which draws the top of the shock together, and the other man ties it, and then the lever lifts the shock up and sets it down square on the ground at the rear of the truck. I did not see this machine in the

Sold, and am not sure that it would be found practical; but it is a pioneer, and the day I believe is not far distant when corn will be cut, and perhaps shocked by machinery. There are many inventors now at work on this problem, and undoubtedly it will soon be solved.

Did I write last spring about a machine for setting plants? Such a machine is invented, and was used on a tobacco plantation of my neighborhood. It sets two rows as fast as the horses walk, and waters each plant. One man drives, and two others ride and feed the plants, one at a time, into a wheel which in revolving sets the plant, presses the earth to its roots, and delivers a pint of water to each.

I do not know how it may be elsewhere, but where I live all these labor-saving machines do not seem to have cut out the laborers, for it is difficult to get extra help when it is needed. The result seems rather to have cheapened the cost of production, by enabling one man to do the work of two, and induced farmers to increase their acreage, so that more grain is produced and the markets overstocked. We could not possibly go back to old methods, and yet there are some disadvantages connected with modern farming which are perplexing. W. F. Brown.

Butler Co., Ohio, Sept. 18.

From Southwestern Michigan.

That part of Michigan over which I have assumed the prerogative of voice occasionally, through the columns of the COUNTRY GENTLEMAN, has now no complaints or misgivings to utter. The latter half of August and the first few days of September were dry and hot, and premonitions of a drouth began to appear, but on the afternoon of Sept. 4th and the morning of the 5th, from three inches of rain near the lake to two inches 40 miles inland (east), came, and showered us into a sea of green again. This rain oozed out or tapered off toward the centre of the State, until only enough fell there to lay the dust, and it vanished entirely before the eastern border was reached.

The conditions with us of Southwestern Michigan have been such that corn has matured an average crop, and the apprehensions heretofore expressed in this correspondence have happily changed to the fruition of our hopes. Those belated with their plowing for wheat could now plow with ease, and the rain has put the ground in excellent condition for the seed. A 20-acre field sown on the 13th and 14th is now (Sept. 18th) showing an inch above the drill marks where the beginning was made. Potatoes are better than for several years, and they have ripened up so that the quality is excellent. What apples we have are ripening gradually, and the moderately cool weather is just what is needed to perfect the winter fruit. The September crop report gives for our State three-fourths of a crop of winter apples, which is rather too high for our section. I should place it no higher than one-half. It is the off-year fruit trees that are bearing. There are no Baldwins or Golden Russets. Greenings are fairly set, but they fall badly in this climate, and seldom pay for the space the trees occupy.

The crop report above alluded to estimates the wheat yield to be 16.19 bushels per acre for the southern three tiers of counties, which is a fair estimate for our part of the State. This is threshers' measure, which must be discounted by the shortage in weight and screenings. The aphis caused many late heads to shrink, and the sample looks rather poor until these are screened or blown out.

The writer made some estimates last spring regarding the number of sheep in the State, which the report cited above confirms. The decrease in the number of sheep from last year is reported at 115,958, and the wool clip on the basis of last year's shearing is 11,782,416 lbs., a shrinkage of nearly 3,000,000 lbs. since 1885. When the actual number of pounds is reported next year, it will be found that this estimate is too high, as all sheep sheared about a pound short of the average, on account of short pasturage last season, and coming into winter quarters in poor condition. 10,000,000 lbs. is nearer the allotment for Michigan than any other figure in round numbers.

Sheep are now looking very well indeed, and there is a large demand for breeding ewes to stock up farms where none have been kept for the past few years. The minimum extreme of sheep husbandry has evidently been reached, and the year 1889 will mark the end of the decline in wool production for Michigan.

There are a few less hogs reported than last year, an increase of 13,119 in the number of milch cows, but a decrease of 11,190 in cattle other than milch cows. This shows the result of cheap beef, and where the cattle interest—and every other interest—goes under a reign of low prices for a product.

About the same area of wheat will be sown as last year, but much of it will be sown late in the drier portions of the State. Corn is ready to cut, and is still green as in July.

Van Buren County, Sept. 18. A. C. GLIDDEN.

A Few Practical Points in Drainage.

EDS. COUNTRY GENTLEMAN—You have referred the following to me:

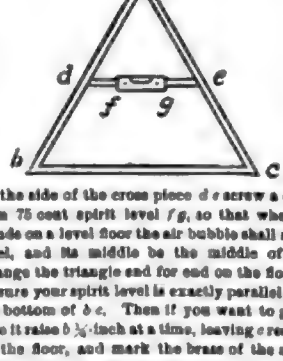
Will Mr. Chamberlain give us some instructions how to dig ditches, find and keep grade, lay the tiles and fill the ditches. I wish to lay about 3,000 feet of tile this fall, but am ignorant of details, hence desire to get Mr. C.'s experience. H. L. J. *Alexandria, Va.*

Let me answer in the order of the work, not of the questions.

1st. *How to Find and Keep Grade.*—The mains should follow the natural depressions where the water runs off upon the surface in wet times, of course straightening the crooks somewhat. If there is a regular slope like the roof of a house, only not so steep, the mains should take the place of the eaves troughs, and the laterals, if any, should run straight down the slope as nearly as may be. If the fall is very slight, it may need a field leveling instrument to lay out the system. But usually a very wet time is the best to locate drains. A furrow plowed then by the eye will work its own grade or show it.

2d. *How to Dig the Ditches.*—If you have not a ditching machine use a heavy breaking plow and strong team to throw out the first eight or ten inches, only drive straight. If possible dig when there is just enough moisture down deep to ooze slowly into the bottom of the ditch as you dig. Begin the spade-digging at the outlet, and work along up the mains and laterals. The water will show the level. Permit no dips or depressions. Dig as narrow and true as possible to the required depth, and groove the bottom of the ditch with a bottoming scoop of size adapted to the tiles used. This and the ditching spades, at least, you should have for 3,000 feet of tiling. I usually establish the grade pretty nearly *with the plow*, plowing deeper through knolls and shallower through depressions, and then dig two or three depths of the spade according to depth required, keeping the spade *at the same angle* all the time, and thrusting it full depth each time. This preserves the grade. It takes a true eye. If you have not one naturally, you had better hire a good practical tile ditcher, and learn of him a few days. That was what I did at first. If there is no water in the soil to show level, the surest way is to draw some into the field, and when your eye or the span level says your groove is cut straight and true for a hundred feet or more, turn in just enough water at the upper end to test it. It takes less water than you would think, and is absolutely sure. If it all runs the entire length, even slowly, your grade will do. If it stands anywhere in long puddles, you must cut down the high portions until no puddles remain.

The span level I make thus: Take three pieces of 1 by 2 inch pine batten 8½ feet long, and halve them together with screws firmly at the ends in the form of an equilateral triangle. Then half way up from one side *b c*, and exactly parallel to it, screw on a fourth piece *d e*, like the cross mark of a letter A, thus (see figure).



To the side of the cross piece *d e* screw a common 75 cent spirit level *f g*, so that when *b c* stands on a level floor the air bubble shall show level, and its middle be the middle of *d e*. Change the triangle end for end on the floor to be sure your spirit level is exactly parallel with the bottom of *b c*. Then if you want to graduate it raise *b* ½-inch at a time, leaving *c* resting on the floor, and mark the brass of the spirit level for each quarter and half-inch up to two or three inches. Then raise *c* in the same way and graduate the other side. Before the groove is cut in the bottom of the ditch this span level may be applied all along, and show the exact fall per rod. Then the groove cutter can take out humps, and the level test its work. *b c* is half a rod long, and so ½-inch fall for its length makes ½ inch fall per rod, and so on. Never be content unless your level shows *some* fall towards your outlet. The more uniform the fall the better. If you know for example that your whole fall is only ½-inch per rod, you *must* keep your grade down to about that rate, not varying, or you will have trouble. Beginning at the lower end the tendency of a new hand is to "lose grade," that is work towards the surface. The span level will help prevent this. Instead of the spirit level *f g* a plumb bob may be hung by a line from it (see figure), so that when *b c* is level the line shall come opposite the middle of *d e*. Its scale may be graduated and marked as in the case of the spirit level. The plumb line is less convenient however than the spirit level, and unreliable in windy weather.

3d. *How to Lay the Tiles.*—The groove should be cut so that the tiles will fit without rolling, and shall touch bottom all the way. Different sized scoops should be used for different sized tiles. Lay the tiles from the outlet up stream, look through each tile to see that it is clear of obstructions, and lay it so that it will not rock or wabble, i. e., curved up, and not down in the middle, if curved at all. Chuck it up tight against the preceding tile, and then step forward upon it and lay the next. I prefer to stand in the ditch, lay each tile by hand, and stand on it to press it firmly to its place. Assort the tiles in scattering them along the ditch so that the harder-burned (smaller) ones shall come together, and not be mixed in among the softer burned ones. But lay none that are not hard burned enough to give a clear metallic ring when struck with a hammer, and lay no cracked or broken ones. For junctions with laterals get from the kiln, if possible, main tiles *with junctions formed*, or at least *holes cut* for junctions. If you have to cut with a trowel, use great care and secure great perfection. Remember all the time that the drain, if well laid, should last 100 years and more, but if not well laid it may not last a year; also that it is no better than its poorest part.

4th. *How to Cover the Tiles.*—First, stand in the ditch when the tiles are laid, and with the ditching-spade shovel in the fine clay (the subsoil last dug out), and see that it rattles or falls *clear down* on both sides of the tiles. Tramp very thoroughly with the feet as you fill, until you have filled in some eight inches deep. The rest may be plowed in by running a very long evener and long inside lines, and having one horse on each side of the ditch. If possible, the field drained in the fall should have been tilled in hoed crops all summer. The soil and subsoil are more moist early in fall, and dig far more easily than when in turf, or even in wheat or oats. Still further, the filling by team is far easier, and the plowing of the field for the next crop will efface all signs of the ditch. In digging to fill with the plow, about half of the earth had best be thrown on each side.

5th. *Sizes of Tiles and Distances Apart.*—This answers a question not asked, but important. In very compact clay subsoil, like that of my Ohio farm, thorough drainage requires laterals from 33 to 50 feet apart, to drain the soil rapidly and thoroughly enough to prevent damage to crops after very heavy rains. This porous soil of Iowa will "draw" 100 feet or more each side of a main laid in a "draw" or "slough," and main drains through depressions, branching up minor depressions, will usually be enough. On my farm the laterals, 33 feet apart and with good fall, are all two-inch tiles, and are large enough. With fair fall, a tile will drain an area equal to one-half its diameter (in inches) squared—that is, a two inch tile should carry the water from one acre (two divided by two and squared), a four-inch tile four acres, a five-inch tile about six acres, and a six-inch tile about nine acres; the less the grade, the wider the "suction range," and the longer the drain, the larger the tiles required. A drain may begin at its lower end with four-inch tiles, and diminish to three and then to two towards its upper end.

Mr. H. L. J. will do well to send 25 cents to J. J. W. Billingsley, Indianapolis, publisher of the Drainage Journal, for a little pamphlet on drainage published by him. A short article like this cannot touch all the points. Do the work right or not at all. The diagrams of my Ohio farm may help some as to the location of mains. Some years ago I wrote quite fully on this subject; I have not the volumes at hand just now. Others have also written quite fully. W. I. CHAMBERLAIN.

Iowa Ag'l College, Sept. 16.

Concrete Wall for Basement.

Building Long Barns.

EDS. COUNTRY GENTLEMAN—I propose building a rectangular barn about 45 by 75 feet and 30 feet high. Will Prof. Stewart say if his experience to date with concrete wall for the basement warrants him in recommending it? How thick should it be at bottom and top? Should both sides be drawn in toward the top or but one? How many barrels of cement ought I to use with sand and rock? E. S. G.

Cedarville, Va.

I can assure E. S. G. that a concrete wall, properly constructed, is the strongest wall that can be built unless made of cut stone. I have have had the wall in use for over 25 years, and it has proved thoroughly reliable.

As G. is building a basement wall, which, for a good stable, should be 8½ feet high, it will require to be 16 inches thick at the bottom and 12 inches at the top—all the slant being on the inside, the outside of the wall perpendicular. If the wall is this thickness and height it will contain 2,360 cubic feet. I usually allow one barrel of cement to 40 cubic feet of wall. This would require 59 barrels of cement. But in this case, it being made with sand and stone (presumed to be cobble stone), in order to get along with this amount of of cement, the stone should be of various sizes and worked in as closely as possible. If the stone were thin and flat it might require somewhat less. It is presumed that G. has the book on "Feeding Animals," which tells how to proportion the cement to the sand, and also how to construct the boxing for the concrete wall. And I would here state that it is more convenient to have the standards placed a little wider apart so that a lath can be put between the boxing plank and the standard, and then, when the boxing plank is to be raised 12 inches for a new layer, these lath can be slipped out and the plank more easily raised without scraping the wall.

2. I should advise G. to build his barn 45 feet wide and 80 feet long. This would require 6 bents, 16 feet from centre to centre. The height of the barn might as well be 22 feet above the wall, as it would add very little to the cost, but add much to the capacity. The cost would only be for five feet in length of posts and boards. This width will give ample room for a good stable in the basement for two rows of cattle, a feeding floor 10 feet wide, through which a wagon may be driven with summer feed, leaving room for a driveway 8 feet wide on each side to carry away the manure, and if this barn is built on the plan given on page 110, headed, "A New Way of Building Long Barns," all the purlins will be omitted, and a large saving in labor and material made—the barn being much more convenient in putting in crops by getting all the obstructions of purlin, posts and beams out of the way.

The barn constructed in this way will also have the driveway in the barn above the basement, directly over the feeding floor in the stable, rendering it very convenient to drop food of various kinds through a trap in the floor above down upon the feeding floor below. E. W. S.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Sept. 21.

The second week in September gave us some of the hottest days of a growing season not at all remarkable for heat, but rather, on the whole, for low temperature. A change with light showers on the east side of the State and heavy ones on the west side, came on the 14th, and since then it has been cooler, with threats of frost yesterday morning, and light frosts in low places this day. A short circuit about the country yesterday enables me to report the corn crop still at least two weeks behind time; more than half of it sure to be seriously injured by frost, and nearly all certain to be degraded in quality by the same agent. The second crop of clover on fields where the first crop was mown early, is now in full bloom and looks as fresh and beautiful as if it were June. In pastures and meadows pigeon grass and fox-tail dominate where red-top and rag-weed held empire last summer. The acreage for winter wheat is double that of last year; a few fields have been sown and the seed has germinated in them. Wheat and oats have been so nearly threshed that few stacks of these are to be seen, while the scarcity of hay-ricks tells better than words the shortage of that crop. The outlook for a big clover crop next year is unusually good, and the average pasture, so far as edible herbage is concerned, is gnawed close to the ground. As measures of the low temperature of the season, Osage oranges are not more than half size. No home-grown watermelons have appeared on the market, and those which have lately come in from the black sands of the

Wabash in South Indiana and Mississippi county, in Missouri, are small, of poor quality, and fail to keep long.

Sept. 19.—A sharp frost, cutting down vegetation in low places, showed at sunrise this morning—the first of the season that left marks on plants and flowers. B. F. J.

Ox-Eye Daisy.—The ox-eye daisy is a most pestiferous and persistent plant, to eradicate which, when it has once obtained a foothold, is nearly impossible. Cultivation of the the soil where it abounds, by plow or hoe, however thorough, seems to give only a temporary control; hand-pulling is very laborious, and I have found it not efficacious at best in some seasons, for example, the present or past wet one. But land sorely infested with it usually, when early and continuously pastured, I have found entirely free of it. If it will remain so until in the lapse of years, the season favorable to its spreading and growth comes round again, is not that method of subjection or riddance simplest, easiest, and therefore best? For one, I take no stock in its desirability on the farm for grazing or a hay crop. C. T. H.

Brasher Falls, N. Y., Sept. 1889.

Express Charges on Nursery Stock.—Hon. S. M. Emery, chairman of the committee appointed by the American Association of Nurserymen, for the purpose of securing lower rates on express lines, reports that a new classification has been agreed upon which amounts to a reduction of 20 to 25 per cent. on all express lines, on all shipments of trees and shrubs, boxed or baled. Such packages are now classed with produce. This is good news to fruit growers, nurserymen and many others. We now have reduced freight, reduced postage, and reduced express charges on nursery stock.

Rochester, N. Y. CHAS. A. GREEN, Sec'y.

The King Harness.—In answer to an inquiry about the sets of harness advertised by King & Co., Owego, N. Y., the New England Farmer says:

Their goods are hand-made and of first class No. 1 oak leather. The greatest care is exercised in the selection of the stock, and nothing but good leather is used. In addition to this, the work is done by skilled hands, under the direct supervision of good, thorough going superintendents. Send to King & Co., and get their sixty page catalogue; pick out the harness that you think you like best and send for it.

Inquiries and Answers.

Clover in Orchard—Bone-Mill.—I have a young pear orchard which has been cultivated several times in crops, and the trees have given fine growth. I sowed it last year to clover, and wish this fall or next spring to turn the clover under so as to help the ground and then sow it down again. Clover runs out in three or four years, and I would like to know what is the best grass to sow with the clover that it may lie for several years, and perhaps be pastured by sheep or calves, and yet be best for the trees and fruit. (1) Also want to know if there is any process simple and cheap through which bones could be ground so as to be available for fertilizer. Would this pay me if dry bones can be purchased at 25c. per 100 lbs? Is there any mill that would cost but little, and which two horses could work? (2) O. P. K. *Valparaiso, Ind.* [1. Alsike clover, orchard grass, or Kentucky blue-grass, will remain several years; but if you wish the trees to thrive, it will be necessary to keep the growth grazed short, and to top-dress annually or biennially, applying the manure more frequently or copiously to a poor soil than to one naturally rich. But all soils in orchards, no matter how rich, will be benefited. 2. Some soils need bone manure more than others; and the amount of benefit can be determined only by making the trial in the locality referred to. A bone-mill has been advertised by Wilson Brothers, Easton, Pa.]

Draft in Plowing.—In an article on page 689, P. F. Kefauver, in commending his home-made subsoil plow, says: "The power is applied low down; this makes the draft less." This last remark I want light upon. I question its truth. (1) Of course the lower beam helps to hold the coulter in place, but at the same time makes the implement heavy and unwieldy, and so far as draft is concerned, it would draw no harder if the lower beam was left out and the coulter held at the right angle by a bolt connecting with the front edge of the coulter at a point corresponding with the lower side of the lower beam, and passing obliquely up through the upper beam with nut on top. (2) L. W. F. *Catharine, N. Y.* [According to the well known principles of draft, a team closely connected to a plow by a short chain makes an easier draft than if attached to a long chain at a distance from the plow. In the same way, a team drawing a sled or wagon, if placed quite near it, draws in a more upward direction than when placed at a distance, and thus lessens the pressure or friction on the bottom. Farmers are familiar with the fact that three horses abreast exert nearly as much force as four horses in couples, the forward pair drawing in a nearly horizontal direction. Plowmen sometimes cause needless fatigue to their teams by using a long chain between team and plow. 2. The two wooden beams, by bracing each other, need not be so heavy as a single beam, for equal strength; and hence the double-braced beam may possess this advantage.]

Tile Draining.—In all articles on tile draining I fail to get the information necessary to know how to successfully drain land. For instance, we have a wet piece of land 10 rods long and 2 rods wide with plenty of fall. I cannot understand how tile will drain that all along the 10 rods. I can lay tile and conduct the water from a spring; this does not dry my land along the whole line of pipe. How can one keep the opening at beginning of tile from closing or filling entirely? A circular from a manufacturer gives cuts and prices of pipes 18 inches long only. A. O. T. *High Bridge, N. J.* [As our correspondent is not familiar with the common operations of tile drains, we may state briefly that a continuous channel is made for the escape of the water of the soil, by placing the 18-inch pieces end to end through the whole line, and the water from the soil pours in at every joint, as the pieces cannot be placed in such close joints as to exclude it, and runs off through the main channel.]

Tomato Figs.—Will some one give me a receipt for making tomato figs? M. H. C. *W. Kingston, R. I.* [The following directions were published in the Country Gentleman some years ago: "Procure a quantity of small ripe tomatoes; peel and slightly cook them; spread on dishes and flatten a little, and sprinkle with white or light brown sugar. When dry enough to keep well, but not hard and dry, pack in small boxes with sugar between each layer. They are said to be very nice, and cannot be distinguished from real figs."]

Flax.—Please tell me through your valuable paper whether the growth of flax as a crop is considered particularly exhaustive on the soil, and if so for what reasons? J. W. C. [The growth and ripening of the rich seed tends to exhaust the soil to a certain extent, and hence the reason that flax does not succeed well when grown after flax without the intervention of several years. If flax is harvested before the seed grows or ripens, it does not exhaust the soil to the same degree.]

Milk Aerators.—On page 205 of Rural Affairs for 1872 is a description of a milk aërator and cooler; is it manufactured now? (1) Is the one used by Mr. Austen of Maryland manufactured, or was it made to order for him? (2) I do not understand how it is made. Any information on milk aërators will be thankfully received. G. D. S. [1. We do not know. 2. We think this particular piece of apparatus was made in England. Why not write to Mr. Austen?]

Kerry Cattle. — Will you please inform me through the columns of your valuable paper, if there is any breeder of the Kerry cow in America? F. L. W. *Seymour, Conn.* [Several importations have been made at different times, but they seem to have passed out of notice of late, and we do not know who is breeding them now.]

Sainfoin.—As a grower of sainfoin for many years, I would like to say that the seed is never reliable after the first year—this is a peculiarity well known in districts where it is extensively grown. The soil should be a "lime stone brash," and it should be sown with barley as soon in the spring as the soil will be in condition for seeding. Its value consists in the astringent nature of the hay, and particularly of the afterfeed, which is universally

Horticultural Department.

Editorial Notes and Comments.

MANURE FOR ORCHARDS.—J. Harris, in an article read at a meeting of the Western New-York Horticultural Society, says there is no difficulty about phosphoric acid and potash, but that the great point is to secure nitrogen. The cheapest way to accomplish this is by the thorough cultivation and pulverizing of turf. A thoroughly drained soil, well tilled, and thus repeatedly exposed to the air, effects a far cheaper way of getting nitrates than sending to South America for nitrate of soda. He recommends the plowing, harrowing and cultivation of orchards, exposing the matted sods to the air. He however says that if half the quantity of ordinary manure is applied, and then 200 lbs. broadcast of nitrate of soda, it will be equivalent to a good dressing of the very richest compost, and a good deal cheaper. He has used this application with great advantage on peaches, strawberries, roses, currants, raspberries, asparagus, celery, onions and beets. It must be borne in mind, however, that variation in the character and composition of soils in different localities, will materially affect the results in all such trials, and the only true way is to submit them to the test of actual experiment; although there is hardly any place where barn manure, thoroughly and copiously incorporated with the soil, will not produce very decided results on the several crops mentioned.

RYE A FERTILIZER.—Prof. Budd stated at the late Nurserymen's Convention that even turning under dry straw, or any thing to make vegetable mold in the soil, would be of more value than most commercial fertilizers. Mr. Kruschke of Ohio, added that one of the best and cheapest fertilizers is rye, plowed under as soon as the heads appear. He had used it for a number of years with the best results. Mr. Maywood of New-York said he had repeatedly brought up poor pieces of ground by sowing rye; and about the first of June, or just before the heads appeared, turning it under; then sowing corn and turning that under. The next year he could grow almost anything on that land.

HONEY-LOCUST HEDGE.—The Canadian Horticulturist describes a honey-locust hedge growing on the grounds of Mr. E. Morden, west of Niagara Falls, which has been five years planted, and is now a sufficient barrier for cattle. This shows good cultivation and management. The same cultivator has nothing to do with grass-grown vineyards and shabbily kept raspberry plantations. He plants his gooseberries, currants and raspberries four feet one way and six feet the other, so that he can do all the cultivation two ways with horses, and thus save a vast amount of hand labor, according to the mode which we have frequently recommended in past years.

RAISING APPLES.—The Nova Scotia Report gives a statement of successful apple-raising on a small scale. The rich soil was subsoiled 18 inches deep the previous year. Two hundred yearling apple trees were set out and cut back to two and a half feet, occupying a fourth of an acre. The third year they produced five bushels; the fourth year seventeen bushels, selling for over a dollar a bushel. They were planted six by six feet apart, to be thinned when older. This management shows the superiority of thrifty young trees for setting out, contrasted with the more common way of attempting to make orchards in a hurry by planting large trees, stunted in growth by neglect, on badly prepared land.

The WILD GOOSE plum, to be fully productive, appears to require pollen from other trees. By mistake, we tested this characteristic many years ago. Eight trees of this plum were planted in a row, suckers, received from a gentleman in Georgia. All bore moderately, and one of them abundantly. We wanted only one tree, and so grubbed up all but the productive one. It had depended on the fertilizing from some of the other trees, and when the trees were gone it ceased to bear. The contrast was striking. It was stated, at the late meeting of American Nurserymen, that the Wild Goose was a very good bearer only when fertilized.

GRADING APPLES FOR MARKET.—An extensive orchardist of Western New-York finds it of great importance to assort and grade the fruit which he sends to market, rejecting all imperfect specimens. Out of twenty barrels of apples he rejects one or two barrels of defective specimens, or such as are knotty, scabby or distorted. If these were left distributed through the rest, they would do more harm than three or four barrels would come to, and give a bad appearance to the whole twenty. He employs eight men assorting and grading apples during the market season, and finds their wages more than repaid in the results and advanced prices for the best fruit. For first quality he puts nothing less than two and a half inches in diameter. All smaller and all crooked ones go into the rejected mass, used for other purposes. As he never permits the dishonest practice of concealing poor fruit in the centre of his packages, his name has a high reputation and his apples bring a high price with those who know them.

The Canadian Horticulturist says that "We have found that by carefully keeping our fruit up to sample, we could get a constant price for it right through the season, even when apples were coming in abundantly. They became known and were sought for in the market."

PARASITES ON WEEDS.—Prof. A. W. Kellerman, botanist of the Kansas Experiment Station, gives in the First Annual Report of the Station a list of several of the most common noxious weeds, and the number of parasitic fungi which inhabit and prey on them. These parasites often diminish their number and vigor. There are few weeds not having one or more fungi preying on them. One hundred and thirteen species of fungi are at present known to inhabit ninety-eight of the weeds of Kansas. Among these weeds, the ragweed has three parasites, crab-grass two red-root two, wild sunflower five, ironweed six, clot burr two, &c. When young seedling weeds are attacked, often a very large per cent. are killed. In one case, a square rod of waste land was found by actual count to contain 800 plants of a species of rag-weed, 98 per cent. of the tops were killed and three fourths of the plants entirely destroyed, by a species of rust. Some weeks ago, we gave a notice of a parasitic plant which when applied to the well-known "live forever," entirely destroyed it. The parasite should be better known, and in some instances they may be rendered useful.

A Woman's Garden—IX.

Fall Potting.

The time has come when we begin to think of the garden as in need of coming in doors. There is a hint of impending danger in the autumnal insect voices; a cool, shadowed morning suggests the possibility of "a change in the weather"—colder winds, rain, and then, it may be, frost! Ought we not to be potting our house plants? As I write, I see one of my neighbors already engaged in this work. Trowel in hand she passes up and down the long bed beside her front piazza, which has been a real show-bed of finely massed geraniums, and dexterously removes here and there one of the smaller plants. Now it is a variegated ivy-leaved trailer; now a tri color; here a salmon flowered specimen, there one with double dark flowers—almost a maroon—and again a fine white or scarlet. A gay window will result from this successful bed, which will in turn insure another equally showy border for the ensuing summer.

There is so much possibility of companionship in a few potted plants in our living rooms—they give such a sense of cheer and bright, innocent beauty, when the out door world is cold and lifeless through the long, lingering months of our northern winter—that in many a quiet life they have a value disproportioned to their actual importance in the floral scheme. It is not only for the sake of saving them, but to save ourselves and make sure of the sweet confidence that—

"Green leaves will come again,"

that we set ourselves seriously to work potting for the windows and the plant stand.

Perhaps the plant stand is already full. One of the most successful window gardeners that I have ever known keeps a small but choice collection of the finer hot-house plants in her windows the year round. During the summer they have a place on a shady piazza. Those which need re potting have the required care at the proper time; the soil is renewed, nothing is neglected that pertains to their well-being, but they are never turned out—never ragged or sun-burned from undue exposure. A light wire stand upon easy-running castors, so that it can be turned to the light in a moment, may, under this system of management, be kept in the most beautiful order, and be a really ornamental object at all times, with a minimum of actual labor involved. This is a great desideratum. In many things, and often, the easiest way is the best way. In the management of plants, if we can combine a small amount of haste with a large amount of satisfaction, we are certainly making a success.

Quickness and a firm light touch seem to be the chief secrets of my neighbor's success in potting. She does not seem to mind the dryness of the powdery earth from which she shakes the roots quite free, but she has a pail of water close at hand, douches them freely, and settle them instantly in a pot two-thirds filled with fine, rich potting soil. A little more earth, then one or two smart strokes of the pot against the ground, settle the whole: the shapely hands give a judicious, light pressure and squeeze to the earth about the stem, and the job is done. It is but the work of two or three minutes, but there is a knack in doing it thoroughly and well.

Another friend who has a noteworthy success in house culture applies the term *moulting* to the transition phase, between the lusty growth of late summer in plants set in the open ground, and the fine winter condition which her favorites assume later. She prefers to keep them in splendid beauty as long as possible in the garden, and does not disturb them until distinct premonitions of imminent frost compel action. On the very verge of ruin a sudden and comprehensive rescue fills a certain "out-kitchen" with a general muster of the rank and file of a somewhat bedraggled regiment. There they are allowed to remain for two or three weeks of the cool fall weather, receiving very moderate watering, and, from time to time, such cutting back and re-arrangement as will best suit them for their new environment in a large and sunny bay-window. To this they are transferred as they begin to show signs of new growth, and in this bay-window the shyest and most coy consents to bloom. Late as they come to it—usually about the 1st of November—in a very few weeks flowering begins anew, and increases constantly in abundance and various perfection until May again calls her children out of doors.

I believe it was Humboldt who said that he had never found a species of plants that could be depended upon to grow invariably according to the descriptions. It is fortunate for most of us who own a woman's garden that flowers do not grow or thrive strictly by rule. A vast amount of variation in care and management is possible without serious loss; the essentials for success are few and simple, and observation and experiment are better than any dogmatic instruction. There is an unfailing interest and pleasure in finding out our own ways by actual trial and attempt, not too dearly paid for by a few failures. A single shelf of potted plants, if one has not time or room for more, will prove a resource and a point of interest; the children will mark the days by the appearance of bud and branch; we shall while away something of the weariness of gloomy weeks, and preserve a germ of hope and new life for the year that is to follow. Let us walk round the garden, then, and decide in time how many new pots we require for our fall potting.

DOROTHY.

California Modes of Fruit Culture.

It would gratify me if I were able to show readers of this correspondence, by the fruit now on the trees, how the application of the California methods of cultivating, fertilizing and irrigating have produced as large, fair and fine apples and pears on the black-soil prairie of Illinois—qualities we see in the same fruits from California. The subjects that I wish to call special attention to are two thirty-year old apple trees, one a Perry Russett, a variety of undoubted English origin, and the other a Vandevere Pippin. For years the first has been nearly barren, and the other a shy bearer with the common bad habit of dropping fruit prematurely. While trees of the same variety, under average and ordinary cultivation or no cultivation at all, have already dropped nine-tenths of their fruit, if they set any in the first of the season, and that fruit almost to the last specimen is either scabby or wormy or both, these trees which have had the benefit of copious irrigation carry crops, which if not full ones, are very nearly so. The fruit is large, smooth and round, and what is better it is holding to the trees and has that flavor of unripeness all late varieties should have at this season of the year. Perhaps the peculiar and surprising feature in the business is that the fruit on the irrigated trees is neither wormy nor scabby in a season when both are nearly universal, demonstrating perhaps that vigorous health in the individual repels not only fungous germs, but sets the attacks of insects at defiance.

Going abroad for a parallel and illustration we find it in the history of the decay and regeneration of the vine in France and Southern Europe. When the oïdium first appeared it was successfully fought by sulphur, and then when the phylloxera entered on the scene bisulphide of carbon and other toxic agents were employed to destroy him. But soon followed anthracnose, mildew, black rot, &c., and the copper solutions were brought to the front and into general use. But as the vine lost in constitutional vigor and vital force, it was found its fungous and other enemies increased in a greater ratio, and that it was not possible to provide agents to combat and destroy them. Then it was finally wisely concluded to go back to first principles and undertake the labor of restoring strength and vigor to the vine, a rather excessive operation, to be sure, but one that M. Prosper Lafitte demonstrated could be accomplished in every vineyard in France if the proprietors would employ the proper means, viz., restoring lost fertility to the soil by manures and fertilizers, assisted and reinforced by copious summer irrigation. That this new departure has been accepted to a measurable extent by French vine growers, may be gathered from the silence of the leading journals for the last six months on the diseases of the vine and the remedies for them, a silence all the more significant after the tumult in their columns over vine diseases for the last three or four years.

I apprehend that we in America shall hear less of the curculio and codling moth, the fungus and that germ, for the next ten years, than for the last five, and a great deal more of returning departed fertility to the land and restoring constitutional vigor and vital force to our fruit trees. When we have done this we shall be able to brag that black-soil prairie Illinois can produce California fruits by copying and adopting California methods.

Champaign, Ill. S. F. J.

American Florists' Association.

Notes of the Buffalo Convention—IV.

SUMMER BLOOMING FLOWERS—EXHIBITION.

"Useful Summer-Blooming Flowers," by A. E. Whittle of Albany, was one of the most useful and practical papers presented. He said:

I will not describe all summer-blooming flowers that could be used, but only those of value for cut flowers. Florists are not systematic in the direction of having flowers through the summer. Catalogues teem with the names of plants recommended for summer blooming and desirable for many purposes, but only a comparatively few are desirable for the florist, many that are named being of no financial value; the florist must have flowers in summer as well as winter, and owing to the great dearth incident to the season, must fill up the gap as well as he can. Those of the most value must have long stems and keep well. A list has been carefully prepared of the flowers which bloom in summer and can be recommended for the purpose under discussion; the design in preparing this list is to specify the plants that are considered desirable to be grown for each month from May to October, able assistance having been given by Wm. Falconer of Glen Cove, N. Y.

MAY—*Greenhouse*—Gloxinias should be potted not later than March and kept warm. Lapagera will continue to bloom till fall, the white being the best. Stephanotis will last through June and July. Roses, carnations and heliotrope. *Cold Frame.*—Pansies; sow in fall before September 1. Mignonette and candytuft; sow in fall in cold frame or in hot-bed in early spring. Stocks; the intermediate sow in early fall; the ten week section in March in hot-bed or greenhouse. Myosotis, anemones and calendulas. *Shrubs*—Magnolias—stellata—conspicua—soulangeana, lilacs, viburnum opulus, deutzia gracilis, spirea van houttei, cantoniensis and tree pæonies. Perennial candytuft is excellent for all cut flower purposes.

JUNE—*Greenhouse.*—Allamanda schotti, Lapagers, Stephanotis. *Shrubs*—Chionanthus virginica, Philadelphus grandiflorus, Deutzia crenata fl. pl., and roses. *Hardy and Herbaceous Perennials*—Pæonies and German iris. Coreopsis lanceolata is very showy and desirable; if sown in July it will bloom the following spring; Double pyrethrums, Spirea palmata, Cypripedium, Hemerocallis flava, Delphiniums, Lilium tenuifolium, Hanoei candidum and longiflorum—by retarding the bulbs that were potted late in the fall, the last two may be had in bloom during this month. *Annuals.*—Coreopsis coronata, mignonette, candytuft, alyssum, Helianthus cucumerifolius, stocks, dianthus in variety, double white feverfew and scabious. Gaiardia picta lorenziana and hybrida are also extremely showy and generally sell readily; sow the seed in February. Asters; sow in December, when large enough put into two-inch pots, then into three-inch pots to grow until planted out in April, where if having been properly hardened they will endure some degree of frost. The Victoria is all in all the best strain, handsome in form and color and prolific in bloom. Burpee's Dwarf Queen can also be recommended. Asters can be had in flower from June till October if successive sowings are properly made from December to June, the two last sown out of doors, but proper thin-

ning out is imperative. Asters are essential to every florist. Candytuft can be had at any time in spring, summer and fall by successive sowing as wanted by each individual; if transplanted it will bloom sooner than otherwise.

JULY.—Hyacinthus candicans, Montbretia crocosmæflora, milla biflora, both of the latter being quite desirable. Gladiolus may be had very early. Old clumps of hollyhocks bloom earlier in the season than do the young seedlings. *Perennials.*—Lilium candidum—longiflorum-auratum-superbum, Iris Kæmpferi, Phlox decussata in variety, Spiræa ulmaria fl. pl., Asclepias tuberosa, Helianthus multiflorus fl. pl., Euphorbia corollata, Yucca filamentosa, Lathyrus latifolius.

AUGUST.—*Shrub flowers.*—Hydrangea paniculata grandiflora, Tamarix chinensis. *Miscellaneous*—Cannas, dahlias, gladiolus, montbretias, feverfew, the double white variety, Solanum jasminoides in greenhouse. Dwarf white dahlias, camelliaflora, have been very successfully grown as a fall crop in the greenhouse, very floriferous and useful and quite valuable if in full bloom during October, because of outside stuff being frozen. *Perennials*—Lilums in variety, panicled phlox in variety, Euphorbia corollata, Anemone japonica, Funkia grandiflora. Second crop of asters, candytuft, &c.

SEPTEMBER.—*Miscellaneous*—Tuberoses, second crop of feverfew, dahlias, carnations, cannas, bouvardia, in greenhouse. Grow sufficient carnations to allow of a few blooming early, these not being planted inside at all. *Hardy Perennials*—Helianthus multiflorus, fl. pl., anemone japonica, Pyrethrum uliginosum, Lilium speciosum, Eupatorium ageratoides, Eulalia japonica variegata.

OCTOBER.—*Annuals*—Asters, alyssum, Calendula meteor and Prince of Orange, verbenas and candytuft; also semi double geraniums, double white feverfew and pansies from July-sown seed; the last two will stand several degrees of frost. *Perennials*—Anemone japonica, Pyrethrum uliginosum, early chrysanthemums, Helianthus maximiliana and Eulalia japonica.

After the reading, Mr. Jordan said that to prolong blooming, the flowers should always be picked clean, to prevent seeding, especially of sweet peas. Hollyhocks have been had in flower in October by picking off the seed pods, and by pinching back, the branches will spring out and have many more flowers.

An instructive essay was that of Edwin Lonsdale of Philadelphia on "Horticultural Exhibitions." We give the most valuable points:

At first glance, it would appear that exhibitions would be better under the auspices of a horticultural society or a florists' club, but they have not been generally financially successful; there is too much irresponsibility; too many who stand aloof with no other apparent reason than to question the motive of the workers; too many suggestions with too few active helpers.

An intelligent report of a worthy show in the press will do more to make an exhibition a success than any one thing else. The one fault in newspaper reports is that the reporters often have little knowledge of the subjects; there should be a committee to meet them and give them information, but the best way would be for the show managers to use their own knowledge in getting up the reports.

There can be no doubt that exhibitions are durable and necessary, even if they sometimes do not prove a direct financial success. The schedule should be prepared with great care, and one of the main features should be the encouragement of the production of valuable additions to our already long list of plants, fruits and flowers suitable, by offering liberal money premiums or some other recognition.

In every city in this country there are wealthy persons who are lovers of plants and flowers, who would willingly offer premiums for special features, if the matter were brought to their attention properly.

The selection of judges is important. They must be men who have had great practical experience, and in order to inspire confidence, such men should be selected from distant cities. Every exhibit, no matter how small, should be noticed, even if only to give honorable mention; for it may be the first attempt and encouragement will be beneficial. Had it not been for the exhibitions the chrysanthemum would not now occupy the place it holds, and the same means will popularize any desirable class of plants, if properly managed; the sooner this is realised by every florist, the better for the trade in general.

The general effect must not be overlooked in an exhibition, as some plants are seen to better advantage on the floor than they may be on an elevation; tables should in all cases be covered with some other material than paper. An exhibition hall should not be opened to the public until it is fitted for the most critical and best people that the florists have to deal with. E. H. S.

Fruit at the State Fair.—Although the show of grapes was very meagre, this only brought into prominence an exhibit of the new white grape Diamond, an entire two-year old grafted vine with twenty clusters being shown. The grape originated with Jacob Moore of Rochester, in 1880, from a cross of Iona on Concord. It ripens the last of August to first of September, before the Delaware or Niagara; is of medium size, bunch and berry; pulp is tender to centre, and of pure vinous flavor, with a trace of Iona; seeds small. The foliage is said to be strong and healthy; certainly the specimen vine, taken up Aug. 21, showed well-ripened wood. The name of Mr. Moore, the originator of the Brighton, is a guarantee of a good grape, and from what we have seen of it, the Diamond is the most promising white grape in the market. It is said to keep well and to make a good raisin, characteristics not unusual in choice early grapes, as the Eumelan for instance. The Diamond is introduced by a stock company of Rochester.

First prizes were awarded as below:

Pears—Bartlett, Buffum, Seckel and B. Superfin, G. T. Powell, Ghent; B. Clairgeau, J. T. Lansing, Clinton Heights; Angouleme and Jos. Malines, Ellwanger & Barry, Rochester; Swan's Orange, Anjou and Sheldon, C. V. Baker.

Apples—Baldwin, King, Spitzenberg, Spy, Wealthy and Twenty-Ounce, C. V. Baker; Holland Pippin, C. A. Bradt.

Plums—Quackenboss, C. V. Baker; Copper, J. Van Allen; Coe's Golden Drop and Grand Duke, Ellwanger & Barry.

Grapes—Niagara, J. T. Lansing, Clinton Heights; Concord, Miss E. L. Dow; Champion, Isaac Van Allen.

James Vick of Rochester had a fine display of vegetables grown by his customers in twenty different States, in competition for prizes amounting to $1,000—26 exhibits of potatoes, 1st prize, James West, Rochester; 15 of celery, 1st prize, E. Gorsham, Hastings, Mich.; 10 of tomatoes, 1st prize, F. J. Stull, Saltz, Pa.; 10 of cabbage, 1st prize, Arthur Sidney, Ithaca, N. Y.; 5 of melons, Stephen Bartholf, Barnard's Crossing, N. Y.

The Entomologist.

The Locust or Cicada.

EDS. COUNTRY GENTLEMAN—This is what is termed locust year for Central Pennsylvania. I have made some investigation of various insects, and there is no one, so far as my knowledge extends, that is more mysterious or wonderful than the locust. Their remaining for nearly seventeen years in a lonely and isolated condition in the earth for an enjoyment of about thirty days in the air is a matter of great singularity. I have been endeavoring to ascertain the extent or boundaries of our brood, but am not yet fully able to give it. The following counties have been visited by them this season: Centre, Blair, Huntingdon, in part, Clearfield, Mifflin, Union and Columbia. And from information obtained by correspondence, they were up in most of the eastern and southern counties in 1855, and in Westmoreland and part of Indiana (and no doubt in other territory adjoining) in 1863.

I have received letters from elderly men, stating they have made four entries of their appearance, all corresponding to seventeen years. Many have made mention of the damage done to young orchards, and any one who has noticed may have observed the number of dead branches caused by them on the young timber. My father set down 1821 as locust year, and I have now added four entries since, but have never fully investigated their habits and mode of reproduction until this season. From close observation I am enabled to make the following statement: They emerge from the earth in the latitude of Central Pennsylvania about the last week of the 5th month, coming up generally in the evening or during the night, crawl up a tree or some object at hand a few feet, and take a firm hold as the last use of their earthly claws. The back of the earthly covering then cracks open and the perfect locust comes forth. It requires some time for the wings to open and become developed, but by morning they are generally able to start out on their aërial flight.

The noise or music is made by the male by a sort of bellows under the wings. After a flight of about two weeks, the female commences to deposit her eggs in the young branches of trees, preferring the apple when at hand, for which purpose she is furnished with a sharp spear about a half inch long, the point of which when examined under the microscope shows somewhat the form of the Indian's dart, being flattened and having numerous cutters or saw teeth on each side. With this instrument she is enabled to pierce a shoot frequently in a short time. The spear is protruded into the shoot or small limb, somewhat at an angle and a little to one side, and a number of eggs not larger than a timothy seed, of a long form and white color, are deposited, then taken partly out and turned to the other side, and a like number deposited with great precision and regularity; being all so arranged as to permit the young to come forth at one opening.

Their life above ground is about thirty days, during which time I have not been able to discover their eating anything. The egg or larva commences to hatch out about the 10th of the 5th month. When the shoot or twig dies, the eggs deposited in it perish unless it is near the time of hatching; hence the general idea of the shoots breaking off and the eggs getting to the ground in that manner is incorrect. The larva enlarges slightly while in the shoot and near the time of hatching assumes somewhat the appearance of a maggot, being able to move and generally to crawl to the opening before the young locust comes forth. The egg or maggot breaks open at the end, and in a minute or two the infant locust succeeds in making his escape from the shell or husk and walks off.

I have had the pleasure of seeing specimens develop in my hand and also on shoots. The form of the young is precisely similar to that they have when they emerge from the ground, having their digging claws as then shown. They are very small and of a whitish color, a lens being needed to view them distinctly. I find they are easily dislodged by a slight breeze or by a heavy breath from off the hand or a shoot; and being so small and light, descend to the ground unharmed, there to commence their long subterranean abode. My opinion is they always assume the same form while in the ground and grow very slowly. I have a number of the young under my care now, and should they be suited with my treatment and I spared for a few years, will know more of their earthly life. They damaged one of my orchards very much this season, but I have been partly compensated in the pleasure I have had in my investigation.

Fleming, Centre Co., Pa. W. P. FISHER.

The Poultry-Yard.

Dry Grain for Farm Poultry.

The remark of Mr. Stephen Beals, page 468, that hard grain stands first as a regular feed for farm poultry, cannot be denied.

I only wish that all the farmers who read the COUNTRY GENTLEMAN would take that same to heart and meditate upon it until they make up their minds to provide a store of grain for the purpose, so that we, their wives and daughters, would not have to rack our brains for a substitute. As it is, we are compelled to do what they think the fowls ought to—scratch around and hunt up something.

My writing upon poultry-feeding has not aspired to teaching professionals anything; they already know vastly more than I do, especially in regard to the requirements of yarded poultry in which I have had no experience whatever. My object has been merely to offer suggestions to busy country housekeepers whose minds are already so occupied with more important matters that they have no time to devote to making experiments, while I, who am only a daughter in the house, have had ample opportunity. This is why I have assumed my present signature, in order that I may talk face to face to those who are contending against the same difficulties, and the advice I give I know to be good because it is deduced from personal experience. I have never read a book upon poultry-keeping in my life, or subscribed for a poultry paper, though in future I intend to do both, so as to profit by the experience of others who have had wider opportunities.

One reason why so much has been said about cooked foods for farm poultry, is because there are so many articles within reach of the farmer's wife that are quite wholesome and nutritious when cooked that are altogether useless when raw. Many times I have heard them say that they had nothing to the world to feed their chickens, when I knew positively that the remark was only an admission of their ignorance of the values of certain foods which they possessed. If they had a supply of grain food at their command they would not be a moment's hesitation what to do with it, but the trouble is they cannot get it. My father is more liberal in this respect than any of our neighbors, yet somehow he seems to think that all the grain grown on our rich farm of nearly a thousand acres can be utilized to greater advantage in some other direction. Last winter I was made blissfully happy by the discovery that there was a surplus of shelled oats in the granary. For months, the chickens and I fairly reveled in oats, but suddenly the big pile disappeared. The price of seed oats advanced, and my father had them measured up early one morning and carried to town and sold. Something like this always happens just as I get in a good way of feeding grain to the fowls. Last fall when I began to give the turkeys a little corn to get them in good order for market, the next thing I heard was that the hogs could not be fattened properly because the turkeys were eating up all the corn; and when I mildly proposed a compromise on the shattered rat-eaten corn in the bottom of the crib, "because nothing else would eat it," he declared that was the very thing for the pigs.

One year, he even took the wheat screenings, the undeniable heritage of the chickens, and had it all ground up for the dairy cows! Holstein cattle are his hobby, and he thinks that every thing on the place they will eat they ought to have. But ever since he let fall the remark that "whatever will make cows give milk will make hens lay eggs," I have felt pretty safe in taking toll of all the food he so liberally provides them, though this is a little inconvenient as most of it has to be cooked in order to render it palatable for the chickens, and that entails a good deal of extra work, for hirelings cannot be induced to attend to it. In their eyes the chicken-food is a thing of no importance whatever.

I hope, however, after this to be allowed more grain for the poultry. Their necessities are beginning to dawn upon my father since he has been reading the COUNTRY GENTLEMAN so sedulously of late, and by dint of frequent repetition the fact has been impressed upon him that chicken raising is not indulged in as an amusement (for it could scarcely be classed among the ideal occupations), or for profit (as that is not feasible at this distance from market), but simply for home consumption. This summer he has been "that good in his heart" as to sow for their benefit an acre of buckwheat, which is specially suitable for the purpose, as it ripens and shatters out by degrees, so that the chickens can peck it from the ground fresh every day. He has also promised them some more oats, and when the wheat is threshed they are to have all the screenings, though he says the wheat crop is so good this year that the proportion of defective grains will be less than usual.

Still, I do not intend to give up soft foods entirely, as the flock has been so healthy when fed upon them; and to prove that the egg-production is very fair, I will repeat the remark made by a little girl the other day as she went the rounds with me:

"Your hens lay a mighty heap of eggs," she exclaimed, as we went to one nest after another and took them out by the handful.

"Do they lay more than yours?" I asked.

"Yes, ma'am, they do," she replied with conviction. "Our hens don't lay but one at a time, but yours laye heaps of them."

A FARMER'S DAUGHTER.

Corn the Best of Feed.—A correspondent of the American Poultry Yard writes:

I do not propose to go into a scientific analysis of the various foods to show which contains the most fat, which the most starch, and all that, because I recognize one fact, and that is that something besides the bare constituents of the food which we feed to our fowls must be considered. When we feed corn to our fowls we must remember that corn and water are not absolutely all that the fowls take into their crops; they are supposed to eat some green food, some meat food, some lime, and various other things which they pick up here and there, and which we know nothing about. Analysis tells us the component parts of corn and water, but does not tell us what influence all these other things which occupy the fowls' gizzards at the same time have upon the corn and water; therefore, we experiment carefully, and when we get through experimenting we ought to know about what we are doing. We have all heard that corn is too fattening for fowls and does not produce eggs. I will say that I will take a flock of Leghorns as soon as the grass starts, and give them their freedom, with nothing in the form of food provided for them but corn and water and shell, and they will beat any flock of the same size fed by the most improved bill of fare. So much for corn. It is, and always must be, the main stay. To be sure, the Asiatic breeds take on fat easily, like the Berkshire swine, and must be fed accordingly; but we are not considering Asiatic fowls now, and although some of the other breeds may sometimes—when advanced in years—get fatter than is good for them, still corn is the main thing after all.

New Advertisements.

Allison & Co., Charles	Unleached Ashes.
Box 618	Fine Brown Horse.
Brancon, James L.	South-Downs.
Baker, Truman	Devons and South-Downs.
Cooper, T. S	Dorset Sheep.
Cunningham, John	Position Wanted.
Connelly, Thomas	Jersey Cattle.
Dana, C. H.	White Metal Ear Label.
Dow, George Q	Berkshire Pigs, &c.
Forest Keenels	Irish Setter.
Foster, Chas. G	Jersey Cattle.
Green, E. B	Farms for Sale.
Howes & Co., E. C.	Kidney and Liver Cure.
Holmes, W. & G. H.	Malstein Cure.
Hape, J. L.	Root-A Cutter.
Jones, Mrs. E. M	Jersey Bull Calf.
Ind. Paint & Roofing Co.	Water-Tight Roofing.
Johnson, C. H.	Shropshires and Oxfords.
J. F. S	Married Man Wanted.
Kemp Bros.	Leeds and Reading.
Langworthy, John F	Scotch Collie Patch.
M C	Young Man Wanted.
"Percheron"	Percheron Stallion.
Sale, H. K	American Sale of Farm, &c.
Smith, H. F	Chester White Pigs.
Treendell, J. M	Cheshire Pigs, &c.
Worth, J	Agents Wanted.
Wilkins, S. K	Devons.
Wilson, Chas. G	Jerseys, Draft Horses, &c.
Wallis, John C	Help Wanted.
X. Y. Z	Situation Wanted.

Subscribers' Wants.

JOS. JULIANE, Reinbridge, N. Y. Registered Berkshire sow, young and in pig.

S. C. GRAFF, Cadiz, O. "Louie Phillipe ponies."

WHEELER BARNETT, Farmer Village, N. Y. Hampshire-Down ram lamb.

Pamphlets, &c., Received.

BOWKER, C. W. & J. R., Worcester, Mass. Circular of Guernsey Cattle and Plymouth Rock Fowls.

BRUCE & SONS, Jos., 51 N. Market St., Boston, Mass. Circular of Dutch and other Bulbous Flower Roots; pp. 20, illustrated.

COLT, H. V., Sec'y Livingston County Agricultural Society, Geneseo, N. Y. Invitation to 49th Fair, Oct. 1-5.

JONES, HERBERT A., Hilmont's, Yates Co., N. Y. Catalogue of Trees, Plants, Shrubs, &c.; pp. 46, illustrated.

KELLING, HENRY, Sec. W. C. Agricultural Society, Walla Walla, Wash. Ter. Invitation to 4th Fair, Sept. 30-Oct. 5.

MILLARD, JAS. L., Sec'y Suffolk County Agricultural Society, Riverhead, L. I., N. Y. Invitation to 35th Exhibition, Oct. 1-3.

MISSOURI HORSE EXCHANGE, Broadway and Chouteau Ave., St. Louis, Mo. Catalogue of 150 Trotting-Bred Horses to be sold, Sept. 30-Oct. 5; pp. 60.

MURDOCH, J. B. & A., Pittsburg, Pa. Catalogue of Trees, Plants, Lilies, Bulbs, &c.; pp. 94, illustrated.

RYAN & CO., J. B., 78 East Maryland St., Indianapolis, Ind. Circular of Clipped Oats.

Farmers' Institutes in October.—The New-York State Dairymen's Association will hold a two days' dairy conference at the following places; at which time there will be churnings and lectures: Cuba, N. Y., Oct. 9 and 10; Hamilton, Oct. 15 and 16; Manlius, Oct. 22 and 23. There will also be a one day's butter conference at Ghent, Sept. 30.

Ontario Veterinary College.—Attention is directed to the standing advertisement of this excellent institution, the next session of which opens at Toronto, October 30th. Prof. SMITH writes us: "We are a week later in opening, in consequence of building very large additions to our college. We have the finest buildings on this continent, and only excelled by one or two European colleges."

Albany County.—A farmers' association just organized in the towns of Westerlo and Coeymans is to hold a picnic and fair on Wednesday of this week, 25th, on the grounds of James Powell, Jr., near Indian Fields; and an address is to be delivered by a good speaker, Mr. F. O. Ives. The officers are:

President—J. W. COWEE, Indian Fields.
Secretary—O. L. Hanney, Dormansville.
Treasurer—William S. Cole, Indian Fields.
Executive Committee—Chas. Trenchard, J. W. Whitbeck, De Witt Stanton, P. R. Whitbeck, A. D. Caldwell, Chas. A. Shear, J. Trautner, De Witt Stevens.

A Remarkable Old Chestnut.—We have the following interesting note and inquiry from Ex-Gov. CORNELL under date of Yonkers, N. Y., Sept. 14th:

EDS. COUNTRY GENTLEMAN—Near my residence in the city of Yonkers is a chestnut tree of such extraordinary size and age that it is deemed worthy of notice in your columns. Two feet above the level of the earth the trunk of the tree is twenty-seven feet in circumference. At the same elevation, its diameter one way is seven feet and the other about ten feet.

According to the best attainable evidence, this venerable tree is well towards six hundred years of age. It is alive and thrifty, despite the loss of several great branches, and will this year bear several bushels of chestnuts.

Within two or three miles of my house are more than a dozen of this variety of trees, ranging from four to seven feet in diameter, while there is no end to the number of smaller ones. It is evident, therefore, that Westchester county is especially favorable to the growth and preservation of the chestnut.

Can any of your readers give an account of any chestnut trees of equal size and age to the "Yonkers chestnut"? ALONZO B. CORNELL.

Acknowledgments.

Communications for publication have been received during the week ending Sept. 21, from J. E. Wing—L. W. Frost—J. W. C.—T. B. Terry—W. R. Lazenby—L. N. Johnson—W. F. Brown—Jas. Smith—A. Hoosier—W. I. Chamberlain—S. M. Coon—H. G. O.—A. K. K.—T. L.—J. S. Fowler—Mrs. S. H. Howell—S. H. Haymond—H. S. G. S.—J. Hinchman—J. Biggins—R. W. Stewart—E. B. Bartlett—Mrs. D. H. R. Goodale—C. H. Schofield—W. Horne—J. G. Ickle—R. W.—H Cooley Green—H. F. Smith—A. C. Gliddon—W. I. Chamberlain—A Farmer's Daughter—G. Gardner—Fannie C. Tillum—Albert Chapman—Florence E. French—A. G. Addition [2]—B. F. Johnson—J. C.—E. E. Sumner—W. S. B.—E. R.—Rose. L. Dean.

, We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

, We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Sept. 26, 1889.

The State Fair.—It is very unfortunate that we had rain every day during the late show of the State Agricultural Society at this city—cloudy mornings without exception, and several drenching downpours—for the exhibition deserved an unprecedentedly large attendance, and by all indications would have had it, with more favorable skies. Even as it was, the grounds were well filled for several days; the receipts for admission not only exceed by three or four thousand dollars the average receipts at the State fairs held within the last twenty years at any other place, but also—what is more remarkable—with the exception of one Utica fair, they are larger than the *maximum* at any place but Albany during that period—illustrating the advantages of having a near-by urban population of nearly 250,000 to draw upon, in addition to the country towns and visitors from a distance. It is unfortunate also that the electric cars which are now about to run at short intervals and at high speed between Albany and Troy, passing one of the entrances to the fair, could not be started until the present week; but the Delaware & Hudson steam trains performed excellent service, and travel between the show and the cities was quicker and more comfortable than at any previous State fair, whether at Albany, Rochester, Elmira or Utica, for many years.

HORSES.—Beginning our review of the exhibition with the draft classes, it is to be said that the great features of the Percheron rings were the six grand animals sent by John W. Akin of Scipio (including the magnificent and well-known imported stallion Tonglenr); and an extremely handsome and powerful young horse called Gentil, imported last year by his present owners, B. B. Lord & Son of Sinclairville; he is a beautiful black, and as he weighs 1700 lbs. at four years without much fat, it will be seen that he has plenty of bone and muscle. Of Clydes, the leading exhibitors were Smiths, Powell & Lamb, Syracuse, and E. J. & H. B. Treichler, Sanford. The gold-medal stallion here, Messrs. Smiths, Powell & Lamb's Rufus, is a bright bay with black points, imported as a two-year-old in 1888; he weighs 1695 lb., has fine form and action, and is very successful as a sire, for his colts are admirable, and made, with himself, a splendid show for the stallion-and-get competition. The Messrs. Treichler had a capital aged horse, too—Brave George—a dark brown nearly black, of great size and power, with tremendous head and neck, and weighing 1800 lbs., though part of his avoirdupois is fat that he could very well dispense with. W. C. McQueen, West Galway, showed a capital imported stallion called Monreith, chestnut in color, and said to weigh the same as Brave George, but hardly looking it.

Of lighter horses, the best French Coachers came from Smiths, Powell & Lamb, J. W. Akin, and E. B. Lord & Son. The general carriage-and-coach classes (breeding not considered) seemed badly placed; there were plenty of good horses, but with hardly an exception they looked too heavy for carriage work, and rather lacked style—some of them are certainly better fitted for the plow or the express wagon.

Among standard-bred horses, and roadsters in general, no observer could fail to notice particularly the excellent display made by H. M. Littel of Macedon, who combines high and judicious breeding with skillful training, and knows how to make every animal do its best for the admiration of the judges and the crowd. His string included the great stallion St. Armand 1319 (to whom was awarded the gold medal as best roadster sire), his sons Judge Keeler, Armas, St. Regis, Guy Allen and another not named, his daughters Rosepiot, Ruby, May Mac and Stella McC., and other beauties. Fine exhibits were also made by Smiths, Powell & Lamb; J. H. Osterhout, Melrose; Cornelius Allen, East Albany; Geo. H Carpenter, Lebanon Springs; A. B. Larkin, Warnerville; and other breeders.

Among saddle horses, we noted particularly a blood-like brown shown (but not for competition) by the president of the society, James Wood of Mt. Kisco, and called The Colonel. He is by Kearsarge (son of Volunteer) out of Kitty by St. Lawrence, Jr., thus combining Hambletonian, Mambrino and thoroughbred blood. The first-prize horse in this class, Pericles, belonging to Gen. A. J. Parker of Albany, is a ten-year bay with remarkably elegant action; sire Brown Ericsson; dam Lady Estes.

CATTLE.—The Jersey breed was most numerously represented, the show including the notable bulls Bunker (property of T. B. Proctor of Utica), Mahkeenac (A. H. Cooley, Little Britain), his son Mahkeenac 2d, and a superb four-year-old, Gazelle's Signal, by Signaldo out of Gazelle 3d, bred by G. W. Farlee, Trenton, N. J., and shown by Shepard Tappen of Troy. William Dutton of Westville and S. C. Humphrey of Pittstown had very promising young bulls. Among females may be mentioned Mr. Proctor's very beautiful and promising heifers Arcadia Pogis, Lady Zulu 2d and Bunker's Nelly, all by Bunker; the same exhibitor's yearling Kitty of Utica, by John Bull's Stoke Pogis out of Kitty of Jefferson 24; Mr. Cooley's Countess Flora and Angotta (daughters of Mahkeenac, and speaking well for him as a sire); and especially a very rich looking three-year old, Highland Ida, bred by Miller & Sibley, Franklin, Pa., and got by their splendid bull Ida's Rioter of St. Lambert, son of Ida of St. L., 30 lb. 3¼ oz.

In Guernseys, Vice-President Morton made the largest (and a very fine) show, with F. B. Buckley of Valley Falls as a good second; and smaller numbers were sent by R. A. Borden of Easton, E. N. Howell of Poughkeepsie, W. C. Wing of West Laurens, J. B. Bancus of Schaghticoke, Geo. Winton of Crandall's Corners, Geo Van Dervoer of Amsterdam, and one or two other breeders.

In Holsteins, the magnificent Lakeside Herd of Messrs. Smiths, Powell & Lamb, Syracuse, had things pretty much its own way, as will be seen by the list of awards on p. 794; but a number of good cattle were sent by Chas. Robinson & Son of Sarro Plains, Mass., and others. The special prizes offered by the American Holstein Association for best butter and milk records were not acted on, there being considerable vagueness about the conditions.

In the Short-Horn rings, the cattle sent from Westboro, O., by John Holaday & Son, attracted much admiration by their high finish, and they are undoubtedly, especially the cows, very good representatives of the breed; but we thought them by all odds too fat. Allowing for superfluous weight, it seemed to us that the herd prize might very well have gone to another exhibit, that of A. F. Stearns & Son of Marion, especially as their leading bull, Roan Duke 19th, received the blue ribbon in his class, where the Messrs. Holaday's Royal Duke of Clarksville, who headed their prize herd, got nothing. The Stearns exhibit, to an admirer of the solid merits of the breed, was grand all through, the blood being high-class Booth and Bates, the cattle themselves very near to importation, and showing great constitution and high feeding quality. The bull just mentioned, Roan Duke 19th, is particularly noticeable for his straight lines, long body, short legs, soft hide, mellow touch, and excellent coat of hair. He was bred at Bow Park, sire 4th Duke of Clarence, dam Roan Duchess of Oxford; is now four years old, and weighs nearly 2,500 lb. in very moderate condition. Another good lot—rather handicapped in the opinion of the official judges, we imagined, by their lack of all fancy finish for show, and possibly also by their distinctively dairy rather than beef qualities—was that of S. Spencer & Son of Kinstone; we noticed particularly a very strong-looking young bull of their own breeding, Joe Johnson by Conewango Lad 9th out of Filipail 2d, and a number of lean and very milky cows and heifers. Everybody appreciates the excellence of the Short-Horns for beef; we think it is a pretty good thing for the bread to show its capabilities for the dairy also.

The Herefords were all owned by the two breeders between whom the prizes were divided as appears from the list on p. 794. They were all handsome, Mr. Bissell's perhaps a little the more fashionable in blood. Representatives usually shown from the noted herd of Erastus Corning of this city, were missed from the grounds the present year.

The cattle department included also a very good show of Devons, Ayrshires and various minor breeds, as mentioned last week, together with a fine lot of glossy black Aberdeen Angus, the property of J. P. Hine, Shiarock, O., whom we hope to see at our New-York fairs again.

SHEEP.—Of about 460 head on exhibition, some 230 were of the Down and similar breeds, 200 Merinoes, and 40 Cotswolds—these last the property of Geo. Chick & Son, Attica; D. and K. C. McDonald, Jordanville.

Remarkably fine South-Downs were shown by J. Hobart Warren of Hoosick Falls and Vice-President Morton, the former sending sheep of his own breeding, while many of Mr. Morton's came from England—a circumstance which made the competition interesting. Mr. Warren received 1st prize on two-year ram (weighing 190 lb.) and yearling ewes, and 2d on yearling ram and two-year ewes; Mr. Morton, 1st on yearling ram, two-year ewes, and ewe lambs, and 2d on two-year ram. In Hampshires, we noticed a number of very excellent imported sheep shown by James Wood of Mt. Kisco, particularly a two-year ram and a ram lamb both bred by F. R. Moore—the lamb an extremely meaty animal of remarkably perfect form, very square, with plenty of bone but no coarseness, and a short neck something like a South-Down's. Mr. Wood had also a pen of ewe lambs bred by Lord Northbrook of Micheldever, and not only very beautiful, but remarkably large for eight months. We must mention also the grand Shropshires shown by George Ingersoll of Fonda, and the always interesting Dorsets of Woodward & Jaques, Wright's Corners. These gentlemen, who made a small importation of the horned breed two years ago, and brought out 70 more in 1888, continue to be well pleased with the enterprise; they breed the ewes twice a year right along, and see no signs of the animals' suffering by the practice.

In the Merino divisions, most noteworthy perhaps was the new mutton class, in which no account is taken of the wool, the judge considering only the size and form of the carcass. The leading exhibitor here was William Berry of Eighty-Four, Penn., who showed some excellent samples of the Washington County Black Tops, a valuable sub-breed to which general attention was called by articles from the pen of Col. F. D. Curtis, published in the COUNTRY GENTLEMAN of 1886.

SWINE.—Some unfavorable comment was excited among visitors interested in the large white breeds by the awarding of the gold medal to the cross-bred so-called "Victoria" shown by George F. Davis of Dyer, Ind., in competition with fine Chester Whites from C. A. Hawkes, Charlemont, Mass.; some persons thought this award was unduly influenced by the individual merits of Mr. Davis' pigs, which were certainly great, without full consideration of the question of blood and probable prepotency.

Capital Cheshires—we do not know when we have seen better—were exhibited by R. E. Cox of Kirkville; excellent Poland-Chinas by E. F. Seeley of Waterloo, R. H. Garfield of Kinstone, and particularly by Smith Harding of South Deerfield, Mass., who has been devoting careful attention to this breed for at least a dozen years, and has been notably successful with them at the Bay State and New-England Fairs; fine Duroc Jerseys by Col. F. D. Curtis of Charlton, W. A. Alexander of Scipioville, and others.

Warren Heustis & Son, Belmont, Mass., made a good show of Small Whites; Thos. E Proctor, Utica, had a small drove of unexceptionable Berkshires; and Jas. Seeley, Geneva, a few capital specimens of the Essex.

IN GENERAL.—The State Experiment Station at Geneva had a novel and instructive display, consisting of a visible exhibit of the analysis of eight leading foods—corn at stage for ensilage, mangolds, milk, timothy hay, red clover hay, corn meal, wheat bran and cottonseed meal. The constituents of a two-pound sample of each of these materials were shown in six glass bottles, containing respectively the (1) water, (2) ash or mineral matter, (3) albumi-

noids, nitrogenous or muscle-making portion, (4) "nitrogen-free extract," which is rather an awkward name for the carbo-hydrates or starchy matter that makes fat and keeps the body warm, (5) fat or oil, and (6) crude fibre—the quantities in the different bottles giving to the eye a complete representation of the constitution of the material analyzed. Some persons were surprised to see that the water obtained from the two pounds of mangolds was more than from the same weight of milk.

—— The best butter was shown by A. Deveraux & Son, Deposit; Salt Point Creamery; Columbia County Creamery, Chatham; and A. C. Bigger, Pepacton. The butter yielded by the Swedish extractor described last week, of the quality of which we were unwilling to speak until after tasting samples that had had some days to season, seems hardly to meet American requirements. It is very pure, and might be called sweet; but it lacks in aroma and flavor—just as might be expected from unripened cream.

Best cheese came from S. C. Wheelock, North Winfield, G. A. Bonfoy, West Winfield, and the Flat Creek Cheese Factory. A fine sage cheese was shown by Geo. R. Wright of Marcy.

—— Among exhibits interesting to dairymen and not already noticed may be mentioned the fine show of butter, cheese, packing and table salt by the Genesee Salt Company, Mercantile Exchange, New-York; and the "low-down" milk-wagon of the J. R. Parsons Wagon Works, Rariville.

—— Fine wheat was shown by J. M. Houghtaling, Delmar, and H. G. Breese, Hoosick; rye by Edwin Houghtaling, Delmar, and J. C. & W. G. Howard, Rochester; oats by the Messrs. Howard, and P. V. Van Allen, Stingerland's; barley by C. A. Bradt, Castile; corn by Isaac Van Allen of Bethlehem Centre, Jones Wilcox of East Chatham, Chas. Coolidge of Phelps, H. W. Hotaling of Delmar, Woodward & Jaques of Wright's Corners, and P. V. Van Allen. Native grasses, full length, with both common and scientific names, by Daniel Batcheler of Utica. Vegetables by Francis Bradt of Wemple, J. S. Harmon of Chatham, W. A. Shafer of Milford, E. Van Allen of Bethlehem Centre, Mrs. W. G. Haviland of West Hoosick, J. C. & W. G. Howard, Edwin and H. W. Hotaling, Chas. Coolidge, and P. V. Van Allen. Of course it is impossible, in all these classes of farm and garden products, to do more than mention a few leading names—there were a great many other exhibitors.

—— The horse department, always confused and confusing, was more mixed-up than usual this year. The society, should, first make its classification in the premium list much fuller and plainer; second, take great care to see that entries are properly made; and, third and above all, put more vigor, snap and system into the management at the show itself, so that the classes shall follow each other with some sort of promptness. It cannot be said, however, that *exhibitors* have any reason to complain, for every possible effort seems to one put forth to do justice to each owner. A little occurrence just at the close of the show will illustrate. A few minutes before the list of prizes on p. 734 was closed for the press, Secretary Woodward telephoned us from the office on the grounds to transpose the first and second awards in a certain class. The explanation proves to be that the original decision was made in a drenching rain, and naturally in somewhat of a hurry. The owner of the second-prize horse felt sure that he had been badly treated, and promptly appealed to the executive committee, though it might be supposed that he would have a poor chance of reversal of the verdict there, as it happened that not only was the judge a member of that committee, but so also was the owner of the first-prize horse. Well, the matter was considered and the horses re examined, more at leisure; and the result was that the owner of the winning horse himself moved that the awards be reversed, and the judge who passed on the class seconded the motion, which of course settled the thing instanter. Not a very important transaction in itself, of course; but it illustrates a general policy of fair and manly dealing that has long been eminently characteristic of our State society, and has contributed, as much perhaps as anything else, to the high and honorable estimation in which its prizes and honors are everywhere deservedly held.

Heavy Turnips.—A North Lancashire farmer writes to the London Agricultural Gazette, as an instance of the growth of crops this season in his locality, that he could then (Aug 15th) undertake to deliver 400 Swede turnip that would weigh a ton. As the ton in England is always 2,240 lbs., this would be a large average for a Swede not yet at its full size.

Obituary.—As we go to press we hear o the sudden death, Sept. 29d, of Prof. GEORGE H. COOK, State Geologist of New-Jersey sinc 1864, and for many years Vice-President o Rutgers College at New-Brunswick. He wa eminent in his profession not only, but also as chemist, and in the great interest he had alway taken in the development of the agriculture o the State, and in the management of the ex periment station and farm connected with th college. He was exceedingly practical an painstaking, and possessed the sincerest confi dence of all who knew him—the latter to such a degree that we have heard it said that he wa the one scientific man in the State whose re quests for an appropriation or suggestions fo legislation the Legislature would never fail t grant. His geological maps and reports are un surpassed by those of any State. The maps were completed, but the text remains unfinished It was largely through his influence that th State Board of Agriculture was formed in 1873, of which he was secretary and director In 1886 through his efforts the New-Jersey State Weather Service was organized.

Dr. Cook was in his 73d year, having been born at Hanover, N. J., in 1817. He was educated at the Rensselaer Polytechnic Institute at Troy, and was for several years a professor and, later, principal of the Albany Academy.

New-Hampshire Report.—We are in debted to N. J. BACHELDER, secretary of the New-Hampshire Board of Agriculture, for a copy of the eighteenth annual report of the board up to May 1, 1889. Its contents comprise the proceedings of the board, the proceedings of the institutes in the several counties, the papers presented at the institutes, the work of the State Dairymen's Association, and a full report of the New-Hampshire Agricultural Experiment Station. Twenty-one local agricultural Fairs have been successfully held, and an improved condition of agriculture in general is reported. The oleomargarine law has been enforced, a system of fertilizer inspection has been carried into effect, and statistics have been collected of leading agricultural interests. The domestic animals of the State include 61,000 horses, 94,000 oxen, 99,000 cows, 53,000 other cattle, and 153,000 sheep, in each of which there has been a gain, except a slight loss in the number of sheep. Dairying continues a prominent farm industry, and dairy products are increasing. The creameries established have manufactured 1,000,000 lbs. of butter, returning to the farmer about 23 cents a pound, or more than $220,000—being an increase of 400,000 lbs. of butter over the previous year. Private dairy products are not reported. A drawback of the general prosperity consists in the neglected farms which many of the former occupants have left for employment in manufacturing towns.

This annual report is worthy of commendation for its well arranged and compact form, and for the absence of the many pages which often encumber some other reports with temporary speeches, addresses of welcome, complimentary answers, and other matter the occasion for which has passed away, and which are not worth the expense of printing and circulating by the thousand copies through the country.

Analysis of Fertilizers.—We have had occasion in past years to speak of the efficient work in the analysis of commercial fertilizers performed by the experiment stations of Connecticut and of New-Jersey, in contrast with the want of a provision of this kind for New-York. The recent reports of those two stations, and that of Pennsylvania, giving accurate analyses of the different fertilizers offered for sale in these States, with the names of the manufacturers, have obviously had a strong influence in excluding impostors, and they have doubtless had a stimulating effect on some others in coming fully up to the requirement. This matter is referred to by Dr. Peter Collier, director of the Geneva Station, in a letter published in the Husbandman, in which he says that New-York State, on account of its unique position of being without any adequate supervision of the kind, such as the neighboring States enjoy, "is actually used as a dumping ground for those so-called fertilizers,"

The Grazier and Breeder.

New-York State Fair.

Premiums Awarded at Albany.

CATTLE—SHORT-HORNS.

HERD—John Holladay & Son, Westboro, O.: bull Royal Duke of Clarksville 7376; cows, Roanoke 9th, Roanoke 10th, Roanoke 18th, Roanoke 21st, Lenan of Belvedere 4th.

BULL AND PRODUCE—John Holladay & Son: bull, Royal Duke of Clarksville 7376; produce, Roanoke 9th, Roanoke 18th, Roanoke 21st, Lenan of Belvedere 4th.

BULL, 3 years—1. A. F. Stearns & Son, Marion, Roan Duke [ath]; 2. W. F. Rupert & Sons, Kenoza, Saxon Chief. *Two years*—1. John T. Hall, Burlington, Dennis; 2. John B. Johnson, Ridge Mills, Prince George. *One year*—1. Stearns & Son, King Tarr. *Bull Calf*—1. Stearns & Son, Troubadour; 2. Holladay & Son, Rose Duke.

COW, 4 years—1. Holladay & Son, Roanoke 18th; 2. Stearns & Son, Cameo. *Three years*—1. Stearns & Son, Jessie; 2. Holladay & Son, Roanoke 17th. *Two years*—1. Holladay & Son, Roanoke 19th; 2. Stearns & Son, Rose Darlene 41st. *One year*—1. Holladay & Son, Lenan of Belvedere; 2. Rupert & Sons, Pride of Seneca. *Heifer Calf*—1. Holladay & Son, Roanoke; 2. Rupert and Sons, Ursula.

DEVON CATTLE.

HERD—Jos. Hilton & Sons, New-Scotland: bull, Prince Taurus: cows, Judith 2d, Belle of Scotland, Edith Hilton, Rose of Dame, Edith's Pride.

BULL AND PRODUCE—Hilton & Sons: bull, Prince Taurus: produce, Cyrus, Busybody, Prince's Gypsy, Marchioness.

BULL, 3 years—1. Hilton & Sons, Chancellor R.; 2. Same, Prince Taurus. *Two years*—1. Jona. Hoag, Tow-hannock, Atwood. *One year*—1. Hilton & Sons, Chieftain; 2. Same, Cyrus. *Bull Calf*—1. Same, Bellbon; 2. Same, Duke of Albany.

COW, 4 years—1. J. Sc. Hoag, Vera; 2. Hilton & Sons, Rilla. *Three years*—1. Hilton & Sons, Modesta; 2. Hilton & Sons, Edith Hilton. *Two years*—1. Hilton & Sons, Sturdy Dame; 2. J. Hoag, Maid of Orleans. *One year*—1. Hilton & Son s, Busybody; 2. Same, Prince's Gypsy. *Heifer Calf*—1. Same, Pettie; 2. J. Hoag, Queen Wanda.

HEREFORDS.

HERD—George M. Bissell, Milford: bull, Chevalier [4242]: cows, Daisy [7794], Rivalry 2d [7795], Riverstone Duchess [8000], Riverstone Pretty maid [8001], Riverstone Prosperity [8002], Anniversary [8003]; reserve, Leatherstocking [7996].

BULL AND PRODUCE—L. L. Sayles & Charles Frith, Steinruck, Ohio: bull, Cedric [8005]; cows, Dignity, Empress, Empress 3d, Regina 2d, Weston Lass 6th.

BULL, 3 years—G. M. Bissell, Chevalier. *Two years*—1. G. N. Bissell, Leatherstocking. *One year*—1. G. N. Bissell, Pinehurstkee. *Bull Calf*—Sayles & Frith, Cedric 10th.

COW, 4 years—1. G. N. Bissell, Daisy; 2. Sayles & Frith, Empress. *Three years*—1. G. N. Bissell, Rivalry 3d; 2. Sayles & Frith, Empress 2d. *Two years*—1. G. N. Bissell, Riverstone Prosperity. *One year*—1. Sayles & Frith, Weston Lass 10th; 2. G. N. Bissell, Maid of the Valley. *Heifer Calf*—1. Sayles & Frith, Princess Louise 5th; 2. G. N. Bissell, Maid of the Valley.

ABERDEEN ANGUS.

HERD—J. P. Hine, Phinneck, Ohio: bull, Earl of Erie [982]: cows, Bellona 2d [977], Lucretia [978], Christabild [974, Bertha [975], Fanny Fern [983], Evelyn [979].

BULL AND PRODUCE—J. P. Hine: bull, Earl of Erie [982]: produce, Lucretia, Bertha, Christabild, Fanny Fern.

BULL, 3 years—1. J. P. Hine, Earl of Erie. *One year*—1. J. P. Hine, Fancy Prince. *Bull Calf*—1. J. P. Hine, Nebula.

COW, 4 years—1. J. P. Hine, Bellona 2d. *Three years*—1. J. P. Hine, Lucretia. *Two years*—1. J. P. Hine, Christabild. *One year*—1. J. P. Hine, Fanny Fern.

BROWN SWISS CATTLE.

HERD—John H. Ehredge, Middle Falls: bull, Burleigh: cows, School, School 2d, Ida Burgi, Fisher, Hirsch

BULL, 3 years—1. J. H. Ehredge, Burleigh; 2. Sarah Ridge, Tunbridge. *The Grove*. *Two years*—2. O. A. Kelley, Jr., Worcester Mose. *Dandy One year*—2. O. A. Kelley, Jr., Sero Toll. *Bull Calf*—2. O. A. Kelley, Jr.

COW, 4 years—1. J. H. Ehredge, School; 2. Same, Violet. *Three years*—1. O. A. Kelley, Jr., Boston Lady; 2. Sarah Rider, Miss Phebe. *Two years*—1. O. A. Kelley, Jr., Rose 4th; 2. E. Rider, Ona. *One year*—1. O. A. Kelley, Jr., Midsleeter; 2. E. Rider, Freda. *Heifer Calf*—1. J. H. Ehredge, School 4th; 2. Same, Violet 2d.

RED POLLS.

HERD—Estate of G. F. Taber, Patterson: bull, Patchett: cows, Pond Lily 2d, Cherry Pie, Lady Brown, Garnet.

BULL AND PRODUCE—Estate of G. F. Taber: bull, Patchett: produce, Pond Lily 2d, Cherry Pie, Lady Brown, Garnet.

BULL, 3 years—1. Est. G. F. Taber, Patchett. *One year*—1. D. B. Dunning, Crazy Rob; 2. Est. G. F. Taber, Redcroft. *Bull Calf*—1. Geo. E. Taber, Pawling, Valiant.

COW, 4 years—1. G. K. Taber, Miss Bradfield; 2. D. B. Dunning, Emma. *Three years*—1. G. K. Taber, Madeline. *Two years*—1. D. B. Dunning, Rose; 2. G. K. Taber, Dauphine. *One year*—1. G. K. Taber, Spotless Maid. *Heifer Calf*—1, D. B. Dunning, Creampot; 2. G. K. Taber, Ray.

HOLSTEIN-FRIESIANS.

HERD—Smiths, Powell & Lamb, Syracuse: bull, Netherland Prince: cows, Lady Fay, Excentrix, Lady Grinwold, Angelo Campella 2d, Sarah Artis.

BULL AND PRODUCE—Smiths, Powell & Lamb, Syracuse: bull, Netherland Prince: produce, Netherland Statesman, Cochilde 4th, Aaggie's 2d Dauchter, Princess Idaline.

BULL, 3 years—Smiths, Powell & Lamb, Netherland Statesman; 2 Same, Netherland Prince. *Two years*—1. Chas. Robinson & Son, Barre Plains, Mass., Artis Poer; 2. J. H. Osterhout, Melrose. *Yearlings*—1. Rich's Prince of Wayne. *One year*—1. Smiths, Powell & Lamb, Sir Netherland Clothilde; 2. Same, Count Clothilde. *Bull Calf*—1. Same, Charity 8th's Clothilde; 2. Same, Clothilde Netherland.

COW, 4 years—1. Same, Lady Fay; 2. Same, Clothilde 8th. *Three years*—1. Same, Excentrix 2d; 2. Same, Aaggie's 2d Daughter. *Two years*—1. Same, Parthetia 3d; 2. Same, Egie 10th. *One year*—1. Same, Lady Grinwold's Netherland; 2. Same, Kandy 3d. *Heifer Calf*—1. Same, Clothilde 8th's Netherland; 2. Same, Aaggie Lee's Clothilde.

DUTCH-BELTED CATTLE.

HERD—C. A. Knapp, Goshen: bull, Jumbo: cows, Crystal 3d, Beauty, Bonanza 3d, Hannah 2d, Mayflower.

BULL AND PRODUCE—John A. Sanford, Goshen: bull Duke of Orange: produce, Aaggie Lawrence 2d, Clara Queen of Orange 2d, Lily of the Valley, Dollie H.

BULL, 3 years—1. J. A. Sanford, Duke of Orange; 2. C. A. Knapp, Jumbo. *Two years*—1. C. A. Knapp, Major Knapp. *One year*—1. Same, Wm. C. Bryant. *Bull Calf*—1. Same, Nicholas; 2. J. A. Sanford, Honest Cleveland.

COW, 4 years—1. C. A. Knapp, Mayflower; 2 J. A. Sanford, Lady Clarence. *Three years*—1. C. A. Knapp, Viola; 2. J. A. Sanford, Cherry Alison. *Two years*—1. Same, Julia Hanford; 2. C. A. Knapp, Amerina. *One year*—1. J. A. Sanford, Dollie H.; 2. Same, Aaggie Lawrence 2d. *Heifer Calf*—1. C. A. Knapp, Crystal 4th.

AYRSHIRES.

HERD—J. F. Converse, Woodville: bull, Enoch.

BULL, 3 years—1. J. F. Converse, Enoch; 2. Dan'l C. Lawrence, Chatham 3d's Guy. *Two years*—1. J. F. Converse, Victorn. *One year*—1. Same, Wimbleton. *Bull Calf*—1. Same, Prodigious.

COW, 4 years—1. Same, first Gordon. *Two years*—1. Same, Josie Peerless. *One year*—1. Same, Douglas Belle. *Heifer Calf*—1. Same, Lada Rosewood.

JERSEYS.

HERD—A. H. Cooley, Little Britain; bull, Mahkeenac 820; cows, Lady Ascot, Augusta, Countess Flora, Frolic's Prize Mammoth Lady.

BULL AND PRODUCE—A. H. Cooley: bull; Mahkeenac; produce, Augusta, Young Anne Lee, Monmouth Lady, Frolic's Pride.

BULL, 3 years—1. Shepard Tappen, Troy, Gazelle's Signal; 2. T. R. Proctor, Utica, Bunker. *Two years*—1. J. M. Darling, Wassaic, Jeffersonian; 2. Chas. H. Swift, Voorheesville, Flower's St. Heller. *One year*—1. A. H. Cooley, Mahkeenac 3d; 2. Mrs. Ira Harris, Loudonville, Leader of Loudon. *Bull Calf*—1. S. C. Humphrey, Pittstown, Pride of St. Lambert; 2. S. Tappen, Van of St. Lambert.

COW, 4 years—1. A. H. Cooley, Countess Flora; 2. Same, Augusta. *Three years*—1. M. Cary, Hurleville, Highland Ida; 2. Jos. Warne, New-Scotland, Vine Maclure. *Two years*—1. T. R. Proctor, Arcadia Pogis 2 Nana, Lad's Xan 2d. *One year*—1. T. R. Proctor, Bunk's Nelly; 2. A. H. Cooley, Augusta Pogis. *Heifer Calf*—1. Henry A. Sleat, Hurleville, Julia Lambertina; 2. T. R. Proctor, Knight of Ohio.

GUERNSEYS.

HERD—Levi P. Morton, Rhinecliff: bull, Safeguard; cows, Lily Orange 2d, Semiramis 4th, Rosaline 2d; Madelene 2d, Lady Morton 3d.

BULL AND PRODUCE—G. B. Buckley, Valley Falls: bull, Duke of Kenmore; produce, Duchess of Easton, Duke of Schaefblecke, Young Daisy, Hilda.

BULL, 3 years—1. R. A. Borden, Easton, Chamerion of Kenmore; 2. L. P. Morton, Duke of Easton. *Two years*—1. J. G. Rapelye Schaefblecke, Duke of Schaefblecke; 2. F. B. Buckley Royal Jeweler. *One year*—1. Geo. Winston, Crandall's Corners, Young Duke; 2. L. P. Morton, Midas. *Bull Calf*—1. L. P. Morton, Fortune; 2. R. A. Borden, Dandy.

COW, 4 years—1. L. P. Morton, Lily of Orange 2d; 2. W. C. Wing, West Laurens, Princess Maud. *Three years*—1. L. P. Morton, Madeleine 3d; 2. R. N. Howell, Poughkeepsie, Beauty du Chene 3d. *Two years*—1. L. P. Morton, Lady Morton 3d; 2. Same, Dine 2d. *One year*—1. L. P. Buckley, Young Daisy; 2. L. P. Morton, Flora. *Heifer Calf*—1. W. C. Wing, ——; 2. F. B. Buckley, Dolly des Vaux-teleta.

SUNDRY CATTLE.

Working Oxen—M. S. Colliers, Eagle Mills. *Three-year Steers, broken to yoke*—John M. Eddy, Saratoga Springs. *One-year Steers, broken to yoke*—Warren Baker, Mechanicville.

Best Pair of Steers—Stephen Hallock, Albion. *Fat Ox*, 3 years—S. Hallock. *Fat Cow*, 3 years—1. J. B. Dutcher & Son, Pawling, Netherland Jewel; 2. G. N. Bissell. *Fat Steer under 3 years*—1. G. N. Bissell; 2. Stephen Hallock. *Fat Heifer under 3 years*—G. N. Bissell.

CLYDESDALE HORSES.

SIRE—Smiths, Powell & Lamb, Syracuse, Rufus

STALLION, 4 years—1. Smiths, Powell & Lamb, Rufus; 2. W. J. & H. S. Treichler, Sanborn, Brave Orange. *Three years*—1. Smiths, Powell & Lamb, King of Scots; 2. Thos. Draper, Lyndonville, Lord Dyke. *Two years*—1. Smiths, Powell & Lamb, Douglass. *One year*—1. Smiths, Powell & Lamb, Empire; 2. W. J. & H. S. Treichler, Gairbraid.

BROOD MARE—1. Smiths, Powell & Lamb, Princess; 2. Same, Jessamine. *Filly 2 years*—1 Same, Highland Maid. *Two years*—1. W. J. & H. S. Treichler, Black Hill Mary; 2. Smiths, Powell & Lamb, Pride of the Manor. *One year*—1. W. J. & H. S. Treichler, Farmer's Fancy; 2. Smiths, Powell & Lamb, Lakeside Belle. *Foals under one year*—1. W. J. & H. S. Treichler, Princess Louise; 2. Smiths, Powell & Lamb, ——.

PERCHERON HORSES.

STALLION, 4 years—1. John W. Akin, Seipio, Tony-lear; 2. B. H. Lord & Son, Minaiaville, Gamil. *Two years*—1. John W. Akin, Aristida; 2. Smiths, Powell & Lamb, Syracuse, Norie.

BROOD MARE—1. J. W. Akin, Anoula; 2. Frank Van Deusen, Troy, ——. *Filly*, 3 years—1. J. W. Akin, Tenebrose. *Two years*—1. Same, Africaine.

FRENCH COACH.

SIRE—Smiths, Powell & Lamb, Syracuse.

STALLION, 4 years—Powell & Lamb, Syracuse; 2. B. B. Lord & Son, Minaiaville, Baron d'Or. *Three years*—1. J. W. Akin, Scipio, Scots. *Two years*—1. Lord & Son, Adrien; 2. Same, Janville.

BROOD MARE—Lord & Son, Hebe. *Filly*, 3 years—1. Lord & Son, Lizzie Bridge. *Two years*—Same, Dewdrop 2d.

CARRIAGE AND COACH.

STALLION, 4 years—1. Wm. J. Pollok, Hopewell, Tom Moore, Jr.; 2. Chas. J. Pine, Jr., Lyons, Wayne Chief. *Three years*—1. A. B. Larkin, Warnerville, Dante; 2. Philip Lampen Guilderland, Young Royal George. *Two years*—1. Stephen Hallock, Albion; 2. Smiths, Powell & Lamb, Prince d'Or. *One year*—1. G. Thompson Forsyth, Stockville; 2. Seeley Lasher, North Broadalbin.

FILLY, 3 years—1. F. B. Buckley, Flora; 2. C. J. Fink, Jr., Jane Roe. *Two years*—1. C. J. Fink, Jr., Minnie P.; 2. A. B. Larkin, *One year*—1. C. J. Fink, Jr., May W. *Under 1 year*—1. Frank Waring, N. Edgeway.

THOROUGHBRED HORSES.

STALLION, *one year*—1. Edward R. Cassidy, Altamont, Freedom.

FILLY, *one year*—1. E. R. Cassidy, Festina.

STANDARD-BRED HORSES.

SIRE—W. C. James, Hoosick, Pirate.

STALLION, 4 years—1. R. C. James, Hoosick; 2. Fitzgerald Br'd, Troy, Calif'rnia Prince. *Three years*—1. Smiths, Powell & Lamb, De Van; 2. Freeman Farms, Ravenswille, Star King. *Two years*—1. J. H. Osterhout, Melrose, Resolution; 2. Littel, Macedon, Oro Allen. *One year*—1. H. M. Littel, Judge Keeler; 2. Smiths, Powell & Lamb, Seneca Parad.

BROOD MARE—1. J. H. Osterhout, Madeleine, Fly, 3 years—1. H. M. Littel, Rosepink; 2. W. Boyle, Valley Falls, Molly Rose. *Two years*—1. H. M. Littel, Rube; 2. Smiths, Powell & Lamb, Schreppel Girl. *One year*—1. H. M. Littel, May Mac. *Foal under 1 year*—1. J. H. Osterhout, Goldsmith.

ROADSTER HORSES—*Breeding Stock.*

SIRE—H. M. Littel, Macedon, St. Armand.

STALLION, 4 years—1. H. M. Littel Armand; 2. E. B. Story Freehold, Pasha. *Three years*—1. Commodore Allen, West Albany, Judge Allen; 2. A. B. Larkin, Warnerville, ——. *Two years*—1. H. M. Littel, Armac; 2. J. J. Soop & Son, Kelpirk, "J. J. S." *One year*—1. Smiths, Powell & Lamb, Enchanter Blossom; 2. H. M. Littel, ——.

BROOD MARE—1. J. H. Osterhout, Melrose Winsome; 2. Geo. H. Carpenter, Lebanon Springs Chestnut Burr. *Filly 3 years*—1. H. M. Littel Stella Mc'; 2. A. B. Larkin, Mare. *Two years*—1. H. M. Littel, Albrina; 2. Jas. M. Gaffers Watervile Lucy G. *One year*—1. G. H. Carpenter, Brick Dust. *Foal under one year*—1. J. H. Osterhout, Almeda; 2. G. H. Carpenter, Cherry Brickdust.

ROADSTERS—*Driving Stock.*

1. Brown & Pierce, Newport, Tony; 2. Geo. C. Jeffrey, Albion, ——.

CARRIAGE HORSES.

COACH PAIRS—1. Wilbur F. Trask, Auburn; 2. George Van Derveer, Amsterdam.

PHAETON PAIRS—1. Edwin McDonald, Richfield Springs; 2. W. Jay Jacobus, Guilderland Centre.

COUPE—1. Archer La Grange, Slingerlands; 2. Geo. C. Jeffrey, Albion.

SADDLE HORSES.

1. Amasa J. Parker, Jr., Albany, Paricles; 2. J. C. Miller, Amsterdam, Red Bird.

PONIES.

SHETLAND—Prizes to J. F. Converse, Woodville; K. J. & H. S. Treichler, Sanborn; John W. Akin, Selpio.

OTHER THAN SHETLAND—Prizes to Henry K. Pellow, Redonah; F. D. Curtis, Charlton.

MULES.

J. H. Osterhout, Melrose.

SHEEP—LONG-WOOLED.

COTSWOLD—Prizes to Geo. Dick & Son, Attica, and Dan'l McDonald, Jordanville.

MIDDLE-WOOLED.

SOUTH-DOWN.—Prizes to J. Robert Warren, Hoosick Falls; Levi P. Morton, Rhinecliff; and C. A. Hawkes, Charlemont, Mass.

SHROPSHIRE—Prizes to George Ingersoll, Fonda; and J. mes Lawrence, Groton, Mass.

HAMPSHIRE—Prizes to James Wood, Mt. Kisco; and E. M. Sanham, Hopewell Centre.

OXFORD.—Prizes to Aaron Bordwell, Corfu.

CHEVIOT.—Prizes to Wm. Curry, Hartwick; and John A. Curry, Hartwick.

DORSET—Prizes to Frank Van Denasa, Troy; and Woodward & Jaques, Wright's Corners.

MERINO, *Fineness of Wool*—Prizes to C. D. & C. Kenyon, Centre White Creek; C. W. Lewis, Hopewell; Davis Cossitt, Onondaga; Lent & Lewis, Hopewell; R. R. James, Hoosick; W. J. Tyler, South Bycreek; and R. C. James, Hoosick.

MERINO, *Weight of Fleece*—Prizes to Davis Cossitt; R. C. and R. R. James; W. J. Tyler; C. W. Lewis; and J. W. Hardy, East Palmyra.

MERINO, *Mutton*.—Prizes to Wm Berry, Eighty-Four, Pa.; R. C. James; J. O. Joslin, Thetford; C. W. Lewis.

FAT SHEEP.—Prizes to J. Hobart Warren and George Ingersoll.

SWINE.

LARGE WHITE.—Prizes to Geo. F. Davis & Co., Dyer, Ind.; C. A. Hawkes; and R. R. Cox, Erwille.

CHESHIRE.—Prizes to R. R. Cox.

POLAND CHINA.—Prizes to R. F. Seeley, Waterloo; John S. Johnson, Ridge Mills; Smith Harding, South Deerfield, Mass.; and R. H. Garfield, Kinderhook.

DUROC-JERSEY.—Prizes to W. A. Alexander, Selpioville; P. D. Curtis, Darlton; H. G. Hartland, Glens Falls; and A. T. Hoag, Tomhannock.

SMALL WHITE.—Prizes to Warren Hewitt & Son, Belmont, Mass.; and W. E. Pendleton, New-London, Conn.

BERKSHIRE.—Prizes to T. B. Proctor, Utica; and D. F. N. Maynaford, New-Scotland.

ESSEX.—Prizes to Jas. Seeley.

POULTRY.

Breeding Pens of Each Variety of Asiatics—Prizes to Sanderore Farm, Quogue; J. H. Warner, Minnaguna; J. M. Seymour, Clark's Mills; W. A. Fuller, Fultonville; Jos. Smith, Commack; R. F. Kirby, East Chatham; F. N. Bull, Albany.

Light Brahmas—Prizes to C. E. Rockenstyre, Albany; Sanderore Farm.

Dark Brahmas—Prizes to W. A. Fuller, J. M. Seymour.

Buff Cochins—Prizes to Sanderore Farm; D. D. & H. D. Rose, Cortland.

Partridge Cochins—Prizes to John H. Warner; G. F. Davis & Co., Dyer, Ind.

White Cochins—Prize to O. Howland & Son, Auburn.

Black Cochins—Prize to J. M. Seymour.

Langshans—Prizes to R. F. Kirby.

Red Caps—Prizes to F. N. Stuart and Trainer, Fahy & Co., Albany.

Breeding Pens of Each Variety of Dorkings—Prizes to W. J. Kirby, East Chatham; Oscar J. Lewis, Schodack Centre.

Col red Dorkings—Prize to O. Howland & Son.

Silver Grey Dorkings—Prizes to J. L. Hope, Rhinecliff; F. S. Blessing, Slingerlands.

White Dorkings—Prizes to W. J. Kirby.

Breeding Pens of Each American Variety—Prizes to J. T. Degraff, Amsterdam; H. J. Quilhot, Tribes Hill; James Wilsey, Hawk Chapel; E. Rotherland, Cornwallville; W. J. Kirby; J. T. Cothran, Greenwich; B. R. Knapp, Cortland; L. Lent, Lee.

American Dominiques—Prizes to J. Wilsey.

Plymouth Rocks—Prizes to J. Wilsey.

White Plymouth Rocks—Prizes to H. J. Quilhot; J. Wilsey.

Wyandottes—Prizes to J. Wilsey; H. D. Weeks, Milford.

White Wyandottes—Prizes to J. Wilsey; E. Rotherland Cornwallis.

Golden Wyandottes—Prizes to J. T. Cothran.

Black Javas—Prizes to L. Lent; B. R. Knapp.

Mottled Javas—Prize to J. H. Osterhout, Melrose.

Breeding Pens of Each Variety of Hamburghs—Prizes to J. T. Cothran; Asa Seeley, Ghent; J. Wilcox; W. A. Seafer, Milford; J. W. Smith, Commack.

Golden-spangled Hamburghs—Prize to J. Seeley.

Silver-Spangled Hamburghs—Prizes to J. Wilcox.

Golden-Pencilled Hamburghs—Prizes to J. T. Cothran; W. A. Shafer.

Silver-Pencilled Hamburghs—Prizes to F. D. Curtis, Charlton; W. A. Shafer.

Breeding Pens of Each Variety of Spanish—Prizes to J. De Graff, H. J. Quilhot, J. Wilcox, J. W. Smith; J. F. Tobin Moorestor; J. M. Darter, Camden; W. J. Kirby, J. H. Warner.

Black Spanish—Prizes to O. Howland & Son, J. H. Warner.

White Leghorns—Prizes to J. T. De Graff, J. Wilcox.

Brown Leghorns—Prizes to J. T. De Graff, J. Wilcox.

Black Leghorns—Prize to J. Wilcox.

Andalusians—Prizes to J. M. Darter, W. J. Kirby.

Black Minorcas—Prizes to J. T. De Graff, J. F. Tobin.

White Minorcas—Prize to H. D. Weeks.

Breeding Pens of Each French Variety—Prize to J. W. Smith.

Crevecoeurs—Prize to J. M. Seymour.

Houdans—Prizes to F. S. Blessing, C. E. Rockenstyre.

Breeding Pens of Each Variety of Polish—Prizes to C. H. Francisco, Mechanicville; J. Seeley, C. E. Rockenstyre, J. W. Smith, D. D. & H. D. Rose.

White-Crested Black Polish—Prize to C. H. Francisco.

Golden Polish—Prize to W. L. Derby, Saugerties.

Silver Polish—Prizes to J. Seeley, O. Howland & Son.

Silkies—Prizes to Sanderore Farm.

Breeding Pens of Each Variety of Pure Games—Prizes to J. L. Hope; H. W. Sagerity, Deansville.

Black-Breasted Red Games—Prizes to H. W. Sherrill, L. Woodell, Albany.

Silver Duck-Wing Games—Prize to O. Haviland & Son.

Yellow Duck-Wing Games—Prize to J. Seeley.

Red Pile Games—Prize to O. Howland & Son.

Breeding Pens of Each Variety of Game Bantams—Prizes to T. C. Stanton, Rochester; M. Klenzen, Rochester.

Black-Breasted Red Game Bantams—Prize to T. C. Stanton.

Brown-Breasted Red Game Bantams—Prizes to T. C. Stanton.

Red Pile Game Bantams—Prizes to Sanderore Farm, C. E. Rockenstyre.

White Game Bantams—Prize to M. Klenzen.

Silver Duck-Wing Game Bantams—Prizes to C. E. Rockenstyre, O. Howland & Son.

Yellow Duck-Wing Game Bantams—Prizes to T. C. Stanton.

Black Game Bantams—Prizes to T. C. Stanton, M. Klenzen.

Breeding Pens of Each Variety of Bantam other than Game—Prizes to M. Klenzen; J. H. Warner, J. T. De Graff, W. J. Kirby, J. F. Tobin, T. C. Stanton.

Golden Sebright—Prizes to M. Klenzen, H. D. Weeks.

Silver Sebright—Prizes to C. E. Rockenstyre, J. H. Warner.

Rose-combed Black—Prizes to C. H. Johnson, R. Chatham; J. T. De Graff.

Rose-combed White—Prizes to C. H. Johnson, M. Klenzen.

Booted White—Prizes to M. Klenzen, W. J. Kirby.

Japanese—Prizes to M. Klenzen, C. E. Rockenstyre.

Polish or Cochin—Prizes to M. Klenzen, C. E. Rockenstyre.

White-crested White Polish—Prizes to C. E. Rockenstyre, C. H. Johnson.

Pumpeon Bantams—Prize to F. D. Curtis.

Bronze Turkeys—Prize to J. Seeley, W. A. Shafer.

White Turkeys—Prizes to R. F. Seeley, Waterloo; M. E. Myers, Charlton.

Slate Turkeys—Prizes to R. F. Seeley, O. Howland & Son.

Buff Turkeys—Prizes to O. J. Lewis, Schodack Centre.

Trumpeter Geese—Prize to J. Seeley.

White Chinese Geese—Prizes to F. S. Blessing, J. Wilcox.

Brown Chinese Geese—Prize to F. S. Blessing, O. Haviland & Son.

Wild Geese—Prize to O. Howland & Son.

Rouen Ducks—Prizes to J. M. Seymour, W. J. Kirby.

Aylesbury Ducks—Prizes to W. J. Kirby.

Cayuga Ducks—Prizes to W. J. Kirby, W. A. Shafer.

White Muscovy Ducks—Prizes to F. S. Blessing, R. W. Mosher, Johnstown.

Colored Muscovy Ducks—Prizes to F. S. Blessing, W. A. Shafer.

Pekin Ducks—Prizes to Sanderore Farm.

Pearl Guinea Fowls—Prize to R. F. Seeley.

White Guinea Fowls—Prizes to C. Turner, Bethlehem Centre; D. Lisby, Bethlehem Centre.

PIGEONS—Premier—Prizes to T. C. Stanton; H. M. La Grange, Guilderland Centre.

Carrier—Prizes to J. G. Mills, Albany; T. C. Stanton.

Antwerp—Prizes to J. G. Mills; J. Bauer, Utica.

Tumbler (short-faced)—Prizes to J. G. Mills, T. C. Stanton.

Barb—Prizes to J. G. Mills, T. C. Stanton.

Turbit (winged)—Prizes to J. G. Mills, T. C. Stanton.

Owl (solid color)—Prizes to J. G. Mills, T. C. Stanton.

Fantail—Prizes to J. G. Mills, T. C. Stanton.

Jacobin—Prize to Jacob Bauer.

Ring-Necks—Prizes to W. A. Shafer.

Collection of Fantails—Prizes to J. G. Mills, T. C. Stanton.

Collection of Jacobins—Prize to J. Bauer.

Collection of Antwerps—Prizes to J. Bauer, T. C. Stanton.

Breeding Young Animals.

ED. COUNTRY GENTLEMAN—At the fair which I have attended so far this year, I find a noticeable decrease in the amount of fat carried by the animals exhibited. Show animals are rarely "hog fat;" the large majority are now in only first-class, pushing, growing condition. This decrease in fat is most noticeable at the county fairs, where few professional "circuit makers" are seen, and where nearly all the animals are shown by farmers. It is only natural that the farmers, who suffer most from breeding animals being made too fat, should first discourage animals being shown in this condition. It will not be many years until the animal about as fat as it can be made, lately so common, will be a curiosity at any fair.

But while this evil of over-fatting is being abolished, the greater evil of breeding immature animals shows no abatement. At not a fair which I have attended this year have I seen a mature hog offered for sale for breeding purposes—only spring pigs, some of them littered very early in the spring, say in January—but the object was not to give them more age for breeding this fall, but more size in the "spring pig" class. In practice, at least, an animal is ready to breed as soon as it can breed. Puberty has taken the place of maturity. The law of nature that only mature animals, at the height of bodily vigor, can produce offspring with a good endowment of vital force, is overlooked or ignored in breeding. It is convenient to have the litter of one year produce the litters of the next year, and convenience established the rule; few now carry from year to year "brood sows," as the many did a generation ago. In some things we have not made wise progress. If we used mature swine in breeding we would have far less swine disease. There is only one practicable preventive of swine plague or hog cholera, and that is an animal with sufficient vital force to withstand the contagium of the disease. Such a hog is possible when mature animals only are used in breeding; but not when immature animals are used year after year, and their weakness is accumulated. My brother-in-law has been an extensive swine grower for 35 years—extensive for Illinois. He has never had a case of swine plague or hog cholera among his swine, though these diseases have frequently made sad havoc on adjoining farms. He breeds only mature animals. This alone may not have warded off disease; but it is nearly certain that if it had been lacking disease would have found entrance. The best inoculation against swine disease is of that vigor and vitality in full measure which only mature sire and dams can furnish.

It is exceedingly probable that the "early maturity" developed in our farm animals has hastened the period at which they will breed, possibly at which they should breed. My brother-in-law has a Holstein-Friesian that dropped a calf by a son of Captain, when she lacked a week of being eighteen months old. He had no idea a Holstein-Friesian could breed so early, and so allowed the bull with the heifer. But because animals will breed at an earlier age it does not follow that they should.

Some argue that it is profitable and proper to breed animals as soon as possible, because they must do so in a state of nature. But it is not a good argument in favor of any practice in stock raising that it existed under strictly natural conditions. In a state of nature, however, animals did not breed as soon as a desire to do so was awakened. It was a matter of strength; the stronger prevented the weaker. It was the law of nature that the strongest,

those with most vigor, should produce. And there is every reason why this law should be followed, in breeding under artificial conditions. Our direction should sustain to this law of nature the relation of aid, not opposition.

It may be advisable to stint some fillies when very young, in order to lower and broaden them, or to breed some heifers early, to develop their milking qualities. But such cases are properly the exception and not the rule, and the product of such early breeding should not be used for breeding.

It is true that it costs more to carry an animal well on toward maturity before breeding it, but the gain from early breeding is not real. There is a positive, substantial loss. The result is an animal having less and less "constitution," vitality and vigor; hence an easy prey to disease, and very susceptible to unfavorable influences. But the harm is not confined to the offspring—the parents are stunted and weakened. The circumstances of parentage are a draft upon vigor and development to which immature animals are unequal. Only a mature, fully developed female can properly nourish her offspring, and the small litters of young sows and the weakly calves of young cows cannot have good mothers. If we would breed only mature animals we would have more young, and the young would be thriftier and faster growing, capable of paying a higher price for feed, and of resisting conditions to which the offspring of young animals frequently succumb. JOHN M. STAHL.

Quincy, Ill.

Guernseys at Buffalo.—I have just returned from the Buffalo fair, and was surprised to find in your editorial the statement in reference to the Guernsey exhibit that it "is chiefly notable for the superb animals sent by Vice-President Morton, including among others the noted bull Safeguard, and the pretty near faultless cow Bienfaitrice 4th." Now, while I do not propose to apologize for my own herd on exhibition, I think such a statement as that is eminently unjust to the other exhibitors, Mr. Ira L. Otis, Col. Walter Cutting and Mr. R. Stuyvesant, who showed just as superb animals as Mr. Morton, with the possible exception, if you please, of the one cow you mention; and without wishing to detract from the merits of the bull Safeguard, it is proper to say that the judge did not consider him worthy of a prize in the class of bulls "three years old and over," and he competed in no other class.* I do not wish to be understood as saying any thing in disparagement of any exhibit, much less Mr. Morton's, but to deprecate any suggestion which may seem unfair. You seem thoroughly to appreciate the fact that the Buffalo show was most remarkable in its exhibits of fine cattle; probably a better gathering was never assembled in this country, and the several leading breeds were not dependent chiefly on the exhibit of any one man, however eminent. S. H. HAMMOND. *Geneva, N. Y.*

The Dairy Department.

Dairy Meetings at the State Fair.

A new feature of the State fair this year was the making of butter and cheese, with short practical talks about the work and the dairy interests of the State. Tuesday, Sept. 17, was "cheese day." A corner of Domestic Hall was railed off, and Messrs. Hall, Morgan and Smith got ready a quantity of milk in a portable vat, while Col. Curtis made an address to as many people as could cluster about the enclosure.

He said the State society intended to make dairying a leading feature of the fair, and next year would provide a hall for dairy products and tools, with seating room for several hundred people during the dairy lectures and work. Despite the depression in our dairy interests, there was much to encourage. Our legislature deserved great praise for the interest it had taken in the matter and the wise laws it had passed. In no other State were the dairymen so carefully protected. We have 1,550 000 cows; an invested capital of $350,000,000; an output of $60,000,000. Not many years ago, children in our cities were dying from use of adulterated milk. Now, thanks to the law requiring 12 per cent. of solids, enforced by our efficient dairy commissioner, in the last two years less than one per cent. of milk has been adulterated.

In the making of cheese many farmers have thought that any cow and any milk would do, a "notion" that has been fatal to the production of *good* cheese. During the last year inspection was made of 1,002 cheese factories, taking the milk of 407,819 cows; total pounds of milk, 1,260,000; average number of cows, 350; average yearly product of milk to each cow, 3,034 lbs.; average number of pounds of milk to pound of cheese, 10 6-10. This is a low average. It can be and must be improved. In the production of butter it was found that the average number of pounds of milk to a pound of butter was 20 (25 in best factories). This, too, can be improved. The average income from each cow was $35 yearly. As the cost of her keeping was $30 this was too narrow a margin for labor and profit.

The "oleo-fiend" had much to do with low prices. Although stringent laws had driven him from this State he found a wide field at the West and the butter of that section, driven from its home market, was forced to compete with that of the East, while 40,000,000 lbs. of oleo still finds a market throughout the country. Our dairy commissioner had to bring over 2,000 suits before this evil was abated here.

Happily, there has been developed a public sentiment on the part of both maker and consumer which is most healthful and promising. Both see that the rigid enforcement of wise laws is for the best good of all concerned, and a moral force has been created that did not exist before these laws were passed. The numerous institutes and conferences carried on by the society the past year had brought the whole subject directly before the farmers of the State, given them opportunity to state their grievances, meet men skilled in their own industry, hear of and see the best methods, and there had thus been awakened a spirit of inquiry and a desire to do better, which promised great things for the future. The speaker was glad to be a kind of John the Baptist in this work, a forerunner making the crooked places straight and the rough places smooth, until the "profession" of farming shall be as much honored as any other employment.

In the afternoon, Mr. G. A. Smith of Frankfort read a paper on the points of good dairying, and the causes and cure of gassy curd, the great value of thorough aëration being dwelt on. Mr. W. W. Hall of Gouverneur made a brief talk, in apron and with sleeves rolled up, and then the curd was removed from the vat and placed in the press. The people were invited to enter and witness the process, which they did with eager interest.

Setting was of 1300 lbs. of milk; steam on at 10.45 A. M.; rennet added 11.15; temperature 84°; thickened in 27 minutes; curd cut at 11 52; applied steam 12 07; temperature 99° at 12 55; drew whey at 2 40 P. M.; curd ground and salted, at 4.30; not weighed.

Wednesday was "butter day." Two churnings were made by W. H. Gilbert, and Col Curtis talked on the proper foods for dairy cows, using part of Prof. Ladd's samples of chemical constituents (Geneva station) to show the composition of milk and how to secure more butter fats; also that butter-making was governed by fixed laws and not by chance.

The first churning was cream from 200 lbs. milk furnished by Geo. T. Powell of Ghent. Cows, Jerseys; feed, pasturage and 4 lbs corn meal and wheat bran; spring water; salt as needed. Milk set in Cooley creamer at 45°, for lack of ice; cooled 12 hours; cream at 65°; churned Stoddard; butter came in 25 minutes; increase in temperature to 68°; washed in three waters at 45°; weight, drained and unsalted, 16¼ lbs.; 16 oz salt stirred in; weight after working, 10¼ lbs. Amount of milk to pound of butter, 19 lbs.

The second churning was from 200 lbs. milk from high-grade and full-blood Jerseys, owned by Nathaniel Mann of Ballston; feed, pasture and green corn fodder; soil clay loam; spring water. Cooley creamer, submerged 12 hours at 45°; set cream 30 hours at 60° to 70°; cream, 60 lbs., in churn at 66°; time, 23 minutes; temperature increased to 68°; weight of butter after salting and working, 10¾ lbs.; amount of milk to pound of butter, 18.6 lbs. As the dairymen had to leave to take train for the Delhi conference, the butter was not weighed before working.

Butter from Sweet Cream.—In looking over the reports of Clinton county dairy conference, page 677, I am somewhat surprised at Mr. Boomhower's reason for not churning sweet cream; "It makes the butter greasy, and lacks aroma;" and still more surprised that so eminent an authority on dairy matters as Mr. Curtis, should allow such a statement to appear in his report of such conference.

* This bull headed Mr. Morton's aged herd, to which—in competition with those entered by Messrs. Otis, Cutting, Stuyvesant and our present correspondent, the two-hundred-dollar prize was awarded; and it is generally said that "the bull is half the herd."—EDS.

time of my visit, and aims to have most of his cows calve in the fall for winter use. He says he can make butter as cheap in winter as in summer, for he depends on his silos for winter feed. He has two silos, 16 by 36 and 19 feet deep made of stone, and another made in the bay of his barn made of two thicknesses of hemlock boards, 15 by 33 and 18 feet deep, and says it keeps corn just as well as his stone and plaster silo. Mr. Gilbert puts his corn in whole; thinks it keeps as well, and takes his time when filling. He could not afford to make butter on hay and grain, although he has customers for all his butter at fancy prices. He has 40 acres of corn to make into ensilage; his corn is fine for this season; said he would weigh in an acre and would let me know the amount in the future.

The "Test of Breeds" at Geneva.

In the issue of your paper under date of the 12th inst., I find Mr. Curtis' article, "Butter Conference at Geneva—Test of Breeds—Jersey and Guernsey." Permit me to correct some inaccuracies of statement (for which Mr. C. is not responsible), in this otherwise admirable communication, as well as to make clear the purpose of the meeting. The object of the conference referred to, held two months since, was in no sense to *test* breeds of cattle for butter qualities or otherwise. It was announced by the gentlemen conducting it as intended to instruct those present in the methods of butter-making in order to secure the best results. The source of the cream used was of no consequence. If it had been understood as a *test* of breeds for *butter quality* more attention to exact details would have been insisted upon. The cream obtained from the station in quantity of milk, weight of cream, &c., was, doubtless, accurately weighed and carefully handled as stated. The cream donated for the other churnings was from Jersey and Guernsey cows respectively, with no special attention to accuracy of quality, in pounds, of milk or cream, as exactness was not thought of in view of the ends sought—the best methods of butter-making. When the cream from the Guernsey cows was churned it was late in the afternoon, and many present were impatient to start for home, as it was a very busy time with the farmers and their wives—accordingly operations were hurried, and what butter, after the few minutes churning, could be conveniently collected, was subjected to the usual manipulations, and the remainder left in the buttermilk. I think Mr. Gilbert will agree with me that this is a fair statement of the matter. Certainly a good deal of the butter was thus left, as Mr. Gilbert informed me at the time; how much, made little difference, as the quantity was not under consideration. Unlike the other butter made on this occasion, the Guernsey butter was not salted at all at my request. It is quite inaccurate to say under these conditions that it took 23 3 lbs. of milk for a pound of butter, thus assuming that the whole product from 100 lbs. of milk had been actually obtained under skillful handling, as was the case with the mixed cream used in the morning from the Jersey and grade milk. What the showing would have been had accurate tests been employed I do not know, but I do know that an ordinary milking from my Guernsey cows will show a pound of butter to 12 or 14 lbs. of milk—to say the least. Mr. Curtis' article is based, of course, on data furnished by others, as he was not present at this conference. This alleged "test" has been referred to in various ways in the press to the disparagement, as some think, of the butter qualities of the Guernsey breed of cattle, and I have been requested to state the facts.

Geneva, N. Y., Sept. 16, 1889. S. H. HAMMOND.

How to Make Fine Butter.

A correspondent of the New-England Homestead, from Duchess Co., N. Y., treats this subject as follows:

Secure good butter-making cows and give them plenty of good pasture. When this begins to fail give them each from two to four quarts per day of corn meal and wheat shorts mixed in equal parts. After frosty weather sets in, double the above ration, and when the cows are taken from grass, feed each one-fourth bushel of carrots or roots each day, and what early cut sound hay and cornstalks they will eat up clean. Always keep them a little hungry, so that they will not get off their feed.

Milk every 12 hours, and twice a week feed each cow one ounce of salt with the grain. Always clean and air your stables, and dust the floors with a little air-slaked lime before milking, so that the milk will absorb no stable flavors. Brush the cow's udder clean, and if soiled wash it; then with clean hands milk in a clean pail, and set the milk in seamless tin pans (because they are more easily kept clean), keeping your cellar or milk room at about 60°. When the cream has all risen, skim it in a large tin cream pail and stir the cream well twice each day till it sours; then pour it in the churn and add quite warm water if necessary till it is brought to 60° in summer and 62° in winter. If the butter lacks color add a small quantity of Wells, Richardson & Co.'s butter color to obtain the desired shade. It is perfectly harmless, does not color the buttermilk, is always reliable and adds very much to the value of butter that is fine but lacks color.

Churn steadily till the butter comes, which if everything has been well managed, will be in from 20 to 30 minutes. Then take the butter from the churn, place it in a large, flat wooden bowl, pour on cold water and stir slightly to wash out the particles of milk. When free of milk, weigh, spread it out with the ladle and add one ounce of good dairy salt to every pound of butter. Work it through slightly and then set it in the milk room twelve hours for the salt to penetrate. Work it again slightly and pack it in tube or stone jars for market. More butter is injured by working too much than too little. For some tastes three-fourths of an ounce of salt per pound is required. Anyone can make fine butter if they rigidly adhere to these rules; but as butter and milk are great absorbents, a little carelessness in the stable, or in feeding cows, or in not keeping the cellar clean, or not washing and drying churns, pans, pails, &c., will spoil the whole. Very hot water and the addition of a little sal soda will insure cleanliness in the washing of all articles used.

These instructions, if carried out, will make butter that private families will be anxious to obtain at from five to ten cents per pound above the price of good ordinary butter.

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.]

SPLINT.—Is there any liniment that will disperse splints on a horse's legs? I have a horse that has a splint on each leg just below the knee, inside. As yet it is not ossified. H. W. *Brockville, Can.* [Use golden blister.]

SWOLLEN SCROTUM, p. 658.—The bull is gradually improving. Shall I continue treatment as prescribed? Is still in pasture. Would it be better to have him in a well ventilated stable? H. K. *Hereford, Pa.* [Use the liniment as before, but add a little more tincture of iodine, in proportion of 2 oz. to 6 oz. of what you have on hand]

MILK FAILURE.—A cow, milked all summer, has stopped her milk; makes water copiously; staggers and falls; lifts her feet high when she attempts to walk, like a horse with spring-halt. J. C. C. *Blooming Grove, N. Y.* [Put a bag of cracked ice on the head. Give 40 drops of tincture nux vomica three times a day. Keep her bowels moderately loose, but she should have a good dose of physic first if not already given. Keep the ice over her brain for 24 hours.

COLT OUT OF CONDITION.—A colt 3 months old is out of condition; eats grass well, and each day is put in stable and fed about one pint of chopped oats and wheat bran, and takes all the mare's milk, which is not a large quantity, as she is only 4 years old. Mare worked a little through July and August. Colt's eyes are bright, but hair looks badly, and is getting thinner all the time. Its belly is not particularly large. It seems stupid, dull and weak. I am afraid the colt will not live long unless it is relieved. K. *Fenpoe, Pa.* [Each night put half a pound of whole flaxseed in a pail, pour on 2 or 3 quarts of boiling water, let it stand until morning, and during the day mix some of the tea and seed with the oats and bran. Moore Bros.' worm and tonic powders should also be given.]

DEATH OF CALF.—A fine two-year-old heifer, about five months along with calf, stopped eating Friday morning; flow of milk stopped at same time. Bowels moved but little first day; very hard substance with a sort of mucus attached to hard manure; same size as horse manure. She died Monday night. Gave her 3 lbs. salts and 4 lbs. lard during the four days, and used injections the last twelve hours, but could get no passage of her bowels; had her opened and found stomach and intestines in a condition seeming all right; womb full of red-colored lumps from size of a chestnut to that of a mouse; front part of lungs seemed congested. All the fat covering her digestive organs was separated, and seemed to have been melted. J. S. *Tidioute, Pa.* [Paralysis of the bowels, "maw-bound" intussusception, calculi, acute indigestion—all these are attended with most of the symptoms you describe].

Record of the Times.

Review of Passing Events.

Landslide at Quebec.—Owing to long continued heat followed by heavy rains, about 600 feet frontage of the heights of Quebec below Dufferin Terrace gave way early in the evening of Sept. 19, and an immense mass of rocks, stones and earth rushed down 300 feet upon the houses at the base burying over 200 people, many of them children. Seventeen bodies were taken out, and 24 severely injured persons. Many others have lost all their property. The houses stood on a narrow street next the river, and were occupied by workingmen and their families. A slide took place nearly in the same place in 1841, crushing eight buildings and killing 33 persons.

The Japanese Floods.—Mail-steamer advices via San Francisco say that the province of Kii in the southwestern part of Japan has been desolated by floods and avalanches. Two rivers burst their banks and a mountain crumbled and fell; 50 villages were covered by from 15 to 18 feet of water, and 15,000 lives were lost. The money loss is estimated at $6,000,000. Along the coast for 90 miles navigation is impeded by wreckage. Over 80,000 persons are being cared for by the government.

Reunions of War Veterans.—A reunion of 2,500 Union and 1,000 Confederate soldiers, survivors of the battles of Chickamauga and Chattanooga, was held at Chattanooga, Tenn., Sept. 19–20. A memorial association was formed, to buy the battle ground of Chickamauga and convert it into a national park. Speeches were made by Gens. Rosecrans and Gordon; 25,000 people present.—The second reunion of the Devens brigade took place at Springfield, Mass., Sept. 19; 500 veterans were present, and Gens. Devens, Couch, Rhoades and others spoke.—Survivors of the 9th army corps unveiled a monument to Gen. Jesse L. Reno on South Mountain battlefield, Md., Sept. 14.—A bronze statue of Gen. Grant was unveiled at Fort Leavenworth, Kansas, Sept. 14, with speeches by Senator Ingalls and Gen. C. W. Blair of Topeka.—Connecticut veterans, 16th regiment, met on the battlefield of Antietam, Sept. 17.

Other Foreign News.—Most of the London strikers resumed work, but much ill-will and violence were shown towards men who had taken their places, and the dock directors appealed to the lord mayor and Cardinal Manning to again use their influence. The strike has taken out one month of the export trade and cost £3,000,000 to the riverside interests and £1,000,000 to the dock companies.—The Cunard company is to build two new twin-screw steamers to break the record lately captured by the Inman line.—The steamer Florence foundered in the Irish Sea, Sept. 20, and nine persons were drowned.—Russian, Spanish and South American engineers visited the Eiffel tower, Sept. 18, and were entertained by M. Eiffel, who gave the Russians special welcome. The French elections, Sept. 22, went against the Boulangists.—M. Corvillain, owner of the Antwerp cartridge factory, has been arrested.—The 200th anniversary of the return of the Vaudois to their own country was celebrated at Pinerola, Italy, Aug. 27.—Malietoa has been returned to power in Samoa, and German support withdrawn from Tamasese.

Minor Items.

Mars and Venus were in conjunction Friday morning, Sept. 20.

Sept. 15 was the centenary of the birth of Cooper the novelist.

Parker Pilsbury the veteran abolitionist was 80 years old Sept. 22.

The navy department is preparing to build two 3,000 ton cruisers.

The cruiser Baltimore proves to be the fastest man-of-war afloat.

The Hambletonian stallion Gibson died recently at Benton, Me., aged 30.

Hatfield, Mass., celebrated the 212th anniversary of her Indian attack, Sept. 19.

The late President Barnard has left most of his property to Columbia College, New-York.

General Edward B. Grubb has been nominated for governor by New-Jersey Republicans.

Spokane Falls (W. T.) officials have been detected in an attempt to steal part of the relief fund.

Orange, N. J. had another deluge, Sept. 17, and much damage was done, also in Llewellyn Park.

The drygoods store of Bamberger, Bloom & Co., one of the largest in St. Louis, was burned Sept. 15, with loss of $750,000. Four firemen lost their lives. The main building and art hall of the New Era exp
Mo., was burned same d
000.

The 32d anniversary
noonday prayer meeting,
Sept. 23.

Governor Hill spoke
State fair, Sept. 20, but
Albany.

A pear tree in Bridge
years old, has a show of
ber of blossoms.

Mrs. Elizabeth S. M
Gen. Geo. B. McClellan,
Sept. 18, aged 91.

The suffrage section o
stitution requires electors
permits women to vote.

The Coeur d'Alene In
sold 250,000 acres of the
government for $500,000.

Aunt Dinah Young, c
Albemarle county, Va.,
Louisville, Ky., Sept. 13.

Wright Duryea, one o
owning the Glen Cove, L
tory, died Sept. 17, aged 6

It has been discovered
been paid on over $900
Louisiana State bonds sin

Memorial services in ho
maker, U. S. N., who los
were held at Kingston, N

Mrs. Hiram Snell of Ma
have given birth to three
—total weight eight pou

In the Ives trial, New-Y
his confidential clerk, testi
rob corporations, and con
juror.

The flood relief commis
has decided to give Jo
Total amount thus far rece
$2,605 000.

A Baltimore dog has be
out plunder secured by
houses. He was arrested
carrying away bundles.

The New-York world's fa
and buildings have select
Central Park, Morningsi
Parks and intervening grou

Isaac Dryfus, an aged ca
burg, was found intoxica
street recently with $7,500
left $10 of it at the police c

Commissioners from the
land Company of Londo
Pilgrim Fathers for the be
are in Canada visiting the

In the Terry case, San
Marshal Nagle has been
bonds, pending an appeal b
Court. Judge Sawyer dec
clearly justifiable.

Large freshmen classes
colleges; Harvard, 350; Y
Scientific, 140); Princeton,
Williams, 85; Brown, 80;
Rutgers, 54; Union, 52.

John Toohey, an orderly
bany, while trying the Bark
19, fell from the assembly
yard pavement and was kil
frayed on a stone coping.

The old toll-bridge bet
East Hartford, Conn., dat
came free Sept. 11. The b
paid $310,000—$85,000 by t
000 by five towns. A pub
held on the 16th.

The John Crouse Mem
Women, at Syracuse, N.
Sept. 18. Addresses by P
University, Prof. Riggs of
cal Seminary and Dr. Buc
The building cost $500,000.

The movement to have
displayed on public and s
growing in favor. In New
proposed to have the flag h
day in the year, and a color
it, selected each month from

An electric car with 50
the top of Mission Ridge, C
lost its electricity when ne
20, and started back, the
hold. One passenger was k
ously hurt by jumping of
maimed were unhurt, as the
before reaching the bottom.

Mrs. Hamilton was indicte
conspiracy, and in New-Jerse
for the latter was held at Ma
18–19, and the prisoner wa
atrocious assault and sente
imprisonment. The usual
years, but the evidence sho
and violence on the part of

The Art of Dre

Every lady appreciates the h
cising taste and judgment in t
wardrobe, so that whether sh
many dresses, they will be of a q
well and retain their handsome
ond. No matter what station li
satin dress is conceded to be the
grant and, at the same time, serv
can possess, besides being appro
sions. One of the oldest and we
facturing firms in the United St
their patrons bargains in this lin
been equaled, both as to qual
They are able to do this becau
with the public and not through
or retail stores. Send stamp w
post-office address to U. S. Rubb
Centre, Conn., and they will mai
and directions how to order. It
bargain, so, you have the opportun
it should not be neglected.

DOES YOUR ROOF LEAK?

It is interesting to know that perfect protection from all rains can be had by the use of slate cement. This compound is absolutely fire and waterproof, and cures leaky roofs permanently and effectually. Anybody can put it on. Write for Catalogue to Ind. PAINT & ROOF. CO., 6 West Broadway, N. Y. City.

BRANDRETH'S PILLS cure sick headache. 14

Farm Produce Markets.

Albany Markets—Sept. 23.

FLOUR.—The Argus says: Business has been fair, feeling quiet, receipts not up to average.

	Sept. 21, 1889.	Sept. 14, 1889.	Sept. 22, 1888.
Com. State	$4.30@4.60	$3.60@4.00	$4.25@4.45
State Extra	4 10@4 50	4.10@4.50	4 10@4.35
Amb. State & W.	4 60@4 75	4 60@4 75	4 10@4.35
O. Ind. & Ill. L. Ry.	4 10@4 60	4.10@4.60	4 10@4.35
Winter W. Ext.	4.30@4 50	4 30@4.50	4.10@4.35
Minn. "Bakers"	4.10@4 75	4.10@4 75	4 10@4.35
Sp'l W. Pat., new	5.00@5.00	5.00@5.00	4 10@4.20

RYE FLOUR.—Demand has been fair and prices advanced slightly, holding firm at $3.10@3.35 per sack; Graham, $4@4.50. Oat Meal going moderately well at $5.50@6 per bbl. Corn Meal in good demand and firm at $2.50@2.75 per bbl.

GRAIN.—Corn easier, with slightly better business. No. 3, 43c. per bbl; No. 2 mixed, 42½@43c. Oats in fair demand and easier. No. 3 white, 30½@30½c. Rye in light receipt and demand; State, 56@56c. per 60 lbs.; western, 56@56c. per 56 lbs.

HAY AND STRAW.—Demand and receipts fairly good. Timothy, prime, $14 per ton; good, $13.50; clover, $12; mixed, $11@12; fine straw, best, $11@11.50; oat straw, $7@8; wheat straw, $10.

HOPS.—Market quiet; dealers waiting till growers get their hops baled.

N. Y. state, 1889	10 @ 11c
N. Y. State, '88	9 @ 9½c
Pacific Coast, 1889	12 @ 13c
Bavarian and Bohemian	35 @ 38

Albany Street Market—Sept. 23.

BUTTER.—Choice, 19@20c. per lb.; good to prime, 16@18c.

EGGS.—Near-by and new laid, 22@23c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 4@6c.; mutton, carcasses, 5@7c.; lamb, hindquarter, 10@11c.; forequarter, 6@8c.; veal, 7@9c.

POULTRY.—Fowls, 11@13c. per lb.; chickens, 70@90c. per pair; capons, 85@90c. per lb.; turkeys, 13@15c.; spring ducks, 15@16c.; green geese, 10@12c.

FRUIT.—Apples, $1@3 per bbl.; Crab apples, 50c.@$1 per bush.; Grapes, Concord, 3@4c. per lb.; Delaware, 5@6c.; Niagara, 12@13c.; Muskingham, Albany Co., $1@1 per bbl.; Peaches, $1@1.50 per basket; Pears, $1@3 per bbl.; Plums, $1@1 per bu.

VEGETABLES.—Beets, 10@15c. per doz. bunches; Cabbage, $1@1 per 100; Celery, 40@50 per doz. bunches; Cauliflower, $1@1 per doz.; Corn, $1@1 per 100; Cucumbers, pickles, per 100, 50@75c.; slicers, per doz., 20@30c.; Lettuce, 5@10c. per bbl.; Potatoes, $1@1.25 per bbl.; sweet, $1@$1.75; String beans, 6@10c. per crate; Squash, 30@40 per bbl.; Tomatoes, 40@60c. per bush.; Turnips, 40 per bbl.; Wax Beans, 40c. per bush.

New-York Markets—Sept. 21.

BEANS—Marrow, 1889		2.50	@ 2.75
Medium, 1889, choice		2.30	@ 2.35
Pea, 1889		2.30	@ 2.35
COTTON—	Orleans.		Mob. & Gulf
Ordinary, per lb.	— @ —	—	@ 8½
Middlings	11 @ —	—	@ 11½
Fair	13 @ —	—	@ 13½
EGGS—State and near-by, per doz.		20	@ 20½
Western and Canada		19½	@ 20
FLOUR—Spring Wheat pat., per bbl.		5.20	@ 5.50
Winter		4.35	@ 4.50
No. 2 extra State and Western		3.55	@ 3.65
No. 1 extra		3.10	@ 3.65
Minnesota clear		3.20	@ 3.80
Minn. bkrs.		4.05	@ 4.90
Rye flour, superfine		3.50	@ 3.70
Corn Meal		2.10	@ 2.20
FRUIT—Apples, Gravenstein, per bbl.		2.40	@ 3.50
Blush, Tweny Ounce, King		2.25	@ 2.75
Holland and Bell Flower		2.00	@ 2.25
Cranberries, Cape Cod, per bbl		6.00	@ 6.50
Grapes, Delaware, per basket		20	@ 25
Niagara		20	@ 25
Concord		20	@ 20
Pocklington, per lb.		6	@ 8
Pineapples, Jersey, per basket		75	@ 1.50
Pears, Bosc, al, per bbl.		2.00	@ 4.50
Meadow		2.50	@ 3.00
Beurre Bosc, Anjou		3.00	@ 4.50
Plums, Damson, per bbl.		3.50	@ 4.00
Quinces, per bbl.		2.00	@ 3.00
Chestnuts, per bush.			@ 10 00
Hickory nuts		2 00	@ 2.25
Dairies—Apples, sun-dried, per lb.			3@4
Evaporated			5@6
Peaches, sun-dried, 1889			6 @ 11
Evaporated			7 @ 14
Evaporated, peeled			18 @ 25
Cherries			12 @ 12
Blackberries			@ 5@6
Raspberries			11 @ 25
GRAIN—Wheat, State white, per bus.		93	@ 94
Ungraded spring		75	@ 86
No. 1 red, winter		97½	@ 98
No. 2 red, winter		96	@ 97½
Corn, No. 2, white		41	@ —
No. 2 mixed		39½	@ 41
Oats, No. 2, white		29½	@ —
No. 2 mixed		28	@ 29
Rye, State and western		60	@ 62
HAY—Timothy, new, per 100 lbs		70	@ 85
Shipping		55	@ 62
Clover		60	@ 70
Old hay		80	@ 95
Straw, long rye, No. 1		70	@ 80
No. 2		55	@ 60
Oat		40	@ 50
Wheat		50	@ 65
HOPS—N. Y. State, 1889, best, per lb.		13	@ 14
Best, 1888		12	@ 13
Common to fair		9	@ 11
California, 1889, best		10	@ 13
Washington, 1889		11	@ 11
Pacific Coast, 1888		3	@ 6
POULTRY—Live fowls, per lb.		11	@ 13
Spring chickens		10	@ 11
Turkeys		10	@ 13
Ducks, per pair		60	@ 80
Geese		1 00	@ 1 00
Dressed fowls, per lb.		12	@ 13½
Fowls, spring		14	@ 17
West. broilers		13	@ 16
Turkeys		14	@ 16
Ducks, spring, per lb.		12	@ 14
Geese		14	@ 14
PROVISIONS—Beef hams, per bbl.		13 25	@ 13 75
India mess		12 50	@ 13 00
Hogs, dressed, per 100 lbs		6.50	@ 6.60
Lard, per tierce		6 00	@ 6 30
Pork, new mess, per bbl.		12 25	@ 13 75
Short clear		13 50	@ 13 50
Family		12 00	@ 13 00

VEGETABLES—Cabbage, L. I., per 100		2.00	@ 3.50
Cauliflower, L. I. A Jer., per bbl.		50	@ 1.50
Celery, L. I., per doz. bunches		50	@ 1.00
Corn, Hackensack, N. J., per 100		50	@ 1.50
Cucumber pickles per 1,000		1.50	@ 2.50
Egg-plants, Jersey, per bbl.		3.00	@ 4.00
Lima beans, L. I. A Jersey, per bag		1.00	@ 1.50
Onions, L. I., red, per bbl.		2.25	@ 2.50
Orange County, red		1.75	@ 2.50
State, yellow		—	@ 2.00
White		2.00	@ 4.00
Potatoes, L. I., Rose		1.75	@ 2.00
Jersey		1.50	@ 3.37
State		1.50	@ 2.00
Va. sweet		1.75	@ 2.25
Jersey sweet		2.00	@ 2.50
Squash, Jersey, per crate		75	@ 1.00
Tomatoes, Jy., & L. I., per crate		25	@ 2.00
Turnips, Jersey, per bbl.		1 00	@ 1.25

Cattle Markets.

NEW-YORK, Sept. 21.

BEEVES.—Receipts, 12,147 head. The week opened with a slow trade and a steady tone in values. This was continued on Wednesday when the quality of the herds was generally coarse, being in part from Colorado and Montana. The native horns offered ranged from coarse to fair. Friday the markets closed firm on a light supply and a brisk demand.

[For carload, avg.]	This week.		Last week.	
Good beeves	$5.00	@ —	$5.10	@ —
Fair	4.70	@ 5.00	4.80	@ 5.05½
Coarse	4.25	@ 4.75	4.30	@ 4.75½
Poor	3.75	@ 4.25	3.75	@ 4.25½
[For carload, grass.]	This week.		Last week.	
Good beeves	4.50	@ —	4.45	@ —
Fair	4.00	@ 4.35	4.00	@ 4.30
Coarse	3.25	@ 3.80	3.25	@ 3.90
Poor	3.00	@ 3.25	3.00	@ 3.25
Oxen	3.00	@ 4.75	3.00	@ 4.75
Dry cows	1.50	@ 2.75	1.50	@ 2.75
Bulls	1.00	@ 3.50	1.00	@ 3.50

MILCH COWS.—Receipts, 70 head. Trade has been steady on a better demand. 10 cows were sold at $30@$47 per head. It closed with 7 left over. Extreme range, $35@45 per head. Quality poor to fair.

VEALS AND CALVES.—Receipts, 4,534 head. Throughout the week the markets have been steady for veals, with a weak feeling in calves, the quality of which is deplorable, save of a few western drives, which were far from full in flesh. Range of prices: Calves grass-fed, 3@3½c. per lb.; buttermilk-fed, 3@4c.; part weal-fed, $3@$3 per cwt.; coarse veals, 4@5c. per lb.; medium quality, 5@6c.; fair quality, 6@7c.; selected lots, 7@8c.; western calves, dressed, 7@8c.

SHEEP AND LAMBS.—Receipts, 34,256 head. On Monday last sheep were weak, and lambs off 25c. per lb.; Wednesday the loss was steady; Thursday trade was active and values were firm. Friday the markets closed steady, sheep were unchanged, while lambs advanced 25c. per lb. Range of prices: Sheep, ex. 4@5c. per lb.; cull sheep, 2½@3c.; rams, 2@3c.; lambs, 5@7c.; Quality of the droves, very poor to good.

SWINE.—Receipts, 31,121 head. The week opened dull, but improved on Wednesday, when values recovered 10c. per lb.; there was no further change, and the markets closed so. Friday with a firm tone: 12 State hogs, 320 lbs., $4.50@4.60 per cwt.; 16 pigs, 110 lbs., $5.10 per cwt.

BUFFALO, Sept. 23.

BEEVES—[For carload, grass.]	This week.	Last week.
Extra steers	$4 75@4 85	$4 90@5 00
Best butchers'	3 90@4 20	4 10@4 40
Second quality	3 60@3 75	3 75@3 90
Fair to common	3 40@3 50	3 50@3 60
Stockers, light	3 00@3 25	3 25@3 40
Stockers, good to choice	3 15@3 35	3 35@3 50
Bulls	2 25@3 00	2 40@3 00

Receipts, 17,230 head against 15,470 last week. All grades were weak and lower at the opening, but common stock suffered the most owing to the light demand. Later in the week orders for good shipping steers were considerably firmer, with a good inquiry and no receipts. Texas cattle sold at $3@$3.15. Rain nearly every day during the week had a dampening effect on the trade but at the closing the feeling was very strong. Stockers firmer; receipts small from Canada; western fair; sells quiet.

VEAL CALVES.—Fair demand; good to choice, $6 @$6.50; grassers, $@$4.

MILCH COWS.—Steady for choice; common, weak; extra, $45@55; good to choice, $35@40; fair to common, $25@30.

SHEEP AND LAMBS.—Receipts, 17,531 head. With an active demand and light receipts prices advanced rapidly; closing strong. Range: Sheep $3@4 for good, $4.00@4.50; common to fair, $3.50@3.75. Lambs active, strong. Canadian, $4.75@5.10; natives, $4.25@5.00; fair, $4.25@5.00.

SWINE.—Receipts, 54,000. Market opened excited and higher for Yorkers, 5 cents being paid. Later trade dropped off and liberal receipts prices steadily declined. Closing: Yorkers, corn-fed, $4.60@4.65; medium and heavy, $@$4.65; pigs, $4.50@4.60; grassers, $4.35@4.50; roughs and stags, $3@3.50.

BOSTON, Sept. 21.

BEEVES, NORTHERN.—Good oxen, dressed, 8½@9 per cwt.; fair to good, $5.50; second quality, $5@5.25. WESTERN. Alive—Extra, $4.60; good to prime, $4.30; light to fair, $4@4.25.

MILCH COWS.—In good supply at $30@45 per head.

CALVES.—Arrivals 1,126 head. 5@6½c. per lb.

SHEEP AND LAMBS.—Arrivals over 10,000; in lots at $3.50@5.50 per head; yearlings, 5@6c. per lb.; spring lambs, 6@6½c.

SWINE.—Arrivals 5,000. Western fat hogs, 4@c. per lb. Northern dressed, 5½@6; pigs, 5@10c.

Dairy Markets—Sept. 23.

ALBANY.—Fine grades of Butter in light receipts. Item in demand. State creamery, choice, 23@24c. Western creamery, 19@20c. State dairy, 20@21 fair to good, 16@18c.; Western dairy, choice, 16@17c.

Cheese firmer; factories free. State factory, full cream, 10c., fair to good, 9½@9¾c.

UTICA.—There was an advance in Cheese of ½c. here last Monday, but the market was not at all quiet. Transactions amounted to 14,761 boxes, at 9¾c., the ruling price being 9¾c. Little Falls disposed of 3,013 boxes, at 9¾@9¾c. The bulk going at 9¾c. While it was claimed that most of the 9¾c. cheese was taken for home trade, it is only fair to say that a buyer who usually purchases for export took nearly all of the 1,000 boxes that sold at 9¾c.; yet it is asserted in New York that exporters do not want cheese at these prices. During the week the top has been 9¾c., although the endeavor has been to allow that only the home trade has paid this price. There is no doubt that domestic business has been the support of the market for two weeks past, but those who are well informed concerning the condition of English retail trade, say that it is very lightly stocked and that consequently it will need a large amount of cheese. This fact keeps the Canadian markets strong, and should make American factorymen cautious about selling their fall goods in too much of a hurry.

Butter also is changing in price. At Utica there were 8 pkgs. creamery sold at 19½c., the bulk going at 19½c. At the Falls, 30 pkgs. dairy butter sold at 17 @18c., and 19 pkgs. creamery at 19@20c. In New-York dairy is up to 20c. and creamery to 24c.

NEW-YORK.—Extra grades of Butter active; good to prime firm. Receipts, 19,045 packages. Eastern creamery, 23@24c.; Western creamery, 18@19c.; State dairy, choice, 18@20c.; Western dairy, 12@16c.; Western factory, choice, 10@13c.

Cheese quiet and firm. Receipts, 16,104 boxes. Factory, best, 9¾@10c. per lb.; light skims, 6@8c.; Ohio flats, 9½@9¾c.

BOSTON.—Western creamery, extra, 19@20c.; fancy, 17@18c.; factory, 15@16c.; Vermont, extra, 19@20c.; dairy, choice, 13@14c.; Western creamery, good to choice, 14@16c.

Cheese, Northern choice, 9½@10c.; western, 8½@9½c.; sage, 10@11c.

Wool Markets—Sept. 23.

ALBANY.—Inquiry better; sales 10,000 lbs.

Medium washed	24@25	Unwashed	22@24
Fine washed	29@31	Pulled	27@33

NEW-YORK.—Ohio XX, 32@33c.; Michigan, 31@c.; delaine, 34c.; unwashed wools are in good demand, but quiet. Texas, 20c.; scoured 50c.; Montana, 35c.; Oregon, 18@20c.; scoured, 50c.; California, 18@19c.; scoured, 50c.; Australian, 45c.

BOSTON.—Inquiry for domestic wools has been brisk but with offers under the market. Dealers have been on "shaving the market" till most have run out of wool. Receipts are smaller weekly, although foreign are in excess of last year. Some concessions made on Ohio and Pennsylvania fleeces; Michigan wools in good demand; combing fine; delaines weaker, territory in best demand. Foreign wools quieter. Sales, 3,338,000 lbs., domestic and foreign; Ohio and Pennsylvania, fleece, Michigan, fine coarse combing and delaine 32c.; scoured, 45@50c.; pulled, 30@45c.; unwashed, 24@c. Territory, 30@31c.; Texas, 19@ c.; California, 24@30c.; Oregon, 30@31c.; Australian, 42c.

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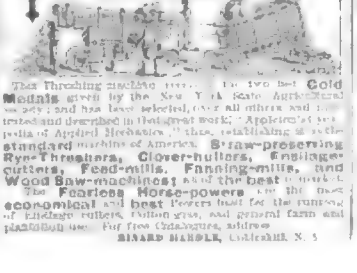

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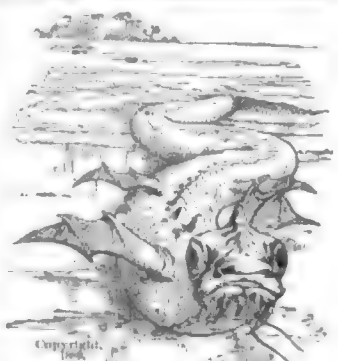

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A sea-serpent, 108 feet long, was seen to coil itself up in slippery folds on the coast of Florida last month. Three reliable persons saw this creature distinctly.

Reader, the above is a "yarn." If people would believe the following truthful statement as readily as they swallow sea-serpent stories, it would be the means of saving thousands of lives. Dr. Pierce's Golden Medical Discovery, if taken in time and given a fair trial, will actually cure consumption of the lungs, which is really scrofulous disease. If this wonderful medicine does not do all we recommend, when taken as directed, we will cheerfully and promptly return all money paid for it. Can any offer be more generous or fair? No other medicine possesses sufficient power over that fatal malady—Consumption, to warrant its manufacturers in selling it under such trying conditions. The "Golden Medical Discovery" is not only the most wonderful alterative, or blood-cleanser, known to medical science, but also possesses superior nutritive and tonic, or strength-giving properties, which assist the food to digest and become assimilated, thus building up both strength and flesh. For all cases of Bronchial, Throat and Lung Diseases, accompanied with lingering coughs, it is absolutely unequaled as a remedy. For Weak Lungs, Spitting of Blood, and kindred affections, it surpasses all other medicines.

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The Fireside.

Fruit on the Farmer's Table.

ED. COUNTRY GENTLEMAN—The inclosed letter came, along with many others, when I was too busy to attend to it; but it is too good to pass by unnoticed:

MY DEAR MR. TERRY—People up here in Michigan have had, till now, unbounded faith in your ability and integrity as a writer. We never questioned the account of your large personal feat before breakfast; we took kindly to your fat horses without grain, and we *knew* you had a roof over your entire barnyard—and so on to the end. But now, think of Mrs. Terry, an amiable lady, eating three quarts of strawberries daily for three weeks! Now Mr. Terry, in consideration of your many Michigan friends, will you not write to the COUNTRY GENTLEMAN and have that amount changed to a quart and a half? That will beat Mr. Brown's family average. Do not make it more than two quarts. If you do this, I think Michigan friends will believe in you as of yore. A. J. B. *Allegan, Mich., Aug. 9.*

Our Michigan friend evidently wants me to keep ahead of Mr. Brown; but he thinks it would be wiser to beat him kind of easy like. Well, we had not a thought of beating any one; but just ate what we wanted and thought was good for us, and then told the truth about it.

Friend B. of course wrote this letter in fun; but what I have written on this subject and told about our eating was for a far different purpose. I was trying to interest farmers more in small-fruit culture for home use. I wanted to show them how easily one could have abundance of these healthful luxuries. I know of no better way than to tell just what we had from a little land, and how much we used and how we enjoyed it. Let friends make all the fun they choose, if they will only keep the matter stirred up until they go and do likewise.

This discussion has brought out one fact any way, viz., that we are not the only ones who eat strawberries freely and know the enjoyment and better health that results. My friend A. I. Root, in a late number of Gleanings, says people are beside themselves to talk about one eating a quart each at a meal. He says he not only eats a quart at a meal, but another quart between each meal! He has found great benefit to his health from this almost living on fruit for weeks at a time.

Another fact brought out is that there are some mighty small souls in this world of ours. A writer signing himself Emeline, in the Ohio Farmer, objects to our eating so many berries as "extravagant and intemperate." He says (no woman ever wrote it) that it sounds like, "soul take thine ease; eat, drink and be merry;" forgetting that "the life is more than meat." Oh dear! my good reverend doctor, did you ever read about making mountains out of mole hills?

Twelve square rods of ground will produce all the berries we can eat for three weeks. Is it "extravagant" for a farmer with more acres than he can attend to, to devote this little patch to luxuries and saving nearly all doctor's bills? "intemperate?" A meal largely composed of fruit is intemperate, is it? Probably the Lord had not consulted with this man when he said to Adam: "Of every tree of the garden thou may'st freely eat." What does this individual lay down as the law of temperate eating? Why bread and butter, potatoes and meat as a main food, with two to three quarts per day of berries for a family of six to eight persons. He says: "We eat them freely (!) as a relish, but don't devour them." Oh! that last clause is quite self-evident.

Now I believe that the Lord made strawberries as well as other berries and fruits, as he also did potatoes and wheat and meat, and that he gave man "dominion" over all, and that there is no divine or human law that even hints that certain of these shall be for food, and the others for "relishes," and that one is "intemperate" who takes more than a very little of the relishes. I thank God that these good things are so free to those who will work a little for them, and that I am not one of Emeline's family. The life is more than meat; but the Creator never made all these good things and gave us the ability to improve on them, without intending that we should enjoy them freely.

One thing troubles me—to understand how the same Lord that created the strawberry could make a man so small that he would find fault with a family that ate in a month what they could raise on about a dozen rods of ground. This dwarfed image of his Creator tries to tell us how we might have eaten as few as they did and sold the rest, and had $1.50 more a day to spend for books and education. Oh yes! and we might have lived almost entirely on scabby potatoes and salt, last winter, and saved a dollar or so per day more! Had just a little meat and butter for "relishes," you know.

He speaks of eating bread and *butter*. I could better imagine how such a man could *sell* from one cow butter enough to supply the family with groceries!"

I stand by the side of my friend Root in this matter. I can make all the money we need from the farm, and my little fruit garden shall be a place I can work in and enjoy the fruits of without any thought of dollars and cents.

Barnwell County, S. T. B. TERRY.

Hard Things Bring Greatest Rewards.

"The sluggard will not plow by reason of the cold; therefore shall he beg in harvest and have nothing." Or he that will not put forth energy in the spring of life, when preparation should be made for the hoped-for harvest, because it is hard and wearisome, shall not partake in after life of the rewards that come from surmounting difficulties.

What grand opportunities are open here in America to every boy and girl on the farm! No other life opens so many avenues to education, competence and honor. No other place gives such tough physical fibre; such broad and intimate acquaintance with nature; such strong and enduring mental capacity. On the farm education comes in its natural sequence. First physical, then moral, then mental.

But you say "farm life is hard;" that is the best thing about it for young people. You can not get true discipline—physical, moral or mental—without doing things hard and things difficult. Then welcome toil as the handmaid to knowledge, virtue and wealth.

Are you afraid of the toil that must be endured ("the cold")? Then blame no one if your name remains unhonored and unknown and you are compelled to beg in harvest. "But life is too intense and too feverish now." No, the trouble is, energy is frittered away or badly directed.

Work, or a reasonable change of molecules, does not kill. It is nature's mode of producing growth. It is idleness, dawdling and frivolity that lead to diminution and decay. Give thanks then that in this land "Honor and shame from no condition rise; act well your part, there all the honor lies." Because you cannot arrive at the summit by one supreme effort, will you make no attempt to climb to some elevated place because you may not reach the pinnacle? "Some are and must be greater than the rest, but who infer from thence were wise, more blessed, shocks all common sense." But you have said nothing about agriculture, and we are farmers' boys and girls. Have I not been writing about the greatest product of the farm, in fact the only one that is worth taking final account of? And have I not asked you to work and do the duty that lies just at hand, and aspire to do better work to morrow?

Do as you please as long as you do right. Leave the farm, or go to the farm; the farming will in any case all be done, and it will be done better next year than it was this, because knowledge is being more widely disseminated.

Are there any good reasons why you should remain on the farm if you do not care to? All roads are open to you as to others. Choose your calling according to the best light you have. Choose the work hard to do, and the rewards and pleasures will be the greater. The world cares not a stiver what your occupation is so long as it is honest and useful. We want good hewers of wood and good carvers of wood, painters of houses and painters of portraits, food and clothing and boys and girls.

At some future time I may speak more specifically of things hard to do, which, if successfully done, bring liberal pecuniary rewards. I. P. ROBERTS.

The Sunflower the National Flower.—I suppose every individual, however insignificant, has the right to record his vote for his favorite as the national flower. I give mine heartily to the sunflower, *Helianthus annuus*. I prefer it because it is indigenous and so hardy that it may be successfully grown from the Gulf of Mexico to the upper lakes on the north, and from farther Northeastern Maine to San Diego in Southwestern California. The common varieties accomodate themselves to all soils and nearly all seasons, and are as near frost-proof as any other annual, while they flower early and bear flowers late, and in constitution they are so close *en rapport* to the climate of the country that they are the commonest of volunteer plants. In the arid regions of the West the wild sunflower dominates all annual vegetation, and so broadly has the seed been scattered, that as soon as the first furrow is turned a golden line of them springs up as if by magic. Another and a conspicuous merit is that the seeds attract birds of all grain-eating species, among which sparrows, yellow birds and bluejays are leading. In individual appearance the common sunflower is large, and on very rich soils in warm climates attains to nearly arboreal dimensions, while the flowers are numerous and showy, and when given into the hands of the skillful horticulturist a variety of other shining forms are developed. Should the sunflower become a popular favorite, and be uniformly adopted as the national flower, the change and improvement made in it within the next ten years will be so great that we shall hardly recognize the original. E. P. J.

Wild Flowers in North Carolina.

At this season our mountain fields and roadsides are enlivened by hundreds of autumn flowers. Conspicuous among them is *Coreopsis senifolia*. This plant grows from two to three feet high, and is literally covered with heads of golden yellow flowers. It has trifoliate leaves, which are arranged oppositely on the stem, giving it the appearance of having its leaves in whorls of six, hence the specific name. The mountaineer prizes this plant for other purposes than its beauty, however. The yellow blossoms are gathered to make a dye for coloring home-made cloth when a yellow color is wanted. His name for the plant is dyer's flower.

There is another plant which is used here for making nearly the same color. It is a shapely shrub or small tree. Its name is *Symplocus tinctoria*. The leaves of this plant are the part used. The mountaineer calls it dyer's leaves. Early in the spring *Symplocus* is loaded with sessile clusters of honey-colored blossoms, which are rather inconspicuous but very pleasantly fragrant. Later in the season its blue fruit is quite showy. Most botanical authors make a note of the fact that this plant is greedily eaten by stock, but after watching carefully several years, I have never seen stock of any kind eating it. The fact is, our huckleberry and other heath plants suffer more from stock than does *Symplocus* in this section. It may be that in parts of the South where forage is scarce, stock have acquired a liking for this plant. *Symplocus* is found from Virginia to Florida and Louisiana. The *Coreopsis* occurs from Kentucky to Georgia. F. E. B.

Highlands, N. C., Sept. 13.

GONE WEST.—It was on the island of Grand Manan, down on the Bay of Fundy, last summer, that a comment was made upon the scarcity in the community of young people of both sexes. "How is it," we asked, "that we see so few young men and women here?" "Well," the captain replied, "a great many have married and gone west." "West?" we said. "To what part of the West?" "Well," said the captain, "mostly to Boston."

—*Atlantic Monthly.*

A MEXICAN STORY.—Once, on a great festival, the Town Council of Lagos went to the parish church to hear the mass. And all the members of the Council were dressed in seemly state in black coats and tight black trousers and flowing cloaks, and each wore a wide-brimmed hat of black felt over which a feather gallantly curled. For their comfort a leather-covered bench was placed before the chancel rail. And when they came to sit, each man, in the order of his dignity, sat down upon the bench and placed beside him his hat. But when six of the twelve councilors thus were seated, the bench was full. Then a whispered conference was held, and it was decided that the bench must be stretched. So six of them took hold of one end, and the other six took hold of the other end, and they pulled hard. Then they came to sit again. And now the first councilor put his hat beneath the bench; and the second did likewise, and so did they all. And they all in comfort sat down—by which they knew that they had sufficiently stretched the bench.—*Scribner's Magazine.*

"CHRISTIAN SCIENCE"—I am glad to note a return to sanity in the matter of Christian Science, so called. Many who gave it their firm adherence at first, have seen that it is a rank imposture, and have withdrawn allegiance, ashamed. Its rapid spread was due to that peculiarity of human nature that finds truth in bold assumption of supernatural power, and infinitely prefers the *ipse dixit* of a charlatan to the careful, thorough truth-telling physician. One of these quacks, at the time in immense practice in London, once consulted the great Abernethy for some personal ailment. Curious to know the secret of his success in attracting clients, the surgeon asked him if he knew why he had so many more patients than any regular physician. Drawing Abernethy to the window, he pointed to the surging crowd on the street below, and asked: "Doctor, of every hundred persons who pass this window, how many do you suppose are educated people, capable of appreciating study and cultivation in others?" "Perhaps ten," answered the surgeon. "Exactly," rejoined the charlatan. "Well, you get those ten—the rest come to me."—*American Magazine.*

Domestic Economy.

Hints for the Housekeeper.

A convenience is a basket to gather up the small articles that are so useful on the table, but yet require so many steps between pantry and table. Take a small long basket (grape basket), stain with walnut staining, line with red alleola or turkey red calico, tie ribbon bows at the sides of the handle, and it is completed. All the salts, napkins, doylies, &c., put in this, can be removed at once; and are ready the next time they are wanted, and the dainty touches are a delight instead of a weariness to the flesh.

—Is your ironing board fixed so it is a pleasure to iron on, and no trouble to keep clean? Let me tell you a good plan: Take a long wide board, (a narrow one is a nuisance) tapering at the left hand end; cover it within a foot of each end, thickly and smoothly on both sides, with a woolen blanket; do not make a seam on the flat side, but with carpet tacks fasten the blanket on the narrow edge. Next cover tightly with a sheet doubled, keeping both sides of your board perfectly smooth.

Now you are ready for the outside. Take stout muslin and make a cover the same as you would for a bolster case, open at both ends, make it to slip on tight; this is easily removed and laundried, and your board is always neat and clean.

Iron calicoes on one side, white clothes on the other side. You will find this a great improvement on the old plan of ironing all on one side, and having the colored lint coming off on the starched white clothes.

—A dainty little stand for the corner of the dining room, or to place near the hammock, is made of three broom sticks, and a round brass tray, such as you can get at any hardware store. Cut the sticks the desired length, slanting the lower ends so they will stand firmly; cross, and fasten them with round headed screws, stain with cherry-staining, and varnish; gild the heads of the screws, or tie a ribbon where the sticks cross. Fasten the tray to the top of the sticks with small brass-headed picture nails—three small gilt chains fastened to the sticks under the tray will be an addition—and you have a fruit, book or flower stand that will delight your heart and be the admiration of your friends. MARTHA.

A Lady's Shawl.

Take a medium-sized bone hook and part white single zephyr and part crystal wool. Cast on as many chain stitches as are required with the zephyr.

1st *Row*—Miss one stitch,* insert the hook through the next stitch and draw up a loop; wool over hook, draw up a loop through the same stitch that the last loop was through; wool over, draw through all four loops on needle; do not fasten with a chain stitch; repeat from * to end row and turn.

2d *Row*—Take the crystal wool and proceed as in the first row, taking up the back horizontal loop of each stitch; every row is worked the same, with the exception that single zephyr is used for one row, and crystal wool for the other.

THE BORDER.—1st *Row*—With the zephyr fasten with double crochet in the first loop of the foundation chain; 2 chain, 1 treble in top of loop at the side of the first row,* 2 chain, 1 treble in top of loop at the side of next row; repeat from * along this side of the shawl only; at the corners put two trebles in one stitch; on the other three sides of the shawl miss one stitch between each treble.

2d *Row*—(a) 5 trebles (for scallop) under the first 2 chain of the previous round; 1 double crochet under next 2 chain; repeat from a all around.

3d *Row*—With crystal wool, 1 double crochet in each stitch of the second round.

AUNT ADDIE.

A Bag for Gloves—To hang in a closet or hall, is made thus: Take scarlet alleola five-eighths of a yard square; cut a circle as long as the piece will allow; cut an inner lining out of cretonline, and an inside lining of pumpkin yellow alleola; make the three circles exactly of

the same size. Now cut two circles the size of a saucer, of stiff pasteboard—baste one of these between the crinoline and outside silesia—putting the centres exactly together. Cut three or four pieces of wadding a little smaller than the pasteboard, and baste on the other circle; cover this with yellow plush, turning the edges over on the wadding; fasten the circles together with long cross stitches. Next baste in smoothly the inner lining, sewing lightly around the small circle to keep in place. Finish the edges of the large circles with binding or cord, and on the finished edge sew six good-sized brass rings; through these draw two sets of yellow ribbon or cord to hang the bag by. Fill the edges of the small circles thickly with pins of all sizes and kinds. Hung in a convenient place this will prove a delight to the household.

MARTHA.

Monmouth County, N. J.

Ivy Poisoning.—I endorse, from personal experience, what C. S. L. says as to celandine being an antidote for ivy poisoning. I forward to you by mail a piece of the plant. I think the living plant should be used, stems, stalks, leaves and blossoms, all bruised together and rubbed on. MRS. J. W. S. *New Rochelle, N. Y.*

[The plant proves to be *Impatiens fulva*, "spotted touch-me not." EDS.]

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SPRINGFIELD, MASS., Feb. 19, 1889.

DR. B. J. KENDALL CO., Enosburgh Falls, Vt.

Gentlemen:—I have used your Kendall's Spavin Cure for Corns and Scratches and I can say I never saw its equal. I have cured some of the worst cases of Corns that a horse could be subject to. I have been having such good success with your liniment that I would almost as soon a horse would have Corns as not. I have recommended it to several with like success. I had a large Pacer with a white hoof forward and had Corns in both quarters as large as fifty cent pieces. I cured him in three weeks, so when I sold him to an expert horseman he never knew the horse ever had a Corn. I will give $1000 for the worst case of Corns that I can't cure with your Kendall's Spavin Cure. Respectfully yours,

PETER MALONEY.

BULL'S HEAD, N. Y., June 3, 1889.

DR. B. J. KENDALL CO., Enosburgh Falls, Vt.

Gents:—I think it my duty to say to you that I have thoroughly tried your Kendall's Spavin Cure and have done wonders for myself in removing hard Callouses from horses' limbs. I think it one of the best liniments I ever used.

Very respectfully yours,
JOHN F. SHULTZER, V. S.

MERSTSVILLE, PA., May 13, 1889.

DR. B. J. KENDALL CO., Enosburgh Falls, Vt.

Gents:—I have been using Kendall's Spavin Cure for some time and have cured three or four Spavines. I think it is the best medicine for horse flesh that I have ever used and also for Corns on human flesh. It will remove Corns entirely without pain. Very respectfully yours,

L. A. MCWILLIAMS.

Price $1 per bottle, or six bottles for $5. All druggists have it or can get it for you, or it will be sent to any address on receipt of price by the proprietors,

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Mother—Indeed, my son, I am sorry you are so careless. You forget that even a good thing is only good when properly used. You have not even looked at the directions, for they are put around the neck of the bottle. Now you must read them, and they will get you out of your trouble. Your father and I keep our shoes in elegant order by its use. I use it about once a month and pops about once a week.

Wolff's ACME Blacking

Is wonderful; preserving and Waterproofing any leather; giving it a deep, rich black lustre which lasts a week. *Don't use often.* Do not confound ACME Blacking with any other. Sold by Shoe Stores, Grocers, Druggists, &c. Try it on your Harness.

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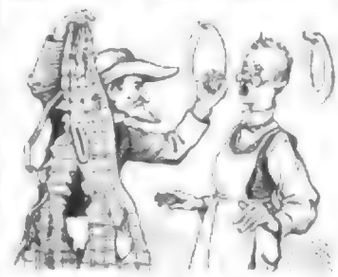

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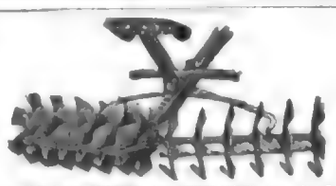

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VOLUME LI

Number 1317

NEW YORK
JANUARY 4, 1922

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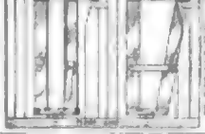

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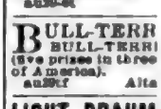

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The Cultivator
Country Gentleman.

ALBANY, OCT. 4, 1866.

Answers to Inquiries.

A WAY TO MAKE LITTLE MONEY.—Will you be kindly enough to furnish such information as may be furnished in the smallest degree satisfactory, relative to the manufacture of Sorghum Sugar, and the cost of machinery, &c., for making it? Also, what is the best method of raising the cane, and the yield per acre? Also, what is the best method of making Sorghum Syrup, and the cost of machinery for making it? Also, what is the best method of raising the cane, and the yield per acre? Also, what is the best method of making Sorghum Syrup, and the cost of machinery for making it?

We have given the best information we have on the subject of Sorghum Sugar, and the cost of machinery for making it, in the last number. We have also given the best method of raising the cane, and the yield per acre. The remedy is simple enough, and the cost of machinery for making it is not great, and the yield per acre is not great, and the cost of machinery for making it is not great, and the yield per acre is not great.

The Cultivator Country Gentleman.

We have received a number of inquiries recently as to the publication of the Cultivator and Country Gentleman, and the cost of machinery for making it. We have also received a number of inquiries as to the best method of raising the cane, and the yield per acre. We have also received a number of inquiries as to the best method of making Sorghum Syrup, and the cost of machinery for making it.

many other excellent specimens, well adapted not alone for large or small occupiers in this country, but also for breeders abroad, whence for many years there has been a great demand. *London, Sept. 14.*

Drainage and Fertility.

I have finally concluded to give a diagram of the other part of my farm. Taken with the plat on page 668, Sept. 5, it gives the whole farm. I can show far better by definite references to them what I think is proved, on my clayey farm, in regard to the relation between drainage, clover, manure and productiveness. Those who care to follow carefully what I say will perhaps cut out the two plats and lay or paste them up for future reference. Plats 6, 7 and 8 are thoroughly tiled except the house lot (one acre) and about one acre more.

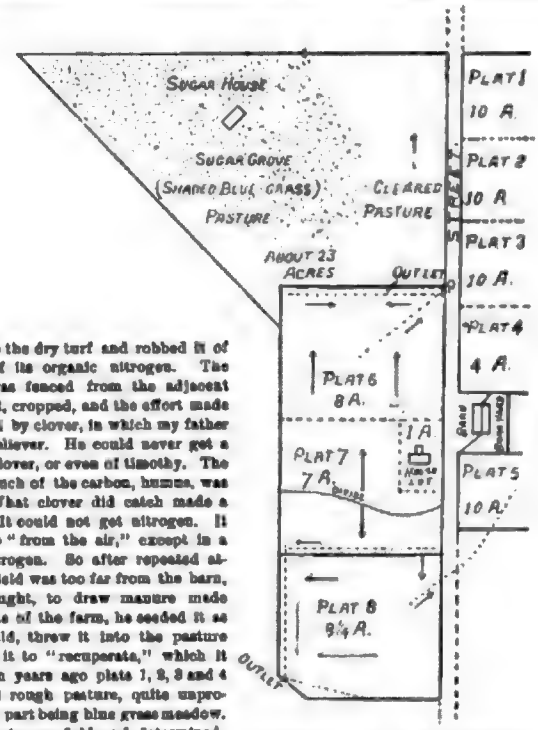
I think those who own and till what may be called natural grain, clover, fruit and potato farms (limestone, gravel or rich sandy loam; porous, friable, naturally drained) can hardly realize what it costs to bring a pretty stiff clayey soil up to what I may call the "wheat and clover level." When I bought my farm of my father, 24 years ago, and moved on to it, no one believed that the clayey farms of Northern Ohio could raise wheat. In the very early days, it is true, when the ground was more porous from decaying tree roots and less tillage, wheat succeeded. But for 20 years after 1838 my father got only two really good crops, one on 3 acres and one on 3¼ acres near the barn. One plat had buckwheat plowed under, and the other clover, and both were manured at the rate of nearly 40 large two-horse loads of good stable manure per acre. Both patches were on what is now plat 7 (see figure). That was, I think, in 1849 and 1850. For some reason that was the last good wheat he got, and very few of his neighbors on clayey farms even tried to grow wheat, except in small, highly-manured patches, after about 1846; though on the limestone gravel lands and sandy loams of Ohio it has been raised continuously and successfully on large areas for over 80 years, in connection with clover, live-stock and manure.

So universal was the feeling as to the failure of wheat on the clayey farms in Northern Ohio, that not until I had thoroughly tile-drained plats 7 and 8 (see figure), some 13 years ago, and manured them up to the "clover point" did I dare to begin wheat raising. The success was remarkable; 465 machine-measured bushels from 10 chain-measured acres in plats 6 and 7; 46½ bushels per acre on all I raised that year. What was quite remarkable, separate threshing showed that the 5½ acres in plat 7, so heavily clovered, buckwheated and manured for two or three years by my father 27 years before, yielded over 60 bushels per acre, while the parts that had never been manured until I put on some 20 loads per acre (over the whole 10 acres impartially for that crop of wheat) yielded only about 30 bushels per acre. Manure lasts in clayey soil, and pays too.

I have never again reached that high-water mark, though I have several times reached 40 bushels per acre on the tiled and manured parts of a crop. Before I had wheat again on plats 6 and 7 the apple trees interfered with successful wheat growing, both by soil-exhaustion and shade, and now the orchard shades almost the entire surface.

Since then I have been extending the drainage and manuring until I have nearly all of plats 1, 2, 3, and 6, and all of plats 7 and 8, except the house lot, drained with laterals 33 feet apart and averaging 28 to 30 inches deep, and all of the plats manured up to what I may call the "wheat and clover level." I do not think the land can ever be made as good for potatoes and fruit, nor as sure for wheat and clover, as the rich, sandy loams where "clover and tillage" seem to answer without so much live stock.

Now, the work of bringing these plats, nearly 50 acres, up to this point has been long and patient. Especially has it been hard with plat 8, and with 8 acres of plat 3. Both slope towards the west and are wholly exposed to the prevailing west and southwest winds, which rob them of their snow protection in winter. The same winds for centuries robbed them of a large part of their forest leaves, increasing the fertility of the adjacent easterly slopes where the leaves lodged. The middle 8 acres of plat 3 was, by accident, 45 years ago, burned over in a drouth. It had a mat of dead blue-grass on it, and the fire not only burned this



Part of Farm lying N. W. of street—67 acres; at e ends of plats across street. Dots show slopes: Arc dotted lines, main drains; heavy lines, fences; heavy dotted lines, plank lanes without fences.

but burned into the dry turf and robbed it of a large part of its organic nitrogen. The burned area was fenced from the adjacent pasture, plowed, cropped, and the effort made to recuperate it by clover, in which my father was a devout believer. He could never get a good catch of clover, or even of timothy. The nitrogen and much of the carbon, humus, was burned up. What clover did catch made a puny growth. It could not get nitrogen. It never can do so "from the air," except in a soil rich in nitrogen. So after repeated attempts, as the field was too far from the barn, my father thought, to draw manure made from other parts of the farm, he seeded it as well as he could, threw it into the pasture again and left it to "recuperate," which it never did. Ten years ago plats 1, 2, 3 and 4 were nearly all rough pasture, quite unproductive, a small part being blue grass meadow. I fenced them into one field and determined, by drainage, tillage, clover and manure, to restore fertility and productiveness. In spite of considerable manure on that five acres of plat 3, I never got a good crop of wheat or a really good stand of clover until 1886, when by using over 300 lbs. of best superphosphate per acre the fall before, though the wheat was thin the stand of clover was grand. This summer the heavy first crop was cut early in July, and when the second crop was nearly half grown it was plowed under, the ground thoroughly worked, and half of plats 3 and 4 drilled to wheat Sept. 3, with no superphosphate, and the other half Sept. 7 with about 300 lbs. per acre. The results of this experiment will be faithfully reported next year.

I think that now, even that five acres of plat 3, after years of patient work, has been brought up to the "wheat and clover level," I shall not be likely to let it relapse, nor to give the entire credit to clover. It took drainage, tillage, clover, and considerable added fertility, in the shape of fertilizers and manure, that came from somewhere else than the soil of that five acres or the air just above it, to bring it up to the plane where even clover could get hold. The struggle has been longer, and almost as hard, with plat 8, poor and exposed for reasons given. This year's wheat, based on a clover and timothy turf, with a light dressing of manure and 300 pounds of superphosphate, had over 25 bushels per acre for the ground occupied, and a splendid stand of clover and timothy now densely covers the ground.

Thus, by the same means, I have brought fifty acres of a rather stiff and unproductive soil up to excellent productiveness for grass and clover, and, I think, to the plane of successful wheat growing. Some 10 acres more are under plow and rotation, with excellent grass crops always, but not tiled, and hence not sure for wheat or clover. I think it not over-stating it to say that that 65 acres will now yield four times as much of money crops each year as it yielded either of the first two years before or of the first two years after I bought the farm. If I were to do the work again, I should use superphosphate earlier and more. It has been used in Ohio to any extent only about eight years, and I have used it very little except for four years. I might have restored fertility far faster with it. On many clay farms something is needed to give a start—a fulcrum, so to speak, for Archimedes' lever. Manure enough for considerable areas cannot be had; clover will not grow without it. But $5 or $6 per acre in good superphosphate, drilled in with each acre of wheat, will, on tiled land (or on untiled land, plowed in high, narrow lands with deep dead furrows), more than pay for itself in the first crop of wheat, and insure a good clover crop if the seed is sown six quarts per acre at the right time. On soils where it will by experiment do this, it pays. It gives a start and a possibility of growth in fertility. It makes it possible to bring large areas into cultivation and rotation on clayey farms, instead of little patches, as formerly, near the barn.

As I write, the Ohio Farmer for Sept. 11 comes to hand, and tells of somewhat similar experience in Southern Ohio, where for a time the farmers seemed to be greatly prospering under truck farming, tillage and clover, without much live stock. The hill portions of the farms had been neglected or made subsidiary to the larger profits of the truck patches in the bottoms. Thus far the thought only, now the words of the writer, Jas. L. Taylor of Scioto county, O.: "The principal part of their tillable land had been skimmed and impoverished beyond the possibility of raising clover or even blue beans, and the question which now pressed for decision was whether to 'vamose the ranch' altogether or resume the struggle under new conditions. Under these circumstances they began to experiment with commercial fertilizers, using them at first on wheat with results that were surprising." The writer goes on to state that good wheat crops followed, and "what was of greater moment, a luxuriant growth of clover almost invariably followed the fertilizer." He also states how the farmers bought. Taking the analyses and valuations of the State chemist, they got car-lot prices from manufacturers of a few of the best brands, and bought wholesale on the best bids, judged by those valuations—an exceedingly wise way.

Of the great value of clover, on land rich and well drained enough to grow good crops of it, I never had any doubt. Every square rod of my arable land is sown to it as fast as the rotation permits. On warm, responsive sandy loams, lying low or with wind protection by surrounding forests and orchards, and rich enough when the experiment begins, naturally or by manuring, to produce two and even three heavy cuttings of clover in a season, and 35 bushels of wheat, and 200 to 300 bushels of potatoes per acre, the clover experiment may be expected to succeed provided two thirds of the arable land is kept in clover and wheat, and only the clover seed and wheat grain from that part leaves the farm. *How* the clover hay and hauln and wheat straw shall be returned to the soil, is a question of finance, not of fertility, provided it is all returned and assimilated in the soil. If a very profitable huckster's crop on a portion of the land, and profitable winter employment elsewhere for the farmer, justify sacrificing the money value of some or all of the clover that might be fed as hay, and of the straw in favor of a less expensive return of their manure value to the soil, that is simply a question of finance, not of fertility. No one favors feeding live stock for the fun of it. No one who knows anything of chemistry supposes live stock add anything to the manure value of the food they use. They take the money value, under wise handling and favoring circumstances. But with even the greatest care, they diminish the manure value probably 20 per cent. or so, including the loss of carbon (humus), and of the possible mulching and mechanical effect. The fertilizing advantage of live stock is chiefly in the matter of distribution. They help you to put the fertility where you want it, taking from the rough pasture land that is naturally gaining, and that you don't have to till and harvest, and adding to your arable land that is naturally losing, and that you do have to till and harvest; and to such parts of this as are poorest. They enable you to double the fertility of the acres you till. The advantage of this is seen from the fact that it costs nearly as much to till and harvest an acre for 20 as for 40 bushels of wheat. A further advantage of live stock is that it enables the vast majority of farmers who cannot make money in winter except by farming or feeding, to get the money value they *must have* from their hay, straw, stalks, &c., and retain nearly all the manure value on their farms; and this they must have too.

Soils and farms, often even those near each other, differ in "specific" fertility (that is in total plant food per acre), as much as coal beds differ in thickness and value of the vein, or oil wells in their possible out-put per day, or men in physical or mental power. What seems perfectly easy and plain to many men who own and till rich limestone or sandy loam farms, thousands of men on thinner, colder, less responsive farms know to be as impossible to them as to fly to the moon.

The superphosphate test is a pretty good one. Where it shows no good results, as is usually the case on rich clover soils, it is presumptive evidence that these lands, for the crops they grow, are not in present need of the elements the phosphates contain, or that the elements are in such soluble form that they leach down too far in such porous soils before the plants can get them. Where these phosphates show exceedingly marked results upon the wheat and clover, as is usually the case on thinner, less porous clayey soils, it seems presumptive evidence that these soils are deficient in what the phosphates contain, and what the wheat and clover must have. Used as a basis for clover, phosphates seem wise.

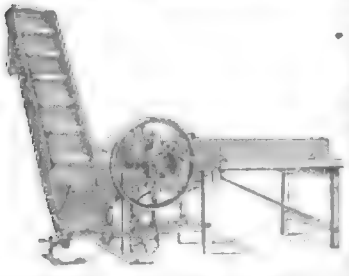
Wheat and clover have almost gone out of Iowa. The local agricultural papers are now full of the question of their restoration. This week's papers have several columns. Says the Iowa Homestead editorially: "If the farmers will only get their lands well seeded to clover they will have but little trouble with the wheat question. We have never been able to produce big crops without it." Ah, if you can get big crops of clover you can get wheat. But alas, how shall you get the clover when soil or climate or both refuse to grow it? When you are rich you can get richer. But, alas, what if you are poor? Iowa to-day does not raise wheat for its own bread. Says a writer in this week's Homestead: "The failure began in the eastern part of the State and slowly extended on westward, and now the entire State fails to raise a paying crop." In this week's agricultural department of the State Register, "Father Clarkson," its agricultural editor, one of the oldest farmers in the State and one of the best informed men on such matters says: "For 25 years I have seen the waning of wheat raising in the State with regret."

Now, if you can raise wheat wherever you can raise clover, as the Homestead says, and if you can raise clover on any soil and enrich it rapidly from the air, as the extreme clover men seem to think, then why does not Iowa raise 75,000,000 bushels of good wheat instead of 6,000,000 or so? I don't think the climate favorable, but it is more so than when they did grow wheat for it has more timber protection. The fact is Iowa tried to raise wheat without live stock at first, and then without saving and using their winter manure when it did have them. The same is true in Minnesota and all over the West. It is the old, old story which apparently each locality and each individual insists on learning by experience and not by observation.

CORRECTION.—In the diagram of part of my farm, page 668, Sept. 5, the *lane* from the barn-yard to the cow pasture is marked "same" instead of *lane*. The engraver misread my lettering. W. I. CHAMBERLAIN. *Ames, Iowa.*

A Good Ensilage Cutter.

The illustration represents one of the celebrated cutters and carriers, made by E. W. Rose & Co., Springfield, O.—a favorite size, No. 14 A. This is one of a number of sizes built expressly for ensilage, and cuts equally well Hungarian grass, millet, pea-vines, corn, clover, rye, sorghum and other grasses, and into any length. These machines are particularly strong, well made and durable, simple and not liable to get out of order, and have



exceptionally strong points. Among them is the safety fly wheel, securing freedom to the machine, and safety to the operator, easily kept in order and entirely reliable. The rocking self-feeding rollers are adapted to feed every kind of material, entirely overcoming clogging and greatly facilitating rapid feeding. The rollers open parallel or obliquely, without strain on the gearing, preventing the squeezing out of the juice from ensilage corn, an advantage not secured by any other method.

The knives make an upward cut; the position of the cutting plate thus being above, the knives will do more work without regrinding, as spaces before and behind the rollers are thus provided for the discharge of the dirt, grit, &c., which escapes the knives. By the upward cut the edges of the knives and the cutting plate are both in full view, greatly facilitating the adjustment of the knives when resharpened. The knife shaft also rests naturally downward in its bearings, preventing jarring, loosening of bolts and consequent breakage. All power machines are provided with heavy shafts, with three babbitted bearings which prevent the knife from springing away from the cutting plate. The feed gear is very simple, having very few parts to wear or get out of order, and is so designed as to secure a large saving in power, giving positive action to the rollers and a heavier feed, as well as a higher speed to the knife cylinder, increasing the capacity without requiring additional power.

The carrier is an important feature, being very solidly built and having a device for taking up the slack simultaneously on both sides of the endless chain. By a peculiar arrangement, no part of the weight of the carrier rests upon the shafts or bearings, saving friction and power. Carriers can be run in any direction and made of any length.

The cutter represented has four 14 inch knives and will easily cut more than eight tons of ensilage per hour.

The Lake Shore Region of Vermont.

Eds. Country Gentleman—Addison county, Vermont, includes some of the finest farming lands in New-England, and Shoreham, lying on the east shore of Lake Champlain, includes the cream of the county. For beauty of landscape and adaptability for dairying, it is not excelled in any State. It was from Watch Point, in this town, that old Ethan Allen embarked on his memorable errand to take Fort Ticonderoga, "in the name of the Great Jehovah and the Continental Congress." It was here, in a house which I pass several times a day, that the Rev. Dr. Sunderland of Washington was born. This is also the native town of Vice-President Levi P. Morton.

Here were bred the greasy, wrinkled rams of the Merino type, that 25 years ago were sought for from all points of the compass at $100 to $3,000 each. And on this very Cream Hill Stock Farm, "one of the finest farms that lies out-doors," owned by H. B. Hammond, Esq., of New-York city, were at one time owned 90 sheep that cost $30,000.

In those palmy days of sheep-breeding, when they bred so persistently for wrinkles and grease that the very soil was impregnated, and shows the blood to this day, the farmers of Addison county, and particularly of Shoreham, grew rich. The force of habit is well exemplified in the fact that it is now not an uncommon sight to see 30 to 50 rams in a flock waiting for the buyer, who can now get for $10 as fine a ram as would once command hundreds.

On this farm, also, was kept the celebrated stallion Daniel Lambert, who died in June last, aged 31 years. And this leads me to say that Daniel Lambert was bred and raised by Mr. Wm. H. Cook of Ticonderoga, the father of Rev. Joseph Cook of Boston. The latter spends most of his summers on the homestead, but I am told he studies more than he plows, and I have no reason to doubt the fact.

Bridport, four miles north of Cream Hill, was the home of Vermont Black Hawk, one of the finest horses and most noted sires in America—the sire of Ethan Allen, he the sire of Daniel Lambert. The Black Hawk Morgans have had no superiors in America for speed, action, endurance and docility—the most valuable qualities of the general-purpose horse.

Cream Hill Stock Farm consists of 900 acres of rich black clay land, bordering on a slate ridge. Once devoted exclusively to horses and sheep, it is now a dairy farm, numbering in its herd (Holstein-Friesian) several imported cows with records ranging from 70 to 90 lbs. per day. One of these, De Kol (record 91 lbs.), is the dam of J. B. Dutcher's famous butter cow, De Kol 2d. Banjo 4th, one of the finest bulls in the country, stands at the head of the herd.

The creamery in which I hold forth is an ornamental brick structure, planned by a city architect, who evidently understood the art of putting money into a building rather than convenience. To a practical man, however, who has the work to do, style and finish weigh but little as against convenience of arrangement, which constitutes real utility.

H. Cooley Greene.

Dressing Woodland.

Judicious work on woodland is remarkably well paid for, and the season for this work is fall. During spring and summer there is not time for this work, and during the winter, when the ground is frozen and covered with snow during the greater part of the time, the work cannot be thoroughly done. This is manifest when we consider that an important part of the work named must be done with the brush-scythe and the grubbing-hoe. The latter implement cannot be used during winter, and the work of the scythe is not so effective at any other season as in fall.

No part of Glenwood farm yields a greater net income than does a forty-acre field of woodland, and this woodland is increasing in real value as fast as the tilled land. In the treatment of woodland two objects should be kept in view—the growth of valuable pasture and the growth of valuable timber. The forty acres spoken of is mostly covered with blue-grass; and where there is blue-grass I have never seen a closer turf. When I first came to the farm, 24 years ago this autumn, the blue-grass had not been pastured much during the summer, and, after reaching a height of two feet or more, had fallen down and made a mat some inches thick, for the shell-bark hickory nuts to fall upon. The animals feasted with much enjoyment on that grass during the winter whenever there was not snow on the ground; and this has been as valuable as any pasture since. Where blue-grass does well I would recommend it above all other grasses for woodland pasture. No other grass is ready for grazing earlier in the spring—very few, and they unimportant, are as early; and while it is apt to fall for a short time in midsummer, this is when other grasses are abundant; and when other grasses have begun to fall, blue-grass starts up again and makes excellent pasturage throughout the fall. That forty-acre field of woodland gives the animals an early start in the spring, and the "push" is apparent throughout the summer; and in the fall it permits the animals being on good pasture for some time when otherwise they would have to be on short, dry pasture and dry feed. Every careful feeder knows what a great advantage this is. While both quantity and quality of the pasture are A 1, the seasons at which it is available give it an added value.

The greater part of the forty acres named has a fine growth of oak and hickory, affording excellent and abundant "mast," while a creek runs through the field; hence while this field is a good pasture for other animals, it is a pasture *par excellence* for swine. Any reader fortunate in having such natural conditions may easily have such a pasture; and although the conditions are not so favorable, he may have a good pasture. Blue-grass seed is best sown in the early fall, at least as far north as this (40th parallel). It is slow to get a firm hold; and while it should be pastured the first two or three years, this pasturing should be light.

Part of our timber land was covered with a growth of timber so dense, especially where red elm predominated, with so much underbrush at these places that there was not a good catch of blue-grass. After cutting out part of the timber, to the advantage of that remaining, and clearing out the underbrush, we seeded these spots to red clover and orchard grass, and got a fine catch without any difficulty. The blue grass is steadily encroaching upon the clover and orchard grass, although the clover has done far better in the shade than we anticipated.

But before good pasture can be obtained, the underbrush must be cleared out and the denseness of the timber growth be reduced in places by cutting out the least valuable timber; this is the work which must be done at this season, and be done judiciously. The value of a tree depends upon its kind and also upon its age and vigor. When I came on the farm 24 years ago, it was fenced throughout with Virginia rail fence, and there were not 500 rails that were not of black walnut! My fool predecessor had cut out nearly every walnut tree; if he had not, I could loaf or publish a paper the balance of my days on earth. He had left stand the white elms, which are worthless for boards or rails, and hardly worth the cutting for fuel; also, the "pin" oak, worthless for lumber, worthless for rails unless cut while growing and when the bark will peel, and at all times only indifferent fuel; and also the cottonwood, wild cherry, haw, crab apple and water birch. Fortunately the greater part of the hickory and red elm and white oak was left, but the reader can easily see how that man might have had timber of five times the value of what he allowed himself; and the reader can also readily see how he may treat his timber land so as to increase its value.

Quite frequently it is better to cut out a tree of a valuable sort and leave standing one of not so good a kind; the latter tree being vigorous, while the first named shows signs of waning vitality. As our object is to get the most valuable growth, we must consider the vigor as well as the kind of the tree. Thinning out the growth in this way benefits the remaining trees as well as the grass; they will grow faster and better. Thus a man can get from his woodland valuable lumber, posts and rails, as well as fuel, while the standing timber is constantly increasing in value, and the land is yielding excellent pasturage.

The timber is made more valuable, and the growth of grass is increased by cutting off the low-hanging branches, and these will make enough fuel to pay well for the work. Sprouts (except where the growth is to be thickened), briars, and such low-growing and valueless trees as black-haw, crab-apple, &c., are to be taken out clean. These low growths damage the grass most, and are without value; and they often give a start to worthless grasses or noxious weeds which will not only get a firm foothold on these spots, but will also foul the adjacent ground.

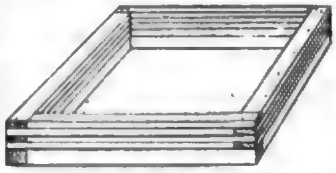
Very likely there will be some spots that are altogether bare of trees, or else support only a sparse growth. In such spots a thicker growth should be induced. I have seen a growth of low bushes and briers so dense that is prevented the starting of forest trees; but nearly always these bare or sparse spots are covered by a turf so close and thick that it prevents tree seeds sinking into the soil and germinating. I have had good success from making a small, shallow hole, destroying but little of the sod, and planting acorns or nuts. As white oak, walnut and hickorynut are our most valuable trees for timber that do well here, I have planted them on sparse spots; the acorns are excellent feed for hogs, and the nuts will bring a fair price. The little trees must be protected two or three years. I drive down three stout stakes about the tree and then wind fencing-wire around the stakes, using a few staples to hold the wire in place. The stakes should be set well apart, to give the tree plenty of room. You are more apt to have your trees too thick than too sparse. To make a thrifty growth the tree must have abundant soil and light. I presume that in the case of elms, &c., it would be better to transplant small trees to where they are needed.

A first class growth of grass and timber is not possible when the same ground is occupied by rooting, elm-bark-eating swine. Swine driven to eating elm-bark may yet be found. I have Poland-China and Duroc-Jersey swine, and have never found it necessary to ring them, though these breeds are reputed to have too much nose activity. I think likely that their woodland pasture is largely responsible for the disinclination of the swine to root; and then they have a mixture of wood ashes, charcoal and salt constantly before them, and also have pumpkins, turnips and other such sod foods in season. But the man who has hogs disposed to root, and would have woodland pasture to be proud of, must ring the hogs or else feed them differently. John M. Stahl.

Quincy, Ill.

Strong and Simple Silo—Sorghum.

Eds. Country Gentleman—Let me give you the plan of a silo which we have recently built, and as it can be followed with ease by any one, even those not skilled in carpenter work, it may be suited to the wants of a large class of farmers who have not the necessary mechanical skill, or the ready money to hire a



carpenter to lay out, frame, and erect a wooden building suitable for the desired purpose. The site chosen for the silo, is on a hillside close by one on which we shall build a row of stables where we will feed and house our herd of Holstein cattle the coming winter. An excavation 22 by 22 feet, and 4 feet deep on the side next to the bank was first made. A ditch in which were laid 3-inch tile was then dug close to bank on three sides, thus insuring a dry bottom—the slope of bank being such, that on the fourth side the grade of bottom runs out level with top of ground. The sills (8 by 10 sticks 20 feet long) are placed inside; they can be either halved together or simply placed with ends butting up to each corner. On the tops of these sills are spiked in regular courses, 6-inch wide plank 2½ inches thick, one-half the ends of one course projecting over the course next below it, as appears in the foregoing sketch. This building up is continued until the desired height is reached; in ours it was carried up to 20 feet from bottom of sill to top of last course, on which the rafters are placed and all roofed in.

To build on this plan requires a little more lumber than to erect a balloon frame, and plank both the outside and inside of the same. But no frame building can be put together that will resist the pressure of enclosed contents, and be as easily made air-tight as one built after this plan. Witness the immense grain elevators that stand throughout the Northwest, some of them holding their millions of bushels of grain in bins located away up a hundred feet from the bottom of their walls, which are built up with inch boards placed flat sides together, one above the other.

The silo walls are lined on the inside with tarred paper, over which one-inch boards placed perpendicularly are nailed, making a perfectly air-tight wall. If the builder had any fears of frost entering such a wall, after tacking on the building paper let him nail on inch strips to which to nail the inside boards.

Do the farmers of the South know the value of sorghum as a fodder plant for nearly all stock? Has any grower found out that it can be cut twice, and possibly thrice, in a season? If the tame grasses do not thrive in this warm climate, here is a plant that will, together with a little bran and corn meal, furnish a suitable ration, and more of it, than any other with which I am familiar. It can be cut twice (that we know), and used in its green state; it can be siloed, and will furnish an excellent ration for milch cows during the winter and early spring months. Feed it to young horses once a day; hogs thrive on it, and sheep love it dearly.

Early in June of this year we sowed, or rather planted, as we put it in with a corn-planter, something like five acres. It being

in drills 30 inches apart, whenever we run through our beans with cultivator we also worked the sorghum and kept down the weeds, mellowed the ground, &c. We have had no crop that has withstood the months of wet weather so nobly as this one. Our ten cows fed on it twice per day, and five horses once; have not made scarcely a mark in the field, and some of the first cut is now five and six feet high again, and we shall have many tons to mix in with our corn in the silo.

In answer to inquiries as to how the marrow beans, of which we planted some 15 acres, have succeeded, I never saw a finer promise of a larger crop up the time of their blossoming; then the almost incessant rain began to have its effect, and later on in the season the pods failed to fill, the leaves and stalks withered, and were washed away, so that there were no beans to gather, no fodder even to save, and no four or five hundred dollars in our pockets as returns from sale of the crop as we had hoped for. J. S. FOWLER.

Southampton County, Va., Sept. 14.

An Eastern New-York Exhibition.

The very large attendance, considering the weather, at the late State fair at Albany—emphasizing so strongly the lamentable unwisdom of the present managers of the society in failing to select, if determined to localize their shows at a single point, the one city of the State which has both a suitable geographical situation and a sufficient population within and immediately around its borders to insure a large financial return from the sale of tickets of admission—leads the editor of the Argus to offer certain suggestions that deserve prompt attention. We copy part of his article below, and trust that agricultural associations, public-spirited individuals, and particularly the editors of exchanges in Eastern New-York, Southern Vermont, Western Massachusetts and Connecticut, will take the matter up. There should be no thought of rivalry with established exhibitions. It would be easy so to arrange dates that persons desiring to exhibit at the New-England, Vermont or Connecticut State fairs could visit Albany also; and experience shows that the establishment of a sort of circuit of this kind is commonly rather a benefit than an injury to each of the exhibitions included. The Argus says:

When the treasurer of the State Agricultural Society figured up his returns for the closing day of the fair Thursday, he could not but admit that Albany had shown itself a good fair town. With the "rockiest" weather that a State fair was ever pitted against, the society had made money enough to pay all expenses despite the heavy premium list. Never before was the society so handicapped. In all the week there could be counted only one clear day. Yet in spite of the rain, the mud, and the cold weather of the last three days of the fair, people poured into the city by thousands from the surrounding country and left their dollars with the gate keepers for the privilege of paddling around in the mud on the fair grounds.

Albany has always beaten the other cities in the State in receipts, when the fair has been held here and would doubtless continue to do so. But no more fairs are to be held here, that is to say, no more State fairs. It seems rather hard, at first thought, that Albany, the best city on the fair circuit, should lose the opportunity to make money for the society, but on the sober second thought it's not so bad after all. Albany has an opportunity to set up a rival show that will leave the State Agricultural Society's exhibit far in the shade. People like to come here. They proved that conclusively last week, when they came by train loads and boat loads from all directions. No place in the State is so well situated for holding an inter-State fair as this city, and next year it should have a fair of that kind. There is no doubt that the Hudson and Mohawk valley counties, the best counties in the State, would give Albany preference over Syracuse, and these, with the counties of Western Massachusetts and those of Vermont that border on New-York State, could furnish exhibits for such a fair as has never yet been held here. At the fair just closed, domestic hall, containing the flower of the entire exhibit, was filled, with scarcely an exception, by Albany and Rensselaer county exhibits. Troy furnished many of them, and could be counted upon to take an active interest in an Inter-State fair should one be held here. Columbia county, and in fact nearly all the river counties, were represented in some department or other. They would be just as sure to be represented in a fair for Eastern New-York, Western Massachusetts and Vermont. If the project fail it will not be for lack of exhibitors or lack of patrons. All that is wanted is some one to start the movement. This the Argus is ready to do now by suggestion and, once it begins to take shape, by substantial aid.

A company is needed to put the fair grounds in proper condition. New and larger buildings are needed; that the present buildings were inadequate to the size of the crowds and exhibitors was clearly proved last week. More cattle and horse sheds are likely to be needed and many other improvements would not be amiss. Should a company be formed this fall and its stock put upon the market in small shares—say ten dollars per share—there is every prospect that before snow flies all the stock would be subscribed. A prominent business man to whom the scheme was broached yesterday said if the stock was placed as low as ten dollars per share he would take ten shares for the company which he represented and consider it a good investment. Said he: "Albany is big enough to run a scheme of this kind, and I shall be proud to take a hand in helping the thing along. If a few of our wide awake business men take hold of it, I'll wager you'll find merchants enough in this city and Troy alone to take every dollar's worth of stock."

The following from Col. William H. Terrell, superintendent of Domestic Hall, shows that gentleman's views on the matter of holding a fair here:

"The New-York State fair with its pleasant associations has passed away from Albany, and its future is in the hands of Syracuse. For the last few weeks it has come to my knowledge through contact with exhibitors, that there is an earnest desire that steps be taken in which the capital of the Empire State should stand in the front rank as to an agricultural exhibit each year. No point in the State is better adapted for fair purposes than Albany, its facilities as to railroads, steam, electric and horse, with a water front, also the several counties bordering, and Vermont, Massachusetts and Connecticut in close connection.

"I am authorized to say not only on behalf of the merchants who were with me in Domestic hall from September 12th to 19th, but also on behalf of the large percentage of exhibitors and life members of the society and representative men throughout the State, that they will go hand and glove with the business men of Albany towards having an Eastern New-York fair. At present we have Western New York, (Buffalo,) Inter-State, (Elmira,) and why not have an Eastern New-York (Albany)? The State appropriates annually a certain amount toward paying premiums and I have no doubt but what the interest of an Eastern New-York fair would be looked after by its friends in the legislature."

The Argus will publish the opinions of prominent business men as fast as obtained, and when a company is formed be the first to take stock in it.

The Rhode-Island State Fair.

Our annual Fair and Exhibition opened on Monday under auspices unusually propitious, with clear skies and a cool, bracing atmosphere. Narragansett Park, in Cranston, near the city line, is now an institution all the year round. A keeper resides on the grounds to look after property, and to attend to the wants of horse trainers who occupy them during the greater part of the year. The R. I. Society for the Encouragement of Domestic Industry has added new buildings since the last fair, at a cost of $17,000, and all exhibits are now under cover. The new structure for poultry is 155 feet long, 70 feet wide at one end, and 36 at the other. Heretofore this part of the exhibition has been given in a tent. New sheds for sheep and swine have been erected, and many changes made for the convenience of exhibitors and visitors. The society is prepared, as it never was before, to accommodate the State Fair, which is really a New-England Fair. Every year exhibitors and advertisers from remote places increase. We have the great advantage of direct railway communication with the grounds, passengers and freight being carried inside the park enclosure.

Our market gardens thrive in moist, warm weather, as shown by the exhibits. They were very large and of the highest merit. The Rhode-Island State Agricultural School and Experiment Station is hardly in working order yet, but it has made a beginning, and will be an important factor in our agriculture. The school made a large and interesting exhibit of potatoes raised in the drill, the hill, and intermediate methods. The school began operations about a year ago. The farm comprises 140 acres in the town of South Kingston, two miles from the Kingston station, on the N. Y. P. & B. R. R.

The Cumberland (R. I.) Grange deserves credit for its remarkable exhibit and arrangement of farm products, fruits, vegetables and cereals. The general exhibition of apples was unusually large and excellent. The popular varieties in this State are: Hubbardston Nonesuch, Northern Spy, Baldwin, Roxbury Russet, Greening, Chenango, Gilliflower, Porter, Twenty Ounce, Gravenstein, Peck's Pleasant, and Maiden's Blush. Quinces were out in great force, and the specimens showed careful cultivation.

A remarkable exhibit of vegetables was made by F. J. Kinney, Worcester, Mass. It contains everything, from the Cherry tomato to the Mammoth squash.

Bread and butter are still produced in this State, but if the exhibit is an index, more attention is given to cakes and pies. The children under fifteen had a bread and pastry department, and produced a variety of bread and cakes. The show of butter and cheese was not large but good—creamery and home-"made," as one lot was labeled. The Moosley Occidant creamery was on exhibition, and received much attention from dairymen.

There was a large and satisfactory exhibit of horses—colts, fillies, brood mares and stallions. Green Boy, a favorite stallion in this State, was present with a large number of his getting. At least one hundred and twenty-five horses were shown, all generally of superior excellence. First premiums on stallions: Clarke Green, Johnston, Green Boy; A. H. Carson, Allenton, J. F. Goodwin; Hugh Linton, Pawtucket, Emblem; R. L. Gauld, Providence, Princeton; Karl H. Potter, Providence, Count; George Smith, Pascoag, Hampton Boy. Other premiums not awarded at this writing. Many fine brood mares were shown, with foal at side, and the whicker and whinney of these sleek, trim-bodied colts, their play and gambols, made the exhibition interesting.

Admirers of fine neat cattle found much to satisfy them. There were not so many grades as last year, but larger herds of thoroughbreds. Jerseys were shown by C. H. Peckham, president of the society, 13 head, and by W. H. Hopkins, 23 head; Polled Angus and Herefords, L. B. Harris, Lynden Centre, Vt.; Swiss, O. A. Kelly, Worcester, Mass., 14 head and J. A. Bancroft, Worcester, 14 head; Guernseys, F. E. Perkins, Johnston, 10 head; W. W. Segar, 8 head and J. B. Palmer, Lisbon, Conn., 10 head.

Ayrshires were shown by Obediah Brown and Isaac Hazard of Providence; H. E. Smith, Enfield, and J. H. Larned, Pomfret, Conn.; Devons, L. B. Harris, Lyndon, Vt.; J. B. Sanborn, E. Concord, N. H., 15 head; W. Earnes, Worcester, Mass.; N. B. Reed, Princeton, Mass., 14 head; F. H. Andrews, S. Woodstock, Conn., 18 head and H. S. & J. W. Stockwell, Sutton, Mass., 12 head.

The Dutch Belted cattle, 10 head exhibited by John C. McGuinness of Worcester, Mass., attracted general attention. They beautify the landscape, and for beef, milk and butter are worthy the attention of all breeders.

The number of Holsteins was larger than at any previous show. With few exceptions, all were registered stock, and the Holstein breeders had a general pedigree picnic. John A. Frye, Marlboro, Mass., showed his fine herd of 25 head led by Mercedes Prince; E. P. Taft, Pawtuxet, exhibited 31 head; Chas. Robinson, Barre Plains, Mass., 24 head; W. H. Best, Cochituate, Mass., 13 head and E. P. Rose, Cranston, 8 head. S. F. Marsh, Sutton, Mass., showed three yoke of oxen. A herd of Short-Horns, 18 head, was shown by Nathaniel Hazard of South Kingston. Premiums on cattle not awarded at this writing.

The exhibition of sheep was larger than last year, and the show of dogs smaller. There may be no connection between the two facts, but they are suggestive. The Spanish Merinoes exhibited by F. H. Andrews, So. Woodstock, Conn., were new specimens in this region, and attracted attention. Chas. E. Carr, Berkeley, Mass., and W. H. Bateman, E. Greenwich, exhibited several pens of fine South-Downs. Meritorious exhibits were made also by L. B. Harris, Lyndon, Vt.; W. H. Hopkins, Providence, and A. E. Field.

Yorkshire, Berkshire and Chester White swine were represented by good specimens. W. E. Pendleton's (New-London, Conn.) 11 pens of Small Yorkshires were worthy of especial notice. G. W. Goddard, Greenville, N. H., showed Berkshires, and A. B. Reese, Cumberland, Yorkshires.

The exhibition of poultry had some points of excellence. Aquatic fowl had an unusual representation. The typical Rhode Island turkey was shown in two coops. There were many Asiatics present, and Plymouth Rocks and Wyandottes were also shown. The poultry part of all our shows, however, is not maintained by farmers or those interested directly in agriculture, but by the fanciers and the boys who bring their scrubs to gain admission. The less said the better, usually, about poultry at agricultural fairs.

There were three exhibitors in the bee and honey department. Sam W. Lewis, Olneyville, showed a large quantity of extracted honey in glass jars of different designs, also comb-honey and wax. Mrs. S. M. Lockey is an enthusiastic bee keeper, and showed honey plants, extracted honey and wax. The Rhode Island Bee Keepers' Supply Company exhibited queens, bees and apiarian implements.

Agricultural implements occupied a large space, as usual, the chief exhibitors being Hamlin Johnson & Co. and W. E. Barrett & Co., both of Providence. This exhibit is of great value and interest, and gives the progressive farmers much to discuss. The Deering mower is on exhibition. Over 300 of these machines have been sold in this State. Its longest bar cuts a swath seven feet wide. S.

Providence, R. I., Sept. 25.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Sept. 2.

We are now two months without rain, except an inch that fell on the 5th of September. Meantime the temperature has been summer-like, save the second week, when hard frosts fell in low places, and the weather was as cool as the average October. Rain having fallen in the winter-wheat counties south of 39° before the cold spell, all tender vegetation there was killed to the ground, while farther north, in the drouthy counties on the black soil, the frost damage was confined to the lowlands as above, and tree foliage is nearly as white and bright as a month ago.

Still, the corn crop is cooked for the season, and the weather is favorable for early harvesting, and ears dry enough to go into the crib by the middle of October. Oats have not advanced in price—16c. being the average paid—and there are many buyers who declare that 20c. will be the top of the market for 30 lbs. of new corn, previous to the middle of November, if not later. This is not an unreasonable estimate considering that 27c. for 70 lbs. in all old corn grading No. 2 is worth at present, and with small likelihood for a rise for months to come.

There is no rise in the price of stock cattle, nor beeves of the second class, while thin cows and rough stock are scarcely worth 2c. per lb. live weight, and even 300-lb. fat veal calves are difficult to raise 3½c. upon. For years, when raising neat cattle was only moderately profitable, calves of the kind were scarce and in demand by butchers at 5c. and even 6c. per lb. live weight, but at present the market is so overstocked that 3½c. is all that can be obtained for the best, and less than two-thirds these figures for the poorer.

The corn, oat and hay crops of 1889, for the black soil counties, are scarcely more than two-thirds the average per acre of the last five years, while prices for these and neat cattle are 30, if not 40 or 50 per cent. lower. Meantime, no small portion of these products are raised by tenant farmers who pay, some, from two-fifths to one-half of the crop harvested, and others, from $3 to $4, and even $5, per acre, for the total acreage of the farm. This state of things is a distressing one for the average tenant farmer, whose possessions are limited to the stock and tools necessary to make his crops and household goods of no great value, while the outlook is scarcely less encouraging to the farmer who owns and cultivates his acres, inherited or the accumulated fruit of his life-long labors.

Meantime the rate of taxation is rather increasing than diminishing, there is no reduction in the salaries of the public officers, and while the business of county and State courts has declined from 50 to 75 per cent., the number of judges and cost of courts have been increased. Indeed, the average circuit and county judge has so little to do that he may be said to be enjoying a vacation 25 weeks in the year, and well do most of them improve it.

Such being some of the leading features of the agricultural situation in counties on the black soil of Illinois, one of the world's most fertile and favorably situated tracts of land, what can be the state of affairs where soil is less exuberant and the climate less to be desired?

Alfalfa in Illinois.

The success of my second year's experimenting has been so nearly a complete one that I ask your indulgence to repeat and report further. The main portion of the second crop for the growing season having been mown a few days before and taken off the land August 17, there was hardly a visible start of the third crop for fully a week. After, the growth sprang up rapidly, and to-day stands fully 18 inches high and promises to grow 6 or 7 inches more before the blossoms appear. A small portion of the patch, mown three weeks earlier, now supports a large mass of herbage in full bloom, having an average length from the ground up of fully 30 inches. I propose to mow the entire piece in a week or ten days, and thereafter get a fourth growth 6 to 10 inches high, according to the character of the season.

I am feeding the green stuff to a couple of milch cows and a heavy Percheron mare. The cows run on a fair pasture, yet eat the alfalfa with great avidity in the evening after grazing all day; indeed they take it in ravenously almost, and in so doing explain why writers of experience never fail to warn stock men of the danger of bloating, if stock is not gradually accustomed to it.

A friend of the writer, four or five years ago

making frequent trips to Denver, Pueblo and Leadville and returning to Illinois, made himself familiar at that time with the main features of the agriculture of those sections. Returning this month he was struck with the enormous increase of the acreage of alfalfa, which has begun an invasion of Western Kansas, and hereafter threatens to become a leading crop, especially on lands where no other can be grown except by the aid of irrigation.

Perhaps the experience of two growing seasons may not be considered sufficient to admit of the safety of seeding on more than a limited scale. Of this doubt let doubters take the advantage, and soon find themselves behind, as those who doubt too much usually do. A plant that will stand the severity of a continental European winter north of 54°, and resists successfully the drouth, hot winds and high temperature of the summer of Western Kansas and Eastern Colorado, will not be apt to quail before the summer and winter intensities of Central Illinois.

While the grasses, notably blue-grass and timothy, when covering the surface with a thick close sod, extract the moisture from the top soil to the depth of 26 inches, as at the present time, the earth in the alfalfa patch where the heaviest growth has been taken off is found to be moist within 3 inches of the surface. This confirms the statement of European cultivators, who tell us the lateral roots of alfalfa from the crown 2 feet down gather the main substance for the support of the plant, but its chief source for moisture is the tap root and laterals that absorb moisture from the strata, may be 5, may be 10 or 20 feet down.

If, as many think, though not so many openly express their convictions that drouth has come, and come to stay as a permanent feature of black-soil prairie Illinois, it is none too soon to prepare to receive and disarm it as far as possible by seeding to alfalfa on an extensive scale. If alfalfa shall in the future contribute as much to the agricultural riches and prosperity of Illinois as it has to Colorado, and promises for Western Kansas, a crop equal in value to either wheat or oats may be added to the agricultural resources of the State.

B. F. J.

Prizes Awarded at Detroit.

Our report of the great exhibition which closed at Detroit last week appears on the editorial page—below are the leading prizes awarded on cattle and horses:

Beef Breeds Sweepstakes: Graded Herd (graded in age, not in blood)—1. Thos Nelson & Son, Brantford, Ont. (Short-Horns); 2. Allen Varner & Son, Indianola, Ill., (Short-Horns); 3 Benton Garringer, Washington, C. H., O., (Aberdeen Angus.) *Young Herd*—1. Nelson; 2. Garringer; 3. H. E. Clough, Elyria, O., (Herefords.) *Fire animals by one bull*: 1. Varner; 2. Garringer; 3 A. Renick & Bro., Sycamore, Ky., (Short-Horns.) *Bull*, 3 years—Nelson; 2 years—Varner; 1 year—Nelson; *Bull Calf*—Varner. *Cow*, 3 years, 2 years, 1 year, and *Heifer calf*—Nelson.

Short-Horns: Graded Herd—1. Nelson; 2. Varner; 3. Renick. *Young Herd*—1. Nelson; 2. Renick; 3. F. A. Baker, Detroit. *Five Animals*—1. Nelson; 2. Renick; 3. Baker. *Bull* and *Best Female*—Nelson. *Bull*, 3 years—1. Nelson; 2. J. M. Turner, Lansing, Mich.; 3. Renick. *Two years*—1. Varner; 2. Renick; 3. D. Alexander. *One year*—1. Nelson; 2. Varner; 3. Renick. *Bull Calf*—1. A. Woods; 2. Varner; 3. Turner. *Cow*, 3 years—1. Nelson; 2 Renick; 3. Varner. *Two years*—1. Nelson; 2. Varner; 3. Renick. *One year*—1 and 2. Nelson; 3. Varner. *Heifer Calf*—1. Nelson; 2. Baker; 3. Varner.

Herefords: Graded Herd—H. H. Clough, Elyria, O. *Young Herd*—1 (Clough; 2. R. G. Hart, Lapeer, Mich. *Best Male, Best Female,* and *Three-Year Bull*—Clough. *Bull*, 1 year—1 and 3. Clough; 2. Hart. *Bull Calf*—Hart. *Cow*, 3 years—1. Clough; 2. Hart. *Two years*—1. Clough; 2. Hart. *One year*—1 and 2. Clough; 3. Hart. *Heifer Calf*—1. Clough; 2 and 3 Hart.

Aberdeen Angus—All prizes to Benton Garringer, Washington C. H., O.

Devons: Aged Herd—1. Irvin York, Brock, O.; 2. D. J. Whitmore, Caestown, O.; 3. R. G. Hart. *Young Herd*—1. Whitmore; 2. York. *Bull and Get*—1. York; 2. Whitmore. *Bull* 3 years—1. York; 2. Whitmore; 3. Hart. *Two years*—1. Whitmore. *One year*—1. York; 2. Whitmore. 3. E T. Dorey, Jackson, Mich. *Bull Calf*—1. York; 2 and 3. Whitmore. *Cow*, 3 years—1 and 3. Whitmore; 2. York. *Two years*—1. York; 2. Whitmore; 3. Hart. *One year*—1 and 2. Whitmore; 3 York. *Heifer Calf*—1. York; 2. Whitmore; 3. Dorey. *Best Male* and *Best Female*—York.

Jerseys: Aged Herd—1. C. Easthope, Niles, O.; 2. A. W. Cooley, Coldwater, Mich.; 3. Easthope. *Young Herd*—1. H. B. Kingman, Battle Creek, Mich.; 2 and 3. Easthope. *Bull* and *Get*—1 and 3. Easthope; 2. Kingman. *Bull*, 3 years—1 and 3. Easthope; 2. Kingman. *Two years*—1 W. J. G. Dean, Hanover, Mich.; 2. Easthope. *One year*—1. T. W. Palmer, Detroit; 2. Chas. Reinbolt, Tiffin, O.; 3. Easthope. *Bull Calf*—1. Kingman; 2. Dean; 3. Easthope. *Cow*, 3 years—1. Easthope; 2. Dean; 3. Reinbolt. *Two years*—1. Dean; 2. Easthope; 3. Reinbolt. *One year*—1. Dean; 2. Kingman; 3. Easthope. *Heifer Calf*—1. Kingman; 2. Easthope; 3. Dean. *Best Male* and *Best Female*—Easthope.

Ayrshires: Aged Herd—1. J. P. Beatty, Passekola, O.; 2. Ormiston Bros., Cuba, N. Y.; 3. Farmer & Wright, Millbury, O. *Young Herd*—Farmer & Wright; 2. Ormiston; 3. Beatty. *Bull and Get*—1. Ormiston; 2. Beatty. *Bull*, 3 years—1. Ormiston; 2. Beatty. *Two years*—1. Farmer & Wright; 2 and 3. Beatty. *One year*—1. Ormiston; 2. Farmer & Wright; 3. Beatty. *Bull Calf*—1. Ormiston; 2. Beatty; 3. Farmer & Wright. *Cow*, 3 years—1. Beatty; 2. Farmer & Wright; 3. Ormiston. *Heifer Calf*—1. Beatty; 2. Farmer & Wright; 3. Ormiston. *Best Male*—Ormiston Bros. *Best Female*—J. P. Beatty.

Guernseys: Aged Herd—1 and 2. G. R. Gordon, Koshkonong, Wis. *Young Herd*—1, 2 and 3 Gordon. *Bull*, 3 years and 2 years—Gordon. *One year*—1. J. Seeley, North Farmington, Mich.; 2 and 3 Gordon. *Bull Calf*—1. Gordon. *Cow*, 3 years—1 and 3 Gordon; 2. Seeley. *Two years*—1. Seeley; 2. Gordon. *One year*—1, 2 and 3. Gordon. *Heifer Calf*—1. Seeley; 2. Gordon. *Best Male*—Seeley. *Best Female*—Gordon.

Holsteins: Aged Herd—1 and 2. F. C. Stevens, Attica, N. Y.; 3. S. J. Murphy, Detroit. *Young Herd* and *Bull* and *Get*—Stevens. *Bull*, 3 years—1 and 2. Stevens; 3. P. W. Park, Romeo, Mich. *Two years*—1 and 2. Stevens. *One year*—1 and 2. Stevens; 3. H. S. Day, Willis, Mich. *Bull Calf*—1, 2 and 3 Stevens. *Cow*, 3 years—1 and 2 Stevens; 3. W. C. Munson, Vienna, O. *Two years*—1, 2 and 3 Stevens. *One year*—1 and 2. Stevens; 3. Park. *Heifer Calf*—1 and 2 Stevens; 3. Park. *Best Male* and *Best Female*—Stevens.

Red Polls: Aged Herd—1. V. T. Hills, Delaware, O.; 2. E. S. Jameson, Mt. Sterling, Ky.; 3. J. McL. Smith, Dayton, O. *Young Herd*—1 Smith; 2. Hills; 3. Jameson. *Bull*, 3 years—1. Hills; 2. Jameson; 3. S. P. Squires & Son, Marathon, N. Y. *Two years*—1. J. H. & W. W. Clark, Lagonda, Pa.; 2. Smith. *One year*—1. Smith; 2. Clark; 3. Hills. *Bull Calf*—1. Clark; 2 and 3. Jameson. *Cow*, 3 years—1 and 3. Jameson; 2. Hills. *Two years*—1 and 3 Jameson; 2. Smith. *One year*—1 Jameson; 2. Hills; 3. Smith. *Heifer Calf*—1. Hills; 2. Smith; 3 Jameson. *Best Male*—Hills. *Best Female*—Jameson.

English Draft Horses: Stallion and Get—1. Geo. E. Brown & Co., Aurora, Ill.; 2. John McMillan & Sons, Constance, Ont. *Stallion*, 4 years—1 Brown; 2 Robt McEwen, Bryon, Ont.; 3 McMillan; 4. P. W. Lewis, Medina, Mich. *Three years*—1 and 2 Brown; 3 and 5 J. M. Turner, Lansing, Mich.; 4 Brookside Farm Company, Ft. Wayne, Ind. *Two years*—1 and 2 Brown; 3 Turner; 4 and 5. McMillan. *One year*—1 and 2. McMillan; 3. Turner; 4. E. Helber, Selma, Mich.; 5. Geo. Wilkinson, Grumlo, Ont. *Mare*, 4 years—1. Green Bros, Inversnip, Ont.; 2, 4 and 5 Brown; 3 Brookside. *Three years*—1 Brown. *Two years*—1. Brookside, 2. Turner. *One year*—1 Turner. *Under one year*—1. Brookside; 2. Brown *Mare with Foal*—1. Brown; 2. Brookside.

Cleveland Bays: Stallion, 4 years—1, 3 and 4. Geo E. Brown & Co.; 2 E. Helber. *Three years*—1 and 3. Brown; 2. Cleveland Bay Horse Co., Paw Paw, Mich. *Two years* 1, 2 and 5 Brown; 3 and 4. Cleveland Co. *One year*—Cleveland Co. *Mare*, 3 years—1 and 4. Cleveland Co; 2 and 5. Heiber; 3. Brown. *Two years*—1. Brown.

Percherons: Stallion and Get—1. Savage & Farnum, Detroit; 2. T. W. Palmer, Detroit. *Stallion*, 4 years—1 and 4. Savage and Farnum; 2. Edwards Adams, Carlton, Mich.; 3 and 5 Palmer. *Three years*—1 and 3. Savage & Farnum; 2. J. W. Dailey, Detroit; 3 and 4. Palmer. *Two years*—1 and 2 Savage & Farnum; 3. Palmer. *One year*—1. R. G. Hart; 2. Palmer. *Under 1 year* Palmer *Mare*, 4 years—1 and 4. Palmer; 2 and 3. Savage & Farnum; 5. Hart. *Three years*—1, 2, 3 and 5. Palmer; 4. Savage & Farnum. *Two years*, 1 year, *under 1 year*, *Mare and Foal*, and *Best Mare bred in Michigan*—Palmer.

Weather, Crops and Prices.

Meteorology for Sept. 23-29.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week ..... 30.22 inches.
Lowest do. do. ..... 29.02 do.
Mean do. do. ..... 29.66 do.
Highest temperature do. ..... 73°
Lowest do. do. ..... 42°
Mean do. do. ..... 58°

Two clear days; three fair; two cloudy. Three days on which rain fell; total precipitation, 0.80 in. Prevailing wind, W. and S. W.; maximum velocity, 28 miles per hour on the 27th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	23d	24th	25th	26th	27th	28th	29th
Day							
This year...	54°	59°	62°	60°	51°	52°	54°
Normal.....	57°	61°	61°	60°	60°	60°	59°

Total deficiency for the week, 28°.

General Review of the Week.

The week ending has been colder than usual in all districts east of the Rocky mountains, except in Southern Georgia and Eastern Florida. The daily temperature for the week was but slightly below the normal over the cotton region east of Texas, but it was decidedly cold generally throughout the Northern States and in Texas, the daily temperature ranging from 5° to 10° below the average for the week. The season, from January 1st to September 28th, was cooler than usual throughout the Southern States, and the Ohio and Central Mississippi valleys, the departure from the normal being slight, but along the Gulf and South Atlantic coast the daily temperature for the entire period was about 1° below the average. In the Northwest, Southern New-England, Eastern New-York and Pennsylvania the season was warm, and the daily temperature ranged from 1° to 3° above the normal. On the Pacific coast from San Diego to Portland the average daily temperature for the season was also about 3° higher than usual.

There has been an excess of rainfall during the week from New-York southward to Florida, and over Georgia, Alabama and the southern portions of Mississippi, Louisiana and Texas. Local excesses are also reported in Arkansas, Illinois, Iowa, Wisconsin, Northern Dakota and Western Nebraska. Well-distributed showers occurred over New-England, New-York, Pennsylvania and the Upper Mississippi and Missouri valleys, while very light rains are reported from the Ohio valley, Western Tennessee, Western Ohio and Southwestern Michigan, but no rain occurred in Northern Louisiana. The rainfall for the season continues in excess on the Atlantic coast from New-York to Florida, and from the Missouri valley southward to the west Gulf coast. Generally over 80 per cent. of the seasonal rainfall occurred in the States of the Mississippi valley south of Iowa and Wisconsin, but less than 70 per cent. is reported from Eastern Kentucky northward to Eastern Michigan, and generally throughout Minnesota and Northern Dakota. On the Pacific coast over 70 per cent. of the normal rainfall occurred in California, and about 30 per cent. is reported from Oregon and Washington Territory. Killing frosts have occurred generally throughout the Northwest as far south as Southern Kansas, Northern Missouri, Northern Illinois and Eastern Michigan, and light frosts as far south as Arkansas, Tennessee and North Carolina, and in the Middle Atlantic and New England States.

The weather during the week was generally favorable for farm work throughout the central valleys and Northwest. Plowing and seeding in this section are well advanced; fall wheat is in good condition, although slight damage from frost is reported in Northern Illinois and Kansas, and more rain is needed in Michigan. Kentucky reports that tobacco is being cut rapidly, and that the frosts on Friday caused very slight damage. A warning of this frost was communicated from this office on Wednesday, accompanied by a statement that tobacco should be cut by Thursday night. The weather conditions throughout the cotton region during the week were generally favorable for cotton picking, but it was too cool in the west Gulf States for the late crop. The frost in Arkansas did no damage, and the worms are disappearing from that State, while in Mississippi the crop has been recently damaged by the worms. In Alabama the crop is reported as slightly stained, and the conditions for the potato crop are excellent. Owing to cool weather, cotton is opening slowly in North Carolina, while a good crop below the average is reported in South Carolina where all other crops were improved and are in fine condition. Recent rains have greatly improved the cane crop in Louisiana. The weather was generally favorable in New-England New York and Pennsylvania, and the frosts in these sections did little damage. Corn, buckwheat and wheat are reported good in New-York, while the grape crop is poor. In New England the white bean crop is good, and grass seed well started. In New-Jersey the weather was unfavorable; cranberry bogs flooded, berries rotting, little seeding, and potatoes rotting in ground. General rains occurred in Oregon on Sunday, where plowing and seeding are progressing, and grapes are being gathered for wine.

New-York—*Afton, Chenango Co., Sept. 23*—Rained every day last week, greatly retarding digging potatoes and cutting corn. Potatoes in the best fields about half a crop, and small in size; many fields not worth digging, generally struck with the blight; many fields rotting badly. My own (Early Sunrise) were half rotten, yielding not over one-fourth crop. A good many farmers will not have enough for their own use; selling for home consumption at 50 to 65c. Corn generally out of the way of frost, and mostly in stook. Crop not over two-thirds of an average. Barley and spring wheat crops good; acreage not large. Oat crop not thrashing out as well as expected; great growth of straw and put in barns generally in very bad condition. Buckwheat a good crop. The hay crop was large, and those that cut early got it in in good condition, but the majority cut later, and had much damage and more over-ripe so as to be largely depreciated in value. The cabbage crop, owing to excessive rains, is largely a failure. Not enough apples for home use; fall feed in abundance. More rowen been cut than usual. Quite a number of silos built in this town. Farmers are beginning to see the advantage of them, and do not propose to get left. C. S. L.

New-Jersey—*Hackettstown, 9th mo., 25.*—A season like the past has been unknown in this locality for years. Early spring was followed by a continuous downpour of rain, in drops, sheets and torrents, accompanied by cold. Vegetable growth was suspended entirely at the time it should have been most vigorous. From what I can learn the wheat, oats and rye will be a fair crop; corn only about one-half a crop, and now that it is cut the stubbles disclose a mass of weeds in all, but that on the low lands shows mostly the want of cultivation. Potatoes about half rotted, mostly rotten on low lands, but in Sussex county more on the high ground. Fall seeding is finished, and some have began to husk corn. To-day 3 P. M. cool rain, temperature 56°. C. G. R.

Illinois—*Springfield, Sept. 23.*—Our usual fall weather with cool nights and warm days is upon us. Corn generally safe from frost. Fat hogs doing well. Demand for Berkshire boars good. Farmers busy putting in fall wheat. P. T.

Wisconsin—*Janesville, Rock Co., Sept. 25.*—We have had only two very slight frosts so far. Another needed rain is falling at this writing. Grass looks nice, and stock doing well. We have had four cold days and nights, but now we have a good change to warm weather. The corn, so far as I can learn, is reaching far beyond any expectations. In some places it will be a good crop, in most cases, a fair one. Tobacco is all safely shedded. Potatoes are good, plentiful and cheaper than I have known them to be in 28 years—20c. per bu—they are good in quality too, never better. Wheat, 60@70c. per bu.; barley, 35@43c.; rye, 40c.; corn, 30c.; oats, 18@20c.; potatoes, 20c.; onions, 50c.; hay, $4.50@7.50 per ton; butter, 18@18c. per lb.; eggs, 12c. per doz.; cattle, $2.40@3.40 per cwt.; hogs, $3.80@4.10; tobacco, 9½c., 5@11½c. W. H.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*

FLIES AND WOUNDS.—What is best to keep flies from wounds? Have trouble in keeping maggots out of a gash. P. W. N. *Stony Point, Va.* [A little spirits of turpentine will kill maggots and keep flies out of wound.]

DIFFICULT BREATHING.—Several fine heifers eat well, and seem in perfect health while lying down; but when they rise and walk around appear to be affected with a cold in the head or windpipe—breathing heavily, closely resembling a horse with the heaves. No discharge from nostrils. W. B. C. *Shippensburg, Pa.* [Give each a laxative. Put a tablespoonful of the following in mouth two or three times a day: Powdered nitrate of potass., 4 oz; muriate of ammonia, 2 oz; licorice root, 8 oz.; fluid extract of belladonna, 1 oz; tar, 1 qt.; mix.]

WEEPING EYE.—A pony's right eye weeps badly. Lately have noticed a greyish film starting at the lower side of the eye, extending lengthwise, and is growing upward over the sight. S. M. C. *Boonton, N. J.* [Examine the eye and inside of lids; there may be a foreign body in it. With a camel's hair brush put some of the following lotion in the eye mornings and nights, a little strained honey may be used: [Sulphate of zinc, 20 grs; acetate of lead, 1 dr.; fluid extract of belladonna, 1 dr.; fluid extract of opium, 1 dr.; water, 3 oz; mix.]

THRUSH.—A horse has had thrush in all four feet for three years. Feet split open above the line of hoof; full of matter, formerly white, now turned to yellow. Have used successively blue vitriol, nitrate of copper, tar and linseed oil. The oil changed the color of the mucous. E. F. T. *Brighton, Md.* [This is a chronic constitutional disease. You may try treatments as advised for this disease in back numbers. A great deal depends on cleaning the clefts out well with waste before applications are put in. For two weeks give a tablespoonful of powdered sulphate of iron, and the same quantity of bicarbonate of potass., in feed twice a day.]

URINATION DIFFICULT.—A horse, six years old, is troubled to make water. He will pass it on the road apparently as easily as any other horse, except that he sometimes grunts while doing so, and does not hang his penis out but urinates in the sheath, which from this cause is sore. I have had him cleaned by a surgeon, but the difficulty still remains. His kidneys are sound. I have given him nitrate potass. three times a day in water, and also powder composed of soda bicarb. and sodæ benzoas, I believe ½ oz. each, but still no improvement. MR. MOOR. *Rockland County, N. Y.* [Give no diuretics; steep whole flaxseed every night, and each day mix some in each meal. Give one drachm of fluid extract rhus aromatica in feed three times a day. The sodæ bicarb. may be used twice a day in tablespoonful doses.]

STIFF JOINTS.—In May last a valuable 2 year-old heifer was taken with stiffness in the joints of legs. In a week legs were somewhat swollen, and a rash appeared to break out at the back of them. Loss of appetite followed. Then diarrhœa set in and in spite of every effort to save her she died, a perfect skeleton. Her diet was dry feed and pasture. About ten days ago a dairy cow, six years old and in fine condition, was found lame in hind parts, though she milked and ate well for three or four days; their lameness extended to front legs; appetite failed rapidly; milk gone. She is now very poor; reels when she walks. I notice to day some diarrhœa; joints puffy; neither animal seemed in much pain at any time, symptoms very similar; the cow has had no medecine of any kind. Other stock in fine condition. I fed heavily on ensilage last winter and six weeks in July and August; am now feeding green corn. I noticed considerable smut when cutting corn into silo. S. M. *Norwich, Ont.* [Did either cow have a cough? Did you make a post mortem examination on the first one? Read articles in back numbers on consumption, pining and tubercle. Give the sick cow 1 oz. powdered gentian, and 1dr. iodide potass. twice a day.]

Horticultural Department.

Profitable Gardening.

Some of our contemporaries copy from the London Horticultural Times a description of a quarter-acre garden which, under spade cultivation, produced an abundant supply of vegetables and small fruits for a small family. It was divided by a path running through the centre, and another at right angles, with various subdivisions. These were planted with celery, cauliflower, French beans, rows of peas, scarlet beans, parsnips, lettuce, carrots, potatoes, and other vegetables, together with raspberries the whole length of the garden, gooseberries and black currants, red currants, all under the highest cultivation, with no weeds to be seen. The amount or the value of all the crops is not stated, but if similar care and labor could be given by our American farmers, to gardens of no greater size, the returns from the quarter-acre would be more profitable than from any other entire acre of the farm.

But our farmers could do a great deal better by adopting the course which we have recommended in past years, of cultivating the garden with horse-power. A garden like this English one, cut up into quarters and squares, cannot be worked with a horse; the whole must be performed with a spade, and although much labor is needed thus to keep the garden in good order, there is no question, even with this drawback, that it contributes largely and economically to the support of the family. And if so, still greater would be the profit of the garden that is equally well or better tilled with a horse.

The accompanying diagrams will explain distinctly the two modes. Fig. 1 is the former mode of laying out gardens in squares and triangles, requiring all hand-labor for tillage. Fig. 2 represents a portion of the new style, the currant and raspberry bushes and the vegetables extending in lines lengthwise with the garden, with 12 feet space at each end for the horse to turn about upon. There is but one difficulty in adopting this arrangement. Farmers and their workmen have not always need the care required in working among these delicate and valuable crops. It is important to preserve everything in cultivating in the neatest and best manner. If this cultivating is properly done, the work of the horse will be performed with about one-tenth of the labor required for hand culture; and often it will be done in a much better manner, for the owner would not be disposed to postpone work which is so easily performed, as he would with a long hand-job before him; and for this reason the horse-worked garden will often be seen perfectly clean, while the hand dressed ground will be encumbered with a mass of starting weeds.

The vegetable and small-fruit garden may be entirely separate from the ornamental grounds which surround the dwelling, an example of which is furnished in fig. 3, where

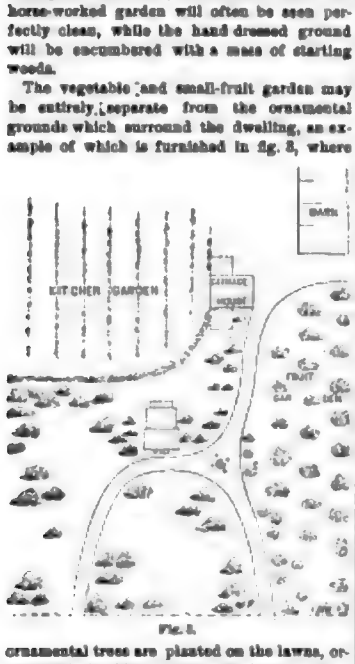


Fig. 3.

ornamental trees are planted on the lawns, ornamental shrubbery bearer the house, and a portion of the quincunx orchard on the right. The kitchen garden, with rows of dwarf pears, and of small fruits, with spaces between them for lines of vegetables, planted so that the horse and narrow cultivators can pass between the rows, is separated from the rest of the grounds by a screen of evergreens. This screen, if sufficiently ample, will perform a valuable service by protecting the fruit and vegetables from winter winds.

A leading object of the preceding remarks is to favor the more extensive and perfect planting of farmers' gardens, and although

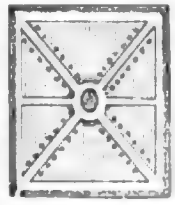


Fig. 1.

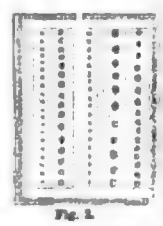


Fig. 2.

we have for many years recommended a similar mode of planting and cultivating, the subject is one of so much importance for comfort, health and economy, that a repetition of its advantages may be doing a positive benefit to young planters and owners.

Ornamental and Useful Trees—I.

I have just examined the trees planted by the students of the Ohio State University on the last three State Arbor days, and a few notes regarding the same can scarcely fail to interest some of the readers of the Country Gentleman.

The first planting was made two years ago last spring and consisted of a single tree. The variety selected was the cucumber tree, *Magnolia acuminata*.

It made a feeble growth the first year, but since then it has done better and promises to make a fine tree. It occupies a conspicuous place on the lawn, and being a variety rarely seen in this locality, it attracts considerable attention.

The magnolias are all valued for their foliage and flowers, but this species, the only one native to the Northern United States is likewise the only one that is perfectly hardy in the harsh, capricious climate of Central Ohio. The tree in question is erect and almost cone-like in form. It made quite a rapid growth during the early part of the present season, but this was checked during the hot, dry weather of August, and at this writing, Sept. 16 fully two thirds of the leaves have turned brown and are falling. The buds for next season's growth are well formed, and new wood well matured.

The cucumber tree is the largest of the magnolias, sometimes attaining a height of from 75 to 80 feet. The leaves are large, varying from 5 to 10 inches in length, oval in shape, and of a bright green color. In this latitude the leaves fall early in autumn.

One year ago last spring the interest in Arbor day had increased, and six trees of distinct species were planted by different classes of our college students. The varieties selected were as follows:

White Ash (*Fraxinus americana*).—This tree was planted in a deep, rich soil, and has made a very rapid growth. Grown as a single specimen, it has formed a large, round or cup-shaped head, and is already an ornament to the grounds. Speaking for Central Ohio, it is doubtful if too much praise can be given the white ash. It appears to grow well in almost any soil, is perfectly hardy, and entirely free from insects.

As a shade tree along suburban and country roads, it is excelled by few, and it certainly should have a place in all ornamental grounds that are of sufficient extent. The tree planted on Arbor day was grown from seed in the college nursery, and was three years old when removed. It was then six feet high.

From our experience it is safe to say that few species are more promising or offer a more sure and speedy reward to those who wish to raise trees for timber.

Common Dogwood (*Cornus florida*).—This small-sized tree has made a good growth during the last two seasons. Although it scarcely reaches the dignity of a tree, as it seldom attains a height of twenty feet, it is justly a very popular ornamental species. It is desirable, not only on account of its symmetrical growth but also for its large, showy flowers, or, more correctly, the snowy-white involucres that surround the flower clusters, and the ornamental fruit which follows. It is an excellent tree for small grounds, and forms a very pleasing combination with groups or clumps of evergreens. At this writing the leaves are changing to a dark red, and few trees on our grounds display a richer autumn foliage.

Owing to its size and ornamental qualities, it is an equally appropriate and popular tree for small grounds.

Box Elder (*Negundo aceroides*).—This is a very rapid growing and an unusually hardy species. Next to the cottonwood it is, perhaps, more generally planted as a shade and ornamental tree in the western States than any other variety. When well grown it presents some claims to beauty, in its compound leaves, graceful racemes of fruit, and smooth, pale-green bark. As a rule it forms a tree of only medium size, but one specimen growing on our grounds is over 60 feet high with a trunk 3½ feet in diameter. In this climate the leaves fall a little earlier than those of the sugar maple, but some of the fruit often remains on the tree after the leaves have fallen. We have some specimens of this tree grouped with evergreens, and the contrast is quite pleasing.

American Linden or Basswood (*Tilia americana*).—Although this tree is easily transplanted and usually makes a rapid growth, it does not appear to be quite hardy enough to withstand the rigors of our climate. Specimens have been planted at various times during the past six or eight years, but few of them have made a satisfactory growth or are to-day in a good thrifty condition. The bark cracks badly and the trees throw up innumerable shoots or suckers at the base of the stem. The wood is extremely brittle, and several specimens have been broken down by severe wind storms. Where the conditions are favorable the linden is certainly one of the most desirable trees. Its broad and rich green foliage is always attractive, and its graceful form will fit it for landscape effects.

It has been highly recommended for planting along avenues and roads, and if we could be assured of a thrifty, vigorous growth few trees would equal it for this purpose. Bee-keepers will also prize it for its honey-laden flowers, as there are few plants that yield a better or more abundant quantity of honey. The only place that I now recall where the American linden or basswood has given more than a moderate degree of satisfaction as a tree for street planting is in the city of Washington. There the species appears to find a congenial home, and grows quite thrifty and surely.

The Ohio Buckeye (*Æsculus glabra*).—As might be expected, this is a favorite tree of the citizens of Ohio. It is frequently selected for Arbor day planting, and although abundant as a native, is well worthy of cultivation.

We have the Ohio, or yellow buckeye, and the horsechestnut growing side by side on our grounds, and the former is generally regarded as the more graceful, not to say ornamental. The Ohio buckeye grows from forty to sixty feet high, and can always be easily recognized by its slender, open growth and fine leaflets. It is one of the very earliest trees to put forth leaves in spring, and does not cast its foliage as early in autumn as the horsechestnut. At this date the leaves of the buckeye, especially those on the south and west sides of the tree, are tipped with a rich purple color, which adds much to their beauty.

These trees produce seeds in great abundance, which ripen in early autumn and can be readily preserved for spring planting by a slight covering of earth or leaves.

The Horsechestnut (*Æsculus Hippocastanum*).—This species does not grow so tall as the buckeye, and is much more compact and formal in its appearance. It answers an admirable purpose in any position where great regularity and symmetry are desired. The foliage is larger and coarser than that of the buckeye, and the head of the tree is rounder and less open. In this latitude the leaves fall early in the season, and often turn a dull brown color in mid-summer. When young the horsechestnut bears a striking similarity to the buckeye, but it can always be distinguished by the leaf, which is divided into *seven* instead of *five* leaflets. The fruit is usually smoother and the seeds larger than those of the buckeye.

William R. Lazenby.

Ohio State University.

Pruning Geraniums.

Geraniums, kept by the housekeeper for window culture, are liable to become stalky and unsightly if left to themselves, because of the excessive growth of stem. The plants are set in the ground in summer where they grow vigorously until frost. Repotting suddenly checks this growth, the leaves drop off, and often none are left except a small tuft at the top. The appearance so far from being attractive, becomes really hideous. It does not occur to the cultivator to train the plant, as the orchardist does his trees, by pruning. In fact most amateur gardeners use the knife too little, because they feel that cutting is a dangerous thing, and it is far better to strike by the unsightliness of a plant than to risk its life by pruning. Very likely the grower will throw away excellent plants, solely because they had become leaky, when they can be modified with a little pruning that will make their appearance all that could be desired.

The proper way to control the growth of geraniums is to pinch back their growth and remove buds as the plant is losing its proportion. This method does not interfere with the vitality of the plant and prevents much useless growth. The next best course is to cut back the growth of the plant to the required dimensions some time before the plants are taken from the ground, so that they may begin new growth before potting for the winter. If it is too late for this, do not hesitate to cut the plant at any time its appearance demands it. Prune so that it will have a low, symmetrical head that will appear compact when new growth begins.

The principal caution to observe in pruning is to cut the stems just beyond a bud, for this is where the new leaves begin to grow, and if the cut is beyond this, the stem will die back to the first joint or bud. The plant will begin new growth at once. Before long the scars will have been hidden and the appearance improved many fold. While the stems may be pruned with impunity, it is not usually advisable to tamper with the roots. These should have ample room. There are many house plants that bear cutting back as well as the geranium. With many of these doubtless greater care must be used to prevent the cuts from being too conspicuous. This idea is not new by any means, yet it is worth while to call attention to it just now. Appearance has everything to do with the desirableness of plants, which is a matter some seem to forget. The professional cultivator depends not a little upon the knife for fine effect in many plants.

Rowe. L. Dean.

Green Co., O., Sept. 19.

American Florists' Association.

Notes of the Buffalo Convention—V.

Landscape Gardening, Good and Bad.

The paper which by unanimous consent was considered the best of all was that on "Landscape Gardening," by Wm. McMillan, superintendant of the Buffalo park. He said:

Landscape gardening embraces a very wide field, only a small corner of which is occupied by the florist. An ornamental landscape is not merely a composition of choice trees, shrubs, grass and flowers, but includes as well every inorganic element of nature. The "lay of the land"—to use a familiar phrase—is in a double sense the groundwork of the composition. This includes every form or feature which the earth's surface presents to us, every variety of hill and vale, ridge or dell, bare rock, sterile land or rich soil; and also water, flowing or still. Even the atmosphere must be included as a part of every landscape, for the scene varies with every variation of sunshine or shade, dim haze or clear sky, still air or stirring breeze. The lights and shades of a landscape painting are carefully studied, and whatever is appreciated in the copy is surely of greater value in the original.

In the embellishment then of any grounds of sufficient extent to have a distinctive landscape character, the gardens must take into account all the natural elements of the place. The general aim of his work will be to make a harmonious combination with the dominant characteristics which nature has already stamped upon the site. He will seek a richer development of the leading features, softening what is hard, clothing what is bare, filling out what is meagre, and enriching what is beautiful—all in harmony with the original type. He will thus avoid all novel conceits, all conspicuous eccentricities, all incongruous intrusions, and be guided by the laws of nature.

I lay special stress on this fundamental principle, because it seems to be so commonly overlooked. The very opposite rule is followed in much work, and the results receive much popular approval. It is common to value the decorative work in proportion to the degree in which it is obviously artificial, new or peculiar. Drives and walks are made unnecessarily broad, or sinuous or prominent, or intricate where not needed. A sharp terrace is formed, mainly to display its bold lines, or a channel is dug for an artificial tunnel to give occasion to introduce a bridge. Summer houses, arbors, rockeries, pools, fountain basins and jets, clumps of trees and shrubs, or beds of flowers and foliage plants, are stuck around promiscuously in conspicuous sites, without any fitting relation to the natural conditions of the landscape.

The treatment of nature's freaks and curiosities in horticulture as her finest productions, and the prevalent fashion for plants with unnatural hues, is to be condemned. So also is the popularity of the class of plants which nurserymen call "sports," including the endless varieties with leaves abnormally shaped or

colored, or with a drooping or contorted or dwarfish habit of growth.

In furnishing the flower garden the selection of plants has radically changed with the introduction of carpet bedding! Old fashioned flowers are now at a discount, and in fact all kinds of flowers, unless the color be intense, or strongly variegated or blotched. Delicate tints and shadings or fine perfume are now of little account. What is wanted is color only, and color that will strike the eye a long way off, and even then it must be set in large masses to have the much desired dazzling effect. Quantity, brilliancy, oddity, novelty are the chief attractions. The individual plant is nothing, the effect in mass or in combination is everything. In foliage plants, high color, strong contrast, and fanciful figures in design receive the most favor. The individuals are ruthlessly clipped and pinched to hide the true character of the plant, and show forth the art of the planter.

If variety, richness and contrast of color is the chief aim of the florist why should he seek it in leaves of plants, beyond the natural range from the lightest grey to the darkest green which nature spontaneously exhibits? The shades of green are so infinite that no two species of plants have exactly the same hue, and the manner in which these mingle and blend in any natural landscape, if closely studied and copied, will give more real pleasure than the highest art in arabesque designs in white, yellow and red. If all the colors of the rainbow are wanted in a group they may be furnished in flowers. Every shade imaginable may be matched by some plant. But the taste is surely morbid that would seek to combine in one group any greater variety of tint than may be furnished in many cases by a single genus, as in the tulip, hyacinth, phlox, dahlia, hollyhock, or columbine. Yet the hunt for a blue dahlia or hollyhock, a yellow aster or verbena, is still kept up, and is akin in spirit to that in which some new mixture of white, yellow and red in the leaf is sought. The whole work is false to nature and the product due to disease or distress rather than sport.

That the taste is corrupt which approves the prevalent practices of gardeners in this line, is shown by the obvious tendency of the fashion. The motive is not to encourage acquaintance with flowers or plants, but to show what brilliant or bizarre effects can be produced by ingenious combinations of strange colors. Hence the demand for novelty and intricacy increases from year to year, and the strain after effect continues till the laborious effort becomes grotesque. The first designs in ribbons, bands, diamonds, stars, crescents, crosses, crowns, hearts, anchors and such like, no longer suffice. In like manner simple figures of geometric pattern are only of use while novel. They must gradually grow in elaborate intricacy till simple wheels and dials become a blind maze of scrolls and convolutions. The imitations of animals advance from elephants and camels to zebras, swans, peacocks, butterflies, snakes and sea-serpents. Inscriptions in grass are also tried, giving perhaps the name of the place, the year or month or date—the last of course to be changed daily—and so on with labored variations till every possible device is exhausted. The same designs give little satisfaction if simply renewed yearly, for such things once seen have lost the novelty which is their chief claim to attention. The fashion must surely soon run its course, because of sheer inability to produce new effects.

If it were the plants under natural conditions that were desired, their seasonable changes might satisfy the eye. But we look at them only in bulk to follow the design, and that is always the same throughout the season. When invention fags or fails, the popular surprise and admiration is drawn out by making larger beds or a greater and more elaborate assortment of them. This has led onward till collections of several hundred thousand plants have been set out in some private gardens and public grounds.

In the present fashion of using strongly contrasted colors in garden decoration, the strong tendency to run to extremes is well shown in the style of embellishments among the poor for their small door-yards or parterres. It has been well said that imitation is the sincerest flattery. Hence we often see in such places a collection of pebbles and cobbles, oyster and clam shells, and such like, arranged in border edgings, ribbons and mounds, on the carpet-bedding style. When newly whitewashed, these rival in force of color and distinctness of design any foliage bed. The imitation is sometimes very good, and who now can question the taste displayed or the fitness of the material? Round pebbles, or even shells, make an admirable substitute for the fleshy vegetable rosettes we call "hen and chickens." They will border a bed or outline a figure with equal distinctness, and vary as little in aspect during the season. For inlaid letters in the grass, they are even better adapted than the plants we see used. The inscription is clearer, and the whitewashed stones and shells are really more fitting for the work.

The absurdity of the leading motive in carpet bedding may be found in listening to the talk we often hear from enthusiasts in the practice. An amateur in such work, who has not seen the highest art in this line, visits some notable display and on his return regales his gaping friends with some such description as this:

"You can form no idea of the immense quantity of plants in such a garden. A ten-acre lot would be well filled if it were all put together. The edgings and ribbons if strung out on end would measure over a mile. They were of every imaginable color. The ring-streaked, speckled and spotted plants, and those with all shades of bronze and gold were legion. They were set out with the most wonderful ingenuity into so many patterns that carpet bedding was no name for it. There were Turkish rugs, church windows, wheels within wheels, figures of animals, statuary, hieroglyphic writing, plain print and emblematic symbols of all kinds in geometry and astronomy! The first thing that struck my eye was a bright bed of fire-red coleus, in circular mound, raised high in the form of a half globe. That was a sunset when there is a thick haze on the horizon. Near by a crescent in variegated alyssum—that was the silver moon. I could not tell if she was in her last quarter or the first. The horns pointed to the north, and were equally correct for either phase. Next came a circular bed that seemed a combination of both the others. One disk in very dark leaves overlapped a whitish crescent about two-thirds. This was an eclipse. I could not tell at first whether it was the sun or the moon that was eclipsed. After a little study I got on to the gardener's tricks. I was either or both according to your pleasure. All around were lots of little stars and one or two small discs curiously belted and girded. Having seen pictures of the telescopic views of Jupiter and Saturn, I at once divined the meaning. There were any number of figures of men and beasts and birds and fishes. A military officer in full uniform was very imposing. A prize fight, and base-ball players with clubs, looked dangerous. A boat race with four rowers, was quite exciting. In statuary the finest design I saw, was a copy of St. George killing the dragon. It was full of spirit and action. A little puff of wind now and again caught the dragon's head and made his jaws seem to open and shut quickly. The feathery stuff used for the tail of the steed actually whisked gently in the breeze. The brightest spot of all had a display of flags of all the leading nations. In the geometry section I was for a long while puzzled by an intricate figure; at last I detected a faint outline of an arch spanning the whole; that gave me the cue. It was the tough problem in Euclid called the asses' bridge. I remembered how it puzzled me a school, and it is equally hard to see through it in a flower bed."

Orchids—Boilers—A National Flower.

A paper on "The Natural Habitat of Orchids" was read by Mr. I. Fostermann of Summit, N. J.

As a florist's flower, he said, the orchid will hold a far more important place in the near future in this country than in the past, and the day is not far distant when prices of the different orchid blooms will be quoted together with roses and other flowers, in the horticultural bulletin, and there will be few retail florists that can afford to do without them.

Orchids are not short-lived under careful treatment. The constantly increasing demand (there now being 500 cultivators where there was one when they were first imported) has kept prices up, and the likelihood is that, while flowers may be somewhat cheaper, good plants for florist's stock will remain about the same; again, the cost of collecting is constantly increasing, it being almost impossible to underestimate the trouble and hardships undergone, especially as the plants in their native homes become scarce, and the collector must travel greater distances than heretofore.

Mr. Hunt said he believed that the best care a wrought-iron boiler could receive when not in use was to leave it full of water, cleanse the flues thoroughly of rust and scale, stop the draft, and give the entire exposed surface a generous dressing of crude oil.

The committee on the national flower, reported through Robert Craig, that although much discussion was had, no one flower could be recommended. E. H. S.

The Poultry-Yard.

The Wyandotte Fowl.

Eds. Country Gentleman—A writer in the London Agricultural Gazette says that this breed rivals the Brahma in laying in the winter, and the Leghorn in summer; and as a table fowl ranks next to the Game, having nearly as rich and luscious a quality of flesh. From the Hamburg it derives its wonderful prolificacy in egg production, and its plump, full-meated breast, and the early maturity and fitness for the table; while probably from the Sebright Bantam it obtained the delicate, fine-grained flesh that, combined with its other good qualities, make it such a favorite for the epicure, and with those who appreciate really high-class poultry. It is worthy to grace the first-class tables, and regarded merely as utilitarian, it is doubtful if any can successfully compete with it.

This is highly encomiastic, and if it be true, the Wyandotte would be the best and most profitable single breed of fowls that could be kept. I have no recollection of ever seeing one, but I notice in the papers that a few are kept here and there in our country. If obtainable at a moderate price, and equal to the above description, I should like to get a few.

I have supposed that none were superior to either the Leghorn or Hamburg, both for sum-

New Advertisements.

Achelis, George	*New Fruits.*
Barlow & Co., W. Atlee	*Farm Hand Wanted.*
Barnes & Co., W. Atlee	*Seed Drillers.*
Brookside Stock Farm	*Stock Farm for Sale.*
Cloud Bros.	*English Beagle Dogs, &c.*
Coon, A. J.	*Short-Horn Cattle.*
Clark, Wm.	*Holstein-Friesian Bull.*
Dunham, M. W.	*Percherons, &c.*
Ellwanger & Barry	*Trees, Vines and Grapes.*
Fernwood Stock Farm	*Holsteins.*
Flanister, J. B.	*A Bargain.*
Gardener	*Situation Wanted.*
Gibson, R.	*Shropshires.*
Howell, John W.	*Choice Stock.*
do. do.	*Guernsey Bull Calves.*
Hamble, W. E.	*Farm for Sale.*
Holly Grove Farm	*Jerseys, Berkshires, &c.*
Inwood Farm	*Seed Potatoes, &c.*
Jersey	*Situation Wanted.*
Langenecker, J. B.	*Horses.*
Marsh Cr. well	*Country Seat for Sale.*
P. O. Box 328	*Young Stallions.*
Phelp, C. C.	*Cheshire Swine.*
P. O. Box No. 36	*Ferns for Sale.*
Quinlax	*Country Gentleman Files.*
Roberts, Josiah A.	*Peach Trees.*
Sharpe, C. D.	*Shropshires.*
Sleed, H. A.	*Jersey Heifer.*
"R."	*Horses Wanted.*
Talcott & Son, J.	*Shropshire Rams, &c.*
Tarbert, Thos.	*Jersey Bulls.*
Thompson, A.	*Situation Wanted.*
Van Orden, Wm. H.	*Shropshire Ram.*
Woods, Sam'l B.	*Farm for Sale.*
Weatherseon, Cecil	*Collie Pups.*
Whistler & Junkin	*Hampshire-Downs.*
Wolford, B.	*Farms for Sale.*
W. M. S.	*Situation Wanted.*
Wilson, Harold	*Farm for Sale.*

Subscribers' Wants.

JACOB C. DEBOOMB, *Spring Valley, N. Y.* Who has "Monroe Seedling" potatoes?

Pamphlets, &c., Received.

BABCOCK & BURGESS, Tennessee Live Stock Agency, Columbia, Tenn. Catalogue of Combination Sale of Horses and Jerseys, Oct. 7-9: pp. 20.

LAWES & GILBERT, *Rothamsted, Herts, Eng.* Memoranda of Origin, Plan and Results of Farm and Laboratory Experiments: pp. 62, quarto.

MCFARLANE, THOS., Iowa City, Iowa. Catalogue of 31 Aberdeen-Angus Cattle to be sold, Oct. 8.

MISSOURI HORSE EXCHANGE, *Broadway & Chouteau Ave., St. Louis, Mo.* Catalogue of Horses, Hol. stein, Jerseys, Short-Horns, Sheep and Swine to be sold, Oct. 9-11: pp. 52.

PARRY, WM., *Parry, N. J.* Nursery Catalogue.

POWELL & CLEMENT, 180 *Main St., Cincinnati, O.* Catalogue of Fire Arms, Cutlery, Sporting Goods, Skates and Ammunition: pp. 48, quarto, illustrated. See advertisement.

RANDOLPH & CLOWES, *Waterbury, Conn.* "How to Avoid Explosions of Kitchen Range Boilers."

SMITH, Prof. A., Principal, Ontario Veterinary College, Toronto, Ont. Announcement for 1889-90.

SPANISH-AMERICAN COMMERCIAL UNION, 49 *Wall St., New-York.* Proceedings at Banquet, May 1.

STRINGER, PHIL. M., Sec'y Salzarmon County Fine Stock-Breeders' Association, Springfield, Ill. Directory: pp. 46, illustrated.

Inquiries and Answers.

Kerry Cattle.—In answer to a recent inquiry we are informed that Mr. EDWARD KEMP of New-York has a herd of this breed of his own importation. His farm is at Fair Haven, Monmouth Co., N. J.

A Hard Milker.—In reply to the inquiry of D. W. S., Troy, O., we know of no machine of practical value for milking cows. A dilating tube for hard milkers is sold by W. HOUSE, V. S., Janesville, Wis., who may be consulted on the subject.

Soot in Stovepipes.—What is the cause and prevention of stovepipes gumming inside? Our kitchen stovepipes trouble us a great deal by taking fire. The draft is strong. Three elbows before entering chimney on ridge of house. *J. C. Jarvis P. O., Can.* [You do not inform us of the kind of fuel used, but we infer that it is green or unseasoned wood, the vapor from which partly dissolves the soot and produces the "gumming." Use dry wood, and the soot may be easily knocked out. The pipes should be frequently and regularly cleaned. The soot from anthracite coal never takes fire.]

Easy Farm Wanted.—I have about a thousand dollars, and expect a few more thousands next spring. I want to go to a good part of the country, myself and wife, where I can rent this winter and buy in the spring, a nice place to raise stock and poultry, dispose of good butter without much trouble, and make a fair living. Do you know of such a place for sale, and is this a good time of year to start out? Is it advisable to start with that amount of capital? I am willing to work this winter if I can find some light employment. I did intend to go to Tacoma, Washington, but thought that if I could find a place somewhere in New-York State, or some State where there is a good climate, I should like it better. G. A. G *Branchville, Md.* [There are many good places of the kind through several of the States, but as different men have various tastes and preferences, we could not point out any particular one for another person. Some men would succeed well with the means you mention, while more would fail. The best thing for you to do is to advertise for the place you desire, and then to visit the different places offered which your advertisement would doubtless bring you.]

Acknowledgments.

Communications for publication have been received during the week ending Sept. 30, from C. S. Landers—Thomas Bowick—A. S. Allen—John M. Stahl—E. W. Stewart—T. B. Wakeman—Mrs. D. H. B. Goodale—C. G.—V. Love—J. T. Lawrence—W. I. Chamberlain—Geo. A. Stockwell—Mrs. K. B. Johnson—W. Falconer—J. M. H. Beale—C. S. B.—B. F. Johnson—W. Horne—A. J. B.—F. D. Curtis—C. Byrne—H. Felton—Hortense Dudley—Waldo F. Brown—J. W. Ingalls—John M. Stahl—S. Beale.

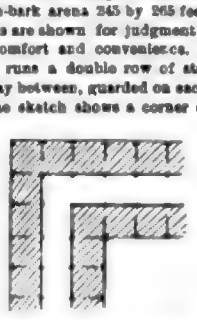
. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

THE CULTIVATOR AND
Country Gentleman

Albany, Oct. 3, 1889.

Detroit.—The managers of the "International Fair and Exposition" at the City of the Straits, which closed last Friday after ten days' continuance, are to be congratulated, alike on the public spirit displayed in the creation of so great an enterprise, on the very fine exhibit elicited, and on the large attendance of visitors—this no doubt favored by the long interval that has elapsed since the last preceding show of a somewhat similar kind at Detroit, the State fair of 1883. The site chosen for the display this year is a plat of 70 acres, pleasantly situated on the river bank, four miles from the City Hall; and the structures which have been erected there are doubtless unequalled in this country, to say the least. A view of the majestic main building—230 by 500 feet, covering 3½ acres, 70 feet high, and surmounted by lofty and beautiful towers—which appeared in the COUNTRY GENTLEMAN of May 30, hardly conveys an adequate idea of its imposing appearance. More directly in our line however, equally excellent of their kind, and fully as tasteful and handsome, if not quite so elaborate, in their ornamentation, are the five vast barns for the live stock departments. Four of these are nearly 300 feet square each (280 by 300, to be accurate), the fifth not quite so large. Each barn is a hollow rectangle, enclosing an unroofed tan-bark arena 245 by 265 feet, where the animals are shown for judgment with the greatest comfort and convenience. Around this arena runs a double row of stalls, with passage-way between, guarded on each side by a rail. The sketch shows a corner of one of



the two buildings devoted chiefly to cattle, drawn on the scale of 50 feet to the inch, the animals' quarters shaded, the visitors' pathway white. It will be seen that the stalls are wide enough to permit the beasts to stand sidewise if so disposed, and most of them seemed to be fond of that position, thus giving a most satisfactory view. The barns are well finished in all details, well painted, and were brilliantly decorated along the aisles by the exhibitors, with drapings of bright hues and many glittering arrangements of prize ribbons and rosettes.

CATTLE.—As to the four-footed tenants of these palatial stables, the cattle made a larger display than any other department, numbering 470 head, which is very nearly as many as were shown at Buffalo. The strongest single class was the Jersey, that breed having 88 representatives, of which nearly half belonged to Cornelius Easthope, Niles, O., with good delegations from W. J. G. Dean, Hanover, Mich., (13 head,) Chas. Reinbolt, Tiffin, O., (10,) H. R. Kingman, Battle Creek, Mich., and Hon. T. W. Palmer, Detroit—all western men, it will be seen, and it seemed to us that the cattle as a whole, while including many beautiful animals, hardly made up quite as fine a show as would be constituted by the same number at a similar gathering farther east, there being a good many cases of rather heavy, beefy shoulders and udders not up to the ideal standard.

Next to the Jerseys in point of number came the great rival dairy breed, Holstein-Friesians, numbering 72 head, of which 40 of the very best were from a famous New York herd, that of F. C. Stevens of Attica, including the grand prize bulls Sir Henry of Maplewood, Calantha's Sir Henry, Ononia Echo's Prince of Wayne, and Mechthilde's Sir Henry, together with a long line of very attractive cows and youngsters. Other good Holsteins were shown by F. W. Park, Romeo, Mich.; H. S. Day, Willis, Mich., and W. D. Munson, Vienna, O.

Short-Horns numbered 61, exhibitors being Thos. Nelson & Son, Brantford, Ont.; A. Renick & Bro., Sycamore, Ky.; Allen Varner & Son, Indianola, Ill.; Jas. M. Turner, Lansing, Mich.; F. A. Baker, Detroit, and D. Alexander, Brigden, Ont. It will be seen by the list of awards published elsewhere that Short-Horns took nearly all the honors in the general beef-breed competition, the Nelsons winning eight, the Varners four and the Renicks one—against three to an Aberdeen-Angus breeder and one to a Hereford.

Ayrshires were 51—some of them dishorned, which puzzled a good many visitors. J. P. Beatty, Fatoskala, O., led the other breeders in number, closely followed however by the Ormiston Bros. of Cuba, N. Y.; other exhibitors failed to display cards—a very common fault at this show. Singular that people fail to see how little it can profit them to exhibit their goods without informing the public of the name of the owner!

Of the polled breeds, Norfolk-Suffolks numbered 49, Galloways 40, Aberdeen-Angus 14—the last all owned by Benton Garringer, Washington C. H., O. The Galloways were mostly from Indiana, belonging, with few exceptions, to W. B. Mimmack of Bluffton, and A. D. Crossler and the McKay Bros. of Fort Wayne. The rods came from J. H. & W. W. Clark, Lagonda, Pa.; J. McL. Smith, Dayton, O.; V. T. Hills, Delaware, O., and E. S. Jameson, Mt. Sterling, Ky.

Devons were 41, York & Sons of Brock, O., being the chief exhibitors, with good specimens also from D. J. Whitmore, Castown, Iowa, and two Michigan breeders, R. G. Hart of Lapeer and E. T. Doney of Jackson.

Guernseys were 30, and belonged to G. E. Gordon, Koshkonong, Wis., and J. Seeley, North Farmington, Mich. Herefords, 18, shown by H. H. Clough, Elyria, O., and R. G. Hart, Brown Swiss, 10, all owned by J. F. Hirsch, Williamsville, N. Y.

HORSES.—The exhibit in this department was far smaller than at Buffalo, including less than 300 head, and was rather unsatisfactory to the visitor from its general lack of names, numbers, or even any indication of the breeds to which the animals belonged or the special purposes for which they were intended. Three superb exhibits, however, were displayed to excellent advantage—which the merits of the individual animals well deserved; we refer to the grand lot of Percherons, French Coachers and ponies shown by Savage & Farnum of Detroit, Senator T. W. Palmer's 35 fine Percherons, and particularly the admirable Cleveland Bays and Shires of Messrs. Geo. E. Brown & Co., Aurora, Ill., these headed respectively by the noted Consort and Holland Major. Other French Coachers were shown by H. E. Wilson, Venangobero, Crawford Co., Pa.; good Clydes by the McKay Bros. of Fort Wayne; standard-bred trotters by the Kalamazoo Farm, Kalamazoo, Mich.; cobs, hackneys, Suffolk Punch and thoroughbreds by John A. Logan, Jr., Youngstown, O.; two beautiful white Arabs by F. W. Park, Romeo, Mich.; and a large number of capital Shetland and Exmoor ponies by J. Murray Hoag, Maquoketa, Iowa, and G. A. Watkins, Detroit.

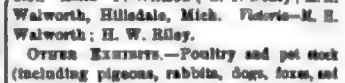
The premium-list in the horse department did not quite satisfy some exhibitors, in that there is a single class for all "coach horses," and another single class for "Clydesdales, Shires and other English Draft Breeds." From the former class, however, the Cleveland Bays were set off at the last moment, and judged separately.

SHEEP.—These filled 124 pens, the number of animals reaching about 400. Quite a number of Horned Dorsets (including recent importations by T. S. Cooper, Coopersburg, Pa., as mentioned on p. 733,) attracted the attention that this breed is pretty sure to command in new localities. Of other breeds, the owners of the best specimens were: *Merino*—Short & Harrington, Coldwater, Mich.; L. E. Shattuck, Stanberry, Mo.; F. C. and N. A. Wood, Saline, Mich.; Herdman & Crawford, Rix's Mill, O.; G. S. Button, Chittenango, N. Y. *Southdowns*—Frank Wilson, Jackson, Mich.; Mrs. L. M. Newton, Pontiac, Mich. *Oxfords*—J. R. & W. A. Shafer, Middletown, O.; Mrs. Newton. *Shropshires*—J. F. Rundel, Birmingham, Mich.; I. J. Williams, Muncey, Ind.; John Wellington, Owen Sound, Ont.; Richard Gibson, Delaware, Ont. *Hampshires*—Woodward & Jaques, Wright's Corners, N. Y.; Mrs. Newton. *Cotswolds*—Hugh Crawford, Canboro, Ont.; F. Wilson; Mrs. Newton. *Leicesters and Lincolns*—John Kelly, Jr., Shakespeare, Ont.; Henry Hilton, Ridgetown, Ont.; Mrs. Newton.

SWINE—134 pens, exactly the same as for sheep, and including about as many head. The white breeds predominated in number, though Berkshires, Poland Chinas and Essex, taken together, were almost as numerous; and there were forty or fifty Duroc-Jerseys. Exhibitors making the best display were: *Berkshires*—A. W. Cooley, Coldwater, Mich.; Clifford & White, Wellington, O. *Poland-Chinas*—Duffield & Falk, Somerville, O.; W. S. Osborn, Tecumseh, Mich; H. W. Riley, Greenville, Mich. *Chester Whites*—J. H. Eaton, Bucyrus, O.; Henry Hilton, Ridgetown, Ont.; C. A. Searing, Lyons, Mich; C. W. Baker, Delaware, O. *Duroc-Jerseys*—Quincy McBride, Burton, Mich. *Suffolks*—Frank Wilson; W. H. Benedict. *Essex*—F. Wilson; E. T. Doney; M. H. Walworth, Hillsdale, Mich. *Victorias*—M. H. Walworth; H. W. Riley.

OTHER EXHIBITS.—Poultry and pet stock (including pigeons, rabbits, dogs, foxes, and we believe a cat or two) filled 500 coops, making up a varied and interesting show.

The main building contained a very extensive and brilliant mechanical and industrial display—even greater, we should think, than that at Buffalo. The feature of principal rural interest in this part of the exhibition was the fine horticultural department on the second floor, this being the 19th annual show of the State Horticultural Society, which cooperated with the Detroit association. Nearly 1000 plates of fruit were on the tables, and 140 large baskets full—contributed in great part by the Lenawee County Horticultural Society, the South Haven and Casco Pomological Society, and representative growers of Oceana County. Plants and flowers were admirably displayed in one of the galleries, arranged as shown by the sketch, where the shaded segments of cir-



cles indicate benches, between which, as will be seen, the visitors' passage appeared to wind, giving an extremely pretty effect.

Among new mechanical devices on exhibition, we note these:

Two potato-diggers—one made by Roberts, Throp & Co., Three Rivers, Mich., the other by Lewis, Hampton & Co., 970 Woodward Ave., Detroit. The first has a scoop plow which raises earth and tubers and deposits them on a long revolving reel consisting of a number of steel tines in spiral form. The earth falls between the tines, while the potatoes are carried to the rear, and dropped there. The Detroit machine has a small plow on each side, to throw the earth away from the hill, and in the centre a shovel plow running under the plants; this sends earth and potatoes back upon a pair of long steel grates which work rapidly up and down, shaking out the earth and finally dropping the crop behind the machine.

The New Milford Spring-Tooth Cultivator, manufactured by P. F. Wells, Milford, Mich. By adding a centre section, it is turned readily into a pulverizing harrow. We should think it would do good work in either capacity.

A farm gate made by Dyer & Davis, Morristown, Ont., and embodying a number of new features, depending largely on very ingenious applications of the principle of the friction clutch. The whole thing is very easily raised, to get it above snow or to permit small animals to run under, but it holds perfectly firm in either the high or the low position—no animal can get it any higher than the manager places it.

A so called "milk judge" made by G. W. Towar, Jr., 71 Grand River Ave., Detroit. A chemical preparation, intended to facilitate the separation of the fat, is added to milk, and the sample placed in a vial and rapidly whirled. We can testify that the separation is rapid and seems to be remarkably complete and definite, the remaining milk having no appearance of retaining any butter.

GENERAL NOTES.—The State Fish Commission of Michigan, which was organized a dozen

years ago and we believe has done very good work in stocking the public waters of the State with trout, whitefish, carp, bass and other useful families, had their traveling car on exhibition, and a show of fish.

—— The open space around and between the buildings was the scene of an unusually varied and mixed-up omnium-gatherum. A catalogue of this part of the show, taken at random as it came under observation, would have included agricultural implement displays, restaurants, a stuffed whale, a "Queen Anne" soap building, fat women and snake charmers, a gospel tent with preaching going on, a fire-engine station, swings and merry-go-rounds, a row of tents erected by the Detroit newspaper men, a display of cattle foods, a "palace of illusions," an insurance building, an exhibition of (presumably) blood curdling automatons, photograph galleries, a furnace, crane and other arrangements for inflating the hot-air balloon that carried an adventurous performer skyward every afternoon; and we know not what else. It really would not have been at all a bad idea to make some attempt at classifying and arranging this heterogeneous matter a trifle.

—— The association is said to have paid $127,500 for its ground, and $237,500 for buildings and improvements. The aggregate of the cash prizes offered is stated as $100,000—though it should be added that a five per cent. entry fee is charged exhibitors, which must reimburse the managers for a very considerable portion of this part of their outlay. The officers of the association are: JAMES MCMILLAN, president; D. M. Ferry and Henry Russell, vice-presidents; Clarence A. Black, treasurer; E. W. Cottrell, secretary; C. W. Robinson, general manager.

PREMIUMS AWARDED.—We give on another page the cattle prizes in full, and all the horse awards that have general interest for breeders.

Farm Repairs.—Farmers who live some miles from mechanics' shops and hardware stores will often find it a matter of convenience as well as of economy to do their own repairing; and sometimes hours of valuable time will be thus saved. For this purpose, in addition to the common tools of pincers, broad-awls, gimlets, light and heavy hammers, screw drivers, &c., they should always have on hand a collection of screws of different sizes, copper wire, annealed wire, paint in a tight jar, copper straps, strong cord and twine, and a bottle, if not a barrel, of crude petroleum. Copper wire may be used for many purposes. In flexibility it is between twine and iron wire. A fractured thill or wagon-tongue may be made neat and strong by passing copper wire many times around it in close contact side by side, securing the ends with a short twist sunk in a slight depression so as not to project. Before beginning to wind, cut a small groove in the wood and lay the wire in this groove, so as to bring the two ends of the wire together on one side of this new copper band. If this work is neatly done, the new copper band will be an ornament rather than a defect. There are occasionally small fractures of various kinds which some persons try to mend with cord, but copper wire is stronger, neater and more durable. Next to copper wire, narrow copper straps sometimes answer an excellent purpose in mending splits in wooden surfaces, by laying the strap across the split, and screwing it to its place. Small nails will do in the place of screws, but they are less secure and are in greater danger of being drawn out. Leather straps are often used in the same way, but are still less secure. The neighbor who locked his smoke-house every night with a strong padlock to protect its valuable contents, hung the door with leather hinges which were easily cut with a jack-knife.

In the absence of copper wire, annealed iron wire may be used in some cases, and in the absence of both, strong twine will sometimes answer, if well soaked with paint or pine tar and dried. Nails are often used on wood instead of screws, and they will answer well if a hole to receive them is first made with an awl or gimlet, and clinching nails are used. (For machines and tools made of iron, screw-bolts of the right size are required.) We have seen the tongue of a sleigh which had been nearly broken off, securely and neatly mended by placing thin strips of tough wood on its four sides, extending nearly a foot each way, and nailing these strips. It would have been better to use screws instead of nails, and still better to have first made one or two copper-wire bands slightly sunk in the wood, in addition. These four pieces, placed flat on the four sides, strengthened the pole in the same way that it would have been when set inside a tube, the four all acting together.

In making any repair, never do it superficially or in a bungling manner, or it may cost more in the end than a new machine or a new part by a skillful mechanic. As a general rule, a machine which is often and continuously used, should be thoroughly and strongly repaired; one that comes into use but rarely, may be repaired in a more superficial manner. But prevention is always better than remedy, and strong, well made tools and machines should always be preferred to defective ones, even if costing considerably more; as the expense of mending and the required delay may be attended with still greater ultimate cost.

Screens for Orchards.—The recently issued bulletin of the Agricultural Experiment Station of Cornell University on timber screens, gives the experience of a large number of orchardists on the value of such screens, and of the objections which have been found to them. Prof. L. H. Bailey, under whose charge this information has been collected, addressed three hundred circulars to leading fruit growers in New-York and Michigan, and received seventy-five replies. As with many other questions, the opposing views are controlled by adverse conditions. We observe that the opinions of those who are opposed to the use of screens have in nearly all cases founded their objections from woods or forests, near which the orchards were planted, their double or triple height to common screens shading the orchards to a greater distance, preventing a fair circulation of air, and affording a larger shield for the increase of insects. In other cases the shelter of valleys or the protection of hills has not only rendered such screens unnecessary, but the screens have operated injuriously as already stated.

But with these exceptions taken into consideration, the great majority of cultivators have found the screens a positive benefit. One finds them "of vast importance;" another states that they afford "increased crops;" another that they "prevent windfalls;" others find small fruits "several days earlier near windbreaks;" others state that the "trees stand straighter;" the screens "retain snow, and shield the roots;" "protect from cold winds especially in blossoming time;" and a large number find the screens valuable in preventing the fruit from being blown off or the trees broken. In localities exposed to the sweep of strong winds they are obviously useful. It should be remembered that the orchard trees should not stand close under the shade of the screen, and should stand beyond the extension of the roots.

Artificial Insecticides.—A good deal of discussion with much interest has taken place within a year or two relative to the real value of certain insecticides widely offered for sale by individuals, and highly lauded for their efficiency, among which are Hammond's Slug Shot, and the substance with the strange name of "Peroxide of Silicates." We have always ascribed their efficiency to the arsenic they contain, the first named possessing the merit of very thorough and complete intermixture, and probably the latter as well. Thorough intermixture is especially important, for if incomplete the poison will be too abundant on one portion and scorch the plant, and too thin on another portion and prove inefficient.

Prof. F. L. Harvey of the Maine Experiment Station, reports the analysis of these two insecticides and some others, by which it appears that while Paris green and London purple are about 48 per cent. arsenious oxide (white arsenic), Hammond's Slug Shot has a little over one per cent., and the "Peroxide of Silicates" about one and a half per cent. The rest is nearly all lime and gypsum. This analysis accords with the common results of the use of these substances, Hammond's mixture destroying insects without hurting the foliage, and the "peroxide" more or less scorching the leaves. Hammond's is over nine tenths plaster, and the only reason why it is sold at four times higher a price than an equivalent mixture of two or three pounds of Paris green with a hundred pounds of plaster, is the thorough mixing it has received, saving the small gardener the trouble of this work. A mixture as good as the "peroxide" may be made with three pounds of Paris green and a

The Grazier and Breeder.

Wintering Brood Mares—Growing Colts

Eds. Country Gentleman—Please give directions as to how brood mares should be wintered; what feed they should have after foaling; should any change be made in feed after foaling? what attention when time to foal, &c. Your paper tells us all how to treat after colt is sick; why not tell us how to feed and keep without ills? B. *Toledo, O.*

1. We fear that B. has not attentively read the advice about feeding brood mares and colts in the Country Gentleman during the present year. He will find instructions on feeding weanling foal on page 47; how to feed colts, page 146; how to feed brood mares, page 192; developing colts, page 312; brood mares and colts, page 358; weanling colts at three months, page 430—also on page 426. If B. will turn to all these, he will get many suggestions that may be of service to him.

2. If B. had stated what foods were most convenient for him, a special ration could have been given from his foods. But as he has not mentioned any, we may suppose that he can supply any food most desirable.

The best hay for brood mares, to keep them in health and develop the coming foal, is clover. A ration in the following proportions will be found successful in winter feeding: 14 lbs. clover hay, 2 lbs. corn meal, and 8 lbs. fine wheat bran. The digestible nutrients in this are shown in the following analyzed formula:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
14 lbs. clover hay	1.05	5.05	0.21
2 lbs. corn meal	0.17	1.30	0.09
8 lbs. fine bran	0.96	3.22	0.32
Total	2.19	10.57	0.62

This has a nutritive ratio of 1 to 5.4. This clover hay is to be run through a cutter, slightly moistened, and the meal and bran evenly mixed in, and given in two feeds. This may be considered a model ration for wintering brood mares.

The corn meal will be serviceable in keeping up animal heat in cool weather. The clover hay and the bran furnish ample food for replacing the waste of muscle and bone and developing the coming foal. It contains every element required to keep up the vital energy of the brood mare without labor, but she should have gentle exercise, and would be the better for walking a few miles each day.

After the foal is dropped, the corn meal should be discontinued for the first seven to ten days. Then the ration for brood mares suckling foals, besides the clover hay, should be 4 lbs. oats and corn ground together, 6 lbs. wheat bran, and 2 lbs. linseed meal, and the mare should have considerable exercise on the walk.

This ration will produce rich milk, with all the elements for growing the foal rapidly, and giving it an even developing.

When the brood mare comes to pasture, give her, in addition, 2 lbs. ground corn and oats, 3 lbs. wheat bran, and 1 lb. linseed meal, all mixed with 2 lbs. of cut hay, slightly moistened.

3. As to feeding the foals to make the best growth, and keep in the most perfect health, the attendant should accustom the colt to early handling, so that it will take kindly to anything offered it to eat. At two months old it should be taught to take a little new milk, and after it takes this, stir in a little middlings, to give it a taste for the food. At three months old, warm skim-milk may be substituted, with a little middlings, and a little flaxseed jelly may be added. (Flaxseed is boiled in six times its bulk of water for 15 or 20 minutes, forming a thin jelly.)

It will be understood that these extra foods mentioned are given the colt at this early age, to teach it to eat, not so much to furnish extra food, but to prepare it, when weaning time comes, to depend upon other food, so that there may be no falling off in growth. When the colt is weaned at, say, four or five months old, this warm skim-milk should be provided with a little wheat middlings and a little of the flaxseed jelly, and the colt will continue its growth as if it had not been weaned.

The ration may be in the following proportions: For 4 quarts warm skim-milk, add 1 lb. of fine bran or middlings, ½ lb. ground oats, and ½ gill of flaxseed jelly. About 8 quarts of warm skim-milk, with this proportion of food, will usually be taken per day by a five-months' weanling, besides eating a little grass. Feed this way for about two months. It will then be taught, gradually, to eat clover hay, fine bran, and ground oats, with a little flaxseed jelly.

At first, let the ration be 2 lbs. cut clover hay, 1½ lbs. fine bran, 1½ lbs. ground oats, and 1 gill flaxseed jelly, all mixed together. This may be given in two feeds, morning and evening, with a little uncut clean timothy or fine hay at noon.

It is understood that the cut clover hay is slightly moistened before the other foods are mixed with it. As the colt grows, it will require a gradual increase of food, but the proportions here given may be continued until the end of its first year.

Colts should have the run of a yard or, better, a small field for exercise each day, although kept in warm quarters at night. A colt handled and fed in this way will make a satisfactory growth and remain in perfect health. R. W. S.

Thoroughbred Calves on Skim-Milk.

Eds. Country Gentleman—In rearing pedigree stock, when solely for sale or exhibition, it is usual to let the calves run with their mothers till naturally weaned, and as far as the calves are concerned the system works well, the young animals at the end of 12 months being better grown than ordinary ones at 18 months. But it seems to me the system is objectionable. (1) On the score of damaging the usefulness of the mothers, and (2) on the score of economy, as probably the calf could be maintained as efficiently on a ration scientifically devised at a cheaper rate. I should be glad to have your views on the subject, together with suggestions as the best substitute for a portion of the milk, my object being to have as much milk available for dairy purposes as possible without stinting my calves. But if at the same time I could not get equally good results short of giving all the milk I would rather sacrifice dairy products than the growth of my young stock. How would it do to give fresh milk, as much as they will take, for, say three weeks, then skimmed sweet milk, with an addition of some or all of the following: Linseed meal, cottonseed meal, palmnut meal, ground oats, wheat bran, ship stuff, and later on of English bean meal in combination with cut hay and good pasturage? Please make me up a complete ration from the above suitable for successive stages of growth, and at the same time give me an estimate of the probable cost of the system as compared with that of giving all the milk. S. C. S. *Bedford Co., Va.*

1. Allowing calves to suckle their dams during the whole or any considerable part of the milking season, will, as he supposes, greatly injure the milking habit of the dam. It is owing to this practice that Short-Horns (naturally a milking breed) had the milking habit bred out of them, or out of some strains of this blood.

In a state of nature cows gave milk but for a limited period and in very small quantity, compared to our present developed milking breeds. There are very few cows that can stand, without injury, this process of drawing their milk by suckling calves. We might instance several breeds that have been thus injured as milkers; in fact, no breed can withstand it for any length of time without rapidly deteriorating in milking character.

2. It is certainly very bad policy on the score of economy, as this reduces the entire product of a cow for one year, or nearly that, to the raising of a calf; and the cow and the calf are both kept a year for simply the value of the calf; and aside from the more or less speculative value of thoroughbred stock, the calf is very poor compensation for the outlay. Yet, as S. suggests, if there were no other way to produce a good calf, and the stock being very valuable, it might be better to thus raise the calf. But there are several ways to raise the calf better than to allow it to suckle the dam. It would be much better to take the calf from the cow, draw the milk and feed it to the calf warm, as by this plan the cow would yield her full quantity of milk, the calf would not be able to take it all, and the balance could be reserved for the products of the dairy.

Again, as S. supposes, the calf may be fed from the warm milk drawn from the cow, for a short time, and then sweet skim-milk be substituted with the addition of other foods which we will mention, and the cost of rearing the calf will thus be reduced to about 25 per cent. of the other methods without injury to the calf, and greatly to the benefit of the dam as a milker.

3. As to the most economical and beneficial way of raising the calf, it is probably better to take the calf from the dam at the end of three days. Some expert calf-raisers take it from the dam without allowing it to suck at all, the milk being drawn and fed to the calf from the beginning. But we think it best that the calf should draw the first milk from the cow. And when the calf has been fed this fresh milk for a week or so, then skim-milk may be substituted, with the addition of flaxseed jelly at first, and later of flaxseed jelly and wheat middlings. Let flaxseed be boiled in six times its bulk of water for 15 or 20 minutes, when it will form a thin jelly.

The calf at first may be given 12 lbs. of warm skim-milk per day, divided into two feeds; and this skim-milk will be gradually increased according to the capacity of the calf. At first a tablespoonful of this jelly will be stirred into the warm skim-milk at each feed; in three days add another spoonful of jelly to each feed. The second week give 3 tablespoonfuls of jelly at each feed. The third week give 1 gill of the jelly in each feed of warm skim-milk, and continue this until the calf is 30 days old. Now boil the flaxseed in twelve times its bulk of water for 15 minutes, then stir in 2 lbs. of fine wheat middlings, or best shipstuff, with each pint of flaxseed, boiled, and boil the flaxseed and middlings together for 10 minutes. This mixed food will be used in the warm skim-milk for the calf for the next 30 days, using 1 pt. of the mixture in the warm skim-milk at each feed. The third month add ½ to the water and 2 lbs. of ground oats to the pint of flaxseed and middlings, when boiled, and feed 1 qt. of this mixture in the warm milk at each feed. The fourth month use the same compound, and in addition stir in 1 gill of linseed meal, uncooked, to each feed. This may be continued as long as the milk is fed, say till the calf is six months old. It is understood that the calf has had fine hay to chew since three weeks old, so that its first stomach may be developed. The quantity of milk to be fed must be determined by the feeder, and great care should be taken not to over-feed. The calf should not be given quite all it will take, because over-feeding will retard its growth more than slight under-feeding. This small amount of flaxseed jelly will keep the calf's digestive organs in a healthy condition, besides supplying the place of part of the fat taken from the milk in the cream.

The feeding of these calves after six months old will be aided with sweet ensilage of corn if in winter, or by grass in summer, but before six months and while fed milk they will do better with fine hay. If fed in winter without ensilage the ration may be the following: 6 lbs. cut clover hay well moistened, 1 lb. corn meal, 2 lbs. fine wheat bran, 3 lbs. ground oats, 1 lb. linseed meal. Mix the ground feed well together dry, and then mix with cut hay. Give this in two feeds in stable with exercise in yard between feeds when it does not storm. This may be more than the calf should eat at six months. It is given more as a proportion or combination of food than as a ration per head. The feeder must have judgment as to the amount to be fed. The most successful calf feeder must be born, not made. If the calf at six months is on pasture, then feed in stable at evening the following: 1 lb. fine bran, 1 lb. ground oats, ½ lb. bran meal, ½ lb. linseed meal mixed with 1½ lb. of cut hay wet. This mode of feeding calves when well done should produce a live weight at the end of the year of 800 to 1,000 pounds according to the breed, and it should not cost besides the skim-milk more than from $20 to $25 for the food. And the cream of the milk of the dam should be worth at least twice that sum. R. W. S.

March versus April Lambs.

Eds. Country Gentleman—In a short time we must decide whether our next lot of lambs will be dropped in the coming March or April. If we choose March for the lambing season, we must turn in the rams the first of October, or if April be chosen, the coupling will not begin until November. In discussing this question, the raising of mutton lambs is left out of view, for, to bring the largest returns, they should be dropped either in January or February. The great bulk of the lambs, however, are bred with the intention of being kept as stock sheep, and it is to the raiser of such sheep that the above question becomes important.

For several years we have made April our lambing season, and with such success that we expect to continue in the practice. It is true that October, as a general rule, is more favorable than November for coupling, the fine weather of the former month aiding to bring the ewes in season. Still, even in a wet November like the one of 1868 our ewes were coupled with such success that we had 250 lambs dropped from the same number of ewes. We find that we do not have to feed to hardly during the winter when the lambs come in April, for at that time there is generally a good supply of grass to aid in making milk. Indeed it is the supply of milk that is the important factor in the problem. With plenty of milk a successful lambing season is almost assured, while the lack of it will at all times bring disaster. That the March lambs should have plenty of milk, it is necessary that the ewes be kept in high condition—so high that injury may, at times, result to the offspring.

There is no doubt that a larger per cent. of lambs can be raised when dropped in April. The occasional snow storms that come even in that month, when we have from one to two hundred young lambs in the barns, mainly as not to risk the uncertainties of March weather, I am not prepared to admit that the March lamb, even after it has escaped the dangers of infancy, is much superior to the lamb dropped in April. With plenty of milk from the day of his birth, I have frequently seen the April lamb equal his March brother by the beginning of winter; and it is seldom, where both bunches of lambs have good care, that any difference can be seen at the first shearing time. Perhaps the March lamb may shear a little more wool, but the gain is purchased at more than its market price.

To sum up in one sentence my views of this question, I would say that in April lambing there is less expense and greater profit.

Updegraff, O. J. G. I.

Merinos as they are Bred in Vermont.

The Prizes on Wool at Paris.

Eds. Country Gentleman—I have read with a great deal of interest an article in your paper of Sept. 12, entitled "Sheep and Wool in the Ohio Valley." I was very sorry to read that "the present outlook for wool-growing in the Ohio valley is not the brightest," while elsewhere in our country, including Vermont, the home of the American Merino, or at least where that breed has reached so high a grade of improvement, the outlook is certainly brightening. It is possible that the plain, long but light fleeced sheep, which your correspondent represents has displaced the American Merino of 25 years ago, is not as profitable after all as those which shear a much heavier fleece of wool, that possibly does not bring quite as much per pound, but the aggregate value of which is much more than the long, thin, light one grown on a larger sheep. It would be interesting as well as instructive to know just how much these rams that "shear from 12 to 16 pounds of white wool of good length and appearance" yield of cleansed wool, and just how much live weight the grower has to support to produce his fleece. Have there been any public shearings of the sheep described, or any accurate tests made by reliable officials to prove just what the shrinkage of the fleece is? The wrinkly Merino so much derided by "J. G. I." from Updegraff, Ohio, has publicly shown his ability to grow, not only a heavy fleece, but a large amount and a large per cent. to carcass of cleansed wool of good quality that has always been salable in our markets, although it has not always brought the highest price. It would be interesting to have your correspondent show how the greasy wrinkly rams destroyed the value of the fleece in his section taking into account the increase in weight of fleece they added.

There have no doubt been a great many mistakes made in selecting rams that were remarkable for grease and wrinkles only, but the present great density of fleece, amount of wool, and strength of fibre of the Vermont sheep could not have been attained without them, and never has been attained by any breeder who discarded them.

When your subscriber speaks of the downfall of the American Merino, we fail to understand just what that downfall is. Not less than twelve car-loads of these rams have gone to the West and Texas from one station in our county within a few weeks. It is true that sheep are wanted that have other excellencies than wrinkles and grease, but there is also a demand for sheep that have compactness of fleece to a sufficient standard to improve the weight of fleece in the sections to which they are taken. This the long, thin, light-fleeced rams have never been able to do, and sooner or later wool growers everywhere will find it more profitable to raise wool from sheep producing twenty per cent. of wool than from

those producing only eight or ten per cent. and entirely practicable to raise that per cent. of wool from a race of sheep that will furnish a very high quality of mutton, that will feed well, and reach 100 pounds or more at maturity, which stage will be reached at an early age if the feed is as liberal as is necessary to grow any kind of stock with profit.

J. G. L. says "our wools have stood tests in the great expositions of the world. We do not know the results at the present Paris Exposition, but at the last one held in that city, *the* prize was awarded to Mr. Wood of Jefferson county, O. I have italicised *the* to call attention to the idea conveyed that Mr. Wood received the highest prize, or the only prize on wool at that exposition, which it seems to me he is hardly justified in claiming. The State department at Washington sent me the following list of awards made at the exposition on fine or Merino wools:

GOLD MEDALS—George Campbell, Westminster West, Vt.; S. P. Clark, Addison, Vt.; E. Townsend, Pavilion Centre, N. Y.

SILVER MEDALS—O. & E. S. Hall, East Randolph, Vt.; Samuel Archer, Kansas City, Mo.; E. J. Hiatt, Chester Hill, O.

BRONZE MEDALS—F. & S. E. Moore, Shoreham, Vt.; H. O. Bunnell, Bridgeport, Vt.; H. M. Pellum, Shaftsbury, Vt.; Henry Harrington, Keeler's Bay, Vt.; J. T. Stickney, Shoreham, Vt.; O. B. Russell, North Hero, Vt.; Milo J. Ellsworth, Cornwall, Vt.; W. G. Markham, Avon, New-York.

HONORABLE MENTION—C. P. Morrison, Addison, Vt.; T. Stickney & Son, East Shoreham, Vt.; G. F. Martin, Rush, N. Y.; Bronson & Mariner, West Bloomfield, N. Y.

One of the gold medals was won on a fleece weighing over 31 pounds, and nearly all of the prizes, or at least a large proportion of them, on wools from heavy-shearing wrinkly Merinos so much decried by J. G. L. as having damaged the character of the wools in the Ohio valley. I was informed by the agent of the Agricultural Department who had charge of our wools at the last Paris exposition, that the judges at first decided to give the grand prize to the exhibit from Vermont, and gave as a reason that for combined quality and quantity per fleece, our wool was superior to any other exhibit of wool there; but that evening the English commissioner had influence enough to get a re-hearing, and some addition to the board of judges who finally awarded the grand prize to the Australian exhibit.

Since then our Vermont association made up an extensive exhibit of fleeces from our heavy shearing Merinos, and sent it to Sidney, Australia. On this exhibit we were awarded a diploma and a large silver medal. On the diploma is the following: "Sidney International Exposition, 1879. Certificate of Award. Vermont Sheep Breeders' Association, Middlebury, Vt., U. S. Exhibit of Wools. First Prize." On the medal, which is a large one—three inches in diameter and over one-fourth inch in thickness—is engraved: "Awarded to the Vermont Sheep-Breeders' Association Exhibit of Wool. First Prize." Although this is exactly what is engraved on the diploma and medal, we do not claim that the largest and grandest prize was awarded to our wools at Sidney; that prize was retained and awarded to Australian wools. The prize awarded on our exhibit was probably the first on exhibit of wools foreign to Australia.

Later still we sent a large collection of wool to the exposition at New-Orleans, and although it was not entered for premium, we were awarded a diploma for meritorious display of wool.

All these awards would seem to show that the wrinkly, greasy rams, so much derided by J. G. L., have not destroyed all the excellence of the Merino wools in Vermont, and it would also seem to show that her wools have been able to compete successfully with those of other sections of our country at the great world expositions abroad and at home. In time the world will come to understand that every large, plain sheep, with long white wool, is not necessarily a profitable producer of wool or mutton, and that it is possible to have a good formed mutton carcass under a skin that has a reasonable amount of wrinkles, and a density of fleece that will yield twice as great a per cent. of wool as will the larger, smoother, thinner-wooled sheep that some people take so much pains to land at the present time, as the only Merino sheep worth raising.

If we have correct information from Australia and South America, they have better large long-wooled sheep than are to be found anywhere in the United States; yet from both these countries there is a demand for our wrinkled, compact fleece sheep to improve the density and covering, and add to the capacity for profit of the sheep of those countries.

Middlebury, Vt., Sept. 20. A. C.

The Pig in Ireland.

A very interesting statement has just been made as to the production of pigs in Ireland. For one reason or the other it is generally supposed that the pig is one of the staple supports of the Irish peasantry, and there can be no doubt that this is the case. No one who has traveled in that country can for a moment doubt that for large numbers of the cottagers it is the pig who is "the gintleman that pays the rint," when any is paid at all. Of late there have been fewer pigs kept, for the pressure of the times has made it impossible for the peasants to afford even the purchase of a pig, much less to keep one. Perhaps this reduction has been met by the increased number kept by farmers who find that it is a constant and lucrative source of income. The erection of great curing houses on the American principle at Cork and Limerick has done much to stimulate this trade, and it is hoped that when the land question is settled satisfactorily that much more will be done in this direction. The number of pigs kept in Ireland during the last five years is recorded as follows:

	Leinster.	*Ulster.*	*Connaught.*	*Munster.*	*Total.*
1884.....	330,388	397,864	208,413	444,980	1,380,650
1885.....	305,631	383,727	200,563	430,611	1,320,532
1886.....	299,879	371,975	197,608	443,856	1,305,163
1887.....	278,614	371,347	216,398	485,502	1,409,856
1888.....	308,494	412,141	233,343	443,624	1,397,600

The value of the pigs in Ireland in 1888 was estimated by the registrar-general at nearly twenty millions of dollars, or about one-fifteenth of the gross value of the entire cattle, sheep and pig stock of the whole country. There is unfortunately no record as to the Irish exports other than those of live stock, and we are unable, therefore, to measure these, but during 1888 there were 544,979 fat and store swine sent from Ireland to Britain, and this shows a great increase on previous years. Of course the numbers given as to the pigs in Ireland may appear small as compared with the forty-five millions in America, or the nine millions in Germany, but it must be remembered that Ireland is a poor country, and that its inhabitants are now only a little more than five millions. It may be hoped that with the settlement of the country, which must now soon come, this trade will be enormously increased. But before that can be done there will be much to learn in the introduction of better breeds, and in the rapid marketing and proper packing. In these respects the factories at Cork and Limerick, already referred to, leave nothing to be desired. Nothing can be finer than the best mild-cured Irish bacon, and its fame is world-wide. S. B.

The Dairy Department.

Conferences in the Mohawk Valley.

JOHNSTOWN — PATTERSONVILLE — VALUE OF SWEET SKIM-MILK—LOSS FROM UNRIPE CREAM—STARTING A FARMERS' CLUB.

EDS. COUNTRY GENTLEMAN—The request for dairy instruction comes from every part of the State. In Fulton county, which extends into the Adirondack region, efforts have been made at Johnstown to inaugurate the making of butter by improved methods. Chas. O. Cross is the pioneer of this advanced movement. He has erected a very fine butter factory and turns out a choice article. The business is gaining ground, and will prove an important factor in bringing back lost fertility, and in making a compensating future for agricultural husbandry in this section. Charles Prindle, an ex president of the county agricultural society, opened his beautiful grounds and furnished enjoyable accommodations for the conference. The proprietors of the Crown Creamery, owned by Cross & Tymeson, arranged for the cream.

At this factory an attempt is made to utilize the buttermilk in the families of the villagers. It is sold at ten cents a gallon. Some of it is made into cottage cheese. This form of cheese is made into half-pound patties and sold for 5 cents. Some milk is also purchased and sweet cream is produced from it which brings 20 cents per quart, or at wholesale 65 cents per gallon. Two cents per quart is paid for milk. The time is coming when the milk in a sweet state, from which the butter fats have been taken, will be more highly appreciated as a most wholesome drink and food, especially for children. It is always put upon our table, and for a harvest drink there is nothing better, as it contains the casein, or substance to repair the muscle waste, and the sugar to make heat and fat, but not so much of this carbonaceous material as before the fats were taken out. The bone material is still in it, and when cooled with ice it can be drunk in quantities to refresh the body and quench thirst without injury, which is not the case with ice-water. The skim-milk can be sold, by the laws of New-York, as "skim-milk" in any county where it is produced, and also "in counties adjacent."

The first churning was the cream of 200 lbs. of milk from native cows, furnished by Dewitt Dorn of Garoga, Fulton county. Milk set in Stoddard creamer; creamed at temperature of 45° in running spring water; set 12 hours; skimmed and cream kept at 45° for 12 hours more, when it was raised in 24 hours to 58°, after which it was raised to 60° in six hours. Cream ripened 30 hours; churned in barrel churn at 64°, churn making 68 revolutions a minute. Butter came in granular form in 20 minutes. The drawing of the buttermilk and washing the butter was in the usual manner, in cold water, reducing the temperature of the butter to about 55°, when salt, one ounce to the pound, was stirred into the granulated butter, and it was worked, producing 7½ lbs. of butter—requiring 28.66 lbs. of milk for a pound of butter. The cream from which this butter was made was over-ripe, having developed too much acidity.

Mr. Dorn's cows came in milk from first of March until May; are wintered on hay, and fed three pounds daily of corn meal and shorts when in milk until they go to pasture, when they have pasture only. Land broken, and sandy soil; grasses are white clover and other native grasses. Cows have free access to pure spring water and salt; are milked regularly morning and night.

The second churning was cream from 200 lbs. of milk from the dairy of 14 cows of S. B. and W. H. Heagle of Johnstown; cows grade Holsteins and natives. Milk set at 86° in Fairland creamer, in ice water at about 44°, for 24 hours and skimmed; cream ripened 30 hours, at a temperature of 58 to 60°; at churning raised and churned at 63° in barrel churn, receiving 68 revolutions a minute. Butter came in granules in 45 minutes; product, 10 lbs. unsalted, 6¼ lbs. salted and worked butter. Ratio, 30.77 lbs. milk to a pound of butter. The cream was not quite ripe enough.

Cows have pasture, timothy, clover and native grasses, and free access to pure spring water and salt. Milking done regularly from 5 to 6 in the morning and at night. These cows are deficient in butter fats. They should be fed to produce more butter fats, and if they do not do it, then it will be demonstrated that they were not made for butter cows. Have we butter cows? should be the first query in the dairyman's catechism, and the next in line with it, Do we feed for butter? On these two questions hangs the law of success.

At Pattersonville, Schenectady county, an interesting conference was held in Putnam's Grove. Here the cream was brought, with the utensils required, and the hot and cold water. John M. Veeder was at the head of a most efficient committee, and the preparations were complete. Harmon Van Slyke was made chairman. There were two short talks in the forenoon by Messrs. Curtis and Gilbert, and a churning. A picnic dinner followed in the grove, and in the afternoon another churning, with addresses by Mr. Curtis, Rev. N. M. Nickerson, Valentine Hallenbeck, and Editor Marlette of the Schenectady Star. The first churning was as follows: Milk, 200 lbs.; cows, high-grade Jersey, owned by John M. Veeder; food, grass, plenty of water, and salt all the time. Milk creamed in a Stoddard creamer, with ice-water at about 45°; set 24 hours; three milkings. The cream of one milking was 48 hours old, that of the second 36 hours, and one 30 hours. The first and second skimmings were first put in a temperature of 55°, and then 30 hours at 66° until churned; the third skimming was kept at 66° for 30 hours, and then both creams put together and churned at 64°. Butter came in granules in 33 minutes, producing 11¼ lbs. butter, equal to 17.77 lbs. of milk for a pound of butter.

There was a loss of butter from a portion of this cream not being matured, as it was still thin and not acid. The mixing of mature and immature cream together will always result in loss. In this case Mr. Gilbert estimated the loss, by the usual percentage of loss under similar conditions, to be from one-half to three-fourths of a pound of butter. It may have been more. Butter-makers must understand that there is always a waste when this is done, as the butter from the green and thin cream will not separate as soon as it will from the mature cream. The cream of the first or second lot designed for a churning should be kept in a cold temperature where it will not change until all of the mess designed for a churning is gathered, and then it should be well mixed, and time enough had for the last lot to mature before churning. Another great mistake very common is to hold cream too long after acidity has begun. The time to churn is when acidity begins.

The second churning was cream from 200 lbs. milk furnished by Alfred Dongal; cows pure-bred and high-grade Jerseys. Milk set in a Cooley creamer at 45° in ice water; skimmed after 24 hours' setting; one cream 46 hours and one 24 hours, both set to mature immediately after skimming, in a temperature of 60°, till brought to the place of churning. The temperature of the cream when brought to the grove to be churned was 64° and it was churned at 64°. Butter granulated in 17 minutes; reduced to 50°, salted and weighed, producing 11 lbs. of salted butter—18.18 lbs. of milk for a pound of butter. Both of these yields were above the average.

This is not a dairy section, as the farmers of the Mohawk valley still cling to the old methods of grain and hay-raising, with broom-corn as a specialty. It was a most gratifying close to this meeting that a young farmer, Mr. Marlette, should step forward and move that the occasion be commemorated by the formation of a farmers' club. A buzz of approval went through the audience, and the best men stepped forward and joined in the movement. A committee was appointed with full power to select officers and make all needful arrangements to organize a club, and to provide for future meetings. F. D. CURTIS.

Milk Standard—Developing Ration.

EDS. COUNTRY GENTLEMAN—I have just been notified by the milk contractors that my thoroughbred Holstein milk does not come up to the legal standard—13 per cent. solids. My milk stood a little below 12 per cent., 2 per cent. fat and 8.90 per cent. other solids. I feed about 4 lbs. corn meal, 4 lbs. gluten meal and 3 lbs. wheat bran, plenty of good pasture and about 12 lbs. green corn fodder per day. My cows are mostly late winter and early spring ones; four with first calf and six older. I would like to ask if there are other grains that I could feed to have the milk pass the standard. About all the grains sold can be had in this town, viz., ground oats, oilmeal, wheat middlings, malt or barley sprouts, cottonseed meal, corn meal, gluten meal, wheat bran, &c. I would like to have E. W. S. select a ration, if possible, that would be satisfactory, regardless of cost, as I must sell good milk or stop. My winter feed will be plenty of good corn ensilage, hayed oats, millet and hay, besides grain. Will E. W. S. also select a ration from these? My cows are all farrow and will probably not calve again till October, 1890. They average about 30 lbs. of milk per day. B.

Middlesex County, Mass.

1. B. is truly in a novel situation. The legal standard for milk aims to include all genuine undiluted milk, and there is a great deal of honest milk that falls below 13 per cent. solids. The Connecticut Experiment Station, 1888, gave the analysis of three different Ayrshire cows from a celebrated herd in that State, and the highest amount of solids was 12.34 per cent., and the smallest was 11.60 per cent., with the fat ranging from 3.17 to 3.81 per cent. The same station in 1889 made 77 analyses of milk of 60 different herds, the smallest showing 10.98 per cent. solids, the average 12.81 per cent. The fat ranged from 3.94 to 4.05. In 1886 this station determined the solids in the night's milk of three Holstein cows in T. S. Gold's herd, June 11, average 13 per cent., but the morning's milk of one of these cows at the same time reached only 10.42 per cent. The milk of four Ayrshires at the same time showed an average of 12.80 per cent. for the night's milk, and something less for the morning's milk. This so called "standard" is probably fixed by the milk contractors, who naturally desire rich milk to be sold to customers at a lower standard.

2. B. seems to suppose that the quality of milk can be greatly improved in a short time by giving the right food. But every cow has a normal standard which may be reached with a properly balanced ration in a few weeks, but if the cow is to be improved beyond her normal standard, it must be done gradually, often requiring much time.

Let us now examine B.'s case practically

and see if his ration now fed is well adapted to bring cows to their normal standard. He says he feeds 4 lbs. corn meal, 4 lbs. gluten meal, and 3 lbs. wheat bran, with plenty of good pasture, and about 12 lbs. of green corn fodder per day.

He does not say whether he feeds this grain food alone or mixed with coarse fodder, but it is to be inferred that he feeds it alone. He might feed it upon the 12 lbs. of green corn fodder, cut. The digestible nutrients of what he feeds is shown in the following analyzed formula:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
12 lbs. green corn fodder...	0.16	1.20	0.04
4 lbs. corn meal	0.38	2.53	0.19
4 lbs. gluten meal.....	0.92	2.04	0.15
3 lbs. wheat bran.	0.34	1.88	0.08
Total	1.79	7.34	0.46

This has a nutritive ratio of 1 to 4.8. B. will see that this, with "plenty of good pasture," as he says, is a well balanced ration and should produce a good result in quantity and quality of milk. If this ground feed is fed upon the green corn fodder, so that it will be digested most economically, it ought to bring his cows up to their normal standard, yielding such quality of milk as in their present state of development they may be expected to give. If better milk is wanted, these cows must be developed to produce it.

We have supposed B. to have given accurately the weight of the different parts of his ration, though he uses the word "about," and in estimating it, have supposed his feed of the best quality.

He will see by the formula that gluten meal is a very nitrogenous food, but if this should be kiln-dried sugar meal instead of the genuine gluten meal, that would produce a great change.

He mentions that his cows are farrow and are not expected to drop calves again until October of next year. His cows will therefore give richer milk, as the time from calving increases. We regard his feeding up to the present time as good.

3. Will now compound his ration for winter feeding, from the fodders he mentions and the grain foods, as shown in the following analyzed formula:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
40 lbs. corn ensilage.....	0.48	4.80	0.30
6 lbs. millet hay.....	0.33	2.97	0.47
4 lbs. corn meal	0.50	3.72	0.20
4 lbs. gluten.....	0.92	2.04	0.15
4 lbs. fine wheat bran.....	0.47	1.84	0.10
3 lbs. O. P. linseed meal....	0.81	0.73	0.18
Total	3.41	16.21	0.90

This has a nutritive ratio of 1 to 5.4, and will be a good developing ration. It is large, but not too large for his large cows. This should produce the best result in improving the quality of the milk, and will also produce a good yield.

B. will remember that the corn meal, gluten meal, fine bran and linseed meal are to be well mixed together, dry, and then well mixed with the ensilage and cut millet hay, and given three feeds, smallest at noon. We hope B. will report the result to the COUNTRY GENTLEMAN. E. W. S.

Milk Fever.—Lost one of my most valuable cows with milk fever three days after calving. Aconite in half-ounce doses failed to relieve. Heretofore I have used a drink of one quart of linseed oil, and repeated when necessary. Animal's bowels are freely moved and have relieved two out of three. A post mortem in last case convinced me, if my former treatment had been carried out, that constipation of bowels would have been relieved, and the kidneys also, and very probably her life saved. T. L. *Roanoke, Va.*

Choked Cattle.—Correspondents of the New-England Homestead give the following suggestions:

"How they saved $65" is a story told of relieving a choked cow with a stick, but it was a very dangerous method. I have known a number killed by a stick run through the lining of the throat. Take a three-fourths-inch or a one-inch lead pipe, expand the end to be inserted in the throat until it is somewhat larger and grease it. Pull the creature's tongue forward, and push the expanded end of the pipe gently down. It will force the obstruction into the stomach. The pipe should not be of heavy lead, and will then bend as it follows the throat. Such a pipe should be kept for the purpose.—[L. Warren, Windham county, Ct.

That $65 article reads as if people thought the apple was in the windpipe. It was not, but got lodged in the throat where the food goes down. This trouble does not choke the animal, but causes the stomach to bloat until the lungs are so cramped by it as to be useless. No animal could live five minutes with an apple in its breathing pipe. I am a butcher as well as a farmer, and have opened a choked animal.—[E. A. W., Wayne county, Pa.

Use a stiff tug strap, never a stick. Press on it gently and steadily until it appears to move downwards about six inches. Then withdraw the strap and the animal will take care of the rest.—[E. S. Andrews, Litchfield county, Ct.

Use a tug from a work harness to force the obstruction down through the gullet if it cannot first be worked up. Grease the tug thoroughly.—[A. Hale, Erie county, N. Y.

Record of the Times.

Review of Passing Events.

Railroad Wrecks.—The St. Louis express of the New-York Central road leaves Albany at 10 P. M., and runs in three sections of six or seven cars each, ten minutes apart. The first section stopped near Palatine Bridge, 55 miles west, Sept. 27, to repair a steam chest, and the second section, seeing the signal too late, and air brakes failing to work, ran into it. The middle car of No. 1 was telescoped, 4 persons killed and 7 injured. Engineer Horth of No. 2 had both legs broken; his engine was wrecked. The brakeman sent back to flag the train has disappeared.—A suburban passenger train standing on a crossing in the outskirts of Chicago, Sept. 24, was struck by a freight train on the other road; three persons were killed and six injured, chiefly by escaping steam. The freight engineer was thought to be drunk.—Two freight trains collided on the B. & O. R. R., near Harper's Ferry, Md., Sept. 26, and six cars wrecked.—A coal train was wrecked on the R. W. & O. R. R., near Watertown, N. Y., Sept. 26, and 16 cars smashed.

Burned by Molten Metal.—A blast furnace at the Edgar Thompson steel works, Braddock, Pa., gave way at the bottom, Sept. 26, and Captain W. R. Jones, general manager, and six workmen were dreadfully burned by the rush of molten steel; one man was burned to death. Captain Jones was a favorite with the 5,000 employés of the works, and well known wherever iron and steel are manufactured. At the time of the Johnstown disaster he took 300 men there at his own expense and directed the work of rescue for two weeks. He received a salary of $25,000 and a percentage on the mill product of as much more.

Deaths.—Wilkie Collins, the novelist, at London, Sept. 23, aged 65. An associate of Dickens on "All the Year Round," he preserved an originality of work and his earlier books showed rare skill; his later ones power in construction of plots, in concealing and revealing mysteries, and in holding the reader's attention to the end. His chief books are "The Woman in White," "Armadale," "The Moonstone," "The New Magdalen," and "Man and Wife." Mr. Collins dramatized several of his works, and in 1873-4 gave readings in America.—Eliza Cook, the poet, at Wimbledon, England, Sept. 25, aged 71. A contemporary of Mrs. Hemans and Mary Howitt, she wrote for magazines in 1831, published a volume of poems in 1888, and others in 1864-5; in 1840 founded Eliza Cook's Journal, which continued 14 years. Failing health stopped her work in 1864, and the government gave her a pension of £100. Miss Cook wrote "The Old Arm Chair" and other favorite poems.—Gen. D. H. Hill at Charlotte, N. C., Sept. 25, aged 68. A graduate of West Point he served through the Mexican war with distinction; in 1849 became professor of mathematics in Washington college, and afterwards in other institutions. In the Civil war he won the battle of Big Bethel in 1861; was made major-general in 1862, was in the seven days' peninsula fight, and at Fredericksburg; commanded in North Carolina and at Richmond; in 1863 was made lieutenant-general, and commanded a corps in Bragg's army; was at Chickamauga and surrendered in 1865 with Gen. Johnston. Has since been president of the University of Arkansas and the military college of Georgia.—Bradford R. Wood, LL. D., at Albany, Sept. 26, aged 89. Counsellor of the supreme court of this State from 1830; of the United States in 1845; represented Albany county in the XXIXth Congress, as a democrat and anti-slavery man, voting against the admission of Missouri as a slave State; was minister to Denmark from 1861 to 1865.

From Abroad.—The Pope has congratulated Cardinal Manning on his efforts to settle the London strike. General Booth is about to open a Salvation Army campaign in the Argentine republic.—The cotton operatives at Blackburn have resolved to suspend work in order to defeat the object of the cotton corner.—A strike of dock laborers has begun at Rotterdam for an increase of 25 per cent., and higher rate for overtime. Threatening bodies were dispersed by the police. London workmen are sending aid.—The new French chamber of deputies will contain 300 moderate Republicans and 65 members of the Left, supporters of the government. The election of Boulanger and Rochefort have been annulled.—An international congress of Sabbath rest has been in session at the Paris exposition, with Senator M. Leon Say as president, and delegates from all the leading countries, including America. Letters were read from President Harrison and Mr. Gladstone.—The Eiffel tower has already earned over 5,000,000 francs. The prize of £4,000 for the best monument of the exposition has been awarded to the builders of the machinery gallery; all the workmen receive a part. The cross of the Legion of Honor has been conferred on Mr. Edison.—During a terrific storm at Naples, Sept. 25, a large part of the city was submerged.—Minister Phelps presented his credentials at Berlin, Sept. 26, and was given a dinner, 27th, by Count Herbert Bismarck.—A man 73 years old was taken out alive from the Quebec landslide after an imprisonment of 108 hours. He died the next day. Another slide is feared as a new fissure has opened.

Minor Items.

The jury in the Ives case, New-York disagreed.

Forest fires are reported at various points in California.

The Hebrew New-Year of 5650 was celebrated, Sept. 26.

Major Warner has declined the office of pension commissioner.

It is estimated that 5,000 saddle horses are kept in New York city.

The Kearsage has been ordered to carry Minister Douglass to Hayti.

The New-York Daily Graphic went into the hands of the sheriff, Sept. 26

President Harrison and family left Deer Park for Washington, Sept. 27.

Chicago and St. Louis are working vigorously to secure the exposition of 1893.

Massachusetts Republicans have nominated John Q. A. Brackett for governor.

Geronimo and his band of Indians are to be removed from Alabama to Western North Carolina.

The first heavy frosts of the season were on Sept. 23; 18 inches of snow fell on Mount Washington.

The Minnesota beef inspection law has again been decided unconstitutional by the United States circuit court.

The great sailing ship Palgrave left New-York, Sept. 26, for Java, with 1,320,000 gallons of refined petroleum.

The Army of the Tennessee held a reunion at Cincinnati, Sept. 25-27. Generals Sherman and Howard were present.

Lieutenant Charles A. Totten, 4th Artillery, U. S. A., has been detailed to instruct Yale scientific students in military engineering.

Emmons Blaine, eldest son of the secretary, was married to Miss Anita McCormick of Chicago at Richfield Springs, N. Y., Sept. 25.

Belford, Clark & Co., book and magazine publishers of Chicago and New-York, have failed with indebtedness of over $400,000.

Arrangements have been completed for the removal of 25 Swedish families, in two colonies, to Vermont, to take up unoccupied State lands.

An explosion in a Laflin & Rand powder mill at Cressona, Pa., Sept. 26, blew three men to atoms and wrecked the buildings, with loss of $10,000.

The corner stone of the new State armory in Albany was laid, Sept. 26, with impressive Masonic ceremonies. Governor Hill made a brief address.

The United Swedish Society of Connecticut observed the 251st anniversary of the landing of Swedes in America, at Hartford, Sept. 21; 800 were present.

In the recent eastward trips of the New-York and Teutonic, the latter was three hours behind the former, whose time was 6 days, 5 hours, 25 minutes.

The latest novelty in palaces is the coal palace at Springfield, Ill., on the Sangamon fair grounds, built of blocks of coal from the Sangamon county vein.

Delegates to the congress of American nations at Washington from the Argentine Republic and Uraguay were entertained in New-York last week. They came by way of Europe.

A series of historic tableaux in honor of Mrs. Harriet Beecher Stowe was given at Hartford, Conn., Sept. 24, in which 400 ladies and gentlemen took part. Mrs. Mary A. Livermore was historian.

Baseball managers have made much money; baseball players not enough; hence the latter have organized a brotherhood to include the present league players, and divide profits among themselves.

The American Humane Association, in session at Louisville, Ky., will make efforts to obtain laws in the various States forbidding the dishorning of cattle, docking horses' tails, and the shooting of pigeons and other birds from traps.

The new calendar of the State court of appeals contains 335 new causes. There are 500 untried causes on the old calendar which have been transferred to the second division. It will take two years to clear these calendars without regard to new cases.

The United States dispatch boat Dolphin reached New-York, Sept. 27, completing a tour round the world begun Feb. 2, to test her "structural weakness." She went round South America, along the Mexican coast to the Sandwich Islands, China, Japan, East Indies, through Suez Canal to Europe.

Public opinion in New-York gro
against taking any portion of Cent
the exposition. Supt. Parsons an
ated say the trees could not be
they are of native growth, white
pin oaks, pepperidges, chestnuts, hic
many of them 50 or 60 years old.

The Indianapolis Colored Baptist
some of whose delegates were beate
while in cars on the way, has appe
President for congressional aid to
colored people to the West. Rev
Rowe of Charleston, S. C., will pr
Georgia R. R. for ejectment from
car.

The steamer Providence of the
line collided with the schooner Avi
ler's Light, and had 60 feet of gua
staterooms carried away; anoth
floor ripped out and an old lady
dropped through on bags on deck
schooner was considerably damag
captain badly injured by the wheel

New-York Republicans, at Sara
25, made the following nominatio
Gilbert of Malone, secretary of St
W. Cooke of Rochester, comptro
Hedges of Nyack, State treasurer
Varnum of New-York, attorn
William V. Van Rensselaer of S
State engineer; Albert Haight
judge of the court of appeals.

Emancipation day, Sept. 23, wa
at Boston by surviving abolitionis
ter was read from Whittier ap
movement to build a hall dedicate
Phillips and liberty. At Springf
colored people had a parade, a
dressed by John R. Lynch, Gov
Senator Cullom and General P.
negroes of St. Louis also celebrate

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TLEMAN.

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Farm Produce M

Albany Markets—Sep

FLOUR.—The Argus says: Market
trade good and receipts free.

	Sept. 26.	Sept.
Com. State	$3.60@4.05	$3.60@
State Extra.....	4.10@4.50	4.10@
Amb. State & W....	4.05@4.75	4.05@
O., Ind. & St. L. & T.	4.75@4.90	4.75@
Winter W. Pat....	5.25@5.50	5.25@
Minn. "Bakers"...	4.00@4.75	4.00@
Sp'g W. Pat., new.	5.00@6.00	5.00@

Rye Flour—Demand good and valu
@3.35 per bbl.; Graham, $4@4.50.
moderately well at $3.50@4.50 per bbl.
good demand and steady at $3.50@3.75

GRAIN.—Corn in moderate deman
43½c. per bu.; No. 2 mixed, 43c. Oat
mand. No. 2 white, 35@37½c. Rye
State, 54@55c. per 60 lbs.; western, 51@

HAY AND STRAW.—Trade activ
Timothy, prime, $14@16 per ton;
clover, $7@8; mixed, $11@12. Rye stra
oat straw, $7@10; wheat straw, $10.

HOPS.—Market dull; large crops
and in Germany make higher prices
N. Y. State, 1888.....
N. Y. State, 1887.....
Pacific Coast, 1889 .....
Bavarian and Bohemian.....

Albany Street Market—

BUTTER.—Choice, 22@25c. per lb.;
18@20c.

EGGS.—Near-by and new laid, 21@

FRESH MEATS.—Steer beef, hin
per lb.; forequarter, 4½@6c.; mutto
@8; lamb, hindquarter, 10@11c.; fo
10c.; veal, 7½@9c.

POULTRY.—Fowls, 11@13c. per
12@15c. pair; capons, 20@30c. per lb.
spring ducks, 18@20c.; green geese,

FRUIT.—Apples, $1@3 per bbl.; C
1.50 per bush.; Cranberries, $3.50@
Grapes, Concord, 3@4c. per lb; D
Niagara, 10@13c.; Muskmelons, Alba
bbl.; Peaches, $1.75@2.00 per basket
bbl.; Plums, $1.50@3 per bu.

VEGETABLES.—Beets, 40@50c. pe
Cabbage, $1@3 per 100; Celery, 30c.@
ches; Cauliflower, $1.50@3 per doz.;
100; Cucumbers, 50c.@$1 per 100; E
per doz.; Onions, $1.75@2 per bbl.;
per bbl.; sweet, $2.50@3.00; String be
crate; Squash, 75c.@1 per bbl.; To
per bush.; Turnips, $1 per bbl.;
60c. per bush.

New-York Markets—S

BEANS.—Marrow, 1889.....
Medium, 1889, choice.....
Pea, 1889 .....

COTTON.—Uplan
Ordinary, per lb..... 8¾@
Middlings ..... 11¼@
Fair..... 12¾@

EGGS.—State and near-by, per doz.
Western and Canada.....

FLOUR.—Spring Wheat pat., per bbl
Winter .....
No. 2 extra State and Western.....
No. 1 extra.....
Minnesota clear.....
Straight.....
Rye Flour, superfine.....
Corn Meal.....

Boston Markets.

APPLES—Per bbl., Baldwins, $2 00@2 50; Greenings, $2 00@2 50; Russets, $2 00@2 50; Kings, $2 00@2 50; Spitzenburgs, $2 00@2 50; Northern Spys, $2 00@2 50; Ben Davis, $2 00@2 50; Pippins, $2 00@2 50; Sweets, $2 00@2 50; Tallmans, $2 00@2 50; Talmans, $2 00@2 50; Talmans, $2 00@2 50; Tal

The Fireside.

The Sky and Stars.

An article appears in a late number of the (London) Contemporary Review, giving much interesting information on the magnitude and distances of the stars, according to recent observations. The spaces between our earth and the nearer fixed stars had been approximately ascertained many years ago, by the use of accurate astronomical instruments used by skilled astronomers, on opposite sides of the earth's orbit, that is, from points of observation one hundred and eighty millions of miles apart. Improvements have been made of late years in the instruments, so that more accurate determinations have been made, and the list of stars whose parallax has been thus ascertained. Among some of these determined distances and magnitudes are the following:

Canopus, a bright southern star, cannot emit less, and may emit a great deal more, than fifteen hundred times the light of our sun. Sirius has been shown to be at such a distance that its light occupies nearly nine years in reaching us. Its real brightness is that of sixty-three suns. Some of these stars, to shine as they do, from unfathomable depths of space, must be objects of astounding splendor.

The speed of the solar system through space is equal to 500,000,000 of miles annually; and a collision between our sun and the nearest fixed star, if they were directed toward each other continuously, could not take place in less than 30,000 years. Some of the fixed stars are seen by long continued and accurate observation to be moving through space; and one known as "183 Groombridge" which sweeps onward at least 200 miles in a second, would require over 200 years at this rate to pass apparently a distance equal to the breadth of the moon! One of the stars in the constellation Cassiopeia, is 40 times as luminous as our sun, and travels 300 miles a second. But for whole centuries there is but a slight displacement of its position. This enables us to appreciate very faintly its immense distance.

Tyrolese Gleanings.

A sojourn of two months in Northern Tyrol has given us opportunity to acquaint ourselves not only with the beauties of the landscape, but to become somewhat familiar with the habits and customs of the peasants. With what astonishing industry is the land tilled and the steep mountain sides forced to yield a harvest! Upon what dizzy slopes is grass cut and grain gathered! Nature with her kind law of compensation has provided a rich soil which readily responds to the care bestowed upon it, and the country has a thrifty look most gratifying to see.

Twenty or more years ago, the wealth of this people was in their cattle, which are reared with great care. Certificates as to purity of breed are kept, and the cattle then were mostly driven to Russia, where big prices were obtained for them. But the long journey (railroad communications were not had then) injured some and killed others, so there were heavy losses attached to this business. At the same time many peasants obtained considerable wealth and the exportation continued, until England began to ship live stock which sold for less than the Tyrolese could afford to theirs, since which time trade in this direction has decreased. Although there is no regular form of registration as in our various cattle clubs, the Tyrolese stock is kept unmixed, and one who is fond of Jerseys will admire the beautiful cattle here, which resemble them so strangely. They have the favorite colors, fawn or golden brown with darkening shade about the neck, the black tongue and switch, rich yellow skin, large intelligent eye, small shapely limbs, and in size are also like the Jerseys. To see these beautiful creatures dragging a plow or a heavy load of hay seems disrespectful treatment of what we are educated to consider superior beings.

The Tyrolese peasant has no opportunity to receive weekly instruction through the columns of a valuable journal like the COUNTRY GENTLEMAN, or to exchange ideas with others outside his neighborhood, upon the improved methods of agriculture or advanced ideas concerning the care of stock.

Realizing the necessity of supplying such education, the Austrian government provides traveling teachers, who are graduates of the State Agricultural College in Vienna and receive the position and salary of other professors. These go in the winter through the different provinces, lecturing and instructing the peasants. A notice posted upon the churches of the district, several weeks in advance of the date chosen, results in a large gathering in the "gastzimmer" or bar-room of the inn selected. From all villages in the district come those who enjoy a social evening, and above all their beer or native wine with pipes. And here the lecturer addresses them, giving information and answering questions. The older generation stubbornly resists all modern innovations, and lively discussions are often held. In many parts of Austria, in the grain-growing districts, the bitter opposition to the introduction of machinery, reminds one of the serious time in England many years ago, from the same cause.

At San Michael in Southern Tyrol not far from Botzen, is a flourishing school established about twenty years ago for instruction in vine growing, this being the industry of this region. The price of tuition is reasonable, and the government offers free scholarships to a certain number who stand highest in the grammar schools of the district. Here are competent, practical instructors, who teach all the needful points regarding the successful growth of the grape, from the preparation of the soil to the best methods of picking and handling the fruit. Here, too, the same opposition from the more ignorant peasants was met with, at first, and many who were well-to-do refused to avail themselves of the privilege of sending their sons to this school, declaring it a needless expenditure since, without such teaching, they had gotten on well enough. But nearly a quarter of a century has passed since the establishment of this school and the method of sending traveling teachers through the land, and a new generation has come to the front. Even in Tyrol, where free thought is not stimulated and progress is discouraged, there are many signs of advancement. In spite of fettered conditions, we see by these few "gleanings," that the world moves even here, and the truth is slowly being recognized that scientific and practical agriculture are not antagonistic, but are helpful each to the other. A. M. L.

Steinach, am Brenner, Tyrol.

Camp Life in the Rangeleys.—I.

"Where are the rest of the boys?" "I heard them go out a few minutes ago, and I guess they're getting breakfast," was the answer in a sleepy voice. At this the first speaker got up and left the tent, while his companion roused himself enough to pull out a peculiarly hard stick from under him, then roll over for another nap, from which he was awakened half an hour later by a loud cry of "breakfast." He crawled out, rubbing his eyes, and proceeded to strip off extra coats and overcoat in preparation for breakfast—a reversal of the usual process. Five minutes after the whole party, six in number, might have been seen seated around a rude table, enjoying a breakfast, of which fried trout, boiled potatoes, oatmeal and excellent coffee formed the principal features.

While they are eating let us improve the opportunity to look around a little. As we come out of the tent we find ourselves directly on the banks of a little brook, which here winds slowly through the clearing to the lake, only a few rods distant. If we listen we can hear the rush of the water as it tumbles down through the woods behind us. Only a rod or so from the tent is a great "shakedown," a sloping shelter built of poles and covered with evergreen boughs. In front of that burns a brisk fire, and at one side is a rough table supported on poles, a home-made affair, but very useful.

Such is our camp in the Rangeleys. It is pitched in a little clearing where the grass comes up to one's shoulder—a beautiful spot with the hemlocks coming down within a few rods of the brook sweeping along in front. Winding up through the clearing is a narrow trail grown up with weeds and bushes, so faint one might lose and find it again a dozen times in going a mile. Looking toward the east beyond the camp the eye runs over an unbroken forest where the dark green of the spruce and hemlocks is dotted with the lighter hue of the maples and birches. Beyond it all one sees the peak of a distant mountain, clear cut against the sky, with the sun just peering over the summit.

Turning around to the southward we find a dense tangle of dead trees stretching closer to the base of the mountain. From the gray branches hang long streamers of moss of the same sombre hue. Many of the trees are still standing, but in among them is a perfect network of fallen trunks crossed and twisted in the most hopeless confusion, while one shudders as he climbs along some half decayed log at the black ooze beneath, which is only half hidden by its beautiful carpet of moss. These are trees which have been killed by the rise of water in the lake flooding the level ground which used to form its shore. Further around to the west there rises a bold point capped with a dense covering of pines, and beyond that is a sandy beach sloping up to several acres of rather marshy ground, which from the point through its outline can be traced for half a mile out into the lake by the bare stumps of the submerged trees. The mist still hangs low over the water, though it is slowly rising, and each moment revealing new glimpses of mountain and wood. Look in whatever direction you will and you see only woods. There is no sign of life, except now and then a duck goes sailing by out toward the point.

The woods are grand, but they would give one a sense of loneliness if it were not for the jolly crowd at the table. If you want to know how it seems to be lonely, try staying in camp alone as evening comes on. After the sun gets low the shadows lengthen fast, and after it sinks behind the mountains across the lake, darkness comes on speedily. One by one the distant points grow indistinct, and fade from sight. The stillness which had not impressed you during the day becomes oppressive. You stir the fire and sit closer to it, listening for the return of the boys from up the mountain. All at once there is a rustle in the bushes near the fire, and a scamper of feet. You start involuntarily, but conclude in a minute that it was only a fox. A sudden splash a few rods further down the brook, mingled with the squawking of a duck, tells you your guess was right. Again all grows still, and just as you are listening intently for the sound of voices, there comes from across the lake a weird, long-drawn-out, almost human cry. It is hard to believe that it is only a loon. If you are like most fellows you will be delighted by this time to hear the unmistakable sounds of the returning party, and to learn that nothing worse has befallen them than that they had lost their way in the woods, and could not find the trail.

In striking contrast with such an evening were some that we spent lying in the "shakedown" before a huge fire of pine logs luckily left behind by some lumberman to fill up a bad place in the trail. Then the cry of the loon does not sound half so weird and mournful as we talk over the day's fishing, and when all have grown tired of talking, "Cap" breaks out into a song and makes the woods ring with the "Ark" or some other jolly bit he has learned from his colored sailors in "ole Virginny."

Perhaps some of my readers have been wondering in what part of the Rangeleys our camp was. Of course the lakes themselves are too well known to need description. They are in Western Maine, and their outlet is through the Androscoggin river. We were on Metalne brook, near the foot of lake Molechunkamunk. As a camping spot it is perfect. The brook enters the lake just north of Metalne Point, by the sandy beach I spoke of a few minutes ago, though the point is now mostly under water. For many years it was the home of an old Indian chief and his squaw, and from him it took its name. Later a farm was established there, and for years the old barns formed a landmark to the few sailors on the lake, but all that now remains of them is a small pile of brick just visible above water, and a few decaying timbers hidden in the grass on the point.

It would be a pleasure, did time permit, to sketch for my readers some of the scenes in camp, but we must pass them by. Suffice it to say that we took no guides, nor had we need of any. We did our own cooking, washed our own dishes, and caught our own fish. At night we turned in on a bed consisting of small evergreen boughs piled to a depth of two or three feet. However nice they may be in a story they do get wonderfully hard before morning, when one really has to sleep on them.

One experience I must find room for. The first night, when we came to turn in, we found that one of the party who was not used to camping in the mountains, had brought—say it softly—a couple of nightshirts, and though he did not use them, did partly undress before crawling between his blankets. The writer had learned better by experience, and so put on everything even to hat and shoes. Then with a pair of rubber boots and an old coat under his head, and blankets well wrapped around him, he was fairly comfortable. But before long it began to get cold, and it grew worse, till at last we could stand it no longer, and at one in the morning all hands turned out, and for an hour sat by a roaring fire. Then we turned in again, and by "doubling up," and utilizing all our clothes, managed to stand it till morning. The next day we banked up the tent for two or three feet with boughs, and suffered no further trouble, though after that night there was a general call for coats and hats, at bed time. If any of our party visit the lake again, a very important part of their luggage will be blankets. Some authorities advise sleeping in a shake-down such as we have described, but it must be hard work to keep warm all night, even with a fire burning in front.

In another article it is the writer's purpose to tell you something about the fishing and game at the lake. Only the other day the statement appeared in a prominent daily that the Rangeley lakes were now little more than a waste of waters, but the writer of that did not know what he was talking about. No better fishing and hunting could be asked for anywhere. L. H. J.

Rocky Mountain Notes.

There are some plants native to this region that seem to me of great value and worthy of introduction through the East.

The Box Elder.

These are common trees here growing along the streams at an altitude of some 5000 to 6000 feet. Below that it is almost too dry for them to succeed under natural conditions. Our farm is some miles below the natural box-elder limit, but seeing what beautiful shade trees they were, I pulled up a lot of seedlings in the spring of 1888 and planted them around the house and along the road. They were about 18 inches high when planted and made fair growth last year, being not far from 3 feet high this spring. This year they have grown from 4 to 8 feet, straight as arrows. This fine growth was largely owing to my pinching back all shoots but the leaders, causing them to take most of the sap. They have more than doubled the growth of catalpas planted alongside, and have far surpassed cottonwoods. They have been pretty freely irrigated, but are in sandy soil not very fertile. The tree grows to be about 40 feet high, with dense spreading head and clean-looking limbs and foliage. The wood is good fuel, straight grained, easily worked, but here seldom forms large enough trunk for sawing.

The Buffalo Berry.

Every year I more highly prize this fruit which grows wild here along the creek banks up to about 6000 feet. It is a spreading shrub from 6 to 10 feet high. The fruit begins to ripen in July, and is in its greatest perfection now. The berries much resemble currants, except they do not grow in the same kind of clusters. They are enormous bearers, excelling any berry fruit I have ever seen. We prefer them raw with sugar and cream, though they make good jelly and pies. They are so very hardy and indifferent as to soil or drouth that I believe they would live anywhere, and were I a nurseryman, I should make them a specialty, and get them generally introduced. They are very ornamental when covered with bright red fruit.

Rocky Mountain Blue-Grass.

We have a great deal of this most excellent grass on our range, and every year I more highly prize it. It grows where the soil is too dry for any cultivated grass to grow, and no drouth has ever killed it here; let the rains come never so late they find it alive, and soon it is green again. It is excellent pasturage, grows plenty large enough for hay, and makes a very good quality of hay. But for dry pasture lands in the East, where the Kentucky blue-grass fails to do its best, this I am sure would be fine. The seed is large and easily gathered. If B. F. J. will give it a trial, I will gladly send him some seed.

Free Lands for Ranchmen.

Mr. C. O. Newton wants the ranchers to pay rent for the use of Uncle Sam's children's lands—a good idea and exactly what we want the privilege of doing. Of course, Uncle Sam

could not rent the same land to two or more parties; thus we would acquire temporary title to our ranges, and our cattle would be sure of their winter feed, whereas now the cattle men crowd each other and the sheep crowd everything. Sheep will starve cattle to death, and they are fast taking all the ranges of this part of Utah. (They have already made desert the other parts). At present the cattle men are powerless to protect themselves though seeing certain loss and ruin ahead. Uncle Sam should charge a high rent for ranges let to sheep, for they soon destroy every vestige of grass or other edible plant, leaving only sage brush and noxious weeds.

Please do not think, dear eastern friends, that our cattle are ranging on any land that even "Uncle Sam's children" can ever live on. Our herd numbers not quite 2,000 head, ranges on some 100,000 acres of land, of which scarcely 1,000 can by any practicable system be reclaimed from the desert, except the high mesa where they summer, and where the grass grows green and rank; the frost comes every month in the year, and the winter winds heap the snow to incredible depths, to lie till June—or later in the big drifts. J. E. WING.

Hunga Valley Ranch, Utah, Sept. 10.

Celandine and Poison Ivy.

ED. COUNTRY GENTLEMAN—In your issue of Sept. 5, page 680, you ask for flowers of celandine, which I am unable to send, as it is too late in season and not obtainable. If W. W., Ennis, Tex., will send me his address, I will send him some of the leaves and stalks, dried, if he thinks it worth while to pay the express charges. Think they are not obtainable in drug stores. I find in Gunn's "New Domestic Physician" the following description of the plant: Celandine (*Impatiens pallida*), more familiarly known as touch-me-not. This is a tender, succulent plant, growing in rich, moist soils to the height of two to four feet or more, with numerous branches, and joints where the branches come out. Stalk of a watery, transparent appearance and quite full of juice. Flowers of a light yellow, with spots of dark orange, hood-shaped, followed by pods which if touched or squeezed fly in pieces and scatter the seeds in all directions. Hence the name of touch-me-not. Medical properties and uses: This herb is considered a good remedy in jaundice, and also a valuable diuretic in cases of dropsy, to be drank freely in decoction. The juice of the green herb, however, is most commonly used as a remedy for tetter, ringworm, and to remove warts, and for cleansing old and foul ulcers, and as a poultice, made by boiling the herb in sweet milk.

There is no doubt of its efficacy for poison ivy. Persons whom I know well, tell me they have used it as a tea in kidney and liver troubles with wonderful success. It grows plentifully along the river banks, in shady places, in this section. C. S. L.

Chenango County, N. Y.

The Ten Travelers.

Ten weary, footsore travelers,
All in a woeful plight,
Sought shelter at a wayside inn
One dark and stormy night.

"Nine rooms, no more," the landlord said,
"Have I to offer you:
To each of eight a single bed,
But the ninth must serve for two."

A din arose. The troubled host
Could only scratch his head,
For of these tired men no two
Would occupy one bed.

The puzzled host was soon at ease—
He was a clever man.
And so to please his guests devised
This most ingenious plan;

A	B	C	D	E	F	G	H	I

In room marked A two men were placed,
The third was lodged in B,
The fourth to C was then assigned,
The fifth retired to D.

In E the sixth he tucked away,
In F the seventh man,
The eighth and ninth in G and H,
And then to A he ran.

Wherein the host, as I have said,
Had laid two travelers by,
Then taking one, the tenth and last,
He lodged him safe in I.

Nine single rooms, a room for each,
Were made to serve for ten;
And this it is that puzzles me
And many wiser men.

The explanation of the above puzzle, which we find credited to the Pittsburg Bulletin, is very simple though it may not at first sight occur to the reader. If man No. 1 and man No. 2 were the only ones placed in room A, man No. 10 could not have been taken from there to room I. Obviously, therefore, there must have been three men originally there, or else one of the three was "left out in the cold."

Domestic Economy.

Advice about Chimneys.

In the fall of the year, or on the approach of cooler weather, farmers ought to be interested in rebuilding their chimneys, or in providing flues for their new houses. There are certain precautions which should always be observed, the omission of which are fruitful causes of the house burnings in various parts of the country, where wood is used for fuel. Anthracite coal is less dangerous, but it is well in any case to exercise proper caution. For burning wood, the chimney should be as nearly straight as practicable, to admit the easy cleaning of the soot, often enough to prevent large accumulations, and large enough to prevent ever becoming choked, say sixteen inches square, or at least twelve by sixteen.

Great care should be taken that the chimney should never rest against beams or rafters, for two reasons: The timber becomes dry and shrunken by the warmth of the flue, and if it rests on a joist or beam, the shrinking away settles the brick-work and causes cracks, through which sparks or burning soot may set the house on fire. It is better for this reason never to build a chimney on timber, joists, or any wood support, but from the cellar up; and then if it never is very near to any wood at the sides, there will be no danger of cracks by settling.

Special caution should be exercised with stove pipes. These become hotter than brick chimneys, and being better conductors, communicate the heat more freely to any combustibles nearer them. They frequently become red hot, when a hot wood fire is burning in the stove. They should never be nearer than a foot to any wood; eighteen inches would be better. If the soot is allowed to accumulate largely in them, they become dangerously hot when the soot catches fire.

Stove pipes should therefore be frequently cleaned; and chimneys require the same care. A good-sized straight flue may be readily cleaned by tying a compact bundle of twigs of the right size to fit the chimney, to a rope, and letting it down from the housetop, adding a weight to it if necessary. Running it up and down a few times will clear the soot. Many houses are burned by neglecting this cleaning, cinders and soot on fire tumbling out of the chimney top on the shingles and setting them on fire, out of the view of the occupants. We have seen the flames from such a neglected chimney rushing out ten feet high from the top, with a roaring noise heard a quarter of a mile distant, and requiring great vigilance to save the house from burning. Some owners have been in the practice of setting the soot on fire from a bundle of straw to clear the soot, selecting a time when the roof was wet with pouring rain or covered with snow.

To prevent so rapid an accumulation of soot, some owners use clay instead of lime for laying the brick inside the house, and plastering the inside with clay mixed with a portion of salt. The top or exposed portion, built of the best hard brick, is laid in cement.

The danger from burning anthracite coal is many times less than with wood, as combustible soot does not form in such quantities; but as wood is often used for kindling and starting the fire, it is liable to more or less danger.

A Chapter on Pies and Tarts.

VINEGAR PIE.—Take one egg, one tablespoonful of flour and one cupful of sugar; beat well together; then add one tablespoonful of sharp vinegar and one teacupful of cold water; flavor with nutmeg or cinnamon, stir well together and bake with upper and lower crusts. If the vinegar is not very sharp, take two spoonfuls. This receipt makes an excellent tart pie, and can be quickly made in case of emergency.

SWEET POTATO PIE.—Boil potatoes till quite soft, peel and press through a sieve or colander. To one pint of potatoes add one pint of milk, three eggs well beaten, and one and a half cupfuls of sugar; flavor with ginger or lemon. This pie resembles the old-time pumpkin pie. It is baked with one crust only.

Transfers of Unregistered Cattle.

Ayrshire Breeders' Association.

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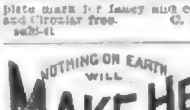

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THE CULTIVATOR
AND
Country Gentleman

Albany, Oct. 10, 1889.

Feeding-Crops for Small Farmers.

ENSILAGE VS. BEETS—FAILURE WITH STRAWBERRIES—EFFECT OF SPECIALTIES ON LABOR—FALL CROPS.

EDS. COUNTRY GENTLEMAN—I was very much interested in one of the reports of the Ohio State Experiment Station comparing the relative value of beets and corn ensilage. I am so circumstanced that I cannot grow either clover or meadow hay to any extent, as the land not in berries is in process of rotation to plant berries, and therefore in hoed crops. Clover is most successfully sown in wheat, which I do not wish to grow, and requires tools in gathering, that are expensive to buy and not easily borrowed when most needed. Besides, haying comes when I am more than busy with strawberries; so if I was ever so anxious to grow it, there are three convincing arguments to shut me out. As a forage crop therefore, I am compelled to grow corn, feeding it to the two head of cattle and two horses. I keep buying hay in the spring and using a little for a change in winter, but there is a trouble with corn fodder, and that is, the difficulty of keeping it after the middle of winter, and the great deterioration of quality after that period. When feeding the miserable stuff along in March I have envied those successful silolists who have solved the problem of making corn fodder hold its own for an indefinite period.

Should I increase my cattle and build a silo? Good judges think it would pay with five cattle, but this would send me on two daily trips to the cheese factory, and put another iron in the fire for which I have neither taste nor training. Then, like clover haying, it required special tools, either owned or hired, and the work must be done at the right time, even if pears and peaches rotted on the ground—so the silo was not to be thought of.

Then I thought of substituting beets for potatoes, which I never have been able to make profitable, but which I have grown in connection with raspberries the first year because corn shades the ground and injures the raspberries in cutting. Beets, like potatoes, could be harvested after Smock peaches and Duchess pears are gone and apples picked, and with abundance of cellar room I could keep them much easier than the bulky corn fodder. It was, therefore, with a peculiar personal interest that I read the report referred to, and from which I take the liberty to quote:

Another point which has a very practical bearing upon the question under experiment is the relative cost of the two kinds of forage.

The previous pages of this bulletin show that we were able to produce 14 to 19 tons of ensilage corn per acre upon rich bottom land. On the same land we expect to raise about as many tons of beets. The corn probably yields a somewhat larger quantity of dry matter per acre than the beets, unless some way can be devised for utilizing the tops also of the beet crop. There is some loss of the dry matter of the corn in the silo; we have not yet succeeded in inducing our stock to consume all ensilage given them; and our one experiment indicates that the dry matter of corn ensilage is somewhat less effective as a food for milk production than that of beets.

So far, therefore, as we are able to judge at present, we can produce about the same quantity of potential cattle food from an acre of land in the form of corn ensilage as in that of beets.

We are not yet sure that the cost of production will be the same. Beets as well as ensilage corn are expensive crops to handle. Both require land that is either naturally very rich or that has been artificially enriched in order to produce profitable crops.

Our experience leads us to believe that beets will require a relatively heavier manuring than corn in order to maintain the yield. In other words, the beet crop is an extremely exhausting one on the soil.

In respect to the relative labor cost of the two crops, we are yet in doubt. By judicious management we believe that the labor cost of producing the beet crop may be brought down nearly or quite to the cost of producing a corn crop for ensilage by the time all the necessary expenses of cultivation, harvesting and housing are counted, but we are not yet prepared to offer any demonstrated facts in support of our theory.

The results of this experiment point to two conclusions, which we believe will be confirmed by further experiment. These are:

1. The dry matter of corn ensilage and of field beets is at least equal in value to the dry matter of the better grades of stock feed in ordinary use, when fed in properly adjusted rations.

2. Corn ensilage is slightly superior to field beets as a flesh or fat producer, and beets are slightly better than corn ensilage for milk production.

This last conclusion exactly tallies with the results obtained a number of years ago by one of the best young farmers in Tallmadge. He was engaged in raising fancy beef cattle in the days when there was a market for such, and he raised each year a half acre of beets. Finally he stopped growing beets, and gave as a reason that with the average Northern Ohio climate he could raise more fat-producing food, with less expense, in corn. As regards the point of heavy manuring for beets, this is rather in favor of the strawberry grower than otherwise, as the most successful producers of this fruit are market gardeners, like J. M. Smith, who get at least a part of their success from the supplementary value of the manure used in growing vegetables. My own experience all goes to show that berries are more successful in following vegetables than after grain, and have learned, to my sorrow, the present season, that three successive crops of corn leave an ordinary soil pretty much exhausted of strawberry food.

I am not the only one who has learned in the dear school of experience, however.

A life-long grower of strawberries, with a national reputation, living in this county, has had some in another direction. In the spring he rented six acres of sod ground, at $10 per acre, three of which he put into strawberries (many of them new, high-priced varieties,) and the remainder into potatoes. Both received the best cultivation, and the result is so near a failure as probably to result in the plowing under of the strawberries, and in not digging the potatoes. The cause is the white grub, which are almost countless in number, and since the last of July have eaten many full-grown potatoes, leaving just a hole in the ground, with sometimes a thin shell of potato.

In telling me of it, the man mentioned one curious fact in connection with renting land. Within the corporate limits of Cleveland a friend of his is renting good market garden ground for $8 per acre, while near the little village of Cuyahoga Falls none can be had short of $10.

At this writing (the close of September) the owners of silos are straining every nerve to get them filled before the frosts, which are nightly expected to nip their fields. Although the owners of silos number probably less than one in twenty-five of the farmers, the sudden rush for hands has raised the price of labor, and last week several silolists around Kent were paying $2 per day for help, when shortly before $1.25 was the going price.

Specialties do first rate as long as only here and there one engages in them, but when a considerable share of the community turn their attention to one crop, and that requiring a large amount of hand labor, a corner in labor is the result, and more or less friction or loss ensues. Last spring two or three large potato-growers in Tallmadge, with small families, monopolized all the available help to cut potatoes, and when they got in a rush to dig, will again need to have all the surplus, and perhaps pay a premium therefor.

Potatoes will probably be far from a large crop, and at present quickly bring 50 cents per bushel. Late varieties, which should be green and growing at this date, are dead with the blight, and this condition is not confined to Northern Ohio. In a recent ride of nearly a thousand miles by daylight, I did not see a single live potato vine.

Corn is less than half a crop of ears, and ensilage on good soil two-thirds of a growth. Those who planted on fields yielding heavily last year are badly left. One field partly weighed last year, so that I considered the estimate of 26 tons per acre within the truth, this year is hardly worth cutting, except on a narrow strip heavily manured.

Summit County, O. L. B. PIERCE.

Excluding Earth from Drain.—In reply to A. O. T. of High Bridge, N. J. (p. 739) I would state that the upper end of his tile drain should be closed by a piece of stone or tile so as to exclude the entrance of earth. This stone or tile thus placed will allow the free entrance of water, as the joint cannot possibly be made tight enough to exclude it. A little sod, straw, or hay over each joint along the line of the drain will prove beneficial in excluding silt. Fill over this carefully with fine earth, tramp for at least six inches over the tile and at the sides, thus making a bed of earth, which will not be washed away by a freshet. The rest of the ditch can be either plowed or shoveled in without firming the earth as before mentioned.

Oceanic, N. J. J. B. P.

Autumn in Northern Illinois.

EDS. COUNTRY GENTLEMAN—As with you in the East, the early part of September was unseasonably warm, but for the last four days we have had a great change, two light frosts previously, and this morning a killing frost, thermometer 33°. The corn crop is a heavy one, but much soft corn, which matters less, as most of it is fed here. Oats and rye very good, old corn, 30c. per bu; oats, 16c. More hay and of a better quality has been saved than ever before, and the aftermath of clover was uncommonly heavy—farmers did not know what to do, with their barns already full; it could not find purchasers at $3 per acre, and much was plowed in, which must pay better than $3 per acre. The heads too were remarkably well filled, and clover seed should be abundant. The usual result of a heavy hay crop is to be seen in the careless way straw has been put up, and the small amount of corn fodder cut. As yet we have no silos among us.

Cattle are still very much depressed; milch cows are quoted in Chicago from $14 for common to $50 for choice—here, steers are bought at $2.25 or $2.50 per cwt. according to weight. A neighbor who refused $3.25 last fall for his steers cannot now get $3 for fat (grass) cattle—weight, 12 to 13 hundred. It is claimed that the syndicate of packers headed by Armour & Co. of Chicago are to blame for this state of the cattle market, and the congressional committee are now inquiring into it, but it is difficult to see, even if so, how persons can be prevented from controlling the market, and it must end like the attempts of Pennsylvania and other States to exclude dressed beef. The laws of supply and demand alone can help us.

Those who are fortunate enough to have made contracts with the condensed milk factory are doing well with their cattle. The first month my cows averaged $6 each, with milk at 90c. per 100 lbs., and I understand the next contract will be at the rate of $1.80 per 100 lbs.—they furnish cans and cooler. The factory is now running at only one-sixth of its capacity, and they will take no more cows in at present, nor allow those who have contracted for a certain number of cows to buy any more to keep up their quota of milk unless they sell a corresponding number of those they have. That is a wonderful invention, the Swedish butter extractor, described in your journal of the 19th. Should it work as well as described it should make an absolutely pure butter which would keep in any climate, and enable us to compete with the Scandinavians for the East Indian and other tropical butter markets, of which they seem at present to have the monopoly.

But before dairying or any other branch of farming come the products of the garden for profit if vegetables can be sold at almost any price, and there is a charming variety which lends a fresh interest to the pursuit every day. It is just the thing for an old man when age begins to stiffen the limbs, and who, the fire and impatience of youth gone, can afford to be painstaking. In these western towns to almost every house a garden is attached which makes the demand for vegetables most uncertain; one year they will be high and scarce, and then every one will raise them. Quantities, too, are at times shipped in from Chicago on speculation. For some years I have been selling to the grocers in Dixon, guaranteeing them against loss by taking back all unsalable vegetables, and in this way have got pretty much the control of the market, but it is surprising how small the demand is for a place of some six or seven thousand inhabitants. Yet stoves and canned fruit and vegetables rule the market, and are revolutionizing the kitchen.

One has to wage unremitting warfare with insect foes of many kinds, and since the

weather of last winter they came out this spring in great numbers. First in order were the cut-worms, and with them, to me, a new foe to them—a black predacious beetle, which has the singular habit of burying himself, tail downwards, in the ground, with his formidable nippers just appearing at the surface about the cut-worms' haunts. The striped bugs come out swarm after swarm, devouring the cucumber and melon plants. All the usual remedies failed, and we had constantly to replant; but the most annoying of all is the cabbage butterfly, and a more harmless-looking insect does not exist, as it takes its erratic flight from flower to flower, or from cabbage to cabbage, scarcely pausing to deposit an occasional egg, that quickly hatches into one of those disgusting grubs which, like the harpies that alighted on the tables of Æneas and his followers, made foul what they did not devour. The Colorado beetle came out early in greater numbers than I had seen it for years, but the cold, wet weather in May destroyed them all before they did any damage, and I have seen but one beetle this fall; but for me they might as well have eaten the vines, for the potato crop was immense, selling for 25 cents per bushel, and they rot as fast as dug.

Huron, Sept. 21. J. T. L.

Clover in Southern Ohio.

EDS. COUNTRY GENTLEMAN—There is an unusually large acreage of clover being cut for seed in this locality, but as a rule the yield of seed per acre is light, few fields making more than a bushel to the acre. Last year there were fields that threshed out 5½ bushels, which is considered a heavy yield, although in one or two cases I have known of 7 bushels to the acre being produced. Usually the best yield comes from cutting the first crop early, but this is reversed this year, as the blossoms did not fill well on fields cut the first week in June, while on those cut a month later the the heads are found full of seed. It is the almost universal custom to thresh clover seed directly from the field, but this results in a great loss of time, for at this season of the year the dews are often so heavy that under the most favorable circumstances the machine cannot start until well on to noon, and if there is even a very light rain followed by cloudy weather the machine may be forced to stand idle for days, and cases are not rare where the farmer loses his crop after having cut it because he cannot get a machine until so late that the clover will not dry out. It seems impossible to stack clover so as to keep it dry, unless the stacks are covered, for the rain will run through it just as it would through a brush heap, and wet the stack to the bottom.

I have been experimenting some in stacking and covering the stacks, and find that it can be done with little trouble, and so as thoroughly to secure the stacks from wet. On Sept. 21 I built a stack 25 feet long and 20 feet wide, putting eight large loads into it, and we could have easily carried it up high enough to take four more loads. We built the stack up with straight sides, not drawing it in at all, and with the last load we built the east side four feet higher than the west to give the slope for the roof. About one foot from each edge we laid a board a foot wide on top of the stack lengthwise, to support the roof boards, and enable them to settle all alike with the stack. The boards were then laid on double, breaking joints with the second course, and to keep them from slipping off, one 8-penny wire nail was driven through each board at the top end. It took three men exactly 30 minutes to put on the roof, one man on the stack placing the boards and driving the nails as fast as two men could pass them up to him.

To encourage farmers to put up their seed-clover so that it can be threshed early in the morning or immediately after a rain, our machine men make a reduction in the price to those who do this. By making our stack but twelve feet wide and using boards sixteen feet long, the roof projects enough to protect the stack from the drip. One of my neighbors has thatched a stack with rye straw in the English fashion, but he tells me that he found it a slow laborious job and will not try it again. I see no reason why a stack built with straight sides like mine, could not be perfectly protected with corn fodder bound in small bundles. The bundles should be laid on in layers just as you would lay shingles, and enough courses so as to make the roof about three feet thick, and the top course should be held in place by passing a rope over the stack and securing it to stakes at the ends of the stack. I would not care to risk a stack out all winter topped in this way, but I know that that it could stand a heavy rain or two without getting wet through. I would, however, advise every farmer who expects to grow clover seed to any great extent, to build barracks to store it in, and I intend to do this. I shall build convenient to the barnyard so that we can set the machine to run the straw directly into it, and shall first fill the barracks with wheat, and thresh it before we cut the clover for seed. If I had had barracks this year my clover straw would have made pretty fair feed, for we had very hot, bright weather, which cured it perfectly without any rain, but in the hope of getting a machine, I left it out until the rains blackened it so that it will be good only for fertilizer.

I think the best use to which we can put the chaff after threshing the clover is to spread it on the wheat for winter protection. If, as is usually the case, the clover has lain out in the dews and rain for two or three weeks, the machine cuts it all up short so that it can be spread evenly. We shape it up into a nice stack as it comes from the machine, and top it with some straw or long hay so that it will not be wet and frozen when we want to use it, and the first time the land freezes so as to bear the team we spread it on the wheat. In this use of it we not only get good winter protection for the wheat, but also the fertility from it. Quite a light dressing of it will largely prevent the alternate freezing and thawing late in winter and early spring, which is so disastrous to wheat.

I find that many farmers are of the opinion that growing clover seed is exhaustive of the soil, while pasturing or even cutting it for hay is beneficial. A careful study of the subject leads me to conclude that they are mistaken, and that allowing the crops to go to seed gives me greater fertilizing value from it than is ordinarily obtained in any other way. I reason thus: Clover benefits the soil in three ways. 1. The roots run deep into the soil, favorably affecting its mechanical condition and bringing up plant food from below where the plow can go; then by their decay in the soil furnishing this material to the plants in a condition available to them. 2. The dense shading of the soil favors chemical action, and by nitrification changes the plant food in the soil into more available forms. 3. When we can leave a large part of the top growth on the land we increase the humus in the soil, and still more improve its mechanical condition. Now, I am sure we get the greatest possible growth of root when we allow the clover to grow to its full development. We all know that the land is better shaded when it grows a seed crop than when pastured, and I find that in cutting it for seed and in curing the crop we leave a large per cent. of the straw and leaves on the field, and after it is threshed it is available to return to the fields. It is a fact also that the plant in maturing seed takes nothing from the soil, but draws on the material which has been stored up during the period of growth for this very purpose. WALDO F. BROWN.

Butler County, O.

The Profits of Agriculture.

Mr. EDWARD AUSTEN of Glencoe, Md., at the request of the editor of the Baltimore Sun for his views on this question, has written to that journal an interesting letter from which we clip the following:

Replying to your inquiry "Does Farming Pay?" I would say that when farming ceases to pay it will be a sorrowful time for those who live in cities, not excepting the publishers of as good a newspaper as the Sun. Of course there are periods, longer or shorter, when certain crops cease to pay, or even show a loss in some sections of the country; but take the country as a whole, farming pays. Just at present there is much to discourage Eastern farmers who continue to raise wheat and corn in competition with the great farms of the West, where they have a virgin soil, requiring no fertilizers, and where expenses can be reduced to a minimum as soon as harvest is over; but the Eastern farmer, who is obliged to raise some wheat in connection with grass crops, may find a little consolation in the fact that this competition is growing less severe every year, as the wheat and corn properties of these virgin soils are being exhausted. When the far West is obliged to fertilize the land in order to procure a paying crop (and this necessity has already passed beyond the Mississippi river), then the Eastern farmer will have the advantage for export.

We have in this part of Baltimore county a rolling, well-watered country and a soil that responds promptly to good cultivation. I include in the latter a judicious use of commercial fertilizers and lime, with a proper rotation of crops. Our farmers, as a rule, are intelligent and industrious. They raise mixed crops that will compare favorably with any in the country, and yet there are many complaints of its not paying and some complete failures. Those who fail at farming are apt to think they could do wonders in the city. Well, when these "failures" at "farming" do get to town and take a hand at "business," the next thing you hear from them is that the "tariff" or "monopolies" are "ruining things." Statistics will easily show that for every failure to make a comfortable living at farming there are a score or more that utterly fail in "business." The trouble, with few exceptions, is with the *man*, and not his occupation. Go through all farming districts (except where there is an *incorrigible* soil) and you will find some who, with no more than equal advantages, have kept free from debt (and in many cases paid off mortgages) improved their farms and stock, educated their children and lived in comfort. Success or failure, whether in farming, trading or manufacturing, rests with the man, and not his occupation. Farming never presents chances for a "fortune," but it offers a living to the intelligent and industrious, with less risk than any other calling.

Mr. Austen draws the following comparison between the prices of sixty or seventy years ago, and those of the present day:

	1816.			1880.	
Steel	$0.12			$0.06	
Nails	12½			4	
Broadcloth per yard	16.00			4.00	
Wool blankets per pair	10.00	@	20.00	3.00	@10.00
Cotton cloth per yard	20	@	30	4@	12
Calico per yard	25	@	75	4@	15
Salt per bushel	1.00	@	4.00	1@	25

Prices of what farmers had to sell then:

	1816.			1880.	
Wheat	$1.25	@	2.44	$0.90	
Corn	12½@		20	45	
Oats	15			22	
Eggs per dozen	5			20	
Butter	5	@	12	20@	40
Cheese	3	@	6	10@	12
Cows	16.00	@	30.00	$5.00@	75.00
Hay per ton	5.00	@	8.00	10.00@	30.00
Straw per ton	3.00	@	4.00	7.00@	16.00

Farm labor, 1816, $8 to $8 per month; farm labor, 1880, $10 to $16 per month and found.

Everything *bought* cost them much more, and everything *sold* now from the farm *brings nearly double* what it did then. Labor, a large item of expense now, is more than compensated by the great increase in crops per acre from the use of commercial fertilizers.

Mr. PETER COLLIER of the New-York Experiment Station responded to an invitation from the same paper, in a somewhat elaborate article, in which he collates various statistics to show what are the exact facts of the case, and these facts he summarizes as follows:

1. There has of late years been a relative increase in the number of farms and of farmers.

2. There has been a steady decrease in the average size of farms in this country.

3. There has been a steady decrease in the relative amount of unimproved land in the farms.

4. There has been a great increase in the purchasing power of farm products.

5. There has been a great increase in the producing power of manual labor through the introduction of farm implements and machinery.

6. There has been an enormous increase in the aggregate value of farms, buildings, stock and implements of husbandry.

7. The indebtedness of farmers is apparently not increasing, and has probably diminished very appreciably the past few years.

8. There has been a wonderful advance in the intelligence of the farming population, an increase in the demands of rural life, and the means found for the gratification of such demands and desires as this changed condition in the average farmer's life has imposed and awakened.

On the other hand, it appears clearly established that of late years there has been a decided tendency to—

1. A decrease in crop production.

2. A decrease in the value of the crops produced.

We desire to quote also the following remarks:

You mention as desirable information in relation to this matter, "the conditions and qualities necessary to success, and the reasons for failure where failure occurs," and under this head I would quote what I have already published, and which has thus far stood—as I fear it must forever stand—uncontradicted:

"It is entirely within the bounds of fact to assert that there are at least ten per cent. of our farmers, in whatever branch of agricultural industry they may be engaged, who are getting double the return of the average of others engaged in that branch—twice the bushels per acre, twice the pounds of butter per cow—and this, too, simply by improved methods and intelligent application of the fundamental principles of success which should govern their practice."

As evidence of this I will cite the instance of a dairy farm of 138 acres in this State bought six years ago for $11,500, which has since netted annually a return of ten per cent. on the investment. The aggregate product last year amounted to $2,294.70.

I have in mind three large herds of dairy cattle, none of them other than carefully selected grades, the average butter product for these herds being last year between 300 and 390 pounds, more than double the general average.

I have in mind a large field of wheat upon a farm within sight of me as I write—the Rose Hill farm of Robert J. Swan, president of the board of control of the York State Agricultural Experiment and this field of wheat will average bushels to the acre, more than three average of the other wheat fields in and yet this very field produced its crop of wheat to the acre 40 years ago. sult, so full of encouragement that our farming lands are not exhausted their fertility after a half century has been secured without the use of mercial fertilizers, but it forcibly the beneficial result of drainage, the farm of about 350 acres are 75 drains.

"Pay! Will farming pay?" replied gentleman who grew this crop of question—"Of course it will pay better than now if only it is conducted telligently as is the mercantile and turing business of the country."

The vineyards of the slothful void of understanding have not yet ed from the face of the earth, and of indolence and ignorance are since the days of Solomon; but farmers are far from slothful, and remains room for almost indefinite knowledge, probably no country of the world possessed an agriculturist of equal intelligence to our own; of them in their practice, while right the wrong pursue, and the words of the prophet will suffice to do evil, learn to do well."

Bread, Ensilage and

How the Yeast Animal Mak

EDS. COUNTRY GENTLEMAN—farmer Joseph D. Sawyer, while his Rose cutter and carrier fill charm, made me promise to do til I sent you an account of the istry, which he says has been and a great delight to him. concisely as possible.

We owe our *bread*, our *ensilage* the same little microscopic micr animal, wrongly called in the old plant." The origin, nature, do of this little fellow are of the interest to us. We used to say king of animals, but the microe that the microbe is king; and crobes the yeast animal is pe important to the farmer, and th kind. For his increase and gro of *fermentation*, a process mos its action and results, of whic last, and one of the most use tion is caused by the sudden lions on millions of this little microbe, visible only under called the yeast cell, or the which is Latin for the stringe pear in *cereal* ferments, that is corn or grain, the gifts of *Ceres*. This little fellow lives enormously by feeding upon fruit, grain, malt, grape or cor *glucose* (C_6 H^{14} O_7) thus: the glucose as food, viz., other half he partly breathes carbonic acid gas (C_1, O_2) and or excretes as alcohol (C_2, the whole story in a nutshell, should ever forget it. all the bread, cider, wine *lage* in the world. Bread ting these microbes, which cake, into the dough or grains. A penny yeast-cak chip, contains at least 7,000, the warm dough, these will 140,000,000 in an hour! This minute carbonic acid gas bre will make that dough as "lig and ready for the oven. In drives off (volatilizes) the *and the alcohol*. The result from the hands of the hous of this little fellow, light an stead of unleavened, indiges free from alcohol.

While this is done by the w to feed her family, the hu much the same to feed th farm. Just outside of his stables let him build a silo, wood, on top of the groun with his stables by a wheelb sage-way. This silo should stalks or some sweet, succul fine, say cornstalks when th and just beginning to glaze. be from two to four feet at or three days. This little show his work as soon as th

trodden down. The fermentation will soon raise the heat to 125° or 150°, and the fumes of carbonic acid, and finally of alcohol, will be unmistakable. By the time the first layer is well cooked, the next will go on and be trodden down and cook in its turn, and so on till the silo is filled. Then cover with hay or straw, cut if convenient, and you have the leavened but unbaked cornstalk or vegetable bread for the cattle, just as the wife has the flour bread from the corn grains, which she takes one step further and ripens by baking, instead of letting it ripen by enclosing and covering, as in a silo.

You do not, and need not, put yeast cake into the silo, for this microbe is pretty much everywhere. We live in a world of microbes—fermentive, vinegar-making, putrefactive, disease-causing and other. There is no escape from them; they beat us and eat us all in the end. They dry up and are, or seem to be, dead, but a little warmth and moisture sets them alive and feeding again; and so they change the face of the earth! Lucky is it that we can turn the little yeast fellow to so good a use, and make him feed us and the stock on our farms.

Of course the cornstalks, when thus cut and cooked by fermentation, are worth far more for food than in their original crude state—one quarter to one half more. The starch and gums have been turned to sugar or syrup; the fibrin, protein and albumen are preserved and softened; the microbes have left the *nitrogen* of their protoplasmic bodies to *animalize* the whole mass, and have also absorbed carbon from the air. Thus ensilage is well on the way toward flesh, chemically speaking, and a cooked and far richer and more prepared food than the original cornstalks and corn, or clover, and will feed further. It is as superior to the original cornstalks as leavened is to unleavened bread.

It is wonderful how our farmers, by their hit-or-miss philosophy, have realized the proper conditions of this ensilage fermentation process. Still, they could have saved much money and time if they had taken a proper organic chemist into their confidence at the start. Perhaps he was not at hand, or was too busy with other experiments; so the farmers have got there by simply trying it on. They know now that the silo should be strongly built, as above described, of wood or non-conductors of heat, tight, well covered, and large enough to hold a good batch of the cornstalk dough, cut pretty fine (half an inch), packed pretty close, and closed or covered on top, so as to keep warm, but not too warm; that it should be higher in the middle and well packed on the sides, so as not to sink away from the walls and get cooled there, and so give chance for the vinegar, or putrefaction microbes, to get in; and should be well covered (a foot or more deep), but not pressed, on the top by dry hay or straw that will let gases, &c., pass out, but also keep out microbes, and so preserve the bread thus *leavened* sweet and sound and fresh. In this state it will keep for years. It should be fed out by cutting it *on a slant*, so that the exposed surface can be covered as the top is covered, or by tar-paper, or other microbe-excluding substances.

These are the conditions of a successful silo, the last great gift of the *Torula* to mankind, and almost as great as bread itself, for it is bread to all domestic animals.

This microbe chemistry clears up the cider and wine or alcohol mystery, which explanation is also of great importance to the farmer and to everybody. All the alcohol in the world comes from what is left over or excreted by this microbe when he eats the glucose and breathes off the carbonic acid as above stated. In bread this alcohol and gas is volatilized in baking, and in the silo it also mostly and gradually passes off with the gas from the heat and pressure and want of water, when the microbe has finished eating the sugar and is killed by the heat and accumulating alcohol. But with the moisture some of the alcohol will always remain.

But when the microbe makes fermentation in grape or apple juice or any other *liquid* containing glucose, then the alcohol is retained in the liquor by its great affinity for water, and it and the gas pass off gradually when exposed, and thus make the effervescence and the prickling sensation so relished by topers. When the alcohol is thus formed in the liquid to the extent of fifteen per cent., it kills the microbe excreting it, *for it is a deadly poison to every living thing*. The wine or cider is then said to be *made*, and will keep without fermentation unless more glucose and water be in some way added to it. All wines, ciders, beers and fermented liquors are made, in substance, in this way. If they are boiled or heated and exposed, this alcohol will fly off, but if enclosed, the alcohol may be caught and cooled or distilled, as by a "worm," and so give us distilled liquors—viz, brandy, whiskey, gin, &c.—which have about fifty per cent. of alcohol. But owing to the affinity of alcohol for water, even by repeated distillations it can never be entirely freed from it—the so-called pure alcohol having from one to ten per cent. of water. Now, the thing to be carefully noted about alcohol is, that it is a substance *left* and cast out by the living process of the yeast cell, and is so much matter run down into ashes, as it were, so that no living thing can eat or assimilate it again. It contains no nitrogen, as protoplasm and all living things do, and it is in *stable* chemical equilibrium, so that it cannot be broken up to any extent by being exposed to living processes. Therefore, it is a *dead*, acrid, irritant *poison* of the very worst kind, and kills every living cell it covers at once.

It is thus excellent for preserving anatomical specimens, for no living microbe can ever reach anything covered by it. Science having thus proved that alcohol is a deadly poison, it should never be taken into the human system, except as a medicine. It is true "fire water," and about the worst poison that can be taken. Half an ounce of it, *pure*, will fell a man dead, like an ox felled by an ax. Taken as it usually is, diluted and gradually, it is indeed wonderful how long the human system will struggle against it—from the first flush to the final *delirium tremens*—always trying to throw it off by the breath, sweat and kidneys. It is not food, nor warmth, nor any benefit—only injury by irritation always. It excites, but does not really warm or exhilarate; it only *seems* to do so to the victim. It is stuff to be let entirely alone as a beverage, and only taken as a medicine when an internal counter-irritant is needed to throw the blood on to the heart by paralizing the nerves of circulation, or to kill the cells of snake poison, or some similar purpose, to be determined by a physician. Then it can be useful and have its proper effect only on those not habituated to its use. The verdict of science is eternal total abstinence.

Shall we then give up wines, ciders and all fermented as well as distilled alcoholics? By all means, unless you boil or treat them so as to drive the alcohol off, and supply the desired effervescence or titillation by carbonic acid pressed into it in bottling, as in soda water, or by some other means which modern chemistry is ready to offer. Moderate drinking of alcohol should never be begun or encouraged in any way. It makes an excitement which is simply lighting a destroying fire in the system, especially in the brain, which constantly demands more and more fuel, until the mind, will and soul itself are destroyed. Never treat or be treated. It is a fearful responsibility to ask a fellow human being to poison himself for you! Let us take the good bread and ensilage that the yeast cell gives us, and let the poisonous alcohol he makes in doing it pass off in the air, or be collected only for its many valuable uses in the arts and sciences or in medicine.

T. B. WAKEMAN.

Fairfield County, Conn.

A Fertilizer of Uncertain Value.

THE TENDENCY TO BELIEVE THE OCCULT AND THE MYSTERIOUS.

ED. COUNTRY GENTLEMAN—My friend Mr. W. F. Brown is a born experimenter and gains much valuable experience and some information by his experiments. I think I can predict, however, that he has not struck anything of extraordinary value in the fertilizer he describes on page 686, Sept. 12. The agent's claims seems to me to be like much talk of agents, plausible if true, but with its truth or falsity lying in the region of the mysterious unknown to any but an expert. In such cases the best plan is to submit the whole matter to an impartial expert, the State chemist, Prof. Lord of Columbus. He acts under the State Board of Agriculture. Secretary L. N. Boone, Mr. Brown's neighbor, whose office is in Columbus, O., will (if he has not done so) sample the fertilizer in the open market, have Prof. Lord analyze it, and then he will give the trade value of its fertilizing elements on the same scale of valuation with other brands. I would not touch a pound of it without such

this case, and the explanation must be found if found at all, in the particular composition of the soil and the ease with which it becomes soured. Mr. Jackson is not the first to discover that green manuring is a damage to some land.

About 20 years ago, if my memory is correct, Mr. James Gowen of Mount Airy, N. J., an able man, well educated, a practical farmer and stock raiser, declared in the public press that plowing under clover was an injury to his land. In substance he said: When land is naturally too cold, raw and sour, it should not be made still worse by plowing under a mass of green herbage to undergo the acetic fermentation, but should be warmed, sweetened, and enlivened with lime and barnyard manure.

Mr. John F. Wolfinger of Milton, Pa., says in Agricultural Report for 1864, page 337: "Green clover plowed down as a manure, does indeed at times sour the land and injure the young wheat crop sown thereon." Dr. Joseph Henderson of Mifflin Co., Pa., says in Agricultural Report for 1850, page 247: "Experience here is adverse to turning down green crops as fertilizers, and few, I believe, have repeated the experiment. In two instances in my own immediate neighborhood wherein heavy crops of clover were plowed in, in full bloom, on land of excellent quality, the immediate effect, at least, was highly pernicious, as evinced in the almost total failure of the succeeding crop of wheat."

John S. Keller of Schuylkill Co., Pa., said in Agricultural Report of 1853, page 87: "Clover after growing up a few years ought to be turned under when fully ripe, with a good plow. Let those who advocate the green state, do so to their heart's content; I have had the experience of both the dead ripe and the young green, and would by no means suffer the latter to be plowed under if I could prevent it."

Mr. R. H. Allen in his Farm Book, pages 73 and 74, explains why green manuring is a benefit to some soils and not to others by the presence or absence of lime in them. He says: "The full benefit of green crops as manures seem only to be realized where there is sufficient lime in the soil. Calcareous soils, or such as have a large proportion of lime, however they may have become exhausted, when put under a thorough course of treatment in which green crops at proper intervals are returned to them, are soon restored to fertility."

Every farmer knows that nothing will grow where rotten apples or cider pomace is plowed under, be the land ever so good, and he rightly surmises that such substances make the soil, so far as their influence extends, too sour to suit the appetite of the young plants. I buried a pit of apples in my garden, and in the spring when the apples were taken out, the rotten ones were thrown on the ground and afterwards plowed under. I observed that nothing could be raised where the apples were thrown. The evidence is very strong, and Mr. Jackson's experience makes it still stronger, that some soils are so constituted that the fermentation of a green crop buried in them creates an acid, just as a little "mother" put into cider will soon turn it into vinegar, or a little leaven into the baker's dough will leaven the whole lump; and this acid or vinegar is too strong for the digestive organs of the plants to appropriate, and so the crop fails to grow, as a babe would fail to grow fed on beefsteak, pork and beans, instead of milk.

That green manuring is a benefit to most soils there is not a particle of doubt. The testimony is overwhelming, and some of it dates back two thousand years. The ancient Greeks and Romans practiced raising crops and plowing them under while still green to enrich the land, before the Christian era, as we learn from the writings of Xenophon, Cato, Pliny, Virgil and others.

Among the first of modern nations to raise green crops to be plowed into their soils for manurial purposes, were the inhabitants of Flanders (now Belgium), and the crops which they chiefly raised for the purpose were red clover, spurry and sanfoin. Their soil generally consisted of white, loose and porous sand, resembling the sandy district on the coast of New Jersey and Maryland. By plowing under green crops the Flemish farmers gradually converted this unproductive sand into a fertile loam. At first they plowed very shallow—not deeper than three or four inches—but by degrees, as their soil became richer, they plowed deeper, until at length they secured a deep, loamy soil upon these once sandy barrens. Red clover was their main reliance, not only to supply fodder for their cattle, but to turn under to keep up the fertility of their soils. "Without clover," says Radcliffe, "no man in Flanders would pretend to call himself a farmer." It was green manuring and a rotation of crops that gave Flemish farming for a long time preeminence over that of every other country in Europe. J. W. L. *Sugar Run, Pa.*

English Notes by T. Bowick.

A fine, dry, sunny week over the greater part of these islands, is now succeeded by atmospheric depressions which are traveling from the western coasts with considerable rapidity. Temperature has been much above the mean, so that the heavy showers of the past two days have been welcomed nearly everywhere.

Now that the harvest is all but concluded in the important districts, sounder opinions ought to be arrived at as to the produce of the crops. Still farmers differ widely, for not later than Wednesday last a miller who himself farms pretty extensively, remarked to me that both wheat and barley were deficient crops, while another gentleman, an experienced farmer, said that "wheat was *the* crop of the season." There is no doubt that a large breadth of barley is most materially deficient; but those officials to whom the ultimate decision as to the yield of the crops is assigned, do not issue their opinion till about the close of the year.

There is a decrease of 4.5 per cent. in the area of wheat compared with last year, in Great Britain; but that is not very material. It is quite within the comprehension of any farmer that 95½ acres of a moderately good crop of wheat or other grain, will often exceed 100 acres of an indifferent crop. Thus, it is plain that the estimated total produce of grain does not depend upon a few per cent. above or below the average area. Between the estimated average produce of one year compared with another, there is often a considerable difference. The average of wheat in England in 1866 was only 26.47 bushels, while in 1865 it was estimated at 32.17 bushels per acre, being a difference of 5.70 bushels. In oats the difference sometimes amounts to 7 or 8 bushels.

The crops may in a great measure be estimated any year by the rainfall and its distribution over the months. In the East Midlands of England, in low elevations the annual rainfall is about 23 inches, and with the exception of the month of May, the weather was of an ordinary kind. There was an excess of rain in May, 4.56 inches having fallen, whereas the average rainfall of that month is but 1.64 inches. These downpours were really ominous; but happily the fine weather which succeeded did much in mending what was wrong. The drouth continued 29 days—June 10 to July 8 having been without rain.

The British farmer, judging of the future by the past, thinks that he can stand the American competition in meat. Prices have advanced considerably during the past 30 years. Looking to the London Christmas prices as quoted by the Mark Lane Express, there is a rise approaching to one-third on prime large meat. Before 1853, the quotations ranged from 3s. 3d. to 3s. 10d. per stone of 8 lbs. From that date to 1871 the quotations were 4s. 8d. to 4s. 11d., and from then onwards they have ranged from 5s. 3d. to 5s. 10d. During all that period the finest sheep (South-Downs and Scotch sheep) have commanded three-halfpence per pound more than beef. A well-bred sheep, if well-fed, makes $15 to $16.25 (including the wool) at 15 months old, which leaves a respectable margin for the breeder and feeder.

It is the low price of corn [wheat] which the farmer says is pressing him sore. A crop of five quarters an acre will pay the farmer at 30s., the present price of the quarter of 504 lbs. But the 2½ and 3 quarter crops are a dead loss, and the produce of poor clay soils is often below these figures. The cost of raising a crop of wheat has been variously estimated; confining the computation to the one crop, it may be quoted at 20s. to 30s. an acre. Wheat, however, is only one crop in the rotation, and it must be computed accordingly.

Sheep and cattle are the sheet anchor of the farmer at present, and fortunately there is a slight increase in their numbers. The fluke among sheep has occasionally been very fatal, especially in the cycle of bad years. Some counties suffered to the extent of 30 or 40 per cent., and they have not recovered their losses yet. It was not entirely due to the death among sheep, however, for it is believed that the pressure for money caused sales of sheep which should have been retained on the farm. There was not a corresponding number of cattle on hand to make up for the defalcations in sheep. Pigs are comparatively unimportant in the enumeration of live stock, there being only one pig for every eight sheep.

The French returns, just issued, show an increase of some 200,000 hectares over 1886, while the yield of grain is computed at almost 11,000,000 hectolitres of an increase. This, and the large influx of money brought by foreigners to the exhibition—as shown by the accumulation of bullion in the Bank of France—is a good beginning for a winter that in other circumstances would have had a gloomy outlook. I do not think that discontent has gone far enough to greatly influence to-morrow's elections.

Miss Ormerod, the able entomologist of the Royal Agricultural Society of England, has been studying the developments of what is known as "gout" in barley, which has caused so much trouble and loss to farmers this year. The attack—which is by the ribbon-footed corn-fly (a little two-winged rascal only an eighth of an inch long) takes the common name of gout from the swollen state of the heads when the ear is unable to burst the sheathes. The fly lays her eggs on the forming ears, at a very early stage of their life, and the maggot gnaws away at the vitals of the plant until it gets through the chrysalis and into the fledged condition. Miss Ormerod, in effect, assures us of two things, first, that there is no propagation through using infected seed; second, that little or nothing can be done to stop the ravages of the enemy—good culture and clearing away of headlands and rubbish excepted. *London, Sept. 21.*

Letter from Western New-York.

THE MONTH OF SEPTEMBER—CROPS AND PRICES—VEGETABLES AND FRUIT—FALL PLOWING.

EDS. COUNTRY GENTLEMAN—The mean temperature of September this year, nearly 59°, is higher than that of the three previous years; in 1886 it was 57°; in 1887, 53°; in 1888, 54°. The first few days of the month were hazy, night and morning, and unpleasantly warm during the day, 90° being reached on the 3d and 4th, with no rain to assist those wearily tilling their land for wheat. Three fifths of an inch of rain fell during the night of the 5th, making matters more agreeable. The early mornings from the 9th to the 12th were remarkable for heavy fogs, at least one railroad accident resulting therefrom in this vicinity. A brisk wind on the 13th was the herald of all but an inch of rain which fell on the two following days. The 20th and 21st were showery. On the 23d we were visited by the first frost of the season; it must have sorely tried tender vegetation, though no ill effects were apparent. There was also a slight frost on the 29th.

Owing to the intense heat previous to its falling, the rain of the 5th did not lower the soil temperature appreciably, but that of the 16th and 17th, together with the cool surface air, induced a fall of 12° during the week ending Sept. 21st. The following week, although the mean temperature of the air fell 7°, the temperature of the soil at a foot deep was reduced only a degree. Even when rain, as in the present instance, does not moisten the ground lower than four inches, its cooling effect is nevertheless rapidly felt much below that depth.

Depth.	Sept. 7.	Sept. 14.	Sept. 21.	Sept. 28.
4 inches	65°	59°	51°	48°
8 do.	65	60	52	49
12 do.	65	60	53	51
20 do.	65	60	54	52
32 do.	65	61	55	54
Mean tem. of air...	67°	60°	54°	49°

Those who purposely or otherwise delayed sowing their wheat until after the middle of the month, will, I think, be able to show the evenest and best plant growth when winter sets in, unless it should do so very prematurely; that inch of rain made a wonderful difference in the tilth. The early sown wheat was put in under great difficulties, and now the unmanageable spots of hard-pan and clay are conspicuously bare in the fields of green. The corn crop in this neighborhood is disappointing, both as to quality of corn and quantity of stalks. The latter are in great request among dairy farmers, hay being too costly to feed during winter, or they think it is so. The price of hay is rising already; last week it was bringing $18 per ton in Rochester market, previous prices ranging from $13 to $15. Farmers are too busy just now to draw to market, so that it may be that present prices are only temporary, though the probabilities are that hay will be nearly as expensive to buy this winter as it was last. Oats weigh very badly, and in many cases are not worth the low price they are selling at—28 to 30 cents a bushel. Wheat is quoted at 78 to 90c. per bush; corn, 50 to 55c.; corn on ear, 25 to 28c. Oat and wheat straw are worth $7 to $10 per ton.

The late potato crop varies with localities, and I have received reliable reports of both good and bad crops in about equal numbers. Prices have been steady for some weeks at from 50 to 65 cents per bushel, according to quality; the fear of western consignments will probably prevent any great rise at present, especially as there is no actual dearth of potatoes. Good, firm cabbage is not very plentiful, and readily brings 60c. per dozen heads; cauliflower, $1 to $2; onions, 70 to 90c. per bush.; turnips, beets and carrots, 35 to 45c. Not enough fall apples (to barrels) are marketed yet to give quotations on. Pears, such as Duchess, Flemish Beauty, Louise Bonne, Sheldon and Seckel, are worth 75c. to $1 per bush. Quinces, which are scarce, bring same prices. Plums, also scarce, $1.50 to $2.

Those who are in doubt as to whether they shall fall plow or not must soon make up their minds. The circumstances are rare under which it does any harm, so that where means and opportunity are available it would seem worth a trial at any rate. Many farmers will have spare time at their disposal this fall, owing to the failure of either their potato or their apple crop, and they could scarcely improve the occasion better than by selecting some place which is hard to work in the spring and giving it an extra plowing this fall. I have reaped the benefit of ripping up and exposing hard, clay spots to the tender mercies of Jack Frost, though such spots require the treatment for three or four winters, according to their severity, to complete the job. Weeds, too, are unusually abundant, and may be met this autumn on farms hitherto thought to be proof against them; a remedy for this would be fall plowing. Then there is the destruction of insects. By plowing as late as possible, after the fall rains, and when it is thoroughly cold, the sudden exposure is death to many kinds. The soil being so uncommonly hard would be another reason with me for the use of the plow this fall. I do not believe fall plowing to be a panacea for all the ills land is heir to, but I think that it is always beneficial to, and a profitable operation for, stiff soils, and that other soils will generally repay the extra trouble and expense involved.

Yesterday (Oct. 1) we had electrical showers with brisk wind and wild sky; thirty-four hundredths of an inch of rain fell. To-day we have had a cold northwest wind; thermometer 37° at 7 P. M., with a prospect of the coldest night of the season so far. J. H. C.

Monroe County, N. Y., Oct. 2.

The Season in Washington County.

The season through Washington county has been unusually wet and unfavorable for farmers generally, nearly every crop having been either an entire or partial failure. The hay crop was almost unprecedentedly large, but during July and August it rained so much of the time that a large portion of it was badly damaged, and it is safe to assume that there is not more than one-half the merchantable hay in the farmers' hands as usual.

Potatoes were struck with rust and are about half a crop, and the same with oats. Corn where planted on upland yielded bountifully, but on the low and intervale lands it was a complete failure, and many fields are not worth the husking.

A few of the farmers through this section are profiting by the practical common sense ideas advanced by different speakers at the farmers' institutes that have been held during the past two winters, but the majority continue to plod on in the old time beaten track trod by their grandfathers, and then eagerly remark that farming don't pay. More than half of the farmers of this country try to till more land than they can profitably and properly care for, and the result is that, with so many irons in the fire, some of them get burned, and in many cases not more than half a crop is obtained, when with proper care and the exercise of some good old-fashioned common sense, as much might have been grown on half the land, and with not very much more labor.

Just so long as men will continue to sow their seed on sterile soil without putting the

same in proper condition to grow a crop, and then philosophically wait for the Lord to give an increase, just so long will men fail to secure good results from their labor. E K C

Vaughns, N. Y., Oct. 2.

Northern Maryland Notes

EDS. COUNTRY GENTLEMAN—After a remarkable summer for heavy rains, the present season promises to be as bad, for in the past month rain fell on twenty days during some portion of the twenty-four hours, which rendered it almost too wet to prepare wheat ground, many not being done plowing. Some have potatoes in the ground, to be dug, and much corn as yet is uncut, the fodder in some fields being almost worthless for feed, while other fields are showing quite green, owing to being planted later. Corn generally is a very good crop. Some of our farmers have cut up a good deal for filling silos, several of which have been built the past season, all being of stone and cement. Silos and ensilage appear to be taking quite favorably in this community, and we expect to see more built next season.

The wheat crop proves to be more or less damaged as far as heard from, some being good enough for seed, while a good deal is fit only to be ground into feed. The heavy and frequent rains during harvest caused the damage, and then some farmers putting it away in the mow while it was wet, caused it to be mow-burnt, although the yield per acre was very good. The oat crop felt the wet weather to its injury; while the straw was tall and heavy, the grain was scarce, and in some cases light in weight. The buckwheat crop appears to be good, the straw being well filled with large, plump grain, notwithstanding the many long rains since it was sown. It is a crop which is not much sown in this part of the country, but which seems to pay well when it is raised, and the seasons are favorable for its growth and ripening.

The apple crop, with a few exceptions, as far as heard from, is quite large, consisting mostly of winter kinds. The pear crop, as well as the peach crop, was light, being below an average. Blackberries were a very large crop, especially wild ones. Other small fruits were up to an average crop, but were mostly spoiled by the very wet weather during the picking season. Potatoes, owing to the rot in the earlier part of the season, will fall far short of a full crop, some fields hardly paying for the trouble and expense of digging, but those that have been dug are of good size and smooth, although somewhat eaten by the grub of the June beetle. E E.

Forest Hill, Harford Co., Md., Oct. 1.

Good Crops in Eastern Kansas.

EDS. COUNTRY GENTLEMAN—So far as this part of Kansas is concerned, farmers have little cause to complain of the weather this year. A better season seldom if ever passed over us, and the rains have been timely and in abundance. All crops have been heavy, except oats, and have matured in good shape. In fact, the country is overwhelmed with fruit and vegetables, and all crops sell for a low price, so that it takes an immense quantity of anything to get a dollar. To illustrate this, an average acre of oats, after deducting seed and threshing, returns $4 or less to the farmer for interest and taxes and labor of growing and marketing the crop—consequently the farmers are blue. Corn is very good, and the exhibit at the fair was unparalleled, but otherwise the display was meagre, and attendance small.

Times are hard and many are forced to economize in every way. If corn should be low in price as it bids fair to be, money will be scarcer than ever, as live-stock is very low, and there is considerable disease among hogs. A great deal of indebtedness is falling due this winter and spring. This section needs a better class of farmers, or rather better farming, and must have it before it can prosper. As it is now, many are behind the times, and many have not the capital to improve as they would if they had the means to do so. Another great drawback is that almost everything we eat, drink, wear or use in our business is imported from somewhere—nothing is produced at home—so a large portion of our crops go to pay freight, and no money is left at home.

Corn, old, 25c. per bu; oats, 10c. to 12½c.; butter, 10c. per lb.; eggs, 10c. per doz; hay, $3 to $4 per ton; hogs, $3 75 to $3 per cwt.; cattle, $1 50 to $2.35. D B B.

La Cygne, Linn Co., Sept. 20.

Inquiries and Answers.

Small Farming.—I own a farm of 12 acres, twenty miles out on Long Island, average island land, eight acres scrub oak, four acres cleared. My family consists of wife, father and mother-in-law (too old to work), and three children two to nine years old. At the end o the year in the city I am usually $100 behind in debt for living expenses and work like a slave, to say nothing of the mental strain of getting food and rent. Now, do you think that a living could be made on twelve acres by working it myself? When young I had three years' experience on a western farm, and one year worked forty acres with a pair of horses, by myself, having no help except at topping and husking time, and the yield of that lot was 85 bushels to the acre. But this was west—beautiful prairie land, no stones or stumps, and no manure needed, and where hand hoeing was considered disgraceful. What means would you recommend as the most economical to clear scrub oak and hazel brush from land? (1) What do you consider the cheapest sort of fencing for such a place? (2) What hedge would be most desirable for fencing—a thorn hedge preferred? (3) What crops would be best to get the quickest returns, my cash capital being say $300 only? (4) Would you advise poultry for eggs, or otherwise? (5) I have read "Ten Acres Enough," but consider it fanciful. I guess it was written by some reporter for some fellow who had land to sell (6) S. *New-York.* [1. There is a great difference in men; some will make a living in unfavorable surroundings, while others in better circumstances will entirely fail, and it is difficult to say in advance to which class any one belongs. Your land will of course have to be cleared of the scrub oak before there can be profitable cultivation, and this may be done by cutting the roots and drawing out with horses. You will be unable at first to make a living from the few acres, but much may be raised on the land towards assisting in the support of the family. After several years' experience you may increase this supply. 2. The cheapest fence is barb wire, a ditch being plowed on each side, and a bank raised, before putting on the wire. This ditch and bank will prevent animals from running against it, will aid in draining the land, and require shallow post holes. 3. An Osage hedge will answer best, if the land has a good natural drainage. 4. The crops must be selected with a view to the nearest and most easy market, the character of the soil, and the facilities you have for cultivation—varying with circumstances. 5. Success with poultry requires some years' experience to learn the most profitable management. 6. Soon after "Ten Acres Enough" made its appearance, we examined the place thoroughly, and found most of the appliances and results accurately described. A great deal of labor had been intelligently applied; but very few persons would be likely to succeed under similar circumstances. The owner of the place we had known for years previously (he is now deceased), and many useful suggestions may be derived from his work. If our correspondent can carry on his present business for a living, and commence the cultivation of his small farm by a tenant, "to the shares," he may doubtless obtain much that will be a valuable aid to the support of his family; and after a few years' trial he can judge of the propriety of personally occupying it. He may not be able to make a fortune from it, but the satisfaction to be derived in supporting those who are "too old to work" in their declining years, and contributing to their comfort, should be greater than merely laying up money.]

To Dairymen.—Will some of your correspondents who know be kind enough to answer this: I am interested in a part of the country in which we have made a small beginning in the dairy and are at present at the mercy of existing creameries—there being no competition—one at Cecilton, Md., giving 6c. per gall. of 10 lbs.; another at Smyrna, 7c. per gall., requiring 14 per cent. of cream. As we have no knowledge of what should be, I therefore ask those who know to enlighten our darkness. I am desirous of knowing the yield of dairy per cow—general average per cow of milk sent to creamery. Of course difference of foods and pasture will make a difference in yield, but give results obtained from average treatment, not extra forcing. How much is paid for milk per quarter, say "Jan., Feb., Mch.," "Apl., May, June," "July, Aug., Sept.," and so on, so as to show the difference in price during different seasons of year?" How much weight is called a gallon? how much cream milk should show, or what per cent. of cream? Is it paid by weight or by measure, and how much for either weight or measure? What test is generally used in determining quality of milk and percentage of cream? What breeds are considered the most profitable cows for dairy, sending milk to creamery? J. M. B. *Philadelphia.*

Horticultural Department.

Bracing Young Trees.

One of the difficult lessons which some tree-planters do not easily learn, or which is never learned at all by them, is that young trees have some roots quite as long as the trees themselves, and on these the cultivators must depend to brace the trees in an upright position and to hold them against the pressure of winds and storms. In the absence of this knowledge, the roots of the tree are cut short when it is dug up, as in fig. 1, and when set out, the heavy unpruned top is beat aside by the pressure of winds, having few roots sufficient to hold it, and the foot of the stem works a hole about it, exposing the roots to the drying influence of the air and often destroying the tree.

To prevent this disaster the trees are staked, sometimes with a single stake upright against the side of the tree, as in fig. 2, and sometimes with three stakes standing as braces in a slanting position. Fig. 3 represents the mode of staking figured and represented in one of our exchanges, and although possessing no ornament, would be useful by way of protection for single trees. It would be too laborious and expensive for a large orchard of a hundred or five hundred trees, which thus staked would present the appearance a portion of which is roughly represented in fig. 4.

The true remedy for all these difficulties is to cause the tree to do its own bracing, by means of its sufficient roots, which should extend far enough for this purpose in every direction. As the entire roots cannot be secured in taking them up, a liberal amount should be saved, and the branching top, if any, made as light or lighter than the mass of roots. Such a tree is represented by fig. 5, in contrast with the one in fig. 1; or with the entire roots, as in fig. 6. The head has been rendered light by cutting back all the one-year shoots of previous growth, and thinning out the smaller

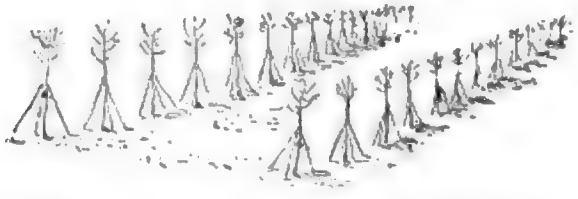

Fig. 4.

shoots where they are too abundant and numerous. (The original one-year shoots, before cutting back, are shown by dotted lines.)

By planting young and vigorous trees, and

Fig. 5.

giving them the full amount of natural bracing by the roots which they require, several advantages are secured. Such trees are dug up in the nursery with less labor and with more am-

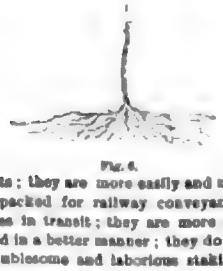

Fig. 6.

ple roots; they are more easily and more perfectly packed for railway conveyance; they cost less in transit; they are more easily set out, and in a better manner; they do not need the troublesome and laborious staking otherwise required; and they make a thriftier growth in the future. If any one whose views are not clear on this subject, will set out two rows of orchard trees—one row with the largest trees he can find in the nursery, the roots hacked and amputated in digging; and the other with thrifty trees only one, or at most two years from the graft, and then give them both equal care and attention, he will be astonished at the end of five or ten years with the superiority of the younger trees in their fine growth and superior productiveness. This experiment has been actually performed in past years, and such was the result.

Fig. 1.

Fig. 2.

Leaf Mould for Rhododendrons.

We had a large bed of rhododendrons in which the plants were getting too thick, and I resolved to lift and replant them and give them a good deal more room. The soil was sandy loam on a sandy subsoil, and the situation sheltered and faintly shaded, and land level and moderately moist. The rhododendrons had been planted five years and had grown bushy and tall. Every fall (November) when the oak trees shed their leaves, we raked up large quantities of the dry leaves and mulched the bed with them to a depth of 12 or 15 inches, letting the mulching stay there permanently, and year after year adding to it in like amount. By fall the mulchings would have rotted down to two or three inches in thickness. In lifting these rhododendrons we found that the great mass of young fibrous roots were in the leaf-mould on the surface of the soil, and keeping this point in mind, in replanting we threw several shovelfuls of prepared leaf soil from the compost yard around the ball of every rhododendron. And as soon as the bed was replanted we again mulched it with leaves to preserve the fine surface rootlets from drying up by the wind.

Another notable case of the partiality of shrubs for leaf-mould was evidenced in a lot of *Andromeda japonica*. When we receive fine trees from home or foreign nurseries, we do not plant them out permanently as soon as they arrive, but, instead, we set them out in rows in a nursery patch we keep for this purpose, and where we give them good attention and mulch the ground about them. This was the way with these andromedas, and we mulched about them with tree leaves. They had been in these rows two years, and last week when I lifted them to transplant them elsewhere to their permanent quarters, I found that not only had they, like the rhododendrons, made a carpet of fine, white, fibrous roots among the leaf soil, but whatever branches had lain upon the mulching had emitted roots, and that plentifully, wherever they touched the ground. In replanting them, too, I used leaf mould freely about their roots.

We use a great deal of leaf soil for this work. We not only gather up and save the leaves that fall upon our own place, but we go out into the woods in early spring or late winter, as soon as the snow has gone, and rake up a large quantity, cart them home and make a pile of them where they will remain moist and not blow away. Towards spring, after the leaves have lain upon the ground under the rain and snow all winter, they have begun to decay, and we can pack a very great deal more of them into a wagon than we can when they are fresh in the fall. Some years ago I raked large quantities of leaves in the woods in the fall and left them in piles in hollow places till towards spring, when I intended to bring them home. But when spring came I found that some of my neighbors had availed themselves of my kindness, so now I cart the leaves home as I rake them up.

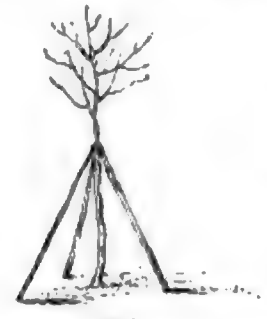

Fig. 3.

But when people have only a few evergreen shrubs to plant, they can get all the leaf soil they want by scraping together some of the surface earth they will get in the hollows in roads. W. FALCONER. *Glen Cove, L. I.*

A Woman's Garden—X.

Gathering Seeds.

These hollyhocks now—will you have some? The seed of mine came from Jonathan Edwards' garden. Grown since his day, most likely, but at all events there they were, blooming in festive array, in full sight of the historic elm, which is still a picturesque ornament to the street, as well as a landmark of human association. The seeds were going to waste—as these are, you see—so, having been most kindly met and furnished with a chair, when I went to sketch the grand old tree, I made this memento of a happy day by putting a few seeds in my pocket.

"How did I manage them?" It was August, and I planted them here immediately. N. B.—When a friend gives you some flower seeds, don't you often carry them home and forget that they will not grow in a corner of your desk or drawer? These found earth and moisture promptly, and the season being favorable I had quite a fine row of nice, thrifty young plants when frosts came. I put a few leaves over them, and a hemlock bough or two as a slight protection. They started vigorously in the spring, and some of them bloomed that season. This stately row has held its own with increasing dignity ever since. I sow a few seeds every year, which accounts for its almost excessive breadth and solidity. Some are winter-killed in hard seasons, but the community survives and flourishes.

"Double or single?" These past the corner are double—maroon, salmon, pink and white, like prim rosettes. But I like the single ones best. They have greater delicacy, and a quaint look—dainty, precise, and almost old-maidish.

Will you have sweet williams? I love them, partly for old association's sake, but not less for their soft and exquisitely mingled colors. And here among the hardy pinks that fill this corner, there are shelly seed-pods bursting with abundance. All are pretty, and many have the delicious clove scent. Is anything else quite as "sweet as a pink?" Some of these good old sorts, once established, will last a lifetime. Others are biennials, and soon "run out" if uncared for; but it is easy to keep up a succession. The family of the pinks, modest but numerous, deserves a good space in the garden.

Poppies? All along this broad strip of "crazy garden" only the pretty seed vessels hold up their heads, where but a little time ago so many silken petals, bright and brief as morning hues, caught the eye. They have a keen little moral:

> "Pleasures are like poppies spread,
> You seize the flower, the bloom is shed."

Marigolds, alyssum, mignonette, bachelor's buttons and a score of others are mingled here; choose what you will. The pansies have matured seed plentifully in these last weeks; earlier I was careful to keep the withered flowers cut. One may easily raise seedlings if you care to do so; sometimes a bed renews itself by the chance sown plants that appear in the spring. Sweet peas I keep cut, and so lengthen the period of bloom, and ripen little if any seed. You see there are still a few flowers on this hedge.

Asters and balsams are very easily started in boxes in the house, so as to get fine plants for transplanting in May. It is quite worth while to save a good supply if you do not care about trying the newer sorts which the florists are constantly producing.

I have never tried raising chrysanthemums from seed, but it is a simple matter, I believe, and these old kinds, especially cherished because perfectly hardy and reliable, pink, white and yellow, large and small, will come true from seed; at least that is what I am told by a friend who grows a large number.

From the sunflowers we may gather seed by the quart, of the coarser kinds; these finer ones that remind one of a rich yellow dahlia, do not mature seed so profusely.

Last of all, we must make sure of plenty of nasturtiums. For pickling, do you say? Yes, the green and tender ones for pickling, if you choose, and the glossy, oily sunflower seed for the chickens' dietary; but I was gathering for beauty and not for use—harvests for the eye rather than the palate. What has the garden more satisfying for pure, rich color, than the many varieties of the dwarf nasturtium? The tall-growing kinds are not inferior in this respect, but they are less generally desirable, because less manageable. In my garden I delight in both. The tall growing species covers and drapes an old wall; the dwarf kinds fill a large bed. From the softest cream to a depth of bronze that is almost black, the variations are innumerable, and inexhaustibly rich in loveliness. The average mixed seed will not make so fine a showing in one year, but with a little pains in begging, exchanging or buying seed, when a new shade is found, one may establish a real collection from which a strain of seed is obtained that gives the most satisfactory results. Having lost my seed one year, through illness and consequent neglect, it was several seasons before I felt that I had regained the ground lost; which proves, if it proves anything, that it is personal effort which gives the best return in the garden.

Now, with a package of stout envelopes, we will soon have a good stock of sealed and labelled germs of another flower-garden, a successor in reserve, when Jack Frost takes cruel possession of our present holding.

DOROTHY.

American Florists' Association.

Notes of the Buffalo Convention—V.

WATER GAS—CATALOGUE PICTURES—EXHIBITS.

Replying to question as to experiments with water gas, Mr. J. T. Temple of Davenport, Ia., spoke briefly, but being aware of the importance of the matter to many florists, we have secured from Mr. Temple a fuller explanation, as follows:

Water gas is made by heating to a white heat an air-tight iron vessel or generator, and injecting steam or a fine spray of water, which forms water gas for fuel; it is made for 10 to 30 cents per 1,000 feet, and at Jackson, Mich., they claim to have made money, and a good water illuminating gas for 30 cents per 1,000 feet, as I have been informed. Water gas for illuminating is made in the same way, but with the addition of a spray of kerosene to give it greater illuminating power, and it has to be run through a purifier, to get rid of the odor of the oil. Where water gas is used for welding iron, it is mixed with naphtha to give it greater force, and does the work cleaner and better than any other fuel.

Natural gas in many places is giving out, and inventors like Westinghouse of Pittsburg and others are experimenting with water gas, and expect to furnish it as cheap as natural gas is sold for in some places. The time is not far distant when dwellings, stores, greenhouses and factories will be both illuminated and heated with water gas, doing away with the use of coal, the gas being furnished by companies the same as water, electric light and gas are at present. An English gentleman, Douglas G. MacRae, editor of the London Financial Times, says water gas is manufactured in England at a cost of four pence per 1,000 feet, and that preparations are being made to introduce the process in this country.

Regarding any further action on the report of the committee on exaggerated catalogue illustrations, Chairman Reynolds writes:

"As my report is in the hands of the committee, with power to act, it is too late to accomplish anything toward influencing catalogue publishers this fall. You may be assured

I shall not let the matter drop, but will push it for it for all I am worth at the meeting of the executive committee next winter in Boston. It will greatly aid us if the papers interested will keep the matter before their readers. It has been made an occasion of reproach to the S. A. F. that while doing a good deal of talking about reforming abuses of one sort and another, yet when it has come to the point of taking decisive action, there seems to have been a certain timidity least some influential toes should be stepped on; but we should not care whose toes are trodden on, and while it is not always easy to find a majority of the executive committee to support these views, yet I have faith that in the membership at large of the S. A. F. there is such a majority, and that ultimately we shall succeed in establishing a fearless and aggressive policy."

The committee on a Plan of Recognition for members reported that, after much deliberation and inquiry they had come to the conclusion that the best plan was to adopt the one in use by the Nurserymen's Association, devised and copyrighted by Secretary Green. The plan is simply to have a badge book in which are placed the names and addresses, each of which is numbered. A badge is worn by each member on which the corresponding number is printed. A member who desires to meet any certain man finds his name in the book, notes the number accompanying, and then notices each badge until the right number is found; and also when only the number is known, a glance at the badge book tells all about the party wearing the number.

At the third annual chrysanthemum show at Indianapolis, Ind., Nov. 5 to 9, Mrs. President Harrison has announced that she will present a fine silver cup as a prize for the best new seedling shown. The competition is open to everybody.

A most valuable paper by J. J. Williams of St. Louis was read by President-elect Jordan, on the "Application of Heat in the Greenhouse," explaining how fuel could be best utilized and economized in keeping the proper temperature for the well being of plants. The practical value of the annual report to the florists generally will be much enhanced by its containing this paper in full.

Among the exhibits of cut flowers, a dozen varieties of Phlox drummondi from Vick attracted much attention, as the colors were very fine and contained two that are somewhat uncommon, one being very dark—indeed almost black, the other being of a pleasing fawn color, quite unique.

Benjamin Grey of Massachusetts sent glasses of water lilies including the pink Cape Cod (Nymphea odorata rosea), Indian water lily (N. devoniensis), pink and blue annual Zanzibar lilies (Nymphea zanzibarensis), the blue ones being especially fine.

A new pink seedling carnation called Fred Creighton had a good color resembling Grace Wilder, with a fimbriated edge quite fragrant and seemingly was a strong healthy grower.

The display of tuberous begonias by B. A. Elliott included some exceedingly fine colors in scarlet, pink, white, salmon, rose and others, some blooms being four inches across the petals.

Robt. Craig & Bro. had a collection of decorative palms, some noticeably fine ones being Areca lutescens, Rhapis flabelliformis, Kentia belmoreana, Cocos weddeliana and Phœnix reclinata.

Some new geraniums were shown by W. P. Simmons of Ohio, among which were the following fine double and semi-double sorts: Ferd. Lombard, Catulle Mendes, Pres. Carnot, Triomphant. Good whites were Paul Arene and Beauté Poiterine. The best singles were Mde. de Reydellet, La Lorraine, Mde. La Baronne de Fins Univers, Violet and Unique.

R. A. Dreer's exhibit of decorative plants included some twenty-five varieties of ferns, useful both for cutting and table decoration. Some of the finest were Davallia tenuifolia stricta, Nephrolepsis infescens triplumatifide, a new form and greatly admired, a seedling of Davallia figiensis. Plumosa was very fine with a peculiar habit of growth, especially valuable for decorating; Pteris lepiophylla somewhat rare; gymnogramma schizophylla, elegant for growing as a single specimen in a basket; Pteris tricolor, a hothouse fern, quite scarce but very beautiful; Nephrolepsis bausie, very attractive. Among a large display of the new French cannas the following five were recommended as the brightest and best: Prof. David Frans, Laperte, Mde. Oriole, Antoine Chautin and Admiral Courbet.

The largest single display was over 150 varities of gladiolus by James Vick, embracing an almost infinite range of color and marking. The following twelve were selected as the finest and most distinct: Romulus, scarlet, white blotched; Amatie, fine very large rose; Mde. Fantado, pink striped; Longfellow, almost pure white; Agrius, salmon; Theresa du Vilmorin, white with dark throat; La Poussin having a bluish tint; Africain very dark; Diamant speckled pink on white ground; Pactolle, yellowish tinge; Brunetta, fine scarlet; Princess of Wales, white blotched with crimson. E. E. S.

Large Pears.—In Ellwanger & Barry's collection of fruit at the State fair was a plate of five Souvenir du Congrès pears, the largest of which weighed 14½ ounces, and the total 3¾ pounds. The Souvenir has not yet worked its way into the list of popular pears, but as a big one it stands at the head.

The Station Exhibit.—In addition to the novel collection of "food contents" shown by the Geneva Experiment Station at the State fair, and heretofore described, there was a display of sorghums in cane, 150 varieties of potatoes, several new apples and tomatoes, some very large onions, and two varieties of sweet potatoes—the Southern Queen and Spanish Red, one of the latter weighing 2 lbs. 11 oz. To raise such sweet potatoes in Western New-York, in such a cold wet season, seems really a marvel.

Cauliflowers on Long Island.—A correspondent calls our attention to the following slip cut from the Port Jefferson Times of Sept. 27th:

Close upon the heels of a partial failure of the potato crop through rotting, comes the news from various points on Eastern Long Island that the cauliflower crop has almost totally failed through the same cause. In Menorville the crop has not sufficiently developed in some of the fields to warrant picking, and in Mattituck and east of that place the rotting will result in an almost total loss. In a few cases there is not yet any indication of rot, but the farmers are afraid to tie the plants up lest rotting ensue.

In East Moriches, Orient and the near vicinity the yield will not be of sufficient value to pay for plowing the ground, not to speak of the other expenses which have been entailed. Through the Hamptons careful observation failed to reveal scarcely a single successful crop.

Last Saturday, Henry T. Osborn of East Moriches tied up 2,000 heads, and on Monday he cut enough to fill thirty barrels. He let them lie in his barn over night, and the next day not a barrel of them was fit for shipment to market.

George Cooper of Mattituck planted seven acres of cauliflower which he thinks will prove a total loss. And so on the reports come from many east end farmers. The recent heavy rains are generally assigned as the cause of failure.

Fancy Breeds of Dogs.

The Scotch Terrier.

Every new breed or new aspirant for public favor has to run the gauntlet of a scorching criticism ere it is finally accepted, but the Scotch, or Scottish, terrier has had to bear more than a usual share. Around it fierce controversies raged for many years, and it was not until after a great struggle that the type was determined, and the breed as we now see it acknowledged. To the perseverance of the breeders north of the Tweed is this due, and but for their determination and pluck it is probable that the result would never have been achieved. Fortunately there were a number of breeders who knew the type which they regarded as the true one and most fitted to bear

New Advertisements.

Ag't Prospect Hill Farm	Shropshires.
American Hoeburns Co.	Lands for Sale.
Adams, Wm. L.	Typewriter.
Aldrich, G. H.	Hampshire-Downs.
Brosnan, W. O.	Chesters.
Box 1381	Situation Wanted.
Blair, C. L.	Artic-Netherland Bull.
Berry, John J.	Mastiff.
Christie, Alex.	Short-Horn Bulls.
Cedar Hill Farm	Holstein Steer.
Curtis Publishing Co	Ladies' Home Journal.
Cloud Bros.	Jersey Heifers.
Clarkson, H. L.	Jersey Bull Calf.
do do.	Jersey Heifers.
Drawer N.	Farmer Wanted.
Eaell, J. Horatio.	Jersey Bull Calf.
Farley, G. W.	Herd of Jerseys.
Frederick, G. J.	Farm for Sale.
Griggs, James A.	Sale of Short-Horns.
Holly Grove Farm	Choice Stock.
Johnson, John B.	Poland-Chinas.
Miller, Geerit S.	Holstein-Friesians.
Maplewood Farm	Polin Ducks.
Paper	Facing Gelding.
Pratt, Jacob H.	Short-Horns.
Proctor, T. R.	Berkshires.
P. O. Box 980	Man and Wife Wanted.
Roberts, I. P.	Dorset Rams.
Redpath	Help Wanted.
Rich, C. L.	Scotch Drums.
Snell's Sons, John	Berkshires.
do. do.	Cotswolds.
Streeter, S. S.	Oxfordshire-Downs.
The Aermotor Co.	Steel Aermotor.
Worcester Wire Co.	Agents Wanted.
Wheeler, Theodore.	Jersey Bull Calf.
Willits, Charles F.	Holstein-Friesian Bull.
Zephyr, S. Z.	Situation Wanted.

Pamphlets, &c., Received.

ANDERSON, H. S., *Union Springs, N. Y. Nursery* Lists.

COFFIN, L. A., *Fort Dodge, Iowa.* "A Plea for Railway Employes" concerning car couplings and Sunday trains.

HOLLOW CABLE MFTG. Co., *Stroudsville, N. Y.* Illustrated Circular of Preston's Braided Barbless Fence Wire.

LAWES, SIR J. B., *Rothamsted, Harpenden, Eng.* "History of Field newly laid down to Permanent Grass;" pp. 20.

U. S. BUTTER EXTRACTOR Co., 1 *Broadway, New-York.* Circular: pp. 30, illustrated.

Inquiries and Answers.

Studying Farming.—My father bought a farm in Erie county three years ago, and moved on it, thinking he would like farming better than city life. But on account of mismanagement and homesickness he became disgusted and returned to the city last spring. I want to work for a reliable farmer in this vicinity, of whom I thought I might learn something. I have received much useful information as well from your paper as from my employer, and my desire for more knowledge has increased. I am 20 years of age, of strictly temperate habits, and I would like to learn from you where, and in what manner, I could fit myself as a general manager of some large farm, preferably a gentleman's place. Would I have to go to some college? Or could I fit myself for such a position by working for some large farmers, or on a gentleman's place? And how long would it take me to fit myself for such a position? E. C. F. *East Aurora, N. Y.*

[Doubtless the best way for you to acquire a thorough practical knowledge of the best farming, would be to obtain a place for work on some of those which are under the best management. With constant observation, some agricultural reading, and an occasional attendance of conventions, you may gradually acquire a good knowledge of the business. At first, you will have to engage with moderate wages, which may be increased as your services become more valuable. The propriety of attending or going through a course in an agricultural college, must depend on circumstances and personal preferences. If you simply wish to become a successful practical farmer or manager, or to obtain a profitable income, it would be hardly necessary, as you might by reading and other occasional means, obtain a fair knowledge of the leading scientific principles connected with agriculture; but if you have a special desire to examine and test these principles through life, for your own satisfaction and for aiding in the advancement of scientific agriculture, and you can afford the time and means, such a course would be very useful and afford you much satisfaction.]

Bone and Blood Manure.—One of our citizens buys from the butcher shops here all the bones, skulls, waste fat, &c. When he has enough collected, by some process of steaming he renders out all the oil, which he sells, and throws the refuse into a pile outside. The bones are then very easily broken, and after exposure out doors become quite fine. I send you sample by mail. Please let me know the value of this compared with the ordinary bonedust found in market. (1) What would you consider this worth per ton on land which responds well to the ordinary commercial fertilizer? The land is a light sandy loam, from which formerly a growth of fine oak and chestnut was cleared, and it seems to respond well to phosphorics and potash. Is there any acid which could be used on these bones to any advantage? (2) If the expense were little enough to warrant it, would one thousand pounds per acre be any justifiable advantage to wheat, fruit, grass and hay? (3) What is the estimated value of a barrel of blood as a fertilizer? (4) E. *Valparaiso, Ind.* [1. The substance sent consisted chiefly of fragments of old bones mixed with some sand. They are easily reduced by pounding to powder, in which condition if applied to land they would be as useful as common bone meal, with the exception of the absence of nitrogenous matter, and the presence of sand. On land which is chiefly benefited by bone alone, they would of course be useful. The real practical value could be determined only by making the trial; but as "ordinary fertilizers" are found beneficial on your land, it is probable that this pulverized bone would likewise be beneficial, experiment showing to what extent. 2. The *market* value could be nearly determined by analysis, but it is probably worth nearly as much as bone black, which varies from $16 to $18 a ton. Impurities would of course reduce its value. It may be converted to superphosphate by adding sulphuric acid, and one-quarter as much acid would be sufficient. This applied gradually in connection with water, for which some experience and skill, and knowledge of details, are requisite. 3. With or without this preparation, it would be useful for any of the crops named on such soils as need it, to be tested by actual trial. 4. Blood before drying is about nine-tenths water; dried blood sells in market for $35 to $40 a ton.]

Plantain.—I wish you would tell me how to exterminate the common dooryard plantain when it infest the fields. We find by waiting for the last crop of weed seed to drop and germinate before plowing under we can subdue them, but this plantain does hold its seed in its tight husks so long that I fear they are not all dropped and sprouted before the new spikes have ripe seed in them, which will grow many years hence if plowed under. We have thought they could be mastered by successive crops of buckwheat and rye, never allowing any plant to ripen its seed, but it would take many years, as the ground seems to be full of seed. J. H. *New-Jersey.* [The plantain being a perennial, cannot be easily cleared from land by common cultivation in a single season. The seed having been plowed under, and turned up and sprouting every time the land is successively cultivated, years are required to work out the foul seed in common farming. A summer fallow, plowed and harrowed every few days, may be the means of clearing the land of the seed in a few months. In a lawn, or in a grass field, which is not turned up by plowing, the seeds near the surface only germinating, the plants, if few, may be cleared out with a spud; and new seeds prevented from ripening by cutting with a lawn mower every few days. When land is subjected to a regular rotation this is not often a formidable weed.]

A Pear.—I send you by to day's mail a specimen of a pear which is in bearing on my farm, and I would be pleased to have the correct name, as I am unable to name it. D. D. *West Newton, Pa.* [The box in which the pear was sent being crushed in the mail, and the pear being partly decayed and flattened, very little could be seen of its appearance, but a small uninjured portion indicated that it was a melting fruit of fine flavor. But, out of a thousand described and named varieties, which vary in character and quality with season and management, a name could not be given from so small a fragment.]

Size of Bullfrogs.—Is not Mr. Seiss mistaken when he gives the size of bullfrogs as 18 inches in length and 21 inches as a possible size? I have become acquainted pretty widely with the Rana family, but never knew of them reaching such a size as this. I have seen, in all, thousands of frogs' hindquarters in the New-York city markets, but none of this gigantic size. In the French frog farms, the average largest sizes I have seen have not exceeded 6 to 8 inches. H. S.

Panic Grass.—The sample sent by C. G., Charleston, Ill., Sept. 23d, is *Panicum proliferum*, "proliferous panic grass." Cattle are said to be fond of this grass, and at the South a large variety of it is sometimes cut for hay, and is readily eaten by horses and cattle.

C. H. P.

Acknowledgments.

Communications for publication have been received during the week ending Oct. 7, from W. Falconer—J. B. Parmly—H. P. M.—J. B. McEwen—L. Anderson—W. C. F.—Geo. A. Stockwell—S. B. Strong—L. B. Pierce—R. W. Stewart—H. O. Otis—D. F. Appleton—C. B. C.—A. M. Gee—Edgar Knapp—Henry Stewart—A. K. Cross—G. G. C.—W. I. Chamberlain—Thomas Bowick—A. Jeffers—Jas. Neil—F. M. Horton—D. S. B.—L. S. Mason—C. B. Moore—G. S. Leighton—Edwin Haviland—W. Horne—Hortense Dudley—J. H. Clark—T. B. Baldwin—Delano Moore—J. M. Budd—S. H. C.—B. F. Johnson—T. J. Hill—S. T. Keene—Geo. E. Brown—J. W. Ingham—W. C. C.—H. Walter—S.—Stephen Beale—H. G. Taube—R. Worthington—R. W. Stewart—W. W. Newman—Attwood Pierson—Edward Lee.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Oct. 10, 1889.

Storrs Experiment Station—Bacteria.—Bulletin No. 4 of the Storrs School Agricultural Experiment Station gives a summary of some of the conclusions reached at the station in the examination of milk and other substances, under the direction of Prof. H. W. Conn, and in connection with the investigations previously made by scientists. Those minute organisms called bacteria, so small that a hundred thousand would be required to fill a space as large as the head of a pin, are found abundantly in air, water and soil, and in plants and animals. They multiply with great rapidity, a single individual in the course of a few days producing millions. There are many species of them, occupying different substances. While growing or multiplying, they produce great changes in the medium they occupy. All fermentation, as the raising of bread and fermenting of beer, and the rotting of potatoes and decay of wood, are produced by them. They are of immense value as well as of injury. They change dead animal and vegetable matter into a state to be used as food by plants. On the other hand they cause disease in plants and animals. They vary in form, and are severally compared to that of a lead pencil, a ball, or a cork screw. They are universally regarded as plants.

They grow with great readiness in milk and cream, which under ordinary conditions cannot be kept free from them. Milk from a healthy cow is free from them, but they enter it from the air during milking. An experiment was tried at the station to keep them out. Test tubes were washed perfectly clean and plugged with cotton. They were heated so hot that all living matter in them was killed. With great care, milk was drawn directly into them, and the cotton plugs replaced. They soured in a few days, and many bacteria were found in them. In specimens of "ripened" cream the number was extremely great, from 10,000 to 100,000 individuals having been found in a single drop. Even in a cellar in winter, 12,000 have been found in a drop. Unclean vessels are the great source of contamination. Some bacteria cause milk to sour by breaking up the milk-sugar into lactic or acetic acid and carbonic acid, and curdling results. Others require considerable warmth to effect curdling. In connection with curdling there always arises a characteristic odor, differing with different species of bacteria. There is a sour smell, a smell like sour bread, a smell like soft soap, like salt mackerel, like a pig pen, and like the barn-yard. There are others which cannot be described for a want of words in our language to designate odors.

The ripening of cream is due to the growth of bacteria, and it contains these organisms in almost inconceivable abundance. By successive heatings, cream has been deprived of all bacteria, and it then remains unchanged indefinitely. Butter separates more readily from ripened cream, and the churning is easier. Bacteria are also the cause of rancidity in butter.

"Organic matters," in the words of the bulletin, including many forms of what are ordinarily called *dirt*, are media for them to grow in; milk is especially adapted to their development, and the most minute quantities serve for their rapid growth; and they are sure to adhere to the surface or cling to the joints of vessels that have contained milk. The necessity for the thorough cleansing of all vessels used in handling milk is apparent. It is necessary to use *boiling* water, and to have it in vessels for a considerable time.

The practical conclusions reached from the investigations made, are that "vessels in which milk is kept for creaming or for transport, should be most carefully cleansed before the milk is put in. As cold retards, and heat, up to certain limits, favors the growth of bacteria, the advantage of keeping milk cold and cream warm is easily explained." The advantage of keeping cream warm under circumstances favorable to the growth of bacteria is to induce ripening, facilitating churning, butter made from ripened cream keeping longer than when made from sweet cream.

The many species of these organisms, and the many different mediums in which they increase, render their study a complicated one, but the few pages of this bulletin give in condensed form much useful information relative to some fields of investigation.

The English Flower-Garden.—A revised and greatly enlarged edition of the beautiful and valuable book bearing this title—written by that well-known authority, Mr. W. ROBINSON, author of "The Parks and Gardens of Paris," and several other works of like character, and editor of our highly esteemed exchange, the Garden—has just been published by John Murray, 50a Albemarle St., London, W. It consists of three parts. The first contains a series of excellent practical chapters. The second, filling 600 close-printed octavo pages, is a dictionary of flowers of the open air, including a very great number, with descriptive matter for each. The third part is a similar but briefer list of flowering shrubs and trees. Altogether the book has 832 pages, profusely illustrated and handsomely printed, and it is with much pleasure that we place it in our reference library. The price, not including postage, is 15 English shillings; we do not know that it can be had in this country except by sending to the publisher.

Lawns in Autumn.—Old lawns have often become unsightly by neglect, or from having been badly managed in the first place. Patches of brown grass mixed with patches of bright green are caused by the soil having been cultivated to unequal depths, or not cultivated at all when the seed was sown. The importance of giving the ground intended for the lawn a uniformly deep and mellow cultivation, should be well understood at the outset; and manure well worked in and pulverized during the operation will aid in making a permanent and uniform growth of the grass. A serious mistake, sometimes made, is in simply making the surface level by paring off knolls and filling depressions. The knolls become spots of poor soil, and the depressions give a deep rich bed, making a poor lawn in one place and a rich one in others, the whole causing an irregular growth with a patched and spotted appearance. It would be better to leave the uneven surface undisturbed, or with a slight rounding of the sharp points, if a deep mellow bed cannot be made over the whole surface, either by trenching by hand, or by the use of the subsoil and trench plow. During the latter part of autumn the ground may be thus fitted in excellent condition for sowing the grass seed at the earliest period practicable in spring.

Lawns which have lost their deep green and have become dull brown through long neglect, may be restored to a fair degree of their original brilliance by a proper amount of top-dressing every autumn, but coarse manure should never be applied, to disfigure the ground. Commercial fertilizers will answer on such soils as experience has proved to be benefited by them, or pulverized compost on all soils. On lawns attached to the farms of the wealthy, occupying several acres, the dressing may be handsomely applied with a Kemp manure spreader.

The owners of small places or village grounds need not be deprived of the satisfaction of a handsome green carpet about their dwellings. The hand lawn mower once a week will keep the surface neatly shaved with little labor; and the annual enriching top-dressing will preserve its greenness. If the situation prevents trenching by way of preparation, the deficiency must be made up with fertilizers, varying with a difference in spots of soil.

The owners of small places sometimes think they cannot afford any space for vacant lawn

ground, nor for ornamental trees and shrubs. This need not prevent them from having neat, tasteful and finished grounds, occupying them to some extent with what they deem more useful in the way of fruit-bearing trees. The lawn being already provided for, pear and cherry trees may be properly distributed, and pruned to produce ornamental effect. The smaller growing pear trees, such as the Seckel, will be appropriate; and a few of such cherry trees as Downer's Late and Large English Morello, will not disfigure any small grounds if kept in suitable shape. Avoiding shrubs of straggling growth, neatly trained currant bushes may line the exteriors. If the lawn is generously top-dressed every autumn just before winter, with a finely pulverized compost, and the grass during summer is kept short by the regular weekly use of the lawn mower, the growth of the trees will not be impeded like that of the neglected trees in rank grass.

Honduras.—The American-Honduras Company now own over 3,000,000 acres of land in Honduras. Their advertisement will be found on another page, and we are assured that great inducements are offered to those desiring a change of location.

Correction.—In the middle of the first column on page 751 of our last number, the printer by mistake changed *brad awl* into "broad-awl." The term brad-awl is defined by Worcester as "the smallest boring tool used by a carpenter."

Advertising in the Country Gentleman. I am well pleased with your journal as an advertising medium. I received letters from Wisconsin on the west, and North Carolina on the south, besides many from intervening points. And among all the papers I take I think yours the best for the farmer and breeder. D. W. McCain. *Rough & Corners, Pa., Oct. 1.*

Duchess and Ulster Club.—The next meeting of the Duchess and Ulster Farmers' Club will be held at the Grand Army Hall, Highland, Ulster Co., N. Y., Tuesday, Oct. 15, at 10 o'clock A. M. Regular trains on the Po'keepsie Bridge railroad in time for the morning session, returning at the close of the evening session. Stage from the W. S. railroad and Ferry. Subjects for discussion: "Care of stock and feeding for milk and butter," by J. V. H. Nott; "Diseases of grapes and remedy," by Wm. D. Barns; "Diseases of other Fruits," by A. J. Caywood. Question box a prominent feature. All the family invited. Edgar Knapp, president.

The Proposed Albany Fair.—The Schenectady Union has the following remarks on the proposal to establish a great agricultural and industrial show at this city:

The fairs that amount to anything now a-days are not mere county gatherings, but either those of an aggregation of counties or of a special kind in a large city, as for instance the New-York Institute of many years' standing. Just now while the projected world's fair for 1892 is causing much public interest, the subject of fairs in general receives an attention seldom before given it. The close of the late State fair marks its permanent transfer to Syracuse. The fact has caused a plan to be broached for the annual holding of an Inter-State or Eastern New-York fair at the capital of the State. This project, the more it is examined, will be found to obtain support. Just so soon as the public becomes well acquainted with the object will the call for it become more general. Interviews which have been published with the representative business men of Albany show much confidence in the permanent success of the enterprise. Col. William H. Terrill, superintendent of Domestic hall at recent State fairs, shows that by holding an Eastern New-York fair early in September, with a moderate rate of admission and full press facilities, its financial success is more than certain. Albany not only possesses the forty-seven acres of late State fair grounds, but Island park and a large tract of Van Rensselaer property, all accessible, can be obtained for fair purposes. The question of a suitable site is therefore one easy of settlement. Schenectady and every adjacent county to Albany in the Mohawk or Hudson river valleys is intimately concerned in an Eastern New-York fair. The project is certainly a feasible one, and its attainment, with proper push, can be expected.

The Albany Argus follows its article quoted on p. 746 with another, from which the following paragraph is taken:

The movement for an Inter-State or Eastern New-York fair, to be held in this city every year, is receiving the support of leading business men, and there is good reason to believe that next summer will find everything in readiness for the first of the Eastern New-York State fairs. Already men of experience, who have been interested in State fairs of former years, are looking over the ground with a view of organizing a company, though no steps have yet been taken for such an organization. The present fair grounds contain forty-seven acres, and could, it is said, be bought for about $40,000—possibly less. These grounds are well adapted to fair purposes, and are capable of accommodating large gatherings, but, should they be purchased by the Eastern New-York Fair Association, many improvements will have to be made. The buildings on the grounds are not in the best of condition, and one at least—Domestic Hall—needs rebuilding. Mechanical Hall is in a fairly good condition, and its equipment is good. The dwelling house is in a habitable condition. The facilities for reaching the grounds are good, both the Delaware and Hudson trains and the electric cars passing the gates.

PARTRIDGE COCHINS—S

The Albany Journal has the following remarks on the same subject:

One of the objects for which the Journal Farmers' Club was originated was to urge the * * holding of an annual Eastern New York fair near this city. It is * * not necessary that the State should give aid, or that the adventitious attractions of horse racing, balloon ascensions or circus performances should be called in. The agricultural fair can hold its own without these, as the State fair just held at Albany sufficiently proves. Nor do we need, either, the aid of Buffalo, Rochester or Elmira. The counties of Franklin, Clinton, Essex, Hamilton, Herkimer, Washington, Warren, Saratoga, Fulton, Otsego, Montgomery, Schoharie, Schenectady, Albany, Greene, Rensselaer and Columbia, with Berkshire in Massachusetts, and Bennington, Rutland, Addison, Chittenden and Franklin counties in Vermont, can make quite as good a cattle and horse and sheep show, and as good an exhibition in every respect, as that just given here, and under competent management even a better one, without any support or assistance from the State.

Concurring in the spirit of these remarks, we would suggest that while it is probable (and in fact desirable) that the proposed show would draw a large part of its support from the near-by counties of New-York, Vermont, Massachusetts and Connecticut, yet it would be well to avoid giving the impression that merely or substantially a *local* affair is intended. Competition should be open to everybody, with premiums sufficiently high to attract competition from long distances; and we think it would be safer, in choosing a name, to follow the example of the Buffalo and Detroit associations, and call the show by the name of the place where it is held, rather than adopt any title which would seem to suggest that only a limited district was expected to be interested.

"The Stars."—In the article on this subject in our last number, page 756, the well-known star which is sweeping through space at the rate of 200 miles a second, was by mistake printed 183 instead of 1830 Groombridge. This star excited the attention of astronomers many years ago, on account of its rapid motion, yet such was its immense distance from us that it was found to require 500 years for it to pass one degree in the sky. These distances were not conjecture; they were as fully determined by measurement as a land surveyor determines the breadth of a wide river with his compass without crossing it.

The fear has sometimes existed in the inquirer's mind, that these enormous globes rolling with such lightning speed through space, would come in collision with one another. This fear arises partly from the fact (which astronomers seem to have overlooked,) that the fixed stars, whose light is as bright as the sun, appear by the glare of this brilliance thrown around them, immensely larger in magnitude than they really are. For illustration, let the light of the sun shine through a

The Grazier and Breeder.

Problems for the Feeder of Stock—I.

WHERE THE PROFIT GOES—FEEDING TOO LONG—IMPORTANT RESULTS OF RECENT EXPERIMENTS.

Much of the profit in raising and feeding stock is wasted by feeding too long. During the past few years the tendency has been to market animals earlier. The common sense has advanced in this direction; but it, or at least the common practice, has not advanced far enough. From a report on some cattle-feeding experiments, published in the seventh report of the Illinois University, I quote: "Time once was when it was thought we must have matured animals to feed profitably. It was said a young animal will grow, but not fatten well. Cattle were thought to be like the man's cider—all it wanted was age. With the the improved breeds this is changed, and it is found that while an animal is growing is the time to fatten him, be he a steer or a pig." At that time such a sentiment was far in advance of practice—in the East as well as in the West. Yet it was correct then. It was founded on feeding trials, the results of which had just been given: "10,065 lbs. of meal, or its equivalent, was required to make 1 lb. of growth or increased weight with the 12 steers, and 4.5 lbs. same to make 1 lb. with the calves, or less than 43 per cent. of the amount required with the more mature cattle." The "12 steers" referred to, fed at the University, were "two years past" when put up; the calves were six months old when put up. Other things than age being as near equal as they could be made, it required less than one half as much food to put a pound of gain on cattle six months old as upon cattle two years old. The calves could have been fed at handsome profit while the two-year-olds were fed at a loss. Yet I know that at that time a majority of Illinois feeders preferred steers four years old to steers younger for fattening. I lost the sale of a steer by telling the truth of its age—it was three years old; the buyer thought it was four.

Since the time of the Illinois experiments there has been obtained from scientifically conducted practical feeding tests, abundant evidence that feed given to the young animals makes the most gain. In this field of scientific practical feeding trials, I look first to Profs. Henry and Sanborn. An expression of Prof. Henry's latest views, found in a recent annual report from the Agricultural Experiment Station of the University of Wisconsin, is certainly of value. He says: "Other things being equal, a young animal makes much better gains for a given amount of feed than an old one. Farmers cannot be too careful on the point of putting their feed and money into young cattle, and avoiding old ones."

This was immediately suggested to Prof. Henry by feeding trials with steers made in 1867 and 1868. While the object of these trials was to determine the advisability of grinding grain for cattle, they brought out plainly the fact that feed, ground or whole, made more gain on young than on older animals, although the difference in the ages of the animals was not comparatively great. Three year old steers, averaging 1,333 lbs., required to make 100 lbs. of gain, 402 lbs. of hay, 535 lbs. whole corn, and 267 lbs. bran; or 453 lbs. hay, 562 lbs. corn meal, and 292 lbs. bran; while steers one year old, coming two, not fed so heavily, required to make 100 lbs. gain, 633 lbs. hay, 267 lbs. corn and 184 lbs. bran; or 589 lbs. hay, 310 lbs. corn meal and 155 lbs. bran.

In June, 1865, the same station began feeding sixteen calves from four days to four weeks old. The calves were fed two years. The cost of 100 lbs. of gain in the first period—96 days of summer—was $3 14; in the second period—84 days of fall—$3 38; in the third period—94 days of winter—$3 47; in the fourth period—42 days of spring—$6.86; in the fifth period—212 days of summer and fall—$3 59; in the sixth period—65 days of winter—$6 13; in the seventh period—88 days of winter—$16.01; in the eighth period—57 days of spring and summer—$6 19. These figures bring out other facts, of which hereafter; but if we put together, as Prof. H. has, the first four periods, aggregating 303 days, we have $4.19 as the cost of 100 lbs. of gain; while to make the same gain during the last four periods cost $6.13. During the second year a pound of gain cost almost 50 per cent. more than during the first year. The average profit made on feeding cattle is much below 10 per cent. Plainly these calves were fed during the second year at an actual loss. And, while it is not necessary to feed yearlings at a loss, the greatest profit is made before the animals reach their first anniversary.

Of the scientific data bearing on this point which have come to my attention, that given by Prof. Sanborn in the annual report of the Missouri State Board of Agriculture, I consider the most valuable. Prof. Sanborn tabulates above one hundred feeding periods with swine, with various foods, carried on during the past ten years with a view of bringing out this point. The weights of the swine were taken at the middle of each feeding period. Forty-seven pigs, having an average weight of 35 1 pounds, required 3.67 lbs. of food to make 1 lb. of gain. Forty-three pigs, having an average weight of 71.5 lbs., required 3.79 lbs. of food to make a pound of gain. Forty-eight pigs, having an average weight of 134.8 lbs., required 4.18 lbs. of food to make a pound of gain. Forty-one pigs, having an average weight of 177 lbs., required 4 87 lbs. of food to make a pound of gain. Sixteen swine, having an average weight of 221 lbs., required 4.48 lbs. of food to make a pound of gain. Eighteen swine, having an average weight of 267 lbs., required 5.704 lbs. of food to make a pound of gain. Six swine, having an average weight of 326 lbs., required 6.75 lbs. of food to make a pound of gain. In the experiments these groups were divided into so many lots, were fed such a variety of foods, while yet the same combinations were carried through the different groups, that the average results just given must be as near correct for comparison as it is possible to get them. Let us analyse the results briefly: Taking pigs weighing 35.1 lbs. as the standard, to put gain on pigs weighing 71.5 lbs., costs 3.3 per cent. more; on pigs weighing 134.8 lbs., costs 14 per cent. more; on swine weighing 177 lbs., costs 19 per cent. more; on swine weighing 221 lbs., costs 22 per cent more; on swine weighing 267 lbs., costs 55 per cent. more; and on swine weighing 326 lbs., costs 81 per cent. more. Again, to put the same gain on swine weighing 267 lbs., costs 39 per cent. more, or on swine weighing 326 lbs., 61 per cent. more than on swine weighing 134.8 lbs. Certainly we need not be convinced that our profit in swine feeding is less than 39 per cent. Hence, after the hog reaches a weight of 250 lbs. we must feed at a heavy loss. In fact, if we make good use of the figures given we will see plainly that the line between profit and loss is crossed earlier, and we will agree with Prof. Sanborn when he says:

"These tables show that the per cent. eaten steadily declines with increasing size, and as steadily requires an ascending amount of food for a pound of growth. As the animals approach maturity, this growth-cost rapidly advances in a new ratio. Fifteen years of work with and for farmers at institute meetings, and by correspondence, have shown me that the belief is almost universal that the advanced shote, say weighing 150 lbs. and upward to 200 lbs., will make growth cheaper than shotes weighing 150 lbs. and downward. This false view is tenaciously held, despite evidence to the contrary.

"These tables ought to be conclusive on this point, and, when added to the maintenance facts given, ought to banish almost every shote over eight or nine months of age from our State. The 350-lb. hog requires nearly twice as much food for a pound of gain as does the 50-lb. pig."

There is another fact bearing upon the age to which pigs should be fed, that is not brought out in the above, as the various groups cover feeding through all seasons of the year. Quite a number of experiments in feeding pigs and other animals have shown that almost fifty per cent. more food is required to make a certain gain in winter than in summer. By feeding the spring pig in such manner as to make the most economical rate of gain—of which hereafter—we may bring it to a weight of from 150 to 200 lbs., and market it before cold weather. We avoid winter feeding altogether. We feed through the most profitable age of the animal and the most profitable seasons of the year. By so feeding we can make a handsome profit; by feeding longer we reduce profits—may destroy them altogether. I can remember when my father's hogs were famous throughout the county, and farther. It was his boast that he did not market hogs that did not average 400 lbs. live weight; in fact, his lots averaged nearer 500 lbs. These hogs were about eighteen months old. He made money out of them, for they were good hogs and he was a good feeder; but he found later that smaller, younger hogs were more profitable, and he marketed younger ones. He could make money out of 300-lb. hogs then; he could not now. Very few such heavy hogs are now marketed; yet many are brought to a weight above 300 lbs.; many hogs for the slaughter-house are wintered over. If we would get the highest profit, and it is certainly none too high these days, we must stop this. We can afford to feed spring pigs through the winter only when they are to be used for breeding.

This point applies to other animals as well as to swine. In Prof. Henry's report it is shown that gain on calves or older cattle cost more in winter than in summer, and this has been demonstrated by other experiments. If there may be doubts of the wisdom of shortening the life of the animal by six months, there can be little doubt indeed of it when those months are cold ones. It follows that the grain-feeding of cattle on grass is to be advocated. The reader need not be very old to remember when it was thought that cattle could not be grain-fattened on grass; but this false notion has been exploded, and experiments have shown that the cheapest gain is made by a combination of grass and grain. The feeds supplement each other, water is abundant, and the weather is mild. We need not keep cattle through the cold weather to grain-fatten them; they need not be kept through the cold months in order to ripen them; this is not necessary, and the evidence is conclusive that it is destructive of profits. Looking only to the most economical gain in feeding, spring calves are the more desirable, because in their life there must be the most warm weather, the time of greatest profit. In conclusion, while we have advanced in the right direction, we have not advanced far enough. We market our animals at a younger age; yet a large majority of us feed our animals too long. The old lady, in making gooseberry pies, used all the sugar her conscience would allow, and then shut her eyes and put in another handful. Many of us should prepare to market our animals at as early an age as we can persuade ourselves to decide upon, and then shut our eyes and get the animals ready for market a little earlier.

Quincy, Ill. JOHN M. STAHL.

Rations for Stock with Ensilage.

EDS. COUNTRY GENTLEMAN — About two years ago I became possessed of a farm which the owner had but carelessly managed for several years. As I did not find a ready sale for it, I determined to improve it, and put a man on it who is fast bringing it to a high state of productiveness. We have just built a silo, which, with another built this year, are the only ones in La Grange county. I have quite a flock of sheep; some of them I intend to feed, and others to keep as stock sheep. We also keep quite a number of brood mares on the farm, and some cattle and hogs. We have tried to find out at what period the corn, which was partly drilled and partly planted in the ordinary way, had best be cut for ensilage, and have concluded that the tendency is to cut the corn much more mature than formerly. We have cut it in what we believed to be the "glazed" state, commencing to cut the fodder but a short time before what we would have done, had we cut it in the ordinary way. I have read, with great pleasure, Prof. E. W. Stewart's book, entitled "Feeding Animals," and it seems, from what he says on page 283 and following, that the ensilage will not prove as complete a ration as I thought it would, and the question suggested to my mind was as to whether or not the analysis that he gives was made from corn in as mature a condition as what is now cut for ensilage. We have plenty of other corn on the farm, oats, some clover hay, and plenty of oat and wheat straw; can buy linseed oil meal for about $34 a ton, and bran $10 to $11 per ton. I wish Prof. Stewart, or some other one of your competent editors, would answer my query as to the analysis of ensilage, as I have made it, and give me their ideas as to what would be a good ration for the sheep we are feeding, as well the stock sheep as the other stock we have on the farm.

Fort Wayne, Ind. T. E. E.

Some of the points made by T. E. E. have been referred to in previous answers. In reference to the analysis which he desires of ensilage from corn matured to the roasting-ear stage, he will find this point considered in the answer to E. on page 312, present volume. He should turn to and carefully read this. He will find in that answer that I think it doubtful if ensilage from mature corn is more valuable than from corn in full tassel, or at the period when the ear begins to form. E. does not state how short he cut the corn into the silo—for sheep, especially, the shorter it is cut the better.

2. I should advise him to feed his fattening sheep a ration combined in the following proportion: 40 lbs. ensilage, 5 lbs. cut oat straw, 3 lbs. corn meal, 6 lbs. wheat bran, 2 lbs. linseed meal. The corn meal, wheat bran and oil meal should be well mixed together, dry, and then thoroughly mixed with the ensilage and cut straw. Probably the moisture in the ensilage may be sufficient; if not, the cut straw and ensilage may be moistened before the ground feed is mixed with it. This combination is to be fed to the sheep twice per day, what they will eat clean, in troughs.

This combination, when given in analyzed formula, shows the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
40 lbs. ensilage	0.40	6.00	0.32
5 lbs. cut straw	0.07	2.13	0.03
3 lbs. corn meal	0.35	1.91	0.14
6 lbs. wheat bran	0.66	3.06	0.20
2 lbs. linseed meal	0.36	0.32	0.13
Total	1.89	13.42	0.82

This has a nutritive ratio of 1 to 6.8—a good fattening ration for sheep. And if the ensilage is in good condition, the sheep should make rapid progress in fattening—better progress than if fed upon good hay with the same grain. The succulent ensilage will have nearly the effect of grass.

3. E.'s ration for stock sheep, which are presumed to be principally breeding ewes, may be composed as follows: 30 lbs. ensilage, 4 lbs. cut clover hay, and 4 lbs. wheat bran. Let this combination be mixed together, as before directed, and then given to the sheep in two feeds per day, letting them have what they will eat clean.

4. Let the ration for brood mares be the following: 20 lbs. corn ensilage, 5 lbs. oat or wheat straw, 6 lbs. wheat bran, and 8 lbs. ground oats. Let the cut straw be mixed with the ensilage and make it moist enough to cause the bran and ground oats to adhere to it, so that all will be eaten together. Care should be taken to have as little moisture added as may be, and have the whole eaten together. This is a ration per head as well as a combination of food. It may be given in two feeds. It may be presumed that these brood mares are not performing regular work. If they are, the amount of ground oats would have to be increased.

5. If E. proposes to grow pigs and wishes to develop them as they should be, he will have to avoid feeding corn to young pigs, as it contains too little material to grow the muscles and bones.

He will find directions in many of the answers to these questions on feeding, giving instructions for growing young pigs. If he has no skim milk, he may feed half wheat bran and half ground oats, by weight, mixed with a little fine ensilage. E. W. S.

Dishorning Cattle—Care of Bulls.

EDS. COUNTRY GENTLEMAN—We are having a rainy season this time; the hay crop good, pastures excellent, and oats above an average, but other crops are deficient.

The dishorning of cattle so much discussed in your valuable paper finds no favor with us. Short-Horn and Jersey breeders consider the horns an advantage in judging the quality of their animals. Devon breeders would not think of sawing horns off, for they are their glory and their pride. The Ayrshire would pass unnoticed in a crowd if her swirly horns were taken off, and the Holstein admirer think their favorites would look very odd without horns. Still we have a goodly number of hornless cattle in Susquehanna county, brought about by the introduction of the Red Polled cattle. We have two large herds of this breed; so those in dread of horns can purchase one at a reasonable price and avoid danger, and they look to be a very good general-purpose cow.

The dishorning question has been brought about by the mischief done by bulls. I have had twenty-five years' experience with bulls wearing horns, and perhaps my method of handling them may be of advantage to many of your readers. I keep the animal tied on pasture from spring until cold weather sets in, except in bad storms. He is tied near water for convenience, and under the shade of trees in warm weather; but not so near that he can reach the tree, for he is sure to injure trees if he gets within reach of them. I find the best method of fastening is a piece of wood driven into the sod with crowbar and beetle. The piece of wood we drive into the ground is five inches in diameter with an iron ring on top to prevent splitting, one and one-half inch eight

hole is put through the wood under the ring to run a piece of chain through and fasten with a snap. The wood is two feet in length and dressed to a point at one end, and is better than any of the iron contrivances that I have used for the purpose, as the iron often comes loose in wet weather. My chief protection in going around the animal is a light hay fork, and although last mentioned it is the most important part of my story, as I would not take care of a bull without a fork on any consideration. The fork is seldom used—just enough to prove that it is sharper than horns; it is well to let wrong doing pass without notice. I find we get along better to have as few quarrels as possible.

Susquehanna Co., Pa. CHRISTOPHER BYRNE.

Sorghum and Corn Ensilage.

EDS. COUNTRY GENTLEMAN—Will Prof. Stewart please give feeding value of sorghum compared with corn (without the ear). With good seasons, we can raise two crops of sorghum in one season on the same land, cut it down and put in silo July 1st, and it will grow up and mature sufficiently to go in silo again in October, before frost. It will make more per acre than corn. C. A. S. *Augusta, Ga.*

C. A. S. is informed that from the few analyses that have been made of sorghum in the state of maturity that it would be to raise two crops in a season, putting the one into the silo the last of June or first of July, and the next in October, it would have a feeding value as ensilage very similar to that of corn cut when out in full tassel. The corn would have slightly more albuminoids but less carbohydrates, and as all ensilage in the milk ration must be balanced by more nitrogenous food, the sorghum would probably have a value per ton equal to that of corn. But as sorghum has a little tougher rind or outside husk to the stalk, it should be cut short into the silo, say not more than half an inch.

C. A. S. has very nitrogenous food at his hand in cottonseed meal to balance his sorghum ensilage. His other feed may be wheat bran, middlings, and probably the different kinds of rice feed, cow-pea meal and cow-peavine hay. The following ration given in analysed formula would be found excellent for cows in full milk:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
40 lbs. sorghum ensilage...	0.96	7.20	0.11
5 lbs. cowpea vine	0.47	1.65	0.02
3 lbs. wheat bran.....	0.36	2.30	0.15
5 lbs. rice bran.....	0.60	2.40	0.15
4 lbs. cottonseed meal....	1.49	0.60	0.34
Total.....	3.38	14.65	0.75

Nutritive ratio 1 to 5. Cow-pea meal may be substituted for the wheat bran or the rice bran with improvement of the ration, but it probably costs much more. This ration would be very successful, though perhaps other cheaper foods might be used. E. W. S.

The Dairy Department.

A Long-Island Conference.

MATTITUCK—A CONSUMERS' MEETING—SOURNESS IN CREAM—CREAM-TESTING.

A most interesting conference was held on Long-Island, near the northeastern end, at Mattituck, on Marvatooka farm, the property of Charles W. Wickham. Mr. Wickham has erected a model butter factory on his farm, in which choice butter is made. He purchases the cream and conducts the affairs of his factory on careful business principles. He uses the oil-test to determine the amount of butter due each patron. After the conference a number of farmers signified their intention to support this enterprise, which they were convinced would build up and maintain the agriculture of their county.

This part of Long-Island is the best for farming, and the fine crops of corn and cauliflower are the best, undoubtedly, in the State. A large sum is now annually paid for manure brought from New-York, and for commercial fertilizers, which can be saved, in part at least, by purchasing foods and changing them into butter and home-made fertilizers. There is also a profitable opening for making pork of the best kind by the use of the wasted vegetables rich in lean meat.

Prof. D. P. Horton of Southold secured the conference, and was most efficient, with Mr. Wickham, in making it a success. Nowhere has there been such a proportion of the consumers of butter present as at this sea-shore resort. They came in their carriages from their summer homes; and at the afternoon session, beginning at 3.30, there were additional numbers by rail. The meeting was timed for the trains. The second churning was deferred for the consumers to see, and the lectures were shaped for their benefit. It is proper to say that there has been nowhere a more appreciative audience. For more than an hour and a half these business men, with their families, sat on the plank seats in the woods and heard about the dairy industry of our great State; and then they were shown, in a complete manner, how choice butter was made and fitted for their tables. The dairymen made warm friends that day—and God bless them! they need them. More than one richly dressed lady came up to the instructors and thanked them in person, with a hearty shake of the hand, for the pleasure afforded, and the knowledge obtained at the butter conference. I feel especially indebted to Prof. Horton for his foresight and personal effort in bringing about this romantic and valuable meeting.

The energetic and faithful secretary of the Suffolk County Agricultural Society, Hon. Nat. Foster, was the chairman, and Prof. Horton secretary. Hon. Josiah Shull was present, and was warmed up to make a most interesting talk. Mr. Gilbert, with his new check apron and skillful ways, gave a practical finish which not only made good butter but gained general approval. Long-Island is sure to contest her ability to be a dairy section. They have a right to do this since Wm. Crozier has gone up head in butter yield. Mr. Wickham furnished the cream from 200 lbs. of milk. Cows, Jerseys; feed, pasture only—clover and timothy; soil, sandy loam; water for cows from a well and spring; salt, free access. Milking regular, morning and night, 5 to 6 o'clock. Milk set in Cooley creamer, at temperature of 65°; creamed in 20 hours, producing 43 lbs.; cream ripened 15 hours at a temperature of 64°, then at 50° for 15 hours; raised to 64°, when put in churn. This cream was in good condition. Churned in a very small Davis swing churn; butter came in granules in 45 minutes; product 10¼ lbs.; ratio 19.51 lbs. milk for a pound of butter.

Second churning—200 lbs. of milk from native cows, owned by John Hallock of Mattituck; pasture timothy and clover; no meal fed; cows pastured near salt water, and require no salt, nor do they receive any salt except from the dews on the grass or that inhaled from the atmosphere. The milk was set in ice water at about 45°, producing 87¼ lbs. of cream; milk strained at 95°; stood to cream 23 hours; cream matured in 23 hours at a temperature of 64°; churned at 65°; butter came in granular form in 22 minutes; same churn; product, 7 lbs.; ratio, 27 57 lbs. of milk to one of butter. In reference to the large weight of cream in the test of Mr. Wickham there must have been considerable milk drawn from the cans with the cream. This is often the case, as the cream line is sometimes difficult to determine, and milk is allowed to run out so as to be sure to get all the cream. By surface skimming there can always be a better separation of the cream from the milk. It is not a good plan to have much milk mixed with cream, as it sours more rapidly. It is better to thin the cream, if necessary, with water.

So long as people think that *sourness* is the chief end of cream, mistakes will be made in its care. This sourness idea, unhedged by other considerations, is the chief cause of so much poor butter. In some way a large amount of butter is spoiled, and in my judgment, it is before it gets to the dignity of butter. The trained dairyman or woman knows that strong fermentation, begun in the cream, follows in the butter, and a skilled taste will class the butter as sour and off in flavor. The germs of putrefaction, walk, as it were, in the footsteps of fermentation, and when cream is over-sour it is over-fermented, and putrefaction is at the very threshold, or has already begun its work. One thing is sure—the sympathy or twinhood is so close, that over-sour cream results in frowsy or rancid butter. The safer way is to avoid over-sourness, and always churn cream when acidity is fairly developed. When cream is left over night, in which acidity is already developed, the butter will not be as good as if it had been churned the preceding day, nor will there be as much. A great deal of butter is beginning to be rancid while the cream is still on the pans, and before it ever gets into the cream pot or the churn. Slippery-looking cream is already loaded with the beginnings of decay. Puffed up and blistered cream is too much fermented, and when the whey comes on top and blue mould appears, the rot is well advanced, and one pan of such cream will spoil a whole churnful—not right away, perhaps, but when the butter is tried afterward the ferment and beginnings of putrefaction will have developed to the cost of five or ten cents a pound. There is chemistry in the milk pan, the cream pot and the butter tub, as well as the fulfillment of nature's laws, that all things are doomed to decay. Cold only puts off these inevitable results, while heat is the natural element which stimulates more active work. We cannot afford to neglect the milk nor the cream, nor to fool with fermentation.

The following extract is from one of your old subscribers and an ex-congressman, who was mainly instrumental in obtaining the repeal of the 20 per cent. tax on live-stock imported for breeding purposes. He was then a member of the committee on agriculture in the House of Representatives, and before this was one of the agricultural committee in the New-York Assembly, and the chairman, I believe, when the law was passed for erecting the present agricultural hall, where the State society has its rooms. You will join with me in the pleasure of hearing from this old, staunch friend of agriculture—Hon. C. T. Hulburd of Brasher Falls, St. Lawrence county:

"I see in almost every number of the COUNTRY GENTLEMAN an interesting report of the dairy conferences, and much valuable practical matter about dairy affairs. I want to ask you to give me the name and maker's address of a good test instrument, or tryer, of the quality of milk. You can readily see its value and importance for a small dairyman who wants to weed out his poorest milkers and fatten them. He wants to get at this too many times to set pans by themselves, as there are so many conditions—night, morning, temperature, and the effects of feed. I read your reports of the conferences always with interest and profit."

This matter is of general interest. He gives some of the results in his dairy, which are excellent, but, like other progressive dairymen, he wants to test his cows and do better. The space system of estimating the quantity of butter is not as complete as the oil test. When cream is first thrown up, especially in a very cold setting, it will measure quite a good deal more than it will several hours afterwards. The nearer all the conditions are alike with the measuring system, the closer the approximation will be. This nearness should include breed of cows, temperature of setting and raising, and time of skimming or measuring. The coming dairyman must be on this common line.

I do not know of any test instrument which will give the actual percentage of butter in milk. There are instruments which give some approximation of the solids, as to water, but they do not determine the quantity of butter fats.

I should advise, as the simplest method of testing milk, to take a pint of morning's milk and put it into an open quart bottle, and set it in a cool place for securing the best results in creaming. Do the same thing with a pint of night's milk, and then mature them alike and put them together and churn them, or agitate the mass till the butter separates. The milk and butter may be weighed, and the percentage of butter and milk be found. The first lot of milk should be kept at a temperature of 50° or 55° until the second one is ready to mature, and then be mixed and set in a warmer temperature. This is the proper way to handle cream, and then it will change together and be alike. Mixing a lot of sweet or green cream with a lot of sour does not change at once, chemically, the sweet cream, although the mass may taste sour. A slow and complete change in the whole churning is what is wanted, and that perfection. F. D. CURTIS.

Testing Value of Cow.

EDS. COUNTRY GENTLEMAN—I have just been reading the short article entitled "Reducing Fat in Cow," p. 717. I also have such a cow, registered Jersey, 4 yrs. old last spring, calved last in February, 1888, is due again Oct. 15th; has been a light milker, 4 qts. per day since I bought her in May, but very rich milk; is also fleshy, a beautiful creature, but I thought of selling her or turning her into beef on account of small quantity of milk. When I read your article the thought came to me that perhaps I could, by proper treatment, get a fair ration of milk from her. Of course I expect more than she gives now after calving, but fear she is to be a small milker, unless her food goes to her flesh instead of milk, and that can be counteracted. She has been out to pasture, and has had recently, until the last week, 4 qts. of coarse bran per day. Am milking her still, but not dry. The directions to "G. S." appear to fit my case. Shall I take her out of pasture and put her on the ration you give him, or will it do as well to let her run in pasture? Have no clover hay, but timothy mostly. Pasture but fairly good.

New-York. C. H. S.

C. H. S. should not decide too hastily to dispose of his cow, for she may develop into a valuable butter-maker. It is very probable that her milk is so rich that 4 qts., properly handled, will make a pound of butter. He had better take her from the pasture and feed her as in directions given to G. S.

If he can get clover hay it would be better than timothy. The bran and the cut hay should be mixed together. But it is not probable that his cow will ever develop into a large milker, yet the value of the cow depends more upon quality than quantity of milk; 10 lbs. of milk may have a greater value than 25 lbs. Cows that give a large quantity never yield the richest milk. A few weeks after his cow drops her next calf, he should set her milk by itself for two days—raise the cream, ripen it and churn to butter, weighing the milk when set, so that he can determine the number of pounds required for a pound of butter. He must remember that a few days' feeding does not test a ration, and that changes are made very slowly. When a cow gives a large quantity of common milk and an effort is made by special feeding to increase its richness, when successful, it usually reduces the quantity. But these changes are produced gradually, generally taking many months to determine how much may be effected.

Although his cow is taken from pasture she should be allowed exercise in a yard daily, except in stormy weather. We think S. will find his cow to pay for careful feeding and hope he will report his success to the COUNTRY GENTLEMAN. E. W. S.

Bran in the Butter Ration.

Order in Education.

EDS. COUNTRY GENTLEMAN—On page 687 Mr. WEBSTER complains of the "offensive tone" of my criticism on his statement that "bran is worthless as a food in the butter dairy," and calls it "discourteous," but this was very far from my intention. My endeavor was simply to show that bran has an important food value as a part of the ration for dairy cows. And, perhaps, the "discourtesy" of my criticism lay principally in successfully proving this fact. He remarks with a lofty air, "I do not scribble an article a week for newspapers." It may occur to others that a correctly written and instructive article relating to any branch of the great industry of agriculture may be of as much service to the people as trying a suit at law.

Referring to my comments upon his statement, he says: "Again he misunderstands me; he makes me say that bran draws on the vital force." I quoted his precise words and nothing more. Did I make him say or his own words make him say? Should a liberally educated gentleman complain if he is supposed to mean what the ordinary signification of his words convey? Had he used words expressing what he now says he meant "to condemn the feeding of bran in large quantities to make butter," my criticism would not have been made, as I have never advised feeding bran as the principal part of the butter ration, and seldom more than one quarter of the grain ration—the proportion he fed to Ethicel 24—and especially when, as in that case, the balance of the grain ration was made up of corn hearts and oats, both nitrogenous foods. But as the counselor still undervalues bran as a food for butter, will he please explain how Mother Carey (page 3) could yield such remarkably rich milk as to produce 27 lbs. of butter from 149 lbs. of milk, when the feed was 2 qts. corn meal and 12 qts. wheat bran, the principal food being bran? This milk stands the third richest reported in vol. 2 of Butter Tests. And it is easy to show from the practical tests in the volume that bran is one of the best butter foods.

But these comments on his reply to my criticism were begun principally to outline his particular advice to those seeking to learn the best system of feeding, or what he seems to regard as the proper order in education. He says: "Your correspondent, Mr. Watson, can learn much more by standing over his cows and feeding them himself than by consulting chemist as to the relative [illegible] to eat precisely the system of [illegible] followed

dairymen for hundreds of years—"standing over their cows and feeding them," without ever "consulting a chemist" or desiring to learn the special nutritive qualities of the different foods they fed! And what progress do they make? Would the counselor advise law students to get their knowledge of legal procedure by simply looking on in court, without consulting the masters of legal lore? What would he think of a physician who should advise students of the healing art to go first into an hospital and act as nurse, standing over the patients and observing the effect of the medicines instead of learning the principles from the best medical teachers, preliminary to practice."

On the same plan, engineering could be best learned by examining bridges, arches, &c., without any study of mechanical principles! The great fact is, no important progress was made in the science of feeding, or in special animal development, until chemistry came to its aid by showing the peculiar nutritive qualities of different foods. And this leads to the statement of the true order in education. Every science is founded on principles—these principles should first be learned and then applied in practice—science with practice. This is the true order in education.

But I can fully endorse the counselor's credit to the evidence of the cow's laboratory as to the nutriment in early-cut timothy rather than any analysis that makes ripe timothy more nutritious. Ripe timothy is "richer" in carbohydrates and poorer in albuminoids (muscle-forming nutriment) than early cut, but both classes of nutrients are less digestible in ripe timothy. The cow's laboratory determines digestibility better than chemistry. E. W. S.

Jersey Tests at Appleton Farms.

EDS. COUNTRY GENTLEMAN—I am able to send you four more tests made at my farm during this season as follows:

1. LADY DARTMOUTH 28159—In seven days from Aug. 12 to 18, 1889, made 21 lbs. 12 oz. Her feed during the test was 30 lbs. of grain of one-third each corn meal, wheat middlings and ground oats per day, with good pasture. She gave an average of 34¼ lbs. of milk per day. The sire of Lady Dartmouth is Lord Dartmouth 6909. Her dam is Snowball of Deerfoot 2d 14457. She is therefore a granddaughter of Eurotas.

2. MUSQUITA 28469—From Aug. 26 to Sept. 3, 1889, 17 lbs. 3 oz. Her feed per day was 30 lbs of grain, one-third each corn meal, wheat middlings and ground oats, with good pasture. She gave an average of 32¾ lbs. of milk per day. Her sire is Ramapo 4679, and her dam Money Musk 12714, who is a daughter of Sir George 7656. Musquita is therefore also a granddaughter of Eurotas.

3. BELLE BONAIR 28960—From Sept. 10 to 16, 1889, 16 lbs. 3¼ oz. Her feed per day was 32 lbs. of grain divided as follows: 10 lbs. corn meal, 11 lbs. wheat middlings and 11 lbs. ground oats, with good pasture. She gave an average of 27 lbs. of milk per day. Belle Bonair is a granddaughter of Stoke Pogis 3d through her sire Romeo de Bonair 4091. Her dam is Obella 5080, a tested prize taker.

4. EUROTISIMA 29068—From June 20 to 26, 1889, 27 lbs. 1¾ oz. Her feed per day was 20 lbs. of grain divided equally, ¼ corn meal, ¼ ground oats and ¼ wheat middlings with good pasture. She gave an average of 36 lbs. of milk per day. Eurotisima's sire is Young Pedro 9063. Her dam is Amité 16877, a daughter of Ramapo. She is, therefore, a double great granddaughter of Eurotas.

The above week's test of Eurotisima was made in the course of her test for one year, which commenced April 23d, 1889, the progress of which test I have reported from time to time in the COUNTRY GENTLEMAN.

I will further report to-day that she has made in 20 weeks, that is 140 days, 447 lbs. 8 oz. It is, say, an average of 22 lbs. 4 oz. per week, or reduced to ounces, it is for the 140 days 51.1 oz. per day. The nearest report that I have to this, in number of days, in Landseer's Fancy's test, is for 151 days, 479 lbs. 2 oz., which reduced to ounces is 50 8 oz. per day. So it appears in this test, as far as it goes, which is not a perfect parallel, as it is for 11 days' less time, that Eurotisima has beaten the queen's record 0 3 oz. per day.

I claim nothing for this more than the figures indicate, and do not pretend to predict, and hardly expect, that at the end of the year she will take the record away from Landseer's Fancy, now the acknowledged queen of Jerseys. D. F. APPLETON. *Ipswich, Mass., Sept. 20*

Hard to Milk.—A cow has one teat that milks very hard; never any trouble with it otherwise. S. E. F. *Lowell, Mass.* [I should advise you to let it alone. E. H.]

The Poultry-Yard.

Partridge Cochins.

(For Illustration see Page 781.)

The only one of the minor varieties of the Cochin which is at all popular in this country is the Partridge, which is bred to a very great degree of perfection, and of which splendid specimens are usually to be found at the leading shows. The richness of color in the cocks, and the fineness of marking in the hens, are very great, and give the breed a high position as one of the handsomest of the Cochin tribe. The Partridge variety of the Cochin has been known since the breed was first introduced into this country, and at the outset there were two shades, the Partridge and what was called the Grouse-colored, but the latter has almost disappeared. In the 1854 edition of Moubray's book, this color of Cochin is spoken of as follows: "These sub varieties—i. e., the Partridge and the Grouse-colored (if indeed they are not one and the same)—when the markings are clear and distinct, form a very pleasing and interesting variation in the poultry-yard. The cocks are termed 'black-reds,' from the fact of their bodies being black, with red or orange neck and rump hackles; the back a bright, deep red, and the wing coverts the same color; down the centre of each of the feathers of the neck hackle is a streak of black, which gives a pretty and variegated appearance. Sometimes (but rarely) the cock will be slightly partridge or grouse-marked on the breast and hinder parts. The hens are much handsomer as regards the plumage than the cocks; they are uniformly marked or spangled all over their feathers—the grouse-markings being generally clearly and well defined, giving the hens, in the eyes of some fanciers, a very beautiful appearance."

The partridge cochin is a much more difficult fowl to breed in perfection than is the buff or the other varieties, all of which are self colored, and though there has been a great improvement in the best established strains, yet a goodly number have to be produced to secure a few good birds. Separate pens have to be mated up for cocks and hens, as the markings are so distinct that they cannot be secured in perfection from the same birds. What will breed well-marked pullets will be of no use whatever for cockerel breeding. This is now the case with several of the chief varieties of poultry, and while it may add to the beauty of the birds in the show pen it adds tremendously to the difficulties in the way of the breeder. No variety of fowl which is in this condition can ever become really popular, in that a double breeding stock is necessary when the object is exhibition, and those who only keep for their own pleasure and do not seek to win prizes cannot adopt this method. It is, however, the fact and we cannot help it now, but it shows that the standards for marking are false and artificial in that they do not show the ideals of one breed built upon nature's own lines, but really the bringing together under one name of what are practically two varieties. It is found that as great a variation in the plumage of the sexes is by no means uncommon among wild birds, and therefore in this respect the canons of fancier law does not go beyond nature herself, but these differences should ever be such as can be produced from the same parents. In some cases this could be done even with present standards by the expenditure of a little time and trouble, but as this would mean a loss of time (for the process would possibly take some years) breeders prefer the present system which is much the easier when anyone has sufficient space to keep two distinct sets of breeding pens. There, however, is the fact, and much as we may regret it, still it remains.

In their economic properties the Partridge Cochin does not differ much from other members of the same family. It is essentially a fancy bird nowadays, though we believe it to be a rather better layer than the Buffs. Like all the Cochins, it is a much better winter than summer layer, and the eggs are rich in color, but very small as compared with the size of the fowl laying them. All Cochins are devoted sitters and mothers, too much so for those who wish above all things to see a well filled egg basket. They are excellent eating when young, and I desire no finer fowl than a Cochin about 14 or 15 weeks old. Beyond that age they begin to lose both flavor and tenderness, and the weight of bone is more and more apparent. Even when young they are not suitable for market poultry, and they are never very salable in this land where white flesh is regarded as the best.

Taking the general characteristics of the Cochin as the basis, the following are the points of color in the Partridge Cochin as adopted by the English Poultry Club:

COCK.

Comb, Face, Deaf-ear and Wattles—Bright red.
Beak—Yellow, shading to horn color.
Head—Dark red or orange.
Eye—Orange or pearl, the former preferred.
Hackle—Orange or golden red, each feather having a glossy black stripe down the centre.
Back and Shoulder Coverts and Wing Bow—Rich dark red.
Greater and Lesser Coverts—Metallic black.
Primary Quills—Bay on the outer web, black on the inner.
Secondary Quills—Part of outer web forming "wing bay," bay color; remainder of feathers forming "wing butt" black.
Saddle—From a bright golden color to a rich orange red, each feather having a metallic black stripe down the centre.
Breast—Rich black.
Underparts of Body and Thighs—Black.
Tail—Glossy metallic black.
Legs—Yellow, feathers black.

HEN.

Comb—Face, deaf-ear and wattles; bright red.
Beak—Yellow, shading to horn color.
Head—Light brown or yellow, finely pencilled.
Eye—Orange or pearl, the former preferred.
Neck—Golden yellow, each feather striped with greenish black down the middle.
Remainder of Plumage—Light brown, every feather to be distinctly pencilled with a darker shade and uniform over the whole body, the pencilling to follow the outline of the feathers, a light shaft being objectionable.
Legs—Dusky yellow.

The principal breeders of this variety in this country at the present time are the Right Hon. Lady Gwydyr of Stoke Park, Ipswich; Mr. J. Wood of Brinscall, near Chorley; Mrs. Goodall of Melton Mowbray; Mr. R. Southern of Worsley, near Manchester; Mr. G. H. Wood of Ivor Heath, near Uxbridge; and Mr. F. Nettlefold of Norwood, London.

H—, England. STEPHEN BEALE.

What I Know about the Gapes.

Gapes is a disease which is usually found in young chicks. The peculiar symptoms are a gaping of the chick affected, accompanied by restless, uneasy movements, and subsequent weakness and death, with which all poultry-breeders are familiar. The supposed cause of the disease is the lodgment in the throat of the chick of knots of small red worms, which can often be extracted with a feather or a looped horse-hair, and the patient be cured. The origin of these worms has been much discussed, but from the fact that they usually accompany wet weather, or heavy dew on the grass where the young chicks feed, it is surmised that the eggs from which they are hatched are derived from the moisture or rain water, and subsequently develop in the throat. Chicks which drink from rain-water barrels are also much afflicted with them. Older chickens can cough or sneeze them out, but young birds are suffocated and die from the effects of their parasitic activity.

Various remedies have been recommended to destroy the eggs and worms, the best among these being turpentine and carbolic acid. The Poultry Keeper's method of administering the former remedy is a good one, and is as follows: "As soon as signs of gapes appear, feed the entire brood with a warm mass of corn meal moistened with milk or boiling water. To each pint of meal, add a teaspoonful of spirits of turpentine. Mix the turpentine with the meal while the meal is dry. Feed it moist and warm as stated above, and see that every chick eats. If any refuse, give them a pill of the mixture. This will at least prevent the spread of the gapes, and in many cases will cure the disease."

Another method of using the turpentine remedy, is by stripping a feather, dipping it in spirits of turpentine, and twisting it in the chick's throat. The worms cannot stand a strong-smelling substance; hence garlic and assafœtida have been successfully used in France. Giving the bird a small piece of camphor daily, and putting a few drops of camphor or turpentine in the drinking water, is also a good remedy. If a few drops of kerosene be put in the drinking water each day, it will be found useful.

In case none of these simpler remedies prove effectual, the process of fumigation must be employed, the main object being to cause the chick to sneeze or cough the parasites out. For this purpose put the chicks in a small box, covered with a cloth, having a slatted bottom; heat a brick, iron shovel or oyster shell, pour carbolic acid on it, and allow the fumes that arise to pass upward into the box for from two to ten minutes, according to density. Watch the chicks closely to see that they do not suffocate. This has proved very effectual, but must be done with care, otherwise [illegible] will be destroyed also. Sulphur, [illegible] tar may be used in the same way. [illegible] is also a valuable remedy, and may [illegible] down through the cloth until the chicks [illegible] readily, or a small pinch may be dropped [illegible] the throat of the chick, the bill being [illegible] it has inhaled some of it. A powder [illegible] in England, and used for the same [illegible] as follows: "Powdered quicklime, [illegible] dered sulphur, ¼ lb; tincture of aconite [illegible] oz; arsenious acid (white arsenic) [illegible] oil of thyme or oil of cummin, 1 [illegible] to be kept in a closely stopped [illegible] vent slacking of the lime or evaporation [illegible] volatile constituents. When required [illegible] three tablespoonfuls are placed [illegible] sion in the centre of the coop, and [illegible] blast from the nose of a bellows blown [illegible] into the air, filling the coop and [illegible] nostrils of the birds."

If possible, chicks troubled with gapes [illegible] be removed from the healthy ones to [illegible] ground disinfected with the carbolic [illegible] recommended above for cholera. [illegible] should be burned or buried deeply.

Essex County, N. J. C. E. W.

Record of the T[illegible]

Review of Passing E[illegible]

The Pan-American Congr[illegible] propriation of $126,000 was made [illegible] Congress for the assembling of d[illegible] North and South American go[illegible] discuss methods and measures of [illegible] fit, after a visiting trip through[illegible] States. The congress met at Wa[illegible] 2, and partially organized by t[illegible] president of Secretary Blaine (w[illegible] viously made the address of w[illegible] then adjourned to Nov 18. Th[illegible] time will be spent in a 5,000 mile [illegible] of the government through twen[illegible] main lines of 30 roads, to see the [illegible] industries of the country. The [illegible] attachés number about 50, repres[illegible] ernments; the United States h[illegible] gates. Subjects for discussion w[illegible] union, free communication, arbitr[illegible] and measures, patents, copyrigh[illegible] American trade is now chiefly [illegible] hands, but South Americans say t[illegible] States could obtain the most of [illegible] reciprocity.

A National Trip.—On Thu[illegible] train of seven Pullman cars, [illegible] managed by the Pennsylvania r[illegible] ington with the South America[illegible] a 43 days' continuous trip unde[illegible] and crew, the first of the kind o[illegible] Point was reached late in the a[illegible] 50 minutes run from Weehawken [illegible] The visitors were received by [illegible] Wilson and Secretary Proctor, [illegible] of Grant, Sherman and She[illegible] George W. Child, were unveiled [illegible] by General Horace Porter and [illegible] man. After cadet drills, Oct. [illegible] taken to New-York by the gun[illegible] and by steamer Puritan to Fa[illegible] ton, where they visited variou[illegible] 5th, public institutions the [illegible] mills at Lowell and Lawrence [illegible]

New State Elections.—[illegible] went Republican, Oct. 2, by [illegible] for prohibition, 2,000; D[illegible] three judges and 25 member[illegible] South Dakota, Republican 1[illegible] bition 5,000; capital, Pierre, [illegible] went wild with joy. A c[illegible] started, and lots worth $10[illegible] fore sold for $1,000. Over [illegible] changed hands Oct. 4. Washing[illegible] 8,000; constitution, 18,000; le[illegible] publican majority on joint ba[illegible] and woman suffrage defeated[illegible] cided. Montana, governor R[illegible] lature very close and dou[illegible] man, Republican. The Aust[illegible] tem was used with success.

From Abroad.—The Liv[illegible] ner collapsed, Sept. 30, leaving [illegible] the chief operator, with over[illegible] bales on hand.—Cotton mills [illegible] resumed work.—Prof. Melv[illegible] Librarian of New-York, le[illegible] brary Progress" before [illegible] brary Association, Oct. 2, [illegible] tions to the Parnell def[illegible] closed, amount to £41 000, an[illegible] —The Rotterdam dock s[illegible] cumed work under a comp[illegible] 5d. an hour and at least fou[illegible] day.—The American exhibi[illegible] position has received 53 gran[illegible] medals, 271 silver medals, 2[illegible] and 220 honorable mentions [illegible] of Paris are to land Russi[illegible] bles.—Reballots of 6th were [illegible] —Germany will expend 3[illegible] new war ships.—Extraordi[illegible] paid to Queen Natalie on [illegible] Sept. 30, to visit her son [illegible] —A hurricane swept [illegible] persons killed, 240 buil[illegible] Dr. Samuel A. Allibone of[illegible] thor of "Dictionary of A[illegible] cently in Switzerland, aged[illegible]

Geographique, Montreal to Southampton, ran into a sailing vessel off Island Miquelon, Oct. 2, and sank. Crew and cattlemen escaped in boats, but several are missing; 825 head of cattle, 285 sheep and 73,000 bushels of grain lost; mostly insured.—Particulars of the riot at Navassa Island, Sept. 14, show that four Americans were butchered by negroes and several injured in the riot. Warrants have been issued from Baltimore.

Minor Items.

Prices of wire and steel are rising.

Thomas Edison reached New-York, Oct. 6.

The Cronin jury has not yet been completed.

Electric cars are now running between Albany and Troy.

New dried Lima beans from the Pacific coast are now in market.

Michigan University has over 2,000 students —304 in freshman class.

Of California's new raisin crop, 7,727 boxes arrived in New-York, Oct. 1.

Maine veterans, 400 in number, dedicated a State monument at Gettysburg, Oct. 3.

A broken electric wire paralyzed a young man in New-York who stepped on it.

The New-York Central road now builds its own sleeping and parlor-cars at East Buffalo.

Massachusetts Democrats have nominated William E Russell of Cambridge for governor.

The First Congregational church of Quincy, Mass., recently celebrated its 250th anniversary.

The University of Pennsylvania, or at least its faculty, favors the admission of women students.

The First regiment Conn. N. G., visited Montreal last week. Governor Bulkeley and Senator Hawley went along.

The new Johnstown, Pa, directory, puts the number drowned at 2,500. Of 95 saloons and liquor stores, all but six were wiped out.

Stratford, Conn., had its 250th anniversary Oct. 2. New things are at a discount just now in the Nutmeg and other New-England States.

John L. Smith, a trustee of Wesleyan University since 1831, and the last of the original 21, died at Middletown, Conn., Oct. 4, aged 93

Gilman P. Robinson, registrar of Brown University and son of the ex-president, has disappeared, leaving a $6,000 shortage in his accounts.

A decision in the United States court at Pittsburg gives Edison priority in the use of fibrous carbons over Westinghouse, as well as Sawyer and Mann.

The Farmers' Loan and Trust company of Kansas has been found bankrupt by the eastern stockholders through loans made on worthless property.

A violent hailstorm, Oct. 1, did great damage for West Philadelphia florists. Horticultural Hall, in Fairmount Park, was much injured. The storm reached Albany.

Although at first denied, the grand jury of New York has indicted Sheriff Flack and five associates for obtaining a fraudulent divorce. Judge Bookstaver is severely criticised.

The steamer City of Kingston, a Hudson river boat, has been sold to the Oregon Steam Navigation company, and will be taken to Portland via Cape Horn and the Straits of Magellan.

The corner stone of a new building for the New-York Academy of Medicine was laid in West 43d street, Oct. 2, with addresses from ex-President Jacobs and ex-President Cleveland.

At the annual meeting of the National Civil Service Reform League at Philadelphia, Oct 1, President Geo. W. Curtis severely criticised the administration for failure to fulfill reform pledges.

The steamer Corona of the Ouachita line exploded her boilers on the Mississippi river, Oct. 3, near Port Hudson, sank, and 46 lives were lost, including Captain Blanks, 30 hands and 13 passengers.

The trial of Gen. Lester B. Faulkner at Buffalo for wrecking the First National Bank at Dansville, N. Y., in 1887, of which he was a director and his brother James president, resulted in a sentence of seven years' imprisonment.

Clark University, Worcester, Mass., was formally opened, Oct. 2, with addresses by Founder Jonas G. Clark (who gave $2,000,000) President G. Stanley Hall, Senator Hoar and Dr. E. E. Hale. A new degree, "Docent," will be given to men specially qualified to teach.

A recent outcome of the seven-year Hatfield-McCoy feud in Pike county, Ky., was the shooting of Peter McCoy's daughter, John Hand her intended husband, and a clergyman who was about to marry them. Hand was a relative of the Hatfields, but not connected with the disputes.

John Smith, assembly ceiling contractor, was arrested, Sept. 30, on charge of fraud and conspiracy, in suit brought by Attorney General Tabor to recover $250,653; released on $50,000 bail. A few weeks ago Smith brought action to recover the amount withheld on his contract. Sub-Contractor Sullivan has since been arrested.

New-York Democrats, at Syracuse, Oct. 1, nominated for secretary of State, Frank Rice of Ontario; for comptroller, Edward Wemple of Montgomery; State treasurer, Elliott Danforth of Chenango; attorney-general, Charles F Tabor of Erie; State engineer, John Bogart of New-York; judge of the court of appeals, Denis O'Brien of Jefferson.

The seventh annual conference on India affairs at Lake Mohonk, N. Y., took plac Oct. 2-5, with General Fisk as president The contract-school system was discussed b Commissioner Morgan, Dr. Abbott, General Howard and Armstrong and ex-Presiden Hayes; also by letters from General F. A Walker and Bishop Whipple.

Ex Governor John A. Martin died at Topek Kansas, Oct. 2, aged 50. He was a delegate t the territorial free-state convention in 1858; t the first State convention, 1859, and to the N tional Republican convention in 1860. Durin the war he served as colonel, provost marsh and brigadier general. In 1866 was electe commander of the State G. A. R; in 1884 governor on the Republican ticket.

The 35th triennial convention of the Episc pal church met in New-York, Oct. 2—the cen tennial of the adoption of the constitution c the church—60 bishops and 400 clerical and la delegates present. Bishop Williams of Con necticut and Rev. Morgan Dix of New-Yor presided over the two houses. Prayer-boo revision was discussed, and sixteen change adopted, giving more freedom and flexibilit to the service. Mission work was considere in one body.

For a disordered liver try Beecham's Pills. 12

Farm Produce Markets.

Albany Markets—Oct. 7.

FLOUR.—The Argus says: Trade has been good with average receipts and firm prices.

	1889. Oct. 5.	1889. Sept. 28.	1888. Oct. 6.
Com. State	$3.50@4.00	$3.50@4.00	$3.00@3.5
State Extra	4.10@4.60	4.10@4.60	3.40@3.6
Amb. State & W	4.65@4.75	4.65@4.75	3.60@3.6
O., Ind. & St. L. R'y.	4.75@4.90	4.75@4.90	3.60@3.6
Winter W. Pat	5.25@5.60	5.25@5.60	3.70@3.9
Minn. "Bakers"	4.00@4.75	4.00@4.75	3.60@4.0
Sp'g W. Pat., new	5.00@5.00	5.00@5.00	3.80@3.9

Rye Flour—In fair demand and steady at $3.@3.85 per bbl.; Graham, $4@4.50. Oat Meal doing moderately well at $5.50@6.00 per bbl. Corn Meal in good demand and steady at $2.50@2.75 per bbl. Buckwheat flour selling fairly at $3@3.30 in the street, and at $2.60@2.80 per 100 lbs. in store.

GRAIN.—Corn steady, easing at close. No. 2, 43@43¼c. per bu.; No. 3 mixed, 41¾c. Oats steady and firm. No. 2 white, 32@32½c.; No. 3, 29@29½c. Rye quiet and steady; State, 54@55c. per 56 lbs.; western 51@51c. per 56 lbs.

HAY AND STRAW.—Both in good demand and firm; receipts fair. Timothy, prime, $14@15 per ton; good, $13@14; clover, $7@8; mixed, $11@12. Rye straw, best, $11@13; oat straw, $7@10; wheat straw $13.

HOPS.—Market dull and unchanged.

N. Y. State, 1889	18	@18c
N. Y. State, 1888	6	@10
Pacific Coast, 1889	10	@12
Bavarian and Bohemian	30	@35

Albany Street Market—Oct. 7.

BUTTER.—Choice, 23@25c. per lb.; good to prime 19@20c.

EGGS.—Near-by and new laid, 23@24c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c per lb.; forequarter, 4½@6c.; mutton, carcasses, 6@7c.; lamb, hindquarter, 10@11c.; forequarter, 7@8c.; veal, 8@9c.

POULTRY.—Fowls, 10@12c. per lb.; chickens 12@15c.; turkeys 12@13c. spring ducks, 13@15c.; green geese, 11@12.

FRUIT.—Apples, $1@2 per bbl.; Cranberries, $3@4 per crate; Grapes, Concord, 2@4c. per lb.; Delaware, 8@10c.; Diana, 5@6; Niagara, 10@12c.; Peaches 1@1.50 per basket; Pears, $3@4 per bbl.; Plums, $2@3 per bu.

VEGETABLES.—Cabbage, $1@2 per 100; Celery 30c.@$1 per doz. bunches; Cauliflower, $1@1.50 per doz.; Corn, 6@8c.@$1 per 100; Cucumbers, 40c.@$1 per 100; Egg-plant, 75c@$1 per doz.; Onions, $4.75@5 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, $1@2.25 per bbl.; sweet, $2.25@2.50; String beans, 6@10c. per crate Squash, 75c.@$1 per bbl.; Tomatoes, 50@60c. per bu. Turnips, $1 per bbl.; Wax Beans, 75@80c. per bush.

New-York Markets—Oct. 5.

BEANS—Marrow, 1888	2.45	@	2.50
Medium, 1889, choice	—	@	2.35
Pea, 1889	—	@	2.35
COTTON—	Uplands.	N.O.& Gulf	
Ordinary, per lb	6 @ —	— @	9¼
Middlings	10¾@ —	— @	11
Fair	13⅝@ —	— @	13¾
EGGS—State and near-by, per doz	20½	@	23
Western and Canada	22	@	24
FLOUR—Spring Wheat pat., per bbl.	4.00	@	5.35
Winter	4.00	@	5.00
No. 2 extra State and Western	3.75	@	3.75
No. 1 extra	3.25	@	3.75
Minnesota clear	3.60	@	3.80
Straight	4.25	@	5.00
Rye Flour, superfine	2.90	@	3.15
Corn Meal	2.50	@	2.60
FRUIT—Apples, Gravenstein, per bbl.	4.00	@	—
Twenty Ounce, King	2.50	@	3.00
Holland and Fall Pippin	2.00	@	2.50
Baldwin and Greening	1.50	@	2.00
Spy	1.50	@	2.25
Cranberries, Cape Cod, per bbl	7.00	@	9.00
Jersey, per crate	1.50	@	2.25
Grapes, Delaware, per basket	20	@	25
Niagara	20	@	25
Concord	15	@	20
Catawba	25	@	30
Pockington, per lb	5	@	8
Lemons, Fla., per box	3.50	@	4.00
Peaches, Jersey, per basket	75	@	1.50
Up River	1.00	@	1.75
Pears, Seckel, per bbl	5.00	@	7.00
Rheldon	3.00	@	4.00
Anjou, Duchess	3.00	@	4.00
Beurre Bosc	4.00	@	5.00
L. Bosc, Fl. Beauty, per bag	1.25	@	2.00
Plums, Damson, per crate	1.00	@	1.50
Quinces, per bbl	3.00	@	6.00
Chestnuts, per bus	4.50	@	5.00
Hickory nuts	1.25	@	1.50
DRIED—Apples, sun-dried, per lb	3	@	4½
Evaporated '88, '89	6½@		8½
Peaches, sun-dried, 1889	5	@	10
Evaporated	7½@		10
Evaporated, peeled	24	@	28
Plums, Damson, 1888	6	@	7
Cal., 1888	—	@	—
Prunes, 1889	7	@	9
Cherries	10	@	13
Blackberries	5½@		6
Huckleberries, 1889	11	@	12

The Fireside.

Recent Publications.

The Manifold Cyclopædia.—Vol. 15 of this unique and very useful work includes titles "*Fluctuate*" to "*Galvanism.*" The price, neatly bound in half morocco, is 75 cents by mail prepaid, or only $9.65 for the fifteen volumes, which is very, very cheap. A single volume may be ordered as a sample, and returned if not wanted, but it is really not worth while to take the trouble of availing oneself of this offer. Anybody who wants a low-priced cyclopædia at all will surely be pleased with this. John B. Alden, the publisher, may be addressed at New-York, Chicago or Atlanta.

Fiction.—A new novel by EDNA LYALL, author of "Donovan," "We Two," "Won by Waiting" and other well-known books, is published by D. Appleton & Co., 1 Bond St., New York, under the title "A HARDY NORSEMAN." It is embellished with a frontispiece, and a portrait of the author. Readers who like something more tragic and intense will find it in another story just issued by the same publishers—"GIRALDI, or The Curse of Love," by ROSA GEORGE DERING; or in a lurid and unwholesome extravaganza called "FEDOR," written by LAURA DAINTREY, (author of "Miss Varian" and "Eros,") and published by the American News Co., New-York.

A sort of new Baron Munchausen has appeared, in the person of Mr. FRANCIS BLAKE CROFTON, author of a book called "HAIR-BREADTH ESCAPES OF MAJOR MENDAX," just published (in handsome style, with spirited illustrations) by Hubbard Bros., Philadelphia. Boys will be sure to enjoy it; and we strongly advise parents to note the title for consideration when they come to select their NEXT list of holiday gifts.

Periodicals.—A new candidate for public favor is an illustrated monthly called the NEW-ENGLAND MAGAZINE, and to be devoted especially to New-England life and history, though in no narrow or provincial spirit. The first number (dated September) deals chiefly with Plymouth and the history of the Pilgrims. Edward Everett Hale and Edwin D. Mead are the editors; New-England Magazine Co., 36 Bromfield St., Boston, publisher; annual subscription, $3.

That bright and low-priced monthly, the COSMOPOLITAN (368 Fifth Ave., New-York,) is enlarged by 24 pages, beginning with the October number, having now the same size as Scribner. The subscription price remains as before, $2.40.

Our great juvenile monthly, ST. NICHOLAS, is likewise to be enlarged, beginning with November, and new and clearer type will be adopted. Four important serial stories, by four well-known American authors, will be given during the coming year. Century Co., publishers, Union Square, New-York.

A writer unfrequently heard from of late, though his name was a household word not so very long ago—DONALD G. MITCHELL, or "Ik. Marvel," as readers prefer—reappears in SCRIBNER'S MAGAZINE this month, contributing "a scattering shot at some ruralities," and offering a number of pertinent reflections on the decay of New-England farm and village life.

The October MAGAZINE OF ART (Cassell & Co., 104 Fourth Ave., New-York,) is notable as containing an important article on the great painter Millet, adorned with a number of engravings from his paintings. One is a portrait of the artist himself; another, a particularly fine representation of that much discussed work, the Angelus, which was sold in Paris last summer to the American Art Association for $111,000. The canvas is about two feet square and shows merely two figures in a field, suspending work and bowing their heads in reverence as they hear the call to prayer.

CASSELL'S MAGAZINE (same publishers) has a paper this month combating again the old delusion that the British government has vast sums of money in its possession belonging to unknown heirs. Persons who imagine themselves to be among the rightful owners of some portion of this mysterious hoard, and have it in contemplation to invest good money in endeavoring to get possession of their share, will do well to take Punch's advice to people about to marry—"Dont!"

The October issue of that magnificent monthly, the CENTURY, opens with a paper on the convict silver-mines in far eastern Siberia, more than two months' journey from St. Petersburg. The horrors of Russian prisons may be conjectured from the fact that the author thinks these dreadful mines are on the whole not quite as bad as ordinary imprisonment. Here is his summing up:

Regarded as places of punishment the Nerchinsk mines did not seem to me so terrible as they are often represented to be. It is not very pleasant, of course, to work eight or ten hours every day in a damp or icy gallery 300 feet underground; but even such employment is, I think, less prejudicial to health than unbroken confinement in a dirty, overcrowded and foul-smelling convict prison. The mines are badly ventilated and the gases liberated in them by the explosives used are doubtless injurious; but there are no deadly fumes or exhalations from poisonous ores like cinnabar to affect the health of the laborers, and experience seems to show that the death rate is no higher among the convicts who go regularly every day into the mines than among those who lie idle day after day in the vitiated air of the prison kameras. If I were permitted to make choice between complete idleness in such a prison as that of Algachi or Ust Kara and regular daily labor in the mines, I should, without hesitation, choose the latter. So far as I could ascertain by careful inquiry among the convicts themselves, no one has ever been compelled to live and sleep in these mines day and night, and I believe that all the stories to that effect published from time to time are wholly imaginary and fictitious. The working force may occasionally have been divided into day and night gangs, or shifts, sent into the mines alternately, but the same men have never been required to remain there continuously for twenty-four hours. At the present time there is no night work, and all of the convicts return to their prisons before dark, or in the short days of midwinter very soon after dark. I do not wish to be understood as saying that the life of Russian convicts at the Nerchinsk silver mines is an easy one, or that they do not suffer. I can hardly imagine a more terrible and hopeless existence than that of a man who works all day in one of the damp, muddy galleries of the Pokrofski mine, and goes back at night to a close, foul, vermin-infested prison like that of Algachi. It is worse than the life of any pariah dog, but at the same time it is not the sensationally terrible life of the fictitious convict described by Mr. Grenville Murray—the convict who lives night and day underground, sleeps in a rocky niche, toils in hopeless misery under the lash of a pitiless overseer, and is slowly poisoned to death by the fumes of quicksilver. Such things may be effective in a sensational drama, but they are not true. The worst feature of penal servitude in Siberia is not hard labor in the mines; it is the condition of the prisons.

Camp Life in the Rangeleys—II.

In years past one used to hear wonderful stories of the trout fishing in the Rangeley lakes. In the guide books you will read of catching trout weighing anywhere from two to ten pounds, and of masters of the art landing two and even three six-pounders at once. Many fancy that the days of good fishing are past, because in a single day's sport they do not happen to strike such monsters. If one is at all reasonable in his expectations, he cannot fail to be satisfied with the fishing. We were there about the middle of July, but the best fishing is found either earlier or later than that. One gentleman, a week or so before we came, stood in one spot at Middle Dam for two hours, and caught twenty-two trout which weighed thirty-six pounds. Surely that is good enough luck for any one. The largest trout caught during our stay was taken by a guide at the same place, and weighed over four pounds and a half.

But let me tell you of our own fishing. There was not an experienced fly caster in the crowd; yet we had no trouble in catching more trout than we could eat, any afternoon, in a short time, and within six rods of our tent. The fish ranged from half a pound to a pound and a half. They were continually rising, especially at evening, and often as we sat at supper, within a rod of the water, some one would leave his place and rush for his pole, unable to resist some remarkably fine rise. Any one who could hold a rod could catch them, though of course those who had had some experience caught the most fish. So much for the fly fishing.

Up the mountain, if one followed the stream, there was glorious sport with the brook fishing. The water poured down among the rocks, making innumerable little pools, and in every pool were from one to a dozen handsome trout. These would not usually take a fly very eagerly. The day before breaking camp three of our party went up the brook for a number of miles to try a day's fishing. In climbing the mountain by the trail they crossed the brook several times, and at length became bewildered, not knowing whether they last crossed the stream to left or right. After an hour or so spent in wandering they finally struck the brook and started to fish down to camp. Before long they got separated, and the eldest of the party, an enthusiastic fisherman, soon struck a little pool where the alders were so thick that it was necessary to get down and cut them out, in order to get near enough to the water to drop a line in. The water was so clear that he could see the trout lying there by the dozen. They were so fearless that even cutting the alders from over them did not seem to disturb them. Before he left that pool all his bait was gone, and in the pockets of his hunting jacket were thirty-seven trout, hardly one of which would weigh less than half a pound, while many were much heavier. After that he tried a fly, but they would not touch it, and he had to give it up. You should have seen him when he came home, one of the boys carrying his fish. He had actually caught so many that he could not get them home, but half way down the mountain turned them over to another man. The entire results of that day's fishing were eighty trout, which would certainly weigh over thirty pounds. Do not fancy that they were wasted. Many of them were brought home to prove our fish stories by.

One of the nuisances in fly fishing in many parts of the lakes is the abundance of fish called chubs. These are somewhat like a sucker in shape, and range up to three pounds in weight. They will rise to a fly and are quite gamey, though not half so fierce fighters as the trout. They are said to be fair eating, but one hardly cares to try them as long as he can get more trout than he can eat.

There is no better spot for brook fishing in the whole system of lakes than the brook that flowed past our tent. Not a few large trout, too, have been taken off the point by trolling, but the favorite spot for those fishing for a record is at the Middle or Upper Dam. During our stay, however, scarcely a fish of any size was taken at either of these places. If one is determined to fish he must make up his mind to be tortured by mosquitoes and tiny black flies. The mosquitoes are bad enough, but the flies are far worse, for they are so small they go through any netting. We managed to keep the tent clear of them by keeping a netting over the entrance, and smoking them out with a smudge every evening at dusk, but outside we had to make the best of it. By dint of bathing our faces in a fragrant mixture of oil and tar, and once, *only once*, by anointing our faces with oil of sassafras, we managed to endure them. The oil of sassafras, proved too powerful a remedy. The old residents comforted us with the assurance that the flies were mostly gone before our arrival.

As for game, there was plenty of it. One could hardly go anywhere into the woods without running across a brood of young partridges, but they were so tame one would hate to shoot them, even were they not protected by law. About three miles back from our camp was Metalue pond, which is noted through all that region as a favorite haunt of the deer. Our first attempts to reach it failed, as the trail was so faint and broken that it was almost impossible to follow it. At last by hard climbing, keeping close to the brook regardless of the trail, and going over, under or through the fallen trees, we reached it. I shall not soon forget that tramp. At last, when we were nearly tired out, we came to level ground, and could tell by the break in the trees ahead that there was water before us. The lake appeared first as a narrow sluggish channel filled with water weeds, and bordered by a peat swamp. A little farther on we rounded a bend, and there before us was the pond. It lay imbedded among the mountains, half a mile across and nearly a mile in length. The surface was covered with lily pads, and out towards the centre a flock of black ducks went flapping and splashing away out of gun shot. All along the south shore was a peat swamp, covered with low bushes, with here and there a clump of tamarack. In every direction through the bog ran a perfect network of deer paths. It reminded one of nothing so much as a sheep pasture. We did not see any deer that day, and did not hunt for them. A few days later some of the other boys saw five in the same vicinity. Coming down the mountain we several times saw deer and caribou tracks. The guides say that in the season there is no difficulty in getting venison enough at any time. Not all the deer live to see the legal sporting sea
steamer when we left the lake
hunters accompanied by a guid
with them a suspicious look
wrapped up in an old rubber coa
amusing to see the pains every
keep from seeing what was un
All could swear that they had s
though all knew well enough wh
Though the law prohibits deer hi
May and November, it is not stri
and one will rarely be meddle
simply kills enough to eat. On
on our way to the lakes, a goo
said to us: "If I were going t
I should expect to have some
I'm a game warden too." He
ing, "Why, man, you would n
come into camp and kick you,
We thought not! Caribou are
uncommon than deer though m
moose are becoming decidedly e

Of bears there are many, thou
frequently seen except when
raid on some one's sheep fo
killed a few days before we
wilderness, not many miles aw
in the woods one was likely
bear traps, either huge log de
and more than once we came
into one of the latter, conceal
hanging bushes and weeds. T
suppose, by the lumbermen ic
there are almost gone from that
It is not many years since th
seen. A guide employed by c
on a former trip, was once fo
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terribly, for some reason did
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him as a cat would with a mou
ahead and lying in the bushe
the trail till he had passed, th
again, till at last he reached ca

Though the great number
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game, it is still abundant en
excellent sport with rod and g

Social Calls and Co

The recent correspondent w
sense of the tiresome and in
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understood and practised, can
doubt, the sympathies of a l
telligent women. The extrav
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wholly on externals, have a
harmful influence. They dis
side of woman's character,
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her social dignity and value.

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ciety. But this is not the method of noble unselfishness. A wholesome and generous activity seeks points of contact with others, even at the cost of giving up some private indulgence.

It may be that the neighbor or acquaintance whom we are called on to entertain in an untimely call is not a person much to our taste. There is certainly a strong temptation to consider the brief and formal visit as a mere intrusion. But all insincerity of greeting or manner, all ill-bred pretence of a feeling that is not genuine, or vulgar scrutiny of dress, or prying curiosity in regard to personal or family matters, belong, not to any custom, but to human character. If they do not exist in our real nature, we shall certainly never exhibit them; if they do, we shall probably express the same characteristics, in various forms, even if we never make or receive a formal call. It is the unlovely disposition that needs to be rooted up and cast out.

In meeting persons with whom we have only a superficial acquaintance, we often feel that we have very little common ground. A natural instinct inclines us to confine ourselves to those commonplaces of conversation which have, at least, the negative merit of not being open to misunderstanding. As they mean nothing, nobody can interpret them amiss. But this very natural practice leads directly to social deterioration. It is far better to risk something in the hope of reaching some point of real common interest and mutual exchange. It is usually safe to offer the best that we possess. A true, though a genuine feeling, simply and modestly expressed, rarely fails to earth entirely fruitless. By speaking of the highest and widest things in which you are interested, you do your part faithfully, however small it may be, in that great work of moulding public opinion, which is one of the deep and sacred obligations of womanhood.

Then, in personal matters, how really we are all at heart one. Every community is, in truth, a great family. The broad, common human ground; the common possessions in churches, schools, public institutions; the inheritances of one tongue and one people in books, in mode of life and habits of thought, ought to draw us very near to each other. The influence of all high thought and ripe, intellectual culture is to broaden the sympathies. It was a touching expression of the beautiful catholicity of Emerson's nature when, to one who saluted him with an apology as being "a stranger," he replied: "Stranger! I cannot see why there should be such a word in any language."

Perhaps the secret of beautiful and helpful social relations may be found in forgetting that there are any "strangers," in assuming that we are all friends.

The young ought always to be taught that the finest manners are an expression of real consideration for others. True self-respect and a careful solicitude for the rights of others go naturally together. The desire to promote the happiness and comfort of those about us seems to be largely a matter of temperament, but it is quite capable of cultivation, and should be made a matter of education. Conventional regulations are chiefly useful in promoting ease of social intercourse, and compelling a certain suppression of the individual for the good of the whole. But the spirit of the golden rule is the real essence of good manners.

Chautauqua circles and clubs for reading and discussion are doing a good deal, and promise to accomplish much more, in raising the level of social intercourse in our scattered communities. A good book gives an admirable starting point for opinion and the exchange of impressions. In an active community, where there are various enterprises afoot for the general advancement, these good works in which so many women delight will furnish obvious subjects for talk, even in the briefest meetings. Perhaps in a stagnant and uninteresting locality one of the best ways of enlivening the social atmosphere will be by inaugurating such a movement.

I have not left myself room to touch on other phases of social life and opportunity which have appealed to me strongly, but I hope that at every fireside the presiding genius of the home will see, in some aspect of the question, an incitement to hopeful and happy social effort. The result of such effort cannot fail to be greatly for the common good.

D. H. R. GOODALE.

Domestic Economy.

Cooking Apples.

APPLE-SAUCE.—Choose tender, tart apples peel, quarter and core them; sprinkle sugar on before cooking, as this prevents their cooking to pieces; pour enough hot water over them to nearly cover. Do not stir them, but watch closely and cook until tender.

APPLES CANNED.—Prepare and cook as above described for sauce, using more sugar if you choose. Sweet apples are also nice canned but they require more sugar than tart ones do and should be flavored, to prevent an insipid taste. The juice and half of the grated rind of one lemon are sufficient for a quart can of apples. A combination of sweet apples and quince, consisting of three parts of the former to one of the latter, is a preserve greatly relished by some. There are many varieties of fall apples which are excellent canned, and when one has empty cans remaining after the other varieties of fruit are put up, it is well to fill them with apples. It is also wise to fill the cans emptied of other fruit during the winter for spring use. They make nice pies and puddings.

APPLE JELLY.—Spitzenbergs make a delicious jelly, though any tart apple is good. Wash and wipe the fruit thoroughly, as it greatly improves both the color and flavor to leave the skins on. Quarter and core, adding the least water possible to prevent them from burning; cook soft, and then strain through a jelly-bag; boil twenty minutes, carefully removing any scum that may arise. Add the sugar last, in the proportion of half a pound to each pint of juice, letting it come only to a lively boil. Let it stand twenty-four hours before sealing up.

APPLE MARMALADE.—Scald tart apples till they will pulp from the core. Take an equal weight of sugar, and with very little water boil to a thick syrup; put the pulp to it and boil carefully for fifteen or twenty minutes. Flavor with lemon peel if desired, and put in jelly moulds or bowls.

APPLE AND QUINCE MARMALADE.—Cook the latter fruit alone, as it requires much more cooking than the former. After both are prepared, proceed as in the above way for apple alone.

APPLE DUMPLINGS.—Pare, quarter and core tart apples. Make a crust as for baking-powder biscuit; roll out to half an inch in thickness; cut in squares; and placing three or four of the quarters in the centre, bring each two corners diagonally opposite each other together, and dextrously pinch the edges together, patting it until firm and round. Over a large kettle of boiling water to which a teaspoonful of salt has been added, place a steamer. Rub a dinner plate with a little sweet butter, and place the dumplings on it, allowing ample space for them to swell. Put the plate in the steamer; cover and boil one hour. To be eaten with any sauce preferred.

KATHERINE B. J.

English Modes of Dressing Lobster.

LOBSTER IN WHITE SAUCE.—Pick the meat from a large freshly boiled lobster and mince it very fine; put it into a saucepan with a good seasoning of pepper, salt and grated nutmeg, a tablespoonful of vinegar or lemon juice and two tablespoonfuls of milk; then when quite hot stir in two ounces of fresh butter rolled in flour, and a quarter of a pint of good cream or milk, in which has been beaten the yolks of two eggs. Simmer gently for ten minutes, stirring all the time, then pour the preparation into the shell of the lobster, which has been nicely cleaned and made hot for the purpose; place it on a neatly-folded napkin, garnish prettily with sprigs of parsley, and serve very hot. Finger-pieces of nicely made crisp toast generally accompany this dish on a separate plate.

BAKED LOBSTER AU GRATIN.—Pick out the meat very carefully from a large fresh lobster which has been previously boiled; chop the meat small, then pound it in a mortar until quite smooth, and mix it with two large tablespoonfuls of fine bread crumbs, two well beaten eggs, a small teacupful of milk, and a liberal seasoning of salt, pepper and cayenne. Mix the ingredients thoroughly, then return them to the shell, and bake in a moderate oven for twenty or twenty-five minutes. When done enough, sprinkle the top nicely with fine

The Veterinarian.

Answers to Correspondents.

[By Dr. Edward Moore, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

Lumps on Leg.—A young cow showed small, hard lumps on right hind leg over femur bone, several months since. They are still growing, the largest being the size of a guinea egg and softer than the smaller ones. They appear to follow a vein; are not painful, but disfigures the cow; they number about a dozen, the same as at first apparently, but much larger in the aggregate. E. B. *Colora, Md.* [Apply golden blister externally and give an ounce of the following medicine in feed twice a day: Bi-chloride of mercury, 2 dr.; iodide of potass., 5 oz.; water, 3 pts., mix.]

Failure to Breed.—A mare 7 years old, had a colt Sept. 1, 1888. I let the colt run with mare during the winter; weaned in March; bred mare April 1st. After being served several times and failing to get with foal, had her examined, and found mouth of womb was torn; as described to me, there seemed to be something loose and hanging over or around it. Mare was in bad condition, would not fatten, though she had plenty to eat. There was a discharge of whitish matter. J. M. H. B. *Mason Co., West Va.* [Examine the parts yourself and report the facts. Compare her condition with that of another if you have no idea of the parts in their normal condition.]

Heat and Tumor.—My fox-terrier bitch, 10 years old, is just over a season of heat, but blood keeps coming from the vagina in drops. She seems weak and listless as well as thin. Has not had any pups since she was young. In the last three years has developed something like a tumor inside hindermost teat, size of pigeon egg. I have always supposed it to be a rupture. Do not find anything to guide me to a cure in Youatt. E. B. *Morristown, N. J.* [Give in feed twice a day 20 or 30 drops of tincture per-chloride of iron. The tumor will gradually increase with age in all probability, and nothing but surgery will remove it. Fatty tumors in the mammary gland of bitches are common, and unless operated upon when small do not give very satisfactory results as a rule.]

Bull out of Condition.—A three-year-old bull was a splendid animal when one year old. Since then has never done well; was very lousy the last two winters. Has not grown well, although fed same as the cows, which have done well. Served only thirteen cows this summer; ran in pasture. Man on farm now writes me: "I think your bull is going to die; can't eat anything but ground feed; is very scabby, and scours terribly." M. *Oswego, N. Y.* [You have dallied too long; surely the bull needed good treatment months ago. There is no satisfaction in prescribing for dead animals. Give four tablespoonfuls of the following powder, mixed with a pint of hot water and a gill of molasses, twice a day: Powdered extract hæmatoxylon, 4 oz.; powdered gentian, 6 oz.; powdered caraway, 4 oz; powdered capsicum, 1 oz.; mix. Give gruel and whole flaxseed steeped; these should be bottled down him three times a day in good quantities. If alive in three or four days, write again.]

Death of Cow—Injured Foot.—As a recent subscriber, I wish to state case of a valuable cow which last winter was taken with loss of appetite and oppressed breathing; was seen by different veterinarians, who thought it pleurisy, and advised hot blankets constantly renewed, but she died soon after in great agony. Post mortem showed an internal rupture, which had thrown stomach on lungs and heart. It was said to have been gradually coming on and could not have been cured, even earlier. (1) Another cow went lame without apparent cause. A surgeon ordered flaxseed poultice, with some kind of oil on poultice. At third visit he opened the sore place, and found a large piece of nail had run up into the hoof. Continued poultice and some carbolic acid, without effect. Then applied plantain leaves with poultice for some days; the festered place began to discharge, and cow is now getting better. (2) O. T. *Washington, D. C.* [1. If the cow had a ruptured diaphragm, she could not be saved. I do not believe that it had been gradually coming on, however. 2. So far as the foot was concerned, it would have been far better to have cut it and removed the nail sooner, if possible. Then the foot should have been soaked in warm soft water twice a day, and liniments applied to wound after each soaking. Poultices are rarely beneficial in such cases. It is a mistake to poultice feet injured by nails.]

Wart in Ear.—A three-year-old colt has a large wart inside of ear; has been there but a short time. P. M. B. [Have it cut out.]

Bunch on Throat.—A young cow has a hard bunch, about the size of a man's fist, on her throat, loose from the skin but apparently attached to the larynx, not very sore; noticed about a month ago. She is giving milk and appears in good health. A local physician and cattle owner pronounced it tuberculosis, adding that she was not worth a dollar. P. M. B. *New York.* [Look this subject up in the veterinary columns in back numbers. You will see that there is no ground for the opinion you quote. There are many diseases that cause swellings to appear in this locality. Apply golden blister to the enlargement and give an ounce of the following medicine in some feed three times a day: Bichloride of mercury, 2 dr.; iodide of potass., 5 oz.; water, 2½ pts.; mix. Keep her away from cattle, but she may be in a horse barn until we can determine the cause. Such tumors are sometimes the result of tubercle, but there are many which are not. If we were satisfied she was tuberculous we should advise that she be killed and buried at least 3 feet below ground.]

Swelling on Neck.—A heifer, pastured with the herd close to house, showed heavy swelling on right side of neck and shoulder, Sept. 10; hard, not much fever, and no mark of bruise or sting. Applied liniments and smartweed and vinegar only to have right leg stock to knee, and heifer lame. Then used flaxseed poultice, and swelling came to a head, and being opened ran about a pint of thin, offensive pus. Hide of head of sore sloughed off and has an opening now as large as a hand, from which runs a thick pus. A bright yellow core, one inch thick and four by six inches, came out the next day. Applied linseed oil and carbolic acid outside, after syringing wound with warm water and carbolic acid three times a day. Swelling has left the leg and most of the sore, but pus is running daily from a pipe or fistula which extends about three inches upward from upper part of opening. V. L. *Palmyra, Wis.* [The cause was a bruise no doubt. Inject the wound once or twice a day with some of the following: Chloride of zinc, 1 oz.; compound tincture of aloes, 4 oz; water, 1 qt.; mix.]

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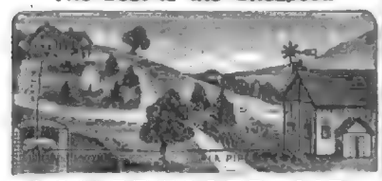

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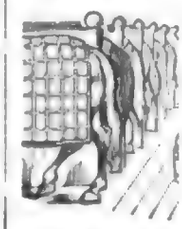

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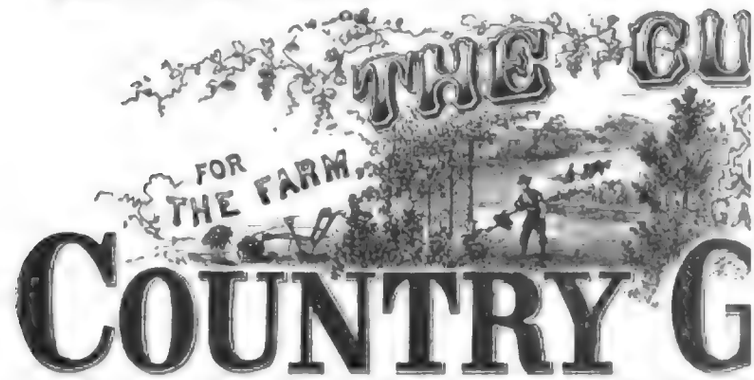

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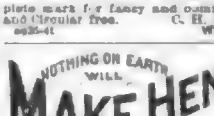

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THE CULTIVATOR
AND
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Albany, Oct. 17, 1889.

English Notes by T. Bowick.

Leaves are falling along the woodland paths, and it only wants a sharp starlight night or two with a registered minimum of 27° to thin off the foliage considerably, and to tell us that the glorious summer of '89 is a thing of the past. In spite of the brilliancy of Kew Gardens, with their 300 acres of sheltered greenery, there is a look and a feel of autumn everywhere. The twilight is keen and cold, snow is reported from the Scotch hills, a stiff north-west breeze is blowing, and rain has fallen at nearly all reporting stations, save those on the south coast. Still, it is a beautiful season, farm work is well forward, and keep is most abundant.

The hop harvest is now concluded in Kent and Sussex, and one of the largest crops ever known has been safely secured. The later gathered, it is true, are not so good in color, but the yield all round runs to probably half a ton an acre, and many of the former and earlier gathered lots have never been excelled in quality. The pickers, also, have earned a good deal of money, and their behavior has been of uniform decency and peacefulness throughout. It did not strike me that Belgium was a very formidable rival to England after all, in respect to hops.

The dead meat trade, which has reached such gigantic proportions, shows no sign of retrograding. Eastman's Company, which practically controls the Atlantic supply, have just divided a satisfactory dividend; while the River Plate Fresh Meat Company, which held its seventh annual meeting a day or two ago, has, for the first time, distributed a dividend to its stockholders. They have also paid off $75,000 of debentures during the year, out of the profits, and have now gone in for "reconstruction" of the company, on a larger scale, with a capital of $1,250,000. The ocean-carrying power has hitherto been inadequate to their requests.

The fowl controversy still continues, and the working-man on the south coast, who gives his figures (with Black Spanish) and shows his profits, makes one of the best suggestions that I have seen on the subject. "I long to see the time (says he) when all our South-Downs shall be turned into small poultry farms of half an acre or an acre, with a cottage for the laborer and his family. We could then produce enough poultry and eggs to supply the English market, and the $80,000,000 that we now pay to foreigners would be spent at home and make our farm laborers more happy and comfortable, and more intelligent." When that time comes it may be depended on that the labor congestion at the docks and elsewhere will be a thing of the past.

A Gloucestershire vicar, also, who incubates 3,000 eggs at a time, and has had unqualified success, makes a point or two worth noting. He pens his fowls closely, but lets them have a daily run, the separate sorts in turn, into a very large orchard. And with what result? *This*, as far as the fruit trees are concerned—that he saves the endless trouble and expense of scap-ringing, hay-banding, tar, &c., and his trees have perfect immunity from every insect-ivorous enemy. There is no such insect trapper in the world as a fowl, while the keeping down of moss, and the manuring of the ground, are also material advantages. One of his sons, who looks after this department (with sufficient assistance), addressing a neighbor a morning or two since, who keeps exactly the same number of laying hens, said: "Well, Mrs. Bland, and how many eggs did you get this morning?" "Oh, Master John, I got fifteen." "Why, Mrs. B., we had seventy, and we're only the same number of hens as you?" "Law, Master John, however do 'e do it? What do 'e give 'em?" "Nothing much—a little spice sometimes; but we keep them warm, look after them well, have good sorts, and no old ones among them. Anybody could do the same."

One of our wealthiest English dukes, lately married (to an English lady), has been having a good time of it in the sporting world. His grace of Portland had "a run of luck" at Newmarket this week, and now totals up to $300,000 of winnings on his horses since the year began. What good this may do to the country, or what harm to those who have lost the money, I am not called on to decide. But another member of the ducal grade has, I see, also pocketed a big figure from horseflesh. The Duke of Westminster has sold the famous Derby winner Ormonde to a Buenos Ayres breeder for $70,000, and the animal sailed yesterday in the Elbe from Southampton. No higher figure has ever, so far as I know, been paid for a horse. Ormonde is to be used for stud purposes only.

The honey harvest of the year has only proved fairly satisfactory, notwithstanding the extremely fine weather in June and July. Some amateurs blame the weather as having been too fine—no night dews, and consequently the sweets of the flowering plants dried up, and the industrious insects had to visit hundreds of flowers before obtaining an average load.

There was an interesting Australian exhibit at the Royal Windsor meeting in the shape of what is known as eucalyptus honey, from the Mount Barker district. The blue gum trees, unfortunately, are only rich in honey every second year, but the extent of territory to roam over will more than make up for such shortcomings. About the valuable properties associated with the *Eucalyptus globulus* there is no doubt, and it may be that a new therapeutic agent worth looking after has come to our hands. What one would like to see is an increased amount of bee culture, especially among cottagers, so as to help the annual income. This would be a more humane method of helping the needy than that which has just been advocated at Newcastle, by one of the wise men of the British association. A reverend gentleman there advocated the giving of relief to the poor only inside the workhouse walls. The pauperising feeling and habits that are sure to follow are in marked contrast with the methods adopted in Switzerland, where in many cantons the contribution itself is voluntary, and relief is afforded only on conditions that the amount be repaid if the individual (as is often the case) gets round the corner and is able to keep the wolf from the door. *London, Sept. 28.*

Ridge Culture of Potatoes.

EDS. COUNTRY GENTLEMAN—Noticing the trench mode of planting Irish potatoes, of your correspondent, C. A. B. (p. 737), I beg leave to give you my mode in contrast. I break my land well in the fall and let it rest until the first open spell in January or February. Then I harrow it well, have my seed cut, and plant with potato planter in rows 32 inches wide, dropping the seed from 10 to 12 inches apart. No fertilizer is used. I let the field alone until the shoots begin to show themselves above ground; then take a single-horse plow and cover them back, throwing on two furrows, and let them rest until they begin to show themselves again. I then treat them as at first, covering them back the second time, and leaving them untouched by cultivator, weeds or no weeds—the more the better; the weeds shade and protect the tubers from the hot sun.

I have practiced this mode for two years, and the result last year was rather better than the present. I dug over one hundred barrels of smooth, nice, marketable potatoes to the acre. I have just dug and sold 630 barrels from ten acres of land, or 63 barrels to the acre, and sold them for 60 cents per barrel. Cutting, planting and digging did the job. By this mode the potatoes made above the love of the ground, and consequently were smoother and went to market nicer than if raised below the level of the ground. We use no barnyard manure or other fertilizer on potatoes, as the grub is less liable to trouble them.

Our crops this year are generally good except fruit, which is a general failure—almost total. Wheat and corn first rate; so were clover and grass. We have fat stock.

Franklin, Tenn., Sept. 23. J. B. M.

Novelties in California Farming.

CORRALS AND SUMMER STABLES—THRESHER KITCHENS—INGENUITY IN LABOR SAVING CONTRIVANCES.

Many points about the methods of the California farmer would interest the farmers of other parts of the United States, and some of them might perhaps be adopted with advantage.

The other day I saw a circular corral built under the trees, and used for training colts. It was made of strong redwood planks, deeply set in the ground and spiked to posts. The top was protected, so that bitting harness or ropes could not catch, or the animal receive injury. Corrals like this are in use in all the stock-raising districts, and they might well be called the typical Californian corral for farm animals. The old enclosures for horses and cattle, which were built by the Spaniards before the American era, were great and solid affairs, almost fortifications, in fact. The most ambitious colt or wildest bull could not escape from one of these corrals of logs or hewn timbers. The element of strength is still considered as of first importance on all the great ranches, and the shelter of trees, either natural groves or planted avenues, is almost universal.

Throughout California, on many of the large ranches, while stables, stacks and sheds are, as elsewhere, situated near the central buildings, there are "summer stables" scattered over the ranch. The men and teams can thus save a long daily journey. The simplicity of some of these shelters is not their least charm. A hay-rack, a tree overhead, a few posts or staples in the trees, a load of hay from the field, and the summer stable is established. It is, in fact, a camp, and often men sleep in the hay and merely ride to the farm-house for their meals. The climate of California is exactly suited for this kind of life for man and beast, for so many months are rainless. In the warmer parts of California, horses which are kept out of doors in this way, usually thrive as well as those which are in stables. They seem to like the camp life quite as well as the men do. Some of my most pleasant experiences while traveling on horseback several years ago through the Sacramento valley are connected with these "summer camps" where the hospitable farmers always said: "Tie your hoss, an' shake down some hay under the oak, an' have some lunch with us."

The Californian "thresher-kitchens" have come into general use. The kitchen is on wheels and accompanies all the working crews that go to the harvest fields. All the reapers, threshers and headers use them, and often the men who gather or dry fruit "on shares," in the orchards. The gangs of sheep-shearers often have a traveling kitchen with its inevitable Chinese cook. Housekeepers look upon the system as an unadulterated blessing, the farmer himself finds it cheaper, and the men themselves like it, because their meals are ready "on time," and there is always "hot coffee." A farmer in Sutter county built the first thresher kitchen to use with his machine on its summer tour through the Valley. He found, pretty soon, that as quick as the fact was known, he could get many engagements for his machine, teams and crew. Farmers' wives liked the innovation. In five years the system was universally adopted. It received many modifications. On the treeless plains the wagon is large, perhaps ten feet wide by twenty feet long, and is both kitchen and dining-room. The Chinaman calls the men about three o'clock in the morning and they get the engine fires started and feed the horses, while he cooks breakfast. In the lesser valleys, and on the foothills, where trees are always near, the wagons are often smaller, and in fact as in name, only "camp-kitchens." In a few cases, the wife of the owner of the outfit goes with it as cook, but it is a hard life for any woman.

In the field of the horticulturist, the labor-saving methods of the Californian are often especially interesting. The grading of fresh fruit before it is packed or sent to the cannery is done cheaply and successfully by several rival machines. Raisins are steamed and graded by machinery. Almonds are hulled by a very useful and cheap contrivance in use in most of the orchards. The parers, corers and various kinds of knives used, are nearly all of Pacific coast styles. The Utopian dream of the fruit-grower here is to have a machine to thin his fruit for him, and another to gather it. But, seriously, the high

price of labor in California does steadily develop more and more ingenuity in labor-saving contrivances, and fruit for drying will certainly be graded, cut, cored, or pitted, and spread on trays by machinery, so as greatly to cheapen the cost of production, and hence open wider markets to the growers. C. H. S.

Alameda County, Cal.

Accompanying the foregoing letter, our correspondent sends photographs showing the kind of corral above described, a thresher crew with camp kitchen in rear, and view of a "summer stable" under the spreading branches of a fine old tree. EDS.

Northern Ohio Notes.

LATE WHEAT SOWING—SILOES AND ENSILAGE—MANURE VS CLOVER FOR ENSILAGE CORN.

EDS. COUNTRY GENTLEMAN—The dry spell of August and the beginning of last month terminated about September 10, and has been followed by copious rains, cold winds and generally unfavorable weather, and yet, strange as it is, to this date, Oct. 7, no frost has occurred save in a slight way in a few limited acres, and none of any note. Wheat sowing has been greatly delayed, and many acres were drilled in last week, despite the evidence to the effect that October-sown wheat in Ohio is a failure one year with another. My observations are in full accord with Mr. Terry's, that wheat should be sown before or by Sept. 8, and his uniform good yields and some other instances I could note, all go to substantiate this. On our clay soils wheat early sown stands far less chance of smothering from rank fall growth than it does from winter-killing incident to feeble growth and insufficient root formation to afford anchorage and maintenance of life. The thousands of acres sown within the past ten days, should the weather continue cold and backward for the next four weeks, as it now promises to do, will not make growth much beyond greening the fields to a limited extent, and we may expect to hear next spring of no end of crops that did not pay for the labor.

With wheat at 75c., as it is now selling in our local market, there must be a full crop to justify one in wheat culture, and the elements of "chance and luck" need to be eliminated as far as possible. The best ways are now the only ones that pay—more farm made fertility, less hand labor and more skill. Skill that shall not only tell upon the crop in hand, but on crops to come, so that the expense shall be reduced to absolute minimum limits. Too few farmers realize that they are actually engaged in a "war for supremacy," a conflict in competition where not only their neighbors but States and nations are engaged, and the result must go in favor of those who can attain the greatest degree of certainty, and produce at the lowest possible cost. This is not for wheat men alone to make note of, but all farming classes, whether grain, live stock, the dairy or the wool industry. Success to-day, to-morrow and the future means definite knowledge and study, and conformity to the times and circumstances.

Silo filling in this section may be considered over for the year, only now and then a farmer has been compelled to wait until this present week to get an engine. Horse-powers have generally been abandoned for steam, and the latter has been much sought after. It is fast resolving itself to this point, that two or three silo men will join in purchasing an 8-horsepower engine, and be independent in the matter of power. In my own case I was compelled to wait two weeks for an engine, the weather and delay of the silo filling of my neighbor before me holding me back for this length of time, though fortune favored me with remarkably good weather, a gleam of sunshine between two stormy spells, though the *influence* of the moon upon the weather was the same for my neighbor who filled his silo before me, and the one who is trying to fill his this rainy week.

The experience of silo filling is leading each season to better-understood methods, and therefore economic plans. The labor is more and more systematized, and hence not only more expeditious but less superfluous labor is employed, and much more accomplished than formerly. The reaper seems by common consent to have been laid aside, and hand-cutting is taking its place. Where corn is not shocked, but thrown upon the ground in small gavels, a man finds no difficulty in cutting an acre or more per day. Long carriers attached to the ensilage cutters enable them to be set outside of the buildings, and the corn is thrown directly upon the cutting tables; the feeder above then takes care of it, dispensing with one and often two hands. The man in the pit is also dispensed with, the engine man finding plenty of time to run his machine and keep the pits leveled down. This year I doubled the length of the carrier, and ran it over one pit to the second. A trap was put in the carrier over the first pit, so that the ensilage was dropped in the centre. It could be closed in a moment, and the ensilage was then deposited in the other silo. At every other load the engineer went into the pit, tramped the sides and corners well, and then forked the cone of cut fodder to the sides, so as to leave the centre much the lowest. By this plan it required at least two loads to make the base of the cone so large that the grain would reach any where near the walls. Five minutes of time would pitch this fodder again to the walls and tramp it. Each half day the filling was alternated, and the pit given a chance to settle for 18 hours, and the result has been that the settling since filling has as yet not been quite one foot.

Again, this year the fourth team was dispensed with, and three used. In place of a team and driver, a stout boy was hired as an extra to help load in the field, and as a consequence, the three teams kept the machine going. Although the last day the corn was brought 150 rods, the teams made 12 trips each, with as big loads as they could well draw, and one day, with the corn all within 60 and 70 rods, they each made 16 trips. Knowing that I should begin cutting into the pits on Tuesday morning, the entire force of six men was set to cutting corn the previous afternoon, and by sundown had 5¼ acres in gavels. After this, with this start, two men cut the rest of the corn, and the last afternoon assisted in "pushing things." By these helps and plans, it cost me $3 per acre to cut, draw and fill the silo, not counting my own labor, which I could have hired for $1 per day; so the figures are not altered to any great extent by paying myself the dollar per day.

The corn this season, owing to unfavorable weather, was scarcely more with me than a half crop—this on old stubble land, though heavily manured; but on my clover sod the corn was a reminder of last year. On this clover sod the "S. & W." seemed to know no cold nights, dry days or floods. It grew right along, developed its ear to every stalk, and made me more than once declare that manure was best to feed clover with, and *then* let the clover grow the corn. Of course the manure on the corn land is not lost; though it showed no signs of its presence in the crop, yet it was a lesson that I shall profit by, that the best insurance one can have for an ensilage crop is a solid clover sod, or a crop of rye turned under, both of which have never failed me in any year—a thing I cannot say of 30 loads of best grain-made stable manure to the acre—confirming all that Mr. Terry has claimed for clover fertility, and so strongly reinforced by Mr. Chamberlain's views in the third and fourth columns of the COUNTRY GENTLEMAN, page 744. *J. O. Western Reserve, O., Oct. 7.*

The Grain of Timber.

EDS. COUNTRY GENTLEMAN—The remarks of Prof. W. J. BEAL on the grain of bird's-eye maple at the meeting of the Society for the Promotion of Agricultural Science, are of interest more for what was not said than otherwise. The negative results of Prof. Beal's study of the subject are certainly reasonable and unquestionable, especially in regard to the statement that the beautiful grain of this highly ornamental wood is not caused by injury to the bark by birds or from fungi or disease.

A careful and observant study of the grains of woods would, I think, lead to the reasonable conclusion that it is produced by the peculiar construction of the cellular tissue. I have given particular study to the bird's-eye maple, as long back as thirty years, when I saw thousands of cords of this beautiful wood made into charcoal for iron furnaces in Northern Michigan. When this wood is split, the separation is uneven and shows the nodular form of the grain all through the split on both surfaces, forming depressions and protuberances which fit into each other. Immediately under the bark the same nodular formation is perceptible in the best marked trees, which shows that the newly formed wood is made up in this way, and the cells are distorted and disarranged by some natural proclivity of the wood—no doubt by the same natural direction as the medullary rays of oak or the irregular veining of the black birch are formed. But one fact is important in this respect, and this is that the most abundantly marked wood is produced in cold climates and on rocky soils, where the growing season is short but yet from its best forces for a time a rapid growth of cellular tissue, which may be bound and distorted by the sudden contraction due to the arrest of the growth by the rapid change of the season from a high summer temperature to a low winter one, or by the sudden arrest of nutrition by the freezing of the soil.

I have since studied this subject in the southern mountain region, where some of the woods are most beautifully variegated in grain, notably so the mountain laurel, (*Kalmia latifolia*), the black cherry, and the black birch or mountain mahogany; but all the woods excel in the grain to a remarkable extent, and this distorted and gnarled grain is especially found in the roots, and most frequently when the ground is rocky and the natural tendency of the roots to grow and spread is disturbed and diverted by obstacles to a free extension.

I think there can be no question that all the veining of our ornamental woods is due to the natural disposition of the cellular growth. The grain of pine, chestnut, oak, walnut, beech, sycamore and maple, all characteristic of the different kinds and distinctly recognizable as belonging to each, is unquestionably due to the formation of the annual layer and the direction of the medullary rays; and when we find the irregular, cross or spotted, or bird's-eye, or curly grain, as in some kinds of wood, as some of the pines, gum, birch, cherry, curly and bird's-eye maple, and the kalmia, we find simply an easily recognizable peculiarity of cell growth due to specific variations, and also to the nature of the soil and climate, which indeed tend to greatly differentiate the grains of all species of timber.

Highlands, N. C. H. STEWART.

"Whither are we Drifting?"

No More Public Lands Wanted Now.

EDS. COUNTRY GENTLEMAN—What is going to be the result, if the production of wheat, corn, butter, and many other staple articles continues to increase during the next ten years as has been the case during the past ten years? Is there any reasonable ground to hope for an increased consumption? We see no signs of it, while on the other hand there is every reason to expect a large increase in production. Take the South for example. Statistics show that during the ten years between 1870 and 1880 the production of corn in the South increased 150 per cent. That is to say it doubled the production of corn one and one-half times. During these years the hay crop was increased 37 per cent.; cotton 66 per cent.; and wheat 70 per cent. The next census will show a much more rapid rate of increase in the production of these and other staple crops. In fact, in a very few years the South will be not only self-supporting as regards all the staple crops, but will have a surplus to sell.

Turning westward what do we see? We see Oklahoma turned loose to increase the productions of the soil. The Sioux Reservation is about to be opened up for a few hundred thousand more farmers to swell still further the staple products of the soil. Not only this but the government is asked to invest a few million dollars in "irrigating the arid lands" of the far West in order that a still *larger* quantity of the staple products of the soil may be thrown on to an already depressed market. At the same the paternal hand of the government is stretched out to the laboring millions of the old world to get them here to grow a few million bushels more wheat, oats and corn. I am no pessimist, nor am I given to croaking; but unless production is checked or consumption increased, the struggle for life among the agricultural classes will illustrate the "Darwinian theory,"—only the "fittest will survive" the unprofitable competition. Look at the price of wheat, oats and corn in the West. Look at the price of beef. Look at the price of real estate, declining in nearly all parts of the country; only holding its own, or in some instances advancing, in a few favored localities.

In the midst of this decline in values the South will not suffer as will other sections of the Union. Her rapid development of the past few years may be partially checked, it is true, but she will continue to advance until she is fully self-supporting. One great reason for this is the fact that the markets for our produce are near at hand. While the products of the West have to be largely shipped—not only across the continent, but across the sea, the products of *southern* farms are mainly consumed at home, or, at farthest have to be sent only to the seaboard markets by water transportation, the cheapest in the world.

We think that the government should move slowly in the matter of throwing so much land on the market. What material interest of the United States would suffer if there were not another acre of public land brought into use during the next ten years? On the other hand, what material interest will not suffer by increasing production too rapidly? Our agricultural interests need "protecting." The idea of protection and free trade has been studied from a point too remote—too far away. A good share of the difficulty lies at our very doors. We are in great danger of producing too much. Within a couple of years from the time the government puts a few million acres of land on the market, which is settled up with a whoop and a hurrah, you can very confidently look to see the price of wheat, oats and corn lowered a few cents on the bushel. Oats from the Ohio valley are now being laid down in this city for 20c. per bushel, in carload lots; and hay at a little less than $14 per ton. How much does the producer get for his hay in Ohio and Indiana at such figures; or for his oats? He may get $7 per ton for the former, out of which must come the expense of cutting, securing and baling, hauling, &c. For his oats he gets perhaps 15 cents per bushel. At the same time what is he getting for his butter? what for his beef? what for his potatoes?

The remedy lies *not* in putting millions upon millions of surplus land on to the market by the government. Let the government get rid of its surplus in works of public improvement requiring the greatest number of men rather than in buying lands of the Indians.

Norfolk, Va. A. JEFFERS.

Teachings of Tiptree Hall.

Readers old enough to remember the time when "the sayings and doings of Mr. Alderman Mechi" (to quote the sub title of his book published some thirty years ago) were an important factor in agricultural discussions in this country as well as in England, will be specially interested in the following just and well expressed article, which appears editorially in the Mark-Lane Express:

The Tiptree Hall Model Farm of the late *J. J.* Mechi is going the rounds of the public prints in search of a tenant. In Mechi's days it was looked upon as no great prize, so far as profit was concerned; and certainly, from an economical point of view, it was not so successful as could have been desired. No individual holding, however, save Rothamsted itself, has revealed so many valuable secrets in the cultivation of the soil and the means that might be adopted for its improvement. When the late owner acquired it—or at least some 126 acres of it—in 1841, it cost him, as nearly as possible, £94 per acre, the rent paid by his predecessor having been £150 per annum. The buildings were of the most ancient design. The land was undrained, and largely subdivided. Open ditches were numerous, and of various and irregular shapes, which, however, was no uncommon thing in the county of Essex some twenty or more years ago.

These points are all worth bearing in mind. Mr. Mechi had a loftier ambition than to seek personal gain as the one great object of life. He set about remodeling and improving the farm immediately he acquired it, and the work absorbed considerable capital. He removed altogether about three and a half miles of fences, while he did no end of ditch filling, and land-levelling, and consolidation. The work was such that few men would venture to have tackled on such swampy, slippery soil, and his praiseworthy efforts were freely put down as the fruits of infatuation. But he proved them to be something else, for his latter years brought him congratulations from many who condemned his plans at the outset. Many who laughed at his apparent foolishness lived to imitate his excellent examples; for not only did Tiptree Hall become the charming residential estate it now is, but its entire neighborhood shared the embellishment.

Huge fences, green lanes, trees, &c., were removed. The draining of the land was freely engaged in. The cleaning of land received increased attention. Roads ceased to be straggling tracks, and new cottages and farm buildings underwent renovation. All this occurred as the result of Mr. Mechi's praiseworthy exertions and example. Then what has Tiptree done in the interests of cultivation? Until Mr. Mechi introduced guano, nothing but muck was used in the neighborhood; and after artificial manure became

known, great strides were made in the farming of the county. The farm laborers to this day look back upon the work of the late owner of Tiptree Hall with feelings of gratitude, as, indeed, every farmer in the country might do also. But that is not so. Tiptree Hall has been stigmatised as an unprofitable handling; and nothing will so far untie the strings of prejudice and sentimental attachment as to awaken anything like the appreciation for Mr. Mechi's good services to the cause of agriculture they so eminently well deserve.

Among his latest writings Mr. Mechi says: "Those who dislike modern changes should try to reconcile and adapt themselves to this steam age, for the bubbling kettle has upset and deranged many a comfortable old prejudice and attachment, and made many people angry; but millions have received, and will continue to receive, its comforts and advantages." Time confirms the truthfulness of this latter clause. A succession of bad years have coffined many of the mouldy notions which have deterred the progress of agricultural improvement on many farms, and the spread of agricultural education is begetting a warmer sense of appreciation of the improved methods of farming initiated by Mr. Mechi, among the tenant-farmers and landlords of the country—the former especially. Mr. Mechi's great desire was to throw fresh light upon the mysteries of farming, and but for this he might have given Tiptree a more attractive reputation as an agricultural estate, though, possibly, his loss has been many another man's gain. The lessons taught from Tiptree Hall have been laid to heart and turned to good account by many who would have shrunk from such an anxious task as that to which the late Mr. Mechi voluntarily addressed himself and successfully accomplished.

Curing and Storing Corn Fodder.

No matter how well fodder may be shocked, if allowed to remain in the field until fed it will all be damaged, and that reserved to the latter part of winter or the early spring most seriously. The plan of tying in bundles, &c., is not, and likely will not, be extensively adopted over the area where most corn fodder is grown and where most should be utilized. Farmers in the extensive corn growing regions prefer, and I think justly, to put the fodder as cut into large shocks, to cure. If the shocking is well done, and the fodder is left in the field only until it is cured, and other work of greater moment than hauling it in is disposed of, the damage is not serious. But it is economy of work and health to draw the fodder in before the weather becomes severe and stormy, and the days short; and even more is it economy of feed, if the fodder is stored properly.

Simply standing it up against some support, thus storing it in large masses with no protection from the weather, is very little better than allowing it to remain in the field, if it is well shocked; and it is surprising that this wasteful manner of storing is yet not infrequent. Unfortunately where corn fodder is most largely produced many have not sufficient substantial shelter to accommodate all the "rough feed" produced. Hay is given shelter before straw and corn fodder; and sometimes even hay is left exposed.

From experience and observation, I can heartily recommend the following plan as economical: Set firmly in the ground stout poles, having a fork at their upper ends, and eight to nine feet high. These poles should be set in a row, about ten feet apart. Parallel to them and eleven feet distant, set similar poles on each side, but projecting a foot less above the ground. In the forks are laid poles, which support a roof made of boards twelve feet long. These boards lap a little over the central poles, and their other ends rest on the outside poles. The boards lap a little along their sides, to make the roof altogether rainproof. The boards are better weighted than nailed down, as this does not injure them. Under this roof a foundation of rails or poles is made, as for a grain stack, only the rails need not be so close together. It should be made about a foot from the ground, so that the rat terrier and the cats can get under it, and the fodder will not suffer from the damp. Roof and foundation need be made only in sections, as the fodder is brought in; and the shelter, 24 feet wide always, can be lengthened as much as necessary, or two or more shorter shelters may be built near each other. A shelter this wide will accommodate fodder of any but extraordinary length, stored as afterwards described, for the tops of the stalks are lapped a little.

Now to store the fodder: It is laid at a right angle with the line of posts, across the shelters. The tops are lapped a little, and the butts reach out towards each side. Stout posts must be set across the end at which the storing is begun, to prevent the fodder falling out there. The tops are lapped for three reasons; first, to make the mass of fodder narrower; second, to make the tops somewhat higher than the butts; third, to bind each side with the other, to prevent the fodder from settling out from under the roof. As only the butt ends are exposed, the weather does no damage any valuable part of the fodder. As the mass is highest in the middle, the snow or rain that beats against the butts is not carried into the interior. This manner of storing minimizes the labor of handling and the expense of shelter, while the fodder is kept nicely. *J. M. Stahl. Quincy, Ill.*

Farming in Western Tennessee.

We are having most delightful weather, and our farmers are busy sowing wheat, saving hay, picking cotton, &c. In reading the Country Gentleman one is struck by the difference in the length of seasons in which farm work generally is done here, and in those localities from which the paper receives most of its contributions. For instance, corn-planting is done from March 20 to July 1, and successful crops are raised from all plantings. I do not mean by this that all the corn is a success, but that where the soil is good, and well prepared, and the crop well tilled, the climatic influences are such that good crops are grown, planted all along between these dates. The writer last year planted a piece of four acres July 2, gave it two workings with the cultivator, and made fine corn ready to cut up the 10th of October, I think.

Haying begins as early as May 25, and is continued along till Oct. 1. I was in a neighbor's hay field yesterday and he was taking up a nice lot of green cured crab grass, soft and fine, relished by live stock as much as any, but I do not think it contains as much nutriment as good timothy, herd's grass or clover. This was the third crop he had taken from this field—two of clover and this one of crab grass. Wheat and oat harvest is more immediately done than the other work, but this year we were four weeks getting through, and when it comes to sowing wheat it is something like the corn-planting, some sowing as early as Sept. 20, and from then on till Dec. 25, the bulk being sown from Sept. 25 to Oct. 15. In the fall of 1880 a neighbor of mine sowed, Dec. 18, and made the best crop in the neighborhood, though late sowing is very uncertain, and is very little practiced except where a field in cotton is sown, after the cotton is picked, for the express purpose of getting it seeded to clover.

With the gathering of corn just any time from Oct. 15 till Feb. 1, the bulk of crop being gathered before Dec. 1, it is a very common expression that "it takes 18 months to make and gather a crop of cotton," and from the way the fields of some of our careless farmers look in the latter part of winter and early spring, it would seem that they were trying to prove the saying correct, though most of it is gotten out by Dec. 25.

To those who take the trouble to notice the farming operations of our country there is a very marked improvement in the last ten years. When I began farming, some twelve years ago, it was considered a very good crop of wheat that would yield 10 bushels per acre, more falling below that than went above it. Now, if a good farmer gets less than 20 bushels per acre he calls it a poor wheat crop, some of our farmers this past season averaging 25 to 42 bushels per acre—this without manure or commercial fertilizer—other than land plaster sown on previous crops of clover, perhaps. The improvement is due to improved methods of preparing the land, sowing the grain, and the growing of clover. Where we had one acre of clover in the county ten years ago it is safe to say we now have ten, and a well-informed gentleman of integrity remarked that whereas ten years ago you might ride a day and call at every farm-house passed and not find two good 2-horse plows in the day's ride, now you can hardly find a farm that has not a good breaking plow to every 20 acres in cultivation, and this year the trade in 2-horse plows, rolling cutters, &c., must have exceeded $3,000 in our county seat. Ten years ago there was not a machine of any kind in the county for sowing wheat or drilling corn. Now all the crops are planted by machines made for the purpose.

The improvement in corn crops has hardly kept pace with the improvement in wheat, and the improvement in cotton cultivation is not

some industrious Yankee, who is appreciative of grass and all that grass implies, and establish him here as a sort of experiment station. On reflection, however, I call to mind many northern men who have come to the South, and cannot but acknowledge that nearly every one of them has proved to be more lazy than the average southerner. The fact is, that as you approach the tropics, a bare living is more easily obtained; there is no danger of actual starvation, and I believe that nothing but necessity will make the industrious, economical, systematic farmer, which we careless southerners imagine to be the universal case in the North. G. A. FRIERSON. *De Soto Parish, La.*

The sample of grass accompanying the foregoing letter was submitted to Prof. C. H. PECK, State Botanist, who writes: "The specimen is apparently one of the erect shoots of *Paspalum platycaule*, but it would be more satisfactory to see a complete specimen showing the creeping character of the plant *before* attempting its positive identification. It certainly is not *P. distichum*, for that has shorter spikes and longer spikelets, nor is it quack grass, *Agropyrum repens*, for that is wholly different in aspect and fruit."

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Oct. 8.

Two or three cold, blustery days, with wind from the north and northeast, followed by nights of hoar frost and freezing—the mercury going down to 28° and 27°—have been the manifestations of the weather for the week past. This temperature, quite below the common for the first week in October, promises the ripening and drying out of the corn crop, and hastens the time when it may be harvested and safely put in the crib. In well-protected situations, tender vegetation survived up to two days ago, but 8° or 6° below the freezing point, and ice half an inch thick, have completely arrested all growing vegetation, whether tender or hardy, except, perhaps, tubers like artichokes and sweet potatoes, which are believed by practical men and close observers to make considerable growth after the stalks and vines are separated from the roots at the crown. In the case of Irish potatoes, it does not seem to injure the tubers if the vines are green when killed by the frost; with sweet potatoes it is different, for to suffer the vines to remain uncut a day or two after they are frosted, is to degrade their quality very seriously, if not to spoil them for eating, and promote premature decay. It is therefore the almost universal practice of those familiar with the demands of the crop, to cut off the vines flush with the ground the very day they are frosted to any measurable extent. The tubers may then be safely left in the ground, sometimes for a month, during which they improve in quality if they do not increase in size. It would be a contribution to our knowledge of the growth of tubers if the positive or negative were demonstrated—whether artichoke and sweet potato tubers increase after the separation named. I would like to hear from cultivators on the matter.

And here is a good place to suggest whether the difficulty amateurs and others have in keeping over winter the tuberous roots of tender flowering plants, like the moon flower for example, is not explained by the simple fact that the stalk is not separated from the root immediately after the vine is killed by frost, and the germs of decay are absorbed from above. If the frosting of sweet potato vines is fatal to the quality and vitality of the tubers, why not to other tender tuberous-rooted plants? I suppose experienced flower growers know all about this matter, but perhaps not the average person for whose instruction and benefit similar things and facts are put into print.

Alfalfa.

The temperature having been low enough to freeze and wilt the foliage of the yellow globe mangolds, and the large, strong and showy leaves and stalks of the Chili beet, and at the same time causing the tops of sugar beets and red mangolds to shrink and curl, it was a good opportunity to see how the alfalfa fared under like conditions. Inspection of the field where the *third* crop, grown since August 20, now stands and is coming into blossom, showed some little killing of the leaves and more or less shrinking of the plants, but not enough to arrest further growth with the return of average October temperature. I think it may be safely stated that alfalfa foliage will resist a lower temperature than common red clover. And as for winter-killing, if red clover is pastured so close that it does not seed itself, it is very liable to be frosted and thrown out the second and certainly the third season; whereas alfalfa, if not pastured down, will maintain its vitality for a length of years nearly equal to asparagus.

I have so much to say of alfalfa, because I know something of what it has done for the success of stock raising and feeding in Colorado and California; because I apprehend, the water level of Central Illinois having been lowered by tile drainage 8½ feet at least, that our climate is about to put on some of the drouth features of the nearly rainless southwest, in which case the growth of deep-rooted forage plants will become an imperious necessity; and lastly because what I write is a true record of daily observation and personal experience.

The Corn Crop.

I have been asked for an estimate of the corn crop of this year and the price, whether above the present figures or below them, by a very intelligent farmer and stock feeder, who, together with his sons, has 1100 acres in Sedgwick county, Central Southern Kansas. He says of the Kansas crop: "After four crops, ranging from poor to very bad, we have the largest known in the history of the State, but by no means as large as the town-booming people and papers of Kansas represent it." At present St. Louis prices, all he can hope to obtain is 18c.

My own impressions are that the corn crop is not over 60 per cent. of an average, for all that region north of the line of glacial deposits, which runs through Southern Ohio, Indiana and Illinois—east of the Mississippi river and west of the Alleghanies; because when the temperature and rainfall in Missouri, Iowa, Kansas and Nebraska favors a heavy crop of corn, as in 1889, the weather is almost certain to be unfavorable to it in the region first named. This was the case in 1888, when the mean temperature of the summer was not high enough to ripen the corn in the eastern territory, and similar conditions have prevailed in 1889.

Therefore I conclude that the crop, as a whole, is a short one, and that prices in Central Illinois—37c. in June and July, with no great advance since—must advance. But consulting others, feeders who raise hundreds of acres and buy hundreds more, grain farmers who have traveled and observed, and whose profits from farms worked by themselves and leased for cash or rack rent, depend on prices obtained, large buyers acting for eastern commission houses and small dealers known as "back buyers"—all, or nearly all, are unanimous that the prices of corn for 1890 will not advance on those of 1889.

These gentlemen, while acknowledging the shortage of the crop east of the Mississippi river, think that the excess above this average west of it will more than make up for the deficiency. With so much conflicting testimony, I find it hard to hold to my former expressed opinion of a short crop and a rise in prices in course of 1890—yet I have more faith in the temperature and rainfall of the summer season than in the reports of Mr. Statistician Dodge, or in the integrity of the estimate of the commercial classes, whose aim, object and ambition in life is to buy cheap and sell dear. H. P. J.

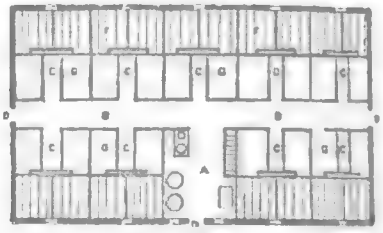
Show at Indian Fields.—The fair at Powell's Grove, near Indian Fields in this county, Sept. 25th, was a complete success in every particular. There was a fine show of cattle, sheep and horses. Farm implements were also well represented. The committee were unable to find room for the exhibit of farm produce. The fancy and artistic work presented by the ladies was exceptionally fine. The address of Mr. Ives of Washington county was very attentively listened to and was full of suggestive hints as to what the farmers of this section could do to improve on their present method of exclusive hay-raising, and it has created considerable discussion among some of the better farmers, who begin to realize the fact that we can no longer make exclusive hay-raising profitable. Prices at present are ruinously low. Our organization intends holding meetings in the different parts of these towns this coming winter, to be addressed by farmers, to see if we cannot get some benefit from the advice and experience of one another. J. W. C.

Albany County, Oct. 4.

Inquiries and Answers.

Piggery—Clovers.—I intend to erect a piggery soon, large enough for about 40 breeding sows, and wish to put in a heater so as to warm the building while the pigs are small. Can you refer me to any plans or book that will give the information? (1) I also wish to get the best work on the cultivation of alsike clover, alfalfa or lucern. (2) and also the Jerusalem artichoke; also directions for cultivating peppermint. (3) E. W. *Detroit, Mich.* [1. The accompanying engravings represent the external appearance and the plan of a large piggery. Its capacity may be increased to any extent by adding to the length at each end, with the same internal arrangements. The feeding-pens are placed on a sloping plank floor, and they are readily cleaned by pushing the manure through the horizontal slits extending along each side. *C C C* are passages for the attendant in feeding the animals; *F F F* are feeding apartments; *G G G* are sleeping apartments; *B B*, the central passage. The troughs extend part way across the feeding rooms, with a board partition between them. The divisions between the feeding rooms and the sleeping apartments are a single board, six inches high, which holds the clean straw from becoming mixed with the manure. *D D D* are doors, through which the animals may enter; and sliding doors may be made for all the apartments, and between them, for throwing two together when desired. The space *A* contains the cooking apparatus, to which may be added any additional heater when necessary. Each window affords light to two apartments, and which will aid in keeping them perfectly clean. The floor has a uniform surface, with no break, the central portion being level, while the side floors for the eating-pens have a slope to aid in cleaning and drainage, being about four inches in six feet. To assist in cleaning, an opening is made six inches wide along the whole length of the outside of the sloping floors, and a board six inches wide is hung on hinges at the upper edge, so that it may be hooked up for cleaning, and lowered for excluding cold air in cold weather, or opened for the admission of fresh air in warm weather. The ground should slope away from the building on both sides. Pigs are naturally cleanly animals if their owners will only give them a chance, and with a supply of clean straw for bedding, they will keep it clean. 2. You will find much information on the culture of these clovers in two or three of the last volumes of the COUNTRY GENTLEMAN, which the Index will enable you to turn to readily, and also in Prof. Beal's valuable work on the Grasses of North America. 3. Neither of these crops being cultivated to any extent, but little has been written in relation to them, and only short notices have been given in standard works on agriculture. Peppermint especially, being raised in so few localities, has not warranted any publication of its treatment for sale.]

PIGGERY—*Perspective View.*



Plan.

Treatment of Marsh Land.—Do you think you or any of your readers can tell me in what manner I may best treat a fresh water marsh meadow so common among the New-England hills? I know the first thing to do is to clear the channel of the small brook which runs through it, but it is with reference to further treatment that I wish to ask. How can the land be made to yield a fair crop of some grass useful for cattle food? The land is flowed only at long intervals, and will generally hold up a light wagon to get the wild marsh hay. Can you refer me to any agricultural treatise touching upon the subject? O. B. L. *Dublin, N. H.* [In the absence of information relative to the details of the locality, we can only recommend, in a general way, thorough drainage to bring the land into a good condition for vegetable growth, at the same time providing the necessary open drains to prevent the surface water from running from higher ground into the drained portions. When thus reclaimed, timothy and red-top grasses, broom corn, and probably common corn will grow luxuriantly on the land under good management.]

A Swamp Aster.—Enclosed please find a weed that is quite abundant in a lot of swale grass that I have cut for bedding. I am in doubt about using it, on account of spreading the seed in the manure. Will you kindly say if I can use it with safety, and state what it is? T. I. H. *Brooklyn.* [The plant is *Aster puniceus*, the "rough-stemmed aster," sometimes called "hispid aster" and "red-stemmed aster." It grows chiefly in swamps, low wet ground, or along the margins of streams. It rarely occurs in dry soils or upland. For this reason there is but little danger of spreading this weed if the manure is applied to such land, but if spread upon low, wet pastures or swale, the weed might thereby be multiplied. *Aster ericoides*, the "heath-like aster," and *Aster dumosus*, the "bushy aster," are the two most frequent and most abundant asters in the dry, sandy soils of Long Island. They are often quite prevalent in neglected fields and pastures, and might with considerable propriety be classed with noxious weeds. But as they mature and blossom late in the season, after field cultivation has generally ceased, they attract but little attention. Their flowers are small and white. C. H. P.]

Renewing Vines in a Grapery.—I should like to ask regarding proper treatment for my grapevines in an in-door grapery. They have been planted twenty years, and have always borne fine fruit, but of late seem to be failing. How can I best rejuvenate and reclaim them? S. P. *Charlestown, N. H.* [This inquiry was submitted to a friend of long experience who kindly replies:—I would advise that as much well-rotted manure as can be forked in to applied to the outside borders this month, and in the early spring treat the inside borders in the same way, adding a liberal allowance of fine bone manure, or lime, to both borders. For next season, crop very lightly, letting the vines go much more to wood than ordinarily, to bring up a plentiful supply of sap to strengthen the canes. To renew the vines, select the first strong spur nearest the ground; let it grow the entire season, training it up to the peak of the house, and laying down and covering for the winter with the old vines. In the spring, bend down and bury at least two joints well into the ground, cutting back about one-half, but not separating from the old stock. Let the old cane grow and bear, leaving one or two bunches on the young cane. The second year, or when the young cane has become well rooted and strong, saw off the old cane above where the new one joins it. The new cane must never be cut from the old stock. Two new vines may be started, one on each side of an old one. With care and good judgment an entirely new stock of vines may in this way be raised without the loss of a season's fruitage. This is the plan we tried most successfully.]

Paspalum.—Enclosed find a grass new to me. Please give common name and say if worth anything. It grows thick, spreads rapidly, and displaces blue-grass. S. T. K. *Georgetown, Ky.* [It is *Paspalum setaceum*, "slender paspalum." All of our species of paspalum are said to be relished by cattle. Some of them, by reason of their prostrate habit, are better fitted for pasture grass than for meadow. None of them have yet been brought into cultivation, though possibly some of them are worthy of trial. C. H. P.]

About Churns.—Are there any of your subscribers, practical butter makers, who can decide which would be the best churn for either hand or power for a dairy of 20 or 30 cows? We know there are several good ones, but which is the choice? J. H. *Haddonfield, N. J.* [There

is no better churn than the Stoddard barrel churn, manufactured by the Moseley & Stoddard M'f'g. Co., Rutland, Vt., and advertised in the COUNTRY GENTLEMAN. It is substantial in its make, easily cleaned and very handy in its use in all respects. The butter is more sure to come granulated, and is readily washed. No lifting is necessary, and the butter can be taken out of it in the most convenient manner. These churns are adapted for either hand or power, and there is not the least waste of cream. F. D. C.]

Horse Registration.—Some farmers would like to register Hambletonian stock. Where must they apply? C. S. L. *Lebanon, Pa*

[There is no Hambletonian breed, and of course no Hambletonian register as such. But many Hambletonian horses are "standard," and entitled as such (and not on account of their blood) to entry in the American Trotting Register, John H. Wallace, editor, 260 Broadway, New-York.]

Prizes at the Bay State Fair.

[See Report on Page 793.]

CATTLE.

Ayrshires: *Herd*—J. D. W. French. *Bull, 2 years*—1. D. Wells, Major Bertram; 2. J. D. W. French, Ravenswood. *One year*—1. D. Wells, Andrew; 2. H. H. Hale, Athlone. *Cow, 3 years*—1. French, Modesty 4th; 2. Hale, Creamy 2d. *Two years, not in milk*—1. French, Fedalma 2d; 2. Wells, Flora Spot 2d. *Same, in milk*—Hale, Lady Belle. *Under 2 years*—1. Wells, Dolly M.; 2. French, Princess Rose.

Jerseys: *Herd*—H. S. Russell. *Bull and Progeny*—1. J. R. Brewer, Seapriz; 2 J. M. Sears, Bonita's Son. *Bull, 2 years*—1. R. Powell, Lord Holland; 2. Brewer, Carl Torment. *Under 2 years*—1. Russell, Daniel Pratt; 2 Brewer, Don Pedro Torment. *Cow, 3 years*—1. Russell, Sweet Rose; 2. Russell, Puss. *Two years*—1. Brewer, Brenda Torment; 2. Brewer, Cora Torment. *Under 2 years*—1. Brewer, Daffodil Torment; 2. Russell, Bonny 2d.

Guernseys: *Herd*—Hon. P. Morton. *Bull, 2 years*—1. W. Cutting, Means; 2. Hopewell Bros., Morning Star. *Under 2 years*—1. Morton, Midas; 2. Cutting, Troubadour. *Cow, 3 years*—1. Morton, Blomfalrice; 2. Cutting, Clarissa. *Two years*—1 Cutting, Clarabel; 2. Morton, Lady Marion 3d. *Under 2 years*—1. Morton, Pearl; 2. Cutting, Cor.

Holsteins: *Herd*—W. H. Bent. *Bull and Progeny*—1. J. A. Frye, Mercedes Prince; 2. W. A. Russell, Royal Archer. *Bull, 2 years*—1. Robinson & Son, Artis Poer; 2. Russell, Nitalia's Ondinus. *Under 2 years*—1. J. C. Poor, Prince Bein, Independence; 2. I. Damon, Soldene 3d's Netherland. *Cow, 3 years*—1. W. H. Bent, Lakeside Clarissa; 2. Robinson, Tacoma. *Two years, not in milk*—1. H. W. Kayse, Bosma of Pine Grove; 2. Russell, Calbosna Shepard. *Same, in milk*—Robinson, Addie Van Campen; 2. Bent, Aggie Duchess. *Under 2 years*—1. Bent, Deonje's Welling 3d; 2. Russell, Hattie C. Clay.

Swiss: Prizes to O. A. Kelley and J. A. Bancroft.

Short-Horn: All prizes to H. H. Hale.

Devon: All prizes to J. Hosg.

Hereford: All prizes to E. A. Bailey.

Polled: All prizes to T. N. Vail.

HORSES.

Percherons: *Stallion and Progeny*—1. H. H. Hale, Majordome; 2. Willard White, Boston, Zephyr. *Stallion, 4 years*—L. G. Barnham, Jr., Boston, Prince. *Jr. Filly, 2 years*—2. H. H. Hale, Beatrice. *Mare and Foal*—1 and 2. Hale, Vivienne and Marita.

Trotting: *Stallion and Progeny*—1. C. F. Clark, Boston, Roland; 2. H. H. Hale, Warder. *Stallion, 4 years*—1. W. W. Petrel, Boston, Sir Walter; 2. C. F. Clark, Young Round. *Three years*—1. H. G. Wood, Natick, Electryon, 2. H. S. Russell, Crescent. *Two years*—1. C. F. Clark, Young Falmouth; 2. H. S. Russell, Orion. *One year*—1 Russell, Forcellino; 2. H. H. Hale, Waterman. *Mare, 4 years*—C. F. Clark, Comfort. *Three years*—1. C. A. Campbell; 2. C. F. Clark. *Two years*—1. G. H. Warren; 2. C. F. Clark. *One year*—1. H. H. Hale; 2. G. H Warren. *Mare and Foal*—1. J. M. Smith, Helen; 2. H. S. Russell, Peoria Girl.

General Purpose: *Stallion and Progeny*—Luther Crawford, New Braintree, Administrator, Jr. *Stallion, over 15 hands*—H. H. Hale, Hudson. *Under 15 hands*—L. Crawford, Robert L.; *Stallion, 3 years*—1. Crawford; 2. Warren. *Mare, 4 years*—1. Crawford; 2. Hale. *Three years*—G. A. Fletcher. *Two years*—1. D. G. Tunney; 2. A. B. Haskell.

SHEEP.

Cotswolds—R. G. Hill, So. Elmore, Vt.; A. C. & F. Philitp, Glover, Vt.

South-Downs—C. A. Hawkes, Charlemont, Mass.; G. K. & N. B. Boutelle, Waterville, Me.

Shropshire—L. B. Harris, Lyndon Centre, Vt.

Hampshire—E. F. Bowditch, Farmingham; Woodward & Jaques, Wright's Corners, N. Y.

Dorset—E. F. Bowditch; Woodward & Jaques.

SWINE.

Yorkshire—Warren Heustis & Son, Belmont; W. E. Pendleton, New-London, Conn.; C. L. Marshall, Lowell.

Chester White—C. A. Hawkes.

Berkshire—Lucas & Vosburgh, Waterloo, N. Y.; G. W. Goddard, Greenville, N. H.

Poland-China—H. F. Sealey, Waterloo, N. Y.; Smith Harding, South Deerfield.

Weather, Crops and Prices.

Meteorology for Oct. 7-13.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.17 inches.
Lowest do. do.	.....	29.83 do.
Mean do. do.	.....	30.02 do.
Highest temperature do.	.....	68°
Lowest do. do.	.....	35°
Mean do. do.	.....	51°

One clear day; two fair; four cloudy. Four days on which rain fell; total precipitation, 0.69 in. Prevailing wind, W. and N. W.; maximum velocity, 15 miles per hour on the 7th, 8th and 11th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	7th	8th	9th	10th	11th	12th	13th
This year.....	46°	49°	50°	52°	49°	46°	46°
Normal.....	55°	55°	55°	54°	54°	53°	52°

Total deficiency for the week, 38°.

New-Hampshire—*Dover, Strafford Co., Oct.* 11.—Harvesting, which has been considerably delayed by rains, now nearly completed. There is an abundance of aftermath on our meadows, which is being fed off by stock. The apple crop much smaller than last season, but it is thought that about as much will be realized for it, as the demand is much more active. Our State Board of Agriculture will soon open a vigorous winter campaign, which will be warmly supported by the grangers of the State. Potatoes are more plentiful than it was at one time supposed they could be, selling for 65 and 70 cents per bushel. Hay, $14@15 per ton; apples, Baldwins, $1.50 per bbl., with prices advancing. Milk for the next six months about 25c. per 3½-quart can. H.

Vermont—*Middlebury, Addison Co., Oct.* 10.—This has been a very stormy month so far; have had two very heavy rains, with more or less of rain each day. Corn is in shocks, and little has been secured in the barn yet. Potatoes are nearly all dug, with a fair yield, and of a very good quality; will sort much better than last year; present price at cars, 50@55c. per bush. Onions a fair crop, and all housed before the present rain. Apples seem to be the light crop, not in sufficient quantity to supply the home market, with prices looking upward. Early sown wheat has secured a very fine start, and is looking fine. There was so much rain in May and June that many fields were sown quite late. Fall feed never looked better, and dairy cows all holding out well. Butter quoted Monday at 18@20c. per pound. No freeze as yet, and only two frosts. A. B. C.

Connecticut—*Hartford County, Oct.* 7.—The weather has been quite mild, with frequent showers, for the last few weeks, and only one frost has been severe enough to kill the tender plants. Winter apples in this locality have been nearly all bought by local dealers and shipped to New-York and Boston markets, netting the growers about 50c. per bbl. Cider fruit is in good demand at 10c. per 50 lbs. The potato crop is nearly dug with about one-third less per acre than usual—price at wholesale 75c. per bu.; cows, fresh in milk, are in good demand at $35@45; beef, slow at 6c. per lb.; pork in fair demand at 6c.; dressed chicks, 12c.; fowls, 11c.; creamy butter, 23c.; dairy, 18@20c.; eggs in good demand at 20@30c. per doz.; chestnuts, $1.50@4 per bu.; walnuts, $3; the crop of all kinds of nuts will be very light in this vicinity. Sales of northern and western horses are slow at present; working oxen are selling for 5½@6c. per lb.; sales of tobacco have been numerous for from 10@20c. in bundle. A. S. W.

Maryland—*Montgomery County, Oct.* 9.—The first killing frost this morning; seeding nearly all done; wheat very poor in quality—worth 60 to 65c. per bushel. Fruit very scarce; potatoes ripe and ready to dig—worth 60 to 65c. per bush. Fat cattle nearly all gone—worth 5½ to 6c. per lb. Fresh cows in good demand at $30@50, calf included. Butter worth 20@30c. per lb. Money very scarce. Health good. L.

Wisconsin—*Janesville, Rock Co., Oct.* 8.—The autumn so far is quite fine. Three hardish frosts; no rain; everything very dry indeed. Potatoes are the largest and finest crop ever known here, never did we have such beautiful, mealy tubers before. Grass is getting poor. Live-stock has to be largely home-fed. Tobacco, so far as I can learn, will be a little over 6,000 acres, and very good in all respects. Business is good generally, though produce is low. The pearl fishing is dying out; some have done well, most are disappointed, and many quite sick from contracted colds. The home market is good; many have sold for extra prices. Galbraith Bros. are doing a lucrative business in Clydes, Yorkshires and Ponies; they are quite a success. Wheat, 60@72c. per bu.; barley, 24@26c.; rye, 40c.; corn, 20c.; oats, 18@20c.; potatoes, 25@30c.; hay, $4.50@7.50 per ton; butter, 17@20c. per lb.; eggs, 15c. per doz.; cattle, $2.60@3.50 per cwt.; hogs, $3.75@3.90; coal, $7.25 per ton; wood lower than in 25 years in this market. W. H.

Missouri—*Kansas City, Jackson Co., Oct.* 5.—October has come in bright and glorious. The days are warm and sunny, and the nights cool and chilly. In the middle of the day the thermometer ranges from 80° to 90°, falling at sunset some 30° to 40°. The moonlight nights are brighter than in the East. September was a changeable month—rainy days, thunder showers and bright sunlight. There were slight frosts on the nights of the 17th and 22d, but not sharp enough to injure vegetation. Harvesting is all completed, and the crops are all good, much better than an average year. New permits for buildings are issued every day, and Kansas City is spreading out in every direction. Market prices for provisions are advancing a little, except flour, which is declining; potatoes, 40c. per bu.; apples, 35@40c.; butter, 20@25c. per lb.; lard, 8c.; fresh meats, 6@12½c.; salt pork, 3 lbs. for 25c.; eggs, 18@20c. per doz.; tomatoes, 10c. per pack; coal, $3@3.50 per ton; wood scarce and high, and but little used except for kindlings. S. E. S.

Nebraska—*Falls City, Oct.* 1.—September was rather a dreary month; a great deal of rain fell. Feed is uncommonly good for the time of year, and live-stock is looking well. Hog cholera does not prevail as yet. Harvesting is all done. Corn is not all shucked, but it is first class, and there was never a better yield than this year. Apples are pretty fair; potatoes are inclined to rot, owing to so much wet weather. The county fair came off in a wet, dreary time, the trotting courses damp and heavy, but people enough turned out to make a large crowd, though as usual, the income did not cover expenses. The show of stock and cereals was very good. R.

The Poultry-Yard.

Eggs All the Year Round.

When one lives so far from market that a large broiler can be sold for no more than ten cents, as is the case in my vicinity, then there is no profit in raising them. Eggs pay better, as they can be shipped to distant cities; where, if an honest dealer be found, or engagements be made to furnish private families with eggs whose freshness they can rely upon, then the farmer's wife will find it to her interest to turn her attention in that direction.

To those who have come to this same conclusion yet have not had time to investigate the subject very closely, I should like to offer a few suggestions in regard to the breeds of fowls best adapted to farm life, and the ages at which they can be most profitably kept.

What we want is a hen that will sit upon her own eggs in the spring, raise enough chickens to supply the family the year round, and spend the remainder of the time, summer, fall and winter, in producing eggs. This model, general-purpose fowl has not come within the somewhat limited range of my experience. If any one else has found her I should be glad to know about it. The Plymouth Rock is the nearest approach. The hen is a fair winter layer, begins to sit at the proper time in the spring, and raises her chicks in the most orthodox manner, but the trouble is she wants to keep this up all summer, so that at the moulting season instead of busying herself with the renewal of her attire she is apt to be hid off in the woods covering a nestful of eggs, or escorting a young family around that she has hatched in spite of you. This puts back her moulting considerably, so that when the rest of the flock are gorgeous in new dresses she presents a most dilapidated appearance, and often does not get herself into good condition for egg-production until Christmas. In order to fill up this wide gap so as to keep a regular engagement for eggs, we must employ one of the non-sitting varieties. The Brown Leghorns will do this admirably; being active thrifty little birds, not at all troubled with the sitting fever they accomplish their moulting without interruption, and are in good trim for fall work. But when the penetrating north winds come, and the ground is covered with snow, the Leghorns, being more delicate, feel the cold so intensely that every particle of surplus food goes to making heat instead of eggs. So that unless we had some arrangement for heating the poultry house it would not do to depend upon them alone for winter layers, and they in their turn must be complemented by one of the heavier breeds, as Langshans, Brahmas, Plymouth Rocks or Wyandottes. As a rule, those varieties that have the thickest coats of feathers are the best winter layers, their warm clothing rendering it necessary to generate a smaller quantity of heat, so that the surplus food can be used for making eggs. The Langshans are especially recommended for this purpose, as their abundant feathers which lie close to the body in many overlapping layers are remarkably warm, soft and downy.

As there are so many different characteristics to be taken into consideration, it is not strange that no one breed gives perfect satisfaction in every respect. Some have tried to remedy this by crossing judiciously one of the non-sitting varieties which lay well except in winter, upon one of the Asiatic breeds which are exceptionally good winter layers, and profess to be quite successful in obtaining excellent layers at the most profitable seasons of the year.

Now let us consider the question, "At what age is it most profitable to keep hens for winter layers?" The wise ones tell us that pullets of any of the better varieties that are hatched early enough in the season to reach maturity, and begin laying in the fall, will continue throughout the winter with short periods of intermission, provided, of course, that they are fed and cared for in such a manner as to promote the egg-making process. We are also told that hens of the heavier varieties are at their best when two years old, and that a larger per cent. of their eggs are fertile, and produce finer, healthier chicks than those hatched from pullet's eggs. Of the smaller and more active, the non-sitting breeds, hens can be kept with profit until five years old.

This winter I am going to keep 75 hens for eggs; 25 of this number are Plymouth Rocks over one year old, handsome, broad-breasted, dignified matrons; the second 25 are Brown Leghorns, lovely trim little birds with white earlobes, and great crimson combs and wattles; the third 25 consist of early-hatched pullets that were apparently grown in size the first of September, nearly all of which are a cross between the Plymouth Rocks and Brown Leghorns, having the colors of the former though somewhat darker, and the white earlobes and tall red combs of the latter.

I should like to keep them in separate pens, then the experiment would be complete; as it is, however, I shall have to judge of their performance as best I can from observation. The color of the eggs of the pure breeds will testify to their prowess, those of the Plymouths being tinted, and the Leghorns pure white, but the eggs of the third lot will not be so decided. Still, if one goes about the poultry house now and then it is very easy to tell which kind is oftenest on the nest. At any rate I feel pretty sure that among them I shall be able to keep a regular engagement for eggs. Indeed they appear to have the business in question so very much at heart that, although they are at present busily moulting, there is a cheerful sound of cackling coming up from the poultry yard almost all day long, and at evening a goodly number of eggs is the result.

Oakville, Ky. A FARMER'S DAUGHTER.

Chicken Raising in Maine.

EDS. COUNTRY GENTLEMAN—I like to read the letters from "A Farmer's Daughter," and wish there were more such. I have kept fowls over twenty years, and have never had them pay less than one dollar net profit per fowl each year, and sometimes as high as two dollars. I keep them in a yard and buy all my grain for them. I have for the past fifteen years selected my best layers, and kept them for five or six weeks in a pen by themselves, usually fifteen. I feed them in the morning with two quarts of wheat bran wet with water or sour milk, to which I add a handful of bone meal, or two handfuls of ground beef scraps. At night I give them a quart of corn, wheat or oats, or as much as they will eat up clean. Green food, such as cabbages, beets or turnips, is also given. I keep by them ground clam or oyster shells, and plenty of fresh water, and twice a week I give them a teaspoonful of sulphur; also the same quantity of salt mixed with their morning food.

After feeding them three weeks I begin saving their eggs for setting. I usually have fifty chickens hatch, and seldom lose more than two by sickness. This year I have sixty chicks; lost three by the hens stepping on them when they first hatched out, and only one by sickness. I have kept my chicks for the last nine years until they were four months old in a yard containing only four hundred and thirty square feet of high and dry land. I give them plenty of grass or weeds every day and keep their coops clean; they have sand, gravel and shells, and clean fresh water by them all the time.

Their food until ten weeks old, consists of equal parts by weight, ground together fine, corn, oats and wheat middlings, to which is added to every 20 pounds one pound of ground beef scraps, also one pound of bone meal, all of which is well mixed together in a dry state. My wife gives them three times a day all they will eat up clean, wet up with water—not too wet—and fed on clean boards; occasionally a dish of sour milk and dinner of boiled potatoes. After they are ten weeks old, she gives them for supper wheat, later on corn or oats; when sixteen weeks old they are moved to the yard of the older fowls. They are fed when small sulphur and salt only when it is fair weather—a teaspoonful of either one to thirty chicks. I have never been troubled with lice on my chicks or fowls. My wife tames them so she can pick every one up when they are small. They never forget it; I can pick up any of my hens, and they often ride around their yard on my shoulders, and sometimes into the house. CHAS. W. CILLEY.

York County, Me.

Horticultural Department.

Good Varieties of the Pear.

Many years ago some of the eminent pomologists of Boston decided that if they could have but one variety of the pear, it would be the Vicar of Winkfield. Not on account of its flavor, for even when the fruit was finely grown, thinned on the tree, with a brown cheek and fully ripened, the quality would not compare at all with such delicious pears as the Sheldon or Belle Lucrative, but the tree was a fine grower, great bearer, and the fruit, if properly kept, continued to ripen in succession for two months during late autumn and early winter. This pear is now almost forgotten by some cultivators. It was not good enough, and the tree was rather unusually subject to blight. Since that day, President Wilder selected the Anjou, (a very fine pear which he introduced) as the one standing at the head of the list, and which he would choose if he was confined to but one sort. The pear itself is excellent, handsome in form, smooth in exterior, the tree a symmetrical grower, and but little subject to blight. It was recommended as a moderate bearer, which is better for the fruit than on overcrowded branches. We have not found this characteristic to hold, for in an orchard some fifteen years old, the Anjou trees have out-borne any other, the crop from three contiguous trees being nine bushels from each, and the pears of full size, measuring on an average three inches the longest diameter. Under ordinary treatment they ripen during the last half of autumn, but they may be kept in a cool apartment till January. They have the advantage over many other pears of keeping for several days after they have become fully ripe for eating. An experienced commission merchant remarked that if this pear only had a fine red cheek, it would be the best of all market varieties.

The Sheldon when well grown under good cultivation is scarcely equaled for delicious flavor and for its excellent melting quality. Its rounded form and dull russet skin does not make it particularly attractive to one unaccustomed to its delicious character. The tree is not so reliable a bearer as some other varieties, and it is more subject to the blight. If the fruit is not well grown and well ripened it is poor enough.

Virgalieu or White Doyenné.—Fifty years ago this was conspicuously the finest market pear in Western New-York, and owners of large bearing trees received handsome sums of money for the crops. This was after the scab and cracking had entirely destroyed the value of this pear at Boston, where it was known as the Saint Michael, and the Butter pear in Pennsylvania. In subsequent years the same trouble came upon it in Western New-York, and it is now almost forgotten. Yet in some seasons and in some localities it has been restored to its fair appearance and fine quality. Last year we gathered many bushels on our own grounds, and some trees this year bore fine specimens. But the long continued wet weather appears to have had a fatal effect on some of the trees, the crops of which were worthless, while other trees not many rods distant had fair and excellent pears.

The Seckel has been nearly destroyed this year by the same disease, scarcely a single bushel of good specimens being found in an estimated crop of two hundred bushels. Some years ago the Seckel in this orchard was fine and fair, and was the most profitable variety in an orchard of the leading market sorts. And during the present year some trees only a few miles distant bore perfectly fair fruit. This disease has puzzled cultivators, and in the experiments we have made Seckel trees subjected to enriching cultivation, others growing in grass, and those pruned and unpruned, have been alike affected. This disease will afford an excellent opportunity for scientists to exhibit their skill in discovering an effectual cure.

The Lawrence—A late autumn and early winter pear, of fine quality, but not equal to the best, is only partially melting, but it has the good quality of never becoming scabby, is always fair, and the tree holds its foliage late in autumn until the fruit is well matured. It is a good market variety.

The Clairgeau is one of the handsomest of all pears, and when the fruit has become well colored on the tree, the whole presents an object of great beauty. The pears are large, smooth, and when well ripened and have become soft, they are excellent in quality. Sometimes they remain hard till they decay, and are of no value. Experience fully corroborates the opinion that young trees more commonly bear fruit which does not ripen well. Trees fifteen years or more of age uniformly bear pears of good quality, and the variety proves one of the best for market.

The Bosc is one of the best of all autumn pears, but the tree is not a very good grower, and is injured by our severest winters. The Howell is gradually taking a place among profitable market pears, the tree being a fine grower and very productive, and the fruit always fair and handsome. After all, the old pear, long known in England as Williams' Bon-chretien, and in this country as Bartlett, stands at the head of pears for general popularity, and nurserymen raise more and sell more Bartletts than of any other variety. It is a great and uniform bearer, and sells freely in market.

Notes on Favorite Plants.

Hyacinthus (*Galtonia*) candicans has become an established favorite among summer flowers in our gardens. I have found that small bulbs are perfectly hardy, but large bulbs get winter-killed; at the same time I believe it is better to lift the bulbs in fall and keep them dry in the house till next April, when they should be set out again. The older and bigger a bulb is the stronger flower spikes will it throw up—therefore it pays to keep over the big bulbs. It is very easy to get up a large stock of these hyacinths, for they ripen large quantities of seed, which, if sown in rows out of doors, germinate as readily as do onions, and many of these seedlings make fine blooming bulbs the second year, and all bloom the third year.

Cannas.—As soon as frost injures the leaves, cut over the plants close to the ground, then lift the root-stocks, shake the earth away, and store the roots, dry and free from frost, as you would dahlias. This way is all right for the old-fashioned common kinds, that make chunky root stocks, but the new, dwarf, French cannas, also *flaccida*, *shenandi* and *newtoni*, when lifted, should have a little earth retained to them, and they should be laid close together, but only one deep, on the cellar floor, or elsewhere that is a little damp. If the shed or cellar floor is perfectly dry, then pack the roots close together, and with some moist loam between them. In order to winter them successfully, they should not be allowed to remain dust dry.

A capital thing about the dwarf cannas is that by potting a few, resting them for a little while till they begin to root well, and then bringing them to the window light, they will grow away kindly and bloom as well as if they were out-doors in summer, and they do not take up as much room as common calla lilies.

Montbretias.—During the last few years these have become very popular garden plants, and deservedly so, for they bloom most gayly in summer, grow well in any good garden ground, and multiply exceedingly. The two kinds common in cultivation are *M. pottsi* and *M. crocosmæflora*. I have heard good reports of *pottsi* from a few growers, but, really, its behavior with me during the past eleven years has been so unsatisfactory, that I must pronounce it not worth growing except for variety's sake; it grows well enough, but does not bloom enough. On the other hand, *crocosmæflora* is prodigal in floral lavishness, and it is just as free a grower as it is a bloomer. It is often spoken of as being hardy, but my advice to all in the Northern States is to lift the roots and bring them in over winter. Under a good mulching I have had both kinds live fairly well over winter, but it is risky. They do not form individual bulbs, like a tulip or daffodil, but rather a spreading, matted mass of small and immature bulbs, and for this reason we should not keep them perfectly dry in winter, but rather in a shallow box, with some moist loam, sand or sawdust about them. Mine keep growing a little all winter, but I head them over every now and again, and plant them about the end of April, and they go ahead and grow and bloom splendidly all summer.

French growers have given us a few more new sorts, varying in color from bright yellow to orange scarlet, but they need testing. Some of them promise well, but others are very miffy.

Tritomas.—Since midsummer we have had these in bloom in quantity, and at no time in such abundance as now—the first of October. The plants are green and thrifty, the flower-spikes tall, strong, bright and gay. There is great confusion among the names of the cultivated tritomas; the ones most common in gardens are *Knipholia aloides* and varieties of it. Another vigorous one, of about ten years' introduction, is *K. leichtlinii*, and the beautiful small ones are *K. macowani* and *K. triangularis*. In the way of these last named, one called *K. corallina* has recently been added, and it completely outstrips its new relatives in vigor of growth and freedom and continuance of blooming.

All tritomas bear seeds, but some varieties sparsely, and these grow readily, and most of the seedlings become blooming plants the second year, and all the third year. From seed is an easy way to get up varieties that you have not now got, but the easiest way to increase your present stock of plants is by division. Some folks leave their tritomas out of doors, and cover them over with dry leaves and inverted boxes; others lift and bring them indoors into the cellar, keeping the bunches intact, but I have best success with them in frames. About the first of November I lift all I want of each kind and cut back the leaves to within about eight inches of the ground, then divide the clumps, keeping a good crown to each piece, and I plant these crowns quite close together in a sunny frame, from which frost is excluded, and let them remain there till the following April, when I lift and plant them out in rows, in rich, well-worked ground. In this way they make fine plants, and give more and better flowers than do clumps that have not been divided.

If you winter them in the cellar, don't keep them warm or dry—cool, and a little moist at the roots, is the rule, and to preserve them from drying or sudden changes of temperature, throw some tree leaves or other littery stuff about them. W. Falconer. *Glen Cove, L. I.*

Large Connecticut Orchard.

The New-England Farmer gives an account of the orchard at New-Britain, Conn., belonging to the Connecticut Valley Company, containing one hundred acres. It is laid out with broad avenues and streets, subdivided into sections, each of which contains a thousand trees, numbered and registered. It was set five years ago, and some of the trees are in bearing. An acre and a half is covered with well-fed, well-pruned grapevines. Twenty-five hundred plum trees in bearing, many of the trees loaded with fruit, the Lombards presenting the dense clusters for which that variety is famous. Thirteen thousand peach trees in one block, the trees strong and vigorous, and well covered with fruit, was a sight worth seeing. Four horses and six or seven men are required to keep the orchard in order. Hen houses are distributed through the orchard, and a thousand hens and chickens roam among the trees. Arsenical poisons are used to repel or destroy the curculios. This is the substance of the account.

As a general rule, orcharding is more successful on a moderate scale than when widely extended, and individual enterprise does better than the work of a large company. A president or a superintendent who thoroughly understands all the details of success, and who is not hampered by divisions of the board, may conduct the business as well as with a private enterprise, and a wealthy company would give him the command of means of operation. But it will generally happen that such an officer will soon prefer to work for himself, and carry on his own business as soon as he earns enough; and in the future it may not always be easy therefore, to secure the services of a thoroughly efficient man, and the company may become unwieldy in its operations. Orcharding and the nursery business both require the management of many details in a way unlike the uniform operations of an extensive manufactory.

Pears in Central New-York.—The crop of pears in and around this city is a large one, especially of the Seckel and the Flemish Beauty. Not only is there a large crop, but the fruit is remarkable for size and freedom from blemish; many of the Flemish Beauties being as large as the Duchess, and as green and glossy as an olive. A selected basket of my Seckels weighed enough to make an average of about 4 oz. for each pear. I sent one weighing plump 4½ oz. to Mr. P. Barry of Ro
acknowledging receipt he inform
Mr. Watson had just brought in
from his garden a Seckel that we
Who can beat that?
Utica, N. Y., Oct. 7.

Grapevines from Cuttings.

In a recent number of the C
TLEMAN, M. E., page 711, requ
formation concerning the pr
grapevines, and as I have late
successful both with layers a
think perhaps a short account
adopted may prove helpful. I
things so easy to do that one
how to describe it, and the ve
who has a few feet of ground
need not hesitate to make the at
Procure slips in February,
canes of the preceding year's
cutting them in even lengths, a
more joints to each slip. If
warm climate the slips may be
but if more cold weather is anti
be better to tie them in bunc
them until spring. Then, after
over and the ground comes in
order, spade up and thorough
bed of light friable soil to the
eight inches and put out the
slanting position, pressing th
around the stems, and taking c
bud below the ground and th
Keep the bed free from weeds
do not stir the earth near the
great danger of breaking the
the brittle buds. Water when
before the summer drouth sets
fully with straw or leaves,
sufficient moisture seems to be
that prevents their growing.
suing winter be a severe one,
leaves should be spread over t
to prevent freezing. Early
fore the buds begin to swell,
carefully so as to break as few
possible, take the vines up g
them where you intend them
manently. The post or stake
the same time so that the vine
up as it grows. Should severa
from the same root break off
will compel the plant to
strength into that one.

The most precocious vines
bloom the second year, but
them to bear fruit until the th
energy should be spent in st
the soil and in making a strong
After the third or fourth ye
plan to let each vine put u
every year, cutting off one
close to to the root; this se
good yield of fruit every year,
being both vigorous and pr
rule can only be applied
trained to individual stakes;
they cover an arbor or a trell
preserved.

After you get a few vines
you choose, you can increa
with layers. Early in the spr
supple cane of the growth
year, place it at full length
above a bed of well-pulveri
each joint drive down a for
pin the vine closely to the
parent vine is in a healthy
find that each joint of the rec
send up as the season ad
vigorous shoot, and will at th
a firm hold on the soil bene
of thrifty young roots. Wh
advanced thus far, examine
move all except one shoot, a
one hand draw the fine ea
around it with the other,
cumbent vine between to
inches. Keep free from gra
water when the weather is
remembering to handle the
gently, for there is nothing
more easily injured. In t
should be severed from the
also be divided between
making as many new vin
joints. Do not disturb the
than this until next spring
to cover the whole with
freezing, for as yet the yo
penetrated the soil to much
Many persons are dete

grapes because they imagine that the vines, even after they are rooted, require a great deal of cultivation, but this is a mistake. My vineyard has proved it, for all I could say or do this year, I could not get it worked. The morning glories had undisputed possession; they thought the stakes had been planted and the vines trained upon them especially for their benefit. They made a lovely show to be sure, with their twining wreaths of exquisite blossoms, but I would have been satisfied with a more modest display; while below, the grass and weeds made such a wilderness that I expected to feel a snake at every step—seeing them was out of the question. I was sure that all the grapes would decay and fall off, but there was a splendid crop—enough to supply the whole neighborhood. I did manage to get paper bags put upon a few hundred of the most perfect bunches, and we are now enjoying them to the utmost. Bagging grapes prevents their ripening so early, and protects them from the birds after they are matured; in fact, with us, unless so protected, grapes are never allowed to get thoroughly ripe. It also enables us to prolong the grape season for several months, which is a most important consideration, for to my thinking there is no fruit more wholesome or more delicious than fresh, ripe grapes.

If farmers would pay more attention to providing such luxuries for their families, instead of utterly tabooing every crop that "doesn't pay," there would be much less discontent among their growing boys and girls, who cannot help feeling themselves deprived of many of the good things of life. Get them interested in making experiments of this sort with cuttings and seeds, and note the lively sympathy with which they will watch the young plants spring up and grow from such small beginnings. What we learn in this way we never forget, and even the simplest of arts when fully mastered may become a tool in our hands for infinite good. HORTENSE DUDLEY.

Logan County, Ky.

Small Fruits on the Farm.

It is not too late to publish the following letter, written at the close of the berry season last summer, as illustrating how easily these luxuries may be secured, and how much they are valued by those who have them:

EDS. COUNTRY GENTLEMAN—The berry season is over, and I wonder if all your readers enjoyed it as I did. We began early on strawberries, and have had raspberries and blackcaps since the strawberries were gone—berries on our table each and every day for seven weeks. This of itself would be nothing to boast of, but the small effort to grow them I feel like telling about, as it may induce some other farmers to supply their tables with this summer luxury.

I came on this place last spring, the last of March, and found a small uncared for bed of strawberries and raspberries in a corner by the pig-pen—set there I suppose to be out of the way and in the corner, as they were compelled to shift for themselves, it being impossible to cultivate them. There was also on the place a patch each of strawberries and raspberries about 2 by 8 rods, that were set out late in the fall of 1888. These I could cultivate, and did; probably the entire time—man, horse, cultivator and hoe—was one day, but it was all time filled in, the spare hours left over from some job. I am not advising the raising of berries or anything else by trying how slight an amount of work will make a crop, but simply giving a leaf from my experience to show how easily one can grow them for the use of the family. The bed I did care for will another season furnish a large supply, and my family averages six persons. I am quite of the opinion of Mr. Waldo F. Brown, who, in a late article, said a farmer who says he can buy his berries cheaper than he can raise them, will buy two or three quarts at as many different times in the season, and I would add to that statement that he usually buys them on a Saturday night, when the market is clogged and a surplus of old stock is to be worked off. Goodness The man who is accustomed to eat large berries, fully ripened on the vines, freshly picked, would not touch a dish of the box ripened, mash and mouldiness, imitation of genuine berries. Here is your labor account: One day to prepare land and set them out (half that time will do, but it is a new business, and I make allowance for it;) after that, for so small a space, the odd times will care for it. There is the picking. Oh! yes. Well, if your wife is at all like the little woman who runs my household affairs, they will get picked, and she will smile across that tea-table at you with never a word of being tired over picking berries, the largest share of which goes on the good man's plate for his labor and thoughtfulness in preparing the berry patch. The next year he will be pretty sure to start some later berries, and I doubt not set some cherry trees, take more pains about vegetables, begin to see the pleasant side of his business, and stop quoting that everlasting absurdity, "Farming don't pay." J. WEAVER WILSON.

Madison County, N. Y., July 27.

Why not Print Dates on Seed-Papers?

EDS. COUNTRY GENTLEMAN—GALEN WILSON, p. 615, complains of the manner in which he is treated by seedsmen, and with your permission, I will give my ideas on the subject.

I think when seeds fail to grow under favorable circumstances, or are not true to name, the seedsman ought to refill the order or refund the money, and be very careful not to make the same mistake again, for it is indeed an expensive one to the planter. No seedsman can warrant the crop, for much depends on the cultivation and season. Too much rain sometimes rots the seeds, and sometimes there is not enough to sprout them, or, if just enough and then a very dry spell, the young plants may die for want of moisture. Every planter cannot test all the seeds he uses, but he can patronize a reliable seedsman who does.

Southern-grown seeds are usually cheap, but generally speaking, they are inferior to those grown in the North, for they are apt to lack in vitality, and are not sufficiently early for use. Every plant grows to perfection somewhere, but all do not even grow in any one place. In looking over catalogues, I see about one-quarter of them boast of northern-grown seeds, while none even acknowledge that they handle southern seeds.

In one thing I differ from the general public. I believe that every paper of seeds of whatever kind should be *dated* before it leaves the seedsman's hands, thus assuring the planter of its age; for unless it is dated, how is he to know that it has not been in some shop for years? Even when he deals directly with the grower, which he seldom does, the date does no harm, for some planters use left-over seeds the next year. Old seeds do not lose their vitality all at once, as an animal dies, but are continually losing it, and old seed that will merely germinate in the hot-house may prove a failure in the garden.

Again, if it is so old that only half of it will grow, that half is inferior to new seed, as will be seen at harvest if they are planted side by side with new seed. How is a person to know how thick to plant old seeds? Last year fresh seeds were tested at the Pennsylvania Experiment Station, and a second test was made this year from the same papers, to ascertain the falling off in vitality, with the following results: Beans, 11 per cent.; cabbage, 3; lettuce 30; onion, 9; parsnip, 8; peas, 7; radish, 2; tomato, 21. Certainly many more would have failed had they been planted in the ordinary way. To sum up the whole thing in a nutshell, let us have new northern-grown seeds; dated papers. DELANO MOORE, *Seedsman.*

Presque Isle, Me.

The Gink Go Tree in Germantown.

A writer in the Philadelphia Ledger (possibly MR. THOMAS MEEHAN) gives an account of this curious tree, which is classed with the coniferous trees notwithstanding its fern-like foliage, its closest relation being the yew family. It is said, among other things, to be unique in its power of resisting carbonic acid, sulphuric acid, or any other gaseous element that may permeate the atmosphere, and for this reason is especially urged just now as a street tree for the smoky towns of the old world. We give the following extract:

On the grounds of Charles J. Wister, Germantown, a rare event in arboriculture recently occurred in the fruiting of a remarkable tree from Japan, known in Japan as Gink go, the name having also been adopted by botanists and Latinized as Ginkgo biloba, or by the English botanists as Salisburia adiantifolia. The name adiantifolia is derived from the adiantum or Maiden Hair fern, on account of the resemblance of the leaf to that fern, and the tree itself is commonly called the maiden hair tree.

Only a very few trees in this country so far have produced fruit; only a few in Central Park, New-York, in fact, outside of the Germantown locality.

The tree itself has a very remarkable history. It is asserted by eminent horticulturists that it has been found wild nowhere on the earth, but is cultivated largely both in China and Japan

New Advertisements.

Baker, A. D. ..... *Shropshire Rams.*
Bullen, H. T. ..... *Jersey Cattle.*
Bull, G. H. ..... *Oxford-Down Rams.*
Bur M ..... *Cook Wanted.*
Bunce, D. ..... *Houghton Pl ats.*
Callahan, J. J. ..... *Jerseys for Sale.*
Curtis, F. D. ..... *Ayrshire Jersey Cows.*
do. do. ..... *Jersey Calves.*
Croxy, Andrew ..... *Duroc Jersey Swine.*
Crafts, E. G ..... *Jersey Calves.*
C. C. ..... *Position Wanted.*
Chapman, C. A ..... *Vermont Merinoes.*
Emery & Co. ..... *Growers Wanted.*
Gray, W. H. ..... *Percherons.*
Gardiner & Co., John ..... *Mushroom Spawn.*
Holmes, W. A & H. H. ..... *Bolting.*
Holmes, M. R. ..... *Shropshire Rams.*
Holly Grove Farm ..... *Jerseys and B rkshires.*
Jones, C. E. ..... *German Carp.*
Kellogg & Co., Peter C. ..... *Sale of Jerseys & Holsteins.*
Nichols, G. E. ..... *Jerseys for Sale.*
P. O. Box 328 ..... *Agricultural Implements.*
P. O. Box 88 ..... *Hop Wanted.*
Pratt, H. G. ..... *Chester White Pigs, &c.*
P. O. Box 698 ..... *Holstein-Friesians Wanted.*
Rich, John E. ..... *Shropshire Rams.*
Stelker, C. D ..... *French Coach Stallions.*
Seeley Brothers ..... *Portraits.*
Silliman, Henry G. ..... *For Sale or Exchange.*
Sperry & Co., D. R. ..... *Farm Helper.*
S. L. ..... *Farm Dog Wanted.*
Stribling, J. C. ..... *Southern Farm Lands.*
The Great Am'n Tea Co. ..... *Tea Order.*
Thornburn, Frank ..... *Suburban Home.*
Turner, Henry S. ..... *South-Down Rams Wanted.*
Van Deusen, E. L. ..... *Chester White Pigs.*
Wadsworth, J. W. ..... *Imported Jersey.*
Willett & Son, A. ..... *Holstein-Friesians.*
Willett, John A. ..... *Farm for Sale.*
Warren, John Hobart ..... *South-Downs.*

Pamphlets, &c., Received.

BOGART, Hon. JOHN, State Engineer and Surveyor, *Albany, N. Y.* Report for 1889; pp. 320, with folding maps.

COLLINS, J. S., *Moorestown, N. J.* Nursery List.

DAVIES, J. H., *Utica, N. Y.* Fertiliser Circular.

FRIDAY, CARL, Sec'y Ohio Poland-China Record Co., *Dayton, O.* Annual Circular.

GILBERT, Dr. J. H., *Rothamsted, England.* Lectures on Potato Experiments and Agricultural Investigation.

GREAT AMERICAN TEA CO., Box 289, *New-York.* Circulars of Tea and articles given with it—see advertisement.

IDAHO FRUIT CO., *Lewiston, Idaho.* Circular; pp. 32, with colored plate. See advertisement.

MARKS, W. F., *Chepinville, N. Y.* Circular of Common-Sense Farm Gate.

STEWART, J. T., Sec'y Remie Co. of America, 2104 Mt. Vernon St., *Philadelphia, Pa.* Invitation to Trial of Decorticating Machinery at Bristol, Oct. 23.

New-England Dairying.—The New-England Creameries Association has reorganized, becoming the New-England Dairymen's Association. The membership is to be personal, but the officers are to represent the State boards of Agriculture, dairymen's association and experiment stations. The officers for the ensuing year are:

President—Z. A. GILBERT of Maine.

Vice-President—E. L. BASS of Vermont.

Treasurer—W. R. SESSIONS of Massachusetts.

Secretary—James CHESSMAN of Massachusetts.

Directors—Prof. Ballentine and Hon. Rufus Prince of Maine; Secretary Batchelder, Professor Whitcher and Secretary Gerrish of New Hampshire; Messrs. Hazard, Flagg and Pitt of Rhode-Island; Messrs. Wells, Sessions and Cheesman of Massachusetts.

Walter A. Wood at Paris.—We have received from the Walter A. Wood Mowing and Reaping Machine Company, Hoosick Falls, a very neatly designed and engraved "poster," announcing the award to Mr. Wood, the presiding genius as well as president of the company, the Grand Prize at Paris over all competitors, together with two grand gold medals as special first prizes on each of his machines. Accompanying is the following extract from a leading French journal, the Paris Figaro:

No other American inventor or manufacturer of harvesting machines has ever received for an exhibit at any World's Fair so many honors and medals as have been awarded to WALTER A. WOOD at this exhibition.

The following extract from the New-York World contains some farther facts of interest:

Mr. Wood has already been decorated on the field on similar occasions, first as Chevalier, and on the second as officer of the Legion of Honor, and it is confidently expected that this veteran inventor may again be rewarded by being promoted to Commander of the Legion of Honor. He has also since his departure from America several weeks since, been made an LL. D. of Hobart College, New-York. Mr. Wood is of New-England birth, and from his very boyhood evinced a marked mechanical genius, and with this was united a phenomenal persistence of energy and sound business ideas. He is now the head of the largest reaper works in existence at Hoosick Falls, New-York State. He was among the first to obtain patents for really valuable and available inventions in his chosen line—reaping machinery. At all "world's fairs" his machines have also taken the highest prizes and upon him have been successively conferred decorations of foreign countries, including the "Order of Emperor Francis Joseph" of Austria, in recognition of the benefits he has bestowed and the triumphs his machines have achieved in the hard-fought field trials periodically held under the auspices of the governments of different countries. In some of these field trials he has contended against as many as twenty and more other machines, the most prominent of all lands, yet carried away the highest honors. As Americans we must all glory in these successes and in such lives as his. Those who have the privilege of his personal acquaintance have the satisfaction of knowing that his honors are worthily won and modestly worn by a Christian gentleman, kindly and just. His own employés are his friends.

Acknowledgments.

Communications for publication have been received during the week ending Oct. 14, from F. W. Moseley—W. Davis—Henry Stewart—E. Worthington—F. Bowen—Hortense Dudley—Chas. W. Cilley—J. J. Lawless—A. S. Wells—S. Paris—R. L. Travis—Dan'l Batchelor—Chas. H. Shinn—Thos. Bowick—C. H. Peck—John M. Stahl—John Gould—E. W. Stewart—G. A. Frierson—Katharine B. Johnson—J. W. Cowan—F. D. Curtis—C. B. C.—J. B.—Mrs. S. H. Rowell—H. Sedgwick—J. D. Smith—Mrs. Alice Chittenden—J. Higgins—C. H. Lane—E. W. Stewart—W. Horne—B. F. Johnson—L. N. Johnson—W. P. Brown—Edward Lee—E. C. P.—J. M. Hayes—K. B. Johnson—E. A. V. W.—B. U. Vail—A. F. McKinney—Mrs. H. W. A.—J. Croll—A. C. Glidden—F. D. Curtis—J. W. Woolf—J. L. S.—Henry Wallace.

°,° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°,° We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Oct. 17, 1889.

Our Contributors.—On turning over the leaves of our last issue, the extent and varied sources of the correspondence which filled its columns struck us as worthy of remark. Aside from contributors in Great Britain and our own State of New-York, sixteen other widely scattered States were represented, embracing much of the area from Massachusetts to Kansas and from Wisconsin to Georgia. The number of writers whose work appeared in this one paper, *omitting* inquiries and weather notes, was no less than *thirty three*—about one-third of them New-Yorkers and the others from more distant localities. This proportion is not far at variance with the distribution of our circulation, which includes the best and most progressive farmers of all parts of the country, so that in the ranks of its contributors as well as in those of its readers, the COUNTRY GENTLEMAN maintains in an increasing ratio the truly national character it has always held.

It so happens, moreover, that the issue now in the reader's hand somewhat exceeds that of last week in the number of those whose pens have been engaged in its preparation, and perhaps also in the aggregate of their respective localities—as we write before the forms of the paper are finally closed, we cannot speak with arithmetical accuracy. So far the following list of States is certain to be represented:

New-York.	Virginia.
Great Britain.	North Carolina.
Maine.	Kentucky.
Massachusetts.	Tennessee.
Rhode Island.	Georgia.
Ohio.	Louisiana.
Illinois.	Texas.
Wisconsin.	Kansas.
Missouri.	California.

In view of these circumstances, it does not seem to us that a half-dime is a very large sum for the farmer to invest in a paper which brings him into direct correspondence each week with so many of the brightest minds in the United States and abroad—all of them directly interested in throwing the light of their experience and observation on the problems which surround his path. Still there are many who positively cannot afford it!

Bay State Fair.—The Third Exhibition of the Bay State Agricultural Society, held last week in that unique and mammoth structure, the Mechanics' Charitable Association Building at Boston, was an eminently creditable and satisfactory affair, well planned, well managed, and well supported—as it deserved—both by the exhibiting and the visiting public. No show association in this country is in the hands of a better class of men; and none is run more steadily and directly on the strict business-like plan of fostering whatever may be of real practical benefit to our rural industries, to the entire exclusion of all claptrap and objectionable features. In fact, we think the annual fair of the New-York State Agricultural Society is the only similar exhibition in the United States which will bear comparison, in these respects, with the Bay State Show.

CATTLE.—The show of horned stock this year was not as large as heretofore, the management having restricted the number admitted from single exhibitors; but in point of quality it stood very high—there was hardly an animal in the building that would not be a credit to any herd, however excellent. The cattle numbered 250 in all, of which more than a third—nearly 90—were Holstein Friesians, these being shown by eight breeders, most prominent of whom, perhaps, were Wm. H. Bent of Cochituate, John A. Frye of Marlboro and Chas. Robinson & Son of Barre Plains. Mr. Bent's cattle are largely or entirely from the magnificent Lakeside Herd of Messrs. Smiths, Powell & Lamb of Syracuse, and it is not surprising, therefore, that they were very successful as prize-winners at the New-England and Rhode-Island fairs this year as well as at Boston, especially as the individuals seem to be worthy of their ancestry. Mr. Frye's exhibit included, among other noteworthy features, the sensational bull Mercedes Prince 2150 H. H. B., a son of the great Mercedes, and a particularly grand animal; he is said to weigh, being now seven years old, no less than 2650 pounds, and his stall was constantly surrounded by a wondering crowd. The Messrs. Robinson sent 14 head, among which we noted particularly an extremely well-shaped two-year heifer called Addie Van Campen 6953 H. F. H. B.; she was bred by J. B. Dutcher & Son, from some of the best blood selected in Holland by B. B. Lord, and seems sure to make a great cow. Other important exhibitors were W. A Russell of North Andover and H. W. Keyes of Newbury, Vt., with about a dozen head each; and smaller numbers were sent by Isaac Damon of Cochituate and Everett Smith of Waltham. A North Andover breeder, Mr. Jas. C. Poor, showed a single two year bull and took first prize for him over seven good competitors.

Next to the black-and-whites in point of number came another dairy breed, the Jersey, with about 40 head, property of Col. Henry S Russell of Milton, John R. Brewer of Hingham, J. M. Sears of Southboro, Geo. V. Fletcher of Belmont, and R. Powell of Medfield. Col. Russell had it pretty much his own way in the competition for prizes, as will be seen by list of awards; and no wonder, for his cattle—except one grand bull (Daniel Pratt, by Prince Pogis out of Moth of St. Lambert)—were the pick of an importation of 80 head which he brought over a year ago, these being themselves the best of a provisional selection of 70, made after examining all the best herds of the island. Mr. Brewer's strong card was the very buttery looking five year-old bull Snappit 12395 (by Romp's Tormentor out of Jolie 2d), who seems to be a fine getter, as several of his sons and daughters—notably Carl Torment, Dom Pedro Torment, and the beautiful little heifer Daffodil Torment out of Cremo 2d—are certainly most promising for their age, or rather for their youth. Mr. Sears had the grand seven-year-old bull Bomba's Son 5878 (by Yellow Boy out of Bomba), together with several of his get, and other well-bred animals. Mr. Fletcher showed three heifer calves of his own breeding, one of which was highly commended and another commended, in quite a large ring—which speaks well for his management. Mr. Powell (like Mr. Poor among the Holstein men) had a single young bull and took first prize for him.

Guernseys were about 25 and belonged to three breeders — Vice-President Morton of Rhinecliff, N. Y., Walter Cutting of Pittsfield, and Hopewell Bros. of Natick. We were particularly pleased with a young bull just imported by Mr. Morton, and called Lord Stamford. He came to the show fresh from quarantine, and we understood that he had not been long enough in the possession of his present owner to compete for prizes; but he is pretty sure to be heard from later.

Ayrshires numbered 27, Dudley Wells, Wethersfield, Ct., showing 11, J. D. W. French, North Andover, 10, and Harry H. Hale, Bradford, 6. The bull at the head of the gold-medal herd, Mr. French's Ravenswood 4833, is a son of the noted Duchess of Smithfield, and has one of the very richest-looking hides we ever saw on an Ayrshire. He is not very large, however, and we judged that it was mainly on this account that the judges placed him second, in the two year ring, to Mr. Wells' Major Bertram 4516—a very long, fine animal that may be remembered by visitors to the Bay State Fair at Springfield last year, where he won the special prize offered by the Ayrshire Association. One of Mr. French's cows that secured no award, Acorn 4402 (bred by Secretary Winslow), looked to us likely to be more practically valuable than either of the prize-winners in her class; she is certainly a large, healthy-looking cow with every indication of great digestive and milk-making powers, though perhaps not as pretty as some others in her lines and coloring.

Swiss cattle numbered something over 20, and were shown by O. A. Kelley and John A. Bancroft, both of Worcester.

Four beef and general-purpose breeds were shown, each by a single exhibitor—20 Herefords by E. A. Bailey, Winthrop, Me.; nine Short-Horns by Harry H. Hale, Bradford; nine Devons by Jonathan Hoag, Tombarnock, N. Y.; and four Aberdeen-Angus by Thos. H. Vail, Lyndon Centre, Vt.

HORSES.—These numbered 108, the largest class being the trotters, which were shown principally by Col. H. S. Russell; C. F. Clark, Jas. M. Smith and W. T. Peirce of Boston; H. G. Wood, Natick; C. A. Campbell, Chelsea; Geo. H. Warren; H. H. Hale; H. W. Kaye; J. H. Nay, Readville; and W. J. Stokes, West Roxbury. In the general-purpose division, a good though not large show was made by Luther Crawford of New-Braintree, Geo. A. Fletcher of Milton, D. G. Tenney of Bradford, and two or three other breeders, including H. H. Hale, who won the important prize offered for best 16-hand stallion judged on his personal merits—this prize going to the handsome horse whose portrait appears herewith. He is standard-bred, and his name is Hudson 2631. He was got by Kentucky Prince 2470, out of a daughter of Hambletonian, and his second dam was by Hambletonian's sire, Abdallah. Some good Percherons were shown by the same breeder and by others; a fine three-year French Coach stallion, just imported, and called Bon Ton, by J. W. Ahin, Scipio, N. Y.; and there were two or three Thoroughbreds, a number of Shetland ponies, a few harness horses, and four or five mules.

OTHER LIVE-STOCK.—The Sheep numbered between 150 and 200, filling 65 pens, and were chiefly middle-wools, Dorsets predominating. These were owned by three breeders—R. F. Bowditch of Framingham, T. S. Cooper of Coopersburg, Pa., and Woodward & Jaques, Wright's Corners, N. Y. Mr. Cooper's sheep were not exactly eligible for competition under the rules, having been shorn in England after a fashion which is not approved at American shows; but the judge advised, and the executive committee unanimously voted, a special award for them in view of their undoubted excellence. South-Downs, Shropshire and Hampshires were shown; and of the long-wools, a number of good Cotswolds; the names of most of the exhibitors appear in the list of awards.

The Swine occupied 59 pens—perhaps 75 animals. Decidedly *the* feature of this part of the show was a lot of Tamworth pigs, imported last July by J. M. Sears of Southboro and the first of their breed, we suppose, ever brought to this country. They seem to be a remarkably "growthy" sort—at least the specimens shown looked very, very big for their stated age, 8 to 10 months; but it cannot be said that they are extremely handsome to the American eye, being long and narrow, with dreadfully protracted nose—reminding one of the "rail splitters" of by-gone days, or of the model of an ocean steamer; color, dull blackish red. However, handsome is as handsome does, and experience in England shows that for the important specialty of the production of first-class bacon no other breed can hold a candle to these Tamworths. They doubtless deserve the attention of breeders and feeders.—The remainder of the swine show included a number of particularly good Yorkshires, large, medium and small, together with smaller lots of Chester Whites, Berkshires and Poland-Chinas.

The Poultry made a large show, requiring 475 coops, and including good representations of all the leading breeds. It was on the whole the best exhibit of the feathered tribes that we have seen at any fair this fall. Several incubators and brooders were in lively operation.

HORTICULTURAL.—As might be expected at Boston, this department was strong, and it appeared to excellent advantage, being arranged with good taste on the ground floor of the main building, where it made a very pretty effect as seen from the galleries. There were 600 large oblong plates of fruit (each big enough to hold a dozen full-sized apples); and many of the specimens, especially perhaps among the grapes, were unusually fine. Then there were long tables of very well grown vegetables, including some of the best squashes and cabbages we have ever seen. The centre of the hall was largely devoted to ornamentals of various kinds, with flowering plants, cut flowers, ferns and palms, beside water lilies and other aquatics in a pond, and greenhouse plants. We noticed—among many others—fine plants

of several species of *Adiantum*, *Dracæna* and *Maranta*; *Camellia japonica*, *Areca lutescens*, *Burya latifolia*, *Cocos botanicii*, *Alocasia*, *Dendrobium*, *Gymnogramma*, *Cirtus discolor*, and *Phyllotænium Lindeni*. There were also interesting collections of many kinds of seeds, and garden implements. The contributors to the horticultural classes were largely residents of the vicinity of Boston; but we noticed a fine lot of fruit from the Maine State Pomological Society, and a lot of beautiful flowering plants in pots, from the United States Nurseries, Short Hills, N. J.

The Dairy.—Particular attention was paid (very wisely) to this part of the exhibition. Prizes were many and liberal, and included a gold medal for best collection of butter consisting of five-pound box, five pounds of prints, and two pounds of granules. This aided in eliciting a good show, especially of granulated butter—one seldom sees as many jars of this product together as were exhibited here. Cheese was also displayed in large variety. But the chief feature was an educational display in the shape of a full-blown working dairy, equipped with all the best modern appliances, supplemented by practical lectures, and utilized also for competitive trials of skill on the part of both farm and factory butter-makers—all under the competent supervision of Secretary James Chessman of the New-England Creameries Association.

Interesting also to dairymen was a fine exhibit of the Cooley system, by the Vermont Farm Machine Co., Bellows Falls; and a display of the improved dairying apparatus made by the Moseley & Stoddard Mfg. Co. of Rutland.

Mechanical.—We noted a few novelties and improvements:

The Higganum (Conn.) Mfg. Co. now make Clark's Cutaway Harrow with 12 thirteen-inch discs, instead of 8 sixteen-inch as heretofore, and add weight boxes to carry sandbags or stones.

E. Bement & Sons, Lansing, Mich., had a new spring tooth harrow, the "Steel King"—the invention of an Albanian, Mr. Chas. Ladow—in which the teeth are attached by clamps, permitting easy adjustment to make the frame high or low; and the whole thing folds together very readily, the teeth then becoming runners on which the machine slides, sled fashion.

Frank A. Ruggles, Three Rivers, Mass., showed a rotary cultivator on the disc-harrow principle, consisting of a wheel followed by 14 discs arranged in two sections at an adjustable angle to each other and to the line of draft. It looks like a valuable implement.

The Universal Weeder Co., North Weare, N. H., had a weeder consisting of a row of 5-16 inch steel wires held vertically by a frame. It is claimed to do the work of ten men with hand hoes.

F. W. Mann, Milford, Mass., sent a "bone-cutter" just patented. It was not fully set up, and no person seemed to be in attendance to explain it; but it looked efficient, and we commend it to the attention of the many readers who have from time to time asked us where bone mills can be had, as it is possible that this invention may meet their wants.

In General.—Cattle and horses were shown in the "grand hall" of the building, to the best possible advantage, a very large gallery running around three sides of the room and giving everybody a chance to see the display perfectly while occupying a comfortable seat. A rectangle 60 by 90 feet in the centre of the floor was securely fenced in, and prepared for the animals as follows: Two layers of tarred paper were first laid down, and covered with hemlock boards, on which were placed fine cinders to the depth of two inches, between and over strips of furring—these to prevent slipping. On the cinders were laid four inches of sawdust and five of tanbark; and the resulting surface was just exactly what was wanted. The animals were led to this enclosure from the basement on a fenced-in incline, giving great convenience for all concerned, and entire safety from accident.

Judging began every morning pretty promptly at 9 o'clock, and no time was lost, each class being sent in the very moment that the last preceding was finished. The judges were not informed as to the names of animals or owners, but knew them by numbers only. A list of the awards in the cattle, horse, sheep and swine divisions appears in another column.

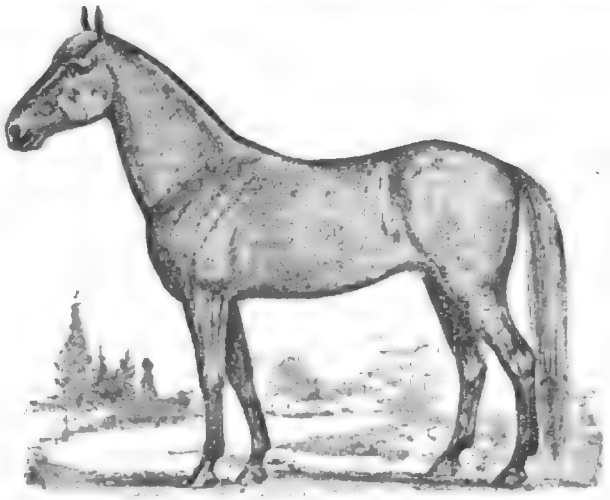
The officers of the Bay State Society are:

President—Col. Henry S. Russell, Milton.

Secretary—Francis H. Appleton, Peabody.

Treasurer—Wm. B. Bowker, Boston.

Committee of Arrangements—E. F. Bowditch, W. W. Rawson, W. L. Warner, Edward Burnett, C. Minot Weld, N. B. Dougan, J. D. W. French.



HUDSON—FIRST-PRIZE GENERAL-PURPOSE STALLION AT BAY-STATE FAIR.

Late Autumn Hints.—Putting Tools in Order.—Where they have been variously worn and injured during the summer, accomplishes a two-fold object—the tools are rendered more durable, and they are more efficient and do more work when they are used. The iron and steel portions should be cleaned and rubbed bright and then receive a thin coat of grafting wax, tallow, or any substance which will prevent rusting. The parts made of wood will be rendered more durable by a copious application of petroleum if they have been unpainted, or if the paint has worn off; and afterwards one or two coats of paint will complete the work of protection. It must be borne in mind that petroleum is useful only by entering the pores of the wood, while paint stays outside; and both together, the oil for the pores, and the paint for a casing to hold the oil in, form a very complete protection. In putting on the petroleum, take special pains to let it run freely into the joints and cracks.

Finishing Celery.—The Garden recommends sea weed, or in its absence soft hay or dry grass, to bind around the celery plants, wetting the bands with salt water, which will exclude insects. Or, strips of matting are drawn around the plants, bringing the leaves together, and assisting in the earthing, and drawing the plants in an upright position. This work should not be done till they have about completed their growth.

Root Pruning.—Many years ago, much was said in favor of this practice, but it has nearly passed out of use, for obvious reasons. It was successful, in promoting fruitfulness in thrifty and barren trees, but it was too costly of labor. A circular ditch was required about the tree, and without much work in excavation the right amount of root could not be reached for amputation. Orchardists accomplish the same end in two ways. If the trees are barren from too much succulence and rank growth, seeding to grass will check them. Or, by selecting such varieties as are naturally great bearers, they will rarely fail in giving good crops. Take the Bartlett or Howell among pears, or the Baldwin or Ben Davis among apples, as well as many other sorts, and they soon repay their cost.

Keeping Grapes.—Many different modes of keeping ripe grapes have been recommended and adopted, but the two great requirements for success are a continued low temperature, a few degrees above freezing, and well ripened fruit. Badly ripened and poor watery grapes will not remain long. Packed in dry or baked sawdust, they are excluded from air currents, and are thus easily kept till midwinter in a cold apartment. The Agriculturist says that if wilted and then buried in stone jars three or four feet below the surface, they will come out with stems green and fruit plump and bright.

Storing Potatoes.—An inquirer wishes to know the best way of keeping potatoes out-doors, as he has insufficient cellar room. The old way was to put them in heaps, cover with three inches of straw, and with a foot of earth. When opened in spring, many were found rotten at the apex of the heap, which was commonly ascribed to the freezing at the top. The real cause was the foul air, rising to the top. Another mode, which a full trial has proved successful, is to cover the heap of potatoes, which may contain 60 or 70 bushels, with a foot of solid straw, and only three or four inches of earth on the straw, beaten smooth. This thickness of straw shuts out the cold, and absorbs the damp and bad air. By this method not a peck is lost in fifty bushels.

Improvement of Highways.—The League of American Wheelmen, representing the bicyclists of the country, has entered upon missionary work in behalf of better roads, by publishing under the above title a neat little booklet of 70 odd pages, comprising two excellent essays on the subject, with other appropriate matter. If it exerts the influence it should, the invention of the bicycle will prove a blessing in disguise to the rural community. Fifteen thousand copies are printed for free distribution to road commissioners and others interested, and those desiring it may enclose a 2 cent stamp to the secretary of the league, Mr. Abbot Bassett, box 3267, Boston, Mass.

N. Y. State Poultry Society.—In response to a notice sent out by F. E. Dawley of the Rural and Poultry World, calling a meeting of the poultry men of this State at Syracuse, Oct. 10, about thirty who had the interest of poultry at heart convened and formed a New-York State Poultry Society. The meeting was called to order, and a short synopsis of the object of the association was given, and letters which had been received from various breeders who could not be present were read. Dr. W. W. Perkins was made chairman, and H. D. Horton secretary, and the meeting proceeded to elect officers. Geo. E. Poer of Rochester was unanimously elected president; F. E. Dawley of Syracuse, secretary; Willard Knapp of Fabius, vice-president.

A committee consisting of W. W. Perkins, F. E. Dawley and S. I. Howard was appointed to draft a constitution and by-laws. The secretary was instructed to get out a circular containing these proceedings with such other matter as he may see fit, and send to breeders throughout the State, soliciting membership. The membership fee was fixed at $3, and annual dues at $2. Breeders throughout the State are requested to correspond with the secretary regarding membership, &c., and to be present at an adjourned meeting to be held Thursday, Oct. 24th, at the Globe Hotel at Syracuse.

American Butter at Paris.—We are pleased to hear, as we do from a correspondent who should be well informed, that American butter wins at the Paris exposition. This is a great victory, as it has been claimed that the butter from Holland, Belgium and Denmark was much finer than any that we export; and the fact that the American butter takes the sweepstakes gold medal over it shows that these claims are not correct. The butter was made by the Green Mountain Stock Farm, West Randolph, Vt., owned by Moulton Brothers, and was made by the Cooley creamer process.

This is the third gold medal that has been given to the Cooley creamer, and its products at the last three expositions held in Paris, which includes every exposition that has been held there since the Cooley was invented. At the last exposition previous to this the gold medal was given to the Cooley after a six weeks' test at the Palace of Industry, Lodève, France, which is the French government experiment station. The Cooley was in competition with all the leading apparatus of the world, and this was a decided victory. These gold medals show that the Cooley took the lead and still keeps it.

New-Jersey Station.—This Agricultural Experiment Station has for many years been distinguished for its useful and thorough work in the analysis and examination of commercial fertilizers, and for the valuable service it has rendered the cultivators of the soil in that State, in pointing out to them the trustworthy manufacturers; at the same time that spurious claims have been promptly exposed. In Bulletin No. 86, recently issued, we are informed that the inspection this year has been very thorough, 550 samples of commercial fertilizers having been received for examination, representing over 60 manufacturers, and including 190 different brands, besides a large number of samples of ground bones, dissolved bones, and miscellaneous fertilizing materials. Of the samples examined about one-half contain more of each of the plant-food elements that the manufacturers claimed, and most of the others are not far behind. A few were much below the guarantee, and the publication of the names of all the manufacturers, with the true and genuine claims of their reliableness, as well as the failure of the spurious ones, would serve to drive the latter out of the market, if purchasers would avail themselves of the information presented in these bulletins.

More Large Pears.—On page 769 you quote as large pears an exhibit by Ellwanger & Barry, at the State fair, of 5 pears weighing 3½ lbs., the largest being 14½ oz. I immediately carried to the scales 4 Duchess pears grown on my grounds here, and found them to weigh 3 lbs. 9 oz., the largest two weighing respectively 16 and 17 oz.

New-York City. FRANK J. BELL.

Farm-Yard Notes and Items.

It will be seen by our advertising columns this week that Messrs. P. C. Kellogg & Co., New-York, announce their Annual Autumn Sales of Jersey and Holstein cattle—the former for Nov. 14 and 15, and the latter for Nov. 15 and 16. Entries for these Sales will close Oct. 26th at latest, and catalogue blanks will now be supplied to all applicants.

The Third Volume of the Record of Todd's Improved Chester-White Swine is sent us by the Chester-White Record Association—S. H. Todd, Wakeman, O., president; C. W. Baker, Delaware, O., Secretary-Treasurer. It contains 239 octavo pages, and carries the boars' (odd) numbers to 1887, and the sows' (even) numbers to 2030.

Mr. A. F. McKinney, Forest Hill, Tenn., writes:

"The dairy conferences in the Mohawk valley reported by F. D. Curtis, p. 753, led me to test the butter-producing capacity of my cows: The amount (whole milk) churned 64 lbs. (no creamers, no ice, no thermometers, no running water on the farm); yield, 4 lbs. salted butter; Blanchard churn used; butter granulated in 30 minutes. Cows four registered Jerseys (newest in milk two months, oldest eight months); pasture spring sown clover overtopped with crab grass; feed double handful of raw (whole) cottonseed night and morning; water from cistern; salted two or three times a week. What does Mr. Curtis think of result, and will he suggest feed to be added to produce more butter?"

A Hampshire-breeding correspondent of the Mark-Lane Express wants a flock book to be started. He has had repeated inquiries for such a work, both from America and from Australia.

Mr. Wm. Cone, Glenwood, Ill., sends to the Jersey Bulletin the following statement of his experience with the alternate-heat plan of breeding for sex:

Have been breeding in this way for the past two years, and so far have not failed to get heifers, (what I breed for). My idea is, that where there are failures, the fault is not in the "theory," but in getting the right date for the starting point to breed from, as some cows will come in heat after calving much sooner than others, and where a certain fixed time is made the basis of such calculations, one would be as likely to go wrong as right, but where cows are closely watched so as to know of a certainty when the first heat after calving actually occurs, and calculations are made accordingly, I think we may safely expect the desired results to follow.

The Grazier and Breeder.

Points in Feeding a Large Herd.

ECONOMY OF FOOD AND MANURE—FEEDING COWS IN MILK—DRY COWS AND YOUNG CATTLE—THE HORSES—VALUE OF SKIM MILK.

EDS. COUNTRY GENTLEMAN—I have for several years been a reader of your paper, and am much interested in the "ration answers" of E. W. S.. In my nine years farming I think I have suffered more from over-feeding than under-feeding. I have at this time the following stock: 95 cows—75 in milk—35 young cattle and 12 horses. Our aim is to make the best butter possible. We sell for 35 cents per pound from June to October, and 30 cents from Oct. 1 to June 1, delivered to customers semi-weekly. We have now in our barns and going in:

125 tons of hay, timothy and clover mixed, about one-half of each.
30 tons of hayed oats, cut in the slough.
20 tons rowen, cut from same land as our hay.
400 tons southern dent-corn ensilage, cut fine, heavily eared, and in the dough.
80 tons Hungarian ensilage, cut fine, heavy growth.
20 tons Hungarian hay.
43 tons corn stover.
8 tons carrots (estimated, not gathered.)
5 tons yellow beets, do. do.
200 bushels sweet corn, do. do.
800 bushels yellow corn, do. do.
2000 bushels globe and flat turnips (estimated, not gathered).
70 tons of rowen ensilage, third crop (estimated, not gathered.)

We have on hand (bought):

12 tons gluten meal.
1400 bushels oats.
16 tons Milwaukee bran.
500 bushels old corn (raised last year.)

The above is what we shall have in store by the 15th to 20th of October as feed for our stock. I forgot to state our cows are 20 Holsteins, thoroughbred and grade, 50 Jerseys, thoroughbred and grade, with 25 mixed breed, between the others in size. If E. W. S. would be kind enough to give us his idea in the matter, I assure him it will be greatly appreciated, closely followed, and results carefully noted.

Holyoke, Mass. W. H. W.

The foregoing statement shows a broad field to consider, and one that needs careful thought to lay down a programme for the best conduct of so large a stock. Such a farm should be run with careful reference, not only to the economy in food but to economy in manure. Unless the manure is all saved, both liquid and solid, and properly applied, there must be much waste. The majority of farmers have yet to consider the large waste upon farms in the loss of liquid droppings.

Very few have fully considered that the value of the fertilizing matter produced in feeding stock may amount to a very large fraction of the whole cost of the food consumed. A general statement of the value of the fertilizing matter that may be saved annually in manure from this large stock, when estimated by the standard of commercial fertilizers, may amount to at least $10 per head, or $1,200, an item certainly worth looking after.

2. As the income of this farm is derived principally from the product of its dairy, we will first consider the management of this branch. There is, probably, about an average of 75 cows in milk the year round; and as W. says the aim is to make the best quality of butter, he must therefore provide sweet ensilage to produce a good flow of the best milk, while sour ensilage would taint both milk and butter, unless removed by heating the milk to 130°.

We see by a paper which he has enclosed, that he makes up a ration which he figures as containing albuminoids, 3.11; carbo-hydrates, 20.00, with a nutritive ratio of 1 to 6.4, but he includes the fat in the carbo-hydrates, which makes a serious error in the calculation (as fat is estimated to have 2.4 times the heat-producing and nutritive power of ordinary carbo-hydrates).

We do not publish his table because of the space it would occupy, and its erroneous basis. But his ration as given appears to be ample for large cows, except that the albuminoids are, relatively, too small. In his table he also gives measure instead of weight for the grain part of the ration, which is too indefinite for an accurate calculation.

Of the foods which he mentions let him grind 100 lbs. of corn with 100 lbs. of oats, and then use this in combination with his gluten meal and Milwaukee bran as the grain part of the ration. This combination of corn and oats will have the following percentage of digestible nutrients: Albuminoids, 8.7; carbohydrates, 51.8; fat, 4.7; nutritive ratio 1 to 7.2.

He may make up one ration for his cows with the following combination: 40 lbs. corn and Hungarian ensilage, 6 lbs. mixed hay, 4 lbs. ground oats and corn, 5 lbs. wheat bran, 4 lbs. gluten meal—in analytical formula having the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
40 lbs. corn and Hungarian ensilage	0.64	5.60	0.20
6 lbs. mixed hay	0.30	2.40	0.06
4 lbs. ground oats & corn	0.35	2.07	0.19
5 lbs. bran	0.46	2.20	0.13
4 lbs. gluten meal	0.99	2.09	0.15
Total	2.80	14.37	0.73

Nutritive ratio 1 to 5.8. This ration has a good variety of foods, which is always important, not only in giving a good appetite to the cows, but in producing the best flavored butter.

It is supposed that nothing produces a better flavored milk and butter than an old pasture in its best condition, for it has a large number of grasses, each having its own peculiar flavor, and these all combine to give the finest aroma and highest flavor; so where one has a large variety of foods to be combined, artificially, the aroma and flavor should be improved over that produced from fewer foods.

3. His ration for dry cows should contain food to keep up the condition of the cow, and also to develop the coming calf, but care should be taken that no heating food is given. This ration may be made up as follows: 20 lbs. ensilage, 5 lbs. mixed timothy and clover hay (or the same quantity of rowen hay, or 7 lbs. of oat hay), and 4 lbs. wheat bran. This will be a cooling ration, and will keep up the muscular and vital vigor of the cow.

4. His 35 head of young cattle are not sufficiently described to give ration, except in a general way. If under a year old, corn meal should not be fed. They should have a ration of ground oats and wheat bran, with a little ensilage, rowen or Hungarian hay. The object should be to grow the muscle, bone and frame. If a year old or more, they may have, appropriately, 15 lbs. ensilage, 3 lbs. good hay, 4 lbs. short-cut corn stover, 2 lbs. ground corn and oats, and 2 lbs. wheat bran. This will cause a vigorous growth of the young animal.

5. His large number of horses require a careful consideration in economizing their food. Horses that are driven only on a walk, or used on the farm, may have a ration made up of a larger proportion of carbohydrates than horses that are driven on the road at a faster gait.

The horses with the slow gait may have the following ration: 12 lbs. cut oat and Hungarian hay, 12 lbs. pulped turnips, 6 lbs. corn meal, and 4 lbs. wheat bran. The pulped turnips will be mixed with the cut hay, and then the corn meal and bran will be well mixed in, and the whole given in three feeds, smallest at noon.

The horses that are driven on the road at a faster gait may have the following ration: 12 lbs. cut hay, 6 lbs. pulped turnips, 8 lbs. ground oats, and 4 lbs. wheat bran, all well mixed together, and given in two feeds, with a little dry hay between feeds. The small quantity of pulped turnips will keep their digestive organs in good condition, and promote health.

It is presumed that these horses are kept for steady but not severe work. If the work is very heavy, the grain ration must be slightly increased. If those driven fast require more, the increase should be in the ground oats; but in that case the cut hay should be reduced to 10 lbs. Horses that perform severe fast work should have comparatively less bulky food, because it occupies too much space in the stomach and retards muscular action.

6. As we are looking at this farm and stock with a view to suggestions as to its capacity for production and economy of management, it occurs to me that perhaps, under its very favorable situation for the disposition of skim-milk in its best condition, that W. might adopt, with a large saving of labor, and a snug addition to his income, the recent remarkable invention, the butter extractor.

His 75 cows in milk involve a large amount of hand labor, under ordinary methods, in setting and skimming the milk, churning the cream, and preparing the butter for market; besides, his skim-milk has lost largely in value by becoming sour, or, if not sour, is not in the best condition for being sold, unless the cream is raised by the centrifuge.

Now, if the new invention—the butter extractor—works as perfectly as the best experts report, he could produce his butter within two hours after the milk is drawn, and the products would be simply butter and very pure skim-milk, both in the best condition for sale, with much labor saved.

This skim-milk would probably bring at wholesale at least 2 cents per quart, amounting to a large item. Centrifuge skim-milk has been retailed in large quantities in Boston at 4 cents per quart. Such skim-milk would also have the highest feeding value. This must be regarded simply as a suggestion.

7. It may be proper for us to return for a moment and consider practically the question of saving all the manure. As W. with his large stock needs to produce as much food upon the farm as possible, he should consider the practical methods of saving all the manure, both liquid and solid. The liquid manure has never been practically saved without a water-tight gutter beneath the platform on which the cows stand. Absorbents have often been used, but this practically does not save it all, because it is then thrown out into piles where much waste takes place before its application. But where there is a water-tight gutter into which all the liquid and solid droppings fall, and then, with a manure spreader, the whole is carried to the field and applied as cheaply as the solid alone under the ordinary system—the problem is practically solved. W. lives where commercial fertilizers are very closely figured, and he can readily see that with the large amount of purchased food in the form of wheat bran, gluten meal, &c., his liquid manure will necessarily be rich in the chemical elements which his land requires to produce the largest crops, and which he may have instead of commercial fertilizers. The fertilizing matter derived from one ton of wheat bran, when the whole is saved, cannot probably be estimated at less than $10 to $12, and of gluten meal at least half of its cost should be returned in the value of the manure, so that in carrying on a farm like his in the most economical way the manure should be sufficient to replace the waste from the growing crops.

E. W. S.

Horses at the Recent State Fair.

EDS. COUNTRY GENTLEMAN—In your report of the horse department of our late State Fair at Albany, I notice your comments and suggestions in these words:

The society should first make its classification in the premium list much fuller and plainer; second, take great care to see that entries are properly made; and, third and above all, put more vigor, snap and system into the management at the show itself, so that the classes shall follow each other with some sort of promptness.

In regard to the first suggestion, I think the classification and list is full enough. If it is desired to create a grade class, my answer is we already have such a class, in the carriage and coach class, where no particular breeding is called for; it is simply limited to horses not less than sixteen hands, with coach style, quality and action, and if the judges had followed the course pursued at all previous fairs, the trouble of creating a new class, and the extra trouble of recalling classes would have been avoided. I find that all in the new or grade class, with perhaps one exception, were entered either with the Clydes or Percherons; and no doubt when Mr. Woodward received such entries he doubted the purity of their breeding, and also entered them in the carriage and coach class, thereby giving the exhibitor the benefit of the doubt, and placing the entries where they actually belonged, and they were provided for without creating a grade class. Here let me say is where most of the trouble and delay originated with the judges; first a class was called, then sent back, only to be recalled soon again. It not only confused the superintendent and his assistant, but the exhibitors, as they had been informed that the animals would be judged as laid down in the catalogue as per order of Mr. Storm, the executive officer.

So much for the first suggestion. Let me say in regard to the second that I fully agree with it. In regard to the third if it is meant as a thrust at the superintendent and his assistant, I wish to say it is uncalled for. I personally know that all exhibitors were duly notified in good time to be on hand as fast as possible, and the order was repeated many times, and after an experience in the horse department for over twenty years, if there was any way to be employed to get the exhibitors out with their stock before they got ready, I think I could have found it out. It is a very easy matter to look on and suggest, but it is another thing to do. We have tried suggestions of ordering out several classes at the same time, and found that only made confusion. Again, in calling one class at a time it is impossible, perhaps, to have all the next class on hand to step into the show ring, for some exhibitors must return to the stable with the horse just shown before they can return with the class to follow. Some attendants are not at the stable when ordered out—hence a delay—and many more reasons might be given that will cause delays.

One more point I wish to refer to. I never witnessed so much trouble in the show-ring. Things were mixed up badly, classes called for and sent back, then recalled again. There seemed to be too many to issue orders. For instance, the writer was ordered to call a certain class, and as he started to do so another order came from a superior to call out another class, and recalled. The orders came one from the president and the other from the executive officer in that department. When the Clydes were first called out in accordance with Mr. Storm's instructions, to commence at head of [catalogue and follow it as laid down, it was found that the judge on draft stallions and mares was not present; hence they were sent to the stables and we commenced with the French coachers, following in rotation, but although the exhibitors had been so instructed, after several classes had been called and sent back without any decision, the unwisest, I think, ordered the Shetlands called. Here again was a jump, which confused the exhibitors and caused great delay in getting the Shetlands out, from the fact that the attendants were not expecting to be called so soon, and were not at the stables. Now any discerning eye can see the trouble such disregard of previous instructions makes, and no more comment is needed.

And let me say, without fear of successful contradiction, that the trouble originated in the show ring, and no blame can be attached to the executive officer or his superintendents, and I have pointed out above in what way the trouble did occur. In order to have more snap and system, as suggested, I would recommend, first, to allow the executive officer in each and every department to arrange his plans for judging, and instruct his superintendent, as was done at Albany by Mr. Storm, to notify all the exhibitors that the horses would be judged as laid down in the catalogue, commencing with the draft breeding stock, and adhering strictly to the programme; and if judges fail to report when the time arrives for work, impromptu judges and go ahead. In case any trouble comes up before the judges as to entry, or to what class the entry belongs, refer the case to the executive officer for decision, as his right to do. Follow the above suggestions, and my word for it there will be no trouble.

Highland, N. Y. F. BOWEN.

Comparative Value of Malt Sprouts.

EDS. COUNTRY GENTLEMAN—What is the value per bushel of malt sprouts as animal food, in comparison with common foods in use? L. C. *Lexington, Ky.*

This question indicates that the first thing to be learned by any one relating to foods is that they can only be compared by weight, and not by measure. You might as well compare wool by the bushel with other commodities as malt sprouts. It is a very light, porous article. Malt sprouts consists of the germs of barley, which are grown in malting; while being dried, these germs break off in slender particles. But it is composed largely of the most nitrogenous part of the barley grain, and consequently has an important value in balancing foods poor in muscle-forming matter.

The digestible nutrients of a food are divided into albuminoids (muscle-forming), carbo-hydrates (heat and fat-producing food), and fat ready formed for use in the animal system.

The basis of comparing food values commonly used, is to add the digestible fat to the digestible albuminoids, and multiply the sum by 4½c. per pound, and then multiply the carbo-hydrates by .9c. per pound. These products added together, represent the values of a food.

—*Digestible Nutrients.*—

Kind of Food.	Albuminoids.	Carbo-hydrates.	Fat.	4½c.	.9c. per lb.
Malt sprouts	19.80	38.95	0.60	1.67	1.75
Cottonseed meal	35.75	23.25	6.60	1.75	1.75
Wheat bran	11.72	44.46	3.30	1.67	1.6
Rye bran	12.60	46.80	1.40	1.67	1.6
Wheat middlings	11.40	48.67	7.60	1.75	1.6
Clover hay	7.80	40.25	1.60	1.79	1.6
Timothy hay	3.67	41.25	1.00	1.69	1.6

These comparative values mean that when each food is used in proper combination in

proportion in a ration it has this comparative value. Carbohydrates are cheap, for many kinds of food are composed of carbohydrates, but albuminoids are in much smaller proportion in most foods, than are required for a well-balanced ration. Therefore a food rich in albuminoids, like malt sprouts and cotton-seed meal, has a higher value to balance carbohydrates in other foods. Yet these richer foods do not cost in market what they are supposed to be worth in comparison. E. W. S.

Value of Pumpkins—Pumpkin Seeds.

EDS. COUNTRY GENTLEMAN—Will Prof. STEWART be so kind as to inform me as to the feeding value of the common yellow field pumpkins for milch cows, hogs and sheep, and whether the seed are injurious in any way and should be removed before feeding; also if they are of any use in feeding to poultry, and whether it will injure them. E. H. *Forest Hill, Md.*

The feeding value of the yellow field pumpkin is based upon the amount of dry matter in 100 lbs. as well as on the chemical composition of that matter. The whole pumpkin has about 89 per cent. water and 11 dry matter; 0.6 of 1 per cent. of this is albuminoids, 9.8 carbohydrates, 0.1 fat and 1 ash. The value of this when figured in the ordinary way is about 10 cents per 100 lbs., but as the pumpkin contains a little pectic acid, which becomes a digester of other food and gives it an additional value, it may be said that good ripe pumpkins are worth 10 to 12 cents per 100 lbs. to feed in moderate quantity with other food in the milk ration or for fattening. A small quantity of pumpkins gives a relish and improves the flavor of the milk. But with reference to the effect of the seeds, care must be taken if the seeds are fed to cows, that they are mixed evenly with the rest of the pumpkin. The seeds are given in some cases as a diuretic medicine. Their action is apt to be on the kidneys, and dairymen often say that their cows shrink in their milk when freely fed with pumpkins. And if the seeds get separated so the cows eat more than the natural proportion of seeds, this effect upon the kidneys would naturally affect the secretion of milk.

The Chinese are accustomed to eat pumpkin seeds between the courses at dinner, and they are probably taken as an appetizer and digester. These seeds are rich in nitrogen and oil, and are very nutritious.

Some feeders have been very successful in fattening pigs with a small allowance of pumpkin seeds in connection with other food. These seeds used as a part of the food for poultry would fatten them rapidly. It should not constitute more than one-fifth to one-fourth of the food given to poultry.

The dry matter in pumpkin seeds and the stringy parts amounts to about 25 per cent., or more than double that of the whole pumpkin. The nutritive value of the seeds, per weight, is four times as much as that of the body of the pumpkin without the seeds.

If pumpkins were sliced up or pulped, so that the seeds would be all mixed in evenly, there would be no danger in feeding them to cows, other cattle or hogs, and it would be a very desirable addition when combined with other foods. E. W. S.

Cotton Seed Hulls—Ensilage.

EDS. COUNTRY GENTLEMAN—I have received the following letter under date of Raleigh, N. C., Sept. 26:

Mr. E. L. TRAVIS—In the agricultural press little or nothing is said about the effect of feeding cotton seed hulls as partial rations for young cattle and for horses of any age. Your experience in this may aid us in the investigation of cheapest feeds for the South. You state in the COUNTRY GENTLEMAN, that cotton seed meal and hulls will injure the quality of butter. What quantity of meal in a mixed ration can from your experience be fed without affecting health of cow and quality of butter? Also what quantity of cooked and raw seed? J. F. D.

In reply I will state that cotton seed hulls have never been fed to horses or mules, and I have never heard that they would eat them, but for young cattle they are excellent. I wintered four head of cattle coming two years old in the spring, on five pounds of hulls and two pounds of cotton seed meal each per day, they having the run of the summer pasture, where they really could get nothing but a little browse from oak and sweet gum bushes.

As to the amount of hulls and meal that may be fed without injuring the quality of butter, I will state my experience last winter. Knowing that my silo would not carry the cows through the winter, I commenced to feed

harsh word, will cause a cow to contract her muscles and, as they express it, "hold up her milk."

The cow that is well treated learns to look upon her milker as her best friend, as the only being who can relieve her of the steadily-increasing pressure of milk in her udder, and with this end in view she will, with muscular action, press her milk toward his hand while he draws it as fast as possible. She does not carry her milk in a hollow sack, neither is all of it in the udder when milking begins; a large portion is simply on its way to the udder, and it is already held back when she stops pressing it toward the milker's hands. There is no animal, either human or quadruped, whose nervous system is more highly organized, or whose nature is more sensitive than that of the cow. The common expression, "breaking a young cow," is an unfortunate one. When a young cow has been treated with uniform kindness and gentleness from the time she was a little calf, she has learned to have confidence in the one who cares for her and is willing to be milked as soon as she has milk to give.

This is one great advantage in raising the calves by hand; they come to look upon people as their best friends, knowing that it is from their hands they receive their regular supply of warm, sweet milk; and when treated with affectionate consideration they are sure to make gentle and easily controlled milch cows. Then too, a calf can be taught earlier not to depend upon milk alone but to eat other more nutritious foods. Two months is long enough for a calf to drink whole milk; after that time its ration may be gradually changed to sweet skimmed milk, which contains more nutriment for animal growth than pure cream. The worth of sweet skimmed milk has always been under-valued, and the value of pure cream over-estimated. It is the nature of cream to produce fat, and that of skimmed milk to make muscle and other substantial parts of the body. A calf intended for the dairy should never learn how to get fat, for fear she will, when she comes into milk, use her extra ration in that direction.

After the cows are fed and milked, unless the night promises to be very inclement, they are turned out in the grass lot around their house to graze or sleep upon the dewy blue-grass and clover. In all things their comfort and health are first considered, for to the cow more than to any other domestic animal do we owe a tender and grateful feeling. No table can be well-furnished without her contributions, and no farm can be prosperous when deprived of her aid. In fact, a first-class cow will do more toward preserving the health of your household than the doctor next door.

HORTENSE DUDLEY.

Removing Calves from their Dams.—Can you inform me what is the practice in the New-York dairies, and on milk farms generally, as to the treatment of calves while their dams are giving milk—that is, are they taken away at birth and raised by hand? Can this be done successfully, and is it not the proper and profitable method in managing a dairy? My manager does not do this (he is a cotton farmer by training), and denies that it can be done successfully. He lets the calves suck, and if they are sold at a few months old their dams go dry. A. J. M. *Newberry, S. C.* [Calves are usually allowed to suck the cow for a day or two after birth. Many breeders take the calf away at birth. If the udder of the cow is caked badly, it is best to milk her and then let the calf suck, following this practice for a few days. Dairymen, if they wish to fatten the calves, usually let them suck morning and night for four weeks, or until they are ready for slaughter. A dairyman who is careful with his cows, to have them do their best, will take the calf away soon after it is born, and feed it the milk as soon as it comes from the cow. A calf will not thrive quite so well when fed in this way as it will if allowed to suck, for the reason that the sucking process causes the saliva to be secreted in the mouth, which promotes digestion and better assimilation. It is, however, always a detriment to the cow, and what is gained in the calf is lost in the cow, if she is ultimately to go in the dairy. There is no doubt whatever but that if the calves are allowed to run with the cows and to suck at will, the cow will be dried up in her milk yield. Her udder will be small, and when the calf is taken way, if she is giving milk she will hold it for her calf, and this tends to reduce the yield. The most profitable results can be obtained in the dairy, as a rule, by taking the calf away as soon as it is born. There is then less nervous excitement on the part of the mother, and the calf can more readily be taught to drink. The modern calf-suckers, as they are called, promote a secretion of saliva, and help digestion thereby. F. D. C.]

The Veterinarian.

Answers to Correspondents.

By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

SHEDDING HAIR.—A dog has been for a year continually shedding his hair; cannot let him in the house; seems in good health. A. J. S. *Passaic, N. J.* [Sage tea sponged on dog daily, and an occasional bath of ammonia water, say twice a week, will often have a beneficial effect in such cases—tablespoonful of ammonia to two quarts of water.]

ERUPTION ON TEATS.—A cow giving about two gallons of milk at a milking, and running on clover pasture, the last two days has a bad breaking out on her teats of small sores about the size of peas, and since then she has been falling off until she gives scarcely any milk at all, and does not eat. This cow together with two younger ones have lost their left horns. Have never seen them fighting, and could never find the shell horn. H. C. M. *Springfield, Mo.* [See *Variola bovina* in back numbers, and follow advice given.]

HIND LEG LAME.—A mare 8 years old is lame in off hind leg. When standing still rests the foot all the time, with the stifle turned outward; can discover no soreness. She is not very lame, but has a hitch on that side, not placing that foot quite as far forward as the other when in motion. L. A. *Kentsbotoo, Neb.* [Was the mare paralyzed? How long since lameness appeared? Where is foot print of lame leg as compared to that of fore foot of same side—inside or outside of line? In a drive of several miles, start on a slow trot and finish on a slow trot, is she lame at start or finish?]

ANKLES WEAK.—A mare colt, six weeks old, when born was very weak, so much so that it could not stand to suckle without help; in two days it was able to get up, and its hind legs have straightened all right; but both fore ankles remain weak, and have become sore. Every time it moves it knuckles over. The mother is a fine, powerful mare, a good milker, and ran at pasture for two months before foaling. B. S. V. *Lithgow, N. Y.* [Keep mare and colt in a box stall. Rub the legs twice a day with some of the following liniment: Spirits of camphor, 4 oz.; tincture of opium, 3 oz.; tincture of aconite root, 2 oz.; alcohol, 8 oz.; mix. Bandage the legs days, and at night remove them, and use the liniment before and after bandaging.]

HAIR RUBBED OFF—MANE SHORT.—A young mare began to lose her hair in spots half an inch in diameter, on the shoulder, about a week ago. She rubs against the side of her stall whenever she can, and the trouble appears to be spreading. After the hair comes out, some of the bare spots become covered with a fat, yellowish scab. Do not know that she has been overheated, and otherwise she appears in perfect health. (1) Can anything be used on the mane which will encourage a longer growth where it has been rubbed? (2) X. *Warwick, N. Y.* [1. See that there are no lice on her. Rub some kerosene all over the bare parts, and do not leave it on more than 20 minutes; then wash it off with hot water and soap. Give half an ounce of Fowler's solution in feed three times a day. Paint the spots with tincture of iodine, and repeat in three days. 2. Frequent washing and daily wetting the roots of mane will ensure the desired effect.]

THOROUGHPIN.—Is there not some application which can be used on a thoroughpin which will absorb or resolve it and cause it to disappear? PIEDMONT. *Cliff Mills, Va.* [Apply golden blister and use shoes with good length of heel calk and very short toe calk. Blister may be repeated in a month or two.]

MAGGOTS IN SHEEP.—My sheep get maggotty near the roots of the tail, and then spread out in great numbers down the legs and toward the flank. The wool comes off, and then they will work along to new places. Some years ago I had a number in the same way; they lived along a few days after I discovered them, and then they would die. W. C. C. *Wolcott, N. Y.* [The maggots are the larvæ of a fly, and you must keep close watch of your flocks at the season when the eggs hatch and clip the wool away from the affected parts, then apply a little of the following daily: Spirits of turpentine, 8 oz.; linseed oil, 4 oz.; mix. The maggots eat the sheep alive, but if you will give heed to this advice you will never lose any more from this cause.]

OBSTRUCTED TEAT.—A nine-year-old cow has an obstruction in teat; can with difficulty get the milk from it; milk is not lumpy or stringy, but there seems to be something in teat that does not come out; udder swollen some. Feed ground peas; cow runs on timber pasture during the day; calved six weeks ago; is in fair condition. S. H. C. *Clackamas, Oregon.* [Introduce an instrument for opening obstructed teats; then keep a lead probe in teat between milkings. Give the cow a pound of epsom salts, also put in her drink daily an ounce of saltpetre. If she is not better in a few days give a general cow drink.]

FORE LEG LAME.—A three-year-old colt has been lame in the left fore leg about two months. Cannot see anything on the leg. A. A. V. *Sodus, N. Y.* [Look back in Veterinarian, and see how lameness is described; then give us a proper description of your horse's ailment and symptoms. Write upon one side of a decent sheet of paper, give your name and address, then you will receive attention.]

Record of the Times.

Review of Passing Events.

Died on the Wires.—The series of fatal accidents from electric wires in New York culminated Oct. 11th, in one of peculiar horror. John R. H. Feeks, lineman of the Western Union Telegraph Company, about 1 P. M., climbed a pole filled with telegraph, telephone, fire alarm and electric light wires, corner of Chambers and Centre streets, to remove a "dead" wire. In reaching for it he touched a "live" wire, stiffened, and fell forward on the wires and blue smoke began to curl up from his hand, neck and left foot. Another lineman tried to rescue him but dared not touch him, and for three-quarters of an hour the body hung there, watched by a horror-stricken throng which packed the streets. Finally John Cunningham of the United States Light Company, at great risk to himself, secured a rope round the body and over a crossbar and, helped by Wm. McDonough, cut away the wires and men below lowered the body. Hand, foot and throat were burned nearly through. The wires that did the work were not electric light wires, but were crossed with them at some point.—Only two days before, another lineman, Charles Edman, lost his life in like manner, and Mayor Grant notified the light companies that their wires *must* go under ground, and the use of imperfectly-insulated wires be discontinued at once.

South Americans in New-England.—From Boston the Pan-American delegates went to Lawrence, the 7th, to see the Pacific mills of 180,000 spindles and 50 acres of floor, its product of 100,000,000 yards of cotton goods averaging 6c. last year, and the Russell paper mills turning huge logs into white paper. At Lowell they saw knitting mills and carpet factories using wool from their countries. On the 8th to Manchester, N. H., where the mills brought together an exhibit of all their goods, and to Portland, Me., where at a banquet Senator Hale spoke. The 9th through them to Worcester, Mass., thence to Willimantic, Conn., to see a mill floor 800 by 300 feet, where 1,500 employés make 20,000 spools of thread daily, of which none goes to South America; then to South Manchester and the silk mills whose sales are $4,000,000 yearly. At Hartford they saw how guns, revolvers, bicycles, typewriters and screws are made, and at a banquet were welcomed by Gov. Bulkeley, Senator Hawley and Mark Twain, with a reception at the capitol. The 10th found them at Collinsville, with its edge tools, Meriden with its britannia, and New-Haven where President Dwight of Yale received them and East Rock was visited. Springfield, Mass., was reached the 11th, and the government rifle works, Morgan envelope works and Smith & Wesson revolver factory were visited. Then to Holyoke and its paper works, and toward evening the delegates left New-England and entered Albany where, with illuminated streets and public buildings, and crowds of people, the Mayor, the Governor and the Fort Orange Club received them. On the 12th they left for Niagara Falls where they passed Sunday.

Deaths.—At Georgetown, D. C., Oct. 5, Prof. Joseph E. Nourse, aged 70. He was connected with the Naval Academy from 1850 to 1864 and the Naval Observatory till 1880; represented the government at the international geographical congress at Paris in 1875, and was author of various works on science and arctic discoveries.—David Clark, at Hartford, Conn., Oct. 8, aged 83. An old merchant, noted for his benevolence, giving during the war over $60,000 to soldiers' families and [illegible] men; also a farm and stock wo[illegible] the Hartford hospital, and at [illegible] educating thirteen college stud[illegible] McClure, a juror in the John B[illegible] tion case, near Summit Point, [illegible] aged 86. The only survivor is [illegible] Shepherdstown.—The widow [illegible] Mason, the musical composer, a[illegible] N. J., Oct. 11, aged 92.—Charle[illegible] old actor, fell dead after leavi[illegible] the Lyceum theatre, New-York

From Abroad.—The Czar[illegible] visit to Germany has at last b[illegible] landed at Kiel, Oct. 10, salute[illegible] and German squadrons, and [illegible] took train for Berlin. He w[illegible] Emperor William and the Ble[illegible] crowds did not cheer as he [illegible] dinner was given the 11th.—[illegible] ship Ansor, 10,000 tons burd[illegible] in Kiel harbor.—Disastrous [illegible] vailed in the department of t[illegible] —The King of Siam has been [illegible] eral Boulanger has gone to li[illegible] of Jersey.—The miners' confer[illegible] ham declared for an eight-[illegible] plan of campaign has been a[illegible] James Mackey's Knockagnee[illegible] —A drug clerk of St. John's, [illegible] arrested for sending poisoned [illegible] the mails.

Minor Items.

Several cases of yellow feve[illegible] Key West, Fla.

A part of the stolen Louis[illegible] been recovered.

The "Angelus" reached N[illegible] by steamer La Bourgogne.

Four dead bodies were ta[illegible] Creek, Johnstown, Pa., Oct. [illegible]

The Bates House, Indiana[illegible] political gatherings, has been [illegible]

Arsenic was found in the w[illegible] in a Catholic church at Oneid[illegible]

Ex-Mayor Seth Low of B[illegible] elected president of Columbi[illegible]

At the Fairfield county fai[illegible] conducted at night by nature[illegible]

The pine lands ceded by [illegible] dians of Minnesota are esti[illegible] 000,000.

Ex-Speaker Cole has been [illegible] T. Sexton in the 29th district[illegible] torial convention, New-York[illegible]

Trackman Shields, whose [illegible] the disaster near New-Haven [illegible] has been convicted of manal[illegible]

Prof. Todd and party saile[illegible] from New-York, Oct. 15, fo[illegible] view the eclipse of the sun i[illegible]

Edward J. Bok, lately [illegible] Scribner's Sons, New-York, [illegible] of the Ladies' Home Journa[illegible]

An explosion of natural g[illegible] Davis Switch, Pa., Oct. 10[illegible] the wife and three children [illegible]

The cornerstone of the ne[illegible] New-York, was laid Oct. [illegible] by managing editor Cockeri[illegible]

The second Piedmont exp[illegible] at Atlanta, Ga., Oct. 7, by [illegible] Mayor Glenn, Senator Whi[illegible] Grady.

The Inman steamer City[illegible] aground in Gedney's Chann[illegible] on her arrival, Oct. 8, an[illegible] draw her off until the 12th.

Vermont dedicated a m[illegible] burg, Oct. 9, with speeche[illegible] lingham and Senator Edm[illegible] Mrs. Dorr.

Prof. C. N. Riley of W[illegible] made a chevalier of the leg[illegible] French government, in rec[illegible] vices in economic entomolo[illegible]

The Knights Templar h[illegible] ennial national conclave [illegible] 8-11. The procession of [illegible] by the President at the Wh[illegible]

The new railroad drawb[illegible] don, Conn., with draw ap[illegible] formally opened, Oct. 10. [illegible] York and Boston brought [illegible]

The three-year-old stall[illegible] mile in 2 12 at Terre Haute[illegible] best previous record was [illegible] A syndicate has bought A[illegible]

Connecticut voted again[illegible] 7, by a majority of 27,000[illegible] cast for the first time un[illegible] law, which worked smooth[illegible]

The New-York world's [illegible] finance has arranged a p[illegible] $5,000,000; the site com[illegible] see its way to release the [illegible] Park.

Survivors of the Navass[illegible] Philadelphia, Oct. 10—six [illegible] phosphate company. The[illegible] negroes from Baltimore [illegible] mines. The white men [illegible] British man-of-war Forwa[illegible]

Dr. Talmage's church, [illegible] early Sunday morning, C[illegible] lightning on electric wire[illegible] $150,000, mostly insured[illegible] postponed his trip to Pa[illegible] appeal for aid in buildin[illegible]

edifice. Over forty churches, theatres and halls were offered for use. Dr. T. will preach in the Academy of Music.

The seventh triennial national council of Congregationalists met at Worcester, Mass., Oct. 9. It has no law-making power. Drs. Abbott and Storrs spoke on home and foreign missions.

A Chinese guild has been opened in New-York by St. Bartholomew's church, under charge of John Thorne, an American, for many years a merchant in China, and since a missionary.

The coroner's jury in the Palatine Bridge disaster censure the New-York Central road for gross negligence in running train sections too close together; the employés were held free of blame.

A farewell reception was given to P. T. Barnum at Bridgeport, Conn., Oct. 8, on his departure for Europe. He sailed by the Etruria, the 14th, and the great show follows by special steamer.

The Episcopal convention, New-York, has discussed Home and Foreign missions, with speeches by Phillips Brooks, Bishops Courtney and Clark, and various missionaries, and revision of the hymnal.

The newly finished $300,000 stone house of C. Studebaker, South Bend, Ind., was destroyed by fire, Oct. 9. Mr. S. is a member of the Pan-American Congress, and expected to entertain the delegates on their arrival in Indiana.

Harmanus Bleecker Hall, a gift to the city of Albany, was opened Oct. 9, with addresses by ex-Judge Amasa J. Parker, Bishop Doane and Chancellor Pierson, and poem by W. J. Morange. The hall seats about 2,000, and cost, with land, $190,000.

Judge Day of Buffalo has decided that objections to the electrical execution law are not sustained and remands Kemmler to Auburn prison. The case will be appealed. Harold P. Brown has finished the electrical machines for Auburn and Sing Sing, and that for Clinton is nearly ready.

James G. Fair has retired from the presidency of the Nevada bank, San Francisco. Two years ago he rescued the bank from failure through a wheat deal in which Flood and Mackay (who had previously frozen Fair out of the bank) lost about $8,000,000 each. The younger Flood has been elected president.

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Beecham's Pills cure Bilious and nervous ills. [3

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send, free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 *Powers' Block, Rochester, N. Y.* oct7eow13

Farm Produce Markets.

Albany Markets—Oct. 14.

FLOUR.—The Argus says: Trade has been active with receipts above the average.

	1888. Oct. 12.	1888. Oct. 5.	1889. Oct. 13.
Com. State	$3.90@4.00	$3.90@4.05	$4.00@4.7
State Extra	4.10@4.50	4.10@4.50	4.10@4.5
Amb. State & W.	4.05@4.75	4.05@4.75	4.25@4.8
O., Ind. & St. L. Ex.	4.75@4.90	4.75@4.90	4.25@4.8
Winter W. Pat.	5.25@5.40	5.25@5.40	7.00@7.2
Minn. "Bakers"	4.00@4.75	4.00@4.75	6.00@6.7
Sp'g W. Pat., new,	5.00@5.00	5.00@5.00	7.75@8.0

Rye Flour—In good demand and steady at $3.1 @3.25 per bbl.: wranam, $4@4.50. Oat Meal, $5.5 6.00 per bbl. Corn Meal steady at $2.50@2.75 per bbl Buckwheat flour, $1.90@2 in the street, and at $2.2 2.40 per 100 lbs. in store.

GRAIN.—Corn unchanged, with moderate trade No. 2, 43@43½c. per bu.; No. 2 mixed, 41½c. Oats in fair demand. No. 2 white, 29½c.; No. 2, 28@28½c. Rye in light receipt; State, 64@65c. per 56 lbs.

HAY AND STRAW.—Both in good demand and firm; receip'ts free. Timothy, prime, $14@15 per ton; good, $12@14; clover, $7@8; mixed, $11@13. Rye straw, best, $11@13; oat straw, $7@8; wheat straw $13.

HOPS.—Market quiet; choice goods scarce, poor plenty.

N. Y. State, 1889	30 @32c
N. Y. State, 1888	8 @10
Pacific Coast, 1889	10 @13
Bavarian and Bohemian	30 @36

Albany Street Market—Oct. 14.

BUTTER.—Choice, 22@25c. per lb.; good to prime 18@20c.

EGGS.—Near-by and new laid, 19@21c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c per lb.; forequarter, 4½@6c.; mutton, carcasses, 6@ 8c.; lamb, hindquarter, 10@12c.; forequarter, 6@8 10c.; veal, 8@9c.

POULTRY.—Fowls, 10@12c. per lb.; chickens 12@15c.; turkeys, 13@15c. spring ducks, 12@15c.; geese 11@12.

FRUIT.—Apples, $1@1 per bbl.; Cranberries, $2.75@ 3 per crate; Grapes, Concord, 2@3c. per lb.; Delaware, 6@10c.; Diana, 4@5; Niagara, 10@15c.; Peaches 1@1.50 per basket; Pears, $2@4 per bbl.

The Fireside.

Camp Life in the Rangeleys—III.

One meets some queer people around the lakes. In the first place there are the guides, old weather-beaten fellows in many cases, who have been in the woods from boyhood, and are full of fishing and hunting stories. Then there are the fishermen who have been there before. One can tell them by the fact that they come well prepared, but do not carry any unnecessary baggage. Even the dude penetrates the wilderness sometimes. I remember one who had visited our camp, inquiring anxiously how we had got along the night before during a rain storm—"It must be so deuced uncomf'table, don't you know." He amused us immensely by telling how he "went twolling for twout." Another, who was fishing Black Brook one day, was gotten up in great shape. He informed two fishermen whom he met that "Ah've been fishing two hours and lost six hooks, and every time Ah lost a hook Ah said, 'dash it!' bah Jove."

Most tourists go to either Middle or Upper Dam. At these places there are comfortable hotels, with boats and all conveniences. Among the interesting sights are the dams placed between the lakes to flood the water back. Upper Dam is between Lakes Mooselucmaguntic and Molechunkamunk. In the dam are half a dozen great sluice-ways, the plank bottom forming an inclined plane. These sluices are closed by huge gates. Where the water plunges from these into the stream below there is good fishing. The view is beautiful from the dam, looking off to the west. The river sweeps away between two wooded points to Lake Molechunkamunk, half a mile or so away, while beyond, across a mile of water, there rises a high mountain, wooded to the very summit. It must be a thrilling sight in spring, when the gates are opened, to see the great logs go rushing and plunging down the inclined planes into the river below. From the lakes they find their way at last into the Androscoggin.

Since our return many have asked all manner of questions about how to reach the lakes; so it may be of interest to say a little on that point. The best route to the points we have mentioned is by way of Andover. One can ticket from Boston to almost any point on the lakes and return, and this is the cheapest way. The Grand Trunk railroad takes you to Bryant's Pond, and there you find yourself starting, late in the afternoon, for a twenty mile drive to Andover. The stage is one of the genuine old-fashioned kind, hung on leather springs, with seats inside and on top, and an unlimited capacity for baggage. If you are wise you have chosen an outside seat. The driver climbs up, gives a last look to see that all is ready, and then with a crack of the whip we are off. We go out of town with all four horses on a dead run.

The road runs up the valley of the Ellis river, and there is not a steep hill or a rod of poor road for the whole distance. On both sides are farms filling the valleys and encroaching on the wooded hillsides. One peculiarity of the houses strikes a stranger at once. Almost invariably house and barn are connected so one can pass from one to to the other without going outside. It must be convenient in winter when the snow is deep, but rather spoils the beauty of the homes. Before you have been long on the road you will become convinced that every other house is a post office, and you will be amazed to see the driver draw one mail-bag after another from some unnoticed receptacle under his feet.

At Rumford we cross the Androscoggin by a primitive ferry. The ferryman is not in sight as we reach the landing, so the driver blows the tin horn which hangs from a post by the roadside. Soon we see him coming down the opposite bank, and in a minute the boat is on its way. Slowly but steadily it creeps across, and as it comes close to the bank it is moored to a chain fastened in the road, and we start to go on board. One looks uneasily at the craft from his perch on top of the stage, as we come down the slope to the water. It is a flat boat with square ends, just long enough for stage and horses, and with nothing but a low rail behind to keep us from going into the water. The ferryman casts off the chain, winds up a rope at the forward end (which can hardly be called the bow), lets out one at the stern, shoves down a rude centerboard, and back we go, with a peculiar gliding motion. The mechanism by which this is done is simple but very ingenious. A long cable is stretched across the river so as to hang about ten feet above the water. On this rope run two sets of pulleys, one attached by a long rope at the bow, and the other at the stern. When a start is to be made the rope at the bow is shortened up, while that at the stern is let out, till the boat points diagonally up stream. The force of the current striking against the rough centerboard which is pushed down from the upper side of the boat, forces it slowly across. The pulleys run with a peculiar swinging motion, about six feet at a swing. The bank slopes so that no landing is needed. Though the driver says that no accidents have ever occurred there, one breathes freer as he climbs the opposite bank.

Stopping not far from the ferry for supper and a change of horses, we start on the last half of our drive. The sun goes down behind the peaks on our left, and darkness comes on before we pull up at one of the Andover hotels, tired and sleepy.

Andover is a beautiful little place of about seven hundred inhabitants, set in the valley with mountains on every side. It would be a delightful place for a weary business man to rest. It has good hotels where one can board very reasonably, and within easy walking and riding distance are many beautiful spots, and not a few good trout brooks. Three miles northeast of town is Black Brook, a stream where there is fine fishing. One day during our trip two gentlemen, fishing down Black Brook for a couple of miles from the "Notch" took twenty-two pounds of trout. Off to the west of town is Baldpate, looking as if only two or three miles away, but really eight or ten. This takes its name from its bare summit. It is a long climb from the road, but the view from the crest is grand. There are a score of other delightful spots to be visited around Andover. Some of them we shall pass on our way to the lakes. Every morning a team goes in from each of the hotels. For this ride we exchange our stage for a two-seated "buckboard," a vehicle that rivals the stage in its capacity, and which is without exception the easiest vehicle ever made for mountain roads. On the axles are fastened several planks probably ten or twelve feet long, and the seats are fastened on these, while a top is placed over the whole thing.

The road from Andover runs out on to the hills for two or three miles, then slopes rapidly into the valley of Black Brook. From the brow of the hill one gets a wonderful view of the surrounding country. Mile after mile of wooded mountainside is spread before us, with no sign of a clearing. Over to our left, but far up towards the summit, is a notch, which our driver says is Black Brook Notch. It seems hardly possible that we are to pass that way. Three miles out we pass the last house, and from there to the lakes it is one unbroken wilderness. Half way in the driver points out a path on our left and tells us it leads to the Devil's Den. Of course we must visit that. It is only a short walk down the hill, but a great surprise awaits us at the foot. One suddenly finds himself on the brink of a cliff, and sees before him a gorge some 60 feet deep and 30 feet across. Its walls are perpendicular, but curved and rounded by the water. At its upper end the gorge is shut in by a curved cliff, at the top of which is a little gully where the brook used to flow. It does not take one long to read the history of the place. It is a wonderful example of erosion. Centuries ago Black Brook poured over the cliff at the lower end of the gorge. Gradually it cut its way back into its rocky bed till it had carved a channel 60 feet deep and 100 long in the solid rock. Then, to finish all, the brook has found a new channel, and no trace is left of its former course but the gully at the end of the ravine. Just beyond this curious spot the brook in its new bed tumbles noisily over the rocks, forming a beautiful cascade.

From this on, the road is a succession of surprises. Hardly a turn but reveals some noteworthy view. The climax is reached when we come to Black Brook Notch. On the left of the road rises the steep slope of Sawyer Mountain, fairly buried in green. On the right, and so close that its rocky crest seems almost to overhang us, is Blue Mountain, rising abruptly in ragged cliffs and precipices to a height of 600 or 800 feet. Great masses of rock lie piled wherever they could find a lodging place, as they have fallen from the cliffs, while in every cleft and on every projecting point cling weather-beaten spruces and pines. At times the road runs close by the brook, and again one can hear the roar of the water far below. The effect, as one enters the "Notch," is grand.

From here on to the lake it is only a short distance, and there is nothing of special interest. At the lake one can take a little steamer for any point. It seemed strange, in that wilderness, to hear every day the steamer's whistle, telling us the captain had some mail for us. Among the most pleasant memories of the trip are those of our rides on the steamer Welokennebacook, and of the kindness of her captain. With regret we looked back from the first turn in the road as we left the lakes, and said good-by to the Rangeleys. L. H. J.

Footpaths to Success—II.

Working Up.

Knowing and *doing* are the two great roads that lie open before us all. These are the two broad avenues by which every object of human desire must be followed. Study, thought, is the great employment and object of the one; all who walk that road are engaged in a perpetual struggle to know more. In the other, work, incessant action, demands the exercise of all the powers. Either to learn something or to do something is the real business of every child, of every man and woman, of every hour.

To be sure there are some who wish to be idle, to amuse themselves only or chiefly, and who put pleasure and self-indulgence first. But all who do so choose for themselves a disgraceful part in a busy world. To be good for anything it is necessary first of all to be in earnest and to determine to do something, whether it be head-work or hand-work, with all the strength that we possess.

There is no success that is worth having which is not earned, and earned by serious, persistent hard work. All the footpaths to a true success lie up-hill; sometimes the way is steep and the footing rough. But as you rise the air grows clear and the prospect wider, and at every step there is something to be thankful for and something to hope.

Although the two great roads of knowing and doing mark a very real and important division, we cannot separate them entirely. The intelligent worker is continually learning; the earnest student finds an abundance of hard work in his way. But each throws his strength chiefly into the effort to advance in the direction that he has chosen. A steady purpose in life with a determination to attempt and to carry through a definite plan is the frame work, the skeleton, so to speak, of a successful career. It is always worth while to have an aim, and to put that aim high. But having set yourself a certain task, you will find that in doing that you also gain many unexpected advantages. Life is not a simple thing, like a sum in arithmetic. On the contrary it is wonderfully rich and complex. Whatever our special choice may be, though the domain is more than sufficient for a life work, yet we receive with it, if we do our best, a free gift of much that lies outside of it.

The thinkers ought not to despise the workers, nor the workers the men of thought. Valuable ideas are the best kind of riches, and there is no capital that is worth so much as brains. But whether the capital be money or knowledge, it is the way in which it is used that makes it a good or a bad thing. True success is won by working, each according to his or her best ability, for those true ends and objects which promote the good of all. The boys and the girls who are just beginning an independent life will decide by their aims and the spirit in which they follow them, not only their own individual fortunes, whether or not they will be rich, honored, believed in and happy, as their portion in life, but they will surely decide also what society is to be, and whether the country and the world will be better off or worse off than now in twenty five years. It is a very serious charge that lies upon you, dear young people, and there is positively no getting it off your hands.

In working one's way up from the common level, it is a safe rule in every situation to do more than is required. Be master of your whole business, whatever that may be. All practical work may be done thoroughly, promptly, with great perfection, or it can be done in a slighting and half-hearted fashion. Even in picking up a basket of chips a boy may show energy and thoroughness, or the reverse. I say he may show, but the strange thing about it is that he will show his real qualities; he cannot help it, however much he might like to conceal them. Our work is always a test; we are continually measuring ourselves upon it. The only safety lies in being that which it is desirable to appear.

I wish every young person in the United States could be disabused of the idea that education is a thing gained once for all in school days. The distinction between students and workers, between the life of thought and the life of activity, is a real one: and the life of thought is, to a great extent, its own reward, as I hope to show later. But the men who rise to eminence without much early education, do not remain ignorant. They get their education directly from life, and are often men of great and various information. Books are beyond all price as storehouses of the valuable lessons and results of life, but they do not create the treasures that they preserve.

Their great merit is that they give us what we need in a compact and easily accessible form. There is nothing in books that does not exist in the world of activity and of mankind. But in books we have the great thoughts of great men who have passed away, and the sum of the average experience of men of smaller stature. Through them we avail ourselves of all that other men of our own and of other races and civilizations have found out and practiced. Of course it is an immense advantage to get as full possession as we can of this store of accumulated learning, and as early as we can. Then a thorough education—a good college training, for instance—gives another advantage in having this knowledge systematized in the mind, an inestimable help in adding to it. It is like having a full set of shelves and drawers well constructed and arranged for a stock of goods, instead of tumbling them into an empty building helter-skelter. I might go farther, and say that the store keeper who has his shelves ready also knows enough about his goods to see at a glance where each kind belongs, and something of its value and use, while the untaught beginner is unable to tell the difference between the best and the most worthless stuff. This applies especially to knowledge of books. In dealing with real life, it often appears that instructive good judgment and a true moral sense are very largely natural endowments.

Education, then, in the sense of early literary study, is too desirable to be by any means neglected or undervalued, if it is within reach, but if it has to be given up the loss should not be considered as irreparable. Its chief benefits may all be gained later and by degrees. We are all learners as long as we live, unless we stop learning from sheer stupidity. The wise are those who begin with the greatest power of learning, and make the best use of their opportunities. The natural power of the mind would be, in a perfect condition of society, the only limit to the acquisition of knowledge. By making a faithful endeavor to use whatever capacity we possess, and to rest satisfied with nothing short of that, we shall do our part in bringing about a better condition of things. This is what honesty demands. One cannot be true to one's self and to God with less.

Whatever power you are conscious of you are bound to use, for the good of others no less than for your own advancement. This is the true working up—to reach the level of your own best and highest. Perhaps that level is very much higher than you would now dare to assume. D. H. R. Goodale.

Protection of Birds.

Of late years, it seems that the ravages of destructive insects have been carried to a degree never dreamed of by our ancestors in agriculture. Grasshoppers, potato bugs, chinch bugs, curculio, codling moths, army worms, and a dozen other well-known pests to the farmer of to-day, were hardly known half a century ago. Yet, I doubt not, all these insects were then in existence, and were just as capable of doing mischief as they are now; but their numbers were not sufficient then to make them such a nuisance as they are now. They are not more prolific now than they have always been; but they were held in check by the numerous small birds which then inhabited our forests and fields. The shooting of small birds, even twenty years ago, was not nearly so common as now. Larger game was more abundant, and the

smaller birds were left comparatively unmolested, to multiply and feed upon the noxious vermin which have become such a burden. Nearly all our small birds are great lovers of worms, bugs, &c., and they should be encouraged to build their nests and rear their young about our homes and fields.

Among the most inveterate and invaluable of these insect destroyers, are the grouse of the New England and Middle States, and the common American partridge (*Ortyx virginianus*) of the South. These birds live largely on insects, and feed them to their young; and, although fond of the field they do little or no damage to crops. About the only crop our Bob White (American partridge) cares for in the South is stock peas, and he will eat only such of these as have already dropped out of the hull, and which would be wasted anyway.

Down here in Texas we have a game law which prohibits the shooting of nearly all our small birds, from April 1 to Oct. 1. Any farmer can prohibit hunting in his enclosed fields at any time, by putting up boards with the word "POSTED," plainly marked, painted or stenciled thereon, at each entrance to his farm. This law does not restrict hunting on unfenced land, and, of course, thousands of partridges are killed in the old fields and on the prairies. We need a State law (not only in Texas but in every State of the Union), prohibiting with a severe penalty the shooting of partridges, grouse and other especially valuable insectivorous birds altogether. I have no animosity against the sportsmen, *per se*, but I do not think his amusement should take precedence over the great agricultural interests of our land.

Paris green, London purple, and other poisonous insecticides used for spraying fruit trees, cotton and other plants, are exceedingly dangerous remedies to handle. Kerosene torches and tin pans for catching the first crops of millers are more desirable, but troublesome and expensive. Our little feathered friends will do the work for us for nothing—only asking our protection from the murderous gun of the bird-hunter.

Then by all means let us encourage Mr. Bob White and his numerous family to come and live with us, and in a few years the fearful insect ravages which are now a constant menace to every branch of agriculture, will have become things of the past. T. B. B.

Marshall, Texas.

Domestic Economy.

Various Ways of Cooking Apples—II.

APPLE CUSTARD PUDDING.—Pare, quarter and core, and stew half a dozen tart apples; sweeten and rub through a colander. Put the apples in a pudding dish, and pour over them a custard made by adding the well-beaten yolks of four eggs and three tablespoonfuls of sugar to one quart of milk and flour. Bake slowly half an hour.

APPLE PIE.—Pare, quarter and core tender tart apples; line your pie plate with crust, and carefully lay the quarters around the outer edge first, then fill the centre; sprinkle over sugar, cut up a piece of butter the size of a hickory nut in small bits and scatter on the top of the sugar, season with nutmeg, add about two tablespoonfuls of water and bake. When ready for the oven sift a tablespoonful of pulverized sugar over the top. If the seasoning is put on the bottom crust before the apples are put in, it will not boil out at the edges. But if the edge of the bottom crust is wet before the upper one is put on, and then well pinched together, and two or three holes cut through the upper crust for the escape of steam, there will seldom be any difficulty in this line.

APPLE CUSTARD PIE, No. 1.—Grate one teacupful of any nice, sweet apple, add to it the well-beaten yolk of three eggs, two tablespoonfuls of sugar, and two teacupfuls of sweet milk; flavor and bake in one crust. Beat the whites of three eggs to a stiff froth, to which add two tablespoonfuls of pulverized sugar, one-half teaspoonful of vanilla or lemon extract, spread over the top of the custard when done, and return to the oven until slightly browned.

APPLE CUSTARD PIE, No. 2.—Peel, quarter and core tart apples, and cook until tender in a little water, then rub through a colander. To two teacupfuls of the apples add the well-beaten yolks of three eggs, three tablespoonfuls of sugar, one of butter, and one teacupful of milk; bake and add a frosting as in the above receipt.

APPLE MERINGUE.—Stew a quart of sour apples, and add the juice and half the grated rind of one lemon, together with sugar to the taste. Rub through a colander and put in a pudding dish. Beat the whites of four eggs to a stiff froth, to which add half a teacupful of sugar, and flavor with lemon extract. Spread this frosting over the apples, and set the pudding in the oven to brown slightly, after which place it where it will become ice-cold.

SWEET PICKLED APPLES.—Use sweet apples of small or medium size. The variety called Tallman Sweeting makes almost as delicious a pickle as do peaches. Pare nicely and remove both the flower and stem end. For six pounds of fruit, allow three pints of sugar, one quart of vinegar, one tablespoonful of allspice, one of mace, one of cinnamon, one teaspoonful of cloves, and two ounces of stick cinnamon. Mix the ground spices together and tie up in three cheese-cloth bags; break the stick cinnamon into short lengths and put vinegar, sugar and spices into a preserving kettle and slowly heat. Insert five cloves into each apple, cook a few at a time in the syrup, and when tender enough to be pierced with a fork, skim out into a stone jar. When all are cooked, turn the contents of the kettle over the fruit, cover while hot and set away. The next day, and for two days following, drain off the syrup, put the bags of spices in it and boil fifteen minutes, turning it on the apples hot. After the last boiling, place a plate on the apples, so as to keep them well under the syrup, and leave the spice bags in.

APPLE PUDDING, No. 1.—Pare, quarter and core tart apples; fill a pudding dish nearly full and season with nutmeg, water, and a piece of butter. Make a crust as you would baking-powder biscuit; roll out to half an inch in thickness, and cover the top of the pudding-dish, remembering to cut two or three holes for the escape of steam. Cover with a basin and stand on the top of the range, and cook until the apples are tender; then remove the cover and place in a hot oven for ten minutes. To be eaten with hard sauce.

APPLE PUDDING, No. 2.—Pare, quarter and core tart apples enough to very nearly fill a pudding dish. To one well beaten egg, add one teaspoonful of sweet milk, and stir quite stiff with flour, into which a heaping teaspoonful of baking powder has been sifted. Arrange the apples close around the edge of the dish, and season with nutmeg and a little butter and water (the latter must be controlled by the juiciness of the apples), and cover the top with the dough, care being taken not to let it run down at the sides. Cover with a plate or basin and bake.

APPLE SHORT-CAKE.—Make a crust, as for baking-powder biscuit, butter a pie tin, take a piece of the dough sufficient to press out with the hands to half an inch in thickness and the size of the tin; place in the tin, and spread the top with butter; mould out another similar piece and lay on the top of this, and bake. Prepare tart apples, as for sauce, adding a piece of butter the size of a hickory nut. When the crust is done, carefully divide the layers, spread with butter, and put the hot apple-sauce between. Serve with sugar and cream, or other sauce as preferred.

APPLE FRITTERS.—Beat the yolks and whites of three eggs separately, add the yolks to one pint of sweet milk and a pinch of salt; beat thoroughly; then add the whites of the eggs and enough flour to make a rather stiff batter. Pare some tender tart apples, and cut in thin slices round the apple; take the core carefully out of the centre of each slice, and to every spoonful of butter add a slice of apple, and fry in hot lard to a light brown on both sides.

FRIED APPLES, No. 1.—Take tender sour apples, and after wiping them, cut in slices one-fourth of an inch thick. Have half an inch in depth of hot lard in a frying-pan; lay in a few pieces of apples and fry; then turn, and put a small quantity of sugar on the browned side of each piece. By the time the under side is browned, the sugar will be melted and spread over the whole surface.

FRIED APPLES, No. 2.—Take tart apples; cut out both the flower and stem ends, and wipe; cut round the apple in thin slices and remove the core. Have a little hot butter in a frying-pan; put in the apples; add a little water and quickly cover close, to retain the steam; cook until tender, being careful not to burn.

BOILED APPLES.—Pare and remove both the stem and flower end of some sweet apples; put in a steamer and steam until a fork will easily pierce them. Meantime make a rich syrup of sugar with very little water and flour. When the apples are done, pour the syrup immediately over and cover close, afterwards putting in an ice-cold plate.

BAKED APPLES, *Sweet.*—Carefully wipe juicy, sweet apples, put in a deep bake tin or shallow pudding dish; add three tablespoonfuls of water for each eight apples; cover and place in a hot oven; in fifteen minutes remove the cover, and continue baking till tender.

BAKED APPLES, *Sour.*—Take tart apples, remove the stem and flower end, so as to leave quite a deep cavity at the latter; place in a deep bake tin, and fill the cavities with sugar, sprinkling it pretty freely between them also. Then lay on a few lumps of butter over the sugar, and bake until perfectly baked through and soft. When done, take up carefully with a spoon, and dip the syrup made from the sugar, butter and apple juice over them. They are nice when eaten warm. KATHERINE B. J.

The Stigmatized Old Hen.

What a despised creature the old hen is! She is the object of the epicure's satire. "This fowl must have been of Mrs. Noah's raising," is a sample of the ungracious remarks that he applies to her venerableness, as he vigorously masticates the flesh that some unskilful cook has prepared.

With the advent of spring chickens to the table many a housewife relegates the old fowls to some other destiny than home consumption. They are usually put on the market merely as "old hens" at a much cheaper price than though they bore the favored appellation of "spring chickens."

I am a champion of the old fowl. When properly prepared it makes a tender and toothsome article of food. But when improperly cooked it is as unsavory a dish as a hungry man need care to find.

Just at the present time when young chickens are ready for eating, many fat, old fowls are sacrificed at a low price to the butcher, because they are not so palatable as the new stock. I will give the formula for cooking an old fowl in such a household, just as clearly as though I were an eye witness on the occasion. In the morning, after the breakfast work is over, the housekeeper's mind naturally turns to the noon meal, and she wonders what she can have for dinner. "For a change, I will have chicken to-day," she says. "I will have to take one of those old hens, for there's no other in a condition to eat."

So the old hen's head is soon resting among the chips at the chopping-block, and in the course of an hour that martyr to human appetite is stewing in the kettle. It is now 10 o'clock. For two hours the hen stews away, and at 12 o'clock is placed on the table. But the meat is not satisfactory; it does not fulfill the housewife's expectations. It is tough, and has no rich chicken flavor.

"Well," says the hungry husband, "this fowl is as tough as leather. I shall be glad when the young chickens are ready to eat. An old hen isn't fit to eat, anyway."

Such is the unanimous verdict of the family. But the fact is, the old hen has had no fair showing at all. The excellence that she possesses needs more care in its development. In most all the operations of life, in order to obtain certain ends, certain conditions are an absolute necessity. In this case the requisite conditions for converting old, tough flesh into a savory viand were not complied with.

Years ago, in the first days of my housekeeping, our table was supplied with meat by a butcher who was a dainty epicure, and he gave me some choice rules for preparing meats which I have since practiced. One was, never to cook newly-killed old animals. He said an old fowl should be dressed 24 hours before cooking. It makes it tender and gives it a finer flavor. I have found from experience that even in the hottest summer weather, if slightly salted, covered securely from flies, and placed in the cellar, a dressed fowl will keep perfectly good for 24 hours. Meat treated in this way is far superior to that cooked immediately after killing.

The following is what I regard as the best method of preparing an old fowl for the table: Dress it 24 hours or more before cooking; salt it very lightly. The next morning, as early as 8 o'clock, put it on to stew with barely enough water to cover it. Keep just this quantity of water on it, no more or less. It should be kept boiling at a moderate but constant rate. A very little extra salt will be needed. If the fowl is fat, no butter need be used; but if not, a generous lump should be put in. Pepper to taste. Stir together flour and water to a smooth mixture, and put only enough in the stew to make it the consistency of gravy. Add this about half an hour before removing it from the fire. According to this method, there should be about one quart of rich gravy, while the flesh of the fowl is tender and delicious. An old hen cooked in this way was on our table recently, and a guest inquired if it was an old or a young fowl. NELLIE BURNS.

Stove Polish—Canning.—Please give us a reliable receipt for liquid stove polish that will not rub off much when dry; also for liquid stove enamel, and a receipt for canning pumpkins, both dry and in liquid form, so that they will keep. E. W. P. *Burdett, Kas.*

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(*A la Romeo and Juliet.*)

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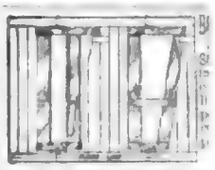

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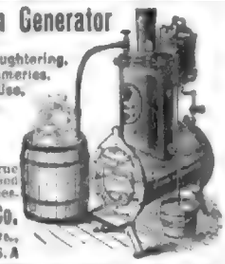

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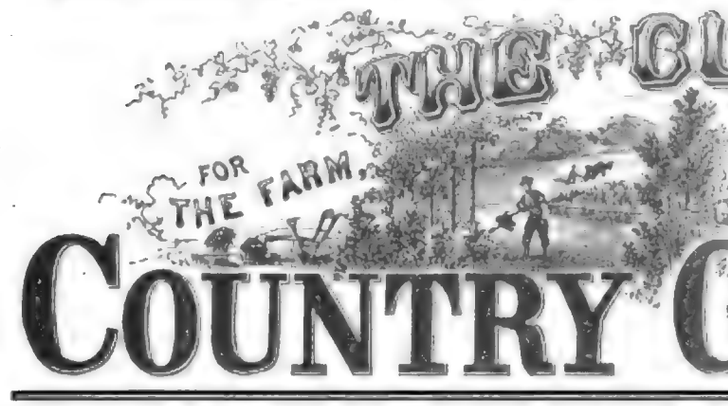

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HOLSTEIN - FRIESIANS
Of the Best Strains of Blood.
Cows in Calf, Heifers, Bulls and Calves.
Will be sold at Public Auction, on the premises, at Rose Hill Farm, Syracuse, N. Y., on
WEDNESDAY, OCTOBER 19, 1881,
at 10 o'clock A. M., the entire herd of Holstein-Friesian cattle, consisting of 30 head, the property of the late Hon. Wm. H. Wadsworth. Among the number are the famous cow Pietertje 2d, 3d prize winner at the Centennial, and her daughter Pietertje 3d, 1st prize winner at the Centennial, and her daughter Pietertje 4th, 1st prize winner at the Centennial, and her daughter Pietertje 5th, 1st prize winner at the Centennial, and her daughter Pietertje 6th, 1st prize winner at the Centennial, and her daughter Pietertje 7th, 1st prize winner at the Centennial, and her daughter Pietertje 8th, 1st prize winner at the Centennial, and her daughter Pietertje 9th, 1st prize winner at the Centennial, and her daughter Pietertje 10th, 1st prize winner at the Centennial, and her daughter Pietertje 11th, 1st prize winner at the Centennial, and her daughter Pietertje 12th, 1st prize winner at the Centennial, and her daughter Pietertje 13th, 1st prize winner at the Centennial, and her daughter Pietertje 14th, 1st prize winner at the Centennial, and her daughter Pietertje 15th, 1st prize winner at the Centennial, and her daughter Pietertje 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THE CULTIVATOR
AND
Country Gentleman

Albany, Oct. 24, 1889.

Iowa as a Wheat and Clover Country.

EDS. COUNTRY GENTLEMAN—Your correspondent, President CHAMBERLAIN of the Iowa Agricultural College, in concluding in your issue of Oct. 3, a full page description of part of his Ohio farm, makes the following very remarkable and indeed astonishing statements regarding the capacity of Iowa soils for the production of wheat and clover:

Wheat and clover have almost gone out of Iowa. The local agricultural papers are now full of the question of their restoration. This week's papers have several columns. Says the Iowa Homestead editorially: "If the farmers will only get their lands well seeded to clover they will have but little trouble with the wheat question. We have never been able to produce big crops without it." Ah, if you can get big crops of clover you can get wheat. But alas, how shall you get the clover when soil or climate or both refuse to grow it? When you are rich you can get richer. But alas, what if you are poor? Iowa to-day does not raise wheat for its own bread. Says a writer in this week's Homestead: "The failure began in the eastern part of the State and slowly extended on westward, and now the entire State fails to raise a paying crop." In this week's agricultural department of the State Register, "Father Clarkson," its agricultural editor, one of the oldest farmers in the State and one of the most informed men on such matters, says: "For 25 years I have seen the waning of wheat raising in the State with regret." Now, if you can raise wheat wherever you can raise clover, as the Homestead says, and if you can raise clover on any soil and enrich it rapidly from the air, as the extreme clover men seem to think, then why does not Iowa raise 75,000,000 bushels of good wheat instead of 6,000,000 or so? I do not think the climate favorable, but it is more so than when they did grow wheat for it has more timber protection. The fact is, Iowa tried to raise wheat without live-stock at first, and then without saving and using their winter manure when it did have them. The same is true in Minnesota and all over the West. It is the old, old story which apparently each locality and each individual insists on learning by experience and not by observation.

No evidence short of his own signature could have made us believe that President Chamberlain was the author of statements so utterly misleading and in many respects untrue, as are contained in the above. There are two counts in his indictment of the State to which he owes his present position, and from whose funds he draws his comfortable salary—one, that it does not grow wheat enough for its own bread, the other that both its soil and climate refuse to grow clover. And not content with this, he charges, at least so far as wheat is concerned, that the same is true in Minnesota and all over the West.

We suggest to President Chamberlain that before he issues his next diatribe he spend a few moments in the library of the Iowa Agricultural College and ascertain the facts with regard to the production of wheat in Iowa. To save him the trouble we do it for him, and compare it with the wheat production of the State of Ohio, to wean him from which all the efforts of his friends have proved unavailing. We will not make any comparison on the narrow basis of one year's production, nor go outside of the reports of the Agricultural Department at Washington. The following tabular statement of the entire crop and yield per acre of these States may be verified by reference to the reports for the last eighteen years, the years named having reference to the volume of the record giving the production of the year previous:

	OHIO.		IOWA.	
Year.	Total Yield.	Yield per acre.	Total Yield.	Yield per acre.
1871....	19,150,000	13.8	20,445,000	12.5
1872....	18,575,000	13.9	18,400,000	10.8
1873....	18,203,000	11.7	22,080,000	12.6
1874	18,567,000	12.0	24,600,000	13.0
1875....	25,993,000	15.0	33,908,000	11.6
1876....	21,750,000	11.8	17,600,000	14.0
1877....	26,000,000	15.0	37,810,000	15.5
1878....	23,130,000	13.0	20,256,400	9.4
1879....	36,591,750	19.5	32,786,980	10.2
1880	46,790,475	17.5	33,178,205	10.4
1881....	46,014,889	....	21,154,205	....
1882....	38,520,000	13.8	18,248,000	6.6
1883....	48,453,600	15.1	25,487,200	10.3
1884	25,884,000	10.0	27,518,800	11.3
1885....	41,186,000	15.3	31,276,000	12.0
1887....	40,382,000	15.0	32,445,000	12.2
1888....	38,895,000	13.1	26,887,000	10.0

Why, in the face of testimony like the above, should President Chamberlain say that Iowa produces but 6,000,000 bushels of wheat, not enough for its own bread? How much wheat does an Iowa man eat? In 1880, the census year, Iowa with 1,624,000 inhabitants, produced 19 bushels of wheat per capita. Ohio with 3,198,000, produced but 14½ bushels. We have not at hand the estimated population of either Ohio or Iowa for 1887, the latest crop year reported by the Department of Agriculture; but applying the figures as given in the census of 1880 to the crop of 1887, Ohio produced but 11.2 bushels per capita, while Iowa produced 16.4. The Iowa crop of 1881 was probably the smallest produced since 1880, and yet this gives 11.2 bushels per capita, or more than twice the amount required for home consumption. If Iowa cannot find bread enough in her wheat fields, Ohio must indeed go hungry.

The facts about the wheat production of Iowa are simply these, as every well informed farmer in the State knows: The early settlers of the State raised large crops of wheat, a crop on new "breaking" being regarded as reasonably sure for from 20 to 30 bushels to the acre. As the State became more thickly settled and the land exhausted of its stored fertility, farmers sowed their land to grass and entered upon stock raising, which, with the then existing freight rates to lake or sea-board, was far more profitable. The spring wheat belt moved west with the tide of emigration. Central Iowa to-day does not grow enough wheat for home consumption—not because the soil will not grow wheat, but because until the last two or three years stock growing and dairying have been far more profitable. Meantime winter wheat culture is being introduced in the southern tiers of counties, and is more profitable than cattle at present prices, and especially so, now that farmers enjoy more reasonable freight rates. There is not the slightest complaint from farmers who are plowing up their clover fields, and sowing the winter variety that the soil will not produce wheat. Farmers in the central counties are this year experimenting on winter wheat, and whether this should prove profitable or not, the acreage of spring wheat will be largely increased until cattle take their old position, when wheat growing will be promptly relinquished for the more profitable business of growing cattle. The crop of 1889, both of winter and spring wheat, has been unusually fine.

But the most astonishing statement of President Chamberlain is that both the soil and climate of Iowa refuse to grow clover. With every available clover huller and hulling attachment running every clear day, and threshing out a crop of clover seed yielding from two to five bushels per acre, it is incredible that the president of the Iowa Agricultural College should write to the COUNTRY GENTLEMAN that clover will not grow in Iowa. It is true that clover seed has not been largely grown heretofore, for the reason that farmers prefer to use the second crop for fall and winter pastures, thus saving the labor of curing so much hay, and besides insuring a perpetual stand until the omnipresent blue-grass strangles the clover roots. Iowa clover fields of ten and twenty years old without a second sowing are not uncommon in any of the older sections of the State. Everybody seems to know this but President Chamberlain. We cut an average of two and one-half tons of hay this year from thirty acres of clover, which has never been manured with any barnyard manure or commercial fertilizers since Adam fell. The Iowa farmer who could not grow clover without 300 pounds of superphosphate to the acre, which President Chamberlain is obliged to use on his Ohio farm, would abandon his land on the first opportunity; and if an eastern loan company had a mortgage on it for four dollars per acre, it would get the land. The fact is, no farm crop comes so near being a weed in Iowa as clover. We have scattered clover haulm on wild prairie and secured a stand without plow or harrow. We have hauled manure containing clover seed on the barest and most gravelly knobs, and secured a stand without fail year after year. It grows spontaneously on the roadsides, and fights for possession with the hazel brush. Farmers on the western slope of the State where the land is new and as mellow as an ash heap, sometimes complain that they cannot get a stand; but the fact that their neighbors on the same kind of soil grow from two to three tons per acre, proves only that they have not learned how to sow it and compact the soil around it.

Compare the above facts which are matters of general knowledge among not only Iowa

interstices, and then above ground place one thick stone to receive the sills, or if you have not suitable stone saw a section from a tree of lasting wood like the black locust, and set on this great foundation. The uses to which such a building as this can be put are many, and on any farm not abundantly supplied with barn room it would pay for itself in a few years. I have lost on a single crop of wheat of 500 bushels in a wet year one-fourth enough to build such a building, and I have neighbors who have lost whole fields of clover seed worth $100 or more because they had no place to store it, and could not get a machine when it was dry enough to thresh.

This building can first be filled with wheat, and this threshed in time to put the seed clover in it; and when this is threshed, it can be filled a third time with corn fodder. If short of stabling, one section can be used as a stable for the colts or calves, and it can be arranged to put a temporary floor overhead and fill the upper part with fodder or straw. If you have no place to keep the binder, horse-rake, drill, &c., a floor can be laid seven feet above the ground, over one end of this building, and the lower part used as a store room for implements. On many farms the building would pay a fair interest on its cost for this purpose alone, for it is easy for $500 worth of implements which are left out in the weather or utilized as a hen-roost to deteriorate from such neglect to twice the amount of $13 a year, which would be legal interest on the cost of the building.

This building should be located adjoining the barnyard, so that the straw can be run into the yard and stacked, and stock turned directly from it to the yard. The farmer convenient to a saw-mill, and who has timber, can in many cases reduce the cost of the building materially by furnishing a large part of the lumber, and if he can arrange to work himself with a carpenter, the cash outlay for the work of building may be brought within $25.

Butler County, Ohio. W. F. BROWN.

Equipment for a Farm.

Eds. Country Gentleman—Will you kindly furnish an estimate of the *working capital* desirable, or at least necessary for the operation of a farm of 250 acres—all of it to be cropped in a proper rotation? This estimate need not include anything for farm itself, fencing or fertilizers, except the handling of barnyard manure. The principal object would be *milk* and *butter*, with say about 25 cows. Please particularize as to *number* of workmen during whole year, and also during busy season; number of work animals, also sheep and hogs, wagons, carts, harness; agricultural implements and names; dairy apparatus; amount also for seed and feed until one can begin to realize. *J. C. Middletown, Pa.*

The amount will depend largely on the peculiar management given to the farm, and on its fertility and fitness for certain courses. If largely in pasture and meadow, it will require much less labor than if plowed and cultivated for grain and fodder, or if either of these modes predominate. For a pasture, comparatively little labor is required; and the care of a meadow demands little else than harvesting and securing the hay. A good course would combine the two after the management was established; but it would be better to work towards the least laborious for a few of the first years. Skill would be required as the result of experience, to arrange the operations so as to employ at all times, as far as practicable, an equal amount of labor, with an aim to give winter employment to the laborers.

For a farm of the designated size, under medium arrangement and fertility, five or six good men would be needed through the season, although the required number would vary between energetic and trustworthy men and those of a slip-shod character. Two, or possibly three, would be needed in winter. At least three teams would be needed, if much of the farm was cultivated; and one additional horse would be wanted by the owner or manager for innumerable small errands and lighter tasks. Twenty-five cows, if good, would cost from eight hundred to a thousand dollars. The cost of the horses would vary too much to set a price on them.

Among the larger implements and machines, would be two wagons, one low platform wagon or buckboard, a threshing machine, a mower and reaper, and manure spreader; and among the smaller would be two cultivators, two harrows, one Acme or disc harrow and a spring-tooth harrow, three plows with one small one, hay rake for wagons, seed drill, fanning mill, stalk cutter, root slicer and horse-fork. By procuring a tread power, you could use it for grinding, cutting stalks, &c., instead of requiring a steam engine, your horses being often at sufficient leisure to do this work; or with a still cheaper lever power you could nearly accomplish the same end. Where itinerant threshing machines are common, you could avoid the cost of one during your first management.

Among the smaller tools, would be spades, shovels, forks, crowbar, chains, hand-hoes, hay knife, wheelbarrow, horse fork, horse-rake, &c., besides grain bags, steelyards, ladders, grain shovel, grindstone, curry comb, baskets, stable lantern, and other items. Not knowing your intended arrangements for the dairy, we cannot point out the required apparatus.

The cost of all the machines and implements would be not far from the following, selecting good and substantial ones, but not cheap as to be fragile, nor expensive as to exceed profit. The "larger machines" would cost about $500; the "smaller" ones $180; and the "smaller tools" would require $50 and upwards. You might place the whole list something like the following, with large variation with circumstances:

Horses, varying greatly	$700
Cows	900
Machines	500
Smaller Machines	180
Smaller tools	50
Hired men, the year	1,200
Seed, say	100
Total	$3,530

Some intelligent farmers would regard this sum as an exceedingly meagre allowance; while others would deem it extravagant. It is not given as a list composed of standard prices, but as merely a guide in making an estimate according to various prices in any particular neighborhood.

Advice to Young Farmers.

Eds. Country Gentleman—I have before me a letter from one of your readers, a young man 25 years of age. He has a wife and two children, and a brother-in-law 21 years old living with him. At present this friend lives on 15 acres of rented land, 14 miles out from a large city. But he spends his days in an office in the city, at a salary of $75 a month, including a free pass to his home and back. The brother does the farming.

Now these young men are full of pluck and determined to become farmers, and write to me for advice. The older one says: "We have no capital, very little experience, but lots of push. Our plan is to buy a little farm on monthly payments. I can keep on at work in office and pay $50 a month on the land. We can certainly get along on the other $25 and what we can make from the farm. My notion is to grow potatoes. We can sell them to the consumers in the city at the highest retail price. It is our intention to push our business, to bend all our energies to that direction and 'hustle' generally, the same as we would be compelled to do if in business in the city where competition makes one just get up and get or be closed up by his creditors."

Now I like the tone of this letter, and if good health is given them, these young men will almost surely conquer. They seem to have the right idea in regard to the way they have got to work; the only question is whether they may not get tired before they reach independence. It is a long pull. It has taken the writer just 20 years to get his farm paid for and improved to his mind, all through, including all new buildings, and to get a little money laid by for a rainy day. But truly, if I had to start over again with "no capital" I think it would be in about the same line.

Now, if I were starting where these men are I should buy about 40 acres of good land. I would pay $100 an acre for good land rather than take poor as a gift. I should try and get land that was naturally underdrained, except perhaps in some low places, but not very light or sandy land. I should divide what was cultivatable into three strips, as fast as possible, making them as long as the lay of the land would permit. As fast as practicable I would work into a three-year rotation of clover, potatoes and wheat. Treat the clover as a valued crop, encouraging it to grow thick and heavy, and keeping all stock off. The first crop might be mowed for hay, but I would leave the second to plow under for the potatoes. Just the first day that the potatoes would do to sell I would "push" a load into the city, and then I would "hustle them generally" night and day, selling them all and clearing the pieces for wheat, if possible, by the first of September. This can be done. The writer has marketed six acres in July in a city 12 miles distant before the days of machine digging. But there must be no taking no for an answer for this kind of work. When some faint hearts would say no potatoes could be sold, a pushing man may find a good market. One should always be prompt, his word (to deliver at a certain time) as good as gold, and a little more than honest. Let me explain what I mean by that. I once drew thousands of bushels of potatoes by a certain grocer's door, but although I often tried to sell to him, not a bushel would he buy. At last I caught him all out, and customers waiting for potatoes. I made a second trip to market that day (63 miles in all) to accommodate him, and then I had 61 to 63 pounds in each bushel box. My promptness and overflowing measure, which seemed to please him wonderfully, gained a customer that stood by after the temporary scarcity was over.

From my knowledge of the city I know that these friends can get larger prices for their potatoes than I ever did. The brother-in-law must run the farm and should have one good man to help him by the season. It won't do to lose that $75 a month until the farm is about paid for. One-third of that sum will hire a good man. The two brothers can spend their evenings consulting together.

I understand their lack of experience, but should think that after they had paid for the necessary horses and tools they might make enough from the farm to pay the hired man and live, thus leaving the whole $75 a month to pay on the farm. Of course this means if they are willing to live quite economically, for the time being, as they certainly should be.

After a little, experience will be gained, and they can do each year better and better. I would not advise them to buy a potato planter or digger, or other expensive machinery, at the first. When they can see their way clear to paying for them from the farm, and they have proper shelter for them when not in use, then they may buy. I would advise only the cheapest temporary buildings, if they have to build any. Such can be put up very cheaply, so as to last some fifteen years, by which time they will know better what they want, and probably be able to build something good and substantial. Money put in costly buildings has sunk many a young farmer, as well as other business men. When the writer came on to his farm he was quite inclined to build a large new barn. It was needed badly enough. Instead, however, he built large, cheap sheds around the old one, doing the work himself winters. These were made warm and comfortable, and answered very well for some seventeen years. Many a time has he felt thankful that he did just as he did. Had he borrowed the money and built the barn, it certainly would not have been such as he has built lately, and the added burden of debt would in all probability have been more than he could carry.

Were I in the place of these young men, I would risk running in debt for the land; but I would be exceedingly careful about contracting any other debts until experience had shown it would almost certainly pay to take the risk. I am particularly pleased with the last sentence quoted above from the letter of these young men—"It is our intention to push," &c. How many farmers realize how hard they would have to work in the city to make a good living, with the little capital they have? Few, I think. It would do them good to visit some city business men who are doing business on small capital, men who would tell them the truth. The writer has had this experience lately. An old friend who has been in business for forty years, and has over $50,000 invested, told me that competition was now so great that it was with difficulty that they could hold their own. (The son is now in partnership with the father.) They do not live as well as many well-to-do farmers. They told me plainly that they were obliged to economize. I doubt whether the men have had a day off from business this year. Truly, one half the world does not know how the other half lives. With an investment of perhaps $10,000 the writer has no difficulty in living fully as well as his old city friend. Our house is as well furnished and I know we have more fruit and luxuries in their season than they do. For about five months in the year we are tied up tightly and must attend right to business. The rest of the year we can be away, back and forth, as we choose, or take it very easy at home. At the end of each year we can easily withdraw from our working capital from $300 to $1,000 for outside investment. Now, mind you, this is *from the farm*. Any money received for literary work is left out of this account. Now which is the better off, my city friend or myself? Nor are these isolated cases on each side, as I could show if I had time. A lawyer in an Ohio city gave me the inside figures on his business, last winter. Although he is looked up to as a prosperous man, we have farmers in this town who are doing better right along, if they only knew it.

I hope your readers who may be somewhat discouraged with the profits of farming will not forget this statement, which I believe to be true, viz, that there is no honorable, legitimate business in the world that pays better in proportion to the brains and capital invested than farming.

I never allow a letter to go out until my partner has read it and passed judgment on it. Her comment after reading this was: "Don't you think you had better explain why you would pay $100 an acre for *good* land rather than take poor as a gift?" Yes. On good land I should expect to get about $100 an acre for the potatoes. On poor land I should look for about $40 per acre. In the former case there would be, say $60 clear profit from each acre. In the latter case there would be nothing. The good land would pay for itself in two years and then be ready to make me some money. The poor land, although costing nothing, would be a long time making me much profit. To be sure much of it can be brought up, but it takes time. Were I seeking for a farm, the other fellow could have this job and I would choose the best land to be had. T. B. Terry. *Summit County, O.*

Filling the Silo—Varieties of Corn.

Eds. Country Gentleman—I find that the capacity of my machine, a 16 inch Bailey, with two-horse tread-power, is about 40 tons a day, cut into nominally 3-inch lengths, but really into about 1¼ inches, by having the horse tread up rather smartly. My corn is the Longfellow, with the ears just beginning to glaze, and some of the smaller varieties of sweet corn, raised for seed purposes, and therefore allowed to stand until the stalks are pretty thoroughly dried. I interlayer these in the silo that they may help each other and the whole mass be fairly moist.

The sweet corn goes in with some of the smaller ears on it, and the Longfellow with all the least ripened ears, probably about a third of the crop. The practice of ensilaging all the ears, where the crop is a good one, is a wasteful process, the cows getting altogether too much grain. I kept an account year before last of how long an acre of Longfellow, ensilaged ears and all, lasted my herd, feeding them about fifty pounds a day. I found that the quantity of cars eaten averaged about eight quarts per cow. The crop was about 140 bushels of ears to the acre.

Being in doubt as to whether or not it paid to collect for the silo so small a variety as the Cory, of which I had several acres, I kept a careful account of the time taken to cut, gather, load and carry to the silo, and found the cost to be about $1.30 per ton, which, considering the little shrinkage there was to it, certainly made it a paying investment. Sweet cornstalks, though harvested when nearly dry, are relished by my cows after being silced and moistened by the greener varieties. Had I raised the large southern varieties, I should certainly have cut the stalks into less than inch lengths, but our northern field corn I find eaten nearly clean even when silced whole.

Were I raising corn solely for the silo and not for seed, I should select the Leaming in preference to all others I have thus far tested, and on my experimental grounds I have tested from one to two dozen varieties of the large southern and western varieties yearly for many years past. Some varieties grew considerably taller (one received from Florida set its lowest ear just ten feet from the ground by actual measure), others grew more leaves, but when grain and stalks together are considered, I have found no variety so valuable to this latitude as the Leaming. Now as to raising sweet corn for the silo, what do we gain by the fact that when in a green state it is sweeter than the yellow varieties, for as soon as they undergo a change in the silo this sweetness turns into acid, and the greater the sweetness the greater the acid. Were I raising fodder for

drying, I should then prefer the sweet varieties. I use such in my own silo because raising many acres for seed purposes, this is the best way I can utilize them. J. J. H. GREGORY.
Marblehead, Mass.

Southwestern Michigan.

OCTOBER FROSTS—ARID SURFACES AND RAINFALL—LIGHT WEIGHTS IN WHEAT GRINDING—A HORSE FAIR.

EDS. COUNTRY GENTLEMAN:—The month of October has come in dry, and on the morning of the 6th the severest freeze of the season occurred, followed on the 7th by another, which varied in intensity in different parts of the State. Here it was less cold by several degrees, while at Lansing the thermometer marked 20°—the same degree of cold we experienced the previous night. The air was very still, so that low ground felt the pinch much more than elevated locations. The leaves on the trees, and apples still hanging, were not badly frozen—the latter, I think, not affected at all. The maple leaves are still green, and now just changing into autumn tints, while we supposed they would all fall and deny us that coloring to the landscape which is looked upon as a distinctive feature of our October days.

Wheat is making a moderate growth with us, while in the eastern two-thirds of the State it scarcely shows above the soil, owing to the continued drouth which has afflicted that portion during the last half of the growing season. The rain charts of the State for August and September show very clearly where to look for corn and potatoes. Fifty to seventy-five miles bordering Lake Michigan—a strip running north and south the length of the State—was favored during three months with nearly five inches of rain, while farther inland, and reaching over into Canada, the arid condition prevails, similar to last year, and some say worse. We are beginning to feel that the lake exerts a modifying influence on the upper forces of the atmosphere, to compel tardy showers, while this compelling force is lost farther away.

It is quite generally believed now that an arid surface is of itself sufficient cause for a continuance of those conditions. A glance at modern rain charts confirms this impression. The area is elliptical, conforming to the direction of the prevailing currents of wind. There are occasionally little oases of precipitation near the centre—a futile attempt of the clouds to overcome the strong opposition arising from the parched ground. Along the borders of this dry area, the rains of the more favored regions vanish to a trace, the clouds are dispersed, and the indications of rain have come to naught. These areas constantly widen during the summer and early fall, and contract as the changing season brings conditions of temperature favorable to rain, until the parched surface can no longer withstand the gathering clouds, and a general rain brings these dry areas again under the control of uniform laws.

Outside of the strip of watered land above alluded to, the corn was generally cut before the frost of Sept. 23d, but many of our fields were uncut and as green as in July, when the first frost came. Some late corn was not fully matured, but on warm upland the yield and quality will be excellent. Seed corn may another season be again a scarce commodity, and it behooves those who have sound corn to lay by sufficient for the possible emergency.

Farmers are marketing their wheat less freely than usual. There is much complaint with the millers about light weight, so that there is usually some discussion between the miller and the farmer when the former allows only 33 lbs. of flour for 60 lbs. of wheat. The question as to the other six or eight pounds breeds ill feeling. The custom heretofore has been to give 38 lbs. of flour, 19 lbs. of bran and 2 lbs. of middlings, for well-cleaned wheat, with quite a margin below that for the miller's estimate of what he considered waste in the grist. This maximum quantity still leaves 2 lbs. of wheat unaccounted for, aside from the legal toll of 6 lbs., or one-tenth, for bolted grain. The farmer did not grumble much when told that quite a per cent. of the loss was in dust and moisture, although it was not quite clear about dust, when there was a dust-bin in the mill on purpose for collecting it, which materialized again in second-class flour or feed. A moderate pressure on the thumb-screws may be submitted to, but an extra hard turn instigates vigorous kicking.

A horse fair is now in progress at Paw Paw the county seat, with good weather and a larg attendance. A feature of this fair, likely t grow into some importance, is the sale depart ment. Persons having horses or other animal for sale, pay 25 cents entrance fee, and ar allowed to sell at auction or otherwise in tha department. The Cleveland Bay Horse Com pany own the grounds and provide the stalls and the largest exhibition of horses ever shown in the county is in progress, with assurance o a profitable attendance. The "county fair," as an institution, suffered the decline commo to such enterprises. District fairs and exposi tions absorbed the interest, and the educationa feature, once so popular and efficient, ceased to influence the attendance. Some sensationa spectacle, or the presence of some popula personage, was required at last to draw an at tendance sufficient to pay expenses. Th grounds were sold to the above company, an now, in its second year, the "horse fair" seem to be the winning card. A. C. GLIDDEN.
Van Buren County, Oct. 11.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Oct. 16.

For three weeks we have had north winds south winds, August heat and November cold clouds and sunshine; hoar frosts and blac freezes, fog and haze, clear weather and cloudy but no rain. These features of the weathe are excellent for the drying out of the cor crop, favorable for out-door work, good road and easy hauling; hard on the wheat, an harder still on the farmers who, in addition t the usual fall work, have to fetch water mile or two from the creek, or drive stock to i

Just now it appears everybody is going int sheep and going out of cattle, because shee for several years have paid big money, while o stock bigger money has been lost. A contrar course should be adopted, and will be li those who correctly read the signs of the time on the horizon of the future.

To give something near a notion of what ha been lost on feeding steers for the last thre or four years, I report sales of two lots of ex port steers in Champaign county, at 4½c. pe lb., live weight; the 400 of one party, weigh ing an average of 1680 lbs., and being 4 year old, and the other, a lot of 105, weighing 16 lbs. average, and three years old. The feed ers, who are both large landed proprietors calculated they got 10c. a bushel for the cor fed, and how much for pasturage. I do no know that they made an estimate upon. Fou and a half cents, live weight, for export steer weighing between 1600 and 1700 lbs., is a pric below anything since 1860, or thereabout, an is probably near, or at the bottom. The pas season has been a favorable one for feedin where the range has been sufficient and th corn unlimited, and the export steers an Christmas beef of the fall and winter of 18 are almost certain to be superior. For two o three days a very high barometer (30.70) tel us we are under the pressure of some extr miles of atmosphere beyond the normal of 2 inches. S. F. J.

From Eastern Wisconsin.

EDS. COUNTRY GENTLEMAN:—As we have ha no rain since Sept. 4, I have delayed writing hoping to report rain and a better state o things. The ground has become so dry an parched that plowing is almost impossible, an turning tame sod quite so. Many farmers hav laid aside their plows and gone about othe work preparing for winter. Wells are begi ning to fail; fall feed is all cropped to th ground, and thus early many have been com pelled to feed horn cattle and horses. Yeste day morning the wind blew damp from th northeast, dark banks formed in the west, an all were elated at the prospect of rain, but b ten o'clock the clouds had vanished, and th sun came out bright, though the wind con tinued to blow from the northeast, cold an cutting. It became much drier as the day wa spent, and was more comfortable by evening To-day (13th) the wind is still blowing dry fro same direction, and quite cool.

Husking is going forward very rapidly, th crop is much better than was expected, an much better than was thought possible in Jun and July. The stalks are so dry there is som waste, as they seem to some extent to grind t powder. Corn was cut up rather green to sav it from early frosts, and those who neglecte to do so had it badly damaged. The husk are very thick and lie close to the ears, whic makes slow husking. I counted eight laye

Horticultural Department.

Horticulture in Maine.

The published proceedings of the Maine State Pomological Society, for 1868-9, contain many interesting facts and statements, the substance of some of which we give here in condensed form:

Black Knot on the plum, according to the statement of Prof. S. T. Maynard, may be destroyed with a mixture of linseed oil, turpentine and kerosene. The kerosene must be used with care, for if allowed to spread over the branch it will destroy it. Linseed oil alone, if applied two or three times, answers the same purpose, but the turpentine and kerosene make it prompt and efficient. Kerosene is more apt to run and do harm. The time is when the knot begins to make its appearance early in summer and afterwards.

For the *Apple Scab*, no remedy had yet been found. So far as we are aware, the best way is to plant those varieties most free from its attacks. Sulphate of copper is recommended for trial.

The *Peach Grub*, commonly called the peach borer, had been destroyed, according to J. H. Hale, with caustic potash made into a strong lye with the addition of lime and carbolic acid, to which a little arsenic is added, and sometimes a little clay to make it adhere to the tree. The earth is drawn away from the foot of the tree, and the mixture is applied with a swab. Mr. Hale asserted that of a hundred thus treated, not one was ever attacked by the borer. Of the untreated trees, not one in a hundred escaped. This remedy costs much less labor than the old and efficient one of digging out with the point of a knife. The work is done early in May, and the mixture should be nearly as thick as paste. Mr. Dunbar had tried this remedy with success, not one tree in twenty five being attacked where the wash was applied.

Borers.—Prof. Maynard states that to detect the presence of the round-headed borer in the wood of apple trees, the rough bark should be scraped off two or three days before the examination is made, when the chips thrown out of the holes will be easily seen. The point of a knife or a flexible wire will destroy them. The Report represents Prof. M. as stating that the flat-headed borer belongs to the snapping-beetle family (instead of the *Buprestidæ*.) This mistake is not made by Prof. Harvey of the Experiment Station, p. 119, and we think the reporter of the Pomological meeting must have misunderstood Prof. Maynard and reported him erroneously. The Buprestis family generally are wood-borers; the Elaters or snapping beetle or wire worm family are found in decaying wood, bark, the roots of grass, corn, potatoes and other vegetables.

Apple Ladder.—J. W. True describes a light and useful apple ladder, quickly made, and easily handled by men of light stature, like himself. It is made of two spruce poles two inches in diameter and fourteen feet long. They are slightly spotted or cut on one side. The rounds are nailed with two clinch nails at each place, and the ladder is made. The poles being round are strong. This is the favorite ladder with his men.

The Way to Sell Fruit.—J. H. Hale mentions an incident which has some instruction in it. He visited the markets in Illinois. At one place he saw a truck load come in, and the proprietor directed them to be placed in the back part of the store. Several buyers came in and asked the price. He answered, "Ten cents." They would take three or four or a dozen crates, and soon all of them were sold. Not one of them was opened. Mr. Hale inquired of the proprietor why he did not open those crates. He answered: "Do you see that name on the top of the crate? *That sells the berry!* He is a man who has made his reputation in this market; we know that everything which comes from his place is carefully selected, packed honestly, boxes new and clean and packed full, and when they are nailed up we will not open them for any man in Chicago."

Planting Strawberries.—Mr. Hale gives in substance the following directions: Land which has been in cultivation a year or two is best. Plow this early in spring as deep as possible; then harrow it over and over until a perfect seed-bed is formed. Very thorough preparation of this kind will show itself in ease of cultivation later in the season. I tell my man to harrow it over and over, until they think they have done it thoroughly, and then harrow just as much more. I never had it overdone. I never knew a farm crop to be ruined by over-preparation.

How Florists Grow Flowers.

The way in which the New-York commercial florists manage their plants is not only the most successful but also the easiest and simplest. There is such an enormous quantity of flowers grown around New-York that only those florists who grow the very best flowers and with the least expense can make a living at all at the business. Perhaps a few notes about the way these florists treat their plants may be suggestive to your readers in the management of their house plants.

The greenhouses are mostly span-roofed and hip-roofed, and with the broad side facing south. They are usually built of wood, and of such size and height as to best accommodate the plants meant to be grown in them, so as to have the plants as near the glass as possible, and at the same time give them plenty of head-room. The greenhouses instead of being divided into several compartments, or built in fanciful shapes, or scattered about the place, as is the case generally with those in private gardens, are erected in one compact group with the several houses running parallel to and close beside each other, and each house is devoted to one particular class of plants, and all open into a long shed built along the north end of the houses. In such an arrangement there are no undue bends or dips or rises or other perplexity in the heating pipes, for the flow is straight and unchecked from one end of the house to the other, and this means an immense saving in labor and fuel over that expended in the nonsensical architectural "beauties" of many private greenhouses. And the working, as bench-making and filling, potting, watering, flower-gathering and packing, stoking and the like can all be done without going out of doors, and what a comfort and convenience this is!

In country places the florists can get plenty of fresh soil, but in suburban and city greenhouses, this is a hard matter. The way these florists do is to spread out their old soil along the roadside and leave it there for a couple of years, then bring it in again and use it. The richness of this soil by the wayside becomes a happy home for grass and weeds which soon divest it of sourness and noxious matter, and by the end of the second year it is a sweet friable earth full of fibre. When composted, fresh but well rotted manure is added to it. For roses, if at all practicable, fresh pasture loam is desired so as to get rid of the rose grub.

A plentiful supply of water is of vital importance to the florist; he cannot afford to bother with a pump or a well. In the absence of reservoir water a windmill and tank are an absolute necessity. And he does all his watering with a hose, unless it be a few odds and ends of things and cuttings and seeds.

The florists do not grow a little of everything; they confine themselves to a few things which they prove most successful in growing, for which their soil and houses are best adapted, and for which there is the best market. For instance, one florist will throw his main strength into roses, another into carnations, another into violets, another into palms and another into bedding plants and so on, but all have to grow a sufficient variety of plants to justify a full succession and occupancy of their greenhouses all through the season. Such successions may include roses all the time, carnations in quantity from September till March, chrysanthemums in November, stevias in November and December, poinsettias in December, callas from November till April, bulbs in variety from November till May, and so on. And some florists are specialists with certain flowers—to wit, orchids, or pond lilies.

Florists do not like old plants. They much prefer to raise a fresh stock every year of chrysanthemums, stevias, bouvardias, carnations, tea roses, violets and the like, also bedding plants; and although they raise annual batches of poinsettias and bouvardias, these are also good enough when two years old. And in order to lessen labor and secure a healthy growth in their stock, they plant out in the open ground in summer all stock that experience has taught them are benefited by such treatment; violets, carnations and bouvardias are included among these, and most all soft-wooded plants for stock purposes are planted out. Callas are rested in a dry state in summer, and poinsettias and heliotropes are grown in pots in summer, because when planted out their tendency to over-luxuriance causes them to wilt badly, or become a good deal defoliated after being lifted. Where hardy perennials or shrubs are largely used for forcing, the great points to be observed are to get these to complete their growth as early in the season as possible, have them well rooted, prevent a second growth in the fall, and give them a thorough and long rest.

Carnations, violets, tea roses, bouvardias, smilax, and climbing fern and asparagus, are planted out in beds; so sometimes, too, are poinsettias, but in order to check over-luxuriance of foliage at the expense of flowers, callas are kept in pots.

Many plants receive different treatment at the hands of different florists, but one thing is observable everywhere—namely, the total absence of empty space in the greenhouses; succession crops are being got ready long before the waning crops are removed. The florists bestow much importance upon getting in their plants early in the fall, and before the cool nights of September set in; a check to the plants is sedulously guarded against.

Glen Cove, L. I. WM. FALCONER.

Black-Knot on the Plum—The Curculio.

EDS. COUNTRY GENTLEMAN—Since my Lombard and Bradshaw plum trees were planted in the spring of 1863, this is the first year in which they have shed their leaves prematurely, but some Reine Claudes planted last year have done so both this autumn and last. Although I know the delay is considered dangerous, I do not make a thorough examination for black-knot until the trees are nearly bare, as it is such a difficult matter, requiring some time to detect small excrescences when the leaves are on the trees. I have kept a record of the number of knots discovered and removed each fall (with the exception of 1883, when I failed to examine) since the trees were planted, a copy of which I give below:

	1884.	1885.	1886.	1887.	1888.	1889.
40 Lombard trees,	11	14	6	2	1	1
15 Bradshaw	2	4	1	—	—	—
15 Reine Claude...	—	—	—	—	5	7

Only on one Lombard, in 1884, did I find two specimens on the same tree, and the majority of the knots on the Lombards were taken from ten trees growing on a piece of made ground—a low spot which was filled up with loam when the house cellar was dug out—whose growth has been much more vigorous than any of the rest, although every tree is thrifty, with smooth bark and handsome general appearance. The other cases of all varieties were dispersed—that is, were each separated by one or more trees, in some instances by a dozen, showing the spores must be conveyed considerable distances. In three cases, all Lombards, knots were found on the same trees for two successive years, one of which was the Lombard mentioned above as having two specimens the same year; this particular tree has grown rampantly, growing less fruit than the others, but of larger size. The black-knot attacked, almost uniformly, the largest and thriftiest trees, and the spores seem to prefer the smaller, younger branches, as I have been able to cut off every one with a pair of ordinary pruning scissors. Thirty-three of the Lombards, with all the Bradshaws, stand in one row, and the other seven Lombards at an interval of two rods, in an adjoining one of cherries. The Reine Claudes are scattered among the peach and pear rows, as I intend to fill up any vacancies that occur therein with plums, certainly in the case of peaches which, probably owing to my lack of knowledge of treatment, with me are a failure. Yet nearly half of the Reine Claudes, distributed as they are, are affected with black-knot this year; this would appear to show that young trees are more liable to attack than older ones, as the Lombards and Bradshaws showed similar results in 1884 and 1885. So far I have failed to find a single knot on my May Duke, Napoleon and other cherries. I examine the plum trees thoroughly two or three times every fall (casually at other times), and do not believe I leave a solitary black-knot fungus on them to develop and spread spores during the winter, while every infested branch, on detection, is cut off several inches below the seat of disease and forthwith carried to the kitchen stove where the process of incineration is watched with savage delight. None of the knots removed had the black, bulbous appearance of old knots.

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the tree; these, with a smal
the mallet with, complete th
strike more branches high
strokes only are required
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citates bigger tools and he
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ing is certainly the time
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appear to occupy at night,
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The Lombard makes a
plum, and were it not for
I should say as profitable
grown. The Bradshaw bea
some fruit but, with me, w
coming into bearing, and d
be nearly so heavy a bearer

Monroe Co., N. Y., Oct. 14.

Mulching Lawns.—Th
of disposing of the short g
such use of the lawn mow
mode is to let it drop on
cut. The English practic
and carry it off, for which
or reservoir is attached to t
which the grass drops as
English writer, speaking
says that when the mach
scattered on the lawn, it
and prevents the lawn fro
and dried. "On a lawn
mode is and has been p
years, the grass has retaine
verdure; while in the la
nearly dried up. The gr

often that the mowings will fall between the standing blades, out of sight. They prevent the ground from losing its moisture by evaporation, and maintain or increase its fertility." It is more important, under our hot suns, to retain this mulch than under the more moist skies of England.

Mushrooms in the Open Air.

I have previously reported some limited experiments in growing mushrooms in open fields. In September, 1888, a brick of the spawn was planted in a field of rich pasture land, the operation being the simple act of raising the sod with a spade, dropping into the cavity a piece of the spawn as large as a walnut and pressing the sod back again. Seeing nothing of mushrooms in the spring of 1889, late in June I made a second experiment with the mycelium of a different character, obtained from the famous seed house of Madame Vilmorin, Paris, France.

The patch, a few rods square, after planting as above, was covered with five or six inches of good cow manure. Heavy rain fell after the planting and the soil was saturated. Sometime in July when the blue-grass had come forward and covered the surface with a thick mass of vegetation, it was mown and carried off, leaving the naked sward exposed.

During the summer and September I watched both fields closely, but saw no signs of mushrooms and had pretty nearly given up the experiment as a failure, either from imperfect spawn or improper method of handling—and thinking perhaps drouth and heat had interfered in the business—when on the morning of the second of October, I was rewarded by the sight of my first mushroom on the field planted in 1888. At first I thought it to be the ordinary puff ball—so round, white and large was it—two inches in diameter at least in the button form. The following day I gathered seven more close by, two-thirds the size of the first, but none since. I may say a few days previous to the date named, there had been a light rain, a day temperature between 65° and 75°, a moist atmosphere and a low barometer. When these weather conditions return, I shall look for more and not till then, and none from the second sown piece before the spring of 1890.

From my experience so far, I conclude that the spawn or the germ of the mushroom *Agaricus campestris* and *A. edulis*, once in rich soil, resists for months high or low temperature, drouth and saturation; but the mycelium does not develop into the perfect mushroom that pushes above ground, except under certain soil and weather conditions of heat, moisture, and temperature sustained for some days between 60° and 75° Fahr. Days with these characteristics are most apt to occur in May and October for these latitudes and sometimes in unusually cool seasons, in the summer months.

Judging from what I have observed so far, I conclude there is no difficulty in growing mushrooms on land as rich in nitrogen and the phosphates as the black soil prairie, but the intense features of the climate so much restrict the season of harvest and sometimes abolish altogether that the crop must needs be a precarious one. Let me add in conclusion, that I forgot or neglected in both cases when planting to fertilize and reinforce each piece of spawn with, say a teaspoonful of nitrate of potash, as a complement to the soil which Baron Hooghvorts, a Belgian specialist in mushroom culture, regards as essential to success.

Champaign, Ill. S. F. J.

A Fine Pear.—Mr. Riehl stated at a recent meeting that the Garber pear has all the good bearing qualities of the Keiffer, is much handsomer, and much more palatable. It is a rich golden yellow with a red cheek, and is the handsomest pear he knows—better than Clapp.

The Poultry-Yard.

Origin and Varieties of the Turkey.

The exact origin of the modern domestic turkey has been a matter that has excited considerable discussion both among European and American naturalists.

Mr. Tegetmeier in his poultry book says: "If there is one fact more clearly ascertained respecting the domestic turkey than another, it is that it is certainly not descended from the common wild American species, as is generally stated by the compilers of the greater number of our works on poultry."

Prof. Spencer Baird in his work on the birds of North America says: "The wild turkey of Eastern North America differs in several points, both in structure and manners, from the domesticated birds; the latter possess a large dewlap, extending from the base of the lower jaw to the large caruncle on the lower part of the neck. The domestic turkey, even those showing the closest resemblance to the wild birds, may always be distinguished by a whitish tip to the tail, and by the tail coverts being edged with whitish which is never seen in the wild bird. Again, the wild turkey is stated never to have been so domesticated as to breed in confinement, notwithstanding the repeated efforts made to accomplish this result; again, the difference of the color of the flesh in the two birds is considerable, that of the wild bird being much darker. On the whole it is exceedingly probable that the two birds are specifically distinct." In explanation of this conclusion, Prof. Baird adds: "In addition to the three well known species of *meleagris*, namely *M. ocellata* from Central America; *M. Americana* the wild American species; and *M. Mexicana* the Mexican species, there originally existed a distinct breed, the original of our domesticated breed; that this was indigenous to the West India Islands, and was transplanted as tamed to Mexico, and from thence taken to Europe in 1520; and that ultimately the wild original was exterminated by the natives, and no longer exists in the wild state. This hypothesis will explain the fact of our nowhere meeting with any wild turkeys of the present day, closely resembling the present breed.

While these usually accurate authorities concur in their inferences, Mr. Tegetmeier following Mr. Baird, there is, on the other hand, ample reason for believing, in common with other eminent authorities, that the domestic turkey is the descendant or cousin-german of the wild species. The line of argument pursued by Prof. Baird in support of his deductions is purely inferential, and the facts that he calls to his aid are capable of rational explanation. Mr. Darwin and other investigators in the field of nature have clearly established the tendency to certain variations, even among wild animals and birds, and this tendency might easily explain the difference in the fleshy substance on the lower mandible, and the white edging upon some of the feathers. The further statement that the wild turkey will not breed in confinement is not supported by the facts, as numerous instances can be cited where they have been known to intermingle with the tame turkeys around farmyards, and to breed *inter se* and with the tame variety. The product of this cross is also fertile, which is a strong proof that they belong to the same species. So far as the difference in the color of the flesh is concerned that is readily accounted for, the flesh of all game birds being darker than the domesticated species, probably due to the difference in the food upon which they subsist. So that all things considered we are justified in assuming that the domestic turkey originated from the wild species. The resemblances between the two are much greater than the differences, and their ready domestication, assimilation and fertility together go to establish the fact.

The wild turkey of America is generally uniform in color and markings, being mostly black, variegated with bronze, green and purple. The quills are tipped with white, and on the breast of the male birds is a tuft of coarse, black hair, or something resembling hair, eight inches long. There is the same caruncled head and neck as that of the tame turkey, and the same appendage over the beak susceptible of being dilated. The hens are very wily in selecting and guarding their nests, seldom approaching them from the same direction, and keeping silence, evidently fearing the destruction of the eggs by the male bird. When the young are hatched they are led carefully in dry places to obtain food, and are protected from the rain and dew until the plumage is grown. They were found wild in the forests by the first settlers, living on the mast, insects, and the first green food found on the plains and borders of streams. They are still found in considerable numbers in the wilder and more mountainous sections of the United States. According to the tale told by one of our early historians, they were considered a great luxury by the primitive occupants of the land. One of them says, in writing home: "The woods abound in large birds, less in size than the ostrich, but more useful, furnishing the most tender and nutritious food. And these birds go in large flocks, walking leisurely, led by the largest and strongest males, who, on sight of the hunter or any probable enemy, lift their heads high above the ground, stretching their necks and calling, near as I can make it, 'Gobble, gobble, gobble, gobble.' These are truly wonderful birds. The Indians capture them and are proud of the game. They are well adapted to the white man's use, as they are readily brought into a tame condition by taking them when very young, though it is better to raise them from eggs found among the leaves and bushes."

Turkeys were imported into England in the time of Sebastian Cabot, and during the time of George III were very numerous in Windsor forest. The first turkey served up in France is said to have been in 1564, on the occasion of the wedding feast of Charles IX.

With regard to the varieties into which the domestic turkey has become divided but little need be said. Having sprung from the same ancestors but little actual variation has occurred, except in color and size. The chief varieties recognized at the present day are the Bronze, Narragansett, Black, Buff, Slate, Red, Yellow and White. The last six differ but little from each other except in leg and feather coloring, and need no specific description. The two most popular and larger strains are the Bronze and Narragansett, to which we will devote a little space.

The Narragansett turkey derives its name from the locality in which it originated, embracing Rhode-Island and the eastern portion of Connecticut. It is still extensively reared in the counties of Washington and Kent in Rhode-Island, and in Windham, Tolland, New-London and Middlesex counties, Conn. They are noted for their large size, strength and hardihood, and are as easily reared as any breed of turkeys known. They are grayish-black in color, the plumage on neck, back, breast and body being metallic-black, each feather having a light gray band near the end. The wing, plumage, primaries and secondaries also are crossed with white or gray bars. The average weight of the early hatched birds will reach 18 or 15 lbs., when fattened and dressed for market.

Probably the most popular variety of the turkey family now bred in the United States is the Bronze. This variety is chiefly remarkable for great size and hardihood, bearing the rigors of the coldest winters with impunity. Much of its value is derived from the fact that it is the result of a recent introduction of the wild turkey cross with the domestic, and from time to time similar blood is infused into it from the same source, thus maintaining its strength, size and powers of endurance. The base of the feathers of the body, which are truncated, consists of dark, slate-colored down; this part of the feather is succeeded by a darkish portion, which is again followed by a broad, metallic band, varying from copper-color or bronze to burnished gold, according to the light—the tip being a black, velvety band. The general plumage presents a metallic lustre. The general color of the tail feathers is brown mottled with black, with a broad, black band near the tip, then a short mottled portion, and lastly, a broad whitish band. The legs are red, and beak a dark horn color, growing into yellow toward the tip. These birds are said not to wander as much as the ordinary variety. They grow to an immense size, often reaching 30 to 40 lbs. in weight, and are highly esteemed for the succulent and tasteful character of their flesh.

Newark, N. J. C. E. WESTBROOK.

The Season's Work.

In looking back over the season's work in the poultry yard, there are certain facts which impress themselves upon my mind as being worthy of remembrance. One is, that it pays to invest in good pure breeding stock. You can then calculate almost to a certainty what results to expect; a Plymouth Rock hen, for instance, when properly cared for, will sit at the proper time in the spring, and if permitted will continue to raise chicks straight along until frost; while, with the exception of the severe cold weather, a pure bred Leghorn will lay eggs as long as there is breath in her perfect little body.

It pays to keep young chicks in a vigorous growing condition; they are less liable to disease, the young cockerels are ready for the market earlier and can thus be gotten out of the way, while the pullets acquire strong healthy physiques and make profitable hens.

If you want your chicks to grow off strong and healthy from the start, feed them until one month old all the cooked food they will eat, then give them two good meals a day of half grain and half soft food, and compel them to take a wide range and scratch between times. If they are protected from the dew and rain, and their bodies kept free from parasites they will not be troubled with gapes or any disease whatever, provided always that their quarters are kept clean and wholesome, and the parent stock is strong, healthy and vigorous. Should a few cases of gapes appear, as will sometimes happen even with the best of management, kill the ones worst affected and for a week following season the evening meal for the remainder of the flock with a few drops of turpentine.

Good milk, either sweet or sour, is wholesome for fowls of all ages, and during all seasons of the year. When given liberally it will largely take the place of meat, promote rapid growth in chicks, increase the egg-production of laying hens, and give to the flesh of fattening fowls a certain tender juiciness and a most tempting white color. Judging from several years' experience, I am of the firm belief that a flock of chickens properly cared for will never have cholera as an epidemic. A sporadic case may appear, but when removed from the flock the others are not liable to become affected, and if the sick fowl be taken in time a cure may frequently be effected by administering some good anti-bilious medicine, limiting its diet to sour bread moistened with sweet milk, and seasoned with black pepper and mutton suet. With this treatment I have seen a bad case cured promptly. When dust baths are kept within reach healthy fowls are not apt to be troubled with vermin during the day. These lodge upon the wood work near the roosting places, and come out and prey upon the fowls at night. They are best destroyed by the application of a thick whitewash made of fresh lime and strongly tinctured with crude carbolic acid, which seems to be especially obnoxious to all insect life. To be effective, this mixture should be applied to every crack and crevice, and must be used as often as the insects reappear; before applying it, however, the whole house should be thoroughly swept and dusted, and fresh earth sprinkled on the floor.

Chickens are so fond of lime and sand in the proportion commonly used for plastering, that it is a good idea to make up a lot now and then for their benefit. It may be mixed in a box in their yard and left there ready for them as they require it. This is preferable, I think, to putting sand in their food as some poultry keepers advise. Pure lime is too caustic; for soft-shelled eggs, make lime water and put a small quantity in their soft food once a day, one gill to a meal for 200 fowls being amply sufficient. The moderate use of lime water in their food or drink is also good for their general health; it cleanses and purifies the system and is a corrective of superabundant acidity, the principal cause of disordered bowels.

While over feeding is always dangerous, yet experience teaches that it pays to feed poultry liberally at every season of the year; there is always some special purpose to be attained. In the latter part of summer and early fall there is the moulting season to be well-tided over, then the fall and winter eggs, after which come spring chicks, and so on. Just enough food to keep the flock alive affords no material either for growth or eggs—it is the surplus that brings in the profit. Neglect does not pay at any time, either in regard to cleanliness, sanitary arrangements, or in providing for them a judicious variety of suitable foods.

My neighbors sometimes complain that a flock of hens of a breed whose characteristics have been developed in a certain direction, have failed to support their reputation, and I know at once that the fault lies with the owner. If a fowl is worth keeping at all it is worth keeping well, and it pays to study its nature and find out the conditions under which it will do its best work.

A FARMER'S DAUGHTER.

Location has much to do with the production of first-class fowls. It is certainly true that fowls thrive best in high and dry localities, with sandy or gravelly soil. In a heavier, clayey soil they grow slower, and their feathers never look so nicely. More care is necessary to keep them in health where the soil is damp. In such places coarse sand or gravel ought to be spread over the yards once or twice a year.—*American Poultry Yard.*

New Advertisements.

Allen, Charles L.	Golden Queen Raspberry.
Aldrich, O. H.	Hampshire-Down Sheep.
Angell, Jr., Aug.	English Pug Pups.
Butterfield, J. F.	Ayrshires.
Breese, H. G.	Nursery Stock, Bulbs, &c.
Barnes, C. M.	Cheap Farms.
Curtis, M. D., J. M.	Sow of Holstein-Friesians.
Chriswell, A. G.	Jerseys.
Davis, O. L. & A. G.	Jersey Bull Calf.
Dennis, Martin	Poland-China.
Dicks, C. W. H.	Jersey Bull Calf.
Ely, L. D.	Ayrshires.
do.	Jersey Bulls and Bull Calf.
Hagaman Mfg. Corpor'n.	Clark's Root-Cutter.
Ham, Eugene	Hampshire-Down Sheep.
do. do.	Guernseys.
Harding, Smith	Poland-Chinas.
Holly Grove Farm	Jersey Bulls & Berkshires.
Grover, Edward A.	Bull Calf.
Genang'a River St'k Farm,	Merino Rams.
Gardiner, John G.	Mt. Hamburgh Grapevines.
Hazbrouck, Ira H.	Duroc-Jersey Swine.
Hart, Lottchen E.	Jersey Bull Calf.
Hagen, Wm.	Silkstitch Wrenches.
McDonald, Daniel	Cotswolds.
Mann, J. A.	Rape Wrenches.
Mather, L. C.	Ayrshire Bull Calves.
Powell	Jersey Bull.
Sunny Brae Stock Farm,	Jersey Bull Calf.
Swift, W. E.	Jersey Heifers and Trotters.
Stevens & Son, A. W.	Portable Mills, &c.
Tuttle & Co.	Piles Cure.
Stone, F. W.	Public Sale of Stock.
Stevens, W. G.	Estate for Sale.
"The Trade"	"Canning Factories."
White, Hugh L.	Ponies.
Woodruff, M. W.	Sulky Plow.

Pamphlets, &c., Received.

GARRARD, W. C., Sec'y State Board of Agriculture, Springfield, Ill. Invitation to Fat Stock, Poultry and Dairy Show at Chicago, Nov. 13-21.

HOLLOWAY, THOS. W., Sec'y State Agricultural and Mechanical Society, Pomaria, S. C. Invitation to 21st Fair, at Columbia, Nov. 11-15.

HOOPER, HERMAN, Philadelphia, Pa. Circular of Oakdale Jerseys.

INCANDESCENT LAMP CO., Tremont Hotel, Grand Forks, North Dak. Illustrated Circular.

KELLOGG'S ROYAL SALT CO., 261 W. 11th St., New-York Circular.

MCGREGOR BROS., Springfield, O. Show-Bill of Jerseys to be sold, Oct. 24.

SHARP, Dr. A. P., 1105 St. Paul St., Baltimore, Md. "The Climate of the Eastern Shore of Maryland," by Dr. C. W. Chancellor, pp. 105—32c.

TWEDDLE, JOS., Stony Creek, Ont. Grapevine List.

WELLS, ROLLA, Sec'y St. Louis Fair Association, St. Louis, Mo. Invitation to 19th Fair, Oct. 7-12.

Inquiries and Answers.

Storing Green Fodder.—I have lately read in one of our best papers, I guess from a correspondent, that he stores his corn fodder in the barn, by allowing it first to dry three or four days. He piles it up in the bay, in the old fashioned way, before silos were thought of. He sows the large southern sort, planted about a foot apart in the row. A pail of salt is put on a load; no weight or cover. There was no sign of excessive heat; it was in good condition months afterwards—as good as in any silo. How do you explain this—and why not adopt this way, instead of building silos? J. S. L. [The large southern corn, planted in wide rows a foot apart, would grow into very large stalks on rich land; and when dried a few days under a continued hot sun would become much wilted. The large stalks, like the brush in cord-wood, would not lie very flat, and would not generate enough heat by fermentation to spoil the fodder, the salt assisting. This is proved by the fact, generally known to farmers, that common or small corn, if sown thick for fodder, cannot be piled in a stack or mow, even after drying several days, without causing hot fermentation and steaming. It should also be remembered that green fodder may be placed in the silo the same hour that it is cut; and that it does not occupy a fifth of the space required for storing in a mow. No—the silo is not yet quite superseded. The coarse stalks, not cut fine, would be coarse feed for the cows.]

Home-Made Fertilizers.—I see some notice of home-made commercial fertilizers—would you advise the manufacture of them instead of buying those already made? INQUIRER. [It will depend on circumstances. If you are near enough to commercial centres to purchase conveniently the raw materials, have good mixing apparatus, and know what fertilizers are adapted to your particular soils, you may manufacture your own fertilizers to advantage. It will be important to know by experience something of the amount of benefit which you may expect from the particular ingredients which you work with. But there is also a special advantage in purchasing of reliable manufacturers, provided you know that you get the kind fitted to your wants. They have facilities for fine pulverization and thorough intermixture at less expense than it will cost you. They must then add for their profits, cost of mixing, freight and advertising. Finely mixed materials are much better than if in coarse lumps. In purchasing materials, a knowledge of them, the source of supply, as well as the standard price, is important. On the whole, when but moderate quantities are to be used, we would not advise individuals to undertake mixing their own fertilizers, unless they had previously enjoyed special opportunities for acquiring some knowledge of the details.]

Vinegar—Mangolds.—Has vinegar mother any value when taken from the vinegar barrel and put in the hard-cider cask? (1) What is the best way of storing 400 bushels of mangel wurzels? How late should they be left in the ground? (2) J. B. Nassau, N. Y. [1. Can any of our readers state the amount or degree of benefit from the use of vinegar mother immersed in old cider for turning it to vinegar? 2. Mangel wurzels are spoiled by freezing, and they should be gathered before the prevalence of a continued sharp frost, usually at the North early in November. In the absence of cellar room (which is best) they may be stored in heaps or shallow pits covered with eight or ten inches of compact straw, and six inches of earth beaten smooth; and ventilation should be provided at the apex of the heap, by crowbar holes loosely filled with wisps of straw.]

Corn Fodder.—I think Mr. Stahl (page 765) has laid down too stiff a rule, when he objects to all fodder remaining in the corn field till wanted. This rule will do for coarse fodder which has been hurked of its corn; but for fine thickly-sown stalks, the early drawing and stacking will end in fermenting and spoiling. I raised small corn exclusively for fodder many years before the silo was introduced, and I found the only way was to make it into good sized, even shocks which would stand the weather, and let them dry in the field till wanted. Drying in the field even a month was not at all sufficient; if drawn and stacked afterwards, the stack was sure to heat and spoil without an open shaft or chimney in the middle. The injury from this heating was much greater than the mere exposure to the weather when the shocks were well made. F.

Culture of Potatoes.—I offer a respectful inquiry to your correspondent, J. B. M., who in his communication on page 753, commends ridge culture for potatoes. I do not say that it is not sometimes useful, but my experience teaches a different lesson. I have carefully measured the amount of the crop both ways, and always found flat or nearly flat culture to give the biggest crop. The difference was on an average about one fifth or one-sixth. It was not guess work. Has J. B M. adopted the same accurate mode for reaching his conclusions that ridging is best? Under almost any circumstances he would obtain a good return on his land—plowing well in autumn, harrowing well in February for Tennessee, afterwards cultivating the crop well and repeatedly. His land is so rich that it does not require manure. He could hardly help receiving a good return with these favorable influences. He ascribes it partly to the ridging; I think it was in spite of it. I cannot see that cutting off and tearing up the roots (which always run across from row to row), laying the longer roots bare and banking up the short ones, is going to help the growth of potatoes, and my measured experiments say that I am correct. Will Mr. M. try the experiment of measuring? A nearly flat or slightly rounded ridge I do not object to; a sharp or steep one I think wrong. FARMER.

German Millet.—Does German millet exhaust the soil? (1) Has German millet any particular effect upon horses, even when fed in large quantities, or exclusively? (2) S. A. W. Sedalia, Col. [1. All crops must deplete the soil more or less, gradually reducing its fertility, but German millet cannot be said to exhaust the soil especially more than other crops. A fair crop of German millet will produce say 15 bushels of seed and one ton straw or ripe hay. This would have 25 lbs. nitrogen, 8 lbs. potash, 9 lbs. phosphoric acid. A spring wheat crop estimated in the same way would contain 26 lbs. nitrogen, 24.6 lbs. potash, 12.4 lbs. phosphoric acid. So it will be seen that millet is not so great an exhauster of the soil as spring wheat. And if German millet is to be raised to take the place of hay, it should be cut when in blossom. It would not then take as much from the soil and would be quite as valuable as a forage crop. 2. The ripened seeds unground have a hard outer coating and are too fine to be masticated properly by horses. They therefore go into the stomach without mastication, and thus derange the digestion. But if these seeds are ground and the millet meal is fed upon cut millet hay, horses will keep healthy and fit for vigorous service. Millet hay, cut in blossom or just before blossom, makes very nutritious hay for horses, and they require no grain for moderate work. E. W. S.]

Acknowledgments.

Communications for publication have been received during the week ending Oct. 21, from E. W. Stewart—Wm. Falconer—Alice Chittenden—M. P. Grey—Stephen Beale—W. F. Massey—B. Reynolds—Dr. J. T. Connelman—Samuel Moore—J. G. Ichis—J. H. Clark—Mrs. D. H. R. Goodale—J. J. H. Gregory—Mrs. C. H. M.—J. W. Ingham—Mrs. V. S. Patterson—Henry Stewart—Florence B. French—T. L. Hill—W. J. Edmiston—W. B. Embry—G. B. Barney—O. S. Templer—B. F. Johnson—Adele K. Johnson—G. Warren Phelps—W. Horne—J. H. B.—Katharine B. Johnson—F. D. Curtis—A. B. Benedict—T. B. Terry—L. N. Johnson—J. H. R.—M. H. James—W. Z. Hutchinson.

. We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

. We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Oct. 24, 1889.

Subscriptions for 1890.—The current volume of THE COUNTRY GENTLEMAN is drawing near its close, and our thanks are again due to the many warm friends by whose aid its circulation has been so well sustained, and its columns filled from week to week to the mutual interest and instruction of all. Though marked by no startling novelties, it has been characterized by the same efforts as heretofore, to enhance every feature of practical use to its readers, and to present as fully as possible a living picture of the farming and farmers of the country. Occasional extracts have been made from the letters of subscribers, showing that this Journal fills a place which is peculiarly its own in meeting the requirements of farmers who are willing to read its pages and ambitious to excel in their pursuit.

Two or three such letters are now before us. A Tennessee subscriber writes: "Farming does not pay very well now, but it would pay me less if it were not for your paper." H. M. & W. F. Sisson, Galesburg, Ill., readers for many years, say: "THE COUNTRY GENTLEMAN still stands at the head of all agricultural papers." And coming nearer home, a Schoharie county farmer closes a recent letter: "There is scarcely a number printed which is not worth more to a *practical farmer* than the price of the paper for a year."

We must once more ask the coöperation of every willing and earnest reader in extending the range of our circulation among those not yet familiar with the paper and its purposes. As we have before remarked the number of farmers who do not read is still surprisingly large in proportion to that of those who do, and the field for missionary effort in this respect is almost unlimited. The coming three months constitute the season in which this work can best be undertaken, and it is only through the medium of those who already know the value of this paper that it can be successfully carried on. Hence we offer the largest inducements in our power for early action in forming Subscription Clubs for the coming year.

The terms stated in another column, are a renewal of the Special Rates extended last season, and are so framed as to make it an object if possible for each subscriber not already belonging to a club to obtain at least one new reader to join him in remitting for 1890, and to interest those who have heretofore been in smaller clubs in a common effort to enlarge them. To this end New Subscribers will be supplied gratuitously with the numbers of the present volume issued after receipt of their subscriptions for the year to come.

We shall be glad, as usual, to supply sample copies to all who can use them to advantage, or who desire them mailed by us to such addresses as they may furnish.

The Detroit Show.—We are pleased to learn (from a statement in the Free Press) that the financial result of this great exhibition proves highly satisfactory. "There is a good balance," says our contemporary, "on the right side of the ledger. This money, however, will not be allowed to lie in bank and accumulate mold, but will be spent making permanent improvements at the exposition grounds. A new building, to be called machinery hall, will be added to the north of the main building, on the space occupied by the various tents and booths. Then on the space between the main building and the Harper Hospital Station will be erected a large dining hall. The building occupied by the officers will be moved and used for exhibits. Another two story building, with sleeping apartments, will be erected for the use of the officers."

The turnstile count of admissions for the ten days is large enough to be of interest. It is as follows:

Sept. 17	20,104
Sept. 18	17,000
Sept. 19	18,179
Sept. 20	16,972
Sept. 21	20,583
Sept. 23	20,000
Sept. 24	23,627
Sept. 25	26,542
Sept. 26	21,540
Sept. 27	13,300
Total	209,631

Experiments at the Ohio Station.—The Seventh Annual Report of the Ohio Agricultural Experiment Station gives largely the results of the field experiments made at the station, in continuation of similar operations there in former years. Besides the field work at the station, it is proposed to extend it to the farmers of the State. Many questions cannot be settled by field experiments in one locality, and different and unlike soils are to be employed for different varieties of grain, fruit and vegetables. Branch stations, directed by intelligent farmers, are to be established. It is expected that this course will develop the spirit of research among the farmers themselves. A portion of this plan has been accomplished.

WHEAT.—Experiments have been made with sixty-two varieties of wheat, extending more or less through the past eight years. Among the results, the Hungarian wheat gave the largest yield, followed closely by German Emperor, Theiss, Early Rice and others. The Hungarian has averaged for five years nearly thirty-eight bushels to the acre. It is a bearded white chaff, with red kernel, but has a weak straw, and is inclined to smut. The white varieties as a class have yielded some bushels less to the acre than the red and amber varieties. With thick and thin seeding, it was found that three pecks gave a product the average of which, for a period of seven years, was almost as high as the highest, and was better than eight pecks an acre. There is no doubt that, as a general truth, the fertility and fine pulverization of the soil have a controlling influence on the full germination and product of the crop, and that a good, well-prepared soil renders needless a very heavy seeding. Seeding at different depths indicated no distinct difference from an inch and a half to four inches, but at five inches there was a falling off in the yield. For the best time of seeding, south of the 41st parallel, it is recommended that wheat be sown after Sept. 10th, but it will bear earlier sowing farther north.

OATS.—From seeding at the rate of six pecks an acre, a larger yield was obtained than from heavier or lighter seeding; but a greater weight of the measured bushel was produced when less seed was sown. In a series of experiments for five years, the following showed the largest product: White Schonen, Monarch, Rust-Proof, White German, Early Dakota, Kansas Hybrid. Rust-Proof is not entirely free from rust. White Schonen takes the lead for productiveness, affording fifty-nine bushels per acre. It was received from the New-York station. The Black Russian was most affected by smut.

CORN.—We omit the results given on the productiveness of varieties, because the distance or thickness of planting must vary with the size of the variety, small corn requiring a much greater number of stalks to the acre than the large variation. No conclusions were drawn as to the comparative products from the butt, middle and tip of the ear, the difference being too slight to warrant any conclusions. The experiments with the amount of cultivation given did not reach satisfactory results, some crops which were cultivated only three times succeeding better than with seven times. It may have been that cultivating when the soil was too wet from rains did more harm than good; and the depth of the cultivator in tearing roots might have had a controlling influence. Experiments made with commercial fertilizers on corn showed no conclusive evidence of their benefit. They did not increase the product to any amount over the unfertilized crops. Dissolved bone-black, muriate of potash and nitrate of soda, were applied at the rate of 200 or 300 pounds to the acre. These ingredients, or their essential components, appear to exist already enough in the

soil. On other soils, however, of less fertility, mixtures proved beneficial.

Insects.—The report of the entomologist furnishes some interesting facts relative to the habits and depredations of destructive insects, and among others it appears to be fully established by different observers that the curculio in the beetle state feeds freely on both the leaves and fruit of the plum, cherry and other trees, which fully explains to inquirers why spraying the young fruit prevents in a great degree the injuries inflicted by this insect. We discovered several years ago that spraying was only a partial remedy; but by applying often enough and at the right time, it may be quite sufficient on overloaded trees. Of the many interesting facts stated in this connection, and in relation to other depredators, we may furnish condensed statements in a separate article.

The Ohio Station has for several years, and before the establishment of its present extended labor, rendered much valuable information to the public through its field work, and the present report indicates increased usefulness. Charles E. Thorne is director, W. R. Green, horticulturist and Clarence M. Weed, entomologist.

Farmers' Institutes.—About forty of these meetings will be held by the New-York State Agricultural Society during the coming winter and spring, and we are very glad to announce that a well-known authority, Prof. J. W. Sanborn, late of the Missouri Agricultural College, is to speak at them all. The list of appointments will be published within a few weeks.

Back Numbers Wanted.—Once more we have an order for certain volumes of the Country Gentleman to complete a subscriber's set, which we are unable to make up, from lack of a few issues. If any reader can furnish us with a copy of even one of the following papers, the favor will be highly appreciated, viz:

Jan. 31, Feb. 7, 21 and 28, 1884.
Oct. 7 and Dec 9, 1886.

From Recent Advertisers.—Prof. I. P. Roberts of Cornell dropped his recent 4-line advertisement of Dorset rams because the first insertion sold them all.

Mr. Jacob H. Pratt who has advertised Short-Horn cattle the last two weeks writes that he always gets plenty of inquiries when he advertises in The Country Gentleman.

Mr. T. M. Chadwick had a $3.40 advertisement of a $300 trotter inserted last winter, of which he now writes: "It sold the colt!"

New-York Poultry Show.—The New-York Poultry and Pigeon Association will give its first exhibition at the American Institute building, 3d Ave. and 63d St., Feb. 19 to 28, 1890. Entries close Feb. 8. The officers are:

President—Robert Colgate, New-York.
Vice-Presidents—Philander Williams, George W. Mitchell, D. E. Newell.
Secretary—T. Farrer Rockham, East Orange, N. J.
Treasurer—George Purdue, East Orange, N. J.
Executive Committee—George E. Peer, Newton Adams, H. V. Crawford, C. M. Griffing, A. A. Hermux, Wm. Ponds, George P. Maynard, W. J. Stanton, John E. Gill.

Meeting of Milk Producers.—The farmers of Western Massachusetts, Western Connecticut, New-York State, Pennsylvania and New-Jersey, who furnish milk to the great metropolis, propose to hold a meeting at Middletown, Orange Co., this week Thursday, Oct. 24th, when an effort will be made to complete the organization of sections of the union at every point from which milk is shipped to New-York, Brooklyn, Jersey City or that vicinity. It is hoped to form a "Farmer's Five States' Milk Company, which shall control the entire milk business of this whole region, putting an end to the question of surplus, commanding the wholesale market, knocking out the milk exchange, and giving farmers for their milk all that the market will bear."

New-Jersey.—The New Jersey Board of Agriculture has issued its Sixteenth Annual Report, for a copy of which we are indebted to Franklin Dye of Trenton, the secretary, and which contains ample papers and addresses on ensilage, fertilizers, agricultural chemistry, agricultural fairs, the work of the experiment station, insect enemies, bees and honey, diseases of plants, cranberry raising, oleomargarine, contagious diseases of animals, and on the general interests of farmers. Among the speakers and contributors of essays were Prof. Lintner, F. D. Curtis, H. E. Alvord, Prof. P. T. Austin, P. T. Quin, A. W. Pierson, Prof. G. D. Hulst, Prof. A. C. Apgar, E. S. Voorhees, and Pres. E. Burrough, by whom much valuable matter was presented on the different subjects treated, and much additional information brought out in connection with practical and scientific farming.

Orchards in Cold Valleys.—We furnished to the public many years ago, a full statement of many instances in which crops of half-tender fruits, such as peaches and nectarines, were destroyed by the frosts of winter when planted in sheltered valleys, while those on exposed hills escaped. The soil was rich in the valleys and favorable to the free growth of the trees; and sheltered from the bleak winds of elevated grounds, they were erroneously supposed by some persons to be safer there than on more exposed localities. The cold air on sharp winter nights, made heavier by the exposure, rolled down the sides of the valleys, and filled the bottom with a lake of cold air, while warmer air remained above. The accompanying figure represents

this result distinctly. We have known a difference in sixty feet of altitude to make all the difference between an uninjured crop of peaches on the hill, and its entire destruction at the bottom of the valley. This effect is increased, and the trees as well as the crop sometimes destroyed on account of the rank and succulent growth in the richer soil below, rendering them liable to winter-killing, while the well ripened and well hardened growth on a drier and more compact soil, were proof against the frost. It sometimes happens, however, that trees growing low down on a compact, well drained, and moderately fertile soil, will succeed better than those higher up, if on a mucky and water-soaked piece of ground.

In a climate of milder winters, and where the peach crop is never killed by weather below zero, a late English writer says, "I do not believe in planting fruit trees in the bottom of valleys. This is often done to secure the rich soil. But it is of little benefit to the grower to realize a strong growth and an abundant flowering, if his crop is destroyed in the flowering by the spring frosts—which has repeatedly happened the last few years in certain localities." This further illustrates the same difficulty—that of frosts in valleys for tender growth.

In all cases, whether high or low in situation, thorough underdrainage should be always given to the ground where orchards are to be planted, unless a good natural drainage already exists with the soil. Those who are about setting out new peach and other orchards the present autumn, or preparing the land and trees for them next spring, will find it advantageous to select situations least subject to sharp valley-frosts, and to provide in advance ample drainage.

The Proposed Albany Fair.—Mr. C. H. Faxon, president of the Glen Dale Union Agricultural Society, writes to the Argus as below:

While attending the recent State fair, learning that the fair, after this year, would be permanently located at Syracuse, I gave expression to several gentlemen on the grounds as to what I deemed a practicable scheme inasmuch as the grounds at Albany are geographically well located for northern and eastern New-York and the Hudson river counties, also for a large portion of Vermont and Massachusetts, and some portions of Connecticut—which would be to permanently establish a fair on the Albany grounds in the interest of the localities above named, and incorporated under the name of the "New York and New England Industrial and Agricultural Fair." Seeing that the subject is being agitated, I am induced to write you my views on the subject, and would say that I wish to become a life member of the organization when established.

The Greenbush, Rensselaer Co., Gazette has the following editorial:

The project should, as it certainly will, receive the earnest support of not only Albany itself but of Troy and of all the surrounding section, also of the eastern, southern and northern parts of the State. Men who have had much experience in the conducting of State fairs, feel confident that at no place can better financial success be secured than at the present Albany fair grounds, which contain 47 acres of land. It is said that the property can be purchased for about $40,000. The place is admirably adapted for fair purposes and is capable of accommodating large gatherings. Col. Wm. H. Terrell, who has had an extensive experience in connection with State fairs and exhibitions of various kinds, would contribute largely to the success of the enterprise, if the chief authority were conferred upon him for the purpose of working the matter up to a successful issue and his valuable aid would insure the most satisfactory results. Enterprising merchants, inventors, manufacturers, farmers and others in this section and throughout eastern New-York should interest themselves in conjunction with the committee in securing a permanent location in the above-named locality for the holding of the regular annual fair above alluded to.

Forest Fires.—The enormous losses which yearly occur from city conflagrations, as well as from fires of less extent, are a cause of constant regret to observing persons. But there is another immense loss occasioned by the fires in forests. Prof. Sargent stated some years ago that the loss by forest fires was "infinitely greater than had ever been seriously supposed, and that the amount destroyed in one year in Massachusetts, according to returns, was 14 000 acres of woods, causing a loss of timber and in young growth of at least $100,000." In Pennsylvania, over 600,000 acres of forest were burned over in 1880. There were great losses in other States. According to the Engineering and Mining Journal, the forest fires this year have destroyed more than the value of all the timber planted, the timber stolen and unlawfully cut between the Missouri and the Coast Range. Of this waste, 40 per cent. comes from carelessly burned brush heaps; hunters have caused 27 per cent.; and many have resulted from cigar smokers—some of which produced disastrous conflagrations. Some of the fires were traced to malice. The remedies proposed, are the removal of brush, tree tops, and all rubbish usually scattered in forests over the ground; efficient spark-arresters to locomotives; the enactment of laws inflicting severe penalties for carelessly or wantonly starting fires; and a better public sentiment on the subject.

Best Binding Harvester.—Since the note published in our last regarding the success of the Walter A. Wood Harvesters at the Paris Exposition, we learn that the magnificent "Objet d'Art" awarded to this company was a special prize for superiority of their Binding Harvester over all other machines in the great official Field Trials held at Noisel near Paris. Our informant adds:

"The Walter A. Wood Harvester and Binder was the only harvesting machine of any kind at the Paris exposition which received such distinction over all others. A very limited number of single gold medals fell to other machines, and the grand prize was awarded for exhibit to one other exhibitor, but the Walter A. Wood Harvester and Binder alone received this, the highest field trial award."

Farm-Yard Notes and Items.

The absence from the city of Dr. Edward Moore, V. S., is the probable cause of no "Veterinarian" in this week's issue.

Dr. J. M. Curtis, Wilmington, Del., advertises for Thursday, Nov. 7th, a Sale of registered Holstein-Friesian cattle numbering thirty head, of excellent families and careful breeding from imported stock.

A public Sale of Short-Horn and Hereford cattle, Cotswold and South Down sheep, and Berkshire pigs, will be held at the exhibition grounds, Guelph, Ontario, by Mr. Fred. Wm. Stone who is widely known as a breeder of long established reputation.

In addition to the breeders' meetings to be held at Chicago during the horse and fat stock shows, stated in list published on p. 655, we are now informed that the Percheron and French Coach societies will meet at the Sherman House at 2 P. M., Nov. 5 and 6 respectively. S. D. Thompson, Wayne, Ill., is secretary of both.

Messrs. J. B. Duncan & Son, importers and breeders of Holsteins, Maplecroft Stock Farm, Fawling, N. Y., write to the Country Gentleman, Oct. 12:

"We have just completed the purchase of the entire Pietertje family, composed of Pietertje 2d's Holland King, Pietertje 2d, 3d, 4th, 5th and 6th, and a bull calf dropped last April by Pietertje 5th and sired by Pietertje 2d's Holland King. Pietertje 3d's year's milk record exceeds all others by more than 4,000 lbs., and one of the daughters, although young, has the largest year's record of any living cow except her dam. With the Pietertje and De Kol families, our herd stands foremost for both milk and butter, and is backed by many choice animals from families of high rank."

Mr. A. F. Williams, Bristol, Conn., took first premium on his Monitor incubator (occasionally advertised in this paper) at the New-England poultry-show at Worcester, Sept. 3-6, and at the Buffalo International Exposition, Sept. 9-13.

An official "return" to the New-Zealand government states the number of sheep now in the colony at 15,000,000. During the year ending with last June, 674,103 carcases of sheep and 139,645 of lamb, beside detached legs and other pieces, were exported. It is estimated that, if the works of the Canterbury Frozen Meat Company at Belfast, had not been destroyed by fire, at least 120,000 more carcases would have been shipped.

The last volume of the British Stud-Book just issued, shows that during the four years 1885-88 nearly 2,300 English racehorses were despatched to various quarters of the globe—an average of little short of 600 per annum. Of these the greater number—some 900—went to different parts of South America, to Buenos Ayres in particular, though Monte Video, Brazil, Rio de Janeiro, River Plate, and the Argentine Republic have had a considerable share.

The Mark Lane Express is indignant with the Breeder's Gazette for saying that shorthorns are not milkers, "because they are not built that way," and replies:

"We really must protest against such a loose attack on our historic breed, simply because some American buyers have selected pampered animals rather than those bred for use and profit. * * * The selection and management by American buyers and breeders—and the same holds good of English, Scotch, and Irish—is, in but too many instances, at fault. There is no breed that may not lose every good point by careless breeding. To call attention to this is good and useful, and breeders should listen to such well meant criticism. There is no breed that can be described as having but one merit. It is equally true to say that one of the great inherent qualities of the famous Teeswater race of bovine stock is its aptitude to become good milkers."

The Veterinarian states that during the four weeks ending Sept. 14, there were fifty-two fresh outbreaks of pleuro-pneumonia reported in Great Britain, twenty of which were in England and thirty-two in Scotland. The total number of cattle found to be affected during the month was 232, of which 67 were in England and 165 in Scotland. In addition to these diseased cattle, 949 others which were healthy, but had been exposed to infection, were slaughtered. Of these, 289 were in England and 660 in Scotland. "No question at the present moment," remarks the London Live-Stock Journal, "occupies so much attention as the best method of dealing with the disease. * * * The slaughter order must continue to be enforced. That there will be an outcry against its provisions is only what was expected, and the more thoroughly the work is done the louder will become the protestations against the system which is the only one that has anywhere succeeded in extirpating the disease. The result will be to compel the government to place the matter under the care of the central authority, and to compensate from the national funds." Our contemporary has hit the nail on the head exactly; and the sooner the British public realizes the wisdom of the sentence last quoted, and insists on the adoption of the two reforms referred to, the better for all concerned.

Canada Cattle in Scotland.—Sept. 30th Messrs. Robertson & Johnston of Glasgow sold at auction at Aberdeen, 479 Canadian cattle. The animals were young and healthy, and were, on the whole, suitable for keeping purposes. Bidding was somewhat brisk, and the prices obtained were on the whole fairly good. The total amount realized was £6804, 10s., giving an average of £14, 8s. per head.

From an Illinois Grazier.—I think the Country Gentleman the best paper in America. I am a farmer and cattle raiser and grazier; have grazed 1,400 cattle in my own pasture. I used to have 5,200 acres of good land. I have given 1,200 acres to my family. I once had three cars of cattle that averaged 2,800 lbs. at home. I shipped them to New-York for Christmas cattle and they were worth 10 cents. I sold two steers to one butcher that weighed 6,100 lb. James Gaines, *Vermilion County, Ill.*

The Grazier and Breeder.

Show of the British Dairy Farmers.

This week is being held the fourteenth annual show of the British Dairy Farmers' Association, which body grows year by year in numbers and influence. For a long time the charge was made against it that it was nothing more than a society whose life was merely devoted to the holding of annual shows. This is no longer true. The series of dairy conferences which have been held in various parts of Britain, have in themselves tended to the advancement of dairying, while an even more practical method of fulfilling the objects of the association is to be seen in the recently founded Dairy Institute at Aylesbury, which it is hoped may be a great centre for the training of dairy workers who will learn at once the science and the practice, and may themselves become teachers in other parts of the country. At the same time it is not intended in any way to weaken the show, which ought to gain rather than lose by the developments here noted. Therefore, we find the present exhibition is on pretty much the same lines as previously. There has, however, been one innovation, namely that animals are accepted for sale, and an auction will be held before the show is over. This step does not, of course, tend to improve the quality of the stock as a whole, because many animals are sent which the owners know have no chance for the prizes, but what is lost in this way will probably be gained in others, and a convenient centre will be found for sellers and buyers. No one pretends that the show is an ideal one, and the juxtaposition of cows' tails and cheese seems incongruous, and might easily be avoided. But all such societies are compelled to look to the main chance and to secure the public, without which such an exhibition could not continue. Of course, the agricultural hall at Islington, however good it may be for horse and cattle shows, is by no means suitable for a dairy show, but there is no other place in London which is so central. Therefore, we must take things as we find them.

Among the stock, the best collections are formed of the Channel Islands cattle, and the quality in these is excellent. It is a pity that other breeds are not better represented, for however valuable Jerseys and Guernseys are as milkers, for general dairy work they will not come into general use. There are also a good lot of Ayrshires, and one of Kerries, both of which breeds are growing rapidly in popular favor. Short-Horns are, on the whole, a creditable collection, but do not bear out the full quality of this breed. The cow that was successful last year, Mr. Willis's Cleopatra 5th, wins first among cows in milk, and also the championship for the best Short-Horn, and is evidently a heavy milker, but would not pass muster in general shows, as she is plain looking. The reserve for the championship is the second in this class, Mr. Spencer's Hope, a better looking animal outwardly, but not so heavy as a milker. Heifers make a nice class, and the winner, Mr. Errington's Lilly 12th, is a likely animal. Bulls are a small lot of six, and the victor is found in Mr. Willis's Challenge Cup, a young bull by the well-known Cupbearer, who has been so successful in the States, out of Bright Belle by Leon.

Devons are a small lot, all exhibited by the great London firm of Welford & Sons, and the first is Dorothy, a five-year-old red, excellent in milk properties, and all through an excellent cow. Red Polls are very disappointing, as there are only three entries, Mr. Garrett Taylor winning with Coronet, a good bodied cow. We had hoped that this useful breed would make a much better show.

As already stated, the Channel Island stock are the pick of the show, and Jerseys are a fine lot. In the class for cows in milk, Lord Rothschild wins with a 3 years 10½ months old fawn, Queenie's Gem, by Queenie's Boy, ex. Cicero's Gem, a good island-bred cow, but might be better in fore-quarters. Mr. Bruton of Scovil secures second by a brown Sultana 11th, bred by Mr. Marett of Jersey, and which would probably have won first but for lameness, as she is much the finer in quality. Heifers under 2 years, bred in the United Kingdom, are a small lot, and not specially good. The class for island-bred heifers of the same age is a grand one of 20, and full of quality. Here Mr. W. Alexander wins both 1st and 2d prizes, the former with Goldworthy, nearly two years old, by Lord Wolseley, ex. Wing, bred by Mr. L. Martin, and the latter with Mermaid by Caitlion, ex. Le Bourg'n' Maid, bred by Mr. Bunnel. Both are very fine in udders, and ;first being rather the better in form. Yearling heifers bred in the United Kingdom are excellent also, and the Messrs. Welfords' Beauty, an 18-months' old fawn, is well worthy her her place. There is a very strong class of Jersey bulls, the best of which is found in Mr. W. D. Tucker's Augerer Nelson, a grey, under 12 months, by Lord Nelson, ex. Augerer Daisy, bred by Mr. J. Da Val of Jersey—a grandly formed youngster, with remarkably good promise.

Guernseys are not so numerous as the Jerseys, but this is never looked for. The breed is, however, steadily growing in favor, and the quality advancing. Cows in milk form a good class. Mr. J. C. Foster's "Antona" bred by Mr. P. A. Heaume, and a cow that has done some winning before, is victor in a fairly good class. In the class for heifers under three years, the cup winner is found in Mr. G. Long's Nora 3d, a lovely fawn and white, with splendid external properties, but deficient in udder, and there are many who prefer the second, Treasure 3d, by Sterling, ex. Golden Treasure 2d, exhibited by the Express Dairy Co. Bulls are a very good lot, and here the Express Dairy Co. wins with Finckley Lad, a pretty bull, orange, fawn and white, bred by Mr. J. Stephens.

Ayrshires are not very numerous, but excellent in quality, and in respect to milking qualities one of the best sections of the show. The merit throughout was very even, and the awards by no means easy to determine. Mr. John Horn of Nellston, N. B., won cup, first, second, reserve and h. c., with an excellent team—the first being a brown and white, named Snowdrop, bred by the exhibitor, and now 6¼ years old; this animal wins also champion prize.

Kerrys and Dexter Kerrys are an excellent collection, and the competition shows that this is one of the latest fashions, which will be made more so by the fact that the Queen and the Prince of Wales have now gone in for them. Mr. F. A. Hordern wins in cows with Shelah, a black Kerry, five years old, lacking perhaps in udder, but an excellent cow. Mr. M. Sutton's well-known Flora is second.

The any-other-variety classes are small ones. Mr. Spencer's Fanny's Bride, a seven-year-old fawn-and-white Short-Horn-Guernsey, winning in cows, and Mr. Fortescue's Fanny 2d, a black with little white Dutch, in heifers.

Pigs have not mustered well in recent years, for reasons which need not be recounted here, but at the present show indicate a very marked advance, and the troubles which have so largely hindered this section may now be regarded as over. The cup is won by Mr. Sanders Spencer for his Holywell Doctor, bred by the exhibitor, which is first in Large White boars, in which section this exhibitor is supreme, as also in Middle Whites. In Small Whites, Mr. W. Ramsden and Gen. Williams stand alone; and in Berkshires, Mr. J. A. Fricker and Mr. Calcott are the chief winners. Tamworths are not represented.

Goats are a moderate lot.

Cheese and butter make up two of the largest sections of the show, and the quality is about an average. It is a pity that some arrangement cannot be made to display these products in a similar fashion as at Paris, where amid flowers and in rooms devoted to them, there are no incongruous elements. In this respect the council seems wedded to its old and obsolete methods.

Of course, one of the chief attractions of the show is found in the butter-making contests, in which dairymaids, more or less attractive in themselves, compete for substantial prizes. The milking trials are progressing as I write, but will not be determined for a day or two.

London, Eng., Oct. 5. S. B.

The Use of Stanchions.—There are so many hard things said about stanchions that I am inclined to say a word in their favor. Their entire safety, convenience, cleanliness and economy of room are no small recommendation. I presume that at least nine-tenths of all the dairy cows in our county are kept in the stanchion, and Bradford is one of the leading dairy counties of the Union. Some years ago a neighbor was feeding a lot of steers, part in box stalls and part in stanchions; he fed them all alike, and the gain in flesh of the stanchioned lot was fully up to the others, and he consequently abandoned the stalls entirely. I have been in the dairy business for thirty years, and have tried almost all plans, but none fill the bill as well as the stanchions, all things considered. T. S. M.

B. Canton, Pa.

Rations for Holstein-Friesians.

EDS. COUNTRY GENTLEMAN—Will Prof. STEWART please give his opinion of the following rations for Holstein cows, average milk, 35 lbs; weight, 1,500 lbs:

1.

10 lbs. fodder, field-cured without care, and not dry.
5 lbs. clover hay.
6 lbs. corn meal.
5 lbs. bran.
2 lbs. cottonseed meal.

The fodder and hay cut in half-inch lengths and mixed together, moistened slightly and allowed to stand several hours. The grain portion carefully mixed, then added to the coarse stuff, and the whole thoroughly worked together. This to be fed up to such time as the pasture is in good condition, three-sevenths of it in the morning and remainder in the evening, the cows running on pasture during the greater part of the day. When cattle are withdrawn from pasture, this to be followed by:

2.

40 lbs. corn ensilage cut with care in milk, and well cured.
10 lbs. good clover hay cut half inch.
6 lbs. corn and oats—equal parts by weight.
6 lbs. bran.
2 lbs. cottonseed meal.

This to be fed in the three feeds, 4-13lbs at 8 A. M., 3-13lbs at 10 A. M., 5 13lbs at 4 P. M. I am desirous of a ration to promote a free flow of rich milk, and have been feeding according to the professor's directions for the past year with excellent results. This ration is not as large in grain as the one given in your issue of Dec. 6, 1866, but ensilage is substituted for fodder, and the corn in it is supposed to equal the difference. I would say as to that, I do not strictly follow these rations in quantity, as some of my cows eat more and others less, but the proportions are the same, and this is supposed to be an average ration only.

Will the professor also inform me if in the table of feeding values, given in his book, "Feeding Animals," ensilage is regarded as having in it the ears of the corn. H. C. C.

Fairfax County, Va.

1. H. C. C. gives a very good combination of food to be given on pasture. It would be a large addition if the cows were of ordinary size, but it is about right when the weight and production of the cows are considered. It would be better to cut his fodder ¼-inch instead of ½-inch. Expressed in analytical formula the digestible nutrients in his ration No. 1 are the following:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
10 lbs. short-cut corn fodder	0.70	4.80	0.10
5 lbs. clover hay	0.80	2.60	0.07
6 lbs. corn meal	0.90	5.70	0.37
5 lbs. wheat bran	0.55	1.95	0.13
2 lbs. cottonseed meal	0.70	0.55	0.12
Total	3.67	15.50	0.69

Nutritive ratio 1 to 5.7. This is a good ration to be fed with pasture, and should produce milk of excellent quality and good quantity.

O.'s ration No. 2 to be fed after the pasture is done is well constituted, and when given in analytical formula shows the following digestible nutrients:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
40 lbs. corn ensilage	0.48	4.80	0.31
10 lbs. good clover hay	0.78	4.00	0.16
6 lbs. corn and oats ground together	0.89	3.11	0.28
6 lbs. wheat bran	0.70	2.88	0.16
2 lbs. dec'd cot'nse'd meal	0.34	0.44	0.12
Total	3.18	15.23	0.91

Nutritive ratio 1 to 5.4. This is not too large a ration for cows of this weight, and the ensilage, if well preserved, will assist materially in the digestion of the other food, and keep the digestive organs in a healthy condition.

I am not certain that it is safe to feed more than half that quantity of cottonseed meal to cows for two to three months before calving. But when fed in connection with the ensilage it may not produce any heating effects or do any injury. O.'s times of feeding distribute the ration very well.

I should expect that feeding this ration, or any other constituted in similar proportion to this large milking breed, would gradually enrich the milk above its normal standard, or, in other words, would develop its butter quality.

2. O. asks the question concerning the quality of ensilage corn in different stages of maturity—when cut in full tassel or with well developed ears, whether in the latter case it would not have a higher standard of nutritive quality than that given in "Feeding Animals" on page 294. I think the 11 analyses given there is lower in albuminoids and carbohydrates than the best ensilage as preserved now, and as he will see, I have figured it on the basis of 1.2 albuminoids and 12.00 carbohydrates, making an important addition to those analyses. But still the question which he wishes solved, is, whether the aggregate nutrients in the ensilage, from 100 lbs. of corn, well cared and advanced in ripeness to the glazing stage, is greater than when the corn is in full tassel and the ear just beginning to form. This question has not yet been fully determined, but I understand that the director of the New-York Experiment Station is now making analyses to determine the point. I have heretofore considered that corn when in full tassel gains nothing in the aggregate in ripening the ear. That is, that whatever it gains in nutriment in the grain it loses correspondingly in the stalk. But, I trust, that this question will soon be settled.

E. W. S.

The Best Horse for the Farmer.

There are still those who are arguing that the farmer should breed draft horses instead of the trotting breed. But a pair of trotting-bred mares can do the same work as a Percheron team would be required to do on an ordinary farm, and do it much quicker; and when you want to drive down to the post-office, you can do it in a self-respecting way, as you can when you go to church or elsewhere, with a team of standard-bred trotters. You can also find much pleasant employment during the long winter months training your colts, taking up much time with them that would otherwise be wasted.

The best time for the farmer to sell his trotting-bred colt is as a yearling, if a stallion, and not at all if a filly. In the first case, an advertisement in the COUNTRY GENTLEMAN should bring a purchaser for the colt who will pay anywhere from $300 to $3,000 for him, according to his pedigree and personal excellence—$400 would be an average price. It would be a good idea to save all the best fillies to use as brood mares and farm animals, weeding out the poorer old mares to make room for them. In regard to breeding, be sure to have plenty of Hambletonian and Mambrino blood in your horses; Clay, Pilot Jr, and American Star are very good, but you want some of the blood of one of the two former breeds mixed with it.

If there is a good son or grandson of Belmont within your reach, it would be wise to breed your mares to him, for the Belmonts have perhaps the finest conformation in the world, which is a great consideration. Belmont has put eleven new ones in the 2.30 list this season, more than any other stallion: and Favonia 2.15, Woodnut 2.16¼, Fred Arthur 2.15¾ (on half-mile track), and many other great ones, are descended from him. But the great advantage in breeding to a Belmont is that the foal will be nearly sure to have good conformation and trotting action—two great requisites in the roadster, racer and general farmer's horse. SAMUEL MOORE. *Albany.*

Oat and Vetch Hay—Butter Ratio.

EDS. COUNTRY GENTLEMAN—I sowed two bushels oats and one bushel tares per acre, cut it green, and cured for hay for dairy cows. I shall feed this to them three times a day, with a pailful of cut beets or mangels morning and night. What grain in addition is required to make a moderate but good butter ration for grade Jersey and Ayrshire cows—available foods being peas, corn and bran? In the above quantity and proportion of seed per acre the best, and at what stage of growth should it be cut to be fed as hay, unthreshed—that is to get most value in feed per acre from it?

Sore and chapped teats—what is the probable cause, and what is the best remedy? This affected a lot of my cows about Sept. 1, or perhaps earlier, in warm, dry weather; cows on pasture, with a little bran and middlings fed at the time. Would milking with wet hands have anything to do with it? Has this practice, which is common enough, any objectionable features, provided stables are warm, and cleanliness both in milkers' hands and cows' udders and teats strictly attended to?

Warts on teats—is there any cause or cure? I will be guided by your answer in the feeding and care of 30 cows.

Toronto, Can. ONTARIO DAIRYMAN.

Ontario Dairyman does not state whether his oats and tares or oats and vetches were sown broadcast or with a drill. The proportion of seed should have been 2 bushels of oats and 2 of vetches, or, perhaps quite as well, 1½ bushels of oats and 2 of vetches, sown with a drill. The best English practice drills in 3 bushels when grown alone. If cut but once, it should be when the vetch is in full bloom. It then makes a very rich food. It would pro-

bably be best to sow the vetch with the white Tartarian oat, as this oat has a stiff straw, and would keep the tares or vetches from lodging. The vetch is a leguminous plant, and is most valuable when cut for hay at a stage of maturity similar to clover.

In feeding most economically, this hay should be run through a cutter, slightly moistened, 20 lbs. pulped mangels mixed with it, and then the grain part of the ration mixed in.

Let him grind 20 bushels peas with 40 bushels of corn, and then we will compound the ration as follows: 16 lbs. cut oat and vetch hay, 20 lbs. pulped mangels, 6 lbs. ground peas and corn, and 6 lbs. wheat bran. Let the ground peas and corn and bran be mixed together dry before mixing with hay, and give in three feeds, smallest at noon.

The following analyzed formula will show the digestible nutrients in this ration:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
16 lbs. oat and vetch hay...	1.60	6.72	0.32
20 lbs pulped mangels.....	0.22	2.00	0.02
6 lbs. ground peas and corn..	0.74	3.81	0.22
6 lbs. wheat bran.....	0.70	2.74	0.16
Total.....	2.26	14.27	0.72

Nutritive ratio, 1 to 6. This would be a little better butter ration if the peas and corn were ground in equal weights. It is presumed that your cows are in a warm, well ventilated stable.

2. The sore and chapped teats of O. D.'s cows should be treated with soothing applications, such as 1 oz. of spermaceti and almond oil, melted together, and he should require the milking to be done very gently, having the hands and teats dry. It is not a good practice to wet the teats before milking, and when this is done for cleanliness, they should be carefully dried with a cloth before milking. He does not say there is any stoppage in the teat, and we should infer that a simple application like this, and milking with dry teats, would be sufficient.

Veterinarians remove warts by the knife or sharp scissors, and use a little caustic. But such an application should be made to the wart by some person skilled in doing such things.

E. W. S.

When the pigs from an old sow fall to grow as fast as their companions from young sows it is an unmistakable indication that the old mother is failing, and should be sent to the pork barrel. While the old sow is doing well, do not discard her unless there is a certainty that she can be replaced with something better.—*Irish Farmer's Gazette.*

The Dairy Department.

Conference at a County Fair.

AT BALLSTON—SOIL DEPLETION—STARTLING FACTS—DAIRY TEST PREMIUMS—DAIRYMEN WAKING UP—RIPENING OF CREAM.

EDS. COUNTRY GENTLEMAN—A few zealous friends of agriculture in Saratoga county desired that a conference should be held on the fair grounds during the fair. While a few earnest people were attentive, many more were attracted to a free Punch and Judy exhibition. It is a fact that the crowd go to the fair more to be amused than to be instructed, so that the holding of practical meetings will be a failure unless there is a special interest with the people in such meetings. In a dairy section I should expect more attention to a dairy meeting.

The officers of this society are doing their best to aid agriculture, and to lay a foundation for improving the fertility of the soil. The decline of agriculture in Saratoga county is startling. I estimate that under the system of farming now generally practiced, one-fifth of the farming lands have become comparatively barren, or at least so unproductive as to afford no remuneration for tillage. This has been brought about by a century of exhaustive cultivation. The soil has been sold and carried away in the form of potatoes, grain, straw and hay. It seems queer, then, that so little attention was paid to efforts to turn the public mind to a different way, and one calculated to replenish the soil and build up farming. Our farmers look almost entirely to present gains, and the more comprehensive ideas of future benefits, by the making of manure and better crops, are ignored. There must be more forecast in Saratoga county farming, or the area of soil exhaustion will be rapidly enlarged. The same condition of things exists in other parts of the State. I advocate the making of butter, because it depletes the soil the least of all farm products, and in its production we can profitably use foods which are the richest in nitrogen, phosphoric acid and potash.

In order to stimulate the dairy idea, prizes were awarded at this fair for the best cows for milk, cheese and butter. As the plan is original, and calculated to awaken interest and discussion, I include the full report of the committee:

There were four entries in the test for butter, viz: Bloom Baker of Maltaville entered a grade Jersey cow (no name). Feed was pasturage and 6 quarts of corn and oats daily. J. B. Wood of Round Lake, Guernsey heifer 24 months old (no name); feed, pasturage and corn fodder once daily. W. P. Botts of Ballston, grade Jersey cow (no name); feed, pasturage and corn fodder once daily. M. E. Myers of Charlton, Jersey heifer 2 years old (no name); feed, pasturage only. It is to be regretted that accurate data of foods given were not fully reported. As grass and corn fodder is mentioned without stating exact amounts, your committee is unable to give the difference between value of feed consumed and value of product, which would indicate not only the actual profit from each cow, but would also indicate the relative value of foods as well.

TEST FOR BUTTER.

Exhibitor.	Lbs. milk in 24 hours.	Pct. Butter.	Days since Churning.	Allowance.	Amt. Butter.
B. Baker.....	26¾	12 75 oz.	171	7.05 oz.	19.15 oz.
J. B. Wood...	19¾	15 13 oz.	30	0.95 oz.	16.19 oz.
W. P. Botts...	21¾	15 30 oz.	180	7.66 oz.	23.05 oz.
M. E. Myers..	19¾	11 60 oz.	30	1.84 oz.	13.36 oz.

There were two entries in the test for cheese, viz: M. E. Myers entered a grade Jersey (no name); feed, pasturage only. C. Van Buren of West Charlton, Dutch Belted cow (no name); feed, pasturage only.

TEST FOR CHEESE.

Name.	Lbs. milk in 24 hours.	Lbs. Cheese Cured.	Days since Churning.	Allowance. Lbs. Cheese.	Value Cured.	Profit.
C. Van Buren....	31.62	3.71	180	2.24	92c.	24c.
M. E. Myers.....	31.62	4.30	180	2.30	$1c.	27c.

There were two entries in the test of milk, viz.: M. E. Myers entered a Jersey cow (no name). C. Van Buren entered a Dutch Belted cow (no name). Feed for each was short pasturage only.

TEST FOR MILK.

Name.	Lbs. milk in 24 hours.	Days since Churning.	Allowance.	Amount.	Value.	Profit.
M. E. Myers...	16 6	30	1.20	19 80	34.7c.	33.5c.
C. Van Buren..	11.0	180	6.96	17.96	31 4c.	29 4c.

AWARDS.

Best cow for butter, W. P. Botts	$10
Best cow for cheese, M. E. Myers	10
Best cow for milk, M. E. Myers	10

Your committee was highly gratified by the interest generally manifested in this laudable undertaking, and also by the commendable spirit of generous rivalry exhibited by competitors, and we confidently predict that this system for awarding prizes to dairy cows will henceforth be a permanent and prominent feature of your annual exhibitions, constantly growing in magnitude and favor with the dairymen of this county as it becomes better known.

In view of this, your committee respectfully suggests that suitable implements be purchased before your next annual fair, to insure greater accuracy in results, and to facilitate the operations of the committees who may hereafter conduct these tests. Signed,

JOS. L. WEED,
H. GARDNER WELD, } Committee.
JOS. W. SNOWDEN.

The following letter, from one of your readers, has been answered in the later conference reports; but perhaps not as fully as the writer might desire:

DEAR SIR—Though a stranger, I take the liberty of asking you to define the ripening or maturing of cream for the churn. How is the process best accomplished, and how can I tell when the cream is mature—ripe? If the views expressed in some reports of the dairy conferences in the COUNTRY GENTLEMAN, in late numbers, be correct, then some of us have been wasting time and material, and I want to stop that foolishness. Our cows do not give us at present 1 lb. of butter for much less than 20 lbs. of milk, and you say, page 697, COUNTRY GENTLEMAN, "there is no profit in this." Please tell me how to best get the cream right, and I shall then avoid the 15 per cent. loss "occasioned by mixing ripe and unripe cream together." We will make the test of individual cows. I have long felt that some of us have been too much in the dark about our cows, and I want to get into the light if possible.

North Bend, Ohio. R. H. WARDER.

It is difficult to define fully the maturity of cream. If sourness alone constitutes maturity or ripeness in cream, then it is a simple thing, and we may say, when the cream is sour it is ripe. I do not hold to this idea. Sweet cream may be made sour, and very sour, in a few hours, but it does not follow that it is mature; it is simply sour. Active fermentation has taken place, and it is on the rapid way to decay. The right idea of ripeness, or maturity, is a slower process and a more natural one, whereby the lactic acid is slowly developed. To bring this about, we recommend that the cream, the whole amount designed for a churning, shall be kept in a cool temperature, which will keep back the development and action of the germs, if present. During this time the additions of cream to the churning should be well mixed. This holding of the cream should be for 24 to 36 hours from the first to the last. If for 24 hours, then the cream should be set into a warmer temperature for the lactic acid to develop within 24 hours, and if other cream has been held 36 hours, then the cream should be warmed up so as to develop lactic acid in 12 hours; cream may be held longer, but there is danger of a bitter taste being developed, and also rancidity, which is the work of the bacteria or germs of putrefaction.

This is a general rule, which will be varied by the conditions of the milk and the atmosphere. If the cream is held in a temperature of about 45° to 50°, there will be very little development of acidity. When set in a temperature of 60°, it will be slow, and in a temperature of 70° it will usually become acid in 12 hours. If heated up to 80°, it would reach sourness perhaps in half of the time, and acidity will be developed in proportion with an increase of the heat; cream cannot be handled or *perfected* strictly by any exact time. It can be made sour or be fermented in a few hours if sufficient heat is applied, but not to be excessive. This is not perfecting the cream. A slight development of lactic acid has the effect to cause the butter globules to come together more readily. With this slower development of the acidity and frequent aeration, there is also developed the fine aromatic flavor (taste and smell) which makes the best butter.

The butter which received the highest prizes at the State fair, judged by D. W. Lewis, who is certainly an expert judge, was made from cream handled for slow, aërated ripening. This is the way Mr. A. Devereux makes his butter. The cream over-soured imparts a sour-milk taste and smell to the butter. If it is not matured carefully and fully, the butter lacks in aroma. These peculiarities of smell were apparent in the exhibit of butter at the New-York State fair.

To have the acidity developed slowly is an advantage, furthermore, for with it there is also developed and perfected the aromatic oils, which are exceedingly minute and delicate. They constitute only a fraction of one per cent. of the butter—about one-tenth of one per cent. I do not mean the aroma thrown off by rancidity or putrefaction, but the aroma of maturity, as I have indicated. It will be found that when cream is taken from the milk sweet, or when it is matured on the pans with perfect aëration—and if sweet it is slowly ripened in pure air—it will always possess a perfect aroma. To get this aroma is an art; and if it not found in acidity without skill and harmony with chemical laws or natural causes, any more than that plenty of paint and canvas will make a fine picture.

When cream is managed as indicated, it will be thicker, glossy and gravy on top, and this best appearance and condition is reached at the time that a slight acidity is manifest—not a rank or strong acidity. Butter made from a rank, sour cream will be off in flavor, though it may be very good butter. The taste of the butter will be like the cream. I do not know any better way for Mr. Warder to get at the true inwardness of this thing, than to have several lots of cream and hold them for different periods, churn them and note conditions and results. He will then see the evidences of excessive fermentation and the corresponding taste of the butter, and can compare this in looks and taste with the results when the cream is in the right condition. We must have cows bred for butter-making, and we must feed for butter fats. When this is done, there will be more than five per cent. of butter in the milk.

The test made at Ballston is a good lesson of successful dairying, and is a practical carrying out of slow maturing. The butter was of superior quality. J. Cooley Greene was one of the instructors. There was but one churning. The cream was from 900 lbs. of milk from the dairy of Nathaniel Mann of Milton Hill; cows one-half to full-blood Jerseys, which have been in milk from six weeks to six months. Soil clay loam pasture; grasses, timothy, red-top, blue-grass and some clover; no grain ration has been fed since May; a ration of fodder corn is now fed night and morning; cows are salted once a week; plenty of pure water in pastures. Milk set as soon as drawn from the cows, in ice water, at a temperature of 45°; cream raised in Cooley creamer, one-half set 12 hours, one-half 24 hours; cream mixed and ripened 29 hours, the first half having been held at a temperature of 48°. Churned in Davis swing churn at temperature of 64°; time 25 minutes; temperature of butter at separation, 66°; worked on an Eureka worker, and salted one ounce to the pound with Ashton salt. Product of butter, 12¼ lbs.; ratio, 1 of butter to 16 236 of milk. F. D. CURTIS.

Cream Separator on a Small Scale.

EDS. COUNTRY GENTLEMAN—Henry Stewart, in his Dairyman's Manual, speaks of small size centrifugal separators, which could be used in a dairy of 20 or 30 cows. Where can they be obtained? Can as good butter be made as from milk set? C. B. C.

North Manchester, Ind.

If your correspondent will refer to the advertising columns of the COUNTRY GENTLEMAN, I think that he will find notices of the cream separator, of which a small size is made for hand. Whether or not its use, considering its cost ($100, I think), will be found desirable, will depend on several considerations; but as regards the quality of the butter obtained from cream thus separated, there need be no fears. In the separation of the cream, every impurity—some epithelial cell matter, any fibrin that may be contained, some mucous and other matter that is undesirable in our food—is thrown off and gathers in a film on the outer part of the separator, the cream flowing to the centre in the purest possible condition. Of course, for fine butter-making, this purity is of great importance; and it would, if made fully available by good business methods, assure a better price for the product.

The cream thus separated should be put in a proper vessel and kept 24 or 36 hours to ripen, at a temperature of 60° to 65° (the latter for winter work), when it may be churned in precisely the same manner as any other cream. Considering the recent introduction of the butter separator, which is the *ultima thule* of probable progressive butter-making, beyond which it seems almost hopeless to expect any advance, it might perhaps be well to wait a little longer for the good time coming, and avoid the necessity to put away in the back sheds, as useless, a costly machine like the cream separator. E. S.

Tomatoes for Cows—Revolving Churns.

EDS. COUNTRY GENTLEMAN—Please publish the value of green tomatoes as food for milch cows. (1) I would like to know whether the barrel churn has any points of excellence over the revolving dash churn for family use. (2) J. J. L. *Tilton Hill, N. Y.*

1. J. J. L.'s question concerning the food value of green tomatoes as food for milch cows, cannot be answered definitely, since there has been no analysis of the tomato, so far as we know. Its value must therefore be considered principally as an appetizer, giving a relish to other food.

This food might be given in small quantity, like apples. If the tomatoes were mashed and then mixed with the other part of the ration, it would give a relish and improve the appetite for other food.

This esculent has usually been too valuable for human food to be used as cattle food, and yet, strange to say, not one of our experiment stations has analyzed it. We should judge that it would be worth for this purpose from 6 to 10 cents per bushel, or about the same as mangels or apples.

2. There are barrel churns constructed in different ways. One revolves endways, and the cream falls from one end to the other, causing a sharp concussion as in the old up-and-down dash churn, when the dasher was brought down suddenly. This barrel that revolves endwise churns on the same principle as the rectangular churn, revolving from opposite corners, the latter being what we suppose L. means by the revolving dash churns. They are both of them, in one sense, dash churns—churning by concussion. The rocker churn and the swing churn both operate on the same principle as the other two just described. The cream is thrown with force from one end to the other, dashing alternately against each end. E. W. S.

The Portable Creamery.—The quotation below is from a letter of an Albany county farmer in your State, and is of so practical a character as to entitle it to the careful attention of at least such of your readers as are interested in butter making:

"The matter of using creameries and the

profit of doing so, is I think becoming pretty well settled in the minds of farmers. The majority of them do not have buildings for storing ice, but I think it is a question of only a short time when they will have them, and raise their cream by using a portable creamery of some kind; as it is pretty well settled that they can make more and better butter than by the old pan system. I have sold my butter at from 5 to 10 cents per pound above the prices realised by others in the same market this summer."

It is of course needless to add that the writer of the letter from which the above was quoted uses a portable creamery. The introduction of that improved dairy utensil worked an era in the history of butter making. Another great stride in butter making was made when the granular system of churning was introduced. By many it is supposed that public creameries are entitled to the credit of its introduction. But such is not the case. The first public exhibition of making granular butter was doubtless held in New England. The first one ever witnessed by the writer was given before the Vermont Dairymen's Convention held at Montpelier, Vt., some twelve years ago, by John T. Ellsworth a dairy farmer of Barre, Mass. F. W. MORRLEY. *Clinton, Iowa.*

Remarkably Rich Milk.

At the request of the owner, Mr. W. J. WEBSTER, Columbia, Tenn., a two days' test of the Jersey cow Toltec's Fancy 27172, was held last month by Isaac Ross, assisted one day by Major Campbell Brown, for the purpose of proving the extraordinary richness of her milk—of which Mr. Ross says in his report: "It is a misnomer to call it milk, it is practically cream." On the morning of Sept. 8th, she gave 6 lbs. 4 oz. of milk, which after standing in the spring-house until evening, eight inches in depth in a glass jar, measured 7¼ inches cream to three-quarters of an inch milk. Mr. R. says:

I saw the cow fed on the evening of the 8th. She had one gallon of corn meal, half gallon of bran and three quarts of oats, which oats had one-third corn ground with it. The cow was milked at 6 o'clock and 5 minutes on the evening of the 8th. She was milked clean, I myself stripping the cow after the herdsman. The portion milked by me was on the ground That evening's milk, put away in the spring house, was 6 lbs. 15 oz., in a glass jar in running water, as was all of it. I state that the room in which this was put away was a part of the spring house, which is built of stone, and has running water in it of the temperature of 60°. * * * The night's milk of the 8th was 8 inches deep, being in a little larger jar, and was 6¾ inches cream, 1¼ inches milk. I then saw the two milkings of the 8th poured together in a stone jar and set back in the water as cream. I witnessed the feeding and milking of the cow on the morning of the 9th, taking the milk in my own hands and putting it away, after weighing it in a glass jar in the same room. It weighed 6 lbs. 7 oz. On the evening of the 9th, after this had set for twelve hours, the total measurement in the glass jar was 7¼ inches. 7¼ inches cream, ¼ inch skim milk. * * * Major Brown and I then witnessed the churning of the milk of the 8th on the evening of the 9th. It was churned in a "Favorite" barrel churn. Time of churning 17½ minutes. The butter was then washed till the water ran out of the churn clear, and worked, and then taken up and weighed 2 lbs. 7¾ oz. without salt, and was salted 1 oz. to the pound, reworked and reweighed; weighed 2 lbs. 9¾ oz. of butter. It was then put away in the same room and allowed to remain on a rock in a cold place near the water for twelve hours, reworked, and made 2 lbs. 8¼ oz.

The morning's yield of milk on the 9th was 6 lbs. 7 oz., that of the evening 5 lbs. 14 oz.—total 12 lbs. 5 oz., of which about 4 oz. was reserved for analysis:

Major Brown and I then witnessed the churning of the milk of the 9th on the evening of the 10. This has been previously poured together in our presence on the morning of the 10th. The churning took place on the evening of the 10th. Time of churning, 17½ minutes. Saw the butter washed till the water ran out clear. It was then worked and taken out in a firm lump, and weighed 2 lbs. 8¾ oz.; added 2½ oz. of salt, and reworked under seal in the same room, reworked twelve hours later, on the 11th. Made after last working 2 lbs. 8¾ oz. of butter, and this I carry home with me for analysis by the State chemist of Alabama.

At no time during this test was the milk, cream or butter out of my sight until placed under lock and seal, and it was so kept constantly during the test. And I am thoroughly satisfied, also, as to the milk of the morning of the 8th put away by Mr. Webster. As will be seen, it did not vary materially from that put away by me, but was about an average, as one of the milkings I put away was the richest of the test, and the entire day witnessed by Major Brown and myself made the most butter from the least milk, with no allowance for milk sent away for analysis, and when that is reported it will make the test still richer. As will be seen, it took for the 8th a little over 5 lbs. of milk to make a pound of butter, and for the 9th less than 5 lbs. of milk to make a pound of butter. As previously stated, the water in this spring-house was 60° in temperature, and the milk was churned directly after taking out of the water, and was washed in this spring water. I saw from Mr. Webster's register that Toltec's Fancy dropped her last calf Dec. 10, 1888, and was at the date of the test 4 months and 28 days in calf.

All necessary precautions from interference were taken by keeping the milk and cream under seal, and the correctness of the above statements is verified by the affidavit of Mr. Ross. Prof. MCGILL reports the following analyses:

MILK.

Water	74.80
Fat	16.22
Solids not fat	9.18

The solids not fat consist of milk sugar and casein, 8 53; salts, 0 65. The milk sugar was found to be 2 26, but it would probably be greater in the milk when fresh and sweet.

The specific gravity of the milk, 0.9947. The exceedingly low specific gravity is due to the presence of an extraordinary amount of fat in the milk, about four times the usual quantity.

BUTTER.

Water	10.14
Fat	85.16
Casein	1.06
Salts	3.63

The Cumberland (England) Advertiser says that a cow belonging to one Joseph Huntington of Morland Field has just given birth to a calf which has two perfect heads joined together, four eyes, and two mouths, but only two ears and one ordinary body. It can take in food with both mouths.

There is a good deal to be said against the errors into which high prices have sometimes led breeders. But the wholesale condemnation of what are called "fancy prices" is silly, if nothing else. As long as good stock exist, and are appreciated, there will be those with sufficient public spirit to pay a high price for them.—*London Live Stock Journal.*

Record of the Times.

Review of Passing Events.

Safety on the Sea.—An international marine conference opened at Washington, Oct. 16, with representatives from 21 nations, including those of Europe, China, Japan, Siam, Hawaii and part of South America. Great Britain sent a member of Parliament, three admirals of the royal navy, and two steamship captains. Secretary Blaine made the address of welcome, and escorted the delegates to an interview with President Harrison. Rear-Admiral Samuel R. Franklin, U. S. N., was elected president. The increasing intercourse between nations calls for greater safe-guards against danger to life and property on the seas, and the conference will consider marine signals, lines of travel, markings of vessels, buoys and beacons, tests of sight and color blindness, &c.

A Farmers' Battle.—The effort to unite farmers in protection of their interests seems a thorough success at the South, as the fight of their Alliances against the jute trust shows. But a singular riot took place in Dothen, Alabama, Oct. 14, between the farmers and the town authorities, growing out of a refusal to pay drayage license for an Alliance warehouse established in the town. Manager Stringer was arrested by Marshal Domingos, and at the trial 800 armed Alliance men were present. An attack on the marshal drew fire from both sides. Stringer and another man were killed, Domingos carried home mortally wounded, and six others severely injured.—The South Carolina Alliance is extending its boycott to newspapers, towns and cities.

Deaths.—Gen. John F. Hartranft, at Norristown, Pa., Oct. 17, aged 59. A civilian, he served through the war, rising from colonel at Bull Run to division commander of 9th corps at Fort Steadman in 1865, with 24 battles between. He executed the sentence against those tried for the murder of Lincoln; in 1872 was elected governor of Pennsylvania, and in 1875 re elected; in 1878 appointed postmaster of Philadelphia and in 1880 collector of that port.—Henry Smith, the well known "razor-strop man," of New York, Oct. 12, aged 73. He began making strops at Troy about 1845; sold them on the streets from town to town; became worth $120,000, which he lost in speculation; served during the war in the 140th N. Y. V., was wounded at Gettysburg, and refused a pension; since 1865 has sold razor strops and small cutlery on Nassau St., New-York, and had a wide acquaintance among bankers and brokers.—Antonio Meucci, Garibaldi's old friend when in America, at Clifton, S. I., Oct. 18, aged 85. Meucci and Garibaldi manufactured soap and Banker Morosini was in their employ.—William Waterman at Grand Rapids, Wis., Oct. 18, aged 114. He married a second time at 100, and used liquors and tobacco in moderation.—Senator Hardisty, chief factor of the Hudson Bay Company, at Winnipeg, Oct. 16. His father and grandfather were in the same service.—B. T. Babbitt, the soap-maker, at New-York, Oct. 20, aged 80.

From Abroad.—Mr. Morley, Lord Granville, Sir William Harcourt, Lord Ripon and Mr. Gladstone held a home rule conference at Hawarden, Oct. 18.—An explosion in a Longton colliery, county of Stafford, Oct. 16, buried 70 miners, of whom only 12 were taken out alive.—During the Czar's visit to Berlin he held a long and amicable conference with Prince Bismarck, and gave 100 000 marks to the poor.—Emperor William and wife, Ex-Empress Frederick and daughters have gone to Athens to attend the marriage of Princess Sophie to the crown prince of Greece.—At a banquet given to Signor Crispi at Palermo, October 15, the prime minister said that the Pope possessed perfect religious liberty, and that his temporal power, though existing for centuries, only covered a transition period; Rome existed before it and would continue to exist without it.—The King of Portugal, who had become paralyzed, died Oct. 19. The Duke of Braganza, his eldest son, succeeds him under title of Carlos First.—General Hippolite has been elected president of Hayti.—Labrador fishermen are said to be starving, owing to failure of the fisheries.—The Hawaiian cabinet declares that it wants trade reciprocity with the United States but not annexation.—Chili has placed on the free list agricultural and mining tools, and material for telegraphs, telephones and railways.—A tidal wave has swept away 2,000 houses in Japan, and destroyed 1900 lives.

Miner Items.

Natural gas has been found near Salem, South Dakota.

There is now a barbed-wire trust with capital of nearly $30,000,000.

Stephen A. Douglas Jr. of Illinois is speaking in the Ohio campaign.

The grand jury of Albany county has failed to indict Sualth and Sullivan.

The Sacs and Foxes of Indian Territory are now ready to sell their lands.

Gen. Green B. Raum of Illinois has been appointed commissioner of pensions.

Two "professional" burglars, aged 7 and 9, have been arrested in New-York.

The new State of Washington has increased her population 40 per cent. the past year.

A number of persons have been indicted at Chicago for conspiring to bribe Cronin jurors.

The senior class of Harvard has elected as orator, Clement G. Morgan, son of an ex-slave.

Three Indianapolis breweries have been bought by an English syndicate for over $3,000,000.

Sir Edwin Arnold sailed from San Francisco, Oct. 17, for Japan, to make a special study of the people.

Dr. Talmage's church has bought a new lot for $100,000, and will build a church to seat 6,000, to cost $150,000.

The Indiana dressed-beef law has been declared unconstitutional by a decision of Judge Irvin of Marion county.

The grave of Emerson, at Concord, Mass., has been disturbed, and the coffin has since been encased in granite.

The South Dakota legislature has elected R. F. Pettigrew and Gideon C. Moody United States senators—Republican.

The 79 public schools of Brooklyn received American flags at a public meeting, Oct. 19, through Grant Post, G. A. R.

A male giraffe was born in the Zoölogical Garden, Cincinnati, Oct. 20—the first in this country. It is nearly 5½ feet high.

Government officers seized a distillery at Lynchburg, Ohio, on charge of fraud, containing over one million gallons of whiskey.

Alexander Hogeland, president of the Boys and Girls National Home Association, says there are 60,000 boy tramps in the United States.

President Gilman of John Hopkins university sailed for Europe last week. He will visit the Mediterranean countries and the north of Africa.

St. Mark's Episcopal church, Brooklyn, Rector Samuel M. Haskins, and Sexton David Longworth, celebrated their joint fiftieth anniversary, Oct. 13.

Mr. Boeing of Duluth, Minn., who owns land on both sides of the canal leading to the lake, has been putting a rope across to compel navigation to pay toll.

Baltimore is also alarmed about electric wires, a crossed wire having destroyed the fire alarm apparatus in the city hall, and threatened fires in several places.

The Court of Appeals of this State has decided that grain elevators are common carriers and the law fixing their maximum charge to be constitutional and valid.

John L. Sullivan's $30,000 gained by the Kilrain fight has all been spent or lost, and his creditors are pressing him. His pugilistic income, aggregating $120,000, is all gone.

"Sandbaggers" have been at work in New-York. Two men were fatally injured, and a saloon keeper chased through Bleecker street to his own door, at three o'clock in the morning.

A large part of New-York was left in darkness early last week, the electric companies refusing to light up. The question of putting the wires under ground is still unsettled. The Fenks inquest is in progress.

The demand for petroleum from China and Japan is unprecedented; freights have gone up to 30 cents per case, and idle ships in all parts of the world have been ordered to Philadelphia. Shipments since Jan. 1 reach 120,001,909 gallons.

The seventh annual council of the school superintendents of this State was held last week at Albany. The compulsory educational bill was referred to committee for revision to meet the governor's

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Farm Prod

Albany Ma

FLOUR.—The Argus r
with active demand and

Oct.

Com. State ..... $3.
State Extra..... 4.
Amb. State & W.... 4.
O., Ind. & St. L. Wr. 4.
Winter W. Pat.... 5.
Minn. "Bakers".... 4.
Sp'g W. Pat., new. 5.

Rye Flour—Business c
@3.35 per bbl.: Grains

moderately well at $6.10@6.40 per bbl. Corn Meal in good demand and steady at $1.60@1.65 per bbl. Buckwheat flour rather quiet at $1.75@1.90 in the street, and at $1.65 per 100 lbs. in store.

GRAIN.—Corn slightly weaker, with moderate trade. No. 2, 63¾@63½c. per bu.; No. 3 mixed, 61¾@61½c. Oats easy, with fair demand. No. 2 white, 36½c.; No. 3, 35@35¼c. Rye is light receipts and demand; State, 53@54c. per 56 lbs.

HAY AND STRAW.—Both fair with good demand. Timothy, prime $1@1 per ton good, $1@1; clover, $1@—; mixed, $1@1. Rye straw, best, $1@1; oat straw, $7@10; wheat straw, $10.

HOPS.—Market dull; orders coming in slowly.

N. Y. State, 1888	10	@12c.
N. Y. State, '87	8	@10
Pacific Coast, 1888	10	@12
Bavarian and Bohemian	22	@28

Albany Street Market—Oct. 21.

BUTTER.—Choice, 23@24c. per lb.; good to prime, 19@22c.

EGGS.—Near-by and new laid, 24@25c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@12c. per lb.; forequarter, 6@8c.; mutton, carcasses, 7@8c.; lamb, hindquarter, 10@11c.; forequarter, 9@9c.; veal, 7@9c.

POULTRY.—Fowls, 10@13c. per lb.; chickens, 12@15c.; turkeys, 15@17c.; spring ducks, 13@15c.; green geese, 12@13.

FRUIT.—Apples, $1@3 per bbl.; Cranberries, $2.75@3 per crate. Grapes, Concord, 4@5c. per lb.; Delaware, 8@10c.; Catawba, 8@9c.; Niagara, 10@11c.; Pears, $3@4 per bbl.

VEGETABLES.—Cabbage, $1@1 per 100; Carrots, 10c. per bu.; Celery, 10@12½ per doz. bunches; Cauliflower, $1@1.50 per doz.; Onions, $1@1.25 per bu.; Sweet Potatoes, $2@2.50 per bbl.; Parsnips, $1@1 per bu.; Potatoes, $1@1 per bbl.; Rutabagas, 40@50c. per bu.; Squash, $1@1 per bbl.; Tomatoes, 25@30c. per bu.; Turnips, $1 per bbl.; Wax Beans, 75@80c. per bush.

New-York Markets—Oct. 19.

BEANS—Marrow, 1888	2 90	@	3 05
Medium, 1888	2 15	@	2 20
Pea, 1888	2 15	@	2 20
COTTON—	Uplands.		N. O. & Texas.
Ordinary, per lb.	—	@	10
Middlings	10¾	@	10¾
Fair	11⅝	@	11⅝
EGGS—State and near-by, per doz.	22	@	22
Western and Canada	19	@	20
FLOUR—Spring Wheat pat., per bbl.	4 10	@	5 35
Winter	4 10	@	5 00
No. 2 extra State and Western	2 75	@	3 15
No. 2 extra	3 25	@	3 75
Minnesota sacks	3 65	@	4 00
Straights	4 45	@	5 00
Rye Flour, superfine	3 80	@	3 15
Corn Meal	2 70	@	3 00
FRUIT—Apples, Spy, per bbl.	1 50	@	3 50
Twenty Ounce, King	2 25	@	3 00
Belmont & Hubbardston	2 25	@	2 75
Baldwin and favorites	1 50	@	2 25
Cranberries, Cape Cod, per bbl.	2 50	@	4 00
Jersey, per crate	1 75	@	2 25
Grapes, Delaware, per basket	10	@	25
Concord	10	@	20
Catawba	15	@	30
Pears, Duchesse per bbl.	2 50	@	3 50
B. Anjou, per bbl.	3 00	@	3 50
Beurre Bosc	4 00	@	5 00
Seckel, per bbl.	2 00	@	3 50
Quinces, per bbl.	3 00	@	4 00
Chestnuts, per bus.	5 00	@	6 00
Hickory nuts	1 25	@	1 50
DRIED—Apples, evap., 1888, per lb.	8½@		10
Unevaporated, 1888	4	@	5
Sliced, 1888	6	@	6
Peaches, sun-dried, 1888	7	@	9
Evaporated, 1888	8	@	10
Evaporated, peeled	15	@	20
Plums, Damson, 1887	3	@	7
Cherries	11	@	13
Huckleberries	5½@		6
Blackberries, 1887	11	@	12
Mascarines, evap., 1888	26	@	28
Unpeeled, 1887	24	@	25
GRAIN—Wheat, State white, per bus.	87	@	88
Unwashed spring	25	@	28
No. 1 red, winter	90	@	90½
No. 2 red, winter	84½@		85
Corn, No. 1, white	54½@		55½
No. 2, mixed	54½@		55½
Oats, No. 1, white	37½@		38½
No. 1, mixed	30	@	32
Rye, State and western	51	@	53
Barley, Canada	53	@	57
HAY—Timothy, new, per 100 lbs.	75	@	80
Shipping	—	@	60
Clover	60	@	65
Straw, long rye, No. 1	70	@	80
No. 2	55	@	60
Oat	45	@	50
Wheat	60	@	—
HONEY—New clover, per lb.	14	@	16
Buckwheat	10	@	12
HOPS—N. Y. State, 1888, best, per lb.	9	@	12
Best, 1887	7	@	8
Common to fair	2	@	6
Calif'nia, 1887 best	8	@	10
Washington, best	11	@	13
Pacific Coast, 1887	8	@	9
POULTRY—Live fowls, per lb	9	@	—
Spring chickens	9	@	25½
Turkeys	8	@	13
Ducks per pair	50	@	60
Geese	1 25	@	1 50
Dressed fowls, per lb	9	@	13
Fowls, spring	10	@	15
Chickens	8	@	18
Turkeys	12	@	15
Ducks eastern, spring, per lb	14	@	18
Western	11	@	13
Geese, Boston	—	@	14
PROVISIONS—Beef hams, per bbl	13 00	@	14 00
India mess	18 00	@	14 00
Hogs, dressed, per 100 lbs	6 00	@	6 50
Lard, per pound	6	@	6½
Pork, Saw mess, per bbl.	12 50	@	12 50
Short clear	12 00	@	13 50
Family	12 50	@	13 50
VEGETABLES—Cabbage, L. I., per 100	3 50	@	4 00
Cauliflower, L. I. & Jer. per bbl.	1 00	@	4 00
Celery, L. I., per doz. bunches	50	@	75
Scotland, Western, per doz. roots	25	@	35
Lima beans, L. I. & Jersey, per bag	3 50	@	3 60
Onions, Conn., red, per bbl.	3 00	@	3 10
Orange County, red	3 00	@	3 25
State, yellow	2 25	@	3 00
White	2 50	@	3 25
Potatoes, L. I., Rose	2 00	@	—
Jersey	1 50	@	1 60
State	1 50	@	1 62
Western	1 50	@	1 60
Sweet	1 75	@	2 00
Jersey sweet	1 75	@	2 25
Squash, Hubbard, per bbl.	3 00	@	3 00
Marrow	3 00	@	—
Tomatoes, Jr., & L. I., per crate	45	@	50
Turnips, Massila, L. I., per bbl.	—	@	1 00

Cattle Markets.

NEW-YORK, Oct. 19.

BEEVES.—Receipts, 13,333 head. The week opened with a liberal supply and a falling off of 10c. per cwt. on beeves of inferior quality, followed on Wednesday by a heavy supply and a further decline of 10c. per cwt. on all grades of quality. Friday, on a light supply the markets improved in tone and closed steady. The trade, as reported, ranged from poor to fair, being in general coarse but well fitted. The best steers were from Kentucky. Some choice fresh beeves were held for export.

[Per 100 lbs. net.]	This week.			Last week.		
Good beeves	$5 40	@	—	$5 00	@	—
Fair	4 85	@	5 37½	4 60	@	4 95
Coarse	4 10	@	4 80	3 80	@	4 35
Poor	3 50	@	3 95	3 25	@	3 75
Oxen	3 10	@	4 50	3 50	@	4 30
Dry cows	2 00	@	3 10	2 00	@	3 00
Bulls	1 50	@	3 40	2 00	@	3 00

[Per 100 lbs. gross.]	This week.			Last week.		
Good beeves	$5 10	@	—	$4 87½	@	—
Fair	4 85	@	5 07½	4 60	@	4 75
Coarse	4 10	@	4 80	3 80	@	4 35
Poor	3 50	@	3 95	3 25	@	3 75
Oxen	3 10	@	4 50	3 50	@	4 30
Dry cows	2 00	@	3 10	2 00	@	3 00
Bulls	1 50	@	3 40	2 00	@	3 00

MILCH COWS.—Receipts, 105 head. The supply has been liberal and the quality of the offerings poor to fair. Dealers are slow filling to furnish actual sales, but report the range at $20@45 per head, with a few cows odd at $ 0@55 per head.

VEALS AND CALVES.—Receipts, 2,201 head. The State calves now coming forward are of coarse and lean that trade is weakened. Veals are generally of pleasing quality. The week opened with a better tone which was not sustained. Values declined 50c. per lb. on Wednesday, and the feeling was dull. Friday the markets closed steady. Range of prices: Calves, grass-fed, 3@5c. per lb.; veals, part corn-fed, 6½ @7c.; Western calves, 3@5c.; veals, coarse to fair 5@6c.; a few selected vals a 6c.

SHEEP AND LAMBS.—Receipts, 7,851 head. The week opened with a steady tone in sheep and an advance in lambs of ½c. per lb., followed on Wednesday by an unchanged feeling in sheep and a further advance of ½c. per lb. in lambs. Thursday's trade was slow and values weak. Friday, on a better run, the markets moved steady. Range of prices: sheep, carrier, per lb.; culls, 2@3½c.; lambs, culls, corn, 4@5½c. Quality of flocks very poor to good.

SWINE.—Receipts, 8,949 head. On Monday last trade was dull and values were weak. Wednesday the tone improved, and prices recovered ½c. per lb. Thursday trade was steady. Friday the markets closed unchanged. Pennsylvania hogs, grassfed, 197 lbs., 5½c. per lb.; 32 State hogs sold in small lots at 6@6½c.; culls, 5@5½c.

BUFFALO, Oct. 19.

BEEVES—[Per 100 lbs. gross.]	This week.			Last week.		
Extra steers	$4 10	@	4 40	$4 30	@	4 50
Best butchers	3 60	@	3 90	3 75	@	4 00
Second quality	3 00	@	3 50	2 75	@	3 25
Poor to common	1 75	@	2 75	2 00	@	2 50
Bologners, light	2 00	@	2 40	2 00	@	2 50
Fat cows, good to choice	2 50	@	2 75	2 75	@	2 85
Culls	1 75	@	2 25	2 00	@	2 00

Receipts, 6,000 head. Market dull throughout the week, with heavy receipts of all kinds but particularly common, coarse steers and fat cows and heifers. Many receipts of the latter were still in the yards today, although offered down to 1½@2.00 per cwt. Almost all the good to choice steers were either sold or shipped out before the morning. Outlook more promising for better quality of cattle next week. Stockers easier; liberal receipts of western; no Canadian; bulls in fair demand.

MILCH COWS.—Lower, trade light, supply fair. Extra, $45@50; good to choice, $40@42; common to fair, $30@35.

VEALS.—Scarce; higher. Extra, $6.25@6.50; heavy fed $5@5.50.

SHEEP AND LAMBS.—Receipts, 11,200 head. Good to choice sheep fairly active strong and higher, but a slight weakness was manifested at closing owing to more liberal receipts. Extra sheep sold at $5.10@5.25; good to choice, 5@5.10; fair, $4.75@5; common to fair, $3.50@4.50; Canada, $4.85@5; western, choice, $5.10@5.25; good-feed wethers and ewes wanted. Lambs unsettled weak.

SWINE.—Receipts, 14,500 head. Active demand and prices 5@10c. higher the early part of the week, but declined sharply after, closing dull and weak. Mediums, $4.20@4.45; Yorkers, $4.40@4.45; mixed, $4.40@4.45; pigs, $4.10@4.25.

BOSTON, Oct. 19.

BEEVES, NORTHERN.—Good oxen, dressed, 8½c. per cwt.; fair to good, 8@8c.; second quality, 5@6. TEXAS STEERS, Alive—Extra, $4.60, good to prime, $4.30; light to fair, $4@4.25.

MILCH COWS.—In good supply at $35@40 per head.

CALVES.—Over 1,400 at 5@6c. per lb. for best; small calves, $1.00@3 per head.

SHEEP AND LAMBS.—About 11,000 head; in lots at $4@4 per head; yearlings, 5@5½c. per lb. spring lambs, 6@6c.

SWINE.—Western fat hogs at 4½c. per lb.; Northern dressed, ——c.; pigs, 5@5c.

Dairy Markets—Oct. 21.

ALBANY.—Fancy grades of Butter in moderate receipt and closely sold; ordinary grades in fair request. Western creamery, 20@22c.; State dairy, 18@20c.; fall-made, 16@17c.; Western dairy, 15@18c.

Cheese steady; receipts good. State factory, full cream, 11@11c. fair to good, 10@10½c.

UTICA.—There was no change in the cheese market here last Monday, although it was a question for some time whether as much money would be paid for stock or not. Transactions amounted to 1,150 box at 10½@10¾c., the ruling being 10¾c. Little Falls sold 314 box. at 10½@10¾c., the highest price being paid for a small lot. Dairy cheese sold to home trade, and the largest number selling at 10c. Butter was sold at Utica at 19@20c. were white cheese, and were also taken for home trade. Most of the gal factories got 20c., and those were purchased for export. Small lots sold at 19@20c. and small dairies at 19c. The principal sales of dairy butter were sold off on an average to the middle of September, although there are a few factories that are just beginning to sell their September make. It does not look as if cheese would bring any higher prices this fall. The export trade is very nearly dead, and home trade is fast being supplied, so that the stimulus from this source is pretty well over. The market in New York is off a little, for outside, and nothing is likely to occur to help it up again.

Hartford was lower last Monday. Utica disposed of a pipe creamery at 22c., and sold at Sterling, Little Falls sold 74 pkgs. dairy at 20@21c., and 40 pkgs. creamery at 21c. New-York remained as before at 22c., but trade is very dull.

NEW-YORK.—Best creamery Butter fairly sustained; other grades in liberal supply. Receipts, 23,301 packages. Eastern creamery, 22@23c.; Western creamery, 21@22c.; State dairy, 20@21c.; Western dairy, 18@19c.; Western factory, 16@17c.

Cheese weak. Receipts, 2,977 boxes. Factory, best, 10½@10¾c.; prime, 10@10c.; light skims, 7@8c.; Ohio flats, 10@10c.

BOSTON.—Western creamery, extra, 23@24c.; extra State, 23@23c.; factory, 19@21c. Vermont extra, 23@23c.; dairy, choice, 22c. Eastern creamery, good to choice, 23@23c.

Cheese, Northern choice, 11@11c.; western, 10½ @11c.; sage, 11½@12c.

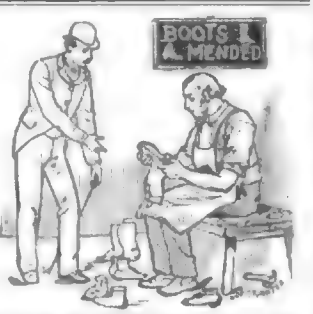
Wool Markets—Oct. 21.

ALBANY.—Increased activity; sales 12,000 lbs.

Medium washed	24@25	Unwashed	21@23
Fine washed	29@30	Pulled	27@47

NEW-YORK.—Ohio and Penn., XX, 28@29c.; Michigan, 25@c. delaine, 28@29c. unwashed Western, 1 at 24c. pulled, 24@26c. combing, 36@43c. Territory, fine 18@c. Montana, 21@c. Oregon, 24@26c. scoured 55@ Texas, 16@20c. scoured 40@45c.; California, 19@20c. scoured 60@ Valparaiso, 16@ ——.

BOSTON.—The market has been steady, with a better inquiry, which has developed into a fair trade, taking small parcels of wool at frequent intervals. Dealers are firm, believing that wool will be wanted and in some instances have asked an advance. London sales closed at an advance, little being bought on American account, as dealers say wool is cheaper by several cents in this country than it can be laid down here from abroad. Sales 2,324,000 lbs., domestic and foreign. Ohio and Pennsylvania, 24@25c.; Michigan, 24@25c.; combing and delaine, 27@28c.; scoured, 46@47c.; pulled, X extra, unwashed, 28@30c.; Territory, 16@20c. Texas, 15@16c.; California, 16@18c.; Oregon, 20@c.; Australian, 40@c.; New-Zealand, 40@42c. English, 40@ ——.



Shoemaker—Is not this the 5th time I have had soled these boots?

Customer—Yes! Since I have used WOLFF'S ACME BLACKING my boots wear longer than before and are always bright and clean.

Wolff's ACME Blacking

Is the Blacking for Men, Women and Children.
The RICHEST BLACK POLISH.
Making Leather Waterproof and Durable.
No Brush. A Shine Lasts a Week.
Can be washed with water, same as Oilcloth.
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Recent Publications.

Literary History.—A fascinating book, which we commend especially to the attention of young men and young women (though no reader is too old, and few are probably too wise, to enjoy it), is that entitled "English Lands, Letters and Kings," and containing, as the first chapter explains, "a series of very familiar and informal talks about English literary people, the ways in which they worked, the times in which they lived, and the places where they grew up." The author is Mr. Donald G. Mitchell, always pleasing and instructive, and we think him at his best in some of the pages before us. This volume comes down only to the time of Elizabeth; but the reader is led by its last sentence to hope that one other at least is to follow. Chas. Scribner's Sons, New-York, publishers; S. R. Gray, Albany; price, $1.50.

Another praiseworthy book is that styled "Literary Landmarks, a Guide to Good Reading for Young People, and Teacher's Assistant," by Mary E. Burt, Teacher of Literature in the Cook County Normal School at Englewood, Ill.; Houghton, Mifflin & Co., Boston, publishers; price, 75 cents. "It is not because I know so much of books," the writer says, "but because I know so little, it is because I have spent many years and hundreds of dollars to get a small knowledge of books, where, by taking a direct road, I might have had a much larger knowledge at less expense, that I offer the results of my twenty years' work in the schoolroom to the public." We have no doubt that the public will find these results valuable.

Biography.—Messrs. D. Appleton & Co., New-York, publish a good English translation of a volume of most entertaining "Recollections of the Court of the Tuileries," by Madame Carette, Lady-of-Honor to the Empress Eugénie. It is seldom that the details of daily life in a royal palace are so fully given to the public. The price of the book is only 50 cents, and it is well worth it.

The same publishers issue also a work called "Great Leaders—Historic Portraits from the Great Historians, [Grote, Carlyle, Mommsen, Froude, Gibbon, Hume, Carlyle, Macaulay, Prescott, Motley, and others,] selected, with notes and brief biographical sketches, by G. T. Ferris," who seems to have done his work remarkably well. The book has 440 duodecimo pages, and is illustrated with a number of portraits.

A work that may be said to be somewhat similar in scope to the last mentioned, though, unlike that, confined to the history of our own times, is published by Hubbard Bros., Chicago, under the title, "Living Leaders of the World," by Gen. Lew Wallace, James Parton, Mrs. Frank Leslie, and others. Ninety-nine biographical sketches are included, filling more than 600 large octavo pages, which are embellished with a profusion of wood-cuts, together with some steel-plates, four colored lithographs, and one very good photogravure.

Travel.—A very pretty and very readable book, intended primarily for young people, we suppose, but perhaps equally interesting at any age, is that called "Personally Conducted," being the story of a tour in Europe, narrated by that favorite writer, Frank R. Stockton. It is published in handsome style, with many good illustrations, by Charles Scribner's Sons, New York, and sold in Albany ($2) by Gray.

Through the same book-seller we receive also a more serious work, dealing with a fresher theme—"The New Eldorado—a Summer Journey to Alaska," by Maturin M. Ballou; Houghton, Mifflin & Co., publishers; price, $1.50. The author thinks that in paying seven million dollars for Alaska we got it practically free gratis. "There are plenty of people," he says, "who ridiculed the acquisition of this territory at the time when it was brought about; but there were also some far-seeing statesmen, influenced by no selfish motives, who felt very different about the matter, among whom was Mr. Seward, then Secretary of State, and to whom the credit is mostly due for consummating the important purchase. That able diplomat considered the transaction to have been the most important act of his official career, and put himself on record to that effect. He remarked, in discussing the matter at a public meeting, 'It may take two generations before the purchase is properly appreciated.' *Mr. Seward was right.*"

Other Books.—A cookery book rather out of the usual line is the "Housekeeper's Companion," by Bessie R. Gunter, from the experience of some 60 Virginia ladies; "many of these receipts," we are informed, "have been used in their families for several generations; others will show that the contributors have kept pace with the times and selected the best of those of more recent introduction." The book has over 200 duodecimo pages, beside a number of leaves of writing paper for notes and additions. John B. Alden, publisher, 393 Pearl St., New-York; price, $1.

A new series of essays by Max O'Rell, entitled Jacques Bonhomme, is offered (in paper covers, at 50 cents) by Cassell & Co., 104 Fourth Ave., New-York, and is of course certain of wide sale.

From the Century Company, 33 East 17th St., New-York, (B. Quinn, 496 Broadway, Albany,) we have a new book for boys and girls by "Uncle Remus," Mr. Joel Chandler Harris. It is called "Daddy Jake the Runaway, and Short Stories told after Dark." It has 150 large square pages, beautifully printed and illustrated, and sells for $1 50.

Winter Ornaments.

Ferneries.

For an ordinary room, scarcely anything will equal the fernery or Wardian case—an air-tight glass box of any shape. The idea is to provide a cover for the plants that will exclude dust, noxious gases, equalize the temperature and prevent evaporation. The plants in a well constructed case can do without watering for many months. The case can be made very ornamental in itself if desired. An elegant shape is that of a pyramid, which allows a small hanging basket to be suspended from the apex. The fernery comprises a pan of zinc or other metal, four or more inches deep, for the plants, and a glass case which is placed over this, making an air-tight space. The case should have a movable bottom upon which the pan is placed. The lower part of the case should be solid, that it may conceal the receptacle for the plants and more readily make the joints tight. Some prefer to dispense with the movable bottom, and to open the case by displacing one of the glass sides. The frame should be nicely grooved that it may go together snugly. The glass is fastened best by putty, and should be done on the inside for the sake of appearance. The woodwork should be well painted that it may not warp. Additional ornamentation, such as covering the woodwork with plush or fancy work, may be done to advantage. Suspending small bright chains, such as do not tarnish easily, on the inside, will have an excellent effect.

The zinc pan is filled with a mixture of rich black soil from the woods, clean, bright sand, and leaf mould, in the proportion of two parts of the first to one of each of the others. This mixture should be well watered, but not soaked, when it is ready for the plants. If ferns are to be used exclusively, a few fancy rocks should be carelessly laid near the centre. The largest plants should be placed here, and surrounded by smaller ones. It is better to plant as great a variety as possible. The fernery should not be kept directly in the sunlight, as the plants are shade-loving, and the most luxuriant growth will be made in a partially secluded position. A very important matter is to have the soil rich.

Ferns are not the only plants that thrive in such a case. Very many plants, both wild and tame, will grow to excellent advantage, since the fernery furnishes about all the requirements for growth. There is room for the exercise of ingenuity in planting, such as forming a miniature wild garden of tangled vines and plants. If the case is air tight, it will need no attention (except an occasional removal of dead leaves) for long intervals. The moisture given off by the plants does not escape; likewise the gases given off will be absorbed. In fact, it is nearly self-sustaining when properly constructed.

Aquariums.

These are even more readily constructed than the fernery, though a good one will require more attention. Aquariums are of all shapes and sizes, plain and ornamental. I have seen persons very much interested by a discarded lamp bowl, filled with spring water and containing two small minnows. In this case the water had to be changed daily, yet the youngsters performed this task gladly, because they knew that on this depended the lives of their little pets. Any large glass bowl, globe or jar may be used for an aquarium. The larger the receptacle is the better, for then plants may be grown in it which will not only add to its beauty but also lessen the necessity of changing the water often. A good sized glass tank, well constructed, and containing both animal and vegetable life, will certainly prove a most desirable ornament for the room. The builders of those large aquariums in London aimed to expose the largest possible portion of the water to the air, in order that it might absorb oxygen therefrom. This may be a hint to those who would construct smaller aquariums. The difficulty seems to be that animals that breathe by gills absorb oxygen much more slowly than lung breathing animals do; hence they require that about the normal proportion of free oxygen be contained in the water. This difficulty is overcome in small vessels by changing the water frequently, which is easily done by drawing it off by a rubber siphon and pouring in fresh water when the contents have been nearly emptied.

If the aquarium is to be more than a fish bowl, it might be well to arrange some small rock-work the first thing, and fasten it solid with cement. This will afford a retreat for the fish and an anchor for the water plants. These plants will be helpful, for they will utilize the carbon dioxide of the animals by appropriating the carbon and giving back the oxygen, thus simulating the interchange that goes on in nature. A variety of plants should be chosen, and the only qualification necessary is that it grows in water. The most interesting part of the aquarium will be the fishes. These may be dipped from the creek, and any variety will probably live for some time with fair treatment. It will add to the interest to introduce other small water animals, such as snails, young crayfishes, tadpoles, &c. Doubtless everyone knows that nothing is handsomer for the aquarium than gold fish. Unfortunately these often fail to do well with inexperienced persons. Greater care is necessary than for other fish. The receptacle must not be too small; they must not be caught with the hands, but with a net, and never touched unless strictly necessary; they must not be fed every variety of food, and doubtless a few pieces of chopped beef is all that is needed. Change the water frequently, and do not frighten the fish. With these precautions gold fish may be tried on a small scale until experience develops sufficient skill to care for them successfully.

Orange County, O. ROB'T. L. DEAN.

A New Animal.

Edr. Country Gentleman—Your correspondent, Mr. Wakeman, p. 764, will confer a favor by telling us how he discovered that the yeast plant is an animal. Did he ever know any animal to secrete a cell-wall of cellulose? Has his microscope shown him any contractile vesicle in the *Torula*? The yeast plant is a true unicellular plant, destitute of chlorophyl, a fungus; its name as now accepted by botanists is *Saccharomyces cerevisiæ*, and was formerly *Torula cerevisiæ*. It secretes a wall of cellulose which is distinctly a vegetable product. In these low forms of life it is hard, in some cases impossible, to draw the line between what is animal and what is vegetable. But "*Torula* is an indubitable plant for two reasons. In the first place, its protoplasm is invested by a continuous cellulose coat, and thus has the distinctive character of a vegetable cell. Secondly, it possesses the power of constructing protein out of such a compound as ammonium tartrate, and this power of manufacturing protein is distinctively a vegetable peculiarity. *Torula* then is a plant, but it contains neither starch nor chlorophyl, it absorbs oxygen and gives off carbonic anhydride, thus differing widely from the green plant. On the other hand it is, in these respects, at one with the great group of fungi." (*Huxley & Martin—Practical Biology, p. 5.*)

Some of the recent German botanists have questioned the individuality of the saccharomyces, as a distinctive plant, and hold that its cells are *conidia* (asexual spores) of a higher form of fungus; but no botanist has ever, I think, questioned the fact that it is distinctly and purely vegetable. W. F. Massey.

North Carolina Agricultural College.

Domestic Economy.

A Plea for Woolen Underwear.

Very great progress has been made within the past fifty years, not only by physicians but by all classes of intelligent people, in learning of the laws of nature which govern our bodies. The wisest, most skillful practitioners are they who most successfully aid her in the work of eliminating poisonous substances from our systems, and rebuilding them. A very important help towards accomplishing this consists in having the skin kept in a clean, active condition; and to ensure this, not only proper bathing is essential, but sensible clothing as well.

It is no longer a question, but a well attested fact, that all people in this latitude should wear woolen undergarments next to the skin for the larger part (if not the whole) of the year—most emphatically old people, and young children. We rarely now see the latter clad with bared arms and necks, as was the almost universal custom a few years ago; but I question whether the average child is clothed more sensibly as regards its underwear now than formerly. I am not using too strong language when I say that it is murderous for a mother not to keep woolen garments next a child's body, till it is two years old; and yet, unless the child is sick and this constitutes part of the medical treatment, I doubt its being generally practiced. Even when so ordered, I have heard silly mothers in pitying tones commiserate the poor child "for its long suffering endurance," not knowing that they, as well as every one else, suffer far less from heat when dressed in this manner, that they do when wearing gauze, muslin, or linen, especially where one perspires easily or freely.

Many good authorities unite in saying that there is no better month in the whole year than October for invalids and delicate people to recuperate their strength and vitality. Nature often makes wise and beautiful provisions, like this, for fitting us to endure a coming demand or trial; but of little avail is it, unless we supplement her efforts with knowledge and common sense. If the flannels have been laid aside during the summer months, they should be again donned now. Doubtless there will be "warm" days yet, but it is folly to wait till one shivers a while with cold, and has already sorely taxed vitality in keeping up the bodily heat, before putting on suitable clothing. The belief that such a course is brave, is on a par with the fast-waning one, that it is conducive to good health to sleep in extremely cold rooms.

All woollen underwear is now made in so many grades, for man's wear, that there is seldom any necessity for buying the coarse, half-cotton makes; for it should always be borne in mind that softness and fineness of texture have far more to do with the warmth of woollen goods than their thickness and weight. There are various styles of garments now made for women's wear, each having its admirers and staunch defenders. The main advantage a combination garment has over the ordinary style, lies in its having but one thickness of cloth over the abdomen; more warmth on the arms and legs, and less on the trunk, is the rule for healthful dress. A small child can wear white muslin dresses during the whole winter, if that suits the mother's pride, and yet be comfortably and healthfully dressed: in fact, a child's outer dress is of comparatively little consequence, if its underwear be ample, well-fitting and warm, extending well over both arms and legs.

It is almost impossible for either a young or healthy, middle-aged person to appreciate the heat actually required for a delicate old person's comfort. Dr. Talmage recently said in his telling way: "No amount of praise for the dead can atone for thoughtlessness or lack of kindness to the living. Better give the sad folks fewer tombstones and more blankets." Yes, and warm, woollen underclothing—flannel night-dresses and shirts, and knitted or crocheted worsted night-caps, for very many old people are made restless and wakeful because of their heads' being cold. Katherine R. J.

Onondaga County, N. Y.

Roasting a Turkey.—I dedicate the following to the young housekeeper, who perhaps for the first time contemplates giving a Thanksgiving dinner: Choose a young turkey, if possible, and after it is nicely drawn and thoroughly washed and wiped dry inside and out,

fill it with a dressing made in the following manner: Cut six slices of stale bread, trim off the crusts and break in small pieces. Add a cupful of oysters, half a cupful of butter, a heaping teaspoonful of black pepper and a tablespoonful of pulverized sage, and salt to taste. Now pour on warm water enough to moisten it, and add two well-beaten eggs, and mix with the hand until it is pliable. Rub a little salt and pepper on the inside of the fowl, and proceed to fill first the cavity where it was drawn; sew up tightly; then fill the skin of the neck full, and draw the skin together and tie. Rub the outside of the fowl with a little salt, and put to roast on a dripping pan. Roast slowly at first, and baste from water in the dripping-pan. It will require four hours.

Meridian, N. Y. A. C. B.

Appetizers.

The following is a list of very small dainty dishes which in France are called "*Hors-d'œuvres*" and in England appetizers, and which are very largely used to form the beginning of a superior breakfast, luncheon or dinner. They are served in very small quantities, and are either handed round for those at table to help themselves, or are arranged on the table beforehand—one dainty little glass or china dish being placed for each person:

Anchovy Croutes.—Cut as many small rounds of stale bread as are likely to be required; fry them a lovely golden brown in hot butter; drain well, and spread with a thin layer of the following mixture: Put say half a dozen of well-washed anchovies into a mortar, with the yolks of two hard-boiled eggs, three ounces of fresh butter, a slight seasoning of cayenne and a few drops of cochineal; pound these ingredients to a perfectly smooth paste, pass it through a sieve, and use as directed. Sprinkle the top of each croûte with a little white of hard-boiled egg, chopped just as fine as possible, and a tiny pinch of finely-minced parsley or tarragon. Arrange the croûtes separately on very small fancy dish-papers, and serve one to each person.

Sardines a la Royale.—Open a box or tin of fine, plump sardines; take out the requisite number of fish, remove the skins, split each fish open down the back and take away the bone; season the insides pleasantly with a pinch of cayenne, a few drops of vinegar, and salt if necessary; then close the sardines together again in their original form. Have ready some leaves of crisp, well cleaned lettuce or endive; cut them in small strips, season to taste with salt, pepper, salad oil and vinegar, and arrange in a dainty little bed on each small dish. Place the sardine on the top; garnish tastefully with tiny patches of hard-boiled egg-yelk rubbed to a fine powder through a sieve, and strips of boiled beets, an inch long and the eighth of an inch wide. Lay these strips on crosswise, with the egg between each, and serve.

Salmon Strips.—Take some well smoked salmon, cut it in thin strips about four or five inches long, and soak it for half an hour in salad oil mixed with a little lemon juice; drain the fish carefully, roll each strip up very neatly, season pleasantly with cayenne, and place it on a tiny dish; lay a fine fresh oyster or two on the top, arrange sprigs of crisp, nicely-seasoned watercresses round about, and serve with a slice of thinly-cut brown bread and butter, rolled up neatly and placed at the side of the dish.

Mushrooms on Toast.—Choose mushrooms as equal in size as possible; cleanse them carefully, and put them into a stewpan with sufficient butter to moisten and keep them from burning, a little salt, pepper, and lemon juice, and stew very gently till tender. Prepare some rounds of hot, well-buttered toast, place these separately on hot china dishes, and arrange three mushrooms on the top of each. Add a few tablespoonfuls of rich, brown stock to the butter left in the stewpan, boil up, pour three teaspoonfuls over each dish and serve with a small sprig of crisp parsley inserted in the centre of each, and a few small picked sprigs round about. Aunt Chlor. *London, Eng.*

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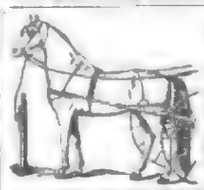

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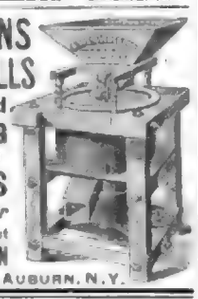

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At 1 o'clock, P. M., will be sold **30 head**—Bulls, Cows, Heifers, 1 and 3 years old, and Calves, being the imported herd (and increase) of J. M. Curtis, M. D.—Aagnis, Artis, DeBrave Hendrick and Alexander families. Catalogues ready Oct. 20th.

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CHAMPION BUTTER HERD.

4 Cows averaged..... 24 lbs. 1-6 oz.
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The entire herd of 38 cows and heifers of all ages (9-3 yrs.) averaged 17 lbs. 13-7 oz. butter in a week.

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Progeny of these animals for Sale. Prices reasonable, varying according to age and quality. Average quantity of milk given by dams while in the possession of owner can be furnished, as daily milk record of each cow is kept. The visits of Breeders, and those desiring young stock, solicited.

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RIOTER'S ERICA [illegible], 11 months old..... { Sire Rioter Hugo Pogis 13457. Dam Erica 3d [illegible].

IRIS IVES 3d [illegible], 9 months old..... { Sire Rioter Hugo Pogis 13457. Dam Iris Ives [illegible].

YOUNG COOMASSIE 3d [illegible], 12 months old..... { Sire Rioter's Rival 13650. Dam Young Coomassie [illegible].

ZENA 4th [illegible], 8 months old..... { Sire Carlo Boy 12615. Dam Zena 13 [illegible].

SURPRISE OF MAPLE SHADE 3d [illegible], 8 mos. old..... { Sire Carlo Boy 12615. Dam Surprise of Maple Shade [illegible].

LADY LEONORA 3d [illegible], 8 months old..... { Sire Farmer's Pride 4660. Dam Lady Leonora 11311.

EURIOTERESSA 3d [illegible], 8 months old..... { Sire Hugo Rioter Pogis [illegible]. Dam Eurioteressa [illegible].

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Gold Medal at N. Y. State Fair, 1882, '83, '84, '85, '86, '87 and '88, and over 200 cash premiums in fifteen years' careful breeding. Stock always THE BEST. Prices always THE LOWEST.

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200 High-Class Jerseys.

Headed by the following sires, which are for use only in our own herd:

Stoke Pogis 5th 3807—Sire of 6 young cows testing from 16 lbs. 15½ oz. to 22 lbs. 13 oz. He is the only living brother of Stoke Pogis 3d, sire of 37 cows averaging over 20 lbs. apiece per week. He is almost full brother to Matilda 4th 12616, who gave in one year 16,150¾ lbs. milk, which, from tests of 144 days (such as 22 lbs. 13¼ oz. butter for the month of January, the 10th month after calving) probably yielded over 880 lbs. of butter.

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THE CULTIVATOR
AND
Country Gentleman

Albany, Oct. 31, 1889.

More about Farming in Switzerland.

Exactly at the middle of September the herds migrate downwards from the upper Alps, and the village is *en fête*, on a small scale, for the occasion. After their three or four months' banishment from the run of civilized life, as marked by the diligence route, it is indeed refreshing to see the welcome accorded to the strangers by wives, sweethearts, children and gossips. The highest ascent I ever made, for I am not a climber, was to the Fletschhorn Glacier, and right away at its foot, close by the huge *moraine* which centuries of ice action had wrested from the alpine steeps, there was a green plateau, about an acre in extent, with some four or five of the rudest chalets for accommodating the said herds. There were children there too, and all looked nice in the afternoon sunshine, albeit a cross near by and an inscription showed that three adventurous Englishmen had lost their lives there, some thirty years before.

As mentioned in a former article (Sept. 24, published 26th) the cows are milked and the produce converted on the cooperative principle—a careful witnessed record being made of each cow's yield on the fourth or seventh day after they have got into early summer quarters. The record for the animal or animals of the respective owners, holds good throughout the season, and the assets are divided when the cheese or butter is sold. It did not appear to me that these cots were remarkable for the cleanliness, which characterizes Swiss life everywhere, and thought one of my daughters somewhat heroic in accepting the kindly-proffered drink of milk.

For fuel—being at that altitude beyond the highest straggling pines—the "Alp rose" which is not a rose at all, appeared to come in handy, having been pulled up roots and all, and spread out to scorch in the noon day gleam. A little, and but a little, peat appeared to be available, so that the conditions differed much from what you find on the Grampians in Scotland, where there is peat in much abundance. I have dwelt ere now on the great attention paid by the Swiss to their forests, which are under Federal, rather than under Cantonal law, although the Canton forms the executive agent. It is not difficult to see that the decay of the tree precedes that of man; when wood is wanting to the hearth there will no longer be a hearth; when the trees no longer protect the village from the avalanche, what becomes of the village then?

The rich cheese of the Gruyère district undoubtedly owes its fame primarily to the character of the herbage which is obtained among its uplands. The fine aromatic grasses even perfume the milk, and the very hay—if you ever pass a night in one of their stores at a sufficient elevation—is full of aroma far beyond that of an English meadow at its best. The said hay, gained by laborious efforts, often from patches of but a few square feet in extent, is stored under cover till the snow becomes hard enough in winter to bring it home on a small wooden sledge, the man and his load glissading down the slopes in certain places at tremendous velocity.

The Alpine village is always distinguished by the presence of a respectable school house, where primary instruction is free, and is also compulsory. The fact that only 0.3 per cent. of the annual thirty thousand or so of volunteer conscripts are put back for instruction, as being illiterate, speaks volumes for the intelligence of the people. Education and patriotism go hand in hand towards making them brave and independent. The love for their native soil is of an undying character, and it is the dream of each individual's life, even when he is in other lands earning wages, to return some day to his own mountains, to his snows, glaciers, lakes and streams. For this one object he toils and saves, and not rarely secures the object in view.

Of late years Federal life has been strengthening in Switzerland, though the country is far from being a "Republic" in the sense in which France and the United States are Republics. I mean that the powers of a unitary government differ in the abstract, inasmuch as the Helvetian always says of his Canton—"My shirt is nearer to me than my coat," referring to the Federation as the outer garment. The powers of the unitary government at Berne are all delegated powers, and it is at times difficult to reconcile the cantonal with the central power. Rather—and I have the authority of Grote, the Greek historian who wrote the weighty "Letters from Switzerland" at the time of the Sonderbund war in 1846—rather is it a collection of twenty-two separate and independent republics, much after the fashion of Ancient Greece itself. "Each for all, and all for each" is the motto; but a motto which is not always carried out in its extremity, seeing that cantonal selfishness prevails to an extent of which you have little conception, if you only compare, say Kansas or Oregon with the relations of the one to the other, and of both towards Washington.

But far away down beneath cantonal powers lies the backbone of Swiss independence, as it has been for six centuries, even in the very commune itself. I admit that it is hard to define in every case what a commune actually is, and you must take the customary grain of salt with my description. But generally speaking among the primitive cantons a number of adjacent parishes form the commune—parishes which lie in the same valley, or have interests of an identical nature. The commune among other matters attends to the relief of the poor, and this is done in a manner which seems to me wiser and kinder than our "go-to-the-workhouse" benevolence at home. Relief is given out of doors, and on the condition that if the recipient gets his head above water again, the amount advanced shall be repaid, a circumstance of not unfrequent occurrence. The open lands of the commune again are under local control, and the number of cows that each villager is allowed to graze settled in this manner. Wood for the school fire is similarly provided, and you might see to-day the urchin wending his way to school dragging a little sledge full of firewood as his proportion.

Sunday night seems to be a great time among them for settling the affairs that belong to public life in each separate village; strange contrast this to our hitherto English condition where Hodge has hardly had a soul to call his own. But as there is no titular nobility among them, so there is no Lady Bountiful to distribute meat, blankets or coal at Christmas; but they manage to rub along pretty well for all that. The people rule themselves, alike the governors and the governed.

For a country with so few national advantages—no raw materials among them save wood and stone—is it not strange that they should have the largest volume of trade per head of any European country—England and Belgium coming in respectively the next in order? Here also is a nut to crack for those of my readers who are students of politico-economic science. Her exports amount to $120,000,000 in round figures, while her imports run to $160,000,000 per annum. If I am always taking out of a pocket and putting less in than I pay away, the result is easily known. It is evident that mere figures do not tell much either way in regard to, say, the resulting questions of free trade or protection. But that there must be a balance returned somewhere is an absolute certainty. One portion of it returns to her coffers, thorugh the $10,000,000 which we—from this country—pay the Swiss for the privilege of traveling in "the playground of Europe," for looking at her mountains, ascending her passes, and sojourning in her hotels. America pays a still larger annual tax (how much greater is doubtful, but my impression is from the numbers we met which had crossed the Atlantic that it must come to nearly double); then Germany pays toll in like manner, so does Italy, though in less measure, and France, perhaps, less than either. Again, every Swiss abroad sends back a portion of his savings to invest at home, while in many other ways the scale is made to turn. The national outlay is comparatively trifling, their president (elected but for one year) being remunerated with but $9,700, and the seven other executive ministers something less each. This, although a man may have to give up his profession or occupation at the bidding of his fellow citizens, showing, as suggested, a very strong feeling of patriotism indeed. Each soldier in England costs $230 a year, whereas the Swiss stands at the rate of $35 a year, and the country can put some 300,000 men into active service in far less time than even the Germans themselves. As with a man so with a nation. It is not what it gets that makes it rich, but what it saves. T. BOWICK.

London, Eng., Oct. 9.

Management of Manure in Winter.

EDS. COUNTRY GENTLEMAN—The winter is no resting spell for farmers, whose work is from sun to sun the year round. It is reasonably so, and no industrious man will object to it. Business is business in every industrial occupation, and as every day brings its expenses and charges, so it must bring its round of profitable employments, not only to the farmer himself but to the hired laborers whose work cannot be dispensed with. Every farm should find work for its laborers all the days of the year, and if there are days when no work can be found those are profitless and a source of loss to the owner of land, live stock, and costly implements, all of which as far as possible should be kept in profitable movement.

Winter is the season when the manure crop is to be made and disposed of, and in its handling this crop calls for all the forethought, skill and good management that are necessary for the field crops. Just now some necessary provisions for the making and saving of manure are to be considered. These apply to the material and the use of it; and the disposal of the manure. It will not pay to use anything that can be fed to animals, for the more litter in yards and stables, when it can be fed with profit. Straw is useful for food under all those circumstances in which it can be profitably fed, and should only be used for litter when it can be used no other way. I have found it profitable to use all the straw made on the farm and all I could purchase, to mix with hay and various grain foods for feeding cows, and to increase the product by adding more cows to the herd during the winter when butter can be sold at a good price, and so add largely to the quantity of manure made.

With a large swamp meadow which could be drained and turned into good meadow land, a large quantity of muck has been dug and used for litter, and as a basis for composting during several years past. And where this excellent material can be got on one's own farm, or from a neighbor who would gladly give the muck for the digging of the ditches, the opportunity should not be neglected. Half dried swamp muck makes the best of litter for all kinds of stock, even the fowls. Some may object to it because it makes the cows dusty, and will get into the milk. But any man who thus complains simply proves that he is not cleanly, and neglects the first requisite for a dairyman, which is to keep the cows clean by regular carding and brushing and providing abundant litter to keep them free from filth. Hard-wood sawdust is a very good substitute for swamp muck, as it rapidly decays and furnishes valuable organic matter for the land, and is a thirsty absorbent of liquid. With either of these kinds of litter the valuable urine may be all saved and not a drop lost. For a few years past I have used a large quantity of it, and the manure made is of the best quality. Horses and colts may be bedded with it and kept very clean, and the manure may be left under them until it is a foot or two deep, when it can be taken directly to the fields and spread. For cows this should not be done, but the manure should be removed twice a day before each milking, and the floors liberally spread over with clean litter. But in whatever way it may be most convenient, every effort should be made to gather the most litter for use through the winter. Forest leaves I consider the best of all kinds. These may be gathered in a wood lot by means of a horse rake, if the brush has been cut out and the surface cleared of obstructions.

This work may be done now, for leaves may be gathered any time when they are not covered with snow; and if then raked into heaps and covered temporarily with some brush or a few rails, they will stay there until wanted

for use through the winter. A part of my woodland has a thick growth of ferns, which are mowed, stacked and used for litter, and they make a soft, warm bed for calves and cows, and absorb much liquid. For loading leaves into a hay-rack with light boards on the sides, I have used a sheet of jute bagging, four feet wide and long, sewed at each end over a light rod. The leaves in the heaps may be gathered easily and quickly by laying the sheet on the heap, and drawing the rods together under them, thus scraping up as much as will fill the bag, which is then emptied into the rack. When the rack is filled and well trampled down, large sacks are filled with the leaves and piled on top of the load, and in this way a large quantity can be brought in at once. One end of the feeding-shed is used for storing surplus leaves after the stalls and pens are well supplied—knee-deep when that is practicable.

The disposal of the manure is the next thing. I have always thought, and insisted upon it, that manure is never worth more than it is when made. This proposition is proved by science and practice, and is incontrovertible. Lapse of time tends to lessen the value of manure; for as soon as fermentation begins, something is lost. It is true that a lot of manure put up under cover and managed with skill for six months, will have more *immediately available* plant-food in it than when it was fresh; but the losses incurred by this decomposition, and to gain this immediate availability, are quite unnecessary, and are therefore a waste. No crop can use up the plant-food in ten tons of manure per acre the first year, nor can the supply of plant-food in ten tons per acre of old rotted manure be all consumed by the crop in its early stages. Overfeeding plants is as useless and injurious as overfeeding animals, and tends to disease. Consequently the supposed gain made by handling and caring for manure for several months, is dearly purchased if it were actually realized, which it is not.

It results then that the best place to put the manure is on the land where it is to be used in the spring; the best time to put it there is as soon as a load is ready to be drawn out, and the best disposition of it on the land is to spread it at once ready for being turned under by the cross plowing in the spring. I say cross plowing, because I advocate the fall plowing of every acre of land for spring crops, the spreading of manure on it through the winter, and a light cross plowing to cover in the manure lightly in the spring, after which comes the sowing or planting. If the land is sod, I would also spread the manure and turn it under with the sod in the spring, if it has not been plowed in the fall. But I am convinced that the fall is the best time to turn under a clover sod.

The practice of leaving the manure in small heaps at certain distances apart in the field, to be spead afterwards, is exceedingly bad. It may be permitted, if only a few days elapse before the spreading and the weather is dry; but if only heavy rain should come, much injury will be done. The soluble matter will be largely washed into the soil under the heap, and necessarily the rest of the land will be deprived of its share. The results are excessive growth in spots where the heaps stood, rusted or lodged grain, and a poor yield elsewhere. And yet it is quite common to see this practice prevailing among farmers who are disposed to believe that nothing can be learned from agricultural papers or the experience of other farmers.

One more point might be touched upon, and that is the spreading of manure dropped on pastures, or meadows which have been pastured. To do this has become such a habit with me, from long experience of the harm done by leaving these little heaps of manure, that I never cross a pastured field but every heap seen is spread, and a man is sent occasionally with a potato fork to break them up all over the field and scatter them. The habit began when, living in Pennsylvania, I saw a large pasture in Chester county on a dairy farm, on which at least one-half the ground was covered with uneaten bunches of rank grass, where the manure had been dropped for years back. And the farm was then valued at $300 per acre. "What a falling off was there" in the actual value of that field. A heavy harrow run over a pasture at the right time—which is now—would do this work effectually. HENRY STEWART.

How Beets Compare with Ensilage.

EDS. COUNTRY GENTLEMAN—I would like to give Mr. L. B. PIERCE (p. 763) an item from my own experience. I was formerly a great advocate of mangel wurzels and sugar beets as succulent food for milch cows in winter, and even after we began to make ensilage I was slow to wholly abandon them. My last crop of mangels was raised in 1886. I laid off a rectangular plat in one corner of a twenty-acre field of very fertile bottom land, and sowed it in mangels. The remainder was put in ensilage corn. As the beets were sown rather late I sprinkled a little ammoniated superphosphate in the drill to give them a quick send off. The corn had no manure whatever. The cost of cultivating the mangels was fully three times as great as that of the corn. The crop on the two acres was a fair one but was not weighed, but their feeding value was hardly one-fifth of what the same land would have given in ensilage. The part of the field planted in ensilage corn averaged by actual weight 20 tons per acre. If there was any difference in the soil, the part occupied by the beets was rather the best, but all was land that was good for 60 bushels of corn per acre without manure.

The following spring the whole field was sown in oats, and seeded to clover, timothy and meadow fescue. On the part where the beets were I got neither oats, clover nor grass, and up to the past spring when it was plowed for ensilage again the exact outline of the beet patch was conspicuous by the rank growth of grass all around it as though its outline had been drawn with a chalkline. I do not know how strawberries would have done there, but grass and clover utterly refused to grow after them, though the part where the ensilage had been grown without manure, cut three tons of mixed hay per acre. This was my last crop of mangels, and will probably remain the last. I not only lost in the value of the crop grown, but lost two crops of hay by reason of growing the beet crop. I do not pretend to explain it, but simply state a fact that was notorious to the whole neighboorhood.

If I had but one cow and one acre of land I think I would make ensilage for her even if I threw a large part into the manure heap. A man with two horses and two cows could consume quite a little silofui, for good sweet ensilage is as good for a horse as for a cow. A horse with not over 15 pounds of ensilage daily and half a ration of hay will do better than he will on a whole hay ration. This I know from practical experience with over twenty mules and horses fed together the past winter. The notion that ensilage will not do for a horse is quite unfounded.

Did Mr. Pierce ever try our southern cow peas in Ohio? If not, I think it would be worth his while to experiment with them and see what they will do there. If he will sow them (one bushel per acre) after the ground is warm, say May 20, and cut them when in full pod and cure them, I think he will find he has a valuable food for all kinds of stock, and that his land is left improved for any crop. The pea vines are rather slow to cure, but if left to stand in the cock they will cure, and the rain will not hurt them as it will clover. They will make rough looking hay to a northern man's eyes, but the proof of the pudding is in the eating, and the cows will soon give the test of their value. They make good ensilage too, and used as hay in connection with corn ensilage, they make a more compact ration, furnishing protein for the corn. I may be in error as to their succeeding as far north, but cannot see why they should not do well wherever corn will. W. F. MASSEY.

N. C. College of Agriculture, Raleigh.

Microbes and Alcohol.

EDS. COUNTRY GENTLEMAN—Please allow me to ask Mr. WAKEMAN (p. 764) a few questions.

What would happen if we could keep the microbes out of our ensilage? We can easily understand the benefit they confer on us by driving the carbonic acid and alcohol through the dough and thus lightening the sodden mass, but when they destroy the sugar of the ensilage, their good works are not so apparent, and scarcely deserve our doxologies.

When he tells us that the starch and gums have been turned to sugar or syrup, does he mean that this too is the work of the bacteria? Have these microbes the power of preserving the fibrin, protein, albumen, &c., of the ensilage, or is this the effect of the cooking he speaks of? Is a heat of 125° to 150° a cooking process? The ensilage when it comes out of the pit does not seem to be cooked. Suppose I avoid this officious microbe and his works, raise my Stowell's evergreen and cure it according to art, on an old-fashioned fodder-house, thus depriving it only of a large part of its water, and preserving all its properties, sugar included—will he please tell me what is the relative value of the ensilage and the fodder, cooked (if need be) by a jet of steam thrown into the feed trough?

Brother Wakeman tells us that alcohol is a deadly poison, and so much matter run down into ashes. So is water so much matter run down into ashes, and it is the favorite midus of the pestiferous bacteria. In a locality near me, only a few weeks ago, several fine young people were swept into premature graves by the free use of water. It was full of typhoid bacteria and brought on fatal fever. There are poisons and poisons. I once saw a man poisoned to death by a plate of mush and milk. Milk is regarded as very innocent; yet I have seen hundreds of babies thrown into convulsions by its use, and on several occasions I have had a weary time to serve fever patients whom the cravings of convalescence have induced to indulge too freely in it. For upwards of three-score years and ten, milk was my constant beverage and contributed largely to my nutrition; now it is poisonous to me even in small quantities. It was formerly said: "There is death in the pot;" modern science tells us, *there is death in the pump.*

I. T. COUNCILMAN, M. D.

Curing Corn Fodder in the Cock.

EDS. COUNTRY GENTLEMAN—Last year some of your readers tried to cure corn fodder in the cock and reported the result a failure. Other farmers in this vicinity succeeded so well with the immature and frost-bitten corn of last year that they increased the acreage for the present season, and have again cured the fodder in the cock. They say that they find the fodder so cured is relished by the cows and eaten cleaner than that thoroughly dried in the usual way. Although I have no silo, nine acres of well-manured land was drilled with corn for fodder, as I had no doubt of curing it in the cock with very little expense for labor. Wire worms damaged three acres of it so badly that peas were afterward drilled in, as this crop is not liable to be eaten by them.

Although the corn on the remaining six acres grew very slowly for a long time on account of the cold, wet weather, a good crop was finally harvested the first week in September. It was from 9 to 11 feet high, and was cut in 15 hours, working time, by two men with reaper. It was hauled from the reaper by hand and left in large bunches, averaging perhaps 400 lbs. each. They commenced cocking it as soon as the cutting was finished. The corn was too long and heavy to be handled with a fork, and it was placed in cocks with the hands. The armfuls were crossed occasionally, and the cocks or stacks were made about 12 feet across at the bottom and 6 feet high. To complete the stack the men, one on each side, bent down the ends of the long stalks to give the top the right shape to shed rain.

It took the men about the same length of time to stack as to cut it. Five or six of the bunches as left by the reaper were put in each cock, and the cocks would probably average a ton in weight when put up. We had no rain while the work was in progress, but the next week it rained nearly all the time, and has rained two days out of three ever since. The rain has never penetrated the cocks to any extent. There has been no heating, souring or moulding. The cows have been fed a large foddering in the stable once a day during the six weeks since it was cocked. They have been in good afterfeed in the daytime and on short pasture at night. They have eaten the corn clean, with positively no waste. A few of the largest butts of stalks have been given to the bull, as he has plenty of time to master them.

With the afterfeed, corn fodder and pasture, and a light feed of shorts and cottonseed meal, the cows have continued to yield profitable returns in milk and butter. The fodder is as good now as when it was cut, and the cows eat it as well. Of course the outside of the cocks is weather-beaten, but the damage is only slight.

I think that the corn might have been put in stacks ten feet wide at bottom, ten feet high and of any desired length, and it would have kept as well as in the cocks, but this is only an opinion. I intended to try this method with a part of the crop, but neglected to do so.

I have not written this to deter any one from building a silo, as I am thinking of building one next year; but I am bound to speak well of a method that has enabled me to cheaply care and profitably feed several acres of corn fodder each year, while the silo was of doubtful value, and ensilage a food of too uncertain and suspicious a quality to be used for the butter dairy. But things have changed, and the silo is not necessarily the costly structure of former years. The handling of untold tons of stone for weighting the cover is no longer deemed indispensable, and, above all, improved sweet ensilage is a very different product from the rank, sour stuff of eight or ten years ago. I hope that before another corn harvest some of the able correspondents of the COUNTRY GENTLEMAN will tell us just how to proceed to secure sweet ensilage from cured corn every time. Then will the scene have been reached.

Lewis County, N. Y. C. S. RICE.

Dairy Farms in Jefferson County.

During the summer of 1888, Hoard's Dairyman, a dairy paper published at Fort Atkinson, Wis., employed Mr. C. W. Jennings of Ellsburg, Jefferson County, N. Y., to take a thorough census of all dairy farms in that town, with a view of ascertaining, if possible, the real facts as to their condition, and the reason why the farmers were not making more money from their cows. Mr. Jennings made a report to the Dairyman covering seventeen different communications, with a complete summary of all the facts brought out, from which we quote the following statistics:

STATEMENTS.

Whole number of dairymen	367
Whole number of cows	5,307

Classified as follows:

Ayrshires	134
Ayrshire grades	69
Durhams	12
Durham grades	1,132
Durhams and Ayrshire grades	1,575
Holsteins	14
Holstein grades	465
Hoodenmoos grades	44
Guernseys	19
Guernsey grades	11
Jerseys	10
Jersey grades	332
Swiss	15
Swiss grades	27
Natives	1,762
Polled Angus grades	151
Total number	5,307
Average number per dairy, nearly	15

Many cows returned as "grades" no doubt should have taken their places among the natives, as they were evidently of that denomination. I noted them as given, however, for the purpose of showing the difference in the earnings more clearly. I have classified the herds in grades of five each, beginning with the lowest and giving the number of herds and cows in each class. The lowest average per cow was $18 25 in a herd of ten; the highest $61 in a herd of five. Following is the list:

11 herds,	133	cows,	from $18 25 to $20 00	per cow.	
37	"	599	"	"	20 00 to 25 00	"
108	"	1528	"	"	25 00 to 30 00	"
105	"	1762	"	"	30 00 to 35 00	"
67	"	1049	"	"	35 00 to 40 00	"
23	"	376	"	"	40 00 to 45 00	"
6	"	89	"	"	45 00 to 50 00	"
5	"	120	"	"	50 00 to 55 00	"
1	"	4	"		56 72	"
1	"	6	"		57 50	"
1	"	5	"		61 00	"
367		5807				

CHAPTER II.

There was a disposition shown by many of the dairyman, when they saw how they were "coming out," to underestimate the value of fodder corn, rough fodder and grain fed, and to overestimate the value of butter consumed in their families. To adjust these items as nearly right as possible gave me trouble in some instances. No account has been made of the value of milk consumed in the family, nor for whey drawn from the factory and fed to calves and hogs; nor has any charge been made for service, drawing milk to the factory, or cheese to the railroad depots, a sum equal to $1 25 per cow. The item "skimmed milk" includes buttermilk fed to hogs and calves raised. Cows were given credit for calves raised at $3 50 each, except in a few instances (pure bloods and high grades), which price I considered liberal, as after two or three days they were fed on whey or sweet skimmed milk for a few days, when they got nothing but whey until they were turned out to pasture. Not a farmer whom I asked fed his calves any grain, oil-meal or other extra feeds. In the table of costs I have added the interest on cows at $30 each, average value July 1, but have made no charge for losses or

depreciation in values. Subjoined are the figures:

Pasture per cow	$10 00
Hay per cow	18 67
Roughage per cow	1 38
Fodder corn per cow	1.51
Bran	41
Grain and other feeds	2.76
Interest on cows, each	1 66
Total cost per cow	$36 36

It will be seen that the cost of roughage has been deducted from that of hay, as it was substituted, so far as it went, for that food. Hay at $10 per ton, worth $12 April 1, 1888. The acreage given, both for pasturage and meadow, is that actually occupied per cow as nearly as it could be apportioned to them, that occupied by other stock having been deducted from the whole. The figures are as follows:

Pasture, acres per cow	2.1480
Meadow, acres per cow	1.2080
Fodder corn, acres per cow	.0072
Total acreage per cow	3.3632

The receipts were as follow:

For cheese	$138,227 70
For butter	25,098 74
For calves	29,109 95
For deacon skins	388 32
Value milk and cream sold	425 50
Value skim'd milk & buttermilk,	1,513 00
Total receipts	$174,805 00
Average earnings per cow	$31.742
Divided as follows per cow:	
For cheese	$25 079
For butter	4 556
For calves	5 285
For deacon skins	.073
For milk and cream sold	.080
Buttermilk and skimmed milk	.274
Totals	$31.742

Average earnings per cow, $31.742. Subtracting the earnings from the cost of keep as above appearing, viz:

Cost per cow	$36 360
Earnings	31.742
Loss per cow	$4.618

Total loss on 5,507 cows, $24,680 626.

The earnings were about 25 cents per cow less than I estimated them to you when I had the census half taken, and the cost of keep nearly $2 per cow more.

CHAPTER III.

Total value of 5,507 cows July 1, $154 196
Average value per cow, $28. About 6 per cent of the calves dropped were raised.

FEED, TOTALS AND VALUES.

Pasture, acres		11,906
Meadow, acres		6,655
Fodder corn, acres		408
Total acreage		18,969
Value of Grain fed		$13,102 25
" Fodder corn		8,399 00
" Roughage		7,599 50
" Bran		2,272 50
" Old hay		1,946 00
" Malt sprouts		382 00
" Pea and bean meal		355 00
" Buckwheat bran		104 00
" Three acres cow peas		105 00
" 90 tons corn ensilage		171 00
" 80 tons clover ensilage		80 00
" Green oats		80 00
" Mixed roots		30 00
" Carrots		20 00
" Beets		15.40
" Apples		7 00
" Potatoes		5.00
Total value of feed, excepting pasturing pasture and meadow		$35,089 25

There were 68 who fed no grain of any kind; 274 who fed no bran; 10 who fed bran but no grain, and 130 who did not raise or feed fodder corn.

Whole amount of taxes	$13,690.00
Whole amount of valuation, 997 acres—or 1 acre to the farm	13,261.65
Average tax per farm	37 39
Average valuation per acre	36.13
Highest assessed valuat'n per acre	99 00
Lowest	16.00
Highest tax paid	260.00
Lowest	7.00

The assessed valuation is intended to be two-thirds of the actual value; 1,911 cows were kept on land assessed above $40 per acre, and 3,596 on land below that value. Milk was taken to ten cheese factories and one creamery in town, and to four cheese factories in adjoining towns. The item "grain fed" includes ground oats, corn, rye and barley, together with refuse peas and beans ground and mixed with the other meals. Value of such combination fixed at 60 cents per bushel. The item "pea and bean meal" was given separate from other grains, as were also malt sprouts, buckwheat bran and other feeds. The ensilage values are their cost in the silo. The value of other ground feeds was their retail price at the mills. Pasturage at 50 cents per week, on land assessed at $40 and more per acre, and at $10 for the season (26 weeks) on land below that price, would give the total cost of pasturage as $60,000, and the cost per cow as $11.037 I have, however, reduced it to the minimum—$10. There are some farmers who regard this sum, even, as too high; but the hay charge is as much too low. In calculating the cost of keep, I have allowed but two tons of hay per cow for six months, and, at $10 per ton—minus roughage, which was $1.38 each. Fodder corn was fed in August and early September, and is therefore charged for. I think the cost items have been placed on the average below a possible purchase price, at least $1 25 per cow. Many of our best farmers say twice that amount.

There was one farm dairy of thirty-five, making both cheese and butter; forty-six dairies making no cheese, and fourteen making no butter. The largest dairy numbered sixty-five, the smallest two. There were two of 2 each and one of 3, taken, because their milk went wholly or in part to a cheese factory. Not less than four cows were taken except as noted. There are about 200 family cows, ranging from one to three, in a family, not included in this report.

Of the 367 dairymen 173 took agricultural papers, ranking numerically as follows:

Country Gentleman	21		
Hoard's Dairyman	19	Rural New-Yorker	2
American Cultivator	17	Farm and Fireside	2
Farm and Home	9	American Agriculturist	1
Farm Journal	8	American Dairyman	1
Husbandman	8	Farmers' Club Journal	1
American Rural Home	3	Prairie Farmer	1
Farm Stock and Home	3	Breeders' Gazette	1
Boston Cultivator	2	Live Stock Journal	1

Total number of copies 100. Ratio of subscribers to whole number of dairyman 5,027, or nearly double the number given by Mr Woodward at our institute at Watertown, last winter, as taken by farmers, viz: 1 to 10.

Of the 367 dairymen, 304 pastured their meadows after haying. Of the 72 taking agricultural papers 55 reported full-blood, grades, or both, and 17 reported natives. Of the former, 8 were engaged in breeding stock and high grades, viz:

James F Converse, Ayrshires; Hugh Brodie, Ayrshires; M. P. Littlefield, Ayrshires; M. R. Clark, Durhams; D. W. Lee, Durhams; F. Nutting, Guernsey and Swiss; Moses Wood, Ayrshires and Holsteins; Benjamin Grinnell, Holsteins.

Each of the eight herds are all, or in part, of pure blood; the remainder of high grades.

Some of the native herds have better records than many of the so called grades have, and would have had even better had they received the same care and been fed as liberally as were the grades.

I did not obtain the number of pure-blood sires in the town, but I do not believe it to be more than a dozen; probably less than that number. Nearly all the farmers use grade sires, which are usually sold to the butchers when they are two years old. The progeny of these animals are called "grades." As understood, however, the term is a misnomer. They are grades, it is true, but they are scrub grades, having been graded downward, not upward.

Sweet Corn for the Eastern Silo.

Ens. Country Gentleman—General opinion certainly favors the use of some variety of southern white corn for the silo. Mr. Lawrence, perhaps our best authority here in the East on the silo, agrees with J. G., one of the best authorities of the West, in recommending its use. So generally is this opinion accepted in this locality where the acreage of ensilage corn is large, that one seldom sees a field of anything else. I have three neighbors who grow twenty-four, ten and eight acres, respectively, and all use the southern white. I asked the owner of the 24-acre field why he used the seed he did, and he answered—as I supposed he would—that the authorities on the silo recommended it as the most profitable. This field was not ensilaged until Sept. 15-20. At that time the stalks were from 12 to 15 feet high, as large as the largest bean poles, and as bare of ears, and the leaves were dry 4 feet from the ground.

I assisted a neighbor for three days while filling his silo. My post of duty was at the foot of the carrier, and I am witness that not a peck of ears passed through the cutter in 10 hours. This man uses 2 bushels of seed to the acre. Will some one tell us how much nutriment there is in ensilage made from the small, short, watery stalks which this farmer grows?

Now there are varieties of sweet corn that yield a large amount of fodder, and I have found that these bring the most profitable returns. For the benefit of others I may be allowed to tell what a single acre of Marblehead Mammoth yielded me the present season.

The land I intended to use for corn was too wet in spring even to plow. I resorted therefore to the same ground used last year—a piece of light, sandy land that retains neither moisture nor manure for any length of time. This was dressed lightly before plowing with green stable manure as last year, and with 300 lbs. to the acre of purchased fertiliser in the drill.

Expecting that some of the seed would fail to germinate, I used twelve quarts to the acre. About half of this came up. Neighbors passing by the field pronounced the stand a very poor one, and I confess to great discouragement at the outset. But within a week after the blade appeared, the stalks began to assume that dark green color which so delights the eye of the observant tiller of the soil. By the middle of July the corn was four feet high, and covered the ground completely, except in one or two gravelly spots. The original stalks suckered astonishingly. No second application of fertilizer was made, and the hoe was not once used the entire summer. But the cultivator was run through it lightly about once a week until the back of the horse disappeared from view, as he walked through the rows. Well, from that acre, without breaking more than half the ears, I sold in market for table consumption 45 barrels at a good price, and then cut into silo about 15 tons of ensilage. This last figure was obtained by measuring the bulk in silo after it had settled.

This ensilage is of the very best quality. In my judgment, it has twice the feeding value for cows in milk, of the Southern white, planted thickly in drill, as is the custom in this locality.

The Marblehead Mammoth grows to the height of 9 or 10 feet on good land, is very leafy, suckers heavily, throws out two ears generally, and often three, on each stalk, and the quality is as good as the best. Time of marketing this season, Sept 4 to 8; time of ensiloing Sept. 14 to 16. Stowell's and Egyptian are inferior to Mammoth in the size of the ear, in sweetness, in the suckering habit, and consequently in the amount of stover they will yield. F. W. T. *Middlesex County, Mass.*

Reclaiming an Impoverished Soil.

A Chapter of Personal Experience.

Ens. Country Gentleman—No one wants to live on a farm the soil of which has been so worn and neglected that it will not produce enough to furnish food and supplies for family needs, yet there are hundreds of such farms in Ohio and in other States.

I am now located on just that kind of a farm, of eighty acres, mostly white-oak timbered white-clay land. The timber was nearly all cut off years ago to enable the former occupants to eke out a scanty livelihood.

Two years ago last April it became necessary for me to remove to this farm. Having been a farmer and live-stock shipper for twenty years previous, and living on good land in a very desirable location, I had contracted debts through my shipping business, and was completely cornered; and other parties wanting my land, I was jostled out and then sneered at by those who had been benefited by the sale. When I arrived at this farm, as a last resort, I spent two days in looking over the fields, and found more bare ground (slippery white clay) than grassy plats. I had known the farm for many years, but did not think the soil one-half as poor as I found it.

Fourteen acres was in wheat; twenty-six acres had been just seeded to timothy and clover one year previous; eight acres was a meadow, including two acres of bottom soil along a small creek which ran across the farm, caving a bluff on one side; six acres in orchard, garden, house and barnyards; twenty-six acres in woods-pasture and timber. This is the best soil on the farm, the land dipping down into low, swampy patches, which must be ditched and tile-drained through some clay knolls before it can be brought under cultivation.

All of my experience as a farmer with my father (who was one of the best agriculturists of this vicinity, and who was the first to lay tile, in 1854,) was rehearsed, also my observations of the labors of farmers whom I had dealt with, and whose farms I had passed over many times while buying stock, and during my four years' observations as a crop reporter for my township for the Ohio State Board of Agriculture, and my weather reports to the U. S. Signal Office at Washington. I learned now that I must test my own nerve, for it was *do* or get nothing for a family of seven persons, as my strength was fast leaving me on account of severe ailments caused by three years' service in the U. S. Army during the late rebellion.

I found that only seven acres could be plowed for corn and potatoes. This yielded, after much hard work, about thirty bushels of corn per acre, and not quite enough potatoes to last the year out; we got not quite two thirds of a ton of hay to the acre, and seventy-three bushels of wheat from the fourteen acres, and that of very poor quality. Fortunately we had several very good milch cows which furnished us butter for use and to buy groceries with. This land had been plowed when wet and had been sun-killed.

The grass, when a drouth came on, died for want of fertility, and now one field, the timothy, has died out except where I have top-dressed with stable manure. A species of joint grass has come in which furnishes pasture during the summer, going to seed and then dying with first frost, but I intend that field for a permanent pasture in connection with the woods field, and I scatter manure and feed stalks over it, sowing timothy, clover, orchard grass and red-top seed.

Last year we had planted 14 acres of corn, but the soil was so dilatory that the corn did not mature; this with the hay and 300 bushels of corn and 800 shocks of fodder, purchased, was fed to horses, cows, sheep and hogs, thus making a fine lot of manure, which was plowed under for corn and spread on the surface for pasture.

On a clay soil field this season, which was planted to corn, where manure was applied, we got good corn, but where there was no manure the white grub worm destroyed the roots, and no ears formed. On this 12 acres we got about 100 bushels of corn; the balance of field consists of stalks with soft immature nubbins, which must be fed before severe cold weather comes, in order to be of any service.

Our potatoes are a failure—cause, grub worms and lack of fertility of soil. We are coaxing clover and timothy to grow, but do not succeed well yet.

We intend applying commercial fertilizer to our corn and potato land next year, and will apply all our stable manure to the meadows and pastures. We are also hauling out the old logs from the wood lot and burning them on the pastures, scattering the ashes and rotted parts.

We have failed to raise any wheat, and will not try again until we can tile-drain and fertilize. It is much cheaper to buy the flour for our bread than to plant wheat and then lose by winter-killing.

We know now that we have a losing farm—one which will cost $40 per acre to tile-drain and fertilize so as to be productive. The few drains which we have made have paid a good percentage on cost.

One of our neighbors has 20 acres of corn which is not worth two dollars per acre; grub worms ate it up.

The small creek which runs across the farm had in it sediment, the accumulation of years, of the filth that had washed from other farms, including one hog-feeding lot; from this creek we took 100 loads of muck and spread on the pasture land, and the result is wonderful in grass production.

We want to increase our small flock of South-Down sheep, but sales of male lambs and yearlings are at so low a price that we cannot increase the flock by purchase. Our good neighbors, knowing so well the circumstances, beat down on the prices to hardpan. With a flock of a hundred good ewes we could soon enrich this poor, worn soil. We appreciate the situation of those who are trying to get a living out of poor soil, and say to them, persevere as we did when fighting in the late war, and you will soon flank drouth and grub worms.

Franklin Co., O., Oct. 14. H. WARREN PHELPS.

Catch-Penny Schemes for Farmers.

A contributor of the Prairie Farmer writes to that Journal:

It will be an exception to the rule if a number of new agricultural and farm papers do not start up between now and the beginning of the new year. And it will also be an exception if quite a number of them do not offer premiums which, according to their story, are more valuable than the price asked for the paper, to say nothing of the value of the paper itself. And by the insertion of attractive advertisements making great promises, they succeed in securing many a hard earned dollar from the farmer.

But it is not by newspaper advertisements only that they secure subscribers. In various ways they succeed in getting the names and addresses of farmers, and to them seductive circulars are sent filled with glowing promises, not only of the paper they propose to publish, but also of the wonderful premiums they will give if the name, accompanied by the subscription price, is forwarded. They do business on a strictly cash basis, at least so far as taking subscriptions is concerned.

That the quality of the paper is far behind the average, for the length of time it is sent, must be evident to every one who will stop and consider. To publish a paper of practical value costs something, and a paper that promises a present equal in value to the subscription, either expects to print a very cheap paper, or the value of both is misrepresented.

There is no occasion for throwing money away on those catch-penny affairs. There is a sufficient number of good, practical agricultural papers that are responsible—that cannot afford to misrepresent—for which the farmers can subscribe with the assurance of getting value received, and without taking unnecessary risks. And while it is in some respects a pity to have the farmer swindled, at the same time in many cases he can hardly hold himself blameless, as there are usually plenty of opportunities for subscribing to first class farm papers, without taking the risk of dealing with what is evidently a fraud on its face.

To expect to get something for nothing is to invite deception. But it is largely upon this desire, with many, that these catch-penny af-

fairs base their expectations. They resort to cupidity and secure victims that would not pay the same amount to the better class of papers, without the tempting premium, which, with this class, is always misrepresented, to say the least, while it is often the case that no paper or premium is sent.

The Milk Producers' Meeting.

The New-York World gives the following report of the meeting at Middletown, Oct. 24th:

A mass meeting of 300 farmers and milk producers from the five States which supply New-York city with milk was held here to day. The object was to push the work of organizing a milk producers' union, having for its ultimate object the formation of a gigantic milk trust, to absolutely control the market in New-York city, take the business as far as possible out of the hands of the middlemen, supply the consumers direct and regulate prices. The scheme originated in Oxford, Chenango county, about eight months ago, when the main organization was formed. It is entitled "The Union of Milk Producers for the Supply of the New-York Market." Branch sections are rapidly forming and a tremendous impetus has been given the movement by the mass meeting to-day.

After branch sections of the Union have been organized at every milk-shipping station in the territory supplying New-York city, the farmers propose to organize a cooperative stock company with a capital of $500,000 at $25 a share, and furnish milk direct to the consumers. They want to crush their natural enemy, the New-York Milk Exchange, which at present dictates prices and controls the market. When this has been accomplished they declare that they can furnish the metropolis with purer and better milk than it now gets, at retail prices of five and a half cents and six cents, instead of six and eight cents, the prices of the Milk Exchange. Such a company has been in successful operation in London, they say, for nineteen years, and ought to work equally well in New-York.

The meeting was called to order at 1 o'clock this afternoon in the Casino theatre. The majority of those present were Orange county farmers, but New-Jersey, Pennsylvania, Connecticut and Massachusetts were also represented. All of these States send milk to New-York city. W. P. Richardson of Goshen, the Republican candidate for State Senator, was made chairman. He called upon W. B. Pierce, of Chenango Forks, Broome county, one of the prime movers in the enterprise, for an outline of the Union's objects and a report of the work already done.

"There are 10,000 milk producers who supply the city of New-York," said Mr. Pierce. "These 10,000 men are helpless in the hands of 100 men in New-York. Why? Because the 100 are organized and the 10,000 are not. When all of you go back to the sections from which you come, however, and explain to your neighbors the objects of this milk-producers' union, and organize local unions at each shipping point, then it will be organization against organization, and with 10,000 against 100, the New-York Milk Exchange will be wiped out of existence. We will get the benefit of what the middleman now gouges out of us, and the consumers will get the benefit of the middleman's profits."

Mr. Pierce said that thirty local branches were already organized and ten more were in process of formation. At the present rate of progress he thought that by next spring the time would be ripe for the organization of a stock company.

"It won't require much capital," he declared. "We own the cows already. "The milk business of New-York City amounts to over $10,000,000 a year, and $500,000 will be more than enough capital to operate a company that can handle it all. The idea is for farmers to take one share of stock at $25 for each can of milk (forty quarts) furnished per day. An agent will be placed at each shipping point to receive and forward the milk and cream, with a central depot just outside of New-York City. This idea, however, is the ultimate object to be achieved. The immediate work in hand is to organize the local unions."

This plan, outlined by Mr. Pierce, was formally adopted by the parent union at a meeting of delegates yesterday. The committee which formulated it consisted of G. P. Squires of Marathon, W. B. Pierce of Chenango Forks, and W. H. H. Jones of Hempstead, L. I.

Each farmer present was furnished with a copy of the constitution and by laws of the Union and full instructions for the formation of local sections. It is expected that two hundred sections will be organized within the next three months.

The present officers of the Central Union are: President, Clarence R. Miner of Oxford; vice-presidents, G. D. Wheeler of Deposit, Nelson Sage of South New-Berlin, R. M. Burghart of Upper Lisle; secretary, Milton Hoag of Norwich; treasurer, Eli Mix of Chenango Forks; an advisory committee of ten, an executive committee of five and an auditing committee of three; agent of the Union, W. B. Pierce.

The Dundee Fair.—A correspondent writes as regards this year's Fair at Dundee, Yates County:

"Nineteen of the prizes were taken by farmer's on Mr. CLARK BELL'S farms, including all on Holstein cattle, second on Shropshires, on the only entry made by them, and first on Middle Wooled sheep, ducks, rabbits, carrots, parsnips and turnips. JOHN H. MILLER, one of Mr. BELL'S farmers, took eleven prizes. WM. ROSE, an English farmer on the home farm, had great success with roots and vegetables. Mr. Emmett Taylor had charge of the stock. They did not show horses, swine or fruit, of which, however, very fine entries could have been made."

Crops in Central New-Jersey.

EDS. COUNTRY GENTLEMAN—The past season has been full of surprises, and the most of them disagreeable to the general farmer. Spring opened with great promise; oats were sowed early, and grass took a fine start. The oats in eight cases out of ten were entirely spoiled in the field, and those gathered are light. A great deal of hay was poorly gathered, and much of it that was put in stacks in good condition was ruined by subsequent rains. Corn promised well the early part of the season, but late rains injured it considerably, while the fodder is badly spoiled by the heavy and continued rains of September. Wheat is only a fair crop. The extreme moisture of the season has also had a bad effect upon milk and butter producers. Taking things altogether this is decidedly an off year for this section.

The peach crop was fair, and prices better than in 1888. A few orchards of late fruit were damaged by the September storms. Apples are a light crop. Wheat was sown late, but is now coming along nicely. Corn-husking is somewhat later than usual. Fall pasture is fine, though fat stock is so low in price that many Raritan valley farmers who depend largely upon beef raising will lose money.

The question of a more diversified farm practice is being raised with vigor, and it is likely that the experience of the past summer will be followed by many changes for the better. With the present low prices of grain and dairy products more must be raised or expenses of production decreased in order to secure profit. E. B. V.

Somerset County, N. J., Oct. 22.

From Southeastern Virginia.

EDS. COUNTRY GENTLEMAN—The regular autumn weather of the "sunny South" is now prevailing, after one of the worst seasons our farmers and truckers ever experienced. It has been too wet most of the time for many of our crops, on most of our lands. Notwithstanding the great amount of rainfall during the season, our farmers would have fared very well if market prices of produce had kept up; but somehow the prices were about as bad as the weather, and have been low all the season—on truck crops especially. The experience of this year has turned the attention of many farmers more to stock than ever before. More grass seed has been sowed this fall than usual; and there is a general disposition manifested to plant less of the vegetable and market garden crops and more of the staple farm crops.

Our silo is again filled, and going through the cooking process, thereby the better fitting it for digestion. About 2,000 tons of ensilage has been put up this year near this city. It is growing in favor each year. Our third cutting of hay has been larger than usual this year and our barn is filled and quite a number of tons stacked outside.

One day last week we were on the farm of one of our wide awake farmers a few miles east of the city. He was showing us some good grade Jersey cows (and their calves) from which he was selling milk in the city. Just over the fence in an adjoining field we saw a little flock of five ewes feeding quietly and contentedly in in the pasture. We always like to see sheep on the farm and at once began to cross examine the owner. Last winter these *five* ewes dropped *nine* lambs, all of which lived and, in May thereafter, brought him $3.50 each or a sum of $31.50. The wool from the five ewes sold for 28c. per lb., returning him $1.50 each. And the first cost of the old sheep was $1.25 per head. The owner stated that he never fed his sheep a mouthful of grain or fodder until after the first of January, and then only during the lambing season or during a cold wintry storm.

The owner mentioned these things in a matter of fact way without once thinking that he was relating an experience hard to beat. The first cost of the five sheep was $6.25. The cost of feeding was really nothing, as the value of the manure exceeded the cost of all food given them during the year. So the matter sums up as follows: Original investment, $6.25; income from lambs, $31.50—from wool $7.50. If a man could only keep 100 sheep on the farm at such a rate of profit there surely would soon be more sheep kept in Eastern Virginia.

Sheep are seldom annoyed by dogs in this part of the State. We hardly know why this is so, except from the fact that the dogs are nearly all hounds and are more content to hunt the rabbits and foxes and the deer rather than to worry the sheep. In fact we have never heard of any trouble in this direction during the past ten years.

There is always a market for early lambs, and the wool brings fair prices. It often happens that Eastern Tennessee and Western North Carolina have severe and damaging drouths, so cutting short the supply of feed, that the sheep of those sections must be sold off. They are sent here by the thousand and sold for prices ranging from $1 to $1.50 per head. At such times a farmer here can get hold of 100 sheep for say $100. Out of these he can select his best for breeders and fatten the rest and sell off in the spring. He can have the lambs come along in December and January; and the first of May the wool and lambs are sold and the farmer is away ahead in the transaction. Why more sheep are not kept is a wonder to those who have given the matter any thought or study.

Last night we had a regular old-fashioned thunder shower sounding more like July than Oct. 20. To day the weather is cooler and more like fall weather. Many of the sweet potatoes are still in the ground waiting for the prices to get a little better. Eggs selling at 20c. per doz; butter, (northern) 25 to 30c per lb.; good home-made calls readily at 35c.; hay, $19 to $15 per ton; corn, 45c per bush. (wholesale); oats, 28 to 38c; spring chicks, 25 to 30c. each; old hens, 35c; sweet potatoes, $1.25 per bbl. To date we have had one or two frosts sufficient to nip the sweet potato vines, but not hard enough to cut the tops of the second crop of Irish potatoes now growing.

Norfolk, Va., Oct. 21. A. JEFFERS.

From Southwestern Michigan.

The October crop report is at hand from the Michigan Department of State, with the final estimate of the crops for the year. This gives the wheat product for 1889 as 26,127,050 bushels, machine measure. Investigations by correspondents shows that no less than 11 bushels in every 100 of the grain, as it comes from the machine, will blow out when cleaned for market, and that this cleaned grain weighs but 56 lbs. to the measured bushel. This per cent. of loss will reduce the marketable grain to less than 20,000,000 bushels. The average product for the last ten years, previous to 1889, has been over 27,000,000 bushels. Marketing wheat is very slow this fall. Some farmers sold early at 75 cents, but a drop of two or three cents shut off the supply at once. The hopeful feature of the market for farmers is, that this conservatism may possibly last until the visible supply shall be reduced to a healthy volume, and then that only such amounts may go forward as will serve to supply actual consumption. A congested wheat market is financial death to farmers, as certainly as physical congestion is dangerous to individual health.

Unless we have favorable weather soon for the growth of fall wheat the crop will go into the winter with little root power to withstand its rigors. All through the dry portions of the State, of which I made mention in my last letter, the wheat is still scarcely above ground. The nights have been cold and frosty, and the fall growth of all plants is checked. Corn is drying out here fast, and will soon do to crib. Threshing corn will await favorable conditions. If it becomes thoroughly dry so as to shell in husking there will be a part of some of the crops handled in this way. The practice of running the husked fodder through a thresher is gaining friends. This reduces its bulkiness, and renders the whole product more available for food and bedding. The husking machine mentioned in this correspondence last fall developed some weak points after being in use a little time, so that it did not do so good work as when set up new at my barn, but the company have remodelled and improved it, so that they now claim it will do first-class work continuously. I have engaged the machine again to husk 20 acres, and will report faithfully the workings of it in the near future.

Sheep feeders had no difficulty in picking their supply for the winter operations. Some are depending on the Chicago market, but prices there have kept at too high a figure for our feeders to see their way clear to purchase. Ewes are scarce with large demand for breeding purposes. Merino sheep-breeders report a greater demand for rams this fall than for many previous years, with prices nearly doubled. One of our feeders has purchased the entire output of wheat screenings from one of our largest flouring mills, with the intention of feeding in self-feeders to sheep. The analysis of Dr. Kedzie of the Michigan Agricultural College, last winter, of two samples of wheat screenings, seems to have settled their theoretical value, and now we are to have a practical test of their feeding value. I give the analysis as published in a bulletin from the college:

Wheat Screenings.	
Moisture, per cent.	10.00
Ash, do.	2.50
Crude fibre, do.	6.00
Albuminoids, per cent	12.00
Ether extract, fat, per	2.00
Starch, sugar, gum, &c.,	67.50

The doctor says: "Th screenings for stock foo table, excelling that of The explanation is that mature grain is richer plump and full-grown k

The run of hogs will the appearance of those days. These are usual this hogs, and although that of former years, shrinkage in the aggreg coming from Southern complaints of hog chol disease of animals, and animals will go into wi condition than for sever

The severe freezing has caused the foliage of and ornamental trees to ing to the landscape wil Wild geese have begu and the summer birds a pheasy of unpleasant we

Van Buren County, Oct. 21

Our Illinois Co

CHAR

It is raining lightly been since after midnig east, light, and the te high barometer for ra storm will not last ma first rain of any conse though within that time more series of three o hoar frosts—frosts that most certain to be foll was a black frost yeste ice half an inch thick, was mild and sunny, wi smoky haze abroad, as

Sometime after 3 o'clo phenomena of sun dogs ern heavens and the c about the red-faced s south was a very bright his companion of the color, figure and outlin east was but a shadow, the west was behind t exhibition was sufficien to arrest the attention o the open air, and the close at hand was nea what grounds I do not seen these phenomena no storm following, bu season.

The drouth in some quite a severe one, and of Wisconsin, Michig Dakota, while it has region of Northwestern get are trustworthy. drouth, I conclude, th agricultural press was mitted to open and t commercial press to big crop. However, if la northwest are afflicted t drouth, after similar disa portions if not all of " rain sufficient during t an enormous corn crop, been added enough saturation. I quote fro wick county, near Wichi

"For six days we have it has rained much of Saturday morning. In I have never known th hidden, or the earth more at the beginning of winte the earth is not only large breadth of wheat a long way towards ins oats and corn another said that with a satu autumn or winter we we the following season. seem to go in cycles, passed through a cycle o as my observation leads to have from two to th years in immediate succe

It would be a serious crop were the long conti to be repeated in Illino enough to crib, and wet w would rot or materially d to which category from the whole belongs. I fi husking does not tend to the yield, so much of it

the cob. Still, prices are not advancing, and 27c. for old and 20c. for 80 lbs. of new are the market prices. There has been no successful attempt to put oats above 16c., and No. 2 red winter wheat ranges from 75c. to 78c. Hay, of which there is a large crop of second and third rate, brings $6 50 for the best clean timothy, $5 for timothy degraded by 10 to 20 per cent. of clover, $5 for clean, well-cured clover, and $4 for the second crop. The heavy second crop of clover yields but very little seed, 2½ to 3 bushels per acre only, and 75c. to $1 per bushel has to be paid for the hulling. To aggravate the seed situation, clover is lower in price than for years, $3 30 being the top of the market for 60 pounds. Irish potatoes sell from 20c. for common to 30c. for extra; apples, from 10c. a bush. for poor to 50c for good; hogs for the Chicago market are $3 75 here; export steers by the train load sell for 4¼c. per lb live weight, and feeding steers from 3½c. all the way down to 2c. A good young fresh cow with calf will not bring over $35, and she must be a first-class milch cow to command $40. There is less demand for horses than for several years, and none but choice for hard and fast work, and those of some style for driving, command the old figures. While stocks of cattle have been diminishing since the era of low prices, horses have increased, and now they are in liberal, if not excessive, supply, and especially for the inferior half-bloods and common stock. The indications are of a fall in prices within a year or two that will fetch horses down on a level with neat stock.

In addition to the 500 export steers weighing between 1,600 and 1,700 pounds, reported in a previous weather note, 400 more have been recently sold for a trifle higher figure than 4¼c., the average weight having been over 1,700.

Before this rain wheat was looking well, and fall grass was reasonably good. Still, both will be benefited by a week or ten days of falling weather. I am apprehensive of a severe winter, unless there are heavy rains north and northeast. The temperature has been cooler than usual for October, and if it should continue to fall till December we shall have winter long before Christmas. Yet two or three mild, as well as many cold winters, are apt to be associated, and there is a reasonable chance for a mild one before us. Let us hope if it is mild it will be a dry one and not rainy, for cold seasons of this latter character are severe on stock, harder on the farmer, and cause a greater waste of food than the clean consumption of a winter dry, though intensely cold. S. F. J.

The Season in Southern Indiana.

ED. COUNTRY GENTLEMAN—We are having a heavy rain, which was much needed, as none has fallen for three weeks. As it is coming from the east we may expect unsettled weather for a day or two yet. Something like three inches has already fallen, which will give growing wheat moisture enough to make the rapid growth needed before winter comes upon it. I think the acreage sown to wheat is above an average for this county for the last six years, but owing to the dry weather it does not look very well; some complaint is made of the fly.

With the low price for farm produce there is little profit in farming for us. While our natural advantages are all that could be desired, labor has no compensating profits beyond making a living. How long these conditions can last, and farmers be self-supporting, is a question. The over production theory is fast losing its weight. It is more generally thought that under consumption is causing the low prices, originating from low wages paid. Plenty of men are willing to work at small wages—fifty cents a day—but even at that low price cannot find steady employment. There is only one way when a man is put down to starvation wages, and that is to live at a starvation rate.

Our corn crop is ripe and ready to go into the crib. It will have to be put down among the smallest as to yield, and only fair in quality. Prices are sure to remain low at least the remainder of the year. If we only had the hogs to feed we might realize a little more than the market price for our surplus corn, but the cholera has been general, and has left but few, and those in bad shape as feeders. There will be few good hogs shipped from this locality this fall.

The apple crop was a good one, and of splendid quality. In the last few days 4,000 bushels have been shipped from our station at 25c. per bushel, picked and delivered.

Sullivan County, Oct. 22. HD. PEARSON.

Weather, Crops and Prices.

Meteorology for Oct. 21-27.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.54	inches.
Lowest do.	do.	..... 29 71	do.
Mean do.	do.	..... 30.19	do.
Highest temperature	do.	.....	69°
Lowest do.	do.	.....	28°
Mean do.	do.	.....	51°

One clear day; four fair; two cloudy. Two days on which rain fell; total precipitation 0.75 in. Prevailing wind, N.; maximum velocity, 16 miles per hour on the 23d.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	21st	22d	23d	24th	25th	26th	27th
Day	52°	49°	52°	49°	44°	49°	55°
This year	48°	49°	52°	49°	44°	49°	55°
Normal	51°	51°	50°	47°	46°	46°	46°

Total excess for the week, 24°.

New-York—*Canton, St. Lawrence Co., Oct. 22.*—The season just closed has not been a profitable one for the farmer. All grain crops are very poor, not over half the average yield. Of hay there is plenty, but very little is in condition to be marketable. Dairy products have ruled low the season through, and there is no prospect of improvement for the fall make. Feed is better than usual at this time of year, and live stock in good condition. Good young cows are worth $30@35; scrubs, all the way down; beef, 3c. per lb.; pork, 5c.; butter, 18@24c.; cheese, 10½c.; potatoes, 60c. per bu.; apples, $1; oats, 35c.; corn, 55c.; hay, $9@10 per ton. Weather is dry and pleasant, and fall plowing well advanced. Frosts have been lighter than usual this fall. L. T.

Sharon Centre, Schoharie Co., Oct. 24.—Fair and very steady cold weather. The little snow which fell the night of the 22d still remains on the north side of buildings, &c. For the last few weeks the weather has been very favorable for the harvesting of late crops, especially of buckwheat, of which there is a large crop, and surely we have had a season of good crops of almost everything excepting potatoes. Farmers threshing their buckwheat, husking corn, making cider, manuring hops, plowing, &c. A few lots of hops are being sold at about 10c. per lb.; buckwheat is bringing but 45c. per 50 lbs.; apples are worth $2@2.50 per bbl.; cider 6c. per gal.; butter, 23c. per lb.; eggs, 23c. per doz. J. H.

Geneseo, Ontario Co., Oct., 20.—For the last three weeks we have had very fine weather, without rain, but we had two or three rather severe frosts, which are hurrying up the farmers who have root crops and apples not taken care of, but I think most of the apple are harvested. There have been a good many sold at canning factory; also buyers are giving 20c. per bu. for all culls and windfalls, so there will be but a small quantity of cider made here. A good many are husking corn. I see very many farmers are draining some of their land, as the wet season has shown the benefit of underdraining in regard to crops. The fall sown wheat is looking well. Potatoes are more plenty than reported; the prices range from 50@60c. per bu. Corn is better than was expected, some turning out better than last year. Prices low on farm produce. J. W.

Pennsylvania—*Doylestown, Bucks Co., Oct. 21.*—Weather fine; mercury yesterday was over 60°; the lowest point yet reached was about 36°; no killing frost have occurred. In consequence of the extremely wet weather in September considerable seeding has been done in October; some of the wheat is just coming through the ground, and it will require continued favorable weather and a late fall to give it sufficient start to stand the winter. Prices are about as follows: Wheat, 85c. per bu.; corn, 50c.; oats, 35c.; rye, 55@60c.; potatoes, 60c.; pork, dressed, $4@6 per cwt; butter, 20@25c. per lb.; chickens, 15c.; eggs, 18c. per doz. H. C.

Tennessee—*Knoxville, Knox Co., Oct. 21.*—Throughout the year the seasons have been exceptionally favorable, and the year's crops are all good. In this region just now we are having an open, dry spell, highly favorable to wheat sowing and fall plowing. H. H.

Illinois—*Vandalia, Fayette Co., Oct. 22.*—A steady rain since last evening—the first this month—will help the wheat, which has not grown. In fact, everything is dried up, including pastures and cisterns, and roads have been as dusty as in midsummer. Wheat, 70c. per bu.; corn, 30c.; potatoes, 25c.; turnips, 25c.; apples, 40c.; butter, 10c. per lb.; chickens, 7c.; eggs, 15c. per doz.; beef cattle, $2 per cwt.; hogs, $3.50. S. A.

Kansas—*Hamlin, Brown Co., Oct. 14.*—Rain is much needed for the winter wheat. We have sown twenty-two acres and want to put in twenty acres more, if rain comes in time. The winter wheat turned out so well this year that there is a much greater area put in this fall than usual. We are now digging our potatoes, which are fine and yield well. The crop is so large that the price is down to fifteen cents per bushel. The nicest kind of apples are worth $1 per barrel. Butter sells at 15c. per lb.; chickens, 6c., live weight, and eggs 15c. per doz. S. S.

Minnesota—*Faribault, Oct. 26.*—Reports from all over this county, of the terrible drouth, are being received, and unless plenty of rain comes before winter sets in, the result will be disastrous. A great many wells are dry. Many farmers in this vicinity have to haul water six miles for watering cattle and for household use. There is fear that the Faribault water works well will give out, which will leave the city in a helpless condition.

—*Associated-press despatch.*

Wisconsin—*Janesville, Rock Co., Oct. 23.*—The destructive drouth still continues. The ground is perfectly dry to a great and unprecedented depth. I have never seen the grass look so withered in my life at this time of year. Our electric plant is now run by steam—the printing presses too, which have had a water motor. We have had no keen frosts yet. Fall farming is entirely out of the question—plowing is simply impossible. There is much anxiety in consequence, chiefly among our farmers—pasturage is quite out of the question. Rock river is bare in many places, never in the living memory of any one so low. Our artesian flow is, so far, uninterrupted by the drouth. There is quite a demand for our half and quarter-bred horses. The importers, five of them, all seem to be busy. Business fair—health, too, generally. Wheat, 60@75c. per bu.; rye, 40c.; barley, 20@42c.; corn, 20c.; oats, 15@19c.; potatoes, 25c.; hay, $4.50@7.50 per ton; cattle, $2.40@3.50 per cwt.; hogs, $3.30@3.75; poultry, 10c. per lb.; wood of all sorts lowest in the history of Janesville; coal lower than since we began coal burning at this time of the year. W. H.

The Poultry-Yard.

Game Fowls.

When a variety or breed of poultry can maintain its position for two or more generations it must have inherent qualities above the average, or this would never be the case. Fashion is ever changing. What is popular to-day may be neglected to-morrow, and there have been many ephemeral varieties which promised to be the chief of all breeds of domestic poultry, but which after a time lost the position they had gained, and are now scarcely ever seen or are kept by only a few individuals. In some of these cases the result is surprising, for the breeds were worthy of a better fate and would have well repaid culture, but in the great majority the cause was that the breed did not meet the requirements of breeders. In several instances which could be named the quality which won the first favor has been lost by the breeding of merely external points, and in time the variety has sunk to a low position.

The Game fowl has held its position for a long series of years. At first it was bred almost exclusively for the "pit" when cock-fighting was regarded as one of the greatest of English sports, and the greatest men of the land did not think it beneath their dignity of manhood to be devotees of cock-fighting. To day it is difficult to understand the type of mind that would so regard things, and we are happy in not being able to do so. It would be impossible, as once was the case, for a dean of the church to chant the praises of the main in verse. We put our rhymes to other uses now, some of which, however, are not a bit more praiseworthy. But it is worthy of note that the Game fowl has been able to hold the favor of those who in former days kept it for its pugilistic prowess and skill, and equally so that of modern fanciers who only breed it for its esthetic characteristics. The Games are among the most popular of all present day poultry, and command the best prices. One hundred pounds has several times been given for a single bird, and has on a few occasions been exceeded. No one who has seen the marvelous display of Game fowls at the Birmingham exhibition—for this is the principal game show of the year—can question the enormous hold they have taken upon the breeders, who in the show pen, instead of in the cock-pit, display their skill in breeding and the wonderful mobility of this variety.

In the old cock-fighting days the names of the different strains was legion, for every man who had made any sort of a position in breeding desired a distinctive name, as a sort of a trade mark. Many of these names were of no moment as they did not indicate any real difference from others. But at the same time when the standard was physical prowess, and not color and style, as is the case now, there was not the same tendency to specific colors as at present. Consequently there was greater variation than we see now. At few shows are there classes for more than four varieties. In one of the later editions of Moubray's "Domestic Poultry" it is stated that a list of 53 different sub varieties or breeds had been made, but it is acknowledged that many of those were merely local and without any justification. Others were, however, representing clearly defined varieties and sub-varieties, and the writer gives a list of 26 which he claims to be complete and correct. In these it is found that several are grouped under one head, as for instance under the head of Piles we have (1) the Cheshire, (2) the Staffordshire, (3) the Worcestershire, (4) the Henny, and (5) the Red-streaky-breasted. These are to day sunk in the general cognomen "Pile" Game, and the list of 26 is practically brought down to half a dozen, though all the others are not absolutely destroyed.

The breeds chiefly seen are (1) the Black-breasted Reds, (2) the Brown-breasted Reds, (3) the Piles, and (4) the Duckwings, though Blacks and Whites are now being brought forward again. Of these the Black breasted Reds are the most stylish, the Brown Reds the most useful, the Piles the richest in color, and the Duckwings the most homely. The first two named command the largest number of supporters, and we should think that there are as many breeders of the Black Reds as of all the others put together. The best classes are those of Black Reds, and the highest prices have been paid for specimens of this variety. As already stated, they are the most stylish, and although scarcely as brilliant in color as the Piles, they are of splendid color and richly marked.

But of late there has been an attempt to bring the Brown-Reds to the fore. This has probably led to the adoption of a style which has more color than had the darker and more sombre varieties which were in favor fifteen or twenty years ago. In the most recent and newly-revised edition of Wright's Book of Poultry, Mr. W. F. Entwisle writes that "in Brown Reds the fashion has quite changed from the dark shades in favor of the Laced-breasted Lemons, which is a great improvement on the old style. In the Laced-breasted Lemon Brown-Reds, the cock should be as follows: Beak, black; face, the darkest gipsy, i. e., purplish black; eyes, the darkest shade of brown—in fact, the more nearly black the better; feet and shanks, the darkest olive, or nearly black; head and neck-hackle, bright lemon, striped with black; back and saddle-hackles, wing-bow and shoulder coverts, all bright lemon, with black fluff and centre; breast, rich black, distinctly and evenly laced with gold all round the feather down to the fluff, and with a golden shaft to each feather. This lacing should extend from the throat well down to the thighs. The rest of the under feathers are black; tail, greenish black; shoulder-butts and flight coverts and secondaries, greenish black. The hen to match the above must correspond with him in color of face, eyes, beak, legs and feet, and must have the greenest-black body color, back, wings and tail, with a green-black breast, lightly and evenly laced with gold generally preferred (although birds without the lacing on breast sometimes win); hackle, rich black, each feather well edged with bright lemon, the color extending well over the head, giving it a golden or brassy appearance. The birds above described breed cockerels and pullets very true to feather, although there will be some pullets with the addition of a fine golden edge to the feathers on back and wing-bow. These laced pullets generally breed the brightest and best colored cocks. The next most fashionable color of Brown-Reds corresponds exactly with the above description, only substituting rich orange for the lemon. These Orange-colored Brown-Reds are frequently rather shorter and harder feathered than the Lemons, which, as a rule, have rather too much feather. Red faces in Brown-Reds are now considered quite old-fashioned, the dark gipsy face giving a hardier appearance. This shade varies in the same bird, just as he varies in condition from time to time; and sometimes a bird in low condition looks only purplish red, which, when in high condition, has a very dark purple face, inclining to black, and quite without artificial assistance."

The variations in hue of the face have led to charges of dyeing when they were untrue, but probably the color is often "improved." The Brown Red is a very meaty fowl, and of a good size. Of the different varieties of Game mostly seen, it is undoubtedly the best for table purposes, and especially for crossing, but I think that it is surpassed by the old-fashioned type of Game fowl, and by the Indian Game. As for the Piles and Duckwings, I must leave them over to another occasion.

STEPHEN BEALE.

Roup.—Please give a cure for roup in turkeys and chickens in your next paper. L. S. S. *New-Hampton, N. J.* [An experienced poultryman has found kerosene an excellent preventive in checking the mucus discharges which often result in roup, the fowl being held so it cannot swallow, and the throat filled with oil until saturated and then allowed to run out; injecting also a few drops in nostrils. In fully developed roup, bromide of potassium has been used with success, injected dissolved in milk, say four grains, and gargling mouth and throat with kerosene. The drinking water of the flock should have the bromide at the rate of two grains to the fowl.]

Horticultural Department.

Fruit and Other Crops in Iowa.

[When the following letter was written, the author had not seen the criticisms of his statements about Iowa Crops, from Mr. WALLACE, published in our last issue, p. 803. Eds.]

EDS. COUNTRY GENTLEMAN—Some weeks ago I had an article in your columns on Adaptations of Soil and Climate, expressing the view that each locality should grow for its staple crops those things chiefly for which its soil, climate and markets best fit it. Also that while Iowa was splendid for corn, oats and most garden vegetables, it could not compare with Ohio, Michigan and New-York in wheat, hay, potatoes and tree fruits.

To the general proposition no one objected, and most of our local writers here thought the article stated the matter fairly for Iowa. But the Hon. Jas. Wilson, one of our most prominent agricultural writers, thought and said in print that while the article was fair and moderate on the whole, it understated the capacity of the State for hay, blue-grass pasture and wheat. I must admit that the four summers I have been here have been seasons of unprecedented drouth, having received only about half the rainfall during the growing months shown by the average of the ten years just preceding.

The soil when subdued seems most excellent for blue grass, and the climate most years is good except for a short summer drouth, usually in August. As to timothy, I think the case was fairly stated, and also as to wheat. Clover, however, I think is not raised as much as it might be all over the State. The southern tier of counties that can still raise winter wheat grow considerable clover successfully, and there is quite a boom there just now for increase of both. The two seem to go together, and to go with winter apples, pears, &c. I take it that the rest of the State cannot at present grow the old varieties of either of the three successfully, judging from the fact that it does not do so.

As to fruit, Prof. J. L. Budd, our professor of horticulture and forestry, thinks I greatly underestimate the capacity of the State. He does not object to the statement that the northern three-quarters of the State cannot grow successfully the kinds of winter apples which twenty years ago were considered hardy here, but he believes that many of the kinds introduced by him from Central Russia are hardy here and productive of good winter apples, and that for most kinds of fruit Iowa cannot be surpassed. But the average judgment of the State is fairly expressed by Mr Wallace, the very shrewd and able editor of the Iowa Homestead: "Horticulture is a sentiment in Iowa—corn, grass and live stock give us our daily bread."

Still I now think I did under-state the matter, or rather that what I said gave an impression too low for the facts as to what can be done here in the way of fruit. In using the term "tree fruits," I was thinking mainly of the standard old varieties of winter apples and late pears, and not of cherries, plums, &c. The former are now an almost absolute failure in the north three quarters of the State. But the impression conveyed to most minds by my article probably was that we cannot raise much fruit of any kind. Since the article was written, most of the fruit season has come and gone; so I will give the facts from my own grounds and those of the college.

STRAWBERRIES.—These usually grow nearly as well here (Central Iowa) as in the same latitude in Michigan, Indiana, Ohio and New-York. Still the climate is more severe, more subject to extremes, not moderated as there in both extremes by large bodies of water and by considerable forests. The vines must be well covered in winter. Still, they sell here about as in the States named. I do not raise them in my garden, as we can and do buy them fresh and in abundance of the horticultural department of the college daily in their season, at about six cents per quart, on the average, delivered. With a few shipped in from the South at about 10 cents per quart the strawberry season lasts fully five weeks.

RASPBERRIES AND BLACKBERRIES.—These do extremely well here, and extend the berry season four weeks longer. All but the most hardy kinds must be laid down in Winter as in Central Wisconsin.

GOOSEBERRIES.—These are hardy here and bear abundantly, but we do not much prize them. They go unpicked in our garden for they come with better fruits.

CURRANTS.—These do well and ripen finely. We have all we can use with moderate care of the bushes. This is an exceedingly fine fruit for pies, green or rightly seasoned when thoroughly ripe for those that relish and crave a pretty acid fruit. Allen's New American Farm Book says: "The currant is the first in importance of the small garden fruits." Few persons will wholly agree with this opinion, unless we include ease of growth and care (where the currant worm will let it alone), and value green for pies and ripe for jelly. Still, on the whole, I think this old fashioned fruit is much underestimated. Most of us for real relish place the strawberry first; the blackberry second if of right varieties (Kittatinny, Early Breton and Wilson) and thoroughly ripe; the raspberry third, and the currant fourth. The currant is too tart for the average taste, the red raspberry not tart enough, the strawberry and blackberry just right if of best varieties and well ripened.

CHERRIES.—Of the tree fruits this is one of the most delicious. The tenderer kinds kill here. The common red or pie cherry does quite well, lives to ten or twelve years old quite well, and bears abundantly. Our dozen trees, some ten years set, yielded probably six or eight bushels or more, but the rascally robins would not let them alone. They came by the score and hundred from the college evergreens and shrubbery and from my own, and took them by the quantity. Still by a little care and persistence we ate all we wanted, gave away and sold some, and canned some two bushels. They are to my taste far more delicious canned (pitted) than strawberries, especially in spring when the system craves a delicious acid. But the robins make the season short.

PLUMS.—The wild plum, similar to or identical with the Wild Goose plum of Tennessee, grows wild here and fruits abundantly. You can buy all you want for 75 cents per bushel. In our garden are eight trees of the Miner plum—very good, very prolific. The best three trees bore about a bushel each, and the rest about a half bushel each. We ate and gave away to neighbors all we could for some three weeks, and sold a few to the grocer.

GRAPES.—In some respects grapes are worth more to the housekeeper than even the strawberry. They last much longer, are much less trouble, and take neither sugar nor cream. As a sauce, they are inferior. As a fruit before breakfast, after dinner or after supper, they seem to me to be equal. Our first picking of Wordens and Moore's Early was Aug. 23. The Concords still hang on the vines, slightly frosted (Oct. 1), and we picked a large quantity before the frost, to keep as long as they will. The Worden is a far better grape than the Concord, and ripens here nearly two weeks earlier.

MELONS.—These are a most delicious fruit or vegetable, and we grow them here (ripening for six weeks this year) equal to the Georgia melons. The sun is so hot here that it ripens them splendidly. We had them in such superabundance from a few rods of ground, that we could not eat or give them all away. The nutmeg melon is most delicious. They cost the housewife little trouble; halve them, remove the seed, and put a hemisphere on each plate before breakfast. Eaten with a teaspoon, with or without salt or sugar, they are more delicious than any tropical fruit I know of. They grow small but thick, almost "crowding one another out of bed." We picked 190 in four days' ripening. The one watermelon we started on to-day (Oct. 1) weighed 38 pounds; it will make more than one dessert, with grapes, &c.

APPLES.—The Duchess of Oldenburgh, a splendid fall apple, is quite hardy here, fruits while the trees are small, and bears most prolifically. This is the only well known apple that is now considered hardy here. The college experimental orchard, most of it planted eight years ago, has a large number of new and most promising fall and winter Russian varieties. The yield this year was immense, several hundred bushels. It was the first fruiting of some of the kinds, and the test of "quality and keep" through the winter will be watched with great interest, and I shall probably report on it. Several large varieties of Siberian crabapples fruit abundantly on my grounds, and make excellent sauce, preserves and jelly.

With these and other fruits, and with the profusion of the finest garden vegetables of all sorts which I raise in great abundance here, our table can and does nearly every day of the year have two, three or even four kinds of fruit and vegetables of local growth, and nearly all of our own growing. But I consider the vegetables, from lettuce, radishes, spinach and peas in April, May and early June, down to the Lima beans, cabbages, celery, tomatoes, onions, parsnips, Hubbard squashes, &c., around to April again, to be quite as valuable, toothsome, appetising and health-giving as ripe fruits uncooked in their briefer season. How much of these vegetables and fruits we eat, we have not the least idea. With unlimited supply, close at hand, fresh and nice, there is neither temptation to stint nor to over-eat. I take it they were meant to be eaten or they would not be so plenty, cheap, healthful and enjoyable. Iowa is a grand State for small fruits and vegetables. They grow so abundantly that the farmer can, if he will, live like a king. It is a garden State. They are a great help to the housewife too. For over six weeks in the berry, cherry, plum and grape season my good wife, who at that time could not get a "girl," and who always sets a bountiful table, made scarcely any pie, pudding, cake or other cooked dessert, and none of us cared for it.

I sometimes wonder that some of my good friends make so very much of one or two of the small fruits, and say nothing of the endless succession of other fruits and choice fresh garden vegetables that mature the same year the seed is planted, and that give us a rich succession and a boundless variety the whole year round. As a rule, the vegetables are far more easily grown than the tree fruits, or even the bush or vine fruits. To me the tomato and the nutmeg melon or canteloupe, are each worth as much as the strawberry or blackberry, and more than the plum or raspberry.

Ames, Iowa, Oct. 1. W. I. CHAMBERLAIN.

Protecting Tender Plants.

To-day the wind is from the north, and the air feels quite cool and fall-like. The foliage of the forest trees indicates slight frost, which with each successive cold spell will become more and more severe, until suddenly some clear night the thermometer will drop down several degrees, and the next morning we shall find all tender vegetation frozen and dead. Lest this dire calamity should befall our cherished flower gardens we must be warned in time, and either remove our most delicate plants from the open ground or see that they are sufficiently protected to withstand the cold.

In Kentucky the weather in winter is very uncertain; we never know what to expect. Sometimes the thermometer falls 10° or 12° below zero, and remains there for several days together; again the weather will be nearly temperate the whole season. So in order to be prepared for the worst, we usually have a pit dug in our flower gardens, and fit it up with shelves and cover it with glass, that we may keep alive during the few months of uncertain weather many beautiful flowering plants that will grow and bloom the remainder of the year out of doors. Many of these plants, however, as geraniums, heliotropes and chrysanthemums, have grown so large during the unusually rainy summer that I shall be obliged to give them up, and only take cuttings of each kind so as not to lose a variety. These cuttings will take up less room in the pit, and if properly cared for will make strong vigorous plants next summer that will bloom profusely.

Hardy annuals and bulbs, as white violets, small pansies, pinks, hyacinths, narcissus, some gladioli and lilies of various kinds can be left out; though it will be best to spread manure over the ground as a protection. My large lemon trifolia, called in the catalogue *Aloysia citriodora*, must be cut back to within a few inches of the ground, the surrounding soil heaped over it, and the whole covered with straw or something of that kind to keep the roots from freezing. Next spring when this is removed strong vigorous shoots will spring up several feet in height, and with its fragrant foliage and dainty white blossoms the plant will again be the pride of my little flower garden.

This summer a large Marechal Niel has taken complete possession of my flower pit. Its roots are embedded in soil placed on the floor of the pit, four or five feet perhaps below the surface of the ground, and since the sash was removed in the spring the branches of the rose have grown many feet above the pit reaching out in all directions. Some of these branches can be bent down so that the glass can cover them, others being too long and brittle must be sacrificed.

This rose begins to bloom in February or March, and for several succeeding months gives us the greatest profusion of beautiful blossoms which are so large, so fragrant, and so lovely in color, that they excite the wonder and admiration of all who see them. As many as five dozen full-blown roses and buds can sometimes be gathered at once. After this luxuriant flowering the plant begins to make new wood, but all through the summer and until frost, there is seldom a time that a few golden blossoms cannot be found hid away among its exquisite foliage.

Some of the most delicate of the Tea roses, as the Devoniensis, Niphetos and Sunset, which bloom in open ground all summer, will be repotted and put into the pit this winter. Other roses more hardy, as La France, Comte de la Barthe, and Sombreuil, will thrive best if left out with some protection; while a third lot including the Malmaison, Souvenir de la Malmaison, Baltimore Belle, Madame Bravy, Madame Pradel, and Celine Forestier, only want the earth drawn up close around them about six inches above their roots, the ends of their branches being left exposed beyond this without injury.

An excellent way to protect a tender rose is to build a little brick house around it, placing the bricks flat on the ground, four square, and four bricks in height, taking in all sixteen bricks to each rose. Over the top of this a pane of glass should be placed in cold weather. Another good way is to make for each plant a wooden box about six or eight inches in width by one foot in height; both ends must be left open, one inverted over the plant and firmly pressed into the earth at its base, and the other covered with canvas. When canvas is used in this way it is a good idea to give it a coating of linseed oil so as to render it water proof. One of my near neighbors says she simply drives down bits of board around her young rose bushes and heaps manure on the outside, but I doubt whether this would be a sufficient protection for a tender rose during a severe winter.

It is a good idea though to keep the fresh manure from coming in contact with the wood, for although roses are most voracious feeders they want the manure thoroughly decomposed. HORTENSE DUDLEY.

The Season in Northeastern Ohio.

Tests of New Varieties.

EDS. COUNTRY GENTLEMAN—The summer now about closed has been fairly remunerative in the cultivation of vegetables: prices have ranged higher and crops better than for the last two years. I do not, however, grow anything but what can be readily marketed in our home market. Raising vegetables of a quick-decaying nature for a distant market, be our facilities ever so good, is anything but profitable, especially if at the mercy of commission men.

The only market men to-day I know of who are making money are those who raise for a home market and personally attend to the general supervision of raising, preparing for market, and marketing of the different crops. In the pages of the COUNTRY GENTLEMAN I have often referred to the great importance of placing all kinds of horticultural and floricultural products on the market in the most attractive manner possible, and with the close competition now to contend with, this particular part of the business has to be strictly attended to. No slovenly methods should be tolerated in either the growing or marketing of garden crops. We have to use every means within our reach to secure the very best crops, and when procured a similar vigilance is necessary to place them before our customers in the most attractive manner.

For years I have made a point of trying almost all the novelties introduced by reliable firms, and while I have often a wish of some variety long since discarded, under a new name, still among them I also find some excellent additions. In TOMATOES, for instance, this year I find in McCollom's Hybrid, sent out by James Vick, a splendid addition to our early varieties, following closely to Dwarf Champion, but of a much larger size, fine color, very solid, and ripens uniformly. It began ripening its fruit before Acme or any other variety except Champion, and held out in vigor and productiveness as late in the season as any of the older standard kinds.

Another variety, which, so far as I know has

not been put on the market, was sent me by the originator, A. M. Nichols, Granville, Ohio. For a main crop and late variety this is probably the nearest to perfection of any tomato I ever grew; it is a large bright scarlet variety, perfectly smooth, ripening evenly and one of the heaviest of varieties. I picked a good many which weighed a pound and some of them 1¼ lbs. I grew it on strong heavily manured soil 6 by 4 feet apart, and gave it the best of cultivation. It was late in ripening, but when it was ready for the market it readily brought from 15 to 25 cents per bushel more than any other variety. By the by, I have got nearly 50 bushels of tomatoes to market yet, for which we are getting retail, $1.60 per bush. Before our first killing frost I had all the green and half-ripened fruit on the vines picked and laid on the benches of an empty greenhouse, in thin layers, where there is little if any moisture. Here I ripen them, being careful to pick out the ripe ones before they soften, cleaning them over by rubbing off all dust with a soft cloth; then placing them in half-bushel baskets, they readily sell for the above price.

Muskmelons.—I grow a good many of, and find the most profitable to grow for this market are the yellow fleshed varieties. Emerald Gem and the Osage I find the two best selling kinds. A good many growers complain about the Emerald Gem being too small; well, it is when not properly grown. All melons require rich soil to insure a paying crop, but the Gem requires an extra heavy manuring, thorough cultivation and the fruit thinned. It sets fruit very abundantly, and if all are allowed to remain on the vines they will undoubtedly be small, but with judicious thinning and high culture nice marketable fruit can be obtained. Every fruit of this variety, be it ever so small, is well flavored, however, and generally salable to those who know it.

Lima Beans.—Upon the introduction of the dwarf lima I expected the disappearance of the poles, but from what I have seen of it we shall have to hold on to the pole varieties yet a little longer. The beans of the dwarf variety are small and fairly productive; still I can get more on the same amount of space from the pole varieties than from the dwarf, but one season is not sufficient to decide the true merits of anything.

Celery.—Last year I condemned in several of the horticultural papers the Golden Paris self bleaching variety, but I had not the true kind last season, only a spurious variety, but did not know it until after writing my too hasty remarks upon it. I have this season nearly 3,000 of the true Golden Paris, and consider it for quality and general appearance equal to any in cultivation, and superior to most kinds. I shall next season grow at least one-half of my crop this variety, the other half my old favorite White Plume. I have grown this season plants of White Plume the seeds of which were procured from different seedsmen, but what a difference in the purity of the stocks! All with one exception have from 10 to 20 per cent. green-leaved varieties mixed with the white-leaved, but this exception has not a single plant that is true to type.

The close competition and cutting of prices has a tendency to carelessness in the selection of stock of a good many varieties of our leading vegetable seeds. This should not be; no market gardener can afford to buy inferior seed or strains of seed because cheap. Those firms therefore who are placing on the market inferior stock, will eventually have to give way to the more reliable and higher-priced ones. M. Milton.

Mahoning County, O., Oct. 22.

Root Cuttings for Shrubs.—The London Garden gives the following good, practical remarks on raising shrubs by root cuttings, which will be useful to those who propagate their own plants, as well as to nurserymen:

This mode of propagation is available for many different subjects, hardy as well as tender, and in the case of out-door plants the transplanting season is the time when suitable roots can be obtained, as when a plant is being removed it is often possible to take off a root or two for the purpose without in any way injuring the specimen. Among shrubby hardy subjects that are readily increased by cuttings of the roots may be mentioned the huge compound leaved Aralia spinosa, the bold-growing Clerodendron trichotomum, and Bignonia radicans. Another of this latter class readily increased in this way, is the Chinese Akebia quinata, and to all these may be added the uncommon Aralia maximowiczi some of the Daphnes, nearly all the kinds of Rhus, including the beautiful cut-leaved Rhus glabra laciniata, Koelreuteria paniculata, Cydonia japonica, Desmodium penduliflorum, the Robinias, several kinds of Rubus, the Catalpas, Xanthoceras sorbifolia, and most of the Poplars, Alders and Willows, but these last three are so readily increased by other means, that root cuttings are very seldom resorted to. Of tender plants may be mentioned the Bouvardias, which were at one time largely propagated in this way, but of late years cuttings of the young shoots are generally preferred. Many of the Acacias can also be increased in this manner, and it is also available for several of the Clerodendrons, especially the bright-colored C. fallax. Besides the above may be mentioned Pelargoniums, Petrea volubilis, Drosera binata, the Rice Paper Plant (Aralia papyrifera) and Trichinium manglesi. In the case of hardy trees and shrubs for the open border, the cuttings ought to be cut up into lengths of 4 inches or 5 inches, but when intended for the frame they need not be so large. In the open ground the cuttings should be put in at such a depth that the upper part is about 2 inches below the surface of the soil, but where protected it will be sufficient if the upper part is just covered—certainly not more than half an inch. Rather fine sandy soil, such as is used for cuttings, is very suitable for this mode of propagation, and all that is needed after the cuttings are dibbled into their pots or pans is to keep the soil fairly moist, especial care being taken not to overwater it. Several hardy subjects are all the better for a little heat in the spring.

The Apiary.

Northwestern Bee-Keepers' Society.

During the last four years the North American Bee-Keepers' Society (now the International) has held its meetings either in Chicago or not far from there; and, as it would not be profitable to hold two meetings of a national character so near together at nearly the same time, the Northwestern has joined with the North American, and joint conventions have been held. This year the International is to hold its meeting at Brantford, Canada, in December, and the Northwestern held its usual annual meeting in Chicago, Ill., Oct. 11-12. No association can omit its regular meetings without losing thereby, as was shown by the lessened attendance at the last meeting of the Northwestern. Most of those present were "old stayers," who make it a point to attend all the conventions. The attendance was only a little more than half what it has been in former years. Chicago, however, is the grandest place for building up a bee-convention. It is the railroad centre of the great honey-producing West, and railroad fares are very low, especially in the fall.

Notwithstanding the lessened attendance, the meeting was a good one. The Northwestern is peculiar in one respect. It has no essays, nor even a set programme. "As the spirit moves" any member writes out a question on any point on which he wishes information, and hands it to the chairman. With its present efficient president, Dr. C. C. Miller, who has held the office since the beginning of the society, this plan works very well. If no one speaks, the doctor begins asking questions, and *compels* discussion. The first question was the appropriate one of—

How Early to put Bees in Cellar.—No definite date could be given, as localities and seasons vary. Some reported success by putting the bees in as soon as they were through storing honey, while others had been equally successful in leaving them out until the last moment. I think the views expressed by Mr. Jas. Heddon of Michigan were sensible. He preferred to leave them out until they were through breeding and handling pollen, and had had one or two flights after that. This left the intestines free from excreta, and in better condition to withstand the long confinement of winter. The majority favored the latter part of November, as a general thing, for putting bees in the cellar. This discussion soon drifted into a general discussion of—

Wintering Bees.—Mr. Heddon said: If there were any system by means of which bees could always be wintered successfully, we should all have known it ere this; yet I will say that by putting the bees on clean dry combs, feeding them properly prepared cane sugar syrup, and putting them in a warm cellar, I can winter them with as much certainty as any one can a cow or horse. The trouble is just this: sugar is now worth considerably more than honey; it is some work to remove the honey and feed the sugar; to this add the fact that honey is a luxury of slow and uncertain sale, while sugar is a staple, a cash article, and it will be seen why this plan isn't feasible. It isn't a question of what *can* be done, but of what can be done profitably.

E. P. Gibbs—Didn't you lose bees one winter, Mr. Heddon, when they were fed sugar?

Mr. Heddon—Yes, but not from dysentery. This is the one great cause of our winter losses; all other causes practically amount to nothing. At the time to which Mr. Gibbs refers I had bees in cellar with sugar stores and some on natural stores; many of those on natural stores died of dysentery, while those fed sugar were entirely free from it. Those that died on sugar stores were in the open air. They actually froze between the combs with no trace of dysentery. Bees in the open air having natural stores died of dysentery.

Mr. Gibbs—What about dampness?

Mr. Heddon—I have no fears of dampness, except as it affects temperature. It is equivalent to a low temperature. Where the cellar is damp the temperature must be higher. What kills our bees in winter is diarrhea. This is caused by an overloading of the intestines with pollen or any nitrogenous food. When the bees can fly occasionally there is no trouble, as the intestines are unloaded when the bees fly.

Mr. Gibbs—I cannot believe that pollen causes the trouble. My bees always have pollen, but do not always have the dysentery. I think it is the cold that causes it. I have kept bees in different cellars, and when the cellar is cold there is trouble.

Mr. Heddon—Pollen is the *prime* cause. I do not think there is a person present who will dispute that the trouble comes from an overloading of the intestines. Cold is an auxiliary cause, as it induces a larger consumption of food, and the sooner the intestines become overloaded.

President Miller—Suppose we all agree that it is the consumption of pollen in confinement that causes bee-dysentery, and even Mr. Heddon admits that the best we can do is to take our chances, why discuss it?

Mr. Heddon—When sugar is *much* cheaper than honey, then it will pay to bring our bees through in a starvation condition and feed sugar; when it is not, we must take our chances. But we can have our honey for winter stored from the source that furnishes the least pollen, put it aside until fall, then shake the bees off upon the best honey that has been saved, and put them in a warm cellar and take our chances.

Best Size for Sections.—The universal verdict was that the pound section was the best size. It had better be scant a pound than more than a pound. If over a pound, the dealer is asked to "throw in" the odd ounces; if less than a pound, the customer does not object, because there is a little less to pay. Nearly all bee keepers complain because some farmer, who has a few pounds of honey, brings it in and sells it for little or nothing—what ever the grocer offers—and thus demoralizes the market. Mr. Heddon told how he avoided this trouble. All of his honey was stored in half-pound sections. These the dealers sold at ten cents apiece, and they met with such ready sale at this price that there was really no competition between them and the larger, less-attractive packages of the "grangers." He also said that a glass package for holding one pound of extracted honey was needed. Honey is largely sold because it is attractive, and anything except glass does not show the honey. The trouble now is that glass is too expensive. When the honey was high it did not matter so much, but it is now so cheap that a cheap package must be used.

The Best Super.—Mr. S. N. Black was using a super something like the old style of Heddon surplus case; he did not exactly like it, but knew of nothing better.

J. A. Green, Illinois, said no case of super would answer that must be taken apart to remove the sections. He used a case that was simply a rim with tins nailed to the bottom of the end pieces to support the "section holders." "Section holders" are simply wide frames with no top-bars. Mr. Green objected to top-bars, on the ground that the bottom bars would sag and thus leave a crack between the sections and the top-bars, and the bees would plug this crack full of propolis. He thought top-bars of no use.

Jas. Heddon.—When no separators are used, there is no super ahead of my old case; if they are used, then the *T* super is the thing. My preference, however, is for the wide frames and tin separators as used in my new, reversible case. The only objection is the cost.

E. P. Gibbs—The wide frames may cost the most at the outset, but are the cheapest in the end, as less honey is broken in removing it.

Getting Bees Out of Sections.—President Miller mentioned the plan of piling ten or twelve cases on one colony, having first driven out most of the bees with smoke. There being but few bees in the cases, they were easily driven down by a liberal use of smoke. One person to work the smoker, and another to remove the cases as fast as the bees were driven down, made the work pass off lively.

J. A. Green mentioned the Reese escape, which is an empty case with a bottom through which is a wire-cloth cone with the apex, in which is an opening, pointing downwards. The escape is placed between the supers and the lines. The bees pass down very readily, but do not find their way back.

Marketing Honey.—E. P. Gibbs said that most of the honey was sent to market too early; before there was much demand for it. It stood around and the cases became soiled, and the large quantity on the market helped to lower the price.

Mr. Heddon pointed out that honey was a cold-weather food, and if sent to market before cool weather, should be sent only in small doses.

R. A. Burnett, a commission merchant of Chicago, corroborated what had been said by Messrs. Gibbs and Heddon. He also said that honey did not ship so well in hot weather as in that which was moderately cool—it leaked more. October and November seemed to be the best months for shipping, and also for selling.

Honey Boards.—President Miller had had trouble this season from the bees building comb *above* the honey-boards. Why, he could not tell.

J. A. Green had had similar trouble with some all-zinc honey-boards. It was caused by their sagging.

Mr. Pelly had used thick top-bars, and had no trouble from "brace combs," even when no honey-board was used.

Mr. Heddon explained that where the top-bars were close together there would be fewer "brace combs" above them, but the spaces between them are filled with hard wax, making it very difficult to handle the frames.

A. I. Root said that his experience had led him to a similar conclusion.

Chas. H. Green had used top bars ⅞ square. They lessened the amount of "brace combs," but not to such an extent that the honey-board could be dispensed with.

J. A. Green had bought some bees in hives having ⅞ top-bars. The bees built the spaces between the top-bars full of hard wax, and then built just as many brace combs.

The sense of the meeting was that honey boards are indispensable.

Is Bee-Keepers' Union Desirable? *Jas. Heddon*—Yes, bee keeping is a new business, as a business. People have not learned to respect it. We need something to help to sustain our rights legally and compel respect.

Thos. G. Newman, who is general manager of the Union, gave a brief history thereof, and of the suits it had helped to defend. It had yet to lose a suit.

President Miller had never had any difficulty with any one in relation to his bees, and did not expect he ever would, still, it was possible, and this matter might be looked at in the same light as fire insurance—the sense of security is worth all it costs.

W. Z. Hutchinson—Yes, and we also have the comfort of knowing that what we pay goes to help some unfortunate brother.

Overstocking a Location.—All in the possibility of over-stocking a locality—that is, having so many bees in one apiary that the pasturage would be insufficient. To know what is the most profitable number to keep is a difficult matter, because of its varying conditions.

A. I. Root gave instances of large apiaries (300 to 500 colonies) in California and Wisconsin that yielded good profits.

Mr. Heddon said if there were blossoms enough it made little difference whether the season was good or bad, so far as over-stocking was concerned, as the bees could be always busy. He thought 200 colonies might be kept with profit in one apiary, and with the proper fixtures might be cared for by one man. Others placed the number considerably lower, one man as low as 75.

Alsike Clover.—Was mentioned as a desirable plant for honey and forage. Mr. Root furnished this and buckwheat free to all who would sow it within one and a half miles of his apiary, and at half price where sown farther away and within two miles.

Election of Officers.—Resulted as follows: President, Dr. C. C. Miller, Marengo, Ill.; vice-president, J. A. Green, Dayton, Ill.; secretary, W. Z. Hutchinson, Flint, Mich.; treasurer Thos. G. Newman, Chicago, Ill.

The next meeting is to be held in the fall of 1890, at the call of the officers. W. Z. H.

New Advertisements.

A. B. A.	*Position Wanted.*
Box 1508	*Man Wanted.*
Bridges, Mrs. E. P.	*Wyandottes & Pekin Ducks.*
Box 21	*Farm for Sale.*
Box 212	*Farm to Lease.*
Connelly, Thomas	*Jersey Heifers.*
Chriswell, A. G	*S. C. White Leg. Chickens.*
do. do.	*Jerseys*
Clood & Sons	*Chester White Boar Hogs.*
Clark & Whitley	*Thoroughbred Stock.*
Clarkson, E. L.	*St. Lambert Heifers.*
do. do.	*St. Lambert Bull Calf.*
DeWolf, D. D	*Jerseys*
De Courcy, Wm. Henry	*Shropshire-Down Rams.*
Dimon, John	*Holsteins, Rhodebrins, &c.*
Farmer	*Situation Wanted.*
Freeman & Button	*Cheshires.*
Farlee, G. W.	*Signals at the Holiday Sale.*
Fink, C. N	*Horizon Bull.*
Harding, Smith	*Poland-Chinas.*
Hope, J. I.	*Scotch Collie.*
John P. Lovell Arms Co.	*Reporting Rifles.*
Jones, C. E.	*German Carp.*
Johnston, R. K.	*Holstein Calves.*
Johnson, Joseph	*Jersey Bull.*
Kellogg & Co., Peter C.	*Hair of Jersey & Holsteins.*
Keyes, H. W.	*Holstein-Friesians.*
Koch, Wm. Burns	*Berwick Burns Bred.*
Merriam & Co., C. & C.	*Webster's Dictionary.*
Miller, Garrit S	*Holstein-Friesians.*
Nichols, E. L.	*Horse Wanted.*
Palmer & Bowman Co.	*Short-Horn Cattle.*
P. O. Box 5	*Jersey Bull.*
Poor, George E	*Female Pugs.*
Rose, Isaac	*Butter-Maker Wanted.*
Smith, James	*Situation Wanted.*
Sanborne, J	*Cheshires.*
Seymour, John M.	*Dark Brahmas &c.*
Thomas, R. W.	*Situation Wanted.*
Twitchell, Labin	*Hostein Friesians.*
X.	*Situation Wanted.*
X. Y. Z.	*Manager Wanted.*
Yellow Gate Farm	*German Mastiff Puppies.*

Pamphlets, &c., Received.

CROZIER, A. A., Secretary American Pomological Society, *Ann Arbor, Mich.* Proceedings of 23d Session, at Ocala, Fla., Feb. 26-28, 1889: pp. 173 and 94, quarto.

MANN, F. W., *Milford, Mass.* Illustrated Circular of Stone-Cutter for Poultry-Food.

MERRIAM & Co., G. & C., *Springfield, Mass.* Illustrated Circular of Webster's Royal Quarto Unabridged Dictionary—see advertisement.

SMITH, C. D., *Fort Plain, N. Y.* Illustrated Poultry Circular.

STEWART, Wm. J., Secretary Society of American Florists, 37 Bromfield St., Boston, Mass. Proceedings of the 9th Annual Convention, at Buffalo, Aug. 30-31: pp. 128 and 32.

Inquiries and Answers.

Ice-Houses.—In your paper of Oct. 3, page 748, you give plan of a silo. Why would it not be a good way to build an ice-house? Would the heat penetrate a solid plank wall 8 inches thick quicker than it would a studded wall boarded on each side and filled with sawdust, having the wall the same thickness? The latter is the way we built our ice-houses down in Maine, and they do not save our ice. Will you suggest or give a plan for a good ice-house? E. H. G. *Clinton, Maine.* [There are two distinct modes of building and filling ice houses, namely, constructing them with single board or plank walls, with a foot of sawdust between the walls and the ice; or with double walls with the space filled in with sawdust. We have given both modes a thorough trial, and prefer the former, as being simpler, more easily managed, and less liable to have air crevices in the sawdust. Fig. 1 represents a vertical section

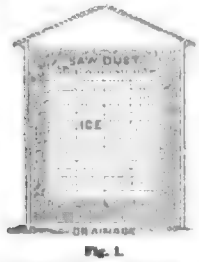

Fig. 1.

of such an ice house, the contents being built of solid blocks of ice, and the sawdust being compactly filled in as this ice structure goes up. The ice rests on sawdust, and is covered with it of equal thickness. Fig. 2 is a horizontal

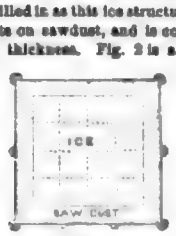

Fig. 2.

section of the same. If our correspondent will see that his mass of solid ice is thus incased on its four sides and top and bottom with compact sawdust, and has good drainage below and free ventilation at the top, he will have no difficulty in keeping ice, whatever the walls may be built with, provided they hold the sawdust in place. They may be single plank or boarding, or laid up with timber in the manner suggested by our correspondent, or with double walls. The simplest board shanty will answer, provided it holds the sawdust well, and drainage and ventilation above are fully secured. Fig. 3 represents a cheap and simple ice house built in this way, the plank siding resting on the inside of the stout posts, and left open above for ample ventilation. A more ornamental effect is shown in fig. 4. The most finished and elaborate structure will fail to keep ice, if the three requisites are absent—compact casting of the ice on all sides with sawdust, perfect drainage and ventilation overhead. A needless amount of sawdust is often used. A uniform thickness of a foot or 15 inches will applied is quite sufficient; two feet is needless, whether in double or single walls.]

Age for Corn Fodder.—I see in your number of 10th inst. on page 778, inquiry by T. E. E. as to the nutritive value of corn ensilage, and an answer by E. W. S., referring to a statement on page 312 of this volume. I have carefully read the two articles, and confess that I have been somewhat startled by the point brought out. From the reports of all scientific men whose writings about ensilage I have read, especially from the report of the Cornell Experiments last winter, I thought it was pretty conclusively established that corn cut when the ear was nearly mature or at all events when the kernels were glazed, was, pound for pound, much more nutritious than the same corn cut at any former stage of growth, and consequently I and all my neighbors and those I have consulted with and whose opinions I have read, have been trying to find out what kind of corn would reach the maturer stage in this climate and also give a good bulk. If, however, this opinion or fact, if it is a fact, is to be taken, we can leave out all considerations of maturity, and look simply to the bulk of the different varieties, almost all of which will reach the tassel stage or even show embryo ears. This season I planted 20 different varieties in plats of one square rod, and weighed the product at cutting time, and observed the stage of maturity which each variety reached. Without going into details, I may say that there were some three or four kinds with embryo ears, and in full tassel, and which gave the heaviest growth, ranging at the rate of 20 to 24 tons to the acre, while only one of those with glazed ears gave more than from 11 to 17 tons per acre. There was, however, one kind, thoroughbred white flint, on which the ears were fully glazed, and the growth would give 24½ tons to the acre. I may say these plats were on fair corn land in good order, but without a light dressing of phosphate as manure. The question is whether a crop which will give 24 tons of corn in the tassel is as good or better than one which will give say 17 tons of corn with the ears glazed. This is a very important point for ensilage growers in this western climate, and an answer will be of great value. S. A. FISHER. *Keosauqua, P. O., Ohio.* [Much experiment will be required to settle fully this question. The different varieties of corn do not give the same comparative amount of stalk and leaf as compared with the growth and ripening of the ears. Some of the smaller and earlier varieties, for instance, furnish twice the amount above the ears as below it, both in length and quality; while the tall growing sorts, which reach a height of 12 feet and more, have most of the stalks below the ear. This difference would affect the result, in using the ripeness of the ear as a criterion to judge from, or the same rule of ripeness would not apply alike in both cases. The same amount of fertility in the soil would give unlike results in the two varieties. The same amount of seed to the acre would also vary the results. These and other influences would need many and varied experiments to properly settle the question, and careful and accurate cultivators will find it an interesting subject for inquiry, in addition to the few experiments which have been already made.]

Eragrostis.—The sample of grass from J. H. B., Thornbury, Pa., is *Eragrostis major*, the "larger eragrostis" of recent writers—*Eragrostis pomoides*, var. megastachya of Gray's Manual. It is sometimes called "strong-scented meadow grass." It is an introduced grass, but not generally considered of any great value. C. E. P.

How to Make Good Manure.—Will some one kindly inform me if I can make good manure in the following way: I feed my cows well and keep some bedded with grass night and day, throwing in grass, oleander leaves, seaweed, &c., as it rots. I feed my cows on bran, corn meal, cottonseed meal, pollard and oil meal. Will this give good manure? I keep it housed from the sun, and very little rain leaks through the roof. I intend putting it in the ground about the first of November, and plant about the first part of January. Will this do? I intend throwing salt water on the heap as it lies in the pen—

Fig. 3.

Fig. 4.

will this be good? For any information you can give me relative to making good manure, I shall be very glad. M. H. J. *Somerset, Bermuda.* [Animal and vegetable matter, of whatever kind, that is in a condition to rot down, with enough water to keep it wet without washing or excluding air, as it decays, will form manure. The droppings of animals constitute the cheapest manure in most cases; and to effect a thorough intermixture, the materials should be placed in thin alternating layers. The more animal matter of whatever kind, the better; and animals fed on grain afford a better manure than those eating grass. As the proper amount of fermentation is requisite in the manure heap, and heating or treading it solid checks the fermentation, the heap should be light or loose enough to admit some air; and there should also be enough moisture to favor the same action.]

Grafting Grapes—Ornamental Bed.—I have a Mills grapevine two years old, that has made good growth. Can I cut it and graft one-year old Concord roots with it next spring? (1) Please suggest plan for permanent bed, 20 feet diameter, outer circle of English ivy, next golden honeysuckle, &c. What other plants in centre would be best? The bed is in front of my house. (2) J. H. S. *Perryman, Md.* [1. There will be no difficulty in grafting the grape, if the Concord stocks are strong and vigorous, according to the modes described in works on the subject. The Mills vines should be laid down and lightly covered, so as to prevent the checking influence of the severe cold of winter. 2. By employing different herbaceous perennials and running or trailing shrubs, you may obtain an almost infinite variation in such a bed, the different plants forming concentric circles. Among the small low hardy plants, such as are good for edging, are *Sedum acre*, Moss pink, *Sisyrinchium*, *Iris pumila*, &c. These may be planted in alternating lines with such trailing shrubs and plants as Akebia, vines, periploca, Virginian clematis, celastrus, and Japan creeper. Skill will be required in arraying these and other plants, and the slight natural difference in the shades of green which they present, will form a more pleasing arrangement of colors than more bold and glaring differences.]

Milking Tubes.—In answering an inquiry on this subject, p. 730, we inadvertently neglected to refer to the standing advertisement of Messrs. G. P. PILLING & SON, Philadelphia. We now observe that a recent Wisconsin correspondent of Hoard's Dairyman speaks from his own experience in very high terms of the improved instruments made by this firm—especially that intended for use in cases of sore or obstructed teats.

Maple Sugar House.—Will some of your readers give plan of a sugar house for 500 trees. Also the best apparatus for boiling and making white sugar, &c. SUBSCRIBER. [See very complete articles by Dr. CHAMBERLAIN, published in COUNTRY GENTLEMAN during March, 1887, under head of "Modern Maple Sugar Making"—pp. 165, 187, 210, 231.]

Acknowledgments.

Communications for publication have been received during the week ending Oct. 19, from F. W. Towle—S. A. Fisher (2)—Susie E. Kennedy—E. Smith & Sons—I. T. Whitbeck—M. L. Moor—Chas. Mason—L. T.—Allen Chittenden (2)—E. A. Gerald—M. Hilton—A. C. Gliddon—E. W. Perry—C. S. Rice—W. W. Rice—P. B. F.—T. J. Bobb—Mrs. M. J. Ashton—Prof. C. H. Peck—Geo. A. Stockwell—A. Jeffers—D. Davis—R. S. L.—H. Nicholson—W. F. Beers—F. B. Curtis—Helen M. Winslow—S. H. Carter—E. R. V.—Ed. Pearson—G. W. Barbour—T. S. Terry—Mrs. D. H. S. Goodale—Thomas Bowsh—Wm. Crozier—A. S. Holcomb—Jacob Engle—E. A. Miller—R. L. Dean—G. A. Peterson—F. K.—J. W.—Rolfe Berry—Attwood Pierson—Stephen Beale—J. M. Babb—G. W. Farlee—Florence E. French.

**** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

**** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Oct. 31, 1889.

Experiments on Insects.—The Report of Clarence M. Weed, entomologist of the Ohio Experiment Station, contains some interesting statements of the observations made on noxious insects, confirming what has been made by others—indicating gradual progress in obtaining the secondancy of these depredators and in rescuing crops from their ravages. The continued experiments made on the curculio with Paris green and London purple, prove that these beetles devour portions of the leaves and fruit, and hence the reason that these poisons have proved partially effectual in lessening their numbers. In an examination on cherry trees, one-half of the specimens examined on unsprayed trees were wormy, while on sprayed trees the number was very much less. Out of 8,000 cherries from sprayed trees, 320 were wormy; while out of 7,500 on unsprayed trees, 1,066 wormy ones were found—showing that 78 per cent. of the fruit on the sprayed trees was saved by this treatment.

The question of danger to health in using sprayed fruit was carefully tested. Two quarts of cherries were picked from sprayed trees three weeks after the spraying, and submitted to the examination of Prof. Weber, agricultural chemist. No trace of arsenic could be found. This result seemed to justify the conclusion that the operation is safe if not performed later than three or four weeks before the time of ripening. The spraying with London purple was performed with a mixture of one pound to 100 gallons of water. This is too strong for most vegetable substances, which would be scorched by it. In the trials made at the station with plums, the sprayed trees were so full of fruit that it was necessary to thin the branches to prevent their breaking; while a large portion on the unsprayed trees were injured by curculios.

In the experiments made and reported by us several years ago, the success, although partial, was scarcely equal to this; and generally as performed by others, it has not been equal in success to the jarring process.

The experiments made at the Ohio station on pears, gave more perfect fruit than the unsprayed trees—which accords with the results we have obtained for some years past with the Bartlett and other thin-skinned fruit, and has greatly increased the crop in value for market.

Freezing in Gardens.—Pulverizing the soil well before winter has a strong tendency to prevent the earth in gardens from freezing to much depth. Allowing it to become hard and compact enables the frost to penetrate it freely. Strong and heavy soils especially are greatly benefited by thorough pulverization. To accomplish this work thoroughly the land must be well drained. A wet or water-soaked soil cannot be finely mellowed. It pays well to drain a garden thoroughly. The ditches should be much nearer together than in farm fields, or not more than 15 or 20 feet apart. The owner can thoroughly drain his garden at moderate cost—better than to drain a 25 or 30 acre field. Thorough drainage not only gives early control of the land, but it prevents deep freezing at the opening of winter. It excludes the frost in the same way that sawdust is a better non-conductor of heat than a solid stick of timber, or that forest leaves are better than flagging. The farmer, therefore, should secure three important things before winter—drain

The Grazier and Breeder.

Problems for the Feeder of Stock—II.

STINGY FEEDING—FOOD OF SUPPORT—PROF. SANBORN'S EXPERIMENTS WITH PIGS—LIBERALITY BUT NOT WASTE.

The living animal body is a transformer of energy, changing it from its potential form as it exists in food and drink, and exhibiting it actively as muscular action, voluntary or involuntary—locomotion, mastication, digestion, assimilation, respiration, &c.; as nervous activity, receiving and transmitting sensations, fixing perceptions, ruling the muscles; or, again, as bodily heat, maintaining the temperature of the body, notwithstanding the escape of its heat to external objects or transfer to food, drink and air within. Hence the vital functions which simply maintain the status of the living body are at the expense of food. If the food used by the body exceeds this expense, the excess is stored up in the body, increasing its weight, or is used in the production of milk or of young. It follows as plainly that the return we receive for all the food consumed is measured by the excess of food just noted. The food required for the vital functions which maintain the body, or the food of support, may equal all the food consumed; and in this case we have nothing for the food given or for the labor of giving it; nothing for sheltering and caring for the animal. But if the food used is more than the food of support we have something; and this something increases just as the food used exceeds the food of support. If the food of support of the animal be two pounds daily, and it is allowed to use only two pounds, then we get nothing; if it is allowed to use three pounds, then for the three pounds we have one pound in gain of weight, in body of young or in milk; and if the animal is allowed to use four pounds we have for the four pounds two pounds in such form as just stated. In one case we have nothing for the food. Comparing the second and the third cases we find that for four pounds of food we get just twice as much as for three pounds of food. The feeding of the third case is just 50 per cent. more profitable than the feeding of the second case.

Nothing, therefore, can be plainer than this: The greater the excess of food used above the food of support, the more profitable the feeding, provided there is not an overbalancing waste of food. For there are two extremes to avoid. First, scant feeding, wherein the food that can be used is but little, if any, above the food of support. This is the extreme about which we need for the most to be cautioned, for quite often we so feed that our animals scarcely hold their own. I am safe in saying that one-fourth of the animals carried through this winter will weigh less next March than now; and that one-fourth more will not have made sufficient gain to pay for the labor of feeding them, not to consider the food they have consumed. Notwithstanding this, it is well to know, at least, that there is another extreme, well nigh, if not quite, as extravagant. Animals may be fed too liberally. They will digest and assimilate but a part of what they consume; and the result is that their gain costs more than if they were fed less; than if their organs were not overtaxed and the food consumed were well used.

In summing up the results from his exhaustive feeding trials with pigs, Prof. Sanborn touches on this point. He says: "This table shows that the more food given up to enough to grow a shote one pound per day or a little more, is given at a decided economy. It also seems to show that an excessive growth is at a great expense of food. This, I have before suggested, is true of cattle. I feel so far confirmed in this view, that grew wholly out of my experiments, that I am about convinced that there is a high degree of pressure in feeding that does not pay. This I am confident is true of the enormous amounts of corn given in rapid fattening in our State. Better a continuously good growth and no cramming periods."

Prof. Sanborn's actual trials to determine maintenance ration of pigs are suggestive and may be made to yield valuable results. Let us take his first group—four lots of three each, the hogs averaging 166.6 lbs. weight each, and none being far from this. All were fed middlings. They were given daily 3.39 per cent. of live weight of food—less than they would eat, yet fair growing rations, the shotes remaining quiet between meals. They required 5.42 lbs. of food to make one pound of gain. Group No. 2 is composed of the same hogs, now averaging 173.6 lbs. weight, and given an average daily ration equal to 1.99 per cent. of their live weight. Lot No. 1 required 69 lbs. of food for one pound of gain; lot No. 2, 56.6 lbs.; while lot No. 3 lost in weight, and lot No. 4 just held its own—that is, when the ration was reduced 41 per cent., 18 times as much food in one case and 10 times as much in the other was required to make a pound of gain, while in the remaining two cases no gain whatever was made. Further, the twelve swine, when given daily middlings equal to 3.39 per cent. of their live weight, made an average daily gain of 1.13 lbs. When this ration was reduced 41 per cent., the same animals made an average daily gain of only .0008 lb. Reducing the ration 41 per cent., reduced the daily gain practically 100 per cent. Figuring in the opposite direction, increasing the ration 70 per cent. multiplied the daily gain 1411 times.

The same swine, as group 3, were again fed, being given an average daily ration equal in weight to 2.53 per cent. of their live weight. They now required 6.96 lbs. of food to make a pound of gain, and made an average daily gain of .75 lb. Now, group 1 made a gain of 917 lbs. from 1,110 lbs. of feed; group 2 made a gain of 3 lbs. from 1,183 lbs. of feed; and group 3 made a gain of 64 lbs. from 878 lbs. of feed. Group 1 was fed 16 days; group, 2, 28 days; and group 3, 7 days. Group 1 would have made, as fed, 231 lbs. gain from 1,183 lbs. of food. Hence the difference between feeding 1,183 lbs. of middlings to the same hogs, in one case at the rate of a daily ration equal to 3.39 per cent. of their live weight, and in the other, 1.99 per cent. of their live weight, is the difference between 231 lbs. and 3 lbs. of gain. In the one case 77 times as much is received for the same quantity of food as in the other. Fed as they were, it would have required group 1, to eat 1,183 lbs., 17 days. Hence by feeding in 28 days what the pigs could economically have consumed in 17 days, we reduce the price paid for the food nearly 90 per cent. If we compare the results of feeding group 3 with the results from groups 1 and 2, we shall reach the same demonstration—stingy feeding is profitless; in fact, entails serious loss.

In the above there is an apparent error in the statement of the average amount of food required for 1 lb. of gain, and of the total gain and the amount of food consumed. Each group was divided into four lots; to get the average amount of food required for 1 lb. of gain, Prof. Sanborn divided by four the sum of the amounts required by the four lots. This gives results different from those obtained by dividing the amount consumed by each group by the gain of that group, as a whole. I have adopted Prof. Sanborn's methods.

Prof. Sanborn says: "For this excess, .94 pounds above maintenance food (in feeding group 3—J. M. S.), we get a growth of three-fourths of a pound, or seemingly 1.26 pounds of middlings have made a pound of growth. This trial was largely made to illustrate the folly of our unpardonable and indefensible practice of keeping hogs 15 to 18 months, to obtain the growth that may well be made in seven to eight months. The growth made in the first period (group 1) would give a shote weighing in seven months 940 pounds, including his birth weight. This would be got from the feeding, on a basis of two per cent. for maintenance of only 349 lbs. more food than necessary to maintain existence.

"Now, if a shote is kept fourteen months, or twice seven months, the maintenance food, at two per cent. daily, would be 504 lbs. for the extra seven months uselessly fed, or, in other words, maintainance rations are greater than the food of growth; and those of us, which is about all of us, who feed fourteen months, actually throw away more food in unnecessary maintenance than the actual food of growth by 44.4 per cent."

I cannot give space to the other trials made by Prof. Sanborn, bearing on this matter. The results agree with those already given. Nor shall I lengthen this article with other experiments with swine and other classes of farm animals, for it cannot be needed to prove farther that up to the point where there is a waste of food, the more liberal the feeding the greater the profit, with swine or with other animals for the shambles. While the food of support increases with the food consumed, it increases in a much smaller ratio, and as we feed more liberally, we have proportionately more food to be used for grain or milk; hence more return for the food consumed, quantity for quantity; hence more, and ever more, profit. Stingy feeding never made a dollar; generally it punches a big hole in the pocket.

This matter of stingy feeding is closely related to feeding until the animal is too old, of which I have just written. One contributes to the other. One is largely responsible for the other. They are Siamese twins of errors in feeding. We feed the animal until it is too old, because we feed so sparingly that we must feed long to get the animal of a decent weight; and we feed sparingly because we have a notion that we must feed so long, and in that time we can get the animal of presentable shape by stingy feeding. The result is that we sacrifice the greater part of the profits. It is really remarkable that any profits are ever left. With not a touch of Phariseeism, or any desire needlessly or unjustifiably to criticise the most erring of my brethren, I must say that it is a wonder, when the ways in which we slash profits are considered, that a majority of us do not go over the hills to the poorhouse. Moreover, it is true that it would be easily possible for the average stockman to increase his profits five-fold.

In final support of my position, I will introduce a paragraph by safe, solid, conservative, but wide-awake and always thoroughly informed Waldo F. Brown:

"The food required for the repair of waste and production of heat and energy is commonly called "food of support;" it is what keeps the animal alive. Except in the case of the working animal, it pays no profit to the feeder; it is the necessary expense of keeping the animal. Under all circumstances a large proportion of the food consumed by the animal must be used in this manner, but to secure profit in feeding it is essential that this proportion shall be as small as possible. * * * Suppose that under certain conditions a cow required 15 lbs. of hay daily as food of support; the proportion then between the food of support and total amount supplied would be 15 to 15. If 20 lbs of hay were given the proportion would be 15 to 20; if 30 lbs. were given it would be 15 to 30; and so on up to the limit of the cow's capacity. It is thus evident that every increase in the total amount of food supplied causes a decrease in the proportion which the food of support bears to the total amount of food supplied."

And to illustrate that I have not overestimated the importance of this matter or the loss we voluntarily inflict upon ourselves, I quote from Prof. Stewart to whom the high praise is due that his statement about such a matter needs no support. In speaking of the feeding of calves, he said:

"It may be interesting to some of our readers to state that we find skim-milk worth from 30 to 50 cents per 100 pounds to feed calves up to the age of six months. By the aid of milk, with abundance of grass, they may be made to weigh from 450 to 600 pounds at that age; and a continuance of this liberal feeding, although grain is substituted for milk, may produce yearlings of 800 to 1,000 pounds' weight, instead of little more than half that weight under a scanty system of feeding. The experiments of Sir J. B. Lawes also prove that the cost of putting on weight is in proportion to the age and size of the animal. This fact appears very plain and indisputable to any one that has studied it; and yet a want of its practical adoption among stock-growers causes a loss of not less than $50,000,000 per year in the United States. And this would be only $11.50 per head for the 4,341,894 head received at seven principal live stock markets of the country in 1881. A close examination would have shown that more than $50,000,000 of food had been thrown away in this slow and unprofitable growth."

Quincy, Ill. JOHN M. STAHL.

Raising a Colt by Hand.

Will E. W. S., through the columns of the COUNTRY GENTLEMAN, give me a ration for feeding a colt that is four weeks old, whose dam died a week ago? Have been feeding it every two hours one half pint of one part new milk and one part skim milk, sweetened a little. It eats fine hay and oats which I keep before it all the time. Would it be better to have the oats ground? I have old process linseed meal on hand but no flaxseed, and do not know where to get it. I fed her all skim-milk to begin with and she seemed to be doing well, and a friend told me I should feed it new milk. Could not afford all new milk so used it as I told you above, and the consequences are her bowels are loose. MRS H. W. A.

Brookfield Centre, Conn.

Mrs. H. W. A. takes too much trouble in feeding her filly every two hours. It will be as well to feed it three times per day, say at 7 A. M., 12 M. and 5 P. M. The looseness certainly does not occur from the new milk. Had she continued to feed it upon skim milk the colt would be first constipated and then loose. She does not say whether she feeds the milk warm, but it is presumed she does, as it should always be fed to colts and skim-milk should always new milk as near fresh a stir into the warm milk a ful of fine wheat middling say, old-process linseed given at each feed. Two the mixed milk will be ab tity for each feed at thi better if the oats were gro

A. does not mention wh eats much of the oats or h to examine the droppings oats eaten are well digest oats per day is sufficient f would be better to use a s seed jelly instead of the seed must be easily attain able town in that State, b that the linseed meal wil pose. Now the middlings well as the warm milk may each week. Mrs. A. can what this increase should be well that the filly hav the yard each day. The will assist in growing the frame. We have seen ver a diet similar to this.

Nutritive Ratio of F

EDS. COUNTRY GENTLEM sion of Prof. Stewart's b have nowhere seen the n figuring the nutritive ratio I would be pleased to kno the process of computatio The following are mixed: 40 lbs. bran, 35 lbs. linse cottonseed meal. I say:

Corn	100	mult
Bran	40	
Linseed meal	35	
Cottonseed meal	30	
	245	

Dividing 1585 by 245 give of this mixture, 1 to 6.47- rect, will he please indica od? (1)

Now, further—when yo ration, does it not mean for do not eat only meal, bu Now analage is 1 to 11. above compound with it w 5.4. Say:

Analage	40 lbs.	mult
Cottonseed meal	27	do.
Linseed meal	27	do.
	94	

Theoretically this woul tion. (2)

To what extent is nutriti determining propriety of f you say brewers' grains, 6.3 6.5. Brewers' grains canno oats or barley. (3)

In your tables, the nut same thing is differently places. Thus: Bran—pag 4 4; p 387 5 3. Maize (co 158 B, 9.3, 8.9 and 11.1; p. 3 tonseed meal—p. 158, 1 1.1; 1.8; linseed meal—p. 158, 1 middlings—p. 157, 6.9; p. 5.6. (4) C. M. *New York.*

C. R. has made the mista to figure the nutritive ratio multiplying the food by 1 whereas if he will note rati he will find, following each its albuminoids; 9d, its car fat. It is only the digestib case that are given. He sho multiplied the 150 lbs. of co centage of albuminoids, its bohydrates, and its percent

In order to make this plai figures for the same foods

	—Digestib Albu noid lbs	
150 lbs. corn meal	?	12.6
40 lbs. bran		4.0
35 lbs. linseed meal		9.8
30 lbs. cottonseed meal		7.1
Total		33.6

Here then is a combinatio taining 33.45 lbs. albuminoi bohydrates, 11.53 lbs. fat. the nutritive ratio of this rected on page 141 "Feed multiplying the 11.53 lbs. fat the 129.61 lbs. carbohydrates ing by the 33.45 lbs. albumi a nutritive ratio of 1 to 4.46.

Now if R. wishes to know the different digestible nut ture, let him divide the wh buminoids by the whole am 245—and the same with the the fat. R. will thus find tha 13.65 per cent. of albuminoi of carbohydrates, 4.7 per cen

Now suppose that R. wish

of 16 lbs. mixed hay, with 14 lbs. of this mixed grain. Then the analyzed formula of this ration will be as follows:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
16 lbs. timothy and red-top	0.64	7.04	0.16
14 lbs. mixed grain	1.91	7.30	0.65
Total	2.55	14.34	0.81

Nutritive ratio 1 to 6 3. R. will see that he can get the nutritive ratio of any combination of food in the same way, the nutrients of which are known.

2. Yes, the nutritive ratio of a ration means the ratio of albuminoids to carbohydrates in the whole ration, whatever that ration is composed of, and the rule I have given will apply as well to ensilage as more solid food, for the digestible nutrients have no reference to water. But R.'s combination with the ensilage would not be an allowable ration because of its great excess of albuminoids. In analytical formula R.'s statement would read thus:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
40 lbs. ensilage	0.44	4.40	0.21
27 lbs. cottonseed meal	9.00	6.99	2.16
21 lbs. linseed meal	8.20	7.15	1.89
Total	17.64	17.54	4.26

This has a nutritive ratio of 1 to 1.57, which would be a very unbalanced food. The extra albuminoids in this would balance a properly constructed ration for some 20 cows.

3. The nutritive ratio of a food shows at once how it may be used in a ration. R. must understand that no single food makes a proper ration, except for certain purposes. He is in error in supposing that brewers' grains has a nutritive ratio of 1 to 6 5. On page 163, where this waste product is particularly mentioned, its ratio is given as 1 to 3. The nutritive ratio tells at a glance the proportions of its nutritive elements. The nutritive ratio of oat straw is 1 to 29. The nutritive ratio of decorticated cottonseed meal is 1 to 1.4. These two foods are quite the opposite of each other, or they are complimentary to each other. If we add 300 lbs. of decorticated cottonseed meal to 2,000 lbs. of oat straw we have 185 lbs. albuminoids, 986 lbs. carbohydrates, 36 lbs. fat, all digestible. Now the nutritive ratio of this combination is 1 to 7, or equal to very good meadow hay and better than timothy hay. And if we figure the nutritive elements in 2,200 lbs. of timothy hay we find the aggregate nutrients to be only 1,010 lbs., so that one ton oat straw mixed with 300 lbs. of cottonseed meal has a feeding value for store stock more than equal to 2,200 lbs. timothy hay.

We trust this will be a clear exposition to R. of the value of the nutritive ratio in determining the combination of foods in rations for all purposes. There is no absolute nutritive ratio to which all rations must conform. The wide or the narrow nutritive ratio depends entirely upon the purpose for which the ration is fed.

4. R. mentions where the nutritive ratio of the same food is given differently in different places. A moment's reflection will show him that our foods, raised in different seasons, on different soils and with different culture, cannot be expected to be like gold from the mint, always precisely the same. We endeavor to get at an average as near as may be. He instances wheat bran—on page 157, ratio 5 6; p. 158 C, 4.4. This is easily explained. The manufacture of bran under the former system of grinding, carried much more of the flour or carbohydrates into the bran; but with modern machinery, the carbohydrates are reduced and the albuminoids increased. He will note that the wheat bran on p. 158 C was the average of 53 analyses, whereas the other was only the average of three or four analyses; and that on p. 887 was rye, not wheat bran. The same observation applies to maize. But the more reliable average analyses of maize are found on p. 158 B, where western corn is given as 11.1. This, however, was an error in print; it should have been, ratio 10 81. But we there give the average of all varieties of corn in 100 analyses, ratio 9 2. Cottonseed meal has also varied very much in quality, because of more perfect decortication; and during the last two years there has been very much on the market, as decorticated, which contained at least one-half of the shuck—sometimes very finely ground.

It must also remember that it is impossible to wholly avoid typographical errors.

E. W. S.

Choking Cattle.—I notice harsh and inhuman methods of relieving choked cattle, and contribute an easy and quick relief, after actual trials, as follows: Take about a pint of soft soap, add water to make it run easily, pour it down, and the apple slips down.

New Canaan, Conn. A. E. B.

Value of Sweet Skim-Milk for Pigs.

Eds. Country Gentleman—Have there been practical tests as to the feeding value for pigs of creamery milk fed sweet or left to sour—if so, the result? J. B. *Nassau, N. Y.*

There have been numerous experiments in growing and fattening pigs on creamery skim-milk—fed mostly sweet.

But when this food has been given most economically, it has been fed in connection with other food having less water. Skimmed milk contains in a very digestible form muscle-making food and also heat and fat-producing food in the milk sugar.

An important point in developing pigs for the final fattening stage, is to cause the growth of as much muscle and bone as is consistant with health, so that there may be a vigorous frame on which to lay the fat at the proper period.

Skimmed milk has 90 per cent. water. If 15 lbs. of fine bran and 2 lbs. linseed meal be mixed with 100 lbs. of skimmed milk it reduces the water content to about 75 per cent.—that is, there is 25 per cent. of dry food to 75 lbs. water. This makes the skimmed milk compare favorably with the best grass, as to liquid and solid elements.

In feeding pigs weighing from 25 to 35 lbs., we have found the combination given above to produce a very rapid growth in muscle and bone and frame, and we have found the average gain per day to be from ¼ to ½ lb. This will only produce so much fat as is required to round out the frame. In feeding such pigs we have found four months to sufficiently develop the frame for commencing the fattening period. Still continuing the skimmed milk, which is always most economically fed warm, at this period to 100 lbs. skim-milk we add 8 lbs. bran, 6 lbs. corn meal, 2 lbs. linseed meal, and then with a small amount of clover hay softened by hot water, the mixture is fed *ad libitum*, and the pigs gradually begin to deposit fat.

The corn meal is gradually increased to 12 lbs. and the bran reduced to 5 lbs., the linseed meal remaining the same. Four months of this fattening period will ripen the pigs for market—at which time they will be about 300 days old, and weigh 300 lbs. live weight. From many such trials we have found sweet skim-milk to pay in growth—after deducting the cost of the other food—30 cts. per 100 lbs.

Profs. Sanborn and Henry have conducted feeding experiments with pigs, but I have not their figures at hand. I think that J. B. will find practically that when the feeding of pigs is managed properly, on the principles here laid down, that sweet skimmed milk will pay the sum here named. But I should not advise paying more than 25 cents per 100 lbs., as there should be a little margin. E. W. S.

The Dairy Department.

Herkimer and Otsego Conferences.

Cedarville—Laurens—Dairy Pioneers—Care of Milk—Hops on Butter.

Eds. Country Gentleman—Herkimer county lies on both sides of the Mohawk River and extends back to a high rolling section on either side. It is a natural dairy region. The grasses are sweet and nutritious and the water plenty and pure. The people for two or three generations have been interested in the dairy. Here the production of cheese for the general market began, and near here the factory system originated. It was the home of X. A. Willard, an early and earnest worker in dairy literature, and here the veteran secretary of the State Dairy Association resides. It was a pleasure to Mr. Gilbert and myself to see Mr. Shull among his neighbors, and to join with him in holding the first conference in this famous dairy county. It was held at Cedarville, in Smith's hall. The speaking went on at the same time as the churning, the instructors changing work at the proper place. A short recess was taken when the butter came to inspect results.

As many present were interested in cheese-making, Col. Curtis spoke at length in regard to the care of milk before taking it to the cheese factory. He said the milk should not be chilled or cooled by putting ice into it. It should always be stirred or aired, and the best way to do this was to pour it in a thin sheet from one can to another, or let it drip from one can to another. It should be cooled down to the temperature of the night air, or perhaps a little lower. In no case should it be shut up tight with the animal heat in it, and the morning's milk should not be put with the night's, or else all of the germs of ferment and the microbes producing putrefaction gathered during the night in the milk, and inactive on account of the cool condition of the milk, would be set at work and spoil the milk, or at least endanger its sweetness, and be likely to produce a bad odor. The subject was discussed with much particularity and explained by reference to the effects of ice cooling water for drinking, and the bad taste of the water when the ice was gone. The disagreeable taste and smell of stale ice-water were caused by the accumulation of germs drawn to it by the condensation of the moisture in the air, which was constantly settling down upon it. The heat thrown off made room for more air, more moisture, and a constant accession of germs. Excessive cooling of milk would produce the same result, and the warm milk added the next morning would set the accumulated mass of germs at work, and by the time the milk reached the cheese vat, it would stink and spoil the whole cheese. He did not favor cooling milk for cream rising, any more than necessary to get the cream all up, for the same reason. It would be loaded with germs, and this was why the butter made from such cold setting would not keep so well. It got filled with the microbes of decay, and they went right on with their work after the butter was in the tub. The same loading of cream would take place on the milk pan if left too long. The problem was forced upon the dairymen to account for so much stale and rancid butter. It was more of a question than many thought, as it knocked all profit out of half of the butter, and put loss, actual loss, into fully one-third. A partial ferment undoubtedly added value to cream in improving the taste and smell of the butter, just as the dough for bread was improved by some ferment, but to let it run would make worse bread than the unleavened. Dairying is not a haphazard business, but an art.

There were two churnings at Cedarville, as follows: Two hundred pounds of milk from the dairy of four high-grade Jersey and three Guernsey cows of Mr. A. B Cary of West Winfield, was creamed in a Wooster creamer, in ice-water at 45°. Cream was from three several milkings of 60 lbs. each, and 20 lbs. of a fourth milking; 60 lbs. milk was creamed in 54 hours from the milk, 60 lbs. 42 hours, 60 lbs. 30 hours, and 20 lbs. 18 hours, from the milk. The several creams, after being skimmed, were held at about 60°, and each successive creaming added, and the cream agitated from time to time. Cream was then packed in ice and brought to the hall, being then at 54°; raised to 63°, with warm water; churned in barrel churn, 64 revolutions to a minute; butter came in 30 minutes. Buttermilk was then partially drawn and butter washed in several washings, with water at about 50°, until the milk was all washed from the butter. Weight of unsalted drained butter, 16¼ lbs.; 16 ounces of salt was then mixed in, and butter worked on butter-worker. Weight of washed butter, 11 lbs. 15 oz., taking 16⅝ lbs. milk to a pound of butter.

Mr. Cary's cows have good pasturage of timothy and clover and the native grasses, with green corn fodder at night, and 2 lbs., equal parts, shorts and cottonseed meal in the morning. Free access to pure, spring water, and salt in manger every morning. Mr. Cary set milk in the creamer immediately after being milked, being at about 95° at the time of straining the milk.

A second churning was made from cream furnished by Mr. Chauncey Matthews of Cedarville. Two hundred pounds of milk from one milking of 11 grade Holstein cows was creamed in deep pails in ice water at about 45°, in 24 hours; cream ripened 33 hours at 60° till time of churning, when temperature was raised to 64°; churned in barrel churn. Butter came in granular form ready for drawing the buttermilk, in 67 minutes, yielding 6 lbs. 5 oz. of salted and worked butter. Ratio, 31.06 lbs. milk to a pound of butter. This cream was not sufficiently ripened, causing long churning.

Mr. M.'s cows are milked regularly morning and night, and milk strained immediately after being drawn. Cows have good pasture, with plenty of spring water and salt whenever desired; are also fed 4 lbs. chips each a day, in two feedings, night and morning.

Hops are a special crop in Otsego county. It is well known that this crop is very exhausting to the soil. For several years it has been a uncertain one in yield, with unsatisfactory prices most of the time. The hope of the hop-grower is in butter-making, for he exchanges an exhaustive crop for a product the least depleting. Naturally, then, the people in this section would be interested in a butter conference, and it was found at Laurens that rainy weather did not prevent their coming together. How pleasant it is to meet earnest people!

The conference was held in Richmond's hall. The cream first churned was from 900 lbs. of milk from the dairy of Mr. H. A. Wright of Laurens; cows are ¾ to ⅞ grade Jerseys; soil of pasture, clay loam; grasses mostly timothy and clover. No grain ration is now fed; common fodder corn, quite well eared, is fed night and morning; free access to salt, and plenty of spring water at all times. Milk creamed in a Crystal creamer; one milking of 143 lbs. and one of 57 lbs. each, set at 94° in ice-water at a temperature of 42°; cream mixed and ripened 30 hours, at 60°. Transported four miles, and churned at 62°, in a Favorite barrel churn; time, 50 minutes; temperature of butter at the separating point, 65°; washed in the churn and worked in a butter bowl, with ladle and paddle, and salted with Higgins salt 1¼ oz. to the pound. Product, 11¼ lbs. of butter; ratio, 1 of butter to 17.39 lbs. of milk.

The afternoon cream was from 200 lbs. of milk from the dairy of Mr. James D. Hay of West Laurens. Cows, one imported pure-blood Guernsey and 5 Guernsey grades; soil of pasture, clay loam; grass, white clover, June grass and timothy. A grain ration of 2 to 3 lbs. per cow is fed in the morning only. The meal is made as follows—125 lbs. of corn meal, 150 lbs. of wheat shorts, and 100 lbs. of cottonseed meal; the cows also have a ration of German millet at night; salt in the mangers at all times and free access to pure spring water; cows in milk one month to 8 months each. Milk set at 92° in Cooley creamer in ice-water at 45°; three milkings were used and set 11 hours each; cream skimmed and held at 42° till the last skimming, when it was all mixed and placed in tin cans set in running water at 38°. Ripened 30 hours at 62°; transported 8½ miles and churned in the Favorite barrel churn at a temperature of 64°; time, 55 minutes; temperature of butter, 67°. Product, 13 lbs.; ratio, 1 lb. to 16.66; washed in churn and worked in a butter bowl with ladle and paddle, and salted with Higgins' salt, 1 oz. to the pound. Butter of very fine quality and color.

E. S. Munson of Franklin, N. Y., was the practical instructor. This conference was one of the best, as there was much interest and attention on the part of all present. Otsego county is on the way to the front.

F. D. CURTIS.

The Dairy Thermometer.

Eds. Country Gentleman—I wish to add my quota of testimony in behalf of the utility and helpfulness of this little instrument, whose use Mr. Stewart has so ably advocated in the pages of the Country Gentleman as an assistant to the dairyman. Perhaps our success in using it may also be the means of proving to other farmers' wives and daughters that one need not be at all learned or scientific in order to be able to use the thermometer to advantage, and thus put into practice the improved method of butter-making. I can assure them that when once they have learned to regulate the temperature of the milk and cream, the quality of butter may be made of a uniform excellence, and the yield from the same quantity of milk be considerably increased. Besides there is so much more satisfaction in getting the temperature of the cream in the churn exactly right, and then going ahead confidently with the work, than to be guessing at it and making good butter one day and bad the next. For even by contact it is impossible to ascertain with any degree of correctness the temperature of a body during the ever-changing seasons. Everything goes by comparison with the surrounding atmosphere; in summer we say that fresh well water is cold, and in winter we declare that water from the same well feels warm.

Being able to get the temperature of the churning milk right at the start is also a great saving of time. I remember we used to churn for hours and hours in the winter time before we could get the butter, because the cream was too cold; and again the butter would come in a few minutes and be soft, white and puffy, because the cream had happened to get too warm. Now we have not made any mean butter for the longest time, not since we began using the dairy thermometer, and it is of such

good quality that we keep the same customers the year round, even realizing a good price from butter shipped in midsummer to a southern city.

Our arrangements for keeping milk are very good; we have two creamers, into one of which the morning's milk is strained, and into the other that brought in the evening. Fresh well water at a temperature of 58° is pumped into the tank of each creamer once a day, and sometimes twice if the weather is warm, that is, unless ice is added. A small quantity of water is mixed with the milk, in the proportion of one pint to a gallon; this, we find, causes the cream to separate more readily. After standing for 24 hours the cream is skimmed and put into tin stands placed in ice water, the cream of one day's milk being sufficient for a churning. We endeavor to keep the cream as sweet as possible until the requisite quantity for a churning is gathered, then the whole is gently stirred together and set to ripen, the temperature at this time being not so arbitrary as during the process of churning. A little above, or a few degrees below 70 will answer, always remembering that the higher the temperature the sooner the ripening, and the lower the temperature the farther off will be that work.

Cream should never be allowed to freeze or to go much above 70° in any event. Either extreme of heat or cold seems to cause some chemical change to take place which interferes with our management of it ever afterward; its flavor is also much injured.

The requisite amount of acidity to produce ripeness is necessarily a matter of judgment in each case. Our plan is, that while we wait for some acid flavor, to churn early, just as soon as we discover a lobbering appearance in the cream. At this time the acidity, though not very great, will be amply sufficient, and the yield of butter will be greater and its quality better than when the cream is allowed to become a very sour, solid mass. Nor do we incline to a very rapid churn-motion, especially in warm weather.

In summer the cream is put into the churn at a temperature of 60°, and in winter at 64°—this change being made because the cream gathers heat in warm weather from the surrounding atmosphere.

We use a Davis swing churn, and as soon as the butter assumes a granular form, at which time the thermometer should register 58° or 64°, the milk is drawn off from below, and cold water added until the water comes off perfectly clear. Then the butter is taken out, weighed and salted, allowing three-fourths of an ounce to the pound, as our customers prefer it that way. The salt is lightly worked in, no attempt being made to extract all the water, for we think the butter granules are best left unbroken. A small quantity of fine white sugar is also worked in with the salt, in the proportion of one teaspoonful to the pound. The sugar adds richness to its flavor, without giving any sweetish taste, and we think is as great an addition as salt to a bowl of soup. Our customers seem to think so too, for when once they begin using our butter they can be satisfied with no other.

The fresh butter is put into a well-glazed earthenware crock, and set upon ice until next morning, when it is carefully worked over and packed ready for shipping.

All butter is kept closely covered with Elliot's parchment paper, which not only keeps it free from every particle of dust, but also excludes the air, which is the principal cause of butter spoiling. This paper is the nicest thing for the purpose that we have ever used; it requires no preparation except to be moistened with cold water, and when soiled can be washed and dried like cloth.

Although a great deal has been said and written on the subject of how to make good butter, yet if one is in the habit of taking a meal now and then at different farm-houses through the country, he will find that there is still much room for improvement in that direction. I know one establishment where churning is done only once a week, and even in cool weather the butter is perfectly abominable. It is not fit to put on the table the day it is taken from the churn. The lady of the house, who is quite accomplished in other respects, seems to have no idea that the fault is in her management; she simply says: "We get so little milk that we cannot churn any oftener; but then my family don't care for butter anyway." The cause, I thought, was not far to seek. When one gets a small quantity of milk it is better to mix some milk with the cream and churn oftener than to save the cream day by day until some of it is a week old. No matter how carefully it is mixed, and although the mass may taste sour, yet when churning day comes the oldest cream will be over-ripe and spoiled, while the cream last added will not be sufficiently matured; thus the full benefit of neither will be secured, and the old rancid cream will give the butter a perceptible taint. Especially is this apt to be the case when the cream becomes sour before it is removed from the milk, for taking sour cream and putting it upon ice will not prevent its becoming more acid. HORTENSE DUDLEY.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, *Albany, N. Y., Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

LEGS SWELLED.—A five-year-old carriage horse, from standing or other cause unknown to me, has hind legs swelled. He stands on sawdust; take him out two or three times a week. MRS. C. E. M. *Smethport, Pa.* [Your horse should be exercised if not driven, and never be allowed to stand two days out of three. It would be better if horse could run in box stall. Give him an ounce of powdered chlorate potass. in drink daily for a week; also give a dose of physic.]

UDDER DIFFICULTY, p. 747.—Have treated as directed, but can report no improvement. Can I do anything else, or shall I continue same treatment? MY. MOOR. *Rockland County, N. Y.* [Are his sheath and end of yard clean and free? Give one of the following balls daily, and continue the other treatment. Keep bowels moderately loose. Powdered gum camphor, 1 oz.; powdered opium, 3 dr.; powdered gentian, 4 oz., and a sufficient quantity of syrup. Mix and make 6 balls.]

DRYING UP A COW.—Somewhere lately I have seen a recipe for drying up a cow in order to beef her. I have looked the COUNTRY GENTLEMAN through for months past, but can find nothing of the kind. Can you give me the desired information? A. F. L. *Chatham, N. J.* [Bathe the udder daily with some of the following lotion: Spirits camphor, 4 oz.; alcohol, 8 oz.; mix. Mix two tablespoonfuls of powdered alum in feed twice a day. Give ½ lb. epsom salts, and repeat in four days.]

SPRAINED LEG.—A valuable horse is sprained in lower pastern joint; he stands on the sore leg as though there was nothing the matter with it; when taken out on to the road he goes very lame; there is no swelling or heat about it. Horse stepped on rolling stone about ten weeks ago. Various remedies have been tried. W. D. A. *Sylorsville, Pa.* [Wash everything off and leave the skin clean; then write us full particulars of the entire history of the case. Why do you think the pastern is the seat of pain?]

KNEE SPRUNG.—A six-year-old horse is slightly knee sprung. Can anything be done to help him? As he is fast and a valuable animal, I am willing to take some trouble to cure it. H. L. B. *Clyde, N. Y.* [Put shoes on forefeet with heel calks of good length and very short toe calk, or if calks are not used for this horse then have a piece of iron of wedge shape welded on heels, so that heels will be twice as thick as toes. Then apply golden blister to both sides and back of legs from bottom of knees to bottom of fetlocks. In a month blister from top of knees to elbows.]

PIGS WEAK AND DYING.—A litter of spring pigs, now about six months old, began some weeks since to show weakness in hind parts. Turned two out-doors; one is still there, but not altogether right. The other soon could not walk; I brought her in; fed copperas, sulphur and salts, but the dose not improve. The two left in pen are about as badly off. One of them cannot stand, and they will only eat enough to keep them alive. Last season I bought ten pigs of three different parties. When about three or four months old, two began to be lame, and I turned all out-doors. They seemed all right except first two; put eight back in pen, and a few days after found two dead. Left six drinking at the trough; five minutes later another was breathing his last. They died one after another, including the two out-doors, until nine were dead. They would come up, drink well to all appearance, and while drinking, jump up sometimes two feet or more, and drop down and die. A neighbor is now losing pigs the same way. After I had lost nine, some one told me to feed turpentine. I gave the last one a teaspoonful. She seemed all right; kept her all winter, and she is the mother of the pigs now ailing, though she is well, and has raised another litter now about five weeks old. The loss these two years will exceed $100. The present pigs seem paralyzed in their limbs; are much constipated, and I feed epsom salts to correct it. J. D. S. *Delhi, N. Y.* [Have you not made post mortem examinations? If so, state the findings. Have you not tried turpentine for these? Were the pigs fed strong and were they growing rapidly? Give any of the sick ones 1 oz. spirits of turpentine and 4 oz. raw linseed oil. Feed the healthy ones Moore Bros.' worm and tonic powder. Do not feed them too heavily.]

LOSS OF VIRILITY.—I have a bull 5 years and 7 months old, whose promptitude and virility were very marked up to a year ago, when he began to show a lack of virility, cows came back to him repeatedly, and then followed a very dilatory service, and now he does not rise to the occasion, and appears almost impotent. Am I to conclude he has outlived his usefulness, or can any thing be done? BREEDER. *Ontario, Can.* [The probabilities are that the animal is useless as a sire. You will find treatment for such cases in back numbers, but as a rule there is little satisfaction in treating them.]

GARGET.—A valuable cow has had garget for about six weeks (came in last month). Have tried almost everything, internally and externally. Can get considerable milk from one teat, very little out of two, none out of the other. Cow eats well and seems to feel well. The swelling and handling of udder seem to go and come. Cow has not been served since she came in. S. C. P. *Hartford, Conn.* [Bi-chloride of mercury, 2 dr.; iodide of potass, 4 oz.; water, 2½ pints; mix. Give 1 oz. in feed three times a day. Keep her bowels moderately loose. Rub udder twice a day with some of the following liniment: Otis amber, spike and origanum, of each 2 oz.; alcohol, 1 pint; mix.]

IMPERFECT CASTRATION, p. 631.—Had operation on boar. Surgeon cut out the lump or tumor and applied about ½ oz. of granulated chloride of zinc on the cut to stop the blood. In less than 30 minutes the hog was dead. He did not seem to mind the cutting, but as soon as the raw zinc was applied a great change was apparent. Loss of blood was very little, but when smiled he was too weak to get up or walk without assistance. Did not the chloride of zinc kill him? J. H. B. *Lisbon, Pa.* [I do not know why the zinc was applied. Yet it may not have been the cause of death; animals when held down sometimes struggle and injure themselves—rupture a blood vessel or something of that kind.]

OUT OF CONDITION.—A gelding, 12 years old, weight 1,125 lbs., used at farm work, has been very thin in flesh the past season. Has uncommonly good care, but to no avail; hair looks well; is only a little less active than formerly; is not foul, and teeth are supposed to be good, as his manure is normal. J. L. S. *Hopkins, Mich.* [Have teeth examined, and if they require treatment they must have it. Then give horse a dose of physic. Two days later give one of the following balls as below, and repeat every four days: Powdered gentian, 1 oz.; sub chlor. mercury, 4 dr.; powdered aloes, 1 oz.; sufficient quantity of Venice turpentine; mix and make four balls. Feed the horse ½ lb. whole flaxseed per day; it should be steeped over night in hot water and mixed with regular feed.]

JACK WITH COUGH.—A jack has had a cough for six or eight months, with thick discharge from nose at times. Does not cough a great deal; it seems to be loose, with phlegm in throat. He keeps in good flesh, and has made a good season this year. Appetite always good until the last few days; bowels in good condition all the time. F. M. B. *Chapel Hill, Tenn.* [Rub throat once a day with some of the following liniment: Spirits turpentine and linseed oil, of each 6 oz.; aqua ammonia fort., 1½ oz.; mix. Syringe nostrils once a day with some of the following lotion, using hard rubber infant syringe: Creosote, 2 dr.; powdered sulphate of copper, 4 dr.; water, 3 pts.; mix. Give a tablespoonful of the following powder three times a day: Powdered nitrate potass., 4 oz.; powdered Barbadoes aloes, 2 oz.; powdered licorice root, 8 oz.; sulphur, 6 oz.; mix.]

CORRECTING GAIT.—A valuable mare, which was foaled two years ago, while she was in foal used to pace a little, which I allowed, as I supposed she did it to ease herself. Since that time, when she is speeded fast she is apt to get from a trot into a pace. How can I have her shod so as to correct this? (1) Her colt, a very fine one, is being driven for exercise short distances. His natural gait appears to be a pace. I instruct my coachman never to allow him to pace, as I much dislike it. Is that correct, or would it be better to let him strike his own gait until he is old enough to drive regularly? (2) R. W. P. *Tom's River, N. J.* [1. Shoe light behind and rather heavy forward, having most of the weight on the toe, or use a 3 oz. toe weight when you wish to speed her. 2. I am not a believer in the practice of correcting gaits. If the colt's natural gait is a pace let him pace, but if he merely ambles or paces at slow gait, but when started up goes into a trot, then shoe as recommended for No. 1, or shoe in ordinary way and use toe weights for speeding. I believe ⅘ of the pacers that are converted into trotters are ruined in the act, and but a small percentage amount to anything.]

BUNCH ON SHOULDER, p. 696.—Neck and breast are better, but not healed up; seems to be no ulcer or tumor, but sore is one that has not been entirely healed for nearly a year, and there is a small bunch not very hard which I cannot reduce. Sore is caused by rubbing of collar on bunch. Sometimes when hitched up, especially if worked the day before, mare seems a trifle lame. Her mate is badly out of condition; was not worked last spring and was turned out; got very fat, and when we began to work her in haying she seemed dumpish. Since haying, although not worked much and pretty well fed, she has been getting poor and is now very thin. About two weeks ago a bunch came on near side of her neck about five inches back of her ear; is quite hard and not in the least sore. Yesterday I found another bunch on her off shoulder back of where her collar comes; is hard and not sore. Mare has not been used for nearly two weeks. E. S. *Cornwall Hollow, Conn.* [Give the mare a dose of physic, and rub the lumps with equal parts tincture iodine and spirits camphor, daily. Stop working her and apply some golden blister to the old sore and lump. When worked, collar must be hollowed out at seat of sore.]

Record of the Times.

Review of Passing Events.

The Johnstown Relief.—A public reception was given Miss Clara Barton, Oct. 24, at Johnstown, Pa., on the close of the Red Cross society's work; over 20,000 persons have been relieved; 8,000 families helped to furnish homes; six houses furnished, warmed and lighted for homeless poor. The flood relief commission received from the various funds over $2,600,000. Of this a little less than $1,800,000 was distributed in the Conemaugh valley, and over $54,000 in other parts of the State. After unexpired contracts are paid there will remain a balance of over $1,500,000. Large indemnities have been paid, aside from actual charity. Most of the balance can neither be used nor restored to givers. Miss Barton thinks the Red Cross society should be made a national medium of relief in great disasters.

Various Conventions.—The American Public Health Association held its 8th annual meeting in Brooklyn, Oct. 22-26. Among topics discussed were "Overcrowding of Homes," "Infant Mortality," "The Cornea and Sanitation," "Art of Cooking" (by Edward Atkinson), "Texas Fever" and "Rigorous Meat Inspection" (Dr. Salmon), "Disposal of Garbage," "Food in Relation to Health" (Prof. Atwater), and "Sanitary Entombment." Next meeting at Charleston, S. C.—The 77th annual meeting of the American Antiquarian Society was held at Worcester, Mass., Oct. 23. The Boston Massacre was discussed, and Senator Hoar defended the memory of Attucks. Other subjects were, "Colonial System of the 18th Century" and "Cotton Mather and his Slaves."—The 17th Women's Congress was held at Denver, Col., recently, with overflowing meetings, spirited papers, reception by the governor, and a dinner at the ex-governor's. Mrs. Hoge was reelected president.—The Episcopal Convention, New-York, adjourned, Oct. 24, after three weeks' hard work.—The General Convention of

the Universalist Churches has been in session at Lynn, Mass. A revision of the Winchester creed of 1803 was discussed.—The fourth annual State Convention of Christian Endeavor Societies was held at Saratoga, N. Y., Oct. 22-23, with 1200 delegates present, representing 1145 societies and 80,000 members.—The Connecticut C. E. convention met in New-Haven, Oct. 25, with nearly 3,000 in attendance, representing 418 societies, with a membership of 20,726.—A convention of Christian Workers met in Buffalo, N. Y., last week. Addresses by Clarke and Bunnell of Chicago, Brearley of Detroit, Torrey of Minneapolis, Lord of Buffalo, Reed of Springfield, Mass., Kelsey of Hartford, Ct., and others, gave practical details of evangelistic and charitable work.

From Abroad.—The Parnell commission resumed its sittings Oct. 24. Joseph Biggar and Michael Davitt spoke in defense of their course, and favored State ownership of land.—Mr. Gladstone spoke at Southport, Oct. 28, but did not outline the future policy of the Liberals as expected.—Following the London dock strike come school strikes both in England and Scotland. The demand is for shorter hours and no home lessons.—It is proposed to build an Eiffel tower in London, 1,250 feet high.—Dr. Philippe Ricord died in Paris, Oct. 23, aged nearly 80. Born in Baltimore, Md., of French parentage, he began practice near Orleans, France, in 1826; in 1831 was appointed surgeon in-chief to the Hospital des Vénériens du Midi, where he gained great reputation as a specialist, retiring in 1860. He was consulting surgeon to Napoleon III; performed many remarkable surgical operations; wrote many treatises on special diseases, and practiced his profession until death.—The German Reichstag was opened Oct. 22. The emperor's speech, read from the throne by Herr Von Boetticher, gave assurance of peace. The budget increases the army charges 146 million marks and the naval estimates 36 million.—Belgian miners have demanded a 20 per cent. increase of wages.—An underground tunnel is planned to reach the top of the Jungfrau mountain, Switzerland.—A dispatch from Captain Wissman says that Stanley and Emin Pacha are expected at Mpwapwa the latter part of November.—Lieutenant Gravenreuth of Captain Wissman's expedition has surprised Bushiri's camp and defeated him, killing and wounding 300 men.

Minor Items.

The Republican Club of New-York is to have a home costing $350,000.

In sections of the Dakotas farmers made no crops and are in serious want.

Nine Samoan warriors passed through New-York last week on their way to Europe.

Connecticut veterans made the closing dedication of monuments at Gettysburg, Oct. 22.

The mother of Bayard Taylor recently celebrated her 80th birthday at Kennett Square, Pa.

Dr. C. A. Bartol, over 50 years pastor of the West Church, Boston, has resigned on account of age.

A Little Compton, Mass., farmer has raised 27 pumpkins from one seed—total weight 309¼ lbs.

The steamer Quinte was burned on Lake Ontario, Oct. 23, near Deseronto, with loss of five lives.

"Alliance Day" at the Piedmont exposition, Atlanta, Ga., brought together nearly 60,000 farmers.

The jury in the case of ex-Assemblyman Smith of New-York, charged with bribing voters, has disagreed.

An electric car took fire at Atlanta, Ga., while crossing a trestle. Several passengers were injured, jumping.

The Galena arrived at Baltimore, Oct. 25, with prisoners and witnesses concerned in the riot at Navassa Island, Sept. 14.

The National Carbon Works of Cleveland, O., the largest in the country, were partly burned, Oct. 27, with loss of $40,000.

A large part of Port Leyden, N. Y., was destroyed by fire, Oct. 25, including opera house, business blocks and dwellings. Loss, $100,000.

The city mission of Meriden, Conn., has received a deed of a new block worth $75,000 from Isaac C. Lewis, a Universalist philanthropist.

Negotiations are pending between the Chicago & Northwestern and Union Pacific railroad companies for operation under one system.

In the Fooks inquest case, New-York, it was found that the four wires which burned him belong to the Metropolitan telephone company.

The postage stamp contract has been awarded to the American Bank Note Company. The new two cent stamp is to be bright carmine in color.

Major E. A. Burke, State treasurer of Louisiana, has been indicted for forgery, in uttering as true forged bonds of the State. He is abroad.

McIlvaine, the murderer of Christian W. Lucca of Brooklyn, has been sentenced to die by electricity, at Sing Sing prison, in the week beginning Dec. 9.

The Cronin jury was completed Oct. 22. Impanelling began Aug. 4, and 1,091 jurors were summoned, of whom 997 were excused for cause; 175 were peremptorily challenged. There were also 24 on regular panel. The trial is now in progress and the body of Dr. Cronin has been identified.

Three thousand business men of Philadelphia met at noon, Oct. 22, to demand the building of the belt-line railroad, and to protest against the monopoly which has ruined their shipping trade.

The U. S. cruiser Thetis has reached Sitka, Alaska, after a cruise along the entire Alaskan coast, as far as the Mackenzie river in the Arctic Ocean, narrowly escaping being caught in the ice near Cape Barrow. No government vessel ever went as far before.

Claus Spreckel's new refinery at Philadelphia begins work this week, turning out one million pounds of sugar daily, which will soon be doubled. A refinery at New Orleans is planned for. He expects ere long to produce 6,000,000 pounds against the sugar trust's 8,000,000.

The subscription books for the world's fair guarantee fund of $5,000,000 were sent to various banking houses, New-York, Oct. 24, and the first response came by telephone from Mr. Depew—"Cornelius Vanderbilt, $100,000; New-York Central, $100,000; Wagner Car Company, $50,000."

The Martin-Tolliver feud of Rowan county, Ky., in which several members of both families have been killed, has been ended by a marriage, but the Howard-Turner feud of Harlan county has broken out again, with one man killed and six severely wounded. The Turner party was led by county judge Lewis.

Samuel Wilkeson, a New-York Tribune staff-writer 21 years ago, historian of the Northern Pacific railroad route, and since then secretary of the company, has been granted unlimited leave of absence with continuance of his $4,000 salary, and privilege to do as much or little work as he pleases. Mr. W. is 73 years old and in poor health.

The International delegates spent Oct. 21-22 in seeing the sights of Chicago and of Pullman, where in the theatre an employé described the growth of the town; 23d at Milwaukee breweries and engine works; 24th at St. Paul, assisting at the corner-stone laying of a Y. M. C. A. building, Señor Perazo of Venezuela speaking for his confrères; 25th at Minneapolis; 26th at Sioux City, Ia., the corn palace and address by Senator Allison; and Omaha where Sunday was spent, and smelting works inspected.

To News Dealers.

News Dealers may obtain their supply of the Country Gentleman *direct from this Office, postage prepaid, on the following terms: Fifty Cents per copy quarterly in advance. Orders may be increased at any time by remitting for the additional copies, at the same rate for the unexpired term of the current quarter. Especial pains will be taken to mail Early Copies to those who remit on the above terms.*

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CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send, free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. Noyes, 820 *Powers' Block, Rochester, N. Y.* oc15eow13

Farm Produce Markets.

Albany Markets—Oct. 28.

FLOUR.—The Argus says: Feeling easier; values steady; trade very good.

	1889. Oct. 26.	1889. Oct. 19.	1888. Oct. 27.
Com. State	$3.80@4.00	$3.80@4.00	$4.25@4.40
State Extra	4.10@4.30	4.10@4.30	4.70@5.25
Amb. State & W	4.50@4.65	4.60@4.75	5.20@5.35
O., Ind. & St. L. E'r.	4.60@4.75	4.75@4.90	5.30@5.35
Winter W. Pat.	5.10@5.25	5.25@5.60	6.00@6.15
Minn. "Bakers"	4.60@4.75	4.60@4.75	5.75@5.85
Co'n W. Pat., new	5.10@5.25	5.00@5.25	7.40@7.75

Rye Flour—Demand very good at $3@3.25 per bbl. Graham, $4@4.15. Oat Meal doing moderately well at $4.10@4.30 per bbl. Corn Meal in good demand and steady at $2.60@2.80 per bbl. Buckwheat flour in good supply, and selling fairly at $1.70@1.80 in the street, and at $1.30@1.40 per 100 lbs. in store.

GRAIN.—Corn in better demand and firmer. No. 2, 43¾@44c. per bu.; No. 2 mixed, 41¼@41½c. Oats steady, with fair trade. No. 2 white, 28½c.; No. 3, 25½c. Rye weaker, with large offerings; State, 60@61c. per 56 lbs. Barley moving slightly; State, No. 2, 62c.; Canada, 66@75c.

HAY AND STRAW.—Receipts fair, demand good. Timothy, prime, $14@15 per ton; good, $12@14; clover, $7@8; mixed, $11@12. Rye straw, best, $11@13; oat straw, $7@10; wheat straw, $12.

HOPS.—Market unchanged; choice shipping hops scarce.

N. Y. State, 1889	32	@35c.
N. Y. State, 1888	5	@10
Pacific Coast, 1889	10	@12
Bavarian and Bohemian	30	@35

The Fireside.

Recent Publications.

Poole's Index to Periodicals.

The First Supplement to that great, unique and immensely useful work, Poole's Index to Periodical Literature, is published by Houghton, Mifflin & Co. of Boston, making a quarto of nearly five hundred pages, being more than a third as many as are included in the original book, though the supplement only covers the five years 1882-'6, while the first volume goes all the way back—a striking illustration of the rapid increase of our English magazines. In the really appalling flood of periodical literature with which the reading world is now, so to speak, inundated—not considering trash, or matter of merely ephemeral interest—it may be a question whether a greater service is not performed by him who helps us find what we want among the quantity already published, than by him who adds no matter how valuable a contribution to the mass. At all events, the appearance of an index like Poole's is an unspeakable boon to the reading and thinking public, and its existence cannot be too widely made known or too constantly borne in mind.

The plan of the work is simple—the labor of carrying it out must have been enormous; in fact it could never have been accomplished without the coöperation of a great number of literary workmen, nearly a hundred librarians having assisted the distinguished editor. About 150 magazines and reviews, including considerably more than a thousand volumes (of which Dr. Poole himself did the work for nearly half), are indexed in the present Supplement, including everything of importance not purely professional or technical, that was published during the five years under review, together with a few older serials omitted for various reasons from the main volume. The result is to give the owner of the two books the means of ascertaining, about as readily as he would find a name in a city directory, exactly what articles (and by what writers) have appeared in all the great magazines ever published in English, on any topic that may be under consideration, with exact reference to date and page. He can then consult the periodicals mentioned, at a public library, or send for them himself through a newsdealer, and thus have the whole thing before him.

The immense benefit of this kind of information, not only for students and specialists, but for everybody who really reads in earnest, is too evident to need emphasis; and considering the facility with which the magazines referred to can generally be consulted or obtained, it may almost be said that Poole's Index will very largely supply the place of a library. It is certainly an indispensable adjunct to any considerable collection of useful books; and we commend it to the special attention of everybody who is interested in the laudable work of encouraging reading and thinking, by the establishment or support of a public or semi-public library. Professional librarians, of course, know all about it, have it already in service, and would about as soon think of dispensing with it as of employing assistants unable to read.

Nature—History—Fiction.

A very pleasing book, reminding one at times of Thoreau, Dr. Chas. C. Abbott and Olive Thorne Miller, is that entitled "A Rambler's Lease," by Bradford Torrey, who has found much pleasure in exploring other people's woods and fields, and offers these sketches as a sort of compensation to the owners. "His private opinion is that the world belongs to those who enjoy it; and taking this view of the matter, he cannot help thinking that some of his more prosperous neighbors would do well, in legal phrase, to perfect their titles. He would gladly be of service to them in this regard." Houghton, Mifflin & Co., publishers; price, $1.25.

That attractive and excellent series of books, "The Lives of the Presidents," written by William O. Stoddard, and published by White, Stokes & Allen, 182 Fifth Ave., New York, is now completed to the beginning of the present administration, the last volume issued being devoted to Hayes, Garfield and Arthur—(Cleveland had already been cared for) There are now ten duodecimo volumes in all, handsomely bound in red cloth with black and gilt decoration, and embellished with portraits and other engravings. The price is $1.25 each, and they will make capital holiday gifts. Parents and guardians will be wise to remember them.

From D. Appleton & Co., 1 Bond St., New-York, we have two books of fiction—"The Romance of Jenny Harlowe, and Sketches of Maritime Life," by W. Clark Russell; and "Arthur Merton, a Romance," by Admiral David D. Porter.

The Pack Horse.

Among the members of every family there is of course a difference of temperament, and I have been both interested and incensed in observing and comparing dispositions of children of the same parents.

Under one roof I have noticed the bright, lively, witty daughter, who was allowed to devote much of her time to shining in society, and in whose presence the other members of the family were silent; the wilful, domineering, spoiled boy, who made himself generally disagreeable, and ruled the house with a rod of iron; the good-natured girl, who was not only allowed but expected to devote the greater part of her time to domestic duties, whose plainness of features appeared sufficient reason why very little expense should be lavished upon her clothing; and the quiet, thoughtful boy, who afterward distinguished himself as a scholar.

I have watched the development of many families, and have found in each a pack-horse—a person who is willing to carry the largest share of the family burdens, which are sure to be imposed upon him. I have watched with special interest the progress of two families, in one of which the pack-horse was a daughter, and in the other a son.

Family No. 1 consisted of two sets of children, the mother of the first set having been the pack-horse for her three children—two boys and a girl.

After her death the husband married a widow with two grown children—a boy and a girl. The girl, though plain of feature, was a genius. She could write and paint, and (unlike most geniuses) she turned her talents to practical account, and had for some time previous to the marriage supported her mother and brother. After her mother married, the daughter was not expected to support the family, but she maintained herself and bought many a dress for her step-sister, who made no effort to support herself. The lazy daughter married, and became a lazy wife. All the sons, except one, married and settled in distant States. The father died, the homestead was sold and the proceeds divided; then the gifted woman bought an unpretentious comfortable house and occupied it with her mother and step-brother. The step brother had no business, but spent his time in summer raking the yard, tinkering about the place or rowing and sailing on a little sheet of water near the house. In winter he shoveled paths around the house and sat over the fire smoking his pipe; but not one cent did he contribute to the support of the family. Even his clothing was provided by his foolishly generous step-sister, to whom he was related by no tie of blood.

As time passed, the lazy sister and her husband came every summer, without special invitation—came early and stayed late. As years rolled on they increased the length of their visits, and at last remained the year round.

Such a load as my poor heroine carried would have caused many a stouter heart to quail, but she bore the infliction meekly and toiled on. At last, one after the other, (I have sometimes thought for want of exercise), the lazy step-sister and her husband sickened and died, and the burden of care, both physical and financial, was shouldered by my friend. Now she is past middle age, care-worn and broken by incessant labor, without a cent laid by for a rainy day. She who should have possessed a competence in her old age is penniless, and with failing strength will be dependent not upon her relatives (they are worthless), but upon friends to whom she has endeared herself, and who will gladly share with her the little they possess.

The other packhorse was a son whose father died when his boy was too young to incur much responsibility; but the noble little fellow, who should have been at school, gave up his plans for getting an education and went out into the world to earn money. His natural intelligence, coupled with a disposition to work, made an opening wedge which he drove by the power of his indomitable will towards the goal of his ambition. He prospered financially; he helped his mother, as he should have done—no man can do too much for his mother; he helped support his sisters in idleness—which is foolish for any man. He married and became a devoted husband and generous father. His younger brother grew to manhood and was promptly taken into partnership, receiving, as a gift, a half interest in the business. For a while the firm prospered; the three families had their wants supplied, while our hero, the packhorse of the family, delved from morn till night year after year. The good son, devoted husband and generous father determined that his children should be educated and trained to a life of independence; every advantage of education was given them, and they did not fail to profit thereby. Business being still prosperous the younger brother began to draw heavily on the receipts and make outside investments in his own name. Then he conceived the idea of a brilliant political career. Money was needed and money must be raised. The future was pictured in such glowing colors that the elder brother, blinded by love for the younger, was ready to sacrifice everything to satisfy the demands of the would-be politician. In vain did the devoted wife of the elder remonstrate with him as to the injustice that would be done to his own family if he allowed his brother to control everything. He tried to overrule her arguments by saying that his brother would share everything with him. The political campaign opened; our hero, imagining his much loved brother occupying a seat in the halls of Congress, or possibly the presidential chair, was ready to sacrifice all his earthly possessions to satisfy the younger's ambition. Everything was sacrificed, business ruined, real estate mortgaged. Then the children of the elder, who had been trained to habits of industry, put their shoulders to the wheel and supported the declining years of their father and mother.

The younger brother accomplished the height of some of his aspirations, and, having used his generous brother as a ladder by which to climb, promptly threw down the ladder and remained on his dizzy height surveying with complacency the ruin he had wrought. As if that were not enough, the sisters, who had never been taught or expected to do anything, persisted (their mother having died) in calling the elder brother's house their home. Under the weight of care and sorrow, the noble, heroic man sank and died. Lillian Mayne.

Training Children.

"The young ought always to be taught that the finest manners are an expression of real consideration for others. * * * The desire to promote the happiness and comfort of those about us seems to be largely a matter of temperament, but it is quite capable of cultivation and should be made a matter of education."

The above extract from an interesting article in your issue of Oct. 10, called "Social Calls and Courtesies," conveys a truth which, I think, mothers do not fully estimate in the early training and subsequent education of their children. We should certainly be nearing the millennium if the important and responsible duties connected with motherhood were appreciated, studied and conscientiously fulfilled by the average woman who lightly assumes them. The value of heredity and the important part which pre natal influences exert over a child's character are little understood, but it is time that every prospective mother carefully read one or more of the books now easily obtainable on that subject, that she may realize the great importance of the matter, and intelligently endeavor to give her child not only a well formed body but also a well balanced temperament, despite the disadvantages of her environment. Sad indeed is it that we must so often learn life's most valuable lessons by experience.

Doubtless there is no conscientious thinking mother with mature children, who in watching their development has not been often humiliated and pained by seeing tendencies and strong mental characteristics which will always be a hindrance to their happiness and well-being, and which are directly traceable to the influence of circumstances attending her own life. But if you have been derelict in duty to your unborn child, you can, perhaps, be more easily convinced of the decided influence which your training and life must henceforth exert over its character. Especially must your own life be actuated by high principles if you would lead your child in that beautiful way, for be assured your labor is vain if you think to train your child in one path while you walk in an entirely different one. No higher praise can be given a mother than I recently heard a young man give when, speaking of this, he said: "My mother was always true and just; her own life was governed by the same principles she strove to instill into ours."

The training of a child should commence with its first expression of intelligence. Long before a baby can either talk or walk, it appreciates the meaning of the different modulations of your voice, and can be taught obedience in some things. The low, firm voice and gentle way always carry most influence with a child. As flowers expand and blossom under the rays of the sun, so do the little human flowers under the all pervading love of a gentle mother. As the child's life expands and its horizon widens, seek to impress upon its little mind a deep sense of the joy and gladness it has brought into your life, and of the depth and unselfishness of your love. That senseless infatuation which can never see a child's faults or correct them, is unworthy the name of love. By a tender and wise manifestation of your love impress upon its receptive little mind that you feel its life to be a beautiful gift from God, which you cannot possibly love too dearly; but that it was entrusted to your care that its life might be developed into a strong and beautiful character, which can only be done by constant watching, to repress evil tendencies and foster every unselfish and beautiful attribute.

Due attention has always been given to pointing out the duties which children owe to parents. I think it equally necessary to emphasize those which parents owe to children. We frequently hear people, especially women, bewailing the lack of appreciation and sympathy manifested in the home life, but do these same women realize that they too are guilty of the same neglect? Many a child that is really fondly loved goes hungry for expressions of it, and repression has darkened more lives than we can count. We not only leave our kind words and pleasant compliments unspoken, but we are often dull at seeing and appreciating the motives of our children's acts. It must be a very differently constituted child from any I have found, that cannot when only a little toddler be taught the beauty of unselfishness and generosity by a persistent and oft repeated appreciation of its manifestation of the spirit.

Teach your child also to be sympathetic. A cold, selfish man or woman, ready to treat lightly the feelings of others, is never capable of awakening strong affections; they can only make acquaintances. Surely you cannot wish such a fate for your child. "While children are small they will experience little pain from the possession of such traits; but as they grow older, they will find that the real heaven of life is wanting." A wise mother can do much to eradicate such an unfortunate disposition, and teach her child to appreciate the value of kindly thoughts.

Encourage your child to sympathize with and to seek to relieve the sufferings of all animals. The brave little fellow I one day saw bathing and nursing an ugly toad which a thoughtless servant had injured, was learning a beautiful lesson which will follow him through life. "No selfish man or woman ever succeeded in life—that is, if success is measured, as it should be, by the true happiness it brings."

Thoughtlessness, inconsiderateness and selfishness are nearly as much matters of training and education as of temperament; and a child is almost as much to be pitied or congratulated for the circumstances in which he is placed as for his temperament. The wise mother is she who early instils into her child's mind an abhorrence of everything small and mean, and an admiration for all generous and noble qualities, and by the consistent beauty of her own life convinces him that an unselfish, noble life is worth living; only this will ever satisfy an educated conscience and win the approval of the dear Father.

Children should never be encouraged in sarcastic remarks, for many words are said in jest which hurt in earnest. A sensitive person suffers most keenly, I think, when the word that hurts was said lightly—it would have done less harm if spoken in earnest. If your children's likes and dislikes are ridiculed at home, you may be sure they will seek elsewhere for some one who will be interested in their pleasures and sympathize in their troubles. If mothers had more interests in common with their children, there would be fewer unhappy marriages made by girls, and fewer boys would

contract bad habits. Confidence between your child and you is a strong bond, and nothing will aid you more in successfully guiding their more mature years.

A most disagreeable and harmful trait in a child is tale-bearing. In the household I would positively forbid the carrying of tales by either servants or children. When Dick runs to his mother telling of some misdemeanor of little Ruth, the sister will love him less for the tattling, and be grieved that her mother listened to that from another which she would otherwise have confided to her herself, and they would have lovingly talked over together. At school and all through life it is a most harmful, disagreeable and mean trait of character. When once the habit is fully acquired of telling all one hears and sees, curiosity grows stronger, and eventually weakens one's regard for truth. Teach your children by precept and example to think the kindest and best they can of every one, and unless they can say something pleasant, refrain from talking about people at all. Always encourage children in honesty and truth speaking, even in the most inconsequential matter; exaggeration and untruthfulness are altogether too common, even among the better class of people, and both come very greatly from habit, as well as from our not making our religious belief enough a part of our lives. A child should be taught to abhor a lie, to speak the truth, to be just—not because in this way only can he hope to escape from future punishment, but because this way alone is right, and to live right should be our highest aim.

Praiseworthy traits of character are the foundation of good breeding, which is a practical application of the principles of the golden rule. Nowhere are polite manners more charming than at home, and if exercised there they are never forgotten abroad.

Onondaga County, N. Y. KATHERINE B. J.

PHOTOGRAPHING A FLYING BULLET.—The camera is provided with an extremely sensitive plate and placed in a dark room, through which the bullet is made to pass. The instant the bullet is in front of the camera it breaks an electric circuit, producing a spark which illuminates the bullet for an instant, and its image is impressed upon the sensitive plate. The duration of the electric spark is almost infinitesimal, and since the plate is affected only during the continuance of the spark, a well defined photograph of an object moving at a greater velocity than that of sound is obtained. Such pictures show the condensation of the air in front of the bullet, the vacuum left behind it, and the eddies and currents produced in the surrounding atmosphere by its motion; and they afford information which is of value in determining the best shape to be given to the projectile in order to reduce to a minimum the resistance which the air opposes to its flight, and so increase its range and effect. —*Scribner.*

ANCIENT COOKS.—In an old Roman household, tradition tells us, the head cook was a high salaried officer—of course, your quick thoughts revert to the genius who presided over one famous dinner that Mark Antony gave to Cleopatra, and that was so sumptuous that it actually drew praise from that haughty dame, which unusual appreciation so delighted the infatuated Antony that he summoned the cook and gave him an entire city as a recompense. But it was no extraordinary thing for Roman cooks to command salaries of $4,000 a year. The kitchen was a vast apartment separated from the house and was governed by the "Archimagirus," or chief cook, who held the most stringent rules. These men were in receipt of no set salaries—they drew ample reward from their artistic fame; "Above all men," they were wont to say, "we are intrusted by the gods with the secret of human happiness;" and they asked for no higher recognition of their services. The Sicilians, however, ranked as the best cooks in olden times, and although the Romans many times offered them incredible sums for their services they were obdurate and never deserted their posts.—*Table Talk.*

VENTILATION IN SICK ROOMS.—The sick room should always, and in all weathers, be ventilated with outside air. An excellent plan is to keep open a door into an adjoining room, where a window is up, or a board may be fitted into the top of the upper sash so that this may be kept lowered, allowing the fresh air to enter through the space thus created between the sashes; and if all other ways fail, simply lower the upper sash of the window farthest from the bed, and keep it down two inches night and day. Important as this matter of ventilation is, especially in lung trouble—it may be over-done, and care must continually be exercised and extremes guarded against. Unless the physician orders otherwise, the above suggestions will be found sufficient, except in the warmest weather. Some doctors treat scarlet fever most successfully, with wide open windows even in midwinter, and your duty is to carry out such orders as long as the physician is in charge of the case. In this connection I may say that *two people* in the room with the patient, at one time, are all that should be permitted. This number can do all that is required, and every pair of lungs helps to use up the oxygen the patient needs so sadly.—*Ladies' Home Journal.*

Domestic Economy.

A Formidable Foe.

There is nothing else that will cause the heart of a good housekeper to sink to such a low depth as to find that her beds have become inhabited. Of all the curses that ever beset housekeeping, bed-bugs are the greatest. They are a difficult pest to deal with. They are so tenacious of life, and their habits of migration so mysterious, as to baffle the wits of the shrewdest observer.

Sometimes a good housekeeper will find that they have invaded her home. "Where did they come from?" she will ask, as she vigorously goes to work to subdue them. The rapidity with which they multiply and spread leaves the housekeeper no chance for delay, for if they are not conquered, they will soon take unlimited possession.

No doubt they are carried into homes many times on the persons of negligent individuals, secreted in their clothing. Where different characters of varied shades are employed as hired "help," occupying beds in the home, there is great danger that some of them will introduce this plague. I have heard a number of excellent housekeepers complain of this. In such rooms iron bedsteads should be used; the walls and ceiling should be kept tightly plastered; there should be no crevices in which the bugs can hide.

Now as to the best weapons for fighting this foe. Kerosene is sure death to bed-bugs. It can be inserted into the smallest cracks by using a feather. Every little hole that will furnish a breeding-place should be filled with hard soap.

The fumes of burning sulphur are said to be another excellent remedy. Leave the room unoccupied for several days. Make it as near air-tight as possible and burn sulphur in an old iron or tin vessel. Spread the bed clothing around so that the sulphur fumes will penetrate every part. I have it from the best authority that this is an infallible way of exterminating the disgusting enemy.

I have also heard Persian insect powder highly recommended as a good remedy. It should be sprayed over the mattress, springs, and bedstead with the little bellows which accompanies the powder.

Whatever material is employed, it must be accompanied by eternal vigilance on the housekeeper's part. The application of a remedy does not mean that the trouble has all come to an end. The beds should be examined daily for a long time. And I will just whisper right here to the housekeeper, this is a task which if she wants well done, she must do it herself. There are few girls employed at housework who are sufficiently thorough to be entrusted with such important and particular labor.

NELLIE BURNS.

New Ham Sandwiches.

The Saxon sandwich, representing bread and meat, the wheat and the animal food in the strength of which our sturdy forefathers have fought themselves into the front rank of human power, is a typical food. It stands for so much that it is no wonder that it holds its own at all informal meetings. Is not the ham sandwich a universal favorite at all our picnics, lunches, and sociables?

For those who like a little modern elaboration of the old standard solids, here are two new ways of preparing them. Both are savory and attractive, and as they are intended to be made together, a good basketful of them will furnish a liberal contribution on some of those occasions for which several housekeepers combine in furnishing the edibles.

THE HAM.—The delicious sugar-cured ham, sweet, firm and tender, is familiarly known in the homes of the COUNTRY GENTLEMAN. Assuming that it comes into the hands of the cook in perfect condition, this model ham should be thoroughly washed, rubbing hard with a coarse cloth or brush. Then put over to boil in cold water, in a large kettle in which it can be completely submerged. Boil moderately from three to five hours, according to size; two or three bay leaves and a little bag of whole spices in the water will not be amiss. If the ham is to be served whole, it must be taken up and skinned when thoroughly cooked, then sifted over with fine bread crumbs and set in the oven for half an hour. If wanted for sandwiches only, it may be returned to the kettle and cooled in the water in which it was

Transfers of Thoroughbred Cattle.

American Jersey Cattle Club.

[Office, 8 Astor House, New York.]

W. Taylor, Jr., Hartford, Ct., to Wm. Brown, Jr., Hartford, Ct.: Jersey Bull Rioter (4,000), calved Dec. 1, 1870.

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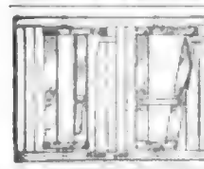
MECHANICAL AND SUNDRIES.

2 THOSE HAVING **EARTH TO MOVE.**

For Circulars of the most desirable Implements, where men and teams can be used to advantage address W. R. PETTEE, Lakeville, Conn. au29



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Perfect Swinging Cow Stanchion. Self-locking by entrance of cow's head. Free delivery at principal points. Send for circular. Mention this paper. Walter Scott, Hoosick Falls, N. Y.

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MILK JARS.

Adapted for the delivery of milk in all cities and towns.

Patented April 17, 1888.

The system of delivering milk in the WHITEMAN MILK JARS is now an assured success, having been adopted first by the Echo Farm Co., a number of years ago, and still continued. I have many testimonials from successful parties, who will tell you that the bottle system is not only the best, decidedly, but some say it is also the cheapest system. One thing is certain, my customers would not use them for years if it did not pay them well. Send for Price-Lists and Testimonials. Samples sent on receipt of 25 cents.

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BY ONE MAN. Write for descriptive catalogue containing testimonials from hundreds of people who have sawed from 4 to 9 cords daily. Is now successfully used. Agents can be had where there is a vacancy. A NEW INVENTION for filing saws sent free with each machine, by the use of this tool everybody can file their own saws now and do it better than the greatest expert can without it. Adapted to all cross-cut saws. Every one who owns a saw should have one. Ask your dealer or write FOLDING SAWING MACHINE CO., 508 to 511 South Canal Street, Chicago, Ill.

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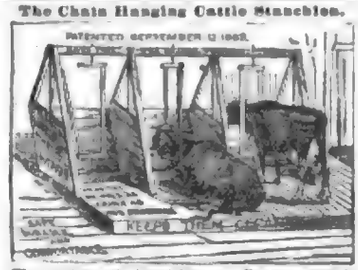
The Chain Hanging Cattle Stanchion.



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The subscribers, being the oldest and most extensive manufacturers in the United States, are prepared to furnish Round, Sole, and Horse Shoe Tile over 12 inches in length, by the cargo or in the smallest quantity, on demand, at prices that they will defy any other parties to undersell them. They will warrant their Tile Hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All Tile delivered on board of cars or boat in this city free of charge. Price List sent on application.

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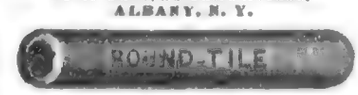

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12 inches in length, by the cargo or in the smallest quantity, on demand, at prices that we will defy any other parties to undersell us. All Tile delivered on board of cars or boat in this city free of charge. Price List sent free on application, and practical draainers furnished if required.

Having put in new and improved machinery, we are now making a very superior Round and new style of Sole Tile; in fact, they far excel any offered to the public heretofore, and at greatly reduced prices. Have always taken First Premium wherever exhibited

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This Salt is made from a natural flow of clear, f ground. It is used by a large portion of the bes hardens nor lumps. Send for Samples and Prices t

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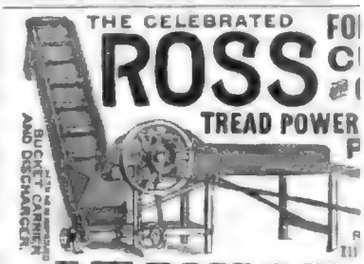

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Can be applied by any one Two coats on common wood produces a beautiful finish—more attractive than natural wood. Durable economical. Send for Circular and Sample of Wood finished with Ferinite to SEELEY BROTHERS, 2 Burling Slip, New-York, 131 High St., Boston. foll

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Our 26 sizes American and Hero Mills—too well known to need remarks here. **22,000** NOW IN USE. Sent on trial.

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TO LEASE FOR TERM OF YEARS A FARM of 300 acres, with buildings, in the Hudson River fruit district. Five minutes' walk from West Shore R. R. station. Address
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FOR SALE—FARM 280 acres, to settle an estate. This is one of the best farms in New Castle County, Delaware. Beautifully located. For stock or grain unsurpassed. Twenty minutes' drive to R. R. station, four trains daily to and from Philadelphia and Baltimore; time, one and a half hours. One mile from P. O., churches and school. For price, &c., address BOX H, St. George's, Del. [oct1-3

FOR SALE—20,000 Young GERMAN CARP, $1 per 100, $15 per 1,000; Spawners, 10c. per lb. Shipped safely anywhere.
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WANTED—HORSE or MARE, about 15½ hands, kind and sound, good traveler. Give full description and price.
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We are breeding Cheshire Swine from as good a herd as is in existence to-day. All ages, low prices, special at. rates. A few S. C. B. LEGHORN Pullets and Cockerels, reasonable.
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HERDS of the SIGNAL STRAIN a SPECIALTY. The name of Signorotta, 992 lbs. 6¾ oz. to a year; average daily grain less than 6 lbs. Champion of hay test. C. W. PARLEE, Trenton, N. J. [oc°

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A fine lot of extra choice young PIGS of all breeds now ready to ship, at very reasonable prices, quality considered. Patronage and correspondence of intending purchasers respectfully solicited. Address
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FULL PEDIGREED and REGISTERED Stock. Twelve Litters ready to ship soon, bred direct from the finest stock, and sired by our Imported Reid Dora CLIFTON CHIEF, FORDHOOK SQUIRE, Beard and Bobbie. Never before had we such a grand lot of Puppies to offer. Write now for prices and full particulars. We furnish a full and complete pedigree, and register every Pup in A. K. C. Stud Book free of all expense to purchasers.

Satisfaction and safe arrival guaranteed. Intending purchasers invited to call and make personal selections at our Kennels. Address as
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CHOICE ENGLISH MASTIFF DOG PUPS—From $20 to $100. For detailed pedigree and prices, address HERBERT MEAD,
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I have never found anything equal to it, and a can, economically used, lasts such a long time.
Mount Wilson, Md. JAMES S. COUNCILMAN.

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I have used your Gall Powder for galls and other sores, and find it a first-class article—in fact, better than anything I have ever used. A. P. HULL,
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MOORE BROS.' GALL POWDER,

Which Cures COLLAR GALLS, SIT GALLS, BOOT GALLS, SADDLE GALLS.

BECAUSE

More work and better work can be got out of stock it is used on.

OFFICE OF HILLS BROS.,
Cor. Park Place and Greenwich St., New-York, Dec. 28, 1880.

We use 35 work-horses in our business, and have always had a great deal of trouble with sore backs and shoulders, generally having from two to four laid up all the time, but since using your Gall Powder have had no trouble, always working the horses during treatment. We consider it much the best thing we ever used for sores and galls.
Very truly yours, HILLS BROS.

IT CURES WHILE ANIMAL WORKS!

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I never saw anything like your Gall Powder to heal galls with. There is no trouble to heal them, even while at work. W. C. NORTON.

Try it and be convinced. Price 50c. and $1 per Can, by mail, post paid.
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No dessert is more delicious, wholesome and appetizing than a well-made dumpling, filled with the fruit of the season. By the use of the Royal Baking Powder the crust is always rendered light, flaky, tender and digestible. Dumplings made with it, baked or boiled, will be dainty and wholesome, and may be eaten steaming hot with perfect impunity.

RECIPE.—One quart of flour; thoroughly mix with it three teaspoons of Royal Baking Powder and a small teaspoon of salt; rub in a piece of butter or lard the size of an egg, and then add one large potato, grated in the flour; after the butter is well mixed, stir in milk and knead to the consistency of soft biscuit dough; break off pieces of dough large enough to close over four quarters of an apple (or other fruit as desired) without rolling, and lay in an earthen dish (or steamer) and steam until the fruit is tender. Bake if preferred.

In all receipts calling for cream of tartar and soda, substitute Royal Baking Powder. Less trouble, never fails, makes more appetizing and wholesome food and is more economical. Royal Baking Powder is specially made for use in the preparation of the finest and most delicate cookery.

YOUNG MAN, who has graduated at a farming and dairy college, wishes a Situation. First class references from Europe and U. S. A. Address X., care of Country Gentleman, Albany, N.Y.

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SITUATION WANTED—By a Scotch farmer, 45 years of age, who has had charge of some of the most extensive stock and dairy farms in Scotland and in this country, is well versed in the use of silos, improved methods of draining, fertilizing, &c., his wife and daughter are both excellent dairywomen. References unexceptionable. Address JAMES SMITH, care WM. R. SMITH, Supt. of Botanic Gardens, Washington, D. C. [oct1-3t

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WANTED—An intelligent, practical Farmer as MANAGER, with wife to care for the milk department of a good farm, over 300 acres, well stocked with Jersey cattle and other thoroughbred animals.
A reliable man, that has shown himself capable, can find in this a very desirable situation. Address
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oct1-3t Albany, N. Y.

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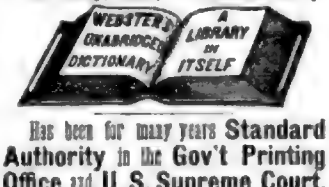

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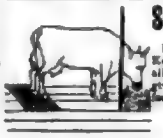

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Invented by Prof. E. W. Stewart. Keeps cows clean, saves all manure, all bedding, lasts a lifetime, and gives universal satisfaction. Send for circular.
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Thousands of people saw the Red-Polled cow Lyrine on the New-York State Fair grounds, unconscious of all the interest manifested for her. And one standing by her for half an hour would hear more advice and a greater variety of prescriptions than a veterinary surgeon ever dreamed of for one disease. The cow was treated by MOORE BROS., and there have been so many inquiries regarding the cow that we take this means of saying that she was stricken down on Saturday morning early, and lay most of Saturday and Sunday. On Monday she was well enough to go into the ring, and took First Premium.

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SURE CURE, RECIPE $1.00.
IN CONSTANT USE OVER 14 YEARS, WITHOUT LOSS OF A SINGLE CASE.
It should be in every stable. Any drug or horse store can prepare it at 1 cent a dose. Sent by mail on receipt of $1.00. (Write name and address plainly.)
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For wrapping and covering butter. Better and cheaper than muslin. For sample and price ask
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Hill's MILK Aerator

is the only perfected mechanical device in the world for removing the odor of turnips, cabbage, onions, ensilage and the animal heat, &c., &c., without the use of ice or water. Send for circulars.
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Breakfast Cocoa

Is absolutely pure and it is soluble.

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are used in its preparation. It has more than three times the strength of Cocoa mixed with Starch, Arrowroot or Sugar, and is therefore far more economical, costing less than one cent a cup. It is delicious, nourishing, strengthening, EASILY DIGESTED, and admirably adapted for invalids as well as persons in health.

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To Enjoy a Cup of Perfect Tea. A TRIAL ORDER of 35 pounds of Fine Tea, either Oolong, Japan, Imperial, Gunpowder, Young Hyson, Mixed, English Breakfast or Sun Sun Chop, sent by mail on receipt of $10. Be particular and state what kind of Tea you want. Greatest inducement ever offered to get orders for our celebrated Teas, Coffees and Baking Powder. For full particulars, address
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THE CULTIVATOR AND
Country Gentleman

Albany, Nov. 7, 1889.

English Notes by T. Bowick.

Our meat imports increase in extent by leaps and bounds. Of fresh beef, for instance, we have received almost one million tons since the beginning of the year, being twice the quantity in the same period of 1887. Live cattle also run 409,000 as against 235,000 in 1887; but of sheep there is a gradual decrease in 1888-9, although carcass mutton more than makes up for the deficiency. Butter shows a fair spring in bulk, while margarine manages to hold its own. Wool totals nigh a million hundred weight more in the like period. All these figures point to good trade here, increased buying power of the agricultural comforts of life, and also great vitality among the textile industries.

Sir Jacob Wilson, who was at the head of the government committee on pleuro-pneumonia, sums up the conclusions in a very clear and masterly manner: First, that it is an imported disease, not indigenous. Second, that it is incurable, and hence preventive treatment only is recommended. Third, that contagion comes through contact (a) between living animals only; (b) through the respiratory organs only, and not by dead carcasses, or by the hands of attendants. Inoculation is declared to be futile; concentrated concerted action is recommended to be carried out through a central authority with the slaughter of all animals that have been exposed to contagion. These conclusions are in the main what the International Veterinary Congress at Paris also were agreed upon.

A correspondent of mine in South Africa writes that disease of a unique nature has shown itself among some of the best Merino sheep districts of the colony. There are certain regions, such as Lower Albany, Fort Beaufort, East London and others, which formerly were the best for the Merino sheep—the staple production of those tracts as well as of the country. *These districts have now become unhealthy for sheep*—a very serious matter for them. The causes assigned have not been convincing, and the whole thing is *in nubibus*. The only ascertained fact is that certain "sour-grass farms" in other quarters, once ineligible for sheep, are now on the other hand among the best. Two causes for the unhealthfulness of the formerly fine sheep farms have been spoken of.

1. That the sheep pick out the superior sorts of grasses and prevent them from seeding, and eventually diminish or exterminate them. That would account for the pasture being inferior, and also for the quality of the sheep and wool falling off, though it does not account for the mortality referred to.

2. When the pasture is scanty from over grazing, sheep may resort to unwholesome herbage, such as the rag-weed (known in Scotland as tansy, &c.) and other plants. There may be something in this, only in great droughts during a former period the supposed fact was not found or adverted to. It is to be noted that plants besides *exhausting the soil of some one favorite element give out by the roots certain excretions*, which poison the soil to the one individual plant excreting them, but not to other plants. Hence a double injury to the soil from persistently repeating the same crop year after year. When a forest is destroyed, the next growth on the site is of a different species of tree. Thus in Denmark the pine forests were succeeded by oaks, and the oaks by beech forests. It is also true that horses and cattle each avoid the rank grass which grows from their own droppings, not from that of other animals. My opinion then is that in a pasture overgrazed by sheep for many years, there is a similar process of poisoning. What the precise nature of it may be is a question; we can, however, be sure of the fact. It is certain also that human beings are poisoned when night-soil is not removed. That suggests one way. The grasses may also be similarly poisoned.

There is little, if any, analogy to this in England or Scotland, for grazing grounds are larger in proportion to the number of sheep. There is, however, the top dressing of old pastures with farmyard manure, which by analogy, should do harm to cows in course of time, as the pastures are very old, and the dressing is put on frequently. There may have been a harm to cows unsuspected; but there is a difference between England and South Africa. In England the winter frosts would kill bacteria, if that be the noxious element, while the summer heat is too weak to develop them; there is likewise much more rain in England, and the soil is seldom very dry. You observe that when water is added to earth and manure, the process of disintegration of the manure is very rapid. Not so when the soil is as dry as dust; the excessive dryness in South Africa leaves the droppings of sheep much more in the natural state.

There are unquestionably many medicinal and antiseptic plants in South African pastures, which get killed out by over grazing, and hence stock will suffer. In England, there may be something of the kind, though on a small scale, while the cooler climate does not generate the germs which cause sheep fever, as among the Merino stock. It is, at any rate desirable to allow their pastures to remain fallow (so to speak), by rotation. A sheep farm might be divided into three sections—one of which could remain untouched for a year, while the stock grazed the remainder. A farm which had become unhealthful could be turned for a period into a cattle run. The grass would get long, and the balance of nature restored in various ways. The quantity of sheep to the acre should be limited, so as to prevent exhaustion by keeping down the grass, and making the ground too bare.

The Earl of Shrewsbury—an English nobleman of old lineage—is one of our largest cab proprietors in London, and his company certainly sends out about the smartest equipages of that class in the metropolis. But his lordship has fallen upon evil times, for a disease among their horses has prevented the paying of any dividend since commencing operations. As chairman of the general meeting of shareholders yesterday, he had no easy task in explaining the causes of deficiency, though the said disease (never *named*, only alluded to) and two strikes among their drivers, had no little to do with it. Two other interesting items turned up, one that their animals only cost on an average $100, and another that the average takings for each vehicle had run to a little under $4 per day. The horses cost $2 60 per week for keep, which is modest enough in all conscience, especially seeing that the price of maize makes little difference to them, since that is not an article in favor with horse keepers who have speed (not draft) to cater for. I think there is a good future in store for the company, if they treat the staff in a manner to retain their good feelings, and not as white slaves, and if the number of licensed vehicles does not greatly exceed the metropolitan demands. I rode this morning in a cab the number whereof was 14,851; about twenty years since, I once rode from the docks in a cab which read "4" on the plate, but have never been in so low a number since.

London, Oct. 16.

Southeast Virginia.—I read with great interest the article, "Whither are we Drifting," by A. Jeffers, Norfolk, Va., in your issue of Oct. 17, page 784, every word of which is solid truth. There is no need of the government buying land from the Indians, as there are millions of acres of good farm land, with excellent water and timber, and near to the best markets, lying idle here in the South. It has always been a great puzzle to me and some of my northern friends here, why so many farmers in the East move away to the far West, when they could buy better farms and homes near their own doors, and with an excellent climate to live in. Some years ago I moved to the far West, but I soon had enough of it, and came here from Northern Ohio. I find Southeast Virginia the best country for the practical farmer, with capital to buy a farm and settle down. There is a great future for the Southern States, and it seems great folly for any farmer in the East to move to the far West, away from the best markets and society, when he could get all he desired here. T. J. B. *Farmville, Prince Edward Co., Va.*

Farming Near a Large City.

Advice to a Proposed Beginner.

EDS. COUNTRY GENTLEMAN—Mr. Terry's advice to young farmers, page 804, is very sensible, yet one fact developed in the letter of his inquiring friend has prompted me to say a word on the subject. The young man ambitions to be a farmer inclines to potatoes as a crop that, in connection with the city salary, will enable him to live and pay for a small farm. Mr. Terry very naturally sympathizes with this idea, as his specialty is potatoes. Now, I am a specialist myself, and believe in raising or growing what is demanded by your immediate market, yet after several years' experience I have abandoned potatoes as a crop, and buy all I need for my own family and the families of two hired men. Potatoes this year in our neighborhood are an almost total failure, owing to the wet season, and the last crop I attempted to raise was also a failure for the same reason. In fact, in looking back over my past experience, I find that we raised, with our methods, a paying crop about once in five years; yet they are a paying crop with Mr. Terry, and generally in Western New-York and in Southern Jersey, on the sandy loams fertilized by the congenial green-sand marls. Now, with a young farmer of small means, the failure of the important crop of the farm would be a very serious matter; hence I suggest he give his attention to some other product of the farm in connection with the growth of potatoes. The fact which has led me to "take pen in hand," is his present employment in the city—which Mr. Terry wisely advises him to continue for a time—and the market which could be developed among his city acquaintances for what I advise him to engage in, viz: the production of butter and eggs.

I can speak advisedly on this subject. For sixteen years I passed the summers on my small farm, forty-five minutes by rail from New-York, going to the city every day in the pursuit of my regular business. At that time I kept a herd of about a dozen Jersey cows and 250 to 500 hens. It soon became known among my friends that I had an abundance of fresh eggs and choice butter for sale, and I was constantly solicited by them to make weekly deliveries of butter and eggs at fancy prices. Other affairs were too engrossing to permit me to engage in this retail business, and so I consigned my products to a wholesale dealer. For twenty years I have sent my eggs to the same dealer in West Washington market, with the understanding that I would give $25 for every egg found in my crates that was not strictly fresh, with the result that for years my eggs have sold at wholesale for 9 to 11 cents a dozen above the best prices of the market. My commission merchant tells me he has other eggs from near by points, neatly packed and apparently fresh, but he cannot get my prices for them for the reason that "they have their *reputation* to make." The demand for choice butter and strictly fresh eggs is very large in cities, and at prices corresponding to their merits. If the young man in a salaried position in the city would make soliciting inquiries of his associates, his employers and their friends, he would be surprised to find how many of them would appreciate a regular supply of fresh eggs and choice butter direct from the farm. One customer would lead to another, and soon he would find the circle of his trade gradually widening, until, in the not very distant future, he would have a business of sufficient magnitude to justify a surrender of his $75 a month to some other unfortunate doomed to the confined air of store or office.

While he continued his business connection in the city he could, two or three times a week, take an early train and make his deliveries of butter and eggs before business hours. For two years of my residence near New-York, a colored man sold my eggs to private families in the city, and he never got less than three cents apiece in summer, while winter prices were five to six cents. He got into bad habits, and I had to change my agent. The family trade, such as this man built up, is what Mr. Terry's young man would get. Forty acres are enough, and if on the farm there should be five or six acres sloping to the south or southeast, they would make an admirable range for fowls. Fowls, of course, should be allowed to roam at large, and then there will be no trouble in having them healthy and prolific of eggs.

As to making choice butter, it goes without saying—first, that that you must have good cows, which with me means they must have Jersey blood in them. They need not necessarily be pure-bred or registered, though the results are more certain and assured with registered Jerseys; half-bloods are generally good, and starting with half-bloods, you can grade up with a registered bull. As soon as the success of the business and capital will warrant it, build up a herd of good registered Jerseys. There can be no question as to the safety and propriety of the last suggestion; twenty-five years of experience and observation justify me in recommending it unqualifiedly. So much poor butter is made that many are deterred from engaging in the business of attempting to make a good article. With cows of Jersey blood, and modern appliances, I have found it a very simple matter to make choice butter.

I have not space in this letter, but in a future issue I may detail my experience and show what are the only obstacles in the way.

Trenton, N. J. G. W. FARLEE.

Some Notes and Observations.

THE COUNTRY GENTLEMAN OF OCT 24—ENSILAGE CORN—BARN FOUNDATIONS—THE FARMER'S SUCCESS.

Silo men are now generally agreed that the best ensilage is made from corn that is matured until the kernels are glazed, and that it should be secured before the leaves are bitten by the frost. This being the case, it is evident that the best kind of corn to raise for ensilage in any locality, is the variety that is sure to get ripe in that locality before the stalks are injured by frost. Mr. MASSEY, page 803, is undoubtedly correct in saying that a good Pennsylvania variety would be more suitable for ensilage in Ohio than any southern corn; but I cannot see why the corn usually raised in that State should not make just as good ensilage as any other.

Mr. WALDO F. BROWN'S plans for barracks, or a cheap barn, seem to have been well considered, and his estimates of cost carefully computed; but I would take exception to his foundation, which is entirely too cheap to be durable, and would be dearer in the end than a good foundation built with stones, laid in lime and sand mortar.

An observing man need not go to the Bible for evidence that the most important thing about a building, and the one thing upon which its usefulness in a great measure depends, is a good foundation. Any building that is worth putting up, and is designed to be more permanent than an Arab's tent or a booth at a county fair, should have foundation walls of stone, started in an excavation below the frost line, with a small ditch under them filled with broken stone or drain tile, to carry off the water, and laid up at least one foot above the surface of the ground.

A dry wall, well built, will answer, but from the surface up it would be better laid with mortar. Mr. Brown says: "If you have not suitable stone, saw a section from a tree of lasting wood, like the black locust, and set on this grout foundation."

My father built a horse barn, and placed the upper side (on the highest ground) on flat stones, the other three sides on chestnut posts of different lengths, each standing on a big flat stone. The building was always settling and working down hill, and out of level. It was raised several times and new posts put under; the sills on the upper side rotted; it was a source of constant vexation and trouble, as well as being cold for the horses by reason of the wind blowing under it. That cheap foundation was the most costly that could have been built.

I know of quite a number of other barns built on stilts of wood, and have lent my jack-screws a dozen times to neighbors—"just to jack up one corner of my barn a little."

The man who built his house on the sand was wise in comparison to the man who builds a barn on sections of wood standing on a bed of grout or a flat stone.

A cheaper structure than Mr. Brown describes, and one that would last nearly if not quite as long, could be made by setting long straight round logs of durable timber about three feet into the ground, with the tops sawn off level, plates spiked on top, girts spiked on the outside, and the cross-beams boxed into the posts with dove-tail tenons, and spiked fast. Any farmer could build such a barn without the assistance of a carpenter. The posts would last a long time before they rotted off, and the building would stand very well for a long time

after they had rotted off at the top of the ground.

I have a wagon-shed which I built after the above plan about ten years ago, and it bids fair to stand for half a century.

Mr. Terry's advice to young farmers, to buy about 40 acres of good land, naturally underdrained, at $100 per acre rather than take poor land as a gift, and to avoid running into debt except for land, is excellent. If buildings must be put up, he advises the construction of only cheap, temporary structures. He truly says: "Money put in costly buildings has sunk many a young farmer as well as other business men."

There is one thing that should be said which Mr. Terry's modesty forbade him to say. It is this: Every young farmer cannot expect to succeed as well as he has succeeded, any more than every young merchant can expect to obtain millions of dollars in trade, like A. T. Stewart and John Wanamaker.

Some people say that everything depends on the man. But there is a great deal in what the philosopher would call an accumulation of favorable conditions, the gambler a long streak of good luck, and the clergyman the favor of Divine Providence. A farmer may sow good seed at the proper season, on good ground well prepared, and reap a poor harvest. His prayer should ever be for good health, abundant sunshine, plentiful rains, and that his buildings be protected against fire, his crops against severe droughts, untimely frosts, destructive hailstorms and tornadoes, against the ravages of birds, bugs, worms, grasshoppers, insect pests, blights, mildews, rust and smut, and that his stock of all kinds be exempt from deadly diseases. If the prayer cannot alter the Divine purpose, it may make the petitioner more vigilant to do all in his power to secure the desired blessings. J. W. I.

Bucks Co., Pa.

From Northwestern Georgia.

A Great Corn Crop—The Alliance and the Jute Fight—Resolute Farmers.

Eds. Country Gentleman—I am now engaged in harvesting a fine crop of corn as regards quality and quantity, and that is the report from all over the State. If Georgia lacks corn this year, it must be from wanton waste, as it is the largest yield for many years. We are indebted to the season for the quality—large and sound ears—but the Farmers' Alliance claim some merit for the quantity, as it has impressed upon its members the necessity of planting and raising their own food supplies, and so stop importing bread and meat from the West. It seems from the corn and other crops made that they have generally heeded the advice. This increase in corn, oats and grass means more horses, cattle and hogs, and the expositions and fairs, State and county, verify it in show of live stock, which is said to be very fine and the numbers large.

This is a new, long desired era in Georgia and southern farming that will bring about good results. The Alliance has had a hard fight with the jute trust this year. The contest is not yet decided, as the mills were not able to supply a sufficient quantity of cotton bagging in time to bale all our cotton; but next year they will start in time and make a better and heavier article of bagging, with an abundant supply in time for the cotton to be baled. The jute business is badly crippled, if not whipped out, because a large part of the cotton crop has been baled in cotton bagging, as well as other material, and the trust has lowered the price of their bagging to induce farmers to use it. Next year the fight will be renewed again with more determination by the Alliance, and under decidedly better advantages. The result will probably be that other kinds of bagging will be invented and introduced which will supersede jute. As you remarked in your issue of Oct. 24, page 813, on "A farmers' battle"—"The effort to unite farmers in protection of their interests, seems a thorough success at the South, as the fight of their Alliances against the jute trust shows." This Alliance should extend all over the United States, and put down all combinations that are for raising the price on articles ready for the necessities of life. The Alliance now numbers millions of resolute members; it is not aggressive, but defensive—to protect its membership against aggressors.

The cotton crop shows now the effects of the early frost; the top crop has been so damaged that it will never open, and it promised to be a heavy crop. The rain we have had to-day will put the ground in fine condition for sowing wheat and oats which have been retarded by drouth. The weather now indicates heavy frosts, if not a freeze. Jno. H. Dent.

Floyd County, Oct. 25.

Notes from Northern Ohio.

Ensilage Corn after Green Crops—Drilling Rye in Corn Rows—Southern Corn Best—Ensilage Experiments.

Eds. Country Gentleman—The importance of having the ground covered as nearly as possible with a growing crop between the regular grain crops was fully demonstrated to my own mind this year. In previous years I have found no difficulty, with the aid of good disc harrows, in sowing rye in the field corn lots as soon as the corn was in the shocks, usually early in September, often the first week, and a few days later in the ensilage stubble. This would give nearly ten weeks of fair growing weather, and the rye would make a fine stand. Now that I "pin my faith" to ensilage, harvest the corn crop at one operation, and let it stand until fully mature—the last days of September—the seeding to rye is not satisfactory. Last year incessant rains prevented my rye sowing, save in a limited way, after the corn-cutting; and this year October has been so cold and unfavorable to late-sown grain that my rye is not looking as I would wish, and I am glad that I have no more on the ground than I have.

The point that I wish to make, is the great value of these "ordered aids" in growing the ensilage crop. This year has been the most unfavorable in years for corn. On my old land, fully manured with the best of grain-made stable manure, the crop was about half that of last year, but on all the clover sod and the small area of rye that was turned under, the corn was very heavy, was remarkably well eared, and fell very little below a full crop of the finest. Two years ago, during the great drouth, my ensilage corn on clover and rye sod that had made a large growth before plowing under, resulted in a remarkable growth, and showed that good ground—clayey soil—may be depended on for a paying crop; and this year, one of excessive, early rainfall, the underdrainage afforded by the layer of vegetation and the more porous character of the soil, and the extra warmth imparted by the fermenting decay of the clover and rye, forced, so to speak, the growth of the corn, and sent it forward to a satisfactory result.

Next year I shall purchase a small one-horse drill, and drill in the rye after the last working of the corn. It will be shaded, it is true, but it will be well rooted, and as quick as the corn is cut it will grow right along until winter. Clover will be sown upon it in March, and by the first of June the rye will be cut for hay, and make the noonday meal of dry fodder. By this plan one keeps up a rotation of crops and the ground covered with a green crop; especially so, if clover is sown with the oats in the spring. In this direction I am tending, as we are now plowing all the unoccupied stubble, turning under such trash as survived all efforts to subdue the past wet summer, and in early spring the cutaway harrow will rapidly fit the ground and cover the oats at the same time, a plan that I am perfectly satisfied with, both in oats and fall sowing of rye. The rapidity that attends the use of this implement is remarkable. With a moderate weight the cutaway, with three times going over, put a field of heavy ensilage corn stubble, not only in perfect order, but covered the rye perfectly, as the field is now a mass of green, and the whole was done in less than half the time that plowing alone would have occupied. With some fall and winter plowing, where it will do, improved harrows, vibrating weeders to take the place of the imperfectly-working slant-toothed harrows—though the latter was a long advance step in cultivation, and expeditious methods of harvesting, the labor cost of a crop has been solved to my mind, leaving the question how to well and cheaply fertilize, the great and ever-important one for the farmer's study.

While Prof. Massey and myself have, since his letter on page 803 was written, *threshed* out this matter of why "B. & W." corn is best, the present season has confirmed more than ever my conviction in the matter, i. e., for a sure crop, wet or dry, hot or cold, the Virginia white corn will excell all other varieties for the silo. A few days since Dairy Commissioner Thom of Wisconsin, who has been quiet an advocate of home varieties of corn for ensilage, gave public utterance that he is "inclined to think that it is unwise after all to abandon the planting of large Southern varieties. Should they prove deficient in grain the balancing part can be cheaply bought." My neighbor Blair, who now feeds ensilage to 125 milch cows in winter, thinks it does not pay to plant thinly to encourage earing; that with less ears he can grow more than an equivalent to pay for the bran that will be required to balance the ration, a point to confirm what Commissioner Thom thinks the more economic plan—the producing of the greatest growth, and making it just as we want it with $13 bran, or fine middlings, which are more generally fed in this section.

The planting of common field corn this year for ensilage was a costly expedient to economize, as the yield was small of both fodder and grain. Growing side by side in my corn field, a patch of field corn did not produce over one third that of the B. & W., nor were there as many ears of corn to the row. Look at the matter as we may, there is a vigor and push about the Virginia corn that out-distances our own, and allowing the cow, steer and milk pail to decide in the matter, the 50 lbs. of the B. & W. is more eagerly eaten, and accomplishes quite as much or more as does the 50 lbs. of northern kinds with all their reputed greater value of solids.

In some respects advance experimental steps were taken in some quarters in regard to putting up ensilage this season, the chief one being the putting up of corn from the shock after it had been cut from two to four weeks, and as the cut fodder fell into the pits it was sprinkled down with water, about 25 gallons to the estimated ton, and from one man I hear that it is "heating up nicely." Whether or not this heating up of pretty nearly dry fodder by silo principles will restore this once desiccated fodder to anything like its natural succulence remains to be seen. If it does, it will be through a digestive process so clearly portrayed not long since in the Country Gentleman by Mr. T. B. Wakeman. Just what is to be gained by this plan over cutting and drawing direct to the silo is not clear, but on extraordinary occasions it may be well to know that dry fodder can go into a silo box and be "wet down," and prove far superior as a ration to dry stalks and all their attending waste from field to the long manure pile.

Mr. Swan of Kent, Ohio, is trying the experiment of commencing to feed from the silo the next day after completing the filling, and finds no great, if any, loss, though for two weeks the surface was a little inclined to show mould, but nothing serious. Mr. Taylor, near me, had the misfortune to lose his barn by fire with all its contents, save the contents of the silo which was located in the barn. The wooden shell of the silo was consumed, but not to exceed six inches of the ensilage was burned. A temporary casing was again placed about it, and the greater part of the ensilage will be saved for feeding. J. C. *Western Reserve, Ohio.*

The Season in Central Illinois.

Eds. Country Gentleman—The season has been alternately wet and dry—or rather dry and wet. Spring opened early, but was quite cool, retarding the growth of vegetation. March, April and May were very dry; June extremely wet, keeping the plows out of the corn fields until the grass and weeds were threatening their destruction. About thirteen inches of water fell during this month. In the last week the skies cleared up, and people made the cultivators hustle until harvest, which came later than usual. The weather kept cool, and farmers marched along with the work very fast.

There was a great cry for hired help, many men carrying on corn plowing and harvesting at the same time. Many wheat fields were so soft that binders could not travel, and consequently the old-fashioned cradles were in great demand. Wheat was damaged in the shock by heavy rains in July, and that which was stacked was greatly damaged by a heavy rain in first week of September; consequently but little No. 2 wheat was marketed in this locality, most of the crop grading No. 3 and some No. 4. The crop was very uneven, some fields yielding largely and others being almost a failure. The average in this locality was nearly 15 bushels per acre. The average price paid by elevator men was 68c. for No. 2, No. 3 being 5c. lower.

Corn is also very uneven. Early-planted, on good rolling soil, is good; that on low or level lands is below the average, which is nearly 40 bushels per acre. Oats not well filled; too much straw and not enough grain. Hay is an immense crop. The yield of clover seed is enormous for this locality—from three to five bushels per acre. The apple crop is almost a failure. Peaches good for the number of trees that are left; people here have almost quit planting peach trees. This is the first season that they have yielded any fruit for nearly a decade, and the most we had this year were seedlings. Potatoes, turnips and cabbages have yielded enormous crops.

Hogs are remarkably healthy; prices running down, $3 75 being the top of the market. Cattle are lower than for many years; it takes a good milch cow to bring $25; butcher's stock, $2 per hundred. Horses are plenty, and no demand for them.

We had several frosts in September; much corn slightly injured. Quite a large acreage of wheat has been sown this fall.

Menard County, Oct. 23. A. N. Currt.

Notes from California Foothills.

Eds. Country Gentleman—Here at Auburn, on the Southern Pacific railroad, in the foothills, we had five inches of rainfall in five days up to Oct. 22, which was the second rainfall in October, and the largest quantity for that month in any year since California became a State, not excepting 1877, when there was 8¼ inches of rainfall in October; so the ground is moist enough to plow a month or more in advance of the usual time for plowing and planting to commence. Wheat seeding will begin on the 27th on scores of ranches in Northern and Central California. Irrigation for the most part ceased, as is usual, when the leaves of our few deciduous trees began to fall, about Oct. 1.

As this State produces alfalfa perhaps as extensively as any other, and your Illinois correspondent, "B. F. J.," infers that it may productively survive after its roots are well established as long as asparagus, permit me to state the fact (which I personally observed when several times visiting that part of England) that at Elderfield Court farm, five miles from the historic old town of Tewkesbury, eight or ten acres of alfalfa (English, lucern) was profitably productive more than 20 years, down to about 1870, when it was plowed up, and on an adjoining field several acres, planted about that date, survive and are still productive. These profitable plantings of alfalfa were on reddish marl soil, on the naturally well-drained summit of a low hill, and the three crops a year produced were mainly used for working horses—a sufficient quantity being cut and hauled, and fed them in their stables daily.

But in California, with its fervid climate, the case is somewhat different; for alfalfa may continue a profitable growth five, ten or fifteen years, according to the character of the soil, and treatment, as it cannot be expected long to survive the taking of four or five cuttings in a season, as in some cases it is treated to, with exhaustive injury. On the ranches in the foothills, alfalfa hay sold at $10 per ton in the field in August, at $12 in September, and is chiefly fed to cattle; while oat hay and wheat hay sold at $12 per ton. Now each kind of hay is $2 per ton higher, the rise of $2 per ton taking place when it becomes necessary to protect it under a cover of boards, sail cloth, barn or barracks.

Nearly all hay grown in California, either on the large ranches in the quiet valleys, or the small farms in the foothills, is baled in the fields—many farmers keeping baling machines of their own—and set up in stacks or piles of bales in the field. Baling hay of any and all kinds is the most economical practice connected with its storage or marketing that I have ever observed. 1. The hay is compressed to a quarter or less of its loose bulk. 2. It requires only one third as much space to store it when baled. 3. Two tons can be drawn on a common wagon, or wood rack, entirely dispensing with any special hay rack. The bales range from 120 to 250 lbs. each, and can be made of a size suitable for one or two men to handle, as may be convenient. In convenience, for handling and storing a winter's supply, baling hay appears to me, after two years' experience in California, a process so convenient and economical that it seems a matter for surprise that the practice has not been generally adopted in all the country part of the Rocky Mountains, including Canada and all hay producing localities in American climates.

In the foothills the grape crop was large and the demand for wine-making having been

small—as it should be—wine grapes selling at ½c. per lb., while the excellent old Mission, Hamburg, Muscat, and other good sorts are dying and spoiling in the vineyards because there is no paying demand. The Rose of Peru is a good grape, somewhat larger than the Mission; but as a table grape the Mission, with its long season and excellent keeping qualities, must long continue to be a general favorite.

The grape supply here and farther south continues from early in August till Christmas, as the ripening season is later and later the higher up they are grown in the foothills and mountains, so that fresh supplies arrive, as they ripen successively at different elevations, till summit or the limits of grape-growing for market are reached.

September is the month for setting out new strawberry plats, which was done by the aid of irrigation in that month; but since early in October rains supplied sufficient moisture, and continued light rains insure a rapid growth, and a paying crop next May.

The Monarch strawberry is more extensively grown in the vicinity of Auburn than any other variety, though a few acre plats of Sharpless succeed very fairly.

Grass and weeds have also taken fresh start, and made such rapid growth within ten days, that there is a bite here and there for the scores of large, small and mixed herds of horses and cattle that are daily coming down from their cool summer pastures in Nevada, Utah and Northern California, returning to their home ranches in the great valleys of the Sacramento and San Joaquin, which, though less than a third of its area, contain many very large ranches—so large, indeed, that "thresher kitchens" in the immensely large fields, long since became a necessity, to provide the large gangs of workers with cooked food at noon time.

The live stock returning are generally in fair to good condition, and many of them will be finished off with grain at their valley homes for city markets on the coast, and in sight of where I write are several droves resting in large hotel yards, while their owners are camping near by in the house-shaped tents they have resided in while summering their herds, and also, in many cases, making cheese and butter while living in their tents, as well as caring for thousands of herds in a thousand hill and valley pastures.

This annual investigation of households and their mixed herds of farm animals, is an interesting feature of California ranchero life; for by summering their herds in the far away and cooler pastures of the mountains and small valleys of Nevada and contiguous territory, they are enabled to keep many more farm animals. But it is not an over pleasant thing to have to wait half an hour on the side of a dust-cloud while a herd half a mile long passes by in a narrow road. One evening after dusk several of us, with buggies, had to wait in a road only 12 feet wide over 40 minutes, while 4,000 sheep—being driven in the cool evening to prevent overheating—passed by on their way to the Sacramento Valley.

The hay crop in the foothills is abundant and excellent this season, and I bought good oat hay, delivered, at $12 per ton—as good as that which sold for $17 and $18 per ton last winter; but probably when our home-grown supply is exhausted, as it will be by mid-winter, the hay valleys' supplies drawn upon will cost $15 to $17 per ton, as in winters heretofore. But in a few years home production of hay, as well as vegetables, will come to be more of a necessity to be depended upon. Speaking of vegetables, I saw a fine patch of Flat Dutch cabbage yesterday that were beginning to head nicely, on the same ground where a previous crop, same kind, were mature the last of July. With two good crops in a season on the same ground, vegetables enough might easily be grown here to supply the city, but more than half the supply, except potatoes, is obtained from Sacramento, and grown on the deep soils below that city—the State capital. But the best quality of potatoes is obtained from localities north of Colfax, of greater altitude. J. W. CLARKE.

Placer County, Oct. 25.

Orchard Grass.—I should like to ask through your valuable paper the experience and observation of some of your subscribers in growing orchard grass for seed, hay and pasture. When and how is the best time for sowing it? How long will it take before fully established? How soon can seed be gathered from it? How many bushels of seed per acre will it give ordinarily? Does it make good pasture and hay for sheep? How many tons of hay will it give on average land per acre? How long will it stand when fully rooted, and how many bushels of seed should be planted per acre? Should like to hear the experience and observation of those having grown it. A. B. H. *Lambertville, N. J.*

Weather, Crops and Prices.

Meteorology for Oct. 28-Nov. 3.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30 25	inches.
Lowest	do.	do.	29 62	do.
Mean	do.	do.	29 98	do.
Highest temperature	do.		58°	
Lowest	do.	do.	35°	
Mean	do.	do.	51°	

Seven cloudy days. Four days on which rain fell; total precipitation 1.70 in. Prevailing wind, N.; maximum velocity, 18 miles per hour on the 2d.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	28th	29th	30th	31st	1st	2d	3d
Day							
This year	50°	43°	44°	45°	48°	50°	58°
Normal	45°	49°	47°	48°	45°	44°	42°

Total excess for the week, 15°.

The Month of October at Albany.

According to the reports of Sergeant DONNAVEN of the Signal Service, the highest temperature for October was 71°, on the 1st; lowest, 26°, on 24th. Warmest day, 1st—mean temperature, 64°; coolest, 23d—mean, 38°. Prevailing winds, N.; maximum velocity, 36 miles per hour, N. W., on 13th. Frosts, 2d 23d and 24th. Clear days, 4; fair, 14; cloudy, 13. Rain on 13 days. Mean temperature and total precipitation for last ten Octobers as below:

1889—Mean Temperature,	45°	Precipitation,	3.48 inch.
1888	do. 44°	do.	6.10 "
1887	do. 49°	do.	2.22 "
1886	do. 52°	do.	2.43 "
1885	do. 50°	do.	5.54 "
1884	do. 51°	do.	2.64 "
1883	do. 51°	do.	3.49 "
1882	do. 56°	do.	0.27 "
1881	do. 55°	do.	3.93 "
1880	do. 57°	do.	2.45 "

General Review of the Month.

TEMPERATURE.—The month of October has been cooler than usual in all agricultural districts east of the Rocky mountains, except in Dakota. The daily average temperature for the month in the winter wheat belt, including the States in the Ohio and upper Mississippi valleys, ranges from 4° to 8° below the normal. About the same thermal conditions prevailed in the Middle Atlantic States, Southern New-England, and along the South Atlantic coast, while in the gulf States the deficiency in temperature ranged from about 1° to 4°. There was a slight excess in temperature in the Rocky mountain districts, and thence westward to the Pacific coast. The line of killing frost has extended south to the northern portion of the Gulf States and the northern portion of South Carolina and westward to the western portion of Washington Territory, Central Oregon and Northern Nevada, and light frost occurred as far south as Southern Alabama, Central Georgia and Northern Louisiana.

PRECIPITATION.—During the month of October there has been less rain than usual in the central valleys and generally throughout the Southern States and New-England. More than the usual amount of rain occurred in California and Oregon, in the Middle Atlantic States, and in the Central Rocky Mountain Plateau region. The rainfall was greatest generally throughout California, over the greater portion of which the monthly rainfall exceeded six inches. About two inches of rain occurred during the month in the winter wheat region, extending from the lake region and Southern Iowa southward to the Gulf States, and only light showers occurred in the Northwest, including Minnesota, Dakota, Nebraska and Northwestern Iowa.

GENERAL REMARKS.—The drouth condition which existed in the Central valleys has been succeeded by timely rains, which have doubtless greatly improved the winter wheat crop. The drouth continued during the month in the southern portion of the Gulf States, extending from Florida westward over Southern Texas, over which region only light showers were reported, and the deficiency of rainfall for the month ranges from one to five inches, but on Nov. 1 generous rains were reported from Texas, Northern Louisiana and Southern Alabama, and the rains are heavy in the Central Mississippi and lower Missouri valleys, with heavy snows in Nebraska and Western Kansas.

New-York—*Setauket, Suffolk Co., Nov.* 1.—The month of October gave us rain on 11 days, with 13 cloudy, 18 fair and only 5 clear days. Highest barometer, 23d, 30.42; lowest, 1st, 29.64; mean, 30.04. Highest temperature, 1st, 70°; lowest, 24th, 37°; mean, 56°. Total rainfall, 4.64 inches; thunder showers on the 1st and 18th. S. H. S.

New-Jersey—*Vineland, Cumberland Co., Nov.* 2.—The month opened with half day of sunshine, but to-day is dark and cloudy, as were ten last days of October, which had seven rainy days besides, and one slight snow-storm on the 23d, an unusual occurrence so early in the season—but centennial year (1876) October had a snow-squall on the 22d. The temperature of October was quite comfortable—averaging about 45° at sunrise and 80° at sunset. Old corn sells for 60c. per bu.; dressed chickens, 16c. per lb.; hens, 14c.; good creamery butter is sold as low as 22c. The complaint has been general here, several past seasons, that paying prices were not realized, particularly for small fruits. The sales were made in large cities through commission men. The past season an effort has been made to sell on the auction plan; but not tried till the 16th ult., on a car of sweet

Horticultural Department.

Some Brief Notes and Suggestions.

Two Crops at Once.—One of the best cultivators of fruit in Michigan never permits his orchard to bear any other crop than the fruit, after the third year, previous to which he raises hoed crops only among the trees.

Two Orchards in New-York.—Two orchards in Orleans county were treated differently. One of them bore an average of 85 barrels, along with other crops. It then had clean culture, and bore over 200 barrels annually. The other orchard had sowed grain every year, and the fruit never amounted to anything.

Keeping Apples in Winter.—Spread buckwheat chaff on the barn floor, and on this place the apples, and then cover them with chaff two feet thick. Fill the interstices with chaff. Other fine chaff will answer. The chaff will exclude cold currents, and absorb incipient decay.

Keeping Grapes.—A good packing material is dry rye straw cut half an inch long in a machine. Place plenty of this in alternate layers, copiously, with the grapes, and put them in a cool, dry place, where the temperature will not rise at any time much above freezing.

Planting Grapes too Thickly.—A grape-grower in Central New-York set his vines 12 feet apart in the row, and afterwards grafted every alternate one with another sort. The grafts all died, thus leaving the vines 24 feet apart. The ample room thus afforded gave a heavier crop, and of better grapes, than before.

Cold Air Descending.—Some years ago, when there was a severe wave of cold air in Michigan, no peach buds escaped the frost on level ground or in depressions; on all elevations of fifty feet or more all escaped injury, and the trees were loaded with blossoms.

Hardy Peaches.—In an orchard this year, in Cayuga county, N. Y., Amsden, Briggs, Early Rivers, Large Early York, Ward's Late, and Smock had fair crops; other sorts were destroyed by the cold of the previous winter.

Manuring Strawberries.—Two neighbors set out strawberry beds at the same time. One had fourteen rods, did not enrich his bed, and had 3 bushels of fruit, or at the rate of 34 bushels per acre. The other planted only four rods, and heavily mulched the bed with manure in autumn and in spring. He had 7 bushels of berries, or at the rate of 280 bushels an acre.

Draining Orchards.—An orchard was suffering from a wet subsoil. The growth was stunted, and there was little fruit. The orchard was tile drained 3 or 4 feet deep between the rows. The trees started at once into vigorous growth, and bore well.

Pleasant Medicine.—A man with poor health and poor digestion confined himself to bread and butter, accompanied with strawberries, raspberries, blackberries, peaches, &c., in their respective seasons. They cured him.

Fungus on the Horsechestnut.

Eds. Country Gentleman — *Phyllosticta sphæropsoides*, a fungus ravaging horsechestnut trees on Long Island, has been unusually prevalent and destructive the past summer, causing the foliage to turn brown and fall from the trees during August and early part of September. Scientists who have investigated the subject have found no efficient remedy. It is very important that a remedy be soon found and prescribed, else these beautiful and popular trees will be ruined.

Long Island. ISAAC T. WHITBECK.

The foregoing note was submitted to Prof. Peck, State Botanist, who favors us with the following comments:

Many parasitic fungi have been unusually abundant the past summer, and their attacks more than ordinarily severe. The remarkably abundant and frequent rains and an atmosphere, most of the time, highly charged with moisture have afforded the necessary conditions for the free and prompt germination of fungous spores, and for their rapid reproduction. As a consequence, potatoes have rotted in the ground, grapes on the vines, peaches and plums on the trees. Squashes and muskmelons also have in some places yielded to such attacks and decayed badly. The leaves of current bushes in some localities have been so severely attacked that they have fallen long before the usual time. The horsechestnut on Long Island is now added to the list of plants that have been severely affected by parasitic fungi whose ravages have been stimulated by the peculiar climatic conditions of the season. Such seasons do not often occur with us, and it is therefore probable that another one like it will not soon return. Neither is it likely that the premature falling of the leaves of the horsechestnut will destroy or very seriously injure the tree. Nature has given to many trees a considerable power of resistance of such mishaps.

The life-history of the *Phyllosticta* that in this instance caused the mischief has not yet been traced, but it is very probable that if the fallen and affected leaves are raked together and burned, it will tend to diminish the sources of infection next season. It is also highly probable that if the foliage of the horsechestnut shall be sprayed thoroughly with the Bordeaux mixture early in the season before the spores have found a lodgment in the leaves, it will tend greatly to check the ravages of the fungus. This mixture has been found to be prejudicial to the germination of the spores of other parasitic fungi, and has been used with advantage against the fungus that causes the black rot in grapes. One form of this fungus has been shown by Prof. Scribner to be a *Phyllosticta*, and therefore the relationship between it and the fungus of the horsechestnut is so close as to make reasonable the use of this preventive. Should heavy rains wash the mixture from the trees, it might be necessary to repeat the spraying. The experiment is worth trying on at least one or two small trees. C. H. P.

Half an Acre of Strawberries.

Eds. Country Gentleman—We have tried most of the varieties of strawberries that we grow, in both hills and matted rows. We have tried narrow matted rows and wide ones, also thick matted rows and thin ones. We aim to have the best, taking everything into account, and the following is the way we have managed our strawberries this year, learning from past experience as well as all we could from other sources.

One-half an acre was set with the strongest plants we could select of last year's growth. These were grown from newly set plants that had never fruited. The bed was set out about the first of May, in rows 4 feet apart, and plants 2 feet apart in the row. The ground was a very heavy, young, clover sod, manured moderately, the fall before for the most part. Tillage was applied with a lavish hand, until the soil was exceedingly fine and firm. The marking was done with the Aspinwall potato planter, with the coverers taken off, the most complete tool for the purpose that one could ask for. We thus made straight trenches about 4 inches deep. The plants were taken up from the old bed, and as fast as the earth could be shaken off dropped into a pail of slightly warm water. As soon as the pail was full they were taken to the new bed and set out in the freshly marked, moist soil. They grew right along as though they had never been moved.

We kept off all blossom stalks and runners until about the 20th of June; then we let them run, and two or three times went over the piece training the runners, so they would as soon as possible cover all the surface with plants. This is, I know, letting runners grow sooner than most experienced growers advise; but we set out such strong plants and gave them such a good chance that they were probably able to send out as strong runners by the 20th of June as ordinary plants would be by the first of August.

The tillage until the runners had occupied too much of the ground was nearly all done with a horse and light harrow of our own make. We could not run close enough to the plants with cultivator teeth—there was too much left for the hoe to do. So I took a piece of 2 by 6-inch plank, 2 feet long, and bored holes and drove through Thomas harrow teeth, straight, not slanting, and then bolted the plank to the underside of a cultivator (Planet Jr.) from which the teeth standards had been removed. Then I could run within an inch of the crowns of strawberry plants, pushing the leaves aside, not covering them, and stirring the soil an inch or so deep, thus keeping weeds from growing and the crust broken. This saved much hoeing—important to a farmer with plenty to do.

Well, we kept the patch practically clean all summer. The tillage was the best we could give, but not quite perfect, such as we give our potatoes. We sometime had to give them a little extra before or after some big farm job rather than what they needed at just the right time. By the middle of August the vines were beautiful, about covering the ground, and people began to stop and look at them and praise them. We went through from time to time, between rows of different varieties, and cut the runners just enough so they would not cross and get mixed. Where two rows were of the same variety we let them cover the ground entirely between—let them run and grow in their own way. There are very few square feet on the half acre that they failed to cover, with a little help from us in the way of training.

Now this is the natural way for the strawberry to grow. They have just been running in clover, so to speak (literally as to their roots). I can grow large berries when they are kept in hills; but not nearly enough per acre when the rows are far enough apart for horse culture, and horse culture it must be for a farmer. But now nature must be looked after a little, or she will overdo the matter of plant making. Man having given her such an excellent chance must still keep the reins in his hands, although the controlling should be in the most natural way possible. To cut off the runners all summer is not natural. The season's growth is now about over. They have had it about their own way to far. Lately we have stretched lines through between the rows, and one man with shears to cut runners on sides and another with hoe have cleaned out paths about 16 inches wide. This leaves two-thirds of the ground covered with plants. Now we are going through these plants and taking out the old ones set in the spring, all the little weak ones, and enough of the strong ones, so what is left stand on the average about six inches apart. This work is done with a table knife, with about two inches of the end of the blade bent nearly at right angles. When we get through about two-thirds of all the plants will have been destroyed. But my expectation is that I shall get more fruit and finer, and the largest possible yield per acre. Great care is taken not to disturb any plants but those we cut out. The other plants have grown in a natural way, and will find themselves in the spring with reasonable feeding ground.

It is no small job to take out these plants with an eye to the "survival of the fittest." It is a pretty good day's work for one man to go over one row 26 rods long. But it may easily make a difference of one or two bushels in the yield, or two or three cents a bushel in the size, or half a dozen or more bushels. "No pains, no gains." Paths only 16 inches wide (probably not over half that when the berries grow next year) would be too narrow for hired pickers who had no interest in the business; but we can do our own picking mostly.

As soon as the ground begins to freeze we intend to put cut straw in the paths, freely, and a light coat over the beds; then let the plants grow up through it next spring. When the patch is covered with snow we will sow on what wood ashes we have saved from the kitchen stove. We kept the ground stirred between the runners and young plants as long as we could, after horse work was out of the question, by using little pointed hoes. As good a one as we have was made by nailing an old section from a mowing machine knife on the end of a broom handle.

This half-acre of strawberries has been a sort of savings bank for us. We should have had work enough without it; but some way or other it has been taken care of at odd spells, and now I hardly care to sell it for as much money as I have paid out for help this season—$200.

Selling plants is no part of our business, as such wholesale thinning would be considered wasteful.

One man had better not try to do everything. We are trying to grow about 100 bushels of choice strawberries at the least cost. At an institute in Ohio a well known grower of berries by the acre was asked, when on the stand, how many berries he sold in a season. He blushed and seemed greatly disconcerted, but to the amusement of the audience finally owned up that he hardly picked enough for his family use. The audience thought this quite a joke on him, but his head was level, and he had no cause to be ashamed of the truth. He was trying to do one thing well—the best way in the world to succeed. The fact that he had no berries to sell, showed that he had good plants that were wanted.

One point more. The growing of about twenty bushels of berries for our own use—to eat fresh, give to our friends, and can—is the main reason for our having that half acre. (It is little more work, while we are about it, to take care of 80 rods than 15, except the picking and thinning.) Now to prolong the season, when we can have delicious strawberries on the table as free as water, we intend, as we did last year, to cover over in mid-winter, when the ground is frozen solidly, a row or two with a large supply of long straw. It may be put on a foot deep at this time, and will keep the ground cool and retard the starting in the spring. One must watch closely, and when they will grow anyway, the ground having got sufficiently warm through the mulch, remove the extra straw. It should be done just before a storm, or in cloudy weather, so as to not let the sun shine on the tender plants when first uncovered.

Now, gentlemen, if you will call around next June, we will promise to show you some choice vines and berries to match, if the frost lets us alone. You shall have a quart on your saucer at each meal, with sugar and cream to your taste. Of the former we have just got a barrel into the cellar, and we must get another cow in the spring. Be sure and come.

Summit County, O., Oct. 24. T. B. TERRY.

A Woman's Garden—XI.

Bulbs, In-Doors and Out.

"Too much petty routine—too little live interest." Might not this be the verdict passed upon many a woman who has lost, not life indeed, but the charm of life? Her lack-lustre eyes, her meagre form, her faded and dull complexion and hair, her spiritless carriage—all betray the absence of satisfaction in her life, if not a positive, heart-sickening disappointment. Why do the years steal hope as well as youth? Is this inevitable? Is it right?

One of our most practical and beneficent students of social life has said that "all the institutions of society exist in order that we may have happy homes." Let us lay stress upon the adjective. We need happy homes. As a people we are prone to materialize; we worship practical success, and spare no effort to gain the greatest comfort or luxury attainable, while we overlook the more important sources of true joy and delight in living. Among these purer pleasures, the love of beauty takes high rank, and surely it finds a most natural and innocent expression by means of the ministry of flowers. A woman's garden is one of the many small resources at her command for accomplishing that great work of making a happy home, to which her life is devoted.

Let no good, unselfish mother consider making others happy as a low or unworthy aim. Is it not a truism, for grown people as well as for children, that we cannot be happy if we are not good? To promote the true happiness of a household is an undertaking that calls into exercise all the Christian graces. But there is a real harmony between natural beauty and the finer issues of sweet and noble living, and the lily of the field, modest and serene, may help us in finding our best selves.

From November to May the hardy garden of our northern climate can offer us little that gives courage or good cheer. Nature is no longer gay or sufficient for our needs. We must fall back upon civilization now, and civilization is chiefly a matter of an accumulated past. The forests of long ago are in our coal mine; the lamp, too, burns with a sunlight that was absorbed ages past. Even the onions and the pumpkins have stored up treasure for their requirements, as well as the provident bee or the thrifty squirrel. How much more exquisite is the hidden wealth of the hyacinth or the daffodil!

For bridging over the long gap from the asters and chrysanthemums to the gay border of early flowering phloxes and columbines, there is nothing more beautifully useful than the Dutch bulbs. For the out-door garden, indeed, they are almost indispensable; they give us flowers before nature has had time to produce them in her ordinary course of work, and so lengthen her season in the most charming way, by a preface unlike yet not inferior to anything that is to follow. By their aid the snow is no sooner gone than floral loveliness smiles out, fully developed. No lingering of hope deferred, no bare, cold earth, though spring be in the air. With what a fresh rapture we greet the vivid gleam of color, the bright

flutter of a half-unfolded petal! But we must make haste if we would plant them now.

The grape hyacinth, which grows wild in abundance as far north as Virginia, is less generally known than it deserves to be. It has a cluster of tiny close bells, almost like a miniature bunch of grapes, of delicate blue, and a peculiarly soft, alluring odor. I have found it in some old gardens, known by the quaint name of "infant's breath." The scillas, too, with their lovely, intense blue, are too much neglected. Crocus and snowdrop are never more charming, to my eyes, than when scattered in little colonies over the lawn. There is something deliciously unexpected in their appearance, even when it has been impatiently watched for.

If one wants a specialty, the narcissus is an excellent choice. The list of desirable varieties is now a long one. Some are of the easiest culture, and so hardy that they seem to live forever where they have once got a foothold. Others demand patient wooing, but give an ample return when success is reached. For some unexplained reason they are said to be much more sought after in England than among ourselves. Certainly, for grace and elegance of form, purity of color (from white to deepest orange), and a perfume that is the very breath of spring, they are too lovely and individual to be compared with any other beauty whatever. There is a poetry, not of association merely, but of nature, a kind of inevitable charm about the daffodil no other flower can rival.

The hyacinth is a high-bred beauty, and will grace the most elegant table, or the throat of the fairest wearer. Always admired, always sought after, with a wide range of exquisite color, the hyacinth is inimitable for growing in glass, a condition in which the plant is on parade from the first pushing of the leaf to the withering of the flower. The hyacinth justifies itself as an object of affectionate interest throughout, but care must be taken to avoid excessive heat. A cool room is best for all bulbs grown in-doors; some authorities recommend a room without stove heat when the thermometer marks only a little above freezing, until the flower buds are well started.

One may improvise a charming window garden from bulbs alone. Many of the tulips bloom in great perfection in this way, and almost dazzle the eye with gorgeous colors. One may have scillas, crocus and narcissi, the charming little white Roman hyacinth, and the blue grape hyacinth (though there are also blue and rose-colored Roman hyacinths, with a dainty loose spike of soft color,) as well as the more showy and solid tulips and hyacinths in richest red or deepest blue, white as snow or yellow as gold.

The hyacinth in the open ground of the hardy border seems to deteriorate; it is apt to "run out" after two or three years, or at least the flowers grow smaller and less profuse. But with this exception, the Dutch bulbs are nowhere more desirable than planted in groups amid the hardy perennials of a mixed garden. They will increase and thrive perpetually, so that once planted they become a part of the garden, and peep out cheerily when their season comes, as a cheerful and established member of the existing order of things. Clumps along the edge of shrubbery are especially effective and pleasing. All of these may be planted through October.

DOROTHY.

Isolated Fruit Trees.

EDS. COUNTRY GENTLEMAN—It is usually admitted that trees for fruit are more profitable when standing alone than when planted in orchards. Such trees are freer to send out roots, as well as to receive greater abundance of sunshine and better circulation of air. For several years we have had an illustration of these advantages in a White Pippin tree which stands alone near the barn. It has grown vigorously, sending out its branches laterally, until it covers quite an area. Notwithstanding its annual load of fruit, varying from ten to twenty-five bushels, it shows no signs of decay as do other trees of the same variety in the orchard planted at the same time. It has been free to grow as it chooses, with occasional pruning and no cultivation. The fruit is much superior to the same kind grown in the orchard, and we can depend upon a crop from the tree whether the season is favorable or not. The space thus occupied might have been left unplanted, but it certainly was better to have an attractive and profitable fruit tree than t allow the ground to grow up with worthle grass and weeds.

Such a tree yields very profitable return with comparatively no labor. In the orchar there are trees that sometimes have no fru on one side because of the proximity of other In time these unproductive sides, because c the absence of sunshine, begin to decay, whic is very injurious to the tree. Not so with th tree that is fully exposed. The same obse vation is equally true of nut-bearing tree The chestnut, for example, seldom is produc tive in a thick woods, but when it stands alon it bears the greatest number of nuts that ar fully matured.

I think that the odd corners about th premises can be used to no better advantag than by planting them with such trees as ar long-lived and can take care of themselve when grown. It is not hard to find a numbe of such spots, as fence corners, corners of lots and unobserved places on the lawn. It ma require strong protection for the young tree in these out-of-the-way places to prevent in jury from the stock, but this can be provide when the animals have access to the lots onl a part of the year; and the returns will mor than balance the trouble of constructing suc a protection.

ROBT. L. DEAN.

Jamestown, O., Oct. 25.

Sweet Potatoes—The Apple Crop.

I find from experience, rather limited to b sure, sweet potatoes to be superior as mill producers to any roots or tubers I have experi mented with, except Jerusalem artichokes They not only increase the quantity, but seem t improve the quality, and cows are ravenously fond of them. But they, for the average grower, are a precarious crop; yet there are cultivators who succeed with them as well a the average Irishman with common potatoes I mentioned some months ago, I proposed t plant sweet potatoes in new ways, one of which would be in a dead furrow and the other leve culture, and see if I could not conquer the stubborn habit the sweet potato has of yielding nothing more than a lot of long strings, when planted in the usual way in raised ridges on the black soil. Well, my experiment proved not over a half success. In the patches there were occasional plants that bore from three t a half dozen tubers as big as a pint and quar junk bottle, but more with nothing but long roots or more strings, as above mentioned Why some plants yielded so well and others none, and both apparently under the same con ditions of soil, I could not understand, unless the sprouts from some portion of the seed tuber are fruitful and upon other portions barren—after the manner of the two ends of the Irish potato, but in a more pronounced way.

I feel pretty well assured why sweet potatoes planted on the black soil run to vine and make few if any tubers. It is owing to the same cause that renders the Irish potato a failure when the seed is planted in a manure pile resulting in an enormous development of vine and few and always small tubers. An excess of nitrogen, associated with unlimited vegetable matter, is what does the mischief.

In one of my experimental patches a portion of the vines were set where they were shaded part of the day. There I did not expect a crop, but was surprised to find the plants—though growing in the shade, and dividing the occupancy of the soil with the fine and far-reaching roots of black walnut and blue ash—yielded a fair crop, diminished in size and so altered in form as to considerably resemble the far-famed Jersey sweet potato.

It is a common opinion that no soil is too rich for any crop, and therefore that those who in the early settlement of the country neglected to use or rejected altogether stable and barn yard manure as injurious, were not only wasteful but stupid. We know from experience that if the black soil of the Illinois prairie were less fertile, peaches would make less vigorous growth, be more hardy, and stand frost better; and some of us will sooner or late learn that a diminution of the lands, fertility must be brought about before we can succeed with many kinds of vegetables, among them wheat and sweet potatoes.

As a whole, the apple crop of the current year for these latitudes is a poor one—small in quantity and inferior in quality, with the exception here and there of orchards and trees yielding good crops of fine fruit. Baldwins, Rhode Island Greenings, Wine Saps, and others

New Advertisements.

Ayer & McKinney	Meriden Jerseys.
Arburs, S. B.	Choice Stock.
Alexander, W. A.	Dorset-Jersey Boar.
do. do.	Plymouth Rock Cockerels.
Bather, Peter H.	Contrivances for Blankets.
Box 281	Orders Wanted.
Bord, John	Aromatic Butter.
Bera, N. W.	Virginia B Tobs.
Coe, H. H.	Chesters and Victorias.
Centennial Mfg. Co.	Salesmen Wanted.
Conger, Master Ralph	Grey Dorking Cockerels.
Croasdale, U. A.	Herbalism.
Cloud, Dr.	Jersey Heifers.
Callendar House Farm	Guernsey Bull.
Clarkson, M. L.	Jersey Bull Calf.
D. S. B.	Situation Wanted.
Dairyman	Dairy Farm.
Dyra, H. J.	Kangaroo Hounds.
Fuller, S. B.	Dorset Horned Sheep.
Howell, John W.	Guernsey Bull.
Ham, Eugene	White Dorking Cockerels.
Holly Grove Farm	Jersey Bulls, &c.
Hay and Stock Farm	Jersey Bull Calf.
Holland, Henry S.	Jersey Bull Calf.
Hartford Air Pump Co.	Windmills, &c.
Kellogg & Co., Peter C.	Isle of Jerseys.
Kentucky	Horse Colt.
Lindsey, Wm.	Essex Pigs, &c.
Leigh, A. S.	Berkshires and Jerseys.
Lawrence, C. C.	Dorset-Jersey Pigs.
Nance, W. S.	Holstein Bull.
Phelps, C. C.	Chesters and B. Leghorns.
Prentice, T. R.	Jerseys.
Rice, D. H.	Holstein-Friesians.
Ralph, Wm.	Jersey Bulls.
Reese & Co., John S.	To Fertilizer Dealers.
Stahl, Geo. H.	Excelsior Incubator.
Stickler, C. D.	French Coach Stallions.
Schnebly, M. M.	Short-Horn Bull Calf.
Thompson, Geo. W.	Mack Mineorals.
Thomas, M. C.	English Mastiff Pups.
Thorp, John	Cheshire Boars.
The Ohio Farmer	To Practical Farmers.
Van Der Wart, A. M.	Hay Press Wanted.
Wilcox, M. S.	Jerseys.
do. do.	Jersey Heifers.
Willowood Farm	Berkshire Swine.
Warren, C. H.	Jersey Bulls, &c.
Young, E. L.	Guernsey Bird.

Pamphlets, &c., Received.

BURPEE & Co., W. ATLEE, Philadelphia, Pa. Illustrated Circular of Flower and Vegetable Novelties—see advertisement.

CURTIS, Dr. J. M., Wilmington, Del. Catalogue of Holstein-Friesians (3 bulls, 31 females), to be sold, Nov. 7.

DAUGHTRY, Dr. W. H., President Tidewater Ass'n and Mech'l Society, Henderson's Depot, Va. Invitation to 6th Annual Exhibition, Nov. 12-15.

HOWCOTT, W. H., 192 Common St., New Orleans, La. Circular of South Missouri and Real Estate for sale.

KELSEY, HARLAN P., Highlands, Macon Co., N. C. Nursery Catalogue; pp. 16. Illustrated.

SHAHL, GEO. H., Quincy, Ill. Circular of Improved Excelsior Incubator; pp. 24—see advertisement.

Inquiries and Answers.

Fruit Inquiries Answered.—A number of inquiries have been made of us at different times both verbally and in writing, in connection with fruit and its cultivation, answers to which we give briefly below:

PRODUCTIVE STRAWBERRIES.—Shall I manure my strawberries? I have been told that manure will make the plants run all to stems and leaves, and that they will not bear. Is that true? [There are some always unproductive, which may be made more so by manuring; but with those which are naturally productive, like the old Wilson, and like the Crescent, the manure will only increase the crops. Apply it early in winter and it will serve as a winter mulch as well as to enrich the ground.]

BLACK-KNOT.—I am told there is a better way to destroy or prevent the black knot on the plum tree than by cutting it off, by which one often has to cut away a good deal of the tree—what is it? [The application of petroleum or kerosene to the knot before it has become too old, is said to prove efficacious in preventing the further extension of the disease or for curing it. But it is necessary to be very cautious not to allow the oil to run over the healthy bark, which would kill the tree if the bark was young and tender. A better way, doubtless, would be first to cut out the excrescence and then apply the oil.]

PROPAGATING FRUITS.—Do you recommend budding or grafting, in raising young fruit trees? [Both may be adopted according to convenience and circumstances. For budding, the stocks must be thrifty; grafts may be inserted in slower growers. Apples, pears, plums and cherries may be propagated either way; peach trees can be raised only by budding.]

GRAPEVINES IN WINTER.—Is it advisable to cover grapevines in winter, and if so how is it done? [The practice must depend on the severity of the winters. Where the thermometer often goes down to 20° or more below zero, nearly all grapes should be laid down for winter. If the soil is light, they may be lightly covered with it; but simply laying down flat without covering, is a great protection; or a covering of evergreen branches will be quite useful. Even when the vines are not killed, the protection makes them bear better and ripen earlier.]

SCREENS.—What do you think of the practice of planting belts of trees to shelter orchards from winds, and would you plant deciduous or evergreen trees? [The practice varies with circumstances. In places exposed to the strong sweep of winds such screens are useful, the fruit trees being a few rods away from the screen, so as not to stand directly in its shade, the protection gradually diminishing away from it. A very tall screen protects further than a low one. As a general rule, its value extends away fifteen or twenty times its height, and in some degree still further. A screen 30 feet high will protect from cutting and sweeping winds 30 or even 30 rods. Evergreens are most effectual, but deciduous trees thickly planted do well.]

CHERRIES.—In planting out cherry trees for home use, what ones would be least liable to rot as they ripen? [The Early Richmond would stand first, and then those varieties which most resemble it. Then the large Morello and Mayduke, and lastly the delicate heart varieties, one of the least liable to rot of which is Downer's Late.]

HANDSOME APPLES.—I am very desirous of continually exhibiting in my show-case the handsomest apples that can be grown—I mean to give them high cultivation. What sorts would you name? [Maiden's Blush, Lawver, Beauty of Kent, Fameuse, the new Princess Louise, Jonathan, Rome Beauty, Shiawasee Beauty and some others.]

STORING APPLES FOR WINTER.—I wish to fit my house cellar for keeping winter apples. What plan do you recommend? [Whatever mode you adopt have a separate apartment, and keep it as near freezing at all times as regular ventilation will allow. Put the fruit in flat boxes three inches deep, and two feet square. Place one on top of another three or four feet high, and set them off, one after another, when you wish to remove decaying ones.]

HEALTHY PEAR TREES.—What varieties of the pear are not liable to the black scab, and what are most free from fire blight? [We cannot give an unalterable list of pears free from scab, as the varieties which are always free in one locality may be badly affected in others. The Bartlett, Anjou, Lawrence, Howell, Bosc and others are usually free, while Flemish Beauty, Doyenné and several others are badly affected in some places. Among those least affected with blight are Seckel, Winter Nelis, Anjou, Angouleme, Clairgeau, &c.]

Bordeaux Mixture.—An inquirer asks how this mixture is made—he has heard so much of its value for preventing grape rot and grape mildew. It consists of six pounds of sulphate of copper and four pounds of lime in twenty gallons of water. The sulphate of copper is first dissolved in 16 gallons of water, and the lime mixed with 4 gallons of water, and when cool both are poured and mixed together. This mixture has been found efficacious to some extent for the black rot and mildew on the grape, but unless it can be removed from the fruit readily and without difficulty, it will prove of little value, as the copper is a deadly poison. But this objection would not exist in its application to the potato rot when the disease first appears on the plants.

Old Barrels for Meat.—Can coal oil barrels be easily cleaned so as to permit use for pickling meat—beef and pork? If so, would be glad to have the mode. (1) Is not a molasses barrel good for corning beef in? (2) E. *Washington, D. C.* [1. A coal-oil barrel would not do for meat. The oil readily penetrates the pores of the wood, and is gradually given out again to substances in contact. 2. Molasses barrels are good for the intended purpose, and will rather improve than injure the meat.]

Planting Silo Corn.—If F. W. T. of Middlesex county, Mass., in his article on "Sweet Corn for the Eastern Silo," (page 821) had stated how, or in what widths, he put his twelve quarts of seed to the acre into the soil, to growers and tillers desiring such results as followed his practice, he would very considerably have enhanced the practical value of his very suggestive communication. C. V. H.

Bronxer Falls, N. Y.

Two Specialties.—Will you kindly ask for information from some of your readers who are skilled in the cultivation of the Jerusalem artichoke and peppermint, and the process of distillation for the oil? E. W. [We shall be glad to hear from any reader who understands these subjects, but may remark meanwhile that the cultivation of the Jerusalem artichoke is just like that of the potato.]

Weak Vinegar.—Please inform me for what purpose cider vinegar can be used, if for any, that is not strong enough to sell for market—is it of any value as a fertilizer? S. E. *Walden, N. Y.* [It will be of no value as a fertilizer; its only use is for vinegar.]

Acknowledgments.

Communications for publication have been received during the week ending Nov. 4, from J. Hutchinson—F. D. Barber—Ira A. Armstrong—Jas. Neil—J. H. Clark—John Gould—J. W. Ingham—C. S. Reese—C. M. Calhoun—E. M. B.—Mansfield Milton—T. C. Grooms—John H. Dent—Alice Chittenden—W. I. Chamberlain—F. D. Curtis—Mrs. M. J. Ashton—E. A. D.—Jas. Frier—E. L. Bass—E. R. G.—E. Wing—J. W. Clarke—Wm. Lambe—E. Worthington—Mrs. G. S.—E. F. Johnson—A. M. Curry—G. Q. Dow—W. F. Lake—H. S. Babcock—W. Horne—E. J. Whitacre—J. D. S.—W. M. Sayre—B. U. Betts—W. R. P.—W. S. Nance—C. T. H.—C. B. Montgomery—Mrs. E. S. Johnson—J. H. Clark—S. B. Strong—W. V. Carr—Mrs. D. H. S. Goodale—J. C. B.—H. B. B.—Henry Stewart—J. S. McCue—G. Cranston—Mrs. C. L. Hill—E. W. Stewart—T. J. Hogue—C. B. C.—Thos. Bowick—Robert L. Dean—S. J. S.—L. C. Lambertia.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Nov. 7, 1889.

Farmers' Institutes.—The New York State Agricultural Society will hold a series of forty-five meetings as below:

Place.	*County.*	*Date.*
Plattsburg	Clinton	Nov. 18, 19
Malone	Franklin	" 20, 22
Ogdensburg	St. Lawrence	" 26, 26
Salem	Washington	" 27, 28
Valley Falls	Rensselaer	" 29, 30
Newport	Herkimer	Dec. 2, 3
Rome	Oneida	" 4, 5
Weedsport	Cayuga	" 6, 7
Penn Yan	Yates	" 13, 14
Fonda	Montgomery	" 16, 17
Cairo	Greene	" 18, 19
Walden	Orange	" 20, 21
Monticello	Sullivan	" 23, 24
Walton	Delaware	" 27, 28
Geneseo	Livingston	" 30, 31
Albion	Orleans	Jan. 3, 4
Akron	Erie	" 6, 7
Warsaw	Wyoming	" 8, 9
Angelica	Allegany	" 10, 11
Bath	Steuben	" 13, 14
Watkins	Schuyler	" 15, 16
Trumansburg	Seneca	" 17, 18
Albany	[Annual Meeting]	" 20, 23
Glens Falls	Warren	" 24, 25
Cobleskill	Schoharie	" 27, 28
Owego	Tioga	" 29, 30
Balabridge	Chenango	Jan. 31, Feb. 1
Binghamton	Broome	Feb. 3, 4
Oneonta	Otsego	" 5, 6
Horseheads	Chemung	" 7, 8
Lyons	Wayne	" 10, 11
Hamilton	Madison	" 12, 13
Rensselville	Oneida	" 14, 15
Carthage	Jefferson	" 17, 18
Oswego	Oswego	" 19, 20
Poughkeepsie	Dutchess	" 21, 22
Millerton	Duchess	" 24, 25
Mt. Kisco	Westchester	" 26, 27
Riverhead	Suffolk	Feb. 28, Mar. 1
Spring Valley	Rockland	Mar. 3, 4
Marathon	Cortland	" 5, 6
Elliottville	Cattaraugus	" 7, 8
Sinclairville	Chautauqua	" 10, 11
La Boy	Genesee	" 12, 13
Canandaigua	Ontario	" 14, 15

Prof. J. W. Sanborn will speak at all the meetings, and Prof. A. J. Cook at the first six.

American Pomological Society.—The secretary and publishing committee have issued the Proceedings of the Twenty-second Session of this Society, held at Ocala in Florida last winter. It is in the usual quarto form, and contains rather more matter than any of its predecessors, being largely occupied with papers and essays on sub tropical fruits. The President's address and the proceedings, and several papers of general interest occupy 69 pages; there are 17 pages on tropical fruits from members who are residents in Florida, occupying 57 more; State reports fill 28 pages, and miscellaneous papers are comprised in 25 additional ones. The Society's Fruit Catalogue covers 48 pages.

Among the papers published, is an interesting and valuable one from Prof. C. V. Riley on the plum curculio, and the effects of arsenical sprays, and he states at the outset that much interest has lately been excited by the fact that the beetles have been found to devour the leaves and fruit of the plum, and that these poisons have proved at least partially efficacious in destroying them. He quotes the experiments of several entomologists, all of which have proved in a greater or less degree the efficacy of the arsenical poisons used for spraying, and which accord with the results of the experiments made some years ago by the writer of this article, and published in the COUNTRY GENTLEMAN.

The Fruit Catalogue of the Society, constitutes as usual a most important and valuable part of this Report. Some additions have been made to the lists of fruits, and the recommendations of the leading ones have been extended over a greater number of States. The apples, for instance, have been increased from 287 to 289; peaches from 113 to 126; but pears from 117 to only 120. It may be well in the future to use caution in admitting new varieties to the Catalogue, and to prevent the miscellaneous collection of a great number, the list of apples alone now approaching nearly four hundred. At least two votes should be required to obtain admission, as a solitary preference would not seem to be enough to find a permanent place on so important and select a list. Many new ones have lately been admitted, and on the present catalogue there are no less than forty-eight which have but one star in their favor, with seven additional ones without a star.

Among the many valuable papers, there is one of nine columns occupied with an attack on the practice of using scientific names in designating plants, presenting a distorted view of the subject, and entirely foreign to the objects of the American Pomological Society, and which might well have been omitted. In contrast with this article, is an excellent paper from the pen of T. T. Lyon, first vice-president of the society, on pomological nomenclature.

The officers of the society are P. T. BARNEMANS, of Augusta, Ga., president; A. A. Crozier, secretary; and B. G. Smith, Cambridge, Mass., treasurer.

Indiana.—The Thirty-Eighth Annual Report of the Indiana State Board of Agriculture comprises the proceedings of the annual meeting this year, and the meetings of the cattle breeders, swine breeders, wool growers, bee-keepers, State florists, and of the State Horticultural Association, in a volume of 660 pages, for a copy of which we are indebted to Alex. Heron of Indianapolis, secretary of the board. The secretary's report informs us that the farmers of Indiana are improving their farms yearly by rotation of crops, turning under clover, and by the use of fertilizers. The corn crop last year was 128,000,000 bushels, and 31 were the average bushels an acre, being larger in amount and more per acre than in any previous year for ten years. Cass county gave the largest product of any county, over 3,000,000 bushels, and we are informed that the average yield per acre was 35 bushels, suggesting the inquiry whether liberal estimates were not made, by measure or by weighing, to produce this full amount. In the previous year only 31 bushels to the acre was the largest average in the most productive county. The wheat crop was much smaller than in some previous years, being only 26,000,000 bushels, at an average rate of 10¾ bushels an acre, while in three previous years the whole crop was nearly double, and at the rate of more than 15 bushels an acre. Last year gave 27,000,000 bushels of oats, at about 30 bushels an acre; a million and a half tons of timothy hay, and nearly as much clover hay; and about 300,000 bushels of clover seed. In addition to these the reports give about half a million bushels each of rye and barley; over a hundred thousand of flaxseed, (a gradually diminishing quantity of the latter,) and 8,000,000 bushels of potatoes.

The gradual increase in the agricultural prosperity of the State is indicated by the increase in the number of most of the domestic animals. The cattle have augmented in number in the last ten years 350,000; horses 100,000; but sheep have diminished 220,000 in six years. We are informed that 26,000 sheep were killed by dogs last year, and it is not improbable that this destruction may have had its diminishing influence. The board offered many premiums on dogs, and devoted a large tent to their exhibition. The inquiry is naturally suggested whether their services were worth the $50,000 or more, the probable value of the slaughtered sheep? The regrowing influence on sheep husbandry would be in addition.

There is no doubt that the prosperity of farming in the State is largely owing to the extensive system of tile-draining which has been adopted. According to the statistics given in this report, 3,415,461 rods of drain were laid down last year, and 24,448,346 in the last six years. The amount of flooded soil, which these drains have restored to mellow, productive land is very obvious. The average number of rods of tile to the square mile is 627.

It appears also that there are 4 000,000 rods of wire fence, 87,000,000 rods of rail fence, and 8,000 000 rods of board fence in the State.

The State chemist reports that 10,000 tons of commercial fertilizers were legally sold in the

The Grazier and Breeder.

Cost and Profit of Beef and Butter.

EDS. COUNTRY GENTLEMAN—For years past the breeders of the larger breeds of cattle have amused themselves by ridiculing the Jerseys on account of their small size. They have told the old story about the cats carrying off the calves, have pointed at their "cat hams," and have got a large amount of fun at little cost out of their comparisons. Now this has not hurt the Jerseys a particle. They have gone right on attending strictly to business, giving rich milk for about eleven months in the year, furnishing the best quality of milk, cream and butter in generous quantities, and giving a good profit to their owners in these days when profits are proverbially scarce. Nor has all that has been said either vexed or alarmed a single dairyman who has a herd of Jerseys. I think, however, it has deterred many who were unacquainted with the merits of the breed from giving them a trial, for there are many farmers who take their opinions second-hand, and who are convinced that if the Short-Horn or Holstein breeders say that "The introduction of the Jerseys was a curse to the country," it must be so.

Without stopping to adduce proof, I will state what I know to be a fact, that no dairy herds in this country of any breed whatever are giving greater profit than those of pure or high grade Jersey blood. I speak from many years' experience when I state that it costs considerably less to raise a Jersey to the milking period than one of the larger breeds, and it is reasonable to suppose that the food of support is in proportion to the size of the animal, and that it will cost but two-thirds as much to support a cow weighing 800 pounds as it will one weighing 1,200.

The sum of the offence which the Jersey cow gives to her opponents is, that she is not a beef animal—that after she has served her day in the dairy she cannot be fattened up to twelve or fourteen hundred pounds, and sold at a good round price. There was a time when the final disposition of the dairy cow was an important factor in the profit of dairying, but that day has long since passed. I remember selling a fat cow when war prices prevailed, at eight dollars per hundred, live weight, and she came to $114, but the memory of that was no comfort to me when last spring I sold a good fat cow for $3 25 per hundred, and when I know that in my market during the past year, there has not been a time that a fat cow could be sold for $3 a hundred. The farmer with beef to sell to-day must come in competition with the whole country, with cattle fed on the range at no cost but herding, and with the dressed beef monopoly that is rich enough to sell beef at half its cost in any market until they have driven out all competition.

Under these conditions, the farmer has no voice whatever in fixing the price at which he shall sell his beef, unless it is by producing superior cattle (fine, smooth shipping steers), when he may be able to get a cent a pound above that paid for common cattle; and the very highest quotations for the choicest shippers in the Cincinnati papers to day (Oct. 24) is $4.20 per hundred, and no farmer could get within half a dollar a hundred of this price unless he had a carload lot that would all grade as "tops." My nearest neighbor sold a grain-fed three-year-old steer last April, that weighed 1,500 pounds, for $3 a hundred. Now what encouragement is there for the farmer, on land worth $50 or more an acre, to engage in beef-production? My advice is to veal all but the very best calves. I can make a veal on skim-milk that will bring from $5 to $7 at six weeks old, and the same animal if kept till two years old would not bring $30 more. I sold last week a veal 40 days old, the first calf of a Jersey heifer, that had not tasted new milk since it was a week old; it weighed 140 pounds, and brought the top price in the market.

On the other hand the man who produces a really first-class article of butter (the very product that the Jerseys are noted for) has small competition. One great reason for this is that the majority of farmers are constitutionally opposed to milking, and will not engage in a business so confining as dairying, and one in which success depends so much on attention to details; yet I doubt if there is any locality where really first-class butter cannot be sold by the year at from 30c. to 40c. a pound. Now let us compare the cost of producing a pound of butter with that of a pound of beef, and take in some of the incidental advantages of dairying. The beef producer must keep about three times as many cattle as he sells in any one year to keep up the succession. If he expects to sell a carload of three-year-old steers each year he must also have on hand an equal number of two-year-olds and yearlings. A farmer also who has but a hundred acres or so of land must depend on the local market to sell his cattle in, for he will have so few to sell that it will not pay him to take them to a city market. While some high grade cattle will be larger, I think the average farmer will not be able to make his three-year old steers weigh above 1,200 pounds each and at the prices which have prevailed for some years past the cattle will pay just about one dollar a month for their keep. This is counting that they are sold at $3 per hundred, but even if he gets $4, it will only pay $1.33 per month for the three years. I do not think that steers could be brought to this weight unless they were fed grain each winter, and I should expect to feed fifty bushels of corn, or its equivalent in other grain, to each animal, and when the market price for this is deducted from the sale money, there is no profit whatever from the animal. There is no income from the steer until he is sold, and no incidental source of profit; and when he is sold the farmer knows that he has done a large amount of hard work for nothing.

The dairyman who is making first-class Jersey butter, and putting it on the market in a shape to please his customers, will be doing poorly if he does not sell enough butter each year from his cow to buy a good three-year-old steer. This is a very moderate estimate, for it is counting on only one hundred and fifty pounds of butter at 25 cents a pound. I met last winter at the Clermont county institute a dairyman with one hundred cows who sold butter and cream in Cincinnati, and whose sales averaged $75 per head for every cow in the herd, and less than half this would buy our three-year-old steer.

But the butter does not represent all the profit from our dairy cow, and I am quite sure that the profit from the skim-milk alone will, if it is used intelligently, buy another three-year-old steer in three years. It would make this article too long to show how the most can be made from the skim-milk, and I will write of that hereafter, but I will call attention to the fact that the dairy cow gives a steady income, and if she dies after you have milked her two years you know that she has paid for herself, and her raising. She will, however, give milk for ten years or more, without showing any signs of failure, and it is a moderate estimate that in that time she has produced enough butter to bring four hundred dollars, and enough incidental profit to half pay her keeping, and it is hardly treating her fairly to quarrel with her because at the end of this time her carcase will not bring as much as a steer.

In this article I am assuming that the Jerseys are the butter breed, and that a Jersey cow weighing 800 pounds will on an average make as much or more butter than cows of other breeds that weigh a third more. I believe the fact is that, possibly excepting the Holsteins, the Jersey cows will make a third more butter in a year than those of any other breed. In another article I will tell how I utilize the waste of the dairy, and what I find the cheapest way to feed my cows.

Butler County, Ohio. W. F. BROWN.

Ration with Oat Ensilage.

EDS. COUNTRY GENTLEMAN—I have about 75 tons of oat ensilage in good condition, cut when in milk, and want to feed it with bran, oil meal and hay, or corn fodder or any other food good to balance ration. Would E. W. S be kind enough to inform me what to mix with ensilage to make a complete ration for 1,000-lb. cows, for milk to be delivered in town?

I sowed 2 bush. peas and 1½ bush. oats for ensilage, but the wet weather killed the peas just before they came in blossom, so put in oats alone; and as his book, Feeding Animals, does not include any ration for ensilage oats, would be very thankful if he would answer the above question for me. E. L. B.

Connellsville, Pa.

E. L. B. should have stated what kind of hay he has to feed with his oat ensilage. If he had good clover hay it would help much to balance the ensilage. But we must presume that it is mixed hay without clover. Oats make very good ensilage, cut in the milk, as he mentions. We will compound a ration for him: 35 lbs. oat ensilage, 6 lbs. mixed hay, 4 lbs. corn meal, 3 lbs. wheat bran and 2 lbs. O. P. linseed meal. When stated in analytical formula, this has the following digestible nutrients:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
35 lbs. oat ensilage	0.46	3.12	0.08
6 lbs. mixed hay	0.33	2.69	0.06
4 lbs. corn meal	0.34	3.53	0.19
3 lbs. wheat bran	0.24	1.68	0.30
2 lbs. O. P. linseed meal	0.93	0.54	0.13
Total	2.40	13.56	0.76

This has a nutritive ratio of 1 to 5 6. B. will understand that the hay must be cut and mixed with the ensilage, and perhaps the whole will require a little more moisture. Then the bran, corn meal and oil meal will be all mixed together, dry, and then mixed with the ensilage and cut hay. This ration may be given in three feeds, smallest at noon.

If corn fodder is used instead of the hay, it would require 1 lb. more of bran and ½ lb. more oil meal. E. W. S.

Rations for Milk and Fattening.

EDS. COUNTRY GENTLEMAN—Will Prof. Stewart please answer the following questions in regard to feeding our herd of dairy cows. We milk 105 head the year round, consisting mostly of thoroughbred Holsteins. What I want to do is to feed them to the best advantage—saving all the grain I can without without decreasing the flow or quality of milk. We sell our milk and cream here in Denver, and we want to keep the quality up to the very best and get as large quantity as possible.

Which will be the cheaper and best grain to feed with corn ensilage and the finest quality alfalfa hay at the following prices? Corn, 65 cents per hundred; we grind it ourselves. Bran, best quality, $13 per ton; cottonseed meal, $33; oil meal, (linseed) $30. Our corn ensilage is first class with the exception that there is not much corn in it, as it was planted too thick. Our alfalfa is the very best. We wish to feed as near as possible equal parts of each, and whatever grain in the above that is necessary to make the ration complete for—first, quality, second, quantity.

2. The best grain ration with corn ensilage and alfalfa ensilage; this last corn ensilage will contain more corn than the first. We find that the cottonseed meal makes an excellent color in both milk, cream and butter, and if we can afford it want to feed it.

3. We have a few thoroughbred and grade Galloway steers that we want to push on as fast as possible for the stock show in 1890; they weigh now about 1100 lbs. each, and are in the finest shape for pushing ahead. Will you please give the best grain ration with the ensilage and alfalfa, or either one alone, whichever you think best—any way to push them. C. F. H. *Denver, Col.*

1. C. F. H.'s problem of how best to feed 105 Holsteins on the foods he mentions, requires careful consideration. He does not mention the average weight of these cows, but they must be presumed to weigh at least 1,200 lbs. He wishes a large yield of the best quality of milk. His alfalfa hay and ensilage are a very good foundation for a ration for these large cows. As he does not mention the market price of the best alfalfa hay, it is presumed that he considers this as cheaper food than any of the grains mentioned. We should construct a ration based upon the alfalfa and ensilage as follows: 40 lbs. ensilage, 10 lbs. alfalfa hay, 8 lbs. corn meal, 4 lbs. wheat bran and 2 lbs. decorticated cottonseed meal. The following analytical formula will show the digestible nutrients:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
40 lbs. ensilage	0.48	4.80	0.20
10 lbs. alfalfa hay	0.94	2.88	0.16
8 lbs. corn meal	0.67	5.04	0.36
4 lbs. wheat bran	0.47	1.64	0.10
2 lbs. cottonseed meal	0.70	0.44	0.13
Total	3.26	14.80	0.95

This has a nutritive ratio of 1 to 5.1.

It is by steady feeding with a rich ration that these cows will improve the quality of their milk. This is not a large ration for cows of 1,200 lbs. weight, and it is understood that the alfalfa hay is run through a cutter and mixed with the ensilage, and also that the bran, corn meal and cottonseed meal are mixed together dry, and then thoroughly mixed with the ensilage and cut hay—the latter being moistened after mixing in the alfalfa hay, which will absorb much of the moisture in the ensilage, and not leave enough for mixing the 14 lbs. of ground food. Let us state here that if this food is all thoroughly mixed together, and given in three feeds, smallest at noon, H. will find the droppings entirely free from all appearance of undigested meal; and he should observe this at stated periods, to assure himself of the perfect digestion and economical use of the food, and for greater certainty he might examine the droppings under a moderate magnifier. As H. grinds his own ... would find a buhr mill to do the ... grinding, instead of cracking it in an ... In handling this large herd, H. should ... cise the greatest care that no boisterous ... talking or rough man should be allowed ... milk or feed them. One such man ... more damage than could be repaid by ... of half a dozen such men.

2. The combination with corn ensilage ... alfalfa ensilage may be the following: ... pounds corn ensilage, 30 lbs. alfalfa ... 2 lbs. alfalfa hay, 7 lbs. finely ground ... meal, 4 lbs. fine spring-wheat bran, ... tonseed meal. The digestible nutrients ... shown in the following analytical form:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
30 lbs. corn ensilage	0.36	3.60	0.15
30 lbs. alfalfa ensilage	1.05	3.60	0.15
2 lbs. alfalfa hay	0.19	0.58	0.03
6 lbs. corn meal	0.50	3.78	0.27
4 lbs. wheat bran	0.47	1.64	0.10
2 lbs. cottonseed meal	0.70	0.44	0.13
Total	3.28	13.64	0.83

This has a nutritive ratio of 1 ... quite probable that the alfalfa ... given an excess of albuminoids ... therefore the nutritive ratio is ... but yet this ration should prove ... practice.

3. The thoroughbred and grade ... steers for the purpose of continuous ... growth and development may ... lowing ration: Twenty-five pounds ... lage, 8 lbs. cut alfalfa hay, 3 lbs. ... 1 lb. cottonseed meal, 10 lbs. corn ... ration contains the proper nutrients ... the muscles and bones and frame ... nection with this to constantly ... per amount of fat, to round out ... the body, for exhibition at the ...

	Albuminoids. lbs.
25 lbs. corn ensilage	0.30
8 lbs. alfalfa hay	0.75
3 lbs. wheat bran	0.35
1 lb. cottonseed meal	0.35
10 lbs. corn meal	0.44
Total	2.47

This has a nutritive ratio of ...

This alfalfa hay and ensilage ... together, then the grain ... mixed with the fodder, and it ... two or three feeds, smallest at ...

Should it be found that these ... more feed after six months, add ... corn meal each month. The ... ration will be sufficient up ... exhibition. We trust that ... these rations a thorough trial ... sults to COUNTRY GENTLEMAN.

Buckwheat Hulls fo...

EDS. COUNTRY GENTLEMAN ... with sample of buckwheat ... bedding in cattle stables. ... but time and labor of getting ... They are an excellent absor... they are of more value, as ... the hulls have considerable ... grain left in them, and it ... is some feeding value there, ... am correct, and if so how to ... advantage. T. I. H. *Brook...*

Buckwheat hulls have no ... so far as we know, but H. ... in supposing they have a co... value as well as value as ... should say, on examination ... well ground) they would pr... ing value above the best ... poor hay—at least the bits ... pear in this sample would ... would be in better shape ... with fine bran, and it migh... milch cows, If 100 lbs. of t... with 10 lbs. of fine bran—... bran that brings the low... but would be best to mix ...

Let us suppose that H. ... in the milk ration; then ... of fine spring-wheat bran ... hulls, we will give him ...

Six pounds cut clover ... mixture of hulls and bran ... lbs. wheat bran, 2 lbs. li... properly mixed together ... practical ration. This ... using 11 lbs. hulls in p... hay.

One of the best ways ... feeding would be, in filli... corn, to mix one-fifth i... with the ensilage. This ... shuck of these hulls ar...

digestible. It would, no doubt, also soften them [to put] with ensilage the day before feeding.

Another good way would be to soak them some hours in hot water. E. W. S.

American Hogs.

In a recent number of the London Mark Lane Express, Mr. S. Sanders Spencer of Holywell Manor, who is an occasional contributor to the COUNTRY GENTLEMAN, has a great deal of fault to find with the American hog. He is too chubby and fat and short and thick, with heavy shoulders and jowl, and more fit to be turned into lard than a side of high class bacon. "The public taste [presumably in England] has undergone," says Mr. Spencer, "a complete change in the matter of bacon; still one hears of but little being done to educate the American farmers as to the wants of their foreign customers, nor of any steps being taken to assist the breeders to change the type of their pigs by a judicious cross with such boars as would tend to render their fat pigs more after the style which the public require, and will have, be the cost what it may."

To remedy this lamentable state of affairs Mr. Spencer recommends the use of the Large White boars, or Large White Yorkshires, of which he himself is a well known breeder, and the whole gist of his complaint centres in the fact that American breeders are so stupid or blind that they won't send to Holywell Manor for their boars. Well, why should they? First of all, Americans do not care for bacon. What we want is hams and pork. Then why should we buy the Large Yorkshire when we have all their good points already in our Cheshires? And even in England the Large White Yorkshire is not considered the best bacon pig. The Berkshire is certainly as good if not better, while the large English bacon curers have been recently sending into the bacon districts, not boars from Holywell Manor, but Tamworth boars, to improve the bacon product. Mr. Spencer must certainly be very "green" in American matters if he thinks that these facts are not well known to breeders here.

Is he not aware of our Cheshires, and the perfection which the breed has attained? Has he never heard of our Duroc-Jerseys, and the lean bacon for which they are famous, to say nothing of the fact that they are the most prolific swine in existence? Why should we import Yorkshire or Tamworth boars when we have better material on hand? Of course some of our breeders have already imported the Large and Middle Yorkshires and the Tamworths, and at the late Bay State Fair at Worcester good specimens of these breeds were on exhibition. But they have been introduced partly as a matter of curiosity, and partly because there is a strong tendency in swine-raisers as in poultry men to run after and pay fancy prices for new things, good, bad or indifferent, and dealers are prompt to take advantage of it.

We can well afford to let the Large White boars severely alone. D. DAVIS.

New-York, Oct. 23.

Feeding a Calf.—I am raising a Jersey calf now 2 months old. Since it was 3 weeks old I have been feeding it 3 qts. of sweet skim-milk 3 times a day. It grows well, is healthy and in first class condition. It has a bite of hay each day. Would you consider this sufficiently nourishing, or would it be better to add to the skim-milk, which is always heated to 95°, a little wheat middlings, say a couple of handfuls each meal, boiled or unboiled? E. W. *Brookville, Conn.* [E. W. is no doubt feeding his calf with much care, and sweet skim-milk, when given in exactly the right condition, is a very good food. But in future, he will insure a larger development of muscle and frame, and a healthier action of all the digestive organs, if he will get some flaxseed and boil ½ pt. in 3 qts. of water for, say 15 minutes, until it forms a thin jelly. Stir in while it is hot 3 pts. of fine bran or middlings and let this boil for 3 or 4 minutes, stirring it constantly. This is now prepared for feeding. He may begin by taking ½ pt. of this mixture, stirring it into each feed. Continue this, gradually increasing it to 1 pt. in about one month. This may be continued until the calf is four months old. Allow it to have what hay it will eat, so as to develop its first stomach. At 4½ months teach the calf to eat a few oats, and it may be well to mix about an equal bulk of wheat bran with the oats. If it is not convenient to continue the milk after 5 months, the calf can gradually be changed to a feed of clover hay, oats and bran. But it would still be well to mix a little of the flaxseed jelly with it each day to keep its digestive organs in a healthy condition and to give it a bright, glossy coat. E. W. S.]

The Dairy Department.

Conferences in Chenango & Columbia.

GREENE—GUEST — EAGER LEARNERS — THE POOR-BUTTER SUSPECTS—FINE FRUIT AND THE DAIRY.

EDS. COUNTRY GENTLEMAN—In Chenango county the people are intense in their dairy business. At the Riverside fair the managers thought the people would draw, or be drawn, by a butter conference. No mistake was made. They did come, and by hundreds. Dairying is a business with them, and business is business. If any one could tell them anything or show them anything new in their vocation, they would be there to take it in.

The conference at Greene was a success. The people crowded around, eager, earnest and determined to succeed in dairying. It is not for me to criticise the action of people, but in some places the impression has been forced upon my mind that if the people intended to make dairying a success, they had a queer way of showing it. The old ways, which result in putting half of our butter in market in a damaged condition, more or less rancid, will never be remunerative in the future; it cannot be, for such butter will all the time drop lower and lower as the better article increases.

A large dealer in New-York told me he did not dare to show his best butter to most of his customers, for if he did he could not sell the greater part consigned to him. He always kept the best, the fresh made, out of sight, and showed the rest. When any one would not have the off flavored or bad, he exhibited the better. When once the best was sold, that customer would have no more inferior. We have got to put more wisdom into this business. A vast amount of butter was spoiled the past summer by its being crowded into the summer market. A great deal of it is still held; meanwhile, the fresh-made has gone up in price and is in active demand.

It would seem that thousands of farmers would catch on to this idea and extend their dairying into winter. Our State is well situated to make this change. We have a corn-producing climate almost everywhere, and our soil needs the enrichment which the winter feeding of cows would surely produce. We must have it. In Columbia county this idea is gaining ground, and in other old grain-growing sections.

The dairyman must accept another idea which the conferences this year have demonstrated—that cows must have good food to produce good butter. The patrons of the Chatham butter factory are working on this line, and the result is that their butter is deservedly winning premiums wherever exhibited. If there is to be texture, grain and flavor in butter, the cows must have suitable foods. It was the special request at this conference that the quality and adaptation of foods be dwelt upon.

There was but one churning at the Riverside conference in Greene. The cream was from 949 lbs. milk furnished by Oliver Hotchkiss. Cows, three Jersey grades and nine Holstein grades, about one-quarter blood; rest of the cows natives. Soil of pasture, upland clay loam; grasses, clover and timothy. Fed a grain ration of 2 lbs., in equal parts by weight, of corn meal and wheat bran, given in the morning; free access to salt and water. Milk set in large open pans at 90° in running water for 36 hours; temperature of cream when skimmed, 66°; set in cellar at 64° until removed to the fair grounds, two miles; churned when 39 hours old in a Wilson No. 4 barrel churn, at a temperature of 62°; butter came in 35 minutes in granular form, temperature being 66°; washed in churn and worked on a Cunningham worker; salted with Ashton salt, one ounce to the pound. Product, 11¼ lbs.; ratio, 1 to 31.04 lbs. The instructors were C. S. Munson and W. H. Gilbert.

Geo. T. Powell is the president of the factory at Chatham. A conference was held on his grounds at Ghent; many ladies were present. The instructor, Col. Curtis, was aided by Mr. Powell. A lecture was given before and after the churning. Jonathan Powell of Chatham was made chairman, and Mr. Darrow of the Chatham Courier, secretary. The chairman opened the conference in earnest and appropriate remarks. The cream was from 300 lbs. of milk from the herd of W. W. Angell, Ghent—10 registered Jerseys and 3 natives. Milk set in a Cooley creamer, at a temperature of 58°, for 24 hours; two milkings, cream from both put together and set to ripen at a temperature of 70° for 18 hours; churned in a Davis swinging churn, temperature 66°; butter came in 16 minutes in very fine granules, temperature 67°; washed and cooled with ice water. When taken from churn there was 29 lbs.; 18 ounces of salt was added, and when worked ready for packing there was 12 lbs. of butter; ratio, 1 to 16.66 lbs. Cows fed on pasture and sowed fodder corn once a day, and 4 quarts of wheat and rye bran, in equal parts, once a day.

An earnest effort was made to make the meeting a profitable one, and a warm expression of thanks given in a formal resolution. A most enjoyable part of this meeting was in the opportunity to see the large amount of fruit on the farm of Mr. Powell. There were several hundred barrels of Greenings spread upon the barn floor, with such red cheeks and smooth skins as to excite the admiration of every one. I never before saw such fine Greenings. The other varieties were equally fine. The Baldwin trees were laden with beautiful fruit. The large cold storage room was filled with pears of extra fine appearance. The secret of this grand display of fruit, the best I have seen in the whole State, is in the care Mr. Powell gives his orchards—fertilizing them liberally with manure and ashes, and the frequent spraying of the trees to kill all the vermin. This insures a healthy foliage, and fruit free from worms, scab and other blemishes.

F. D. CURTIS.

Mr. Crozier's Dairy Management.

EDS. COUNTRY GENTLEMAN—Referring to page 795, where the mill feed per day per cow is quoted as 8 lbs. shorts and 1¼ lbs. corn meal, with pasture and green cornstalks, may I inquire of Mr. Crozier what the *winter* feeding consists of, and if he feeds ensilage; also what he would recommend in amount of shorts and meal per day per cow on chopped up corn tops, fodder or millet?

This letter from Mr. Curtis is exceedingly valuable throughout, and the simple ration of mixed corn meal and shorts, founded on experiment and long experience, I regard as of the greatest value to us butter men, who find our days, pockets and feed boxes all too short for the highly complicated mixed feeding so much in vogue, or at least so much argued in favor of at the present time. F. H. F.

Western Highlands, N. C.

[*Answer by* Mr. WILLIAM CROZIER.]

I do not feed ensilage; my feed consists of cut corn fodder, pulped mangold wurzel, bran and ground oats. This is cut, pulped, and the coarse bran and ground oats, with some fine salt, all thoroughly mixed together. I cut mostly on Saturday enough to last to next Saturday, or one week. It is put in one heap on the barn floor, and covered over with a piece of old sail cloth. The mass soon warms up, not hot. Each cow gets a bushel basketful of this, morning and night, and when a cow is in full milk, or fresh, she gets one pailful of warm water, with three quarts of bran and one quart of ground oats mixed in the water, twice each day. My cows never go out of the stable in winter, nor do they get cold water—the chill is always taken off before they get it to drink. A bushel basketful of the mixture weighs about 20 pounds. In the midday, after they are watered, they get a bunch of hay. This hay is made from my grass mixture, as my mowing land is seeded down with several mixtures, and one of the mixtures is alfalfa, which is very important to give flavor and texture to butter. To have dairy cows in good condition, and to give rich, pure cream, they must have change of feed, and not feed alone, but must be kept clean. The stables are cleaned every day, and the cows are carried and brushed once each day. This gives contentment and comfort to them, and if I find a cow that does not give me an equal return, she goes to the butcher.

I have received three letters asking how it was that the butter at the dairy conference was reduced from 37 lbs. to 33½ lbs., although there was one ounce of salt added to the pound, or 37 oz. of salt to the 37 lbs. of well-drained butter before the salt was added. In reply to this question, I answer that the butter, when washed in the churn, was taken out with a strainer and put on the Reid butter-worker, and was looking dry. The 37 oz. of salt was duly mixed until every particle was dissolved. If the butter is worked as it should be, it always reduces the weight, and carries off a quantity of the water in the butter. In all my experience in making butter, I never gained any weight by the salt added to it, but in every case, no matter how dry the butter was before salting, it loses several ounces to the pound.

The dairy conference here did a vast deal of good, as since then the farmers are inquiring for Jerseys. One farmer has already purchased two. Another old farmer has been buying some grade Jersey calves, and several, who had no belief in Jersey cows, have changed their minds, and are going to make a change in their herds.

Working Butter—Keeping Cream.

EDS. COUNTRY GENTLEMAN—Will Col. Curtis please state how long a time is consumed in washing butter in the churn? How he manages to keep the butter granules from coming out with the buttermilk when drawing it off? How much ventilation is given the churn while in operation, and what the probable effect upon the product would be if the churn was not given sufficient ventilation? Would it be practicable to keep cream gathered by cold-setting 24 hours before allowing it to ripen—that is, keep one day's skimming cold until the following day, so as to ripen two day's skimmings together before churning? Would rather churn four times per week than every day. What effect have oil meal and cottonseed meal upon the quality and texture of butter, respectively? Will any dairy conference be held in Orange county this season? I have not been at a dairy conference—hence these questions.

Marlboro, N. Y. E. D. B.

It takes only a few minutes to draw off the buttermilk from the right churn. When this is done the washing is hastened by next putting into the churn a weak brine, or it may be strong. This brine will cut or detach the coating of buttermilk about the butter granules better than water. If the butter is soft it will help to harden it in place of ice water. The butter should be stirred about in the first washing with a paddle for a minute, and then the brine or water be drawn off and another washing had till the water is nearly clear. A sieve is held before the tube to catch all the butter which may run out. A fine hair sieve is best, but one of tin will answer. If the granules are as large as wheat or peas scarcely any will come out of the churn with the buttermilk or the water. The advantage of smaller granules is a more perfect washing and a more perfect mixing or combining of the salt with the butter. The salt penetrates the butter but very little; it simply coats the granules with a briny taste, and it is apparent that the smaller these are the more evenly the salt will be diffused through the butter. The moisture in the butter dissolves the salt, and as brine it is incorporated in the mass.

When butter is churned to a mass, this must be done with hand-working, and this old-time process grinds out the grain of the butter and spoils its texture, making it lardy or salvy. It takes more time, also; as a half hour is long enough to work a churning of butter, and to work the salt in and fit it for packing, and this length of time is ample also to include the packing. This is upon the presumption that the temperatures are right and things are handy. At some of the conferences tools have been so scarce and conditions have been so unfavorable that only skillful management could produce butter at all. At one conference there was no ladle or paddle, and a wooden plate was extemporized for both, with a small pail-cover for a dipper. With every thing handy, butter can be worked in ten or fifteen minutes. The last water should not be drawn out, as the butter will not then get into the corners and stick to the churn. Dip the butter out of the water. The churn should be ventilated in three minutes and then again in five more. This lets out the gas, and the butter will be sweeter.

The keeping of cream, in order to add more, must be governed by its conditions and surrounding circumstances. The rule may generally operate well to hold the cream 24 hours in a temperature of 45° to 50°, and then to add more cream of a recent skimming, and set the mass mixed together in a warm temperature to ripen. In cold weather it might take too long for it to ripen, and bitterness might develop. This would be more likely if the cows were fed ripened timothy hay, or any fodder in which there was much tannin. It would be better to churn oftener and not take the risks of the cream getting off flavor. The correspondent's proposition is practicable, if his cream is of good quality, and all the surroundings are favorable—careful tests will de-

termine. Forty eight hours is as long as it is safe to hold cream before churning, as a rule. It is more difficult to mature cream in winter, and if the dairy-room is cold it may be necessary to set the cream, as soon as skimmed, for ripening; or it will get too old. One chief reason why there is so much poor butter in market is because the cream is allowed to get stale and off flavor. The surroundings have a great deal to do with the changes. It is a sound rule to keep all the cream designed for a churning in a temperature so cool that it will not get sour until all the cream intended for the churning is mixed together, and then let it mature together. This maturing should be brought about within 24 hours.

Both cottonseed meal and linseed meal will make more butter than any other single grain food, and either fed alone will make soft butter, as they increase the amount of brine. The butter made by cottonseed meal will not melt as soon as that from other foods, but it is soft in texture. Neither of these foods should be fed alone, but always with bran, and in connection with corn fodder or hay in which there is a corresponding amount of carbohydrates, or with corn meal, to make a balanced ration. F. D. C.

Secretary Woodward informs us that an institute is appointed for Walden, Orange county, Dec. 20–21. Eds.

Record of the Times.

Review of Passing Events.

Indian Education.—Gen. T. J. Morgan, Commissioner of Indian Affairs, has made public his plan for educating Indian youths. It is the American public school system, adapted to Indian requirements, with primary, grammar, and high schools, non-partisan and non-sectarian, the industrial feature being prominent. Co education and the bringing together of members of different tribes, also the placing of pupils in white families, are important features. A full high-school course is to be developed at the Carlisle, Haskell and Cheyenne schools. The scheme embraces 25 grammar schools, 50 primary or home schools, and enough day or camp schools to reach those who cannot be in boarding schools. Congress will be asked for a sufficient appropriation.

County Feuds and Fights.—The Hatfield McCoy vendetta, which covers Pike county, Ky., and Lincoln county, W. Va., has been intensified by the shooting of Green McCoy and Milton Haley, and Mrs. James Brown, and the attempt on Mr. and Mrs. Blumfield, whose relatives have joined the Hatfields. The latter now have 250 men, and have bought ten wagonloads of arms and ammunition; the McCoy's force is about as large. Oct. 31, four more were killed.—Six men of the Howard party, of Harlan county, Ky., have been killed by Judge Lewis and his party of 65, who are determined to break up the gang which has been a terror to Eastern Kentucky for 25 years.—The Green family feud in Hancock county, Tenn., has resulted in another murder, Hamp Green having shot James Green through the head.—Rube Burrows, a desperate outlaw, is terrorizing Blount county, Ala. Houses are locked and guarded, children kept at home, and even churches are closed. Although pursued by an armed force and bloodhounds, and cornered in a cabin, Burrows escaped by holding the wife of the cabin owner between himself and the officers, and when afterwards hemmed in amid thick woods, he and his comrade shot two deputy sheriffs and broke through the line.

Deaths.—Mrs. Charles Crocker, at San Francisco, Oct. 28. Formerly a social leader, giving General Grant, on his return from his tour around the world, a reception which he called the most magnificent one of his journey, she has devoted her later years to benevolence, and besides large contributions to all local charities, she was at the time of her death superintending the building of an Old People's Home, to cost $220,000. Her share in her husband's estate is put at $7,000,000.—Hoosier C. Van Vorst, at New-York, Oct. 26, aged 73. A well-known lawyer, judge of the State supreme court and president of the Holland Society.—Mrs. Sarah Goldsmith, mother-in law of the late Alden Goldsmith, died at Howells, Orange Co., N. Y., Oct. 31, aged 100 years, 1 month, 7 days.

From Abroad.—Michael Davitt finished his speech before the Parnell Commission, Oct. 31, and was praised by Presiding Justice Hannen. Sir Henry James began his reply for The Times.—The falling of a new wall crushed Templeton's carpet factory, in Glasgow, Nov. 1, and 50 women and girls were buried in the ruins, of whom 30 were killed.—Mr. Chamberlain desires to retire from public life.—The docks in Koenigsburg, Prussia, have been burned for the third time within a short period.—After the royal wedding at Athens, the Prince of Wales sailed for Egypt, and Emperor William to visit the Sultan at Constantinople.—The Spanish government proposes to raise the duty on flour.—The British ship Bolan, Calcutta to Liverpool, foundered at sea, with loss of 33 lives.—Pekin, China, is to have an electric-light plant, furnished by the Westinghouse company of Pittsburg, Pa.—The natives of Southwest New-Guinea have killed the Rev. Mr. Savage, missionary sent out by the London Missionary Society, a number of native teachers, and the crew of the cutter Mary, belonging to the society. The steamer Albatross has gone from Queensland to the scene.

Minor Items.

President Harrison names Nov. 28 as Thanksgiving day.

The Hartford (Ct.) Courant was 125 years old, Oct. 29.

John Field has been appointed postmaster at Philadelphia.

New-York received 27,685 bales of cotton one day last week.

Five Chinese lepers were sent home from San Francisco last week.

A new boy pianist, Otto Hegner, is giving concerts in this country.

Over 150 of the Navassa negro rioters have been brought to Baltimore.

The reports of destitution in North Dakota are now said to be exaggerated.

The Pillsbury flour mills at Minneapolis have been sold to English capitalists.

A movement to complete the Mary Washington monument at Fredericksburg, Va., is on foot.

One of the Armour packing houses at Kansas City, Mo., was burned, Oct. 29; loss $110,000; insured.

Herbert Ward, a young Englishman who has been on the Congo with Stanley, is lecturing in New York.

Coroner's jury in the Focks case New-York, censured the light companies, and said wires should go under ground.

The Milford (Ct.) Gazette prints the names of scholars absent from the district schools and time of their absence.

Police-Inspector McAleese of Pittsburg reports 700 unlicensed saloons. There are only 93 licensed places.

Henry Crosson, cashier of the Tradesmen's National Bank of Conshohocken, Pa., is a defaulter in $50 000.

Heston & Erben, wool dealers of Philadelphia, have failed for over $300,000; causes, dull market and high rates for money.

The Columbian Iron Works of Baltimore will build two of the three 2,000-ton cruisers. The third will be built at South Boston.

Jamestown, N. Y., and adjoining towns have organized to resist an advance in price of natural gas made by the Pennsylvania gas company.

Secretary Wanamaker has fixed the schedule of government telegraph rates for the present year at from half a cent to 1¼ cents per word.

A monument to General Caesar Rodney, of revolutionary fame, was unveiled at Dover, Del., Oct. 30, with oration by ex Secretary Bayard.

A stringent anti saloon law has gone into effect in St. Louis. It prohibits chairs, tables, cards, dice, music and musical instruments in all saloons.

The American Oriental Society was in session in New-York last week. Old manuscripts were explained, and the latest results of research given.

The corner-stone of a Soldiers' and Sailors' Memorial arch was laid in Prospect Park, Brooklyn, Oct. 31, Generals Sherman, Slocum and Howard assisting.

Mr. Henry Villard has at last regained complete control of the Northern Pacific road, apparently to the satisfaction of people along the western end of the line.

The body of Captain Schoonmaker of the Vandalia, drowned at Samoa in the storm of March 16, arrived at San Francisco, Oct. 28, by the steamship Monongahela.

A professorship of Biblical Literature has been established at Yale College, for which certain unnamed gentleman have given $50,000. It will be named the Woolsey professorship, with Prof. W. R. Harper as incumbent.

One thousand newsboys were invited to see a play at the New Park Theatre, New-York, Oct. 31, it being the birthday of Manager Dunlevy, who was once a newsboy, and began selling papers the day after Lincoln's death.

A wire cable used for transporting granite blocks overhead at the Sodom dam on the new Croton aqueduct near Brewsters, N. Y., broke Oct. 29, when two blocks were over a party of Italian laborers, and two men were killed, and six is jured.

Ground was broken for the new Brooklyn Tabernacle, corner Grand and Clinton avenues, Oct 28, in the presence of the congregation, Dr. Talmage turning the first sod after a short address. Drs. Abbott and Terhune also spoke. Dr. Talmage sailed for the Holy Land, the 30th.

A company of manufacturers and bankers of Boston and Lynn, Mass., have bought 2 000 acres of land near Chattanooga, Tenn., for 750,000, and also 1,500 acres of ore lands. Various works are to be erected. Ten years ago the land could have been bought for less than one-tenth its present value.

For a disordered liver try Beecham's Pills. [3

TO OUR SUBSCRIBERS.

The SPECIAL ANNOUNCEMENT which appeared in our columns some time since, announcing a special arrangement with Dr. B. J. KENDALL Co. of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby our subscribers were enabled to obtain a copy of that valuable work FREE by sending their address (and enclosing a two-cent stamp for mailing same) is renewed for a limited period. We trust all will avail themselves of the opportunity of obtaining this valuable work. To every lover of the Horse it is indispensable, as it treats in a simple manner all the diseases which afflict this noble animal. Its phenomenal sale throughout the United States and Canada, make it standard authority. *Mention this paper when sending for "Treatise."* 807-131

We take pleasure in asking the attention of our readers to the advertisement of the Ohio Farmer in this issue. It is perfectly reliable every way.

Farm Produce Markets.

Albany Markets—Nov. 4.

FLOUR.—The Argus says: Demand has been good with lighter receipts.

	1889. Nov. 2.	1889. Oct. 30.	1888. Nov. 3.
Com. State	$3 90@4 00	$3 80@4 00	$4 35@4 60
State Extra	4 10@4 50	4 10@4 50	4 70@5 25
Amb. State & W	4 50@4 75	4 50@4 75	5 00@5 75
O.,Ind. & St. L. Ry.	4 00@4 75	4 00@4 75	5 00@5 60
Winter W. Pat.	4 10@4 75	4 10@4 75	5 00@5 25
Minn. "Bakers"	4 00@4 75	4 00@4 75	5 00@5 25
Sp'g W. Pat., new	5 00@5 25	5 00@5 25	7 40@7 75

Rye Flour—Selling fairly at $3@3.25 per bbl.; Graham, $4@4.50. Oat Meal doing moderately well at $5.50@5.60 per bbl. Corn Meal in good demand and steady at $3.00@3.90 per bbl. Buckwheat flour in good supply, and selling fairly at $1.70@1.80 in the street, and at $1.90@2.10 per 100 lbs. in store.

GRAIN.—Corn in light receipt and advanced. No. 2, 43½@44c. per bu.; No. 3 mixed, 42@43½c. Oats firmer, with fair trade. No. 2 white, 32½@32c.; No. 3, 31½@32c. Rye in large receipt but firm; State, 63@65c. per 56 lbs. Barley quiet; State, No. 2, 56@60c.; Canada, 62@70c.

HAY AND STRAW.—Receipts fair, demand good. Timothy, prime $14@15 per ton; good, $12@14; mixed, $7@8; mixed, $11@13. Rye straw, best, $11@13; oat straw, $7@10; wheat straw, $13.

HOPS.—Market quiet and steady.

N. Y. State, 1889	10 @12c.
N. Y. State, 1888	5 @10
Pacific Coast, 1889	10 @17
Bavarian and Bohemian	20 @25

Albany Street Market—Nov. 4.

BUTTER.—Choice, 28@30c. per lb.; good to prime, 26@28c.

EGGS.—Near-by and new laid, 25@27c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 4½@6c.; mutton, carcasses, 8@9½c.; lamb, hindquarter, 11@12½c.; forequarter, 10½c.; veal, hindquarters, 9½@10½c.; forequarters, 7@8c.

POULTRY.—Fowls, 13@15c. per lb.; chickens, 13@15c.; turkeys, 15@16c. spring ducks, 12@13c.; green geese, 15@16.

FRUIT.—Apples, $1@3 per bbl.; Cranberries, $1.75@3 per crate; Grapes, Concord, 3½@5c. per lb; Delaware, 8@10c.; Catawba, 6@8c.; Niagara, 10@12c.; Pears, $1@4 per bbl.

VEGETABLES.—Cabbage, $1@3 per 100; Carrots, 40c. per bu. Celery, 30c.@$1 per doz. bunches; Cauliflower, $1.50@1 per doz.; Onions, $1.75@3 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, $1.50@1.75 per bbl., sweet, $2.25@2.75; String beans, 40@50c. per crate; squash, 75c.@$1 per bbl.; Tomatoes, 30@40c. per bu.; Turnips, $1 per bbl.

New-York Markets—Nov. 2.

BEANS—Marrow, 1889		2.70 @	2.75
Medium 1889		2.10 @	2.15
Pea, 1889		1.95 @	2.00
COTTON—	Uplands.	N.O.& Gulf.	
Ordinary, per lb	7½@ —	— @	7¼
Middlings	10⅝@ —	— @	10⅝
Fair	13¼@ —	— @	13
EGGS—State and near-by, per doz		24 @	26
Western and Canada		22 @	25
FLOUR—Spring Wheat pat., per bbl		4 60 @	5 00
Winter		4 40 @	4 85
No. 2 extra State and Western		3 65 @	3 85
No. 1 extra		3 00 @	3 75
Minnesota clear		3 70 @	4 00
Straight		4 05 @	4 35
Rye Flour, superfine		3 75 @	3 85
Buckwheat		1 75 @	2 00
Corn Meal		3 60 @	3 65
FRUIT—Apples, Spy, per bbl		1 50 @	2 25
Other		2 25 @	3 00
Baldwin and Greening		1 50 @	2 25
Western, selected		2 10 @	2 75
Cranberries, Cape Cod, per bbl		6 00 @	7 00
Jersey, per crate		2 00 @	2 37
Grapes, Concord, per basket		20 @	22
Catawba		20 @	22
Isabella		20 @	20
Pears, Duchess per bbl		4 00 @	6 00
Lawrence		2 75 @	3 50
Quinces, per bbl		3 00 @	5 00
Chestnuts, per bus		3 00 @	7 00
Hickory nuts		1 37 @	1 62
Peanuts, per lb		5½@	7
DRIED—Apples, evap., 1888, per lb		10@	11
Evaporated 1889		5½@	6
Sliced, 1889		4 @	5½
Peaches, sun-dried, 1889		7 @	13
Evaporated, 1887		8 @	10
Evaporated, peeled		13 @	15
Pie fruit, Southern Dessoon, 1889		— @	7
State, 1889		5½@	9
Cherries		9 @	13
Blackberries		5½@	6½
Huckleberries, 1889		13 @	13
Raspberries, evap., 1889		24 @	28
Sun-dried		20 @	20
GRAIN—Wheat, State white, per bus		81@	87½
Ungraded spring		77½@	84
No. 1 red, winter		86 @	87
No. 2 red, winter		86 @	86½
Corn, No. 1, white		— @	41
No. 2, mixed		41½@	42
Oats, No. 2, white		28½@	30½
No. 2, mixed		25½@	26
Rye, State and western		48 @	57
Barley, State and Canada		55 @	70
Buckwheat		50 @	51
HAY—Timothy, new, per 100 lbs		70 @	80
Shipping		60 @	65
Clover		55 @	65
Straw, long rye, No. 1		70 @	—
No. 2		60 @	60
Oat		25 @	45
Wheat		30 @	40
HONEY—New clover, per lb		13 @	15
Buckwheat		10 @	13
HOPS—N.Y. State, 1889, best, per lb		12 @	13
Good, 1889		10 @	11
Common to fair		7 @	9
California, 1889 prime		8 @	11
Washington, 1889		11 @	12
Pacific Coast, 1889		3 @	5
POULTRY—Live fowls, per lb		9 @	9½
Spring chickens		18@	20
Turkeys		10 @	11
Ducks, per pair		60 @	85
Geese		1.37 @	1.62
Dressed fowls, per lb		10 @	12
Phila. springs		13 @	15
Chickens			
Turkeys			
Ducks, eastern, spring, per lb			
Geese, Boston			
PROVISIONS—Beef hams, per bbl			
India mess			
Hogs, dressed, per 100 lbs			
Lard, per tierce			
Pork, new mess, per bbl			
Short clear			
Family			
VEGETABLES—Cabbage, L.I., per 100			
Cauliflower, L. I. & Jer. per bbl			
Celery, L. I., per doz. bunches			
State and Western, per doz. roots			
Onions, eastern red, per bbl			
Orange County, red			
State, yellow			
White			
Potatoes, L. I., Rose			
Jersey			
State			
Western			
Sweets			
Turnips, Russia, L. I., per bbl			

Cattle Markets.

NEW-Y

BEEVES.—Receipts, 14,638 head. T ed with a heavy supply and a steadi the close of business when the mar Wednesday the arrivals were moder became firm on a brisk demand. Fro supply of inferior quality, hard sal per cwt. The best steers were from rangered from poor to fair; in general, choice grade birds were taken for ex

(Per cental, est.)	This week.	
Good beeves	$5 35 @	—
Fair	5 00 @	5 25
Coarse	4 60 @	4 90
Poor	4 00 @	4 35

(Per cental, gross.)	This week.	
Good beeves	$4 80 @	—
Fair	4 60 @	4 75
Coarse	3 15 @	4 45
Poor	2 50 @	3 50
Oxen	3 75 @	4 50
Dry cows	1 25 @	3 75
Bulls	1 50 @	3 50

MILCH COWS.—Receipts, [illegible] have been heavy, and the quality h has been dull; 8 cows sold at $41.50 to at $35@40 per head; 3 cows for $110 t

VEALS AND CALVES.—Receipts supply has been moderate and the values being unchanged. The cal coarse and lean, save a few of th which were of creditable quality. Calves, grass-fed, 3½@4c. per lb.; w part mixed-fed, 3½@3½c.; veals, cos 6½c.; fair quality, 5@6c.; selected

SHEEP AND LAMBS.—Receipts week opened with a firm tone in sh of ¼c. per lb. in lambs. Wednesda steady, while lambs declined ¼c sheep were weak and lambs off ½ the markets closed steady at fo best sheep were from Ohio and th Canada. Range of prices: Sheep, c sheep, 5@5¼c.; rams, 3c.; lambs, 6@6½c.; ewes, 4½c.

SWINE.—Receipts, 26,139 head, erally has been slow as to demar values; 150 western hogs, 187 lbs., State hogs sold in small lots at 5 pigs, 70½ lbs., 5½c. per lb.

(Per cental, gross.)	This	
Extra steers	$4	50
Best butchers'	3	85
Second quality	3	00
Poor to common	1	75
Stockers, light	2	10
Stockers, good to choice	3	10
Bulls	2	35

BEEVES—(Per cental, gross.) This

Receipts, 920 head, against 1[illegible] last active and higher for all g ticularly strong for choice shipping butchers'. Coarse cattle, old cow poor stock generally showed no mand or price, some of the p given away—closing quiet and w Stockers steady; good request Bulls strong.

MILCH COWS.—Trade steady Extra, $45@46; good to choice, fair, $35@38.

VEAL CALVES.—Quiet and low $5.50@6; fair to good, $4.75@5.50;

SHEEP AND LAMBS.—Rec opened active, strong and 10c@ but flattened out later in the we advance lost and weak. Extra to 90 lbs., $4.75@4.90; 70 to 80 lbs., common, $2.50@3.75. Heavy rec unsettled, weak and lower. C 5.80; western, $5.65@5.80.

SWINE.—Receipts 31,000. Ste until toward closing when mark 10@20c. lower. Mediums, $4@4.1 light, $4.05@4.15; pigs, $4@4.10; s 3.50.

BEEVES, NORTHERN.—Go per cwt.; fair to good, $4.50; TEXAS, WESTERN, Alive.—Extra $4.50; light to fair, $4@4.35.

MILCH COWS.—In good supp

CALVES.—In heavy suppl lb.; strassers, $12@23 per head.

SHEEP AND LAMBS.—Ab

This Threshing Machine [illegible] Wednesday given by the New [illegible] and has been selected, [illegible] and described in that great [illegible] of Applied Mechanics [illegible] standard machine of America [illegible] Rye-Threshers, Clover [illegible] cutters, Feed-mills, [illegible] Wood Saw-machines; [illegible] The Fearless Horse- [illegible] economical and best [illegible] of feeding cutters. Catalogue [illegible] sensation use. For free Catal [illegible] MINARD HA

PARCH
BUTTER
For wrapping and co
cheaper than muslin.
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is the only perfected m
world for removing the od
onions, cauliflower and the
without the use of ice or wate
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The Fireside.

Recent Publications.

"Coal and Coal-Mines."—This is the title of a very pretty sixteenmo volume of 250 pages, with a number of good illustrations from drawings by the author, Mr. Homer Greene. The whole story of the formation, discovery, introduction into use, and present methods of obtaining our great fuel-substance is clearly and succinctly told, with special care to describe very fully the practical operations in and about the mines. The author's style is simple enough for a child to follow him, but never for a moment childish. Houghton, Mifflin & Co., publishers, Boston; S. R. Gray, Albany; price, 75 cents.

Flowers and Flower-Lore.—The Rev. Hildrig Friend's entertaining book on this topic is reprinted in New-York, from duplicate plates of the London edition, by John B. Alden, making a small-octavo of over 700 pages, with illustrations, and sold for $1 50—a mere fraction of the price of the book in England. It is not a "practical" work, but concerns itself with the history and names of flowers, the curious uses to which they have been applied, and the legends which cluster round them—in fact, with anything that legend, poetry, fancy or imagination can supply of interest in connection with the floral world.

Other Books.—From W. S. Gottsberger & Co., 11 Murray St., New-York, we have a tasteful, convenient and cheap two-volume edition of Ernst Eckstein's powerful and fascinating classic romance called "Nero," translated from the German by Clara Bell and Mary J. Safford. B. Quinn, 498 Broadway, sells it in Albany; price $1.

The sixteenth volume of the J. B Alden Manifold Cyclopædia includes entries from "*Galvanized Iron*" to "*Gog and Magog*," and maintains the excellent features for which this unique work is distinguished. Price for the sixteen volumes in half-morocco, $10 70. Address the publisher at New-York, Chicago or Atlanta.

Periodicals.—We regret to learn that the Presbyterian Review terminates its career with the October number, not on account of lack of support, we understand, but because of certain differences of opinion as to the policy which should be followed in its management. The ten volumes published (which we suppose may be obtained of Chas. Scribner's Sons, 743 Broadway, New-York) will make a valuable addition to any library.

Our great juvenile monthly, St. Nicholas, (Century Co., Union Square, New-York,) opens its seventeenth volume with the November issue, which appears in handsome new type, and with an increased number of pages.

That very beautiful monthly, the Art Amateur, (Montague Marks, 23 Union Square, New-York,) each issue of which now contains two full-page colored plates—has the following remarks on the national flower matter:

"The national flower controversy which has been raging for some months has brought out some queer suggestions. The golden-rod seems to have hosts of admirers, though its forms are extremely various and none of them likely to show well at a distance. The same may be said of the kalmia; however artistically represented, it would look, when seen at the head of a procession or across a square, a mere blotch of faint pink. One enthusiastic person suggests Indian corn, oblivious of the fact that it is a fruit, not a flower. Another would have the tulip-tree blossom—not such a bad choice; for, combined with the leaves, it might make an easily recognized symbol, and it is peculiar to America. The sunflower, having so long done duty as the accepted emblem of the weakly æsthetic, seems to meet with very little favor; but its cousins the monarda, the madia and the rudbeckia have their partisans. They are purely American flowers, very rich in color and form, and their composite nature, making them, according to the botanists, the most perfect floral type, seems to peculiarly adapt them for symbolizing our union of independent States. No floral form could be more decorative and none could better illustrate the motto 'E Pluribus Unum' than their numerous ray and disk florets grouped to make a single perfect flower."

The November Atlantic Monthly has an article on the "character of democracy in the United States," in which certain dangers—not original discoveries of the author's, to be sure—are forcibly sketched:

"Were the nation homogeneous, were it composed simply of later generations of the same stock by which our institutions were planted, few adjustments of the old machinery of our politics would, perhaps, be necessary to meet the exigencies of growth. But every added element of variety, particularly every added element of foreign variety, complicates even the simpler questions of politics. The dangers attending that variety which is heterogeneity in so vast an organism as ours are, of course, the dangers of disintegration—nothing less; and it is unwise to think these dangers remote and merely contingent because they are not as yet pressing. We are conscious of oneness as a nation, of vitality, of strength, of progress, but are we often conscious of common thought in the concrete things of national policy? Does not our legislation wear the features of a vast conglomerate? Are we conscious of any national leadership? Are we not, rather, dimly conscious of being pulled in a score of directions by a score of crossing influences and contending forces?"

Footpaths to Success—III.

Rich Men.

It is not mere luck, or pluck even, that makes the difference between two poor boys, who attend the same school in winter and work on adjoining farms in summer; who go in swimming together, spend Fourth of July in each other's company, trudging ten miles to the nearest town, and returning dusty, tired and footsore in the evening; who separate after a while, both going out into the world to make their fortunes, and who meet at fifty, one of them shabby, careworn, with the listless step and the wandering eye that are so eloquent of discouragement and hopelessness—the other rich, successful, active, his life full of many important interests and prosperous affairs. He looks at his old playmate and familiar companion with a mixture of pity and hauteur. Neither of them can tell how it is that they who were once so near together, and so much alike in all their circumstances, are now so curiously wide apart.

What is it that makes the difference? Is there any way of getting at the secret? We may say that the root of the difference lies in character—that the successful man possessed qualities which his early friend lacked. No doubt this is true, but can we not come a little closer to the kernel of the nut?

In many cases the boy who succeeds is not brighter or more capable than the one who fails. There is not the least question that among those who swell the numbers of the failures, men who do not accomplish anything satisfactory in life for themselves or for others, there are many who have quite as much talent, perhaps more natural ability, than those who make so much more of their lives. What, then, is the radical difference, which produces success or failure as a result?

Sometimes this is the price of success—to be able and willing to work. Young people naturally like play better, but there is a very real delight and a lasting satisfaction to be found in actual work. Indeed, few things give a pleasure so genuine and permanent as the pleasure of good work—the happy consciousness of something really worth doing, accomplished by our own efforts. Perhaps the most serious taste that every boy has before him is this one of developing his own power of work. We have all to find out what we can do and how to do it, often a most perplexing problem. But first of all we must learn to work at something. Application, concentration, power, it will never do to stop short of that, and it must come of solid work. We must not be satisfied until we feel that we are able to bring ourselves to bear, with all the ability and strength that is in us.

So far as there can be any one general rule or secret of success, it seems to me that it consists in this—it is success to do our very best. Whether it brings riches or fame, or only a very moderate fortune with contentment, there is every reason to be satisfied with the result. Never rest until you find something to do which rouses your whole nature, so that you can throw yourself into it with all your might. There is nothing that pays so well as being tremendously in earnest. And the blows that are given with right good will are the blows that tell.

The men who accumulate very large fortunes are not always—I doubt if they are usually—the men who are mostly given up to the idea of making money. It even seems sometimes as if the only true way to make money was not to think too much about it. Sometimes the one-idea men do carry their point, it is true, even when their one idea is a very selfish one, but oftener the large results flow from large energy and strong practical ability put to a fair use in practical enterprises. It is a great mistake to suppose that getting rich depends upon a grasping disposition. Who does not know men who have gone through life with this disposition, yet always poor? Think what a wretched life that is—to care only for money, yet always to be poor!

Men are apt to think that others can do and ought to do as they have done. I have listened, oftentimes, to stories of success, in which the chief actor was ready to think that there was "a screw loose somewhere" if anybody else fell short of a success equal to his own. But it is pleasanter to listen while an old man recounts, without boasting, the experience of many long years of active usefulness. Such a one I knew who died, past ninety, in the same house that he borrowed money to build with at twenty one. He liked to tell of it, laughing quietly as he would say that people thought him very extravagant to build such a large house. But he was not. He showed his sagacity in that as in other things. He was right in feeling confidence in himself. He may well build a good, substantial house who builds for a lifetime, and who builds his life, too, on solid ground. Industry and honesty are homely old virtues, but they will never suspend payment. All his undertakings had grown upon his hands, because they were carried on with great energy and thoroughness. It is a comfort to see a man like this, happy in his family, dispensing and enjoying ample means, and commanding universal respect by his well-rounded life and the good that he has done.

One of his stories was intended to show the folly of "worrying," but it might have another moral. He told me that he never allowed himself to think about his business "after supper," and that he had never lain awake an hour from anxiety about money matters, with one single exception. On that occasion, being still a young man, he used in the winter, when his business was dull, to take journeys to what was then the West, buying up cattle. He had at the time a large drove on his hands. He had received that day an offer for cattle, which he agreed to accept. But later an unexpected opportunity had come up to dispose of the whole drove at a large advance. The temptation to sell the whole drove and go home at once, with his pocket well filled, must have been a strong one, for on going to bed he found it impossible to sleep, turning over in his mind all the advantages of doing so, and the uncertainties and vexations of the opposite course. There was only one objection, but it was a strong one—he had already given his word. When morning came he was weary from lack of sleep, but not weary enough to have lost his natural firmness of decision. He felt that his word was as good as a bond, and he stuck to it. "But I have learned a lesson," he would say, cheerily; "I made up my mind then that I would never be so foolish again as to lie awake worrying about things that I couldn't change, and I have kept to that resolution."

It is the useless anxiety about things that we cannot help that wastes vitality. If a thing is amiss and can be set right, go to work and do it; if not, it is usually worse than idle to brood over it.

It is not the mere possession of money or the power to gratify his own personal wishes that makes any man's lot in life enviable. Excessive self-indulgence only gives pleasure for a very little while, and then it begins to give pain. The penalties are perfectly sure. But the broadening activities, the fuller responsibilities and opportunities that come to a man as his means increase are a rightful and natural object of desire and earnest pursuit. How many boys and young men there are, in the families to whom the Country Gentleman comes every week, who have this future before them! They may well be hungry for anything that gives them a helpful hint how to use their good fortune to the very best advantage. We learn to correct a good many mistakes as we go along, but with every one there is an inevitable loss. If, at the outset, we can make some of them impossible by a clear view of just principles, it is certainly a positive gain on the final result. D. H. R. Goodale.

A Telegrapher's Ruse.—On one occasion an operator started out from Fairfax station on a hand car propelled by three contrabands to attempt to restore the line so that Pope's operators could communicate his whereabouts. Finding the line cut beyond Pohick Bridge, he spliced it and got signals from both directions. While so engaged a party of guerrillas emerged from the woods to the track and surrounded him. Bidding the negroes stand fast, he dictated a swift message over the line, which was being repeated back to him and copied as the Confederate leader leaned over his shoulder and read the significant words: 'Buford has sent back a regiment of cavalry to meet the one from here and guard the line. If you are molested we will hang every citizen on the route.' The instrument ceased ticking as the operator firmly replied, '. . — . —' (O. K.). A painful pause ensued. The Confederate might have suspected a ruse if at the moment a gleam of sabers had not shone in the direction of Fairfax Court House. Hastily starting for the woods, the leader exclaimed, 'Come home, boys; these yere ain't our niggers'; and they disappeared, while the hand-car, as if driven by forty contraband power, sped rapidly rearward.—*Century.*

Domestic Economy

Cooking Chickens.

Roast Chicken.—When well pic
off the hairs by holding the bird ov
paper, and then carefully wipe the
wet cloth. A chicken or other b
never be washed outside or inside.
latter be made necessary by some
dressing, as it removes the natural
detracts from both flavor and
Great care should be taken to lo
tiny strings which attach the ski
body, so as to bend the fingers
mass and bring it out whole—it
quite impossible to wash away t
the gall, should the bladder be b
off the head close to the body
the crop through a cut in the skin
of the neck, so that the breast
whole. Loosen the skin of the b
the forcemeat where the crop w
neck skin over to the back and
the carcass and sew up the cu
pinions under the wing to the
the legs until they lie flat against
the lower joints are even wit
Fasten the ends of the legs clo
with a cord, pass a skewer throu
and fasten with a cord, also. T
white cotton cloth and tear in st
wide, sew several together, and
diagonally across the breast-bo
roll forward and deftly cover
lapping each succeeding layer e
It secure—if not take a few
necessary. I know this is an
rather difficult operation, but
not a patent covered roasting
other method of obtaining a
tender, juicy result here achi
is sufficient time in which to
bird. Rub thoroughly with
the cloth, before putting in t
casionally baste during the p
ing. Remove the strings, sk
and serve. The giblets, whic
feet, neck, heart, liver, gizzar
eggs, should be boiled until t
water, having previously scal
the feet. They can then be c
either added to the force-mea
or warmed in butter and se
rate dish.

Plain Forcemeat.—Brea
one teacupful of stale bread
with butter, pepper, salt, a
sweet herb which is prefer
thyme and marjoram are th
used either separately or
tablespoonful being sufficie
bread; bind together wit
yelk of an egg. A suspic
and half the juice of a sm
sidered an improvement by
also half a dozen oysters ch

Fricasseed Chicken.—
wipe thoroughly, first with
with a dry—cloth. Fry u
in hot butter; then cover
stew on the stove a length
make tender. When don
and pepper, and thicken
for gravy.

Chicken Pie.—Cut up
sufficient boiling water to
salt and pepper. When
and bones; make a crust
biscuit; line the sides of
not the bottom; put in
the broth in which it wa
bits of butter, and dredg
flour over the top. Put
fasten the edges securel
in the top for the escap
the remainder of the brot
and season with salt and

Pressed Chicken.—C
ficient boiling water to
mencing to be tender, se
and butter; remove the
down to half the qua
done, remove from th
skin and pick meat from
not in small pieces. A
have that can be covere
weight placed on top.
make a small bag of firm
meat in closely in laye
over the broth (which

warm; but if in a bag, put it among the layers of meat cold. Press over night with a heavy weight.

CHICKEN CROQUETTE.—Mince fine any remnants of cold chicken; moisten with its own gravy, or, lacking this, with butter; season with salt and pepper. Form into small oval cakes with the fingers; dip first in well-beaten egg, and then in rolled cracker crumbs, and fry in hot butter. KATHERINE B. J. *Spencer, N. Y.*

Croutes a la Versailles.—Beard the requisite number of oysters and season them rather highly with lemon juice and cayenne, and set on one side until required. Cut twice the number of small rounds of bacon, put them together in twos with a seasoned oyster between; dip in beaten egg, roll in fine bread crumbs, and fry in boiling fat until nicely browned and crisp. Cut some small rounds of bread about a quarter of an inch thick, cover these on the uppermost side with a layer of sandwich butter, and dish up on each two oysters. Serve one croûte to each person, on a small dish tastefully garnished with fresh parsley. To make the sandwich butter for this purpose beat four ounces of fresh butter to a cream with a pleasant seasoning of mustard, cayenne, anchovy essence, and a small pinch of salt if necessary. Set in a cool place, and when firm, use as directed. AUNT CHLOE.

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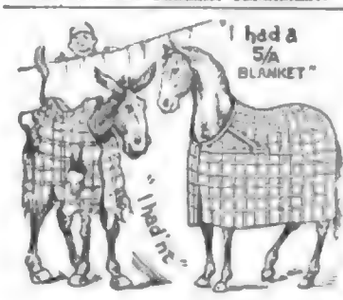

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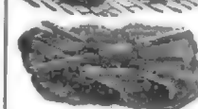

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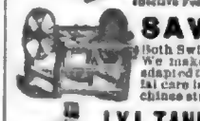

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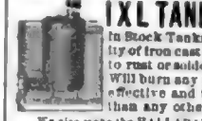

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THE CULTIVATOR AND Country Gentleman

Albany, Nov. 14, 1889.

English Notes by T. Bowick.

A high temperature, a fine open autumn with a little excess of rainfall, no frosts of any consequence, and no great amount of daily sunshine—such have been the characteristics of the season thus far. As a consequence, although the soil is in a somewhat sodden condition in many places, field work is well advanced, and wheat-sowing has progressed apace. It is satisfactory to know that greater attention is being paid, year by year, to the selection of good stocks—as shown by an exhibition of seed-wheat in Essex the other day, and the introduction of new varieties by leading seed-houses. Carters of Holborn and Oakshott of Reading have done the most in this direction of late. The latter in particular, has made a specialty of this work, and issues a splendidly finished catalogue, with correct drawings of new sorts, and also positive figures as to the yield per acre. Mr. Oakshott's cleaning and dressing machinery leaves nothing to be desired; and it is not too much to say that an actual growth of 98 per cent. may be depended upon. His prices run about $3 50 per bushel, but when due allowance is made for vitality, for thin seeding, and for harvest results, this cannot be said to be at all extravagant.

An intelligent Dane is "down" on the old-fashioned methods of wheat-dressing for prevention of smut, assuring us that an appreciable loss of vitality in the growing is certain to follow. He washes his seed-wheat in water at a temperature of about 130°, and no one can take exception to the practice. Long since I have seen the wholesome plan of steeping in a strong brine, and have yet to be convinced that there is anything better at the present day.

Casting odd figures aside, the following may be relied on as correct returns respecting the yield, consumption and imports of the "harvest year," 1888-89:

Home produce	9,500,000 qrs.
Required for seed and used for stock feeding	1,000,000
	8,500,000 qrs.
We require for home consumption	26,250,000 qrs.
And therefore need to import	17,750,000 qrs.

Potatoes are being raised [dug], and may be regarded as a full crop, with but little disease, save in Lancashire, where there are considerable complaints. If lifted wet, one feels naturally anxious for the safety of our chief winter vegetable. Anything affecting this esculent at once adds to the consumption of bread-stuffs. Mangolds and also swedes and common turnips are all full crops; a little blight among the earlier summer swedes being the only exception. Therefore, as the farmer has plenty of fodder of good quality, and the aftermath in the pastures is abundant, it cannot be said that there is much to grumble at.

The Brewers' Exhibition is this year, as it usually is, one of the best displays of the season—not that there is much by way of novelty, though so-called improvements in processes of manufacture and of storage, as well as of automatic barrel and bottle cleaning, are naturally pressed into notice. We are consuming at the rate of $11 60 per head of the population, of strong drink, and as there are now between four and five millions of abstainers (as well as the usual ratio of young children) in the land, and likewise prisoners and others who are compulsory abstainers, it is evident that some people imbibe more than their fair share of liquid groceries. In the United Kingdom we have at present 20,600 licensed brewers and 101,500 licensed victualers who are also brewers. These persons consumed last year as follows: Common brewers, 47,045,610 bushels malt and grain and 1,400,204 cwt. sugar; victualers, 3,456,679 bushels malt and grain and 40,474 cwt. sugar. This does not include the consumption by "private brewers liable for duty," who are also a pretty strong body. It is evident, therefore, from the vastness of the interests involved, and from the number of persons engaged in the trade, as well as from the almost fabulous number of those who have become sleeping partners in the business by being stockholders in the public companies that have taken over large trading concerns, that they have a hold and a stake in this country which will not be easily overthrown. The amount of English capital also which has been lately invested in American breweries, is one of the strangest features of the times.

I believe the vintage in France, especially in the Medoc region, has been one of the best that has been known for many years. Less phylloxera, an increasing breadth under vine culture, and an average yield of at least one hundred and forty gallons per acre, have put all parties into good spirits. Still, they are not happy on one point, in that they have to supplement supplies for Spain, Portugal and Italy. Home consumption, 1,000,000,000 gals.; home production, 700,000,000; export, 46,000,000. These figures speak for themselves. Brandy distillation, especially of inferior qualities (*le tarvoir*) is not a cheering condition, especially as it is followed or associated with a greater amount of drunkenness in every case. I admit that French drunkenness differs in its manifestations from ours; the Frenchman, especially of the middle class, can imbibe an enormous quantity of actual alcohol without being drunk; merely getting into a sodden state, which the "free-born Briton" altogether despises. Our Englishman dealing with more potent drink than *vin ordinaire* sooner comes under the notice of the police. I do not profess to understand all the social conditions, nor to be able to say why I have personally noticed more drunkenness in Switzerland where the manufacture and sale of spirituous liquors are in the hands of the State, than in little Belgium, where there is practically free trade in drink, and a vastly greater number of houses open for its sale. But of this I am certain that in proportion to the facilities for the sale of drink, and in proportion to the quantity of absolute alcohol consumed, so is the ratio of drunkenness and its results in any land whatsoever.

Fruit culture is still having a good time of it. Yesterday the Lord Mayor was elected a member (or some thing or other) of the Fruiterers' Company—one of the great city guilds with a lot of money at its back—in recognition of his Lordship's public services in the matter. Like yourselves, we are making a raid on the blackberry, and already several new varieties are reported from Kent. Nothing that I have seen at all approaches the Early King or the Erie blackberry which you have in New-York. The city company referred to is offering substantial prizes for the best orchards associated with ordinary farms in various counties, and is also aiming at providing systematic instruction for those who desire to get a fuller acquaintance with the principles involved. The recent fruit conference at the Crystal Palace produced several papers of great merit, and the signs of the times all point to progress in this direction. Pitmaston Duchess pears, weighing 20 ounces each, were exhibited, and both quality, texture and flavor were said by good judges to be excellent. I admit that size, and even symmetry, are frequently obtained at the expense of quality, especially when, as is often the case, the abnormal growth has been obtained under glass, which gives ordinary growers but a poor chance. I was glad to see an additional important testimony in the fact of the usefulness of letting fowls have a run in the orchard for securing freedom from blight. The caterpillars of the winter moth defoliate the trees to a great extent in early summer, and thus cause irremediable loss; although the smearing of the stem with tar to prevent the insect getting up (in her wingless state) to deposit her eggs is largely on the increase. But if, as is claimed, a frequent run of the fowls among the trees answers the same purpose, why nature is better than art any day and cheaper too.

Although, as remarked, we have had very little frost, yet the trees are responding to the advance of the season, and many of our London specimens are already bare. The splendid avenue of chestnuts in Regent's Park has become almost leafless; while the occidental plane (which thrives best in our smoky atmosphere) is fast following suit. We are indebted to North America for this tree, and ought to be thankful that its fresh look does one good in many an out of the way corner. An excellent specimen is to be seen at Stationers' Hall Court, and a still finer tree, with branches extending to a diameter of 84 feet, and a height of over 70 feet, is to be seen in South Kensington. As these trees shed their bark yearly, they have always a fresh, pleasant look about the stem, and when in their fullest foliage in July and August—at the time when most wanted—we are as grateful for them as the people of Naples are for their acacias.

London, Oct. 23, 1889.

How Can we Improve our Roads?

Raising Money for the Purpose.

EDS. COUNTRY GENTLEMAN—Since the question of good country roads affects farmers more than almost any other class of travelers, I would suggest that it form one of the leading subjects to be discussed this winter at the institutes, and that wherever possible, action thereon follow at the opening of spring. When such magazines as the Century and Scribner's, following the lead of the agricultural weeklies and daily newspapers, take the matter up, it is time the parties most interested bestir themselves.

There is no doubt that the present system of road-making by "working out" a tax is utterly inadequate—as, for instance, the district I live in will show. We are supposed to keep in order about half a mile of road, for which we are assessed 37 days labor, divided in proportion to the value of our land, between eight of us; my share consisted, this year, in drawing nine loads of gravel about a mile. About sixty loads altogether were drawn, and the assessment was "worked out" in two days (June 10th and 11th.) Allowing a load of gravel for every two yards of road, we drew material for only a little more than a sixteenth of a mile, consequently if the road were systematically repaired, it would be seven or eight years before the same piece got another coating.

I think it will be allowed that the most practical plan is for the different towns to employ responsible men whose business it would be to make and keep perfect roads. There are very few districts where good stone or gravel cannot be procured, as well as competent and available men.

The chief difficulty seems to lie in the method of raising money to pay for the making and mending, and to apportion the cost among the residents of the district, so as to make each pay his share according to his use of the road. The toll system, which still obtains on the main road off which I reside, appears to be generally condemned. This turnpike trust, as it is called, levies toll according to the distance you travel over its road, which reaches out seven miles from Rochester; yet all do not pay according to their use of it. There are two lime concerns, with kilns three miles out of the city, whose teams make twelve to sixteen trips daily with wagons loaded with two tons of lime. The toll they pay is not at all proportionate to the damage they do. We, by living four miles further out, have to pay twice the amount, and to travel over the three miles of road at times made almost impassable by their travel, and which our higher toll will help repair. According to the trust's published accounts, its yearly expenses are about $200 a mile, including toll-keeper's salary, &c.

A tax might be levied, payable in cash, but to this very many farmers would object. A ten-dollar tax "worked out" by himself and team is very different from one that extracts a ten dollar bill from his pocket-book; in the one case he feels no actual loss, in the other it means (at present quotations) handing over the price of twelve and a half bushels of wheat or twenty-five of potatoes. Still, if he can be induced to think the matter over, he will find that his cash, in the hands of competent men, will go twice as far towards giving him good traveling as the same amount "worked out" would do, and that the time saved, usually at a busy season of the year, would be so much profit. With a good road, too, the lessened wear and tear of buggies and wagons, the better footing for teams (affecting the shoeing bill), and reduced strain on the horses, and the ability to draw larger loads with the same motive power, are items of much account.

It would be no easy task, either, to apportion the tax to suit everybody, if it is made on the assessed value of the land. The following

cases will show this: No. 1 is a farmer, with 250 acres, who feeds stock largely and does not sell off much, thereby using the road comparatively little, but pays a heavy tax. No. 2 is another farmer, with 100 acres, who markets everything, using the road considerably at certain times, but pays much lighter tax than No. 1. No. 3 is a market-gardener, with ten acres, who is on the road more than half the days in the year, but whose tax is as nothing compared to those of Nos. 1 and 2. No. 4 is a private individual of means, with house and acre of land, who keeps a carriage going continually; yet his tax is the lowest of the four. It may be said that No. 1 can afford to pay a heavy tax, but so can and should No. 4, who uses the road much more than No. 1. So also, No. 3 travels considerably more than No. 2, but is not taxed accordingly.

If it were possible to adopt a graded license or tax, somewhat after the plan vehicles and horses are taxed in England, a nearer approach to a fair adjustment could, I think, be made. The following table may suggest something of the kind, and explain what I mean:

Used by Those in Business.	
Wagon, two-horse	$5.00
Wagon, one-horse	2.00
Cart	1.50
Democrat	1.00
Buggy	1.00
Horse	1.00
For Pleasure—Owned by Those not in Business.	
Carriage, four-wheeled	$3.00
Carriage, two-wheeled	1.50
Driving or riding horse or pony	1.00

The wagon, the chief wearer of roads, should head the list of taxpayers, and the man of leisure's carriage should also contribute largely. According to the number of vehicles and horses a farmer or other business man requires in his trade should be his ability to pay taxes for them. A two-dollar license for a democrat, considering the business done with it, is not too high, and the business man's carriage (his buggy) is only taxed moderately. A business horse license at a dollar would hurt no one, and would raise a handy sum; besides the horses' tracks require mending. Of course licenses would be required only for those vehicles and horses actually used on the road. Those city folks who use our country roads for business or pleasure should also pay license. The above figures are given simply to show the idea; for some districts they would be too high, for others too low, while exemptions would have to be made in cases agreed upon.

Monroe County, N. Y. J. H. C.

Poor Results from Winter Manuring.

Corn Fodder.

Eds. Country Gentleman—This would seem to be the proper season to discuss the management of manure for the coming winter. We have leisure now, and the added knowledge derived from the experience of the current year. From that experience I wish to repeat and emphasize a remark made in a former article, "that the application of manure in winter (on frozen ground or deep snow) is always attended with more or less loss." And I am convinced that the loss is very considerable and greater when spread from the load than when piled in compact heaps, to be spread in the coming spring. I tried both methods the past winter, and really it was hard to tell which was the greater failure. Part of the land was sod, too, and the manure was plowed under as recommended by Mr. Stewart on page 890. Later in the season I would have been glad to see any effects from that manure, even if it had appeared in excessive growth in spots. I know that the manure I applied in winter has made, so far, very poor returns. I also know that the manure I applied in summer, fall and spring and left on the surface made my meadows to yield almost four truck loads per acre.

I do not know the reason for these results; I simply know the facts. I believe, however, that the loss in the main results from the sudden melting of the mass of snow, washing out the soluble parts of the manure and carrying it off into the brooks, and I would suggest that with the soil and water at about freezing point, perhaps chemical action does not so readily take place, and the manurial elements may be conveyed down into the soil so deep as to be below the reach of the roots of most plants. If this should be true it might help to explain how clover gets its nitrogen. If I lived where there was little frost or snow, I should certainly pursue the plan indicated by Mr. Stewart, but I am satisfied from experience that here it often results in great loss.

For the coming winter, after the snow gets too deep to top-dress the meadows, I intend to draw the manure into large piles on the land to be plowed in spring for corn. Then, after the ground is plowed, fitted and planted in drills 3 feet apart, take the Empire manure spreader, which has an attachment by which the manure is left in rows on the drills. Run the smoothing harrow lengthwise of the rows till the corn is large enough to cultivate, and at the proper time cover it with soil above the roots of the corn. I expect in this way to get the larger part of the value of the manure that season, to cover more acres with the same amount of manure, and with better results per acre.

May I give my experience corroborating Mr. C. S. Rice's statements in regard to the curing of corn fodder in cocks? I have tried it two seasons, and with such good results that I have postponed the building of a silo indefinitely, or at least until somebody knows how to make sweet ensilage every time. W. S. H.

Oswego County, N. Y.

Farming in Western Tennessee.

Eds. Country Gentleman—It would seem even to those most intimately acquainted with farming in Western Tennessee, that with the advantages of so delightful a climate, such length of seasons, fertility of soil and absence of those frosts which harrass our brother farmers in many other sections and destroy the products of their labors, we ought to be successful and prosperous. It is rarely ever that the thermometer registers 90° in the shade with us, and it just as rarely gets below 20° for more than 24 hours at a time. The greater objection probably is that our climate is subject to sudden and severe changes. People will be sitting with their coats off one fine day in winter, and wake up the next to find everything frozen hard. This mildness of winter, or at least the short duration of cold periods, may be taken advantage of in stock rearing. One of our largest farmers in the fall of 1888 sowed a 100-acre field of corn in rye in August, just scattered among the growing corn without any attempt to cover the seed, and wintered 75 head of young mules and cattle, without any additional feed except one ton, probably, of mixed hay scattered upon the little snow that we had—no grain and no shelter, yet the 3 or 10 head of cattle came out fat, and the mules and ponies looked fairly well. The soil was as rich as could well be, and when the corn was snapped from the stalks in October the rye would "hide a rabbit" of great proportions.

In the bottoms adjoining this farm, and making up the western border of our county, stock of all kinds run the entire winter, and if the annual overflow does not get too high and stay up too long, they are "in clover," as far as their appearance would indicate, all the year. Very little attention has been paid to sheltering any kind of stock except work stock. We are improving some in this respect; some are preparing to shelter everything. As to our soil, it is claimed by those who have traveled about promiscuously that we have the best soil naturally that the world affords. I think, from the agricultural journals I read, that our soil is above the average, and as near a certainty can be relied upon for a crop here, as anywhere, provided the tiller of the soil does his part. No one can remember a season so affected by drouth but that a corn crop, planted on moderately good soil, well prepared by the 10th of April, would make a good crop of from 30 to 50 bushels. Wheat sown on clover sod broken by Sept. 1st and sowed by Oct. 10th, has never failed to make a fair yield—12 to 25 bushels. Cotton planted by April 20th and worked, always makes something, though more uncertain than other crops. Clover never fails if sown by March 10th—and so on. We have never been bothered by chinch bugs, grasshoppers, Hessian fly or white grubs, and potato beetles would starve to death in this county. Yet we are not getting rich. The fault lies with the farmer to some extent, and his surroundings are not calculated to make him wealthy. But lately we were a people having slaves to do all work; consequently the white man did not have to work. Like begets like, and his sons have not a natural talent for drudgery.

Our soil was so fertile, our climate so favorable that we thought it only necessary to raise one or two good crops of cotton, and be independent. One or two crops made us poorer than ever, and with the hope of doing better next time, this way of getting rich (the only way we knew anything about) was continued till we and our farms and stock were worn and threadbare, debts hanging over us, etc. We have called a halt, and started back, keeping more stock, sowing more clover, using more and better machinery, but it is almost like changing the leopard's spots. We are getting more education on the questions and conditions surrounding us, and an important factor in this education is our farmers' organizations, about which I will write in the future if it will interest your readers. Attwood Pierson.

Lauderdale County, Tenn.

"Wheat and Clover in Iowa."

Eds. Country Gentleman—The article of Mr. Henry Wallace, page 803, Oct. 24, seems to call for a reply. First, I object to its tone, and to its non-essentials. Such expressions as "Utterly misleading, and in many respects untrue;" "Two counts in his indictment of the State to which he owes his present position, and from whose funds he draws his comfortable salary;" "His next diatribe;" "Ohio, to wean him from which all the efforts of his friends have proved unavailing;"—such expressions all through the article seem to me not to have been called for by my two articles in your columns, which Mr. Wallace and two other gentlemen in Ohio have criticised. Such expressions raise side issues; imply that I am an outsider, not a citizen; that it is by some fault of mine that I hold the place I do, and that I am not loyal to the State that I love as my home. I was called to a college I had never seen, at the unanimous wish of a board of trustees and a faculty not one of whose members I had ever known or met. The first call was declined. The second, renewed nearly two years later, I accepted on the distinct understanding that it was for permanence. I could not uproot and transplant a growth of 50 years on any other terms. For nearly four years now I have been as wholly and truly a loyal citizen of Iowa as Mr. Wallace or any other man longer here. I believe it is the grandest agricultural State in the Union. I do not believe so much total available fertility of soil and climate combined, for producing carbonaceous and nitrogenous crops, exists in any 55,000 square miles in any other State in the Union, nor a larger per cent. of best arable land. I say this after traveling much for ten years in nearly all the States, with the practised eye of a life-long farmer and required statistician of farm crops. My Ohio friends are not sensitive when I give my deliberate judgment that the average Iowa acre contains twice as much plant food as the average Ohio acre, counting all the acres in each State. But I do not believe we Iowans gain anything by claiming what we know to be not true.

My first article criticised was on "Adaptations of Soil and Climate." I had just been to Washington, D. C., and back, passing by daylight (going or coming or both) through eight important agricultural States, with which I was before quite familiar. I noted their adaptations, and the crops that make their money, tried to give each a fair and impartial estimate, and advised to raise as staples in each locality the crops which soil, climate and markets combine to make most profitable. I ventured the opinion that while for corn, oats, blue-grass and live-stock Iowa is a grand State, yet it cannot compete with Michigan, New-York and Ohio in wheat, clover and tree fruits, referring to pears, peaches and winter apples. This article was courteously criticised at some length, in the Iowa Homestead, by Hon. Jas. Wilson of Traer, and in the Traer Clipper by Mr. Jaqua, its agricultural editor, and briefly in the State Register by Father Clarkson, its agricultural editor. Mr. Wilson said: "The article is scholarly, and generally good, but we fear some conclusions may mislead eastern people." Both he and Mr. Jaqua said, in substance, that we could raise wheat and winter apples and clover *if we wanted to*. I simply replied, in substance: "You admit that we do do not raise either now in any considerable part of the State as important crops. I assume that we should if they paid." To quote directly, I said: "In Ohio the verdict of the vast majority of farmers is that wheat pays. In Iowa the verdict is almost as unanimous that it does not now pay. What brings the cash, that they will raise." And again: "Can Mr. Wilson show me a half-dozen paying commercial pear, peach or winter-apple orchards north of the C., B. & Q. railway?" (which runs east and west some ten miles north of the south tier of counties.) "Our horticultural department and experiment station are working hard to introduce good winter apples" (chiefly from Russia) "that will stand our climate, because, confessedly, we have none now. All over Ohio, Michigan and New-York, on the same latitudes, winter apples (and wheat) are grown in large and profitable export surplus. The winter-wheat and apple belt, which runs up to about 43°, or even 44°, from Maine to the west coast of Lake Michigan, at that longitude suddenly drops south three or four degrees. It has lost the climatic influence of sea, lake, forest and hill, with their protection and their increased winter precipitation and summer coolness, and has struck a flat prairie soil, a continental climate, and vast, level, unprotected areas. In sheer fertility and in corn climate the prairie West is vastly superior to most of the timbered East. In some other things it is as inferior. I think it better to admit the facts and act upon them than to shut our eyes upon them or fight them. Nature gives not all her blessings to any one region."

Now we all admit these facts among ourselves in regard to winter apples, and most of us do in regard to wheat. We know that most of the prime winter apples sold in our cities and villages after Dec. 1, are shipped in from Michigan, New-York, &c., and paid for with money from our corn, oats, cattle, horses and hogs. We know that most of our best flour is shipped in from Minnesota, or made in local mills from local wheat mixed with northern spring wheat to give it quality. So much for Mr. Wilson's and Mr. Jaqua's courteous criticism in local papers. These gentlemen, or one of them, stood up for apples as well as wheat.

Mr. Wallace does not touch on the apple question. He could not well do so, for in conversation with me about a year ago he said in substance and almost in exact words: "Fruit is a *sentiment* in Iowa; corn, oats, grass, horses, cattle, hogs, *make our money*, and make enough *too* to buy our apples."

Now for *wheat*. Mr. Wallace makes me say Iowa does not raise 6,000,000 bushels of wheat. I said of *good* wheat, meaning prime milling wheat, 60 lbs. to the measured bushel, as the whole Ohio will average, some running 65. He quotes the United States Department of Agriculture to me. I have the volumes in my own library and know how the estimates are made, not for the *previous* year by actual returns as Mr. W. supposes, but each December on the current year by mere percentage estimates, or rather opinions, from single correspondents in a small part of the counties. I said in your columns, in the first of the articles criticised: "I never saw a really good field of wheat in Iowa though I have been in nearly every county. The United States Department of Agriculture estimates the last year's (1888) Iowa wheat crop at 24,000,000. I do not believe there was one quarter that amount of No. 2, or even No. 3, wheat raised in the State. Those estimates are based on percentages on the census of 1880, and when the census of 1890 is taken, if it is a true one, and published promptly, it will open some eyes, and correct some estimates. Spring wheat has since then moved north, and winter wheat south. Iowa is not * * at present, a profitable wheat State." That I believe to be strictly true. Statistician Dodge is an able man, and does the best he can under a system that is proximately correct for the total of the country, but for single States compounds possible errors of judgment for ten years till the next census, with no annual accurate crop census in Iowa to correct it by. There is one in Ohio, exceedingly careful. When I said Iowa did not grow enough wheat for its own bread, I meant enough good, plump, milling wheat, such as Iowa people insist on using the flour from. The population is probably over 2,000,000 (1,753,000 in 1880), and it would take over 10,000,000 bushels for its bread. That amount of good milling wheat I am sure is not raised now in the State, and scarcely any one considers wheat a paying or important crop here now.

On what do I base these estimates? On several facts.

(1) *Personal Observation and Inquiry*—I have been nearly all over the State and never saw a good field of wheat, or saw any received or stored for shipment, or talked with a farmer who considered wheat here as of any agricultural or commercial importance. Live stock, corn and oats load our trains, and corn is stored at little stations in cribs that aggregate

nearly a half mile in length, and 12 to 16 feet wide and 10 feet high.

(2) *Agricultural Meetings and their Topics.*—At some thirty farmers' institutes and meetings that I attended last winter, and winter before last, in every quarter of the State and every tier of counties, I cannot remember that there was a single address, paper, discussion, question or remark on the subject of wheat or wheat growing. Could this happen in Ohio or Michigan? When I asked the reason, the uniform reply was: "Wheat is 'no good' here," or "Wheat don't pay in Iowa."

(3) *Testimony of Prominent Iowa Men.*—Even those who criticise my articles and all other writers in our local agricultural columns, admit *the fact* that we don't raise much good wheat, but say we can or could. Mr. Wallace now says we do. Before, he said or implied that we don't, but could if we would only raise clover. His paper some weeks ago published the case of G. W. Franklin of Atlantic, Southwestern Iowa, who actually got about 25 bushels per acre on some 30 acres. It is the sole actual fact as to a wheat yield that I have noticed in the Homestead, and was given with a sort of "see-what-you-*could* do" air of marvel and of triumph. How much wheat and how much per acre has Mr. Wallace himself raised in the five years past on his thousand acres or so of excellent farm land? Mr. Jaqua of Tama county (agricultural editor of Tracy Clipper) says in his reply to my article: "Wheat raising *has been abandoned* for the reason that stock raising is more profitable." And yet prime young beeves now sell at 1¾c. on the hoof in the northwest half of the State. James Wilson admits the same general *fact*, and lays it to bad farming. He says: "Northwest Iowa is now growing great crops of spring wheat on the *robber system*, and will until the land rebels, when grazing must rotate with wheat as in other countries." That sounds exactly like what I said: "Iowa tried to raise wheat without live-stock at first, and then without saving and using their winter manure when it did have them. The same is true in Minnesota, all over the West. It is the old, old story which apparently each locality and each individual insists on learning by experience and not by observation." The "lesson" was that the "robber system" don't pay. This is what Mr. Wallace twists into the "two counts of my indictment of the State," and "of Minnesota and all over the West." Father Clarkson admits *the fact* that wheat has practically gone out, but blames the combinations of millers. Hon. Wm. B. Allison, U. S. Senator from Iowa and prominent candidate for U. S. Presidency, in a recent very able campaign speech in Sigourney, Keokuk county, Southeastern Iowa, one of our few winter-wheat counties, said in substance and almost in exact words, quoted from distinct memory: "Wheat has ceased to be an important crop in Iowa. We scarcely raise more than enough for our own bread," &c. Now, do you think a conservative and thoroughly informed Iowa and national politician would snub the men whose votes he wants for reelection to the next senate by such an "indictment" or "diatribe," when he knew his statement was "in many respects untrue." And finally, under this head of testimony of prominent Iowans (though I could quote columns), Mr. Henry Wallace's own paper, the Iowa Homestead, that goes all over the State, this week has nearly a full column of fine print, accurate quotations and reports of sales of live-stock, but not a quotation on wheat. Could that occur in an Indiana, Ohio, New-York or Michigan agricultural paper? Would it occur here if Mr. Wallace knew farmers had large quantities of wheat to sell? No. As Mr. Wallace said of winter apples—"Wheat is a *sentiment* in Iowa." We think we "ought to raise it," "can raise it," "could raise it if," &c., but *we simply don't raise it*, except in patches and in small sections of the State, and even these seem to be diminishing.

4. *A Quick Recent Census.*—Our students this year number 395, coming from 74 of the 100 counties of Iowa, besides those from other States. A majority come from farms two to ten from a county, so that these 74 counties, lying in all parts of the State, are represented by farmers' sons or daughters. Last evening (Oct. 25) after chapel exercises (which all attend) I said: "To day's mail brings call for information as to what counties raise wheat. Will all of you in whose townships it is considered a *paying crop*, or from whose counties it is ever shipped, kindly report facts to me as you pass out?" Of the 74 counties, *four* reported it a paying crop, with some shipments out of the county, and *five more* reported parts of counties, or reported it as "grown in patches," or as raised "along the river bluffs by the Bohemians," &c. Most of the shipping counties were in the new and dry northwest corner of the State, where there are occasional fine yields of spring wheat. All the students conversed with testified that wheat had gone out of their counties virtually or was slowly going out. It was a quick census, but impartial, from Iowans, and most significant. Some facts I myself know from the counties above referred to. For example, Hon. H. C. Wheeler of Odebolt, Sac Co. (N. W. Iowa), one of our largest farmers and most prominent men, used to thresh and ship as high as 30,000 bushels a year. When I last visited him, he had not an acre of it on his 6,000 acre farm.

Finally, the statistics quoted by Mr. Wallace. This summer, when in Washington, I gave Statistician Dodge the facts as I see them. He said what was true, viz., in substance, that without an accurate annual State crop census in Iowa (we have none), his few county correspondents could give him merely the *fact*, but not the *degree or extent*, of the decrease in wheat acreage (area) and yield per acre. That in a newer State like this, with its farm lands not nearly all fenced or tilled, or sold to actual settlers, State pride and desire to boom the land were apt to withhold facts of decrease, and warp judgment of correspondents. That while he could check and correct his estimates of total wheat crop for the whole United States by known export, bushels per capita consumption, he had no means of getting even a close approximation *for separate States* of *extent* of increase or decrease of area or yield. That as we were now nine years from the census on which his estimates are based, quite likely the next census would show a greater decrease in wheat than his figures indicated. Also that his figures give total estimated bushels of good, bad and indifferent wheat.

Mr. Dodge is careful, conservative, conscientious. For the United States his figures are the best we have. Now what do they show for Iowa and Ohio as quoted by Mr. Wallace? I take them as he gives them, viz., 1871–1885 with the yield he gives, though he has mismatched the years, with the yields, *i. e.*, it should be 1870–1887, and he gives 17 years, not 18 as he says. Compare and average the last 10-year period with the first seven years, as given by him, and we have:

	—OHIO.—		—IOWA.—	
	Total bush.	Av. per acre.	Total bush.	Av. per acre.
First seven years.	21,140,000	13.2	26,320,000	12.1
Last ten years....	20,160,000	13.5	28,910,000	12.2

Of the *last ten years*, the figures also indicate that 1876–1881 gave an average total in Iowa of 31,850,000, and 1882–1886 gave 26,960,000. Also 1887 (which Mr. Wallace calls 1888) gave 26,937,000, with an average of 10 0 bushels per acre and the real crop of 1888 (estimated in the December Report of 1888) gives the total estimated bushels as 24,196,000, acres 2,468,000, yield per acre 9 8. Mr. Dodge's September monthly report, 1889, reports wheat at all only in *just seven counties of the* 100 *in Iowa*; the spring wheat as a rule is good this year; the winter wheat most of it poor; for example, Taylor county (S. W. Iowa) reports: "Rusted and shrunken;" and Jefferson county (S. E. Iowa) reports: "Struck with rust just before ripening and the yield was reduced one-half."

Thus from the very authority to which Mr. Wallace appeals, and which gives *tendency and drift correctly*, but *extent of decrease inadequately*, it appears: (1) That Ohio (with no increase of occupied farms) has nearly doubled her total yield, while Iowa (with constant increase of occupied farms and immense increase of corn area and yield) is now rapidly diminishing her total wheat yield. (2) That Ohio (with less than half the *possible available* land of Iowa), now raises well-nigh twice the wheat Iowa does. (3) That the average yield per acre in Ohio is now more than 50 per cent. greater than in Iowa. (4) That the yield in Iowa the last three years (including 1889) is unquestionably below 10 bushels per acre, even with what is "rusted and shrunken" and "struck with rust and yield reduced one-half." As to price, to-day's State Register (Oct. 26) says: "Shippers are paying from 45 to 55c." Mills pay 60 to 70c. because they buy only best grades. But will this pay—$4.50 to $6 per acre for growing, harvesting, threshing and marketing wheat?

As to clover, the soil is naturally excellent for it, I think, porous and rich in carbon and nitrogen. The climate and the rotation have not been favorable to it for four years at least to my knowledge in a large part of the State. It has not "caught" or grown well in spring, or stood the winters well. Then, too, the rotation has not favored it. That has been from corn to oats, back and forth, till soil rebels; and then back to grass for a term of years. Clover has not been grown largely along any line of railway I have traveled. The practiced eye at once notices the vast difference in area of clover between Iowa on the one hand, and Ohio, Michigan, New-York and Eastern Pennsylvania. With better, moister summers, I believe clover will soon increase its area and its beneficent results.

Mr. Wallace compels me thus to prove, at considerable length, what I asserted. It is no "diatribe" or "indictment." I love the State that is my home. Its soil averages far richer than the average of any more eastern timbered State. For corn, oats, most vegetables, bluegrass and live stock, it is superb. Its climate from March 1st to December 1st, barring some strong winds in spring and late fall, is exquisite; clear, bracing, no "drizzle-drozzle," and little mud. But it is exactly true as I said that in wheat, clover and apples it cannot, or at least at present does not "compete with Michigan, New-York, Ohio," and other more easterly and formerly timbered States. Writing concerning eight States, in a paper of national circulation, I tried to give the facts with exact fairness to all. I honor Mr. Wallace for standing up for Iowa, but I think he might give me credit for being a careful writer, with good opportunity to know the facts, and with being loyal to my own State.

——In the Iowa Homestead of Nov. 1, Mr. Wallace himself says:

Clover seed appears this year as a considerable crop *for the first time in Iowa*. While it is in one sense a large crop, yielding, when properly threshed, from two to five bushels per acre, it is not probable that more than half of it will be secured. In some counties the yield was considerable, in others *hullers are not available*, while much of it has been lost through the farmers *not knowing how to manage it properly*. [My italics.]

My next neighbor, Mr. Willard McCarthy, tells me, however, that he used to run a clover huller very profitably in this county some ten or more years ago. But, as he says, "clover went out with wheat." Our experiment station raised some four acres this year, and it yielded over three bushels per acre. But we had to send some 15 miles, out of the county, to find a huller. I hope we shall now prove that clover can be raised here profitably. It certainly has not been largely or generally raised through the State for ten years past.

Iowa Agricultural College. W. I. CHAMBERLAIN.

*** Both sides having now had their innings, we suggest that the subject be allowed to drop—at least until after the census returns of 1890 are published.—Eds.

The Labor Problem on the Farm.

Mr. Brown (page 737) speaks of the difficulty of getting extra help on the farm. This difficulty is now sharply felt in nearly every locality, and is becoming greater each year. I believe it is now generally taught that the invention of labor saving appliances or methods and their use do not decrease the demand for labor. Cotton spinners who thought the jenny would lead to their starvation; teamsters who feared the locomotive would reduce them to beggary; farmers who thought it would ruin the demand for horses and oats; harvest hands who tried to burn the self binders, because they would ruin the harvest hands—all these have lived to see it demonstrated that labor saving machinery does not reduce the demand for labor. Farmers may use more and more labor saving farm machinery, doubtless will do so, but they will find that this does not remedy the scarcity of farm labor.

In Illinois farm labor is now scarcer than it was ten years ago, much scarcer than it was twenty years ago. Railroading, telegraphing, manufacture, commerce, have in that time increased wonderfully, far faster than farming. These attractive occupations have drawn from us the greater part of the labor that otherwise would be available on the farm. The excitement and amusements of city life, and the apparently larger wages, appeal very powerfully to our young men, and to-day the very best of what was once farm labor is in the service of railroads, telegraph or electric-lighting companies, or in offices, banks, stores and manufactories. This is another condition that we cannot remedy. Railroads may have been built somewhat too fast during the past few years, and our manufactures may have expanded a little too rapidly; but the inevitable development of this nation must include the constant gaining of manufacture, commerce, transportation and communication on agriculture. This is inseparable from healthy national growth. In the future the drain of labor from us will be greater than it has been in the past.

It must be confessed that not only has the quantity of farm labor decreased, but its quality has deteriorated. In the North we must now depend largely upon slow-thinking and slow-learning foreigners, or natives belonging largely to the irresponsible, roving class. From the South comes constantly bitter complaint of the poor quality of negro labor. If the inevitable prejudices from political causes were taken away, the southern planter would probably find that his available labor is of about the grade of that of the northern farmer. In both sections it has less intelligence, skill, industry and stamina than could well be wished. Of course there are many excellent farm laborers, but they are the minority.

I think that our best measures are those which will economize labor. We do not well plan our work, and as a result often take two steps where one would have accomplished as much; we do not project labor at the point and time where and when it would be the most effective; and we try to make the labor we have cover too much ground, the result being that it does not accomplish so much as if it were concentrated more. Farther, we should build neat, comfortable tenant houses and outbuildings, surround them with attractive grounds, so arranged that the tenant may have garden, fruit, cow and poultry. When we offer to labor the joy and advantages of home and family life, we will secure more and better labor, and will induce it to be far more stable; and at the same time we will make our own home life more easy and agreeable. JOHN M STAHL. *Quincy, Ill.*

Potato Blight and Rot.

The Hatch Experiment Station of the Massachusetts Agricultural College has recently issued Bulletin No. 6, containing a paper by Prof. J. E. Humphrey, on the subject of potato blight and rot, the substance of which is given as follows:

The combined warmth and moisture of the season just closing have been very favorable to the development of fungi, whose attacks have consequently been, in many instances, unusually severe. Probably no one disease has been more generally prevalent, or more disastrous in its effects throughout the State, than the blight or rot of potatoes. The potato rot is caused by the development within the potato plant of a fungus closely related to those which cause the mildewing of grape leaves, of lettuce, &c. The threads of the fungus grow in the tissues of the stems and leaves of the host, and send out fruiting threads, through tiny openings or pores which exist in the surface, into the outer air, where they produce the spores. These spores germinate readily in a warm, moist place, and give rise to new threads, which, when produced on the surface of a fresh potato leaf, make their way into its interior and quickly spread throughout the plant.

A striking feature of this fungus is that it causes the complete breaking down of the infected tissues of the host plant into a slimy, putrescent, ill-smelling mass. Most fungi weaken or kill by gradually sapping the vitality of their hosts, but here is no half-way work, no uncertainty as to whether fungus or host will win in the struggle. The development of the fungus and accompanying death of the tissues of the host is usually quite rapid, and in very violent cases most astonishingly so, forty eight, or even possibly twenty-four hours, being sufficient to convert an apparently flourishing field into a putrid mass. This destruction of the "tops" is commonly known as the blight. Extreme cases like this can only occur, however, when atmospheric conditions are very favorable, in wet sultry weather, with a wind which serves to carry the spores freely and in the right direction. At best, however, the rapidity of its development is the one element which makes this fungus very difficult to deal with.

But while the killing of the potato tops while in vigorous growth, and the securing of a much reduced crop, would be a sufficiently serious matter, the trouble does not stop there. After killing the tops the fungus penetrates through the stems to the tubers, and causes a similar rapid decay in them also. It is to this destruction of the tubers that the name rot is commonly applied, and the belief is quite general that the blight and the rot are due to different causes. This, however, is not the case, and it is as well to designate both by the name rot. The only hope of saving the tubers when the tops begin to show the disease is to dig them at once, which can often be done before the fungus reaches them, when the progress of the disease is not extremely rapid.

It should be said, however, that many writers believe that the parasite can reach the tubers through the medium of the soil, as well as through the stems.

In mild forms of the disease, the tubers often become infected by the threads of the fungus without suffering much decay. If such tubers are stored in a comparatively warm place for the winter, the fungus may continue its destructive development within them, and even infect neighboring tubers. Frequent picking over and a cold place for storage are the chief preventives of loss from this source. Infected tubers, planted in the spring, are very likely to produce diseased plants, from which a whole field may become diseased. Care should, therefore, be exercised in selecting "seed" potatoes, that none of them bear the brown, decayed spots which indicate the presence of the rot fungus, though it is true that sound crops have been raised from infected "seed."

This bring us to the least definite feature in our knowledge of this parasite. Since its summer spores cannot live long or endure cold, how does it survive the winter? Doubtless, by the hibernation of its threads in potato tubers, as just described; but this method alone seems hardly certain enough to constitute the sole reliance of the plant, or sufficient to account for the phenomena of its sudden and abundant appearance. Most of the mildews, the nearest relatives of our plant, produce, in the stems and leaves of their host plants, peculiar resting spores, which can live and resist cold or dryness for a long time, and finally germinate and reproduce their respective fungi when warmth and moisture return. But, although certain botanists have stoutly claimed that the potato fungus produces such spores, their existence has never been satisfactorily proved.

A preparation which has given remarkable results in the prevention of grapevine mildew, when sprayed upon the vines, would probably prove equally efficacious in protecting potato plants against the rot, if it can be applied in time. This is the so called Bordeaux mixture, prepared as follows:

A. Dissolve six pounds sulphate of copper in sixteen gallons water.

B. Slake four pounds lime with six gallons water.

C. When cool, mix A and B, stirring thoroughly.

As the preparation is a mixture, and not a solution, some form of spraying apparatus, with an attachment for keeping it thoroughly stirred, is required for its application. But few attempts at fighting the potato-rot have been made, and it is impossible to say how effectual the above treatment will be; but, as it has proved so valuable in other related diseases, a thorough trial of it is earnestly recommended. The chief difficulty will be in making the application promptly enough. To insure this, the materials should be kept on hand, and the mixture applied on the first signs of the trouble in any part of the field, or in any field in the neighborhood. To determine the utility of the application, a part of the field should be left untreated as a "control experiment." A comparison of results on the treated and untreated plants will show the efficacy of the treatment.

Autumn in Western New-York.

ENS. COUNTRY GENTLEMAN—With October came more or less severe indications of approaching winter; this year they were readily felt in this region by all nature, animate as well as inanimate, when the thermometer revealed a temperature of only 17° on the morning of the 24th. For three mornings previous frosts, of from 6° to 9°, had been busy stripping the maples and other trees of their foliage so that a further reduction of temperature was not altogether welcome. The mean temperature of October in 1886 was 48°; in 1887, 41°; in 1888, 40°, and this year 39°, lower in each succeding year. With the exception of 19° on the 26th in 1887 I have registered no such minimum temperature in October of the above years as the one on the 24th of this year. The following little table will show the number of readings (morning and evening) when frost was registered, with the number of degrees of frost, in October for the last four years:

	7 A. M.		7 P. M.		Total.	
	Readings.	Degrees of frost.	Readings.	Degrees of frost.	Readings.	Degrees of frost.
1886..	4	6	1	3	5	9
1887..	11	47	5	9	16	56
1888..	6	13	1	2	7	15
1889..	6	28	2	5	8	43

Although the number of frosts was largest in 1887 they were 30 per cent. more severe in 1889.

As mentioned in my report for September the first day of October we had several electrical showers; up to the 9th rain fell every day, with a total rainfall of one inch and thirty-hundredths. From the 11th to the 24th, excepting frosts at night, we enjoyed good, seasonable weather. On the evening of the 26th a northeast drizzle set in, and the following day developed into a driving rain from the north, which continued for 36 hours, with a rainfall of 2½ inches. On the 31st we had nearly another half inch of rain, making a total of about 4 inches for the month, which was very acceptable, but not sufficient to start the many dry wells.

The temperature of the soil has now returned, at 12 inches, to what the average of April was of that depth, and at my last trial, Oct. 26, was uniform throughout, being 46°; I tried down to 18 inches and found it only 47° there. The only other instances of uniformity were on June 29, Aug. 24, Sept. 7, when, curiously enough, it was 65° on all three occasions and Aug. 17, when it was 64°.

The soil temperature has kept nearly even for the month, sinking only slightly, whereas the mean temperature of the air has made a drop of 15°. It is a very perplexing subject as, at one time, a certain kind of weather will have a decided effect upon the soil while, at another, precisely the same conditions will have none at all, or even a contrary one. I am afraid I shall never be able to tell the temperature of the soil, at a foot deep for instance, from the weather of the few previous days.

Depth.	Oct. 5.	Oct. 12.	Oct. 19.	Oct. 26.
4 inches	48°	48°	48°	46°
6 do.	47	47	47	46
8 do.	47	46	47	46
10 do.	46	49	46	46
12 do.	49	50	46	46
Mean tem. of air...	49°	41°	49°	39°

The absence of any apple crops in this neighborhood makes a sorry ending to a season, at the best only a moderate one. The wheat crop was fair, but what is it selling for to day? A little more than eighty cents a bushel; this time last year it was quoted steady at $1.16 to $1.18. Oats yielded well in bulk, but their lightness in weight, combined with a low price, prevents their showing much profit. The corn crop, probably, will prove the most useful of all. The yield of potatoes was variable, and the price is now only 40 cents a bushel. I believe that farmers are, after all, the most unrepining class of men in the world; adverse seasons cause them to scratch their heads a little and give vent to some pardonable grumbling, yet ere they have finished their lamentations you will hear them talking eagerly about next year's crops—concerning which, if they would regularly attend the institutes now provided for them, they would learn much that would save them a deal of worrying, and tend to make their labors interesting and profitable. No tillers of the soil, now-a-days, can afford to sit by the stove all the winter, more especially if they lack such a sound adviser as the COUNTRY GENTLEMAN. They must be moving round, visiting their wide-a-wake neighbors, attending conferences and institutes for the purpose of gaining information so that they may compete on more even terms with those who never lose an opportunity of learning how to improve themselves, their land, crops and finances.

Wheat is quoted at 89 to 89½ per bush.; corn, 43 to 44c; oats, 28 to 30c.; hay, as I thought possible, has declined, being now $10 to $14 per ton; oat and wheat straw, $7 to $8. Potatoes will, I think, shortly improve in price, but, at present, as stated above, are very low. Plenty of cabbages, of improved quality, have been marketed lately, realizing $3 to $4 per 100 heads. Onions bring 70c. a bushel. Butter, new dairy, is quoted at 16 to 18c. per lb.; eggs, 21c per doz. Apples do not appear in local quotations, but are worth $2 to $4 a barrel, according to variety and quality; pears sell at from $1 to $1 25 per bush.; chestnuts at $5.

A new white wheat, the Salvator, has just been introduced in England by a well known firm there, which it is claimed has yielded 88 bushels to the acre, with 9¾ tons of straw, the latter growing 7 feet high. Well, that is all right, but do our English cousins know that we once had a potato that yielded 1 076 bushels to the acre? J. H. C. *Monroe County, Nov. 6.*

Tough Corn Stalks.—I observe that Mr. Rice states on page 890, that his corn was "9 to 12 feet high," that it was cured in the cock, that it was eaten cleaner than if thoroughly dried in the usual way, that the cows ate it "clean, with positively no waste," the largest butts being fed to and mastered by the bull. Now, I should like to ask what kind of cows Mr. Rice has. They must have powerful grinders to devour clean such large stalks as grow 12 feet high! I never could get my cows (grade Short Horn and Guernsey,) to eat the large portion of stalks, not more than half as large. Before I adopted the practice of cutting the stalks half an inch long, they (the cows) left more than half the stalks uneaten, and all farmers know how the coarse uneaten stalks make the manure unfit to handle. Mr. Rice's statement puzzles me. By the way, his "fodder cocks" are really stacks, built like other stacks, only the bundles are not bound.

INQUIRER.

The Department of Agriculture.

The first report of our first secretary of agriculture, Hon. J. M. ROSK,—an octavo pamphet of 40 pages—begins by sketching briefly the development of the department, and its present needs in the way of increased accommodations and financial grants. Concerning one of the most important divisions, that of statistics, the secretary says:

To aid in the collection of agricultural statistics there are over 11,000 volunteer correspondents, and a paid corps of agents in as many States as the limited appropriation allows the department to maintain. These conduct a parallel investigation, by States, for verification and extension of the data communicated by the regular corps. What the system most lacks at present is the ability to maintain a paid statistical agent in every State. I would therefore urge the necessity of restoring, or even increasing, the original appropriation for collection of statistics, which has been reduced during the past for years, to render it possible to carry out the requirement for employing State agents for local investigations in every State, and for collection of such specific statistics as cannot be obtained through the voluntary effort of our public-spirited farmers.

The office receives current official statistics from every part of the world, and files, records, co ordinates, and elaborates such data for current publication and special use. These documents are both printed and written in all languages, in divers weights and measures, and values represented by the coins of the world. Their receipt is necessarily irregular, coming from near and distant parts of the globe, freighted with news of crops ripening in every month of the year. There is great difference in the promptness of their preparation and in the degree of their accuracy, while many minor countries possess no statistical systems. These facts suggest the extent of the work and the difficulty of its efficient performance.

While dealing with this topic, the secretary is led to offer the following remark, which is worth bearing in mind:

The crop-reporting system, which has been copied in many foreign countries and, in its main features, by our State statistical bureaus, while approximate and valuable, is in danger of becoming discredited by the popular acceptance of its results as exact in precision and absolute in authority. It should be remembered that they are not the conclusions of a thorough census, though they may be far better than the work of a poor census; that they are the consolidations of local estimates of agricultural experts, and are intended as a foil to the interested, biased, and untruthful statements that speculators issue to mislead their victims. It is recognized that producers, consumers, forwarders, and dealers in actual grain have a common interest in learning the exact truth of production.

As to the crops of the present year, the secretary goes on to say:

The statistical records of the season indicate an average yield of cereals, a full supply of meats of all kinds, and a cotton crop adequate for all demands. Potatoes have received some injury from rot, which has been more prevalent in the East than in the West. Fruits have been produced in only moderate abundance, apples especially yielding sparsely in the more favorable locations, and producing scarcely a third of a full crop. The increase in variety of fruits and in area occupied, in California and Florida, is yearly enlarging our resources and in some directions limiting importation of subtropical kinds.

The great crop of American arable culture, corn, is larger in breadth this year than ever before, comprising more than half the area of all cereals, and representing three-fourths of all the maize grown in the world. It promises slightly more than an average yield, which has been about twenty-six bushels per acre. Though slow in germination and early growth, in the Eastern and Southern states, from excess of moisture and low temperature, the season was long and frosts late, with freedom from drouths except in local and very limite areas.

The production of wheat has for several years been so large as to reduce the price to a point so low as to discourage growers. There has been an increase of demand, since 1880, due to increase of population, of 70 000,000 bushels, and a decline in foreign demand of about 65,000,000 bushels. The exportation of 1880–81 was 186,321 514 bushels, in wheat and flour; the average for eight years since has been 121,300,636 bushels. This country still supplies the larger part of the European deficiency, which is much smaller than in the period of poor European harvests about ten years ago. The present crop will be a full average (between twelve and thirteen measured bushels per acre), but the quality is below an average, with lower weight and bread-making capacity. There is an ample supply, however, for all probable European demands, though deficient yields elsewhere should tend to sustain if not to advance prices.

The product of cotton approximated closely 7,000,000 bales for the first time in 1884. The crops of 1887 and 1888 each attained about the same volume, and that of 1889 has a slightly increased area, while the October percentage of condition was somewhat higher than last year, giving promise of another large crop. Yet it is acknowledged to be late, subject to unusual injury from possible early frosts, and therefore as yet uncertain in its rate of production. It is gratifying to observe that this product still meets with ample demand and maintains its value in the markets of the world, the production of the United States as well as the world's consumption having nearly doubled within thirty years. There is no immediate prospect of the loss of this supremacy in cotton-growing.

The necessity of economy in meat production has stimulated greatly the production of hay and dried forage, and the extension of the silo system, which has been encouraged by the demand for succulent feed, in the absence or scarcity of roots, has greatly enlarged the variety and volume of feeding material. In the arid regions alfalfa has absorbed a considerable area of irrigated lands, and is assuming large proportions in the crop distribution of those areas. The increase of forage and hay is relatively greater in the South than in any other portion of the country.

Progress is reported in three interesting specialties—sorghum and beet sugar, textile-fibre production, and silk culture. The two industries last named seem only to need the perfecting of proper machinery to become widely successful; but of course that is a vital necessity, and the secretary can only express his hopes that it may be ultimately attained.

The pleuro-pneumonia situation is described as below:

The work of the bureau in the control and eradication of contagious pleuro pneumonia has been vigorously and, I am happy to state, successfully prosecuted. Thanks to these vigorous measures, the contagion has not spread to any new districts, and the infected territory has been so steadily reduced in extent that it is now entirely confined to the following mentioned States. In New-York the disease has been eradicated from Orange and New York counties, and to day is only found in Kings and Queens counties, and in these much less prevalent than it was a year ago. The reports from New Jersey indicate that the disease has been practically stamped out, and there is every reason to believe that a few months of supervision will remove the last trace of the contagion. Only two small outbreaks have been reported from Pennsylvania within the past year. The first was effectually stamped out and measures promptly taken on receipt of the report of the second by the State veterinarian, and the slaughter of two affected animals seemed to have removed all apprehension of further danger. But three affected herds have been found in Maryland the past six months, and there seems to be no likelihood of further trouble there. My intention is to maintain a sufficient force of inspectors in each of these States to establish a strict supervision of cattle for three or four months after the last appearance of the disease, thus insuring against any subsequent development of it. It is gratifying to recall that the effectual measures taken by this department have almost entirely prevented the periodical rumors and subsequent panics among those engaged in the cattle trade, which a few years ago were so frequent and so disastrous to the cattle industry.

We cannot follow the report further in detail; and in fact a large part of its space is necessarily devoted to statements of the interior workings of the department, which are intended rather for the president and congress than for the general public. We, however, copy a part of the concluding paragraph:

Great as are our crops in the aggregate, it must be admitted that our bread acres are not as prolific as they should be, and I am convinced, that with the aid which can be afforded to agriculture by carrying out to the full the purposes for which this department exists, and thanks to the rapid growth of intelligence and the remarkable efforts at self help among our farmers, the yield of every tillable acre in this country can be increased 50 per cent. More than this will science, property directed, enable us to accomplish, for millions of acres at present unproductive can, by its application, be rendered fertile. The great nations of Europe strain every effort to make science the handmaid of war; let it be the glory of the great American people to make science the handmaid of agriculture.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Nov. 5.

We have the first frozen crust of the season on the surface this morning, the mercury down to 23° Far., and so high an air tide rolling over that the aneroid needle stands over the figure 30.72. In the afternoon I noticed that the foliage of alfalfa had quite successfully resisted the low temperature, and shrunk and curled as little as the cabbages and turnips still out in the fields.

The almost universal report is that corn is drying out very slowly, and the ears appear to be waiting for a hard freeze that will complete the maturity of the good corn and add the finishing touch to the poor. For those who have not secured seed corn for next year's crop, there is danger ahead that they will not get a first-class supply, because if the ears are frozen hard while there is an excess of the water of vegetation in them, the cells in the grain are ruptured and the vitality much injured or wholly destroyed. Seed corn has been so uniformly good for the last three years that the circumstance invited indifference with respect to it, and a poor stand is almost certain for the crop of 1890.

Now that corn harvesting has become general, the common complaint is that the yield does not justify previous expectations, and 50 to 60 per cent. of a crop, compared with those of 1887 and 1888, is all that can be certainly counted on. It is an anomaly that the ears, when the earing is a full one, are much above the average in size, compared with former average yields, some sample ears I have weighed going as high as 20 and 23 ounces, and others I hear of, reported at 24 ounces, or 1½ pounds. These weights for the blue-grass soil of Kentucky, and the rich river bottoms of the Missouri, Arkansas and Tennessee, are not unusual, but for the black-soil prairie of Illinois they are. I suppose the ears weighed will have shrunk in weight when dry, 30 or 40 per cent., and then even they will be heavy ones, for an ear that weighs a pound is certainly such.

The grain convention of the Farmer's Alliance, which met lately in St. Louis, passed resolutions condemning the over estimates of the department of agriculture and State boards. This course, no less a commercial authority than the Chicago Tribune, applauds, declaring that over estimates from official sources have caused a loss of $100,000,000 a year for the last ten years, most of which has fallen upon farmers. Readers of this correspondence will bear witness that I have uniformly denied the correctness of these estimates, having observed again and again how almost certain to err on the side of exaggeration are candid men, even in counting the outcome of their own affairs and crops. This liability is so generally recognised among experienced owners of mining property, that they rarely dare trust their own estimates, and employ experts instead. The fact is that the best estimates of the yield of crops are little more than random guesses, because there are absolutely no trustworthy data to go upon, and when the officials of the department of agriculture report the corn, wheat or oat crops of the country to be so many hundred million bushels, such a thing as proof of even an approximation of the truth is quite impossible. If one should take as a measure of the exaggeration of crops, the over estimates common in the popular mind of the wealth of average rich men, and apply them to the reported yields of the cereal crops, a pretty clear idea might be gathered of the incorrectness of the wild guesses coming from official sources.

But farmers have no better data to go upon than those of the department of agriculture and the State boards, and when they undertake to fix the price of this, that or the other cereal, there is not one chance in a dozen they will get within several cents of the just and proper figures. It is a common thing for northern men to sneer and laugh at the reply of the southern farmer, who, in answer to the inquiry, how many bushels his crop amounts to, says it is "a right smart chance," and yet that is all we really know of the yield of crops, for when the rainfall and temperature are favorable we are sure of a "right smart chance" of a yield, and that is about all we are certain of in the business.

Nov. 6.—I failed in the above to mention a rainfall last week from which the soil received nearly an inch and three-quarters of precipitation, and that since we have had the first muddy roads for months. Hard freeze last night, but to-day a southwest wind, higher temperature, and more rain likely. E. F. J.

Rye Sprouted in Shock.—During the past summer, a large quantity of hay and grain in this part of the country, as well as in many others, was spoiled by the unusual wet weather. I should like to know whether grain that has sprouted in the shock is of any value to grind for feed, more particularly rye, and of how much value is good ground rye as a ration for butter cows? J. E. *Haddonfield, N. J.*

[Grain that has sprouted in the shock has a considerable value to grind. In sprouting, the albuminoids would be most injured, and it would be impossible to tell accurately the extent of the injury without an analysis. The rye that has sprouted, if free from ergot, would be healthful food for milch cows or other animals. The sprouting would not develop the ergot. When rye in this condition is ground, it will require admixture in the milk ration with other more nitrogenous foods. It would do very well if mixed with an equal weight of half malt sprouts and half bran, or if it were mixed with even an equal weight of bran. The carbohydrates would still be in large proportion. The percentage of digestible nutrients in sound rye would be as follows: Albuminoids, 8 87; carbohydrates, 68 16; fat, 1 09. This would have about the same value as ground oats—nearly the same as corn meal, except in its deficiency in fat. E. W. S.]

Alfalfa in Western New-York.—About the 20th of last May I sowed four pounds of alfalfa seed with barley on a piece of ground used formerly as agarden. The seed I procured from Messrs. Landreth & Sons, Philadelphia. It came up well with the grain, and made a very quick growth, but the barley lodged badly, and about July 10th we mowed by hand and gathered for hay. Where the grain lodged, the alfalfa was somewhat killed. After the barley was removed, the alfalfa started wonderfully fast, and in 28 days I cut a few stalks and exhibited them at a meeting of the Tioga County Hatrymen's Association. These specimens measured 20 inches in length. In the latter part of August, the ground was mowed over to prevent weeds from seeding, and I gathered the crop; the alfalfa withered much, and in drying, the leaves turned white, but this hay was much relished by our cows. To day (Nov. 4th) the height of this plant is from 12¾ to 27¼ inches on the average. Since the freezing weather has come the upper leaves have turned white, but the plant seems healthy and in as fresh condition as the other clovers. Another season I intend to watch closely this plant, and keep a correct record of its growth, its weight and value as fodder, &c. T. M.

Berkshire, N. Y.

Prizes at Chicago Horse Show.

PERCHERONS.

Stallion, 4 years—1. M. W. Dunham, Paulos; 2. Leonard Johnson, Gilbert; 3. W. L. Ellwood, Ursula. *Three years*—1. W. L. Ellwood, Voltigeur; 2. M. W. Dunham, Margon; 3. W. L. Ellwood, Jacquot. *Two years*—1. W. L. Ellwood, Hims; 2. M. W. Dunham, Albany; 3. Dustin & Co., Chateaubriand. *One year*—1. M. W. Dunham, Paulos; 2. W. L. Ellwood, Egyptian Monarch; 3. Same, Acenseur.

Mare, 4 years—1. M. W. Dunham, Vanity; 2. W. L. Ellwood, Rose Bonheur; 3. J. M. Huston, Sophie. *Three years*—1. W. L. Ellwood, Pepin; 2. Same, Noisette, 3. Huston & Co., Sylvia. *Two years*—1. 2 and 3, W. L. Ellwood; Hojare, Mouvette and Sabine. *One year*—1. Huston & Co., Dentette; 2. Leonard Johnson, Simonette.

CLEVELAND BAYS.

Stallion, 4 years—1. Geo. E. Brown, Consort; 2. Field & Bro., Cleveland Scout; 3. G. E. Brown, Gloster. *Three years*—1. G. E. Brown, Governor; 2. Same, Lord Darby; 3. Dyer Prairie Live Stock Co., Paxton. *Two years*—1. Stericker Bros., Highcliffe; 2. G. E. Brown, Pirate; 3. Field & Bro., Broomfield Lad. *One year*—1. Cleveland Bay Horse Co., Beauty; 2. G. E. Brown, Hapsburg; 3. Cleveland Bay Horse Co., Wonder.

Mare, 4 years—1. Stericker Bros., Dewdrop; 2. Cleveland Bay Horse Co., Adelaide; 3. Fields & Bro., Dewdrop. *Three years*—1. Cleveland Bay Horse Co., May Queen. *Two years*—1. G. E. Brown, Jessie; 2. Fields & Bro., Brilliant Jewel. *One year*—1. G. E. Brown, Hesse.

CLYDESDALES.

Stallion, 4 years—1. R. S. Ogilvie, McQueen; 2. N. P. Clarke, Courtier; 3. Galbraith Bros., Go-ahead. *Three years*—1. John Bushie, Reveue; 2. R. Holloway, Ensign; 3. R. B. Ogilvie, Marmion. *Two years*—1. Galbraith Bros., Columbia; 2. R. B. Ogilvie, Provost Waddie; 3. N. P. Clarke, Meadlin. *One year*—1. N. P. Clarke, Charlie Boy; 2. Same, Bullcastle; 3. Abner Strawn, Prince of Clyde.

Mare, 4 years—1. N. P. Clarke, Lil le McGregor; 2. R. B. Ogilvie, Mary Queen of Scots; 3. R. Holloway, Maid of Glencoe. *Three years*—1. N. P. Clarke, Dora McGregor; 2. J. C. Huston, The Countess; 3. N. P. Clarke, Judy. *Two years*—1. R. Holloway, St. Cuthbert's Maggie; 2. J. C. Huston, Jennie Dean; 3. R. Holloway, Cherry Brown. *One year*—1 and 2. J. C. Huston, Lady Mab and Mabel; 3. R. Holloway, Minnet.

SHIRES.

Stallion, 4 years—1. G. E. Brown, Holland Major; 2. Burgess Bros., Sir Robert; 3. Galbraith Bros., Mirdad Yeoman. *Three years*—1 and 2. Galbraith Bros.; Great Gun and Knight of Labor; 3. G. E. Brown, Weston Bill. *Two years*—1. Galbraith Bros., Campsea Yet; 2. Burgess Bros., Cheveithorne Hero; 3. G. E. Brown, Moulton Marquis. *One year*—1 Burgess Bros., Lotnair Again; 2. G. E. Brown, Moulton Ruler.

Mare, 4 years—1. Stericker Bros., Stella; 2. G. E. Brown, Princess; 3 Grew Bros., Georgia. *Three years*—1, 2 and 3. Burgess Bros; Edith Dumsel, Pomela and Shot Rose. *Two years*—1 Fields & Bro., Spruce. 2. Burgess Bros., Darling; 3. Blair Bros., Scarcliffe Bounce. *One year*—1 Burgess Bros., Wenona Princess; 2. Reed Bros, Spolsburg Maud.

FRENCH COACHERS.

Stallion, 4 years—1. W. L. Ellwood, Plaideur; 2. M. W. Dunham, Ge ffray; 3. W. L. Ellwood, Finisterre. *Three years*—1. W. L. Ellwood, Incroyable; 2. Same, Isigny 3. M. W. Dunham, Indre. *Two years*—1. W. L. Ellwood, Jupiter; 2. M. W. Dunham, Jayeux; 3. W. L. Ellwood, Juvigny. *One year*—1. W. L. Ellwood, Kadro; 2. Same, Karbon.

Mare, 4 years—1. W. L. Ellwood, Hermine; 2. M. W. Dunham, Emeline; 3. W. L. Ellwood, Floride. *Three years*—1. W. L. Ellwood, Idol ne; 2. M. W. Dunham, Liberte; 3. Same, Ipsigarde. *One year*—1. M. W. Dunham, Lucie; W. L. Ellwood, Jessie; 3. M. W. Dunham, Gazelle.

TROTTING STALLION.

Any age—1. S. A. Brown & Co., Ambassador 1688; 2. C. J. Hamlin, Mambrino King 1279; 3. W. D. Crockett, King Rose 1275; 4. W. K. Crockett, Star Hambletonian 4477.

The Poultry-Yard.

The Best Winter Layers.

A correspondent of the COUNTRY GENTLEMAN, page 749, wishes to know which of all breeds of fowls are the best winter layers. This question is rather a difficult one to answer, especially as the writer does not mention the locality in which he lives or the conditions under which the fowls are to be kept.

If he lives in a warm climate and intends giving his fowls a wide range, the Brown Leghorns will probably produce a greater number of eggs the year round than any other breed. The pullets mature earlier than any other, and with ordinarily good management begin laying at from five to six months old, and continue to do so all during winter, except in very cold weather. They are untiring foragers, pay little attention to fences that confine the heavier varieties, and are here there and everywhere, all over the place and into everything. They are what might be called shifty fowls—will follow you to the feed room, and while you take out an allowance for the remainder of the flock, the little brown birds will perch on the wheat box and proceed to fill their crops from that bounteous store. There is little danger, however, of over feeding a Leghorn; all the surplus will be converted into eggs, for they are much too active to "carry flesh." Their greatest trouble is with their great red combs in winter; if they become frosted the fowl suffers so intensely that not a single egg will be produced until the comb heals.

So if the writer lives in a cold climate, he will probably find the Black Langshans will suit him best as winter layers. Their remarkably heavy feathering enables them to stand severe weather, and with good feed and comfortable quarters the pullets will begin laying in the fall and continue steadily throughout the winter. The many good qualities of this breed will probably render it more and more popular as it becomes better known. The chicks are healthy, matures more rapidly than any other of the heavy breeds, their flesh is of excellent quality, and the hens are good brooders and unexceptionable mothers. Although the Langshans will take a wide range when permitted, yet on account of their heavy bodies they may be confined by low fences, and when properly cared for in a small range they are remarkably contented and cheerful. They have white skin, dark legs, fine black feathers, showing brilliant greenish hues in the sunlight, and grow to a large size. Their heavy leg feathering is by some persons considered an objection, as the feathers become wet in damp weather; others declare that the feathers help to keep them warm, as no doubt they do when the weather is dry and cold.

In a changeable climate like Kentucky, the Plymouth Rock will come very near producing as many eggs the year round as any other breed. Although the pullets do not reach maturity as early as the Leghorns, yet they require a shorter time than the Brahmas and Cochins, and while they are sufficiently well feathered to stand the cold, they are not troubled with superfluous plumage on legs and feet. They are remarkably active for their size, delight in a wide range, and can easily fly over a five-foot fence. When confined, their tendency, like all other large breeds, is to take on fat and decrease egg production.

The Wyandottes, a comparatively new breed in this country, are coming into general favor. Their small combs do not suffer from frost, they are plump, shapely fowls, of a fair size, and have clean yellow legs and skin, which, with many persons is an indispensable recommendation. Others again prefer above all the Light Brahmas which have a long established reputation, and declare that when kept in close confinement, (and they are so heavy that a very low fence will suffice,) they will produce more eggs in winter than any breed yet known. Their chicks are not at all hard some, are very hardy, feather slowly, and grow rapidly.

There are some fanciers who prefer white fowls to all others, and in truth there are few birds handsomer than a White Leghorn or a White Minorca with its proud erect carriage, bright red comb, trim build and and snowy plumage. Others declare that all white animals are delicate, more difficult to raise, and can be discerned at a greater distance by hawks and other depredators. A third is loud in his praise of black chickens, and as he acquaints himself with their needs and shows diligence and discretion in caring for them, he too is successful.

In fact there is so much to be said in favor of each of the well tried varieties that it is exceedingly difficult to say which is absolutely the best, as all of them when kept under conditions favorable to their requirements will no doubt give satisfaction. And the poultry keeper who selects that breed most pleasing to his individual taste in color and general characteristics, and who makes it his especial study to bring his strain to its highest development, can scarcely fail to succeed.

Several years ago I adopted the plan of keeping Brown Leghorns, the most prolific of the non-sitters; and Plymouth Rocks, the best general-purpose fowl, together in the same yard, and find that by their united efforts I am able to raise an unlimited number of chicks, and supply a regular engagement for eggs the year round. A FARMER'S DAUGHTER.

Weather, Crops and Prices.

Meteorology for Nov. 4-10.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.32	inches.	
Lowest	do.	do.	.....	29.95	do.
Mean	do.	do.	.....	30.12	do.
Highest temperature	do.	.....	69°	
Lowest	do.	do.	.....	34°	
Mean	do.	do.	.....	50°	

One clear day; three fair; three cloudy. Two days on which rain fell; total precipitation, 0.09 in. Prevailing wind, S. and W.; maximum velocity, 18 miles per hour on the 4th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

Day.....	4th	5th	6th	7th	8th	9th	10th
This year..	49°	50°	44°	46°	49°	49°	44°
Normal....	40°	41°	42°	42°	44°	46°	47°

Total excess for the week, 27°.

New-York—*Forestville, Chautauqua Co., Nov. 4.*—The first part of October was very stormy, causing delay in field work on the farm, but this has been largely compensated for by the warm, pleasant weather of the past two weeks—most farmers being well prepared for winter. The grape crop is about all disposed of, and at prices which have been pleasing to the growers—35@30c. per 9-lb. basket. Chautauqua Co. has few apples, the few being of poor quality, and selling low. $1@1.50 per bbl. Potatoes fluctuate so that it is hard to tell how much they are worth; at present they are retailing in the Dunkirk market at 50c. per bu. There has been a general decline in the prices of all kinds of farm produce for the last two weeks; how long this will continue and why is "a hard nut to crack." Meadow hay and pasture never looked better at this time of year, and everything points to good pasturage and a large cut of hay the coming season. The COUNTRY GENTLEMAN is worth its weight in gold. C. S. Rice's method of cocking corn fodder has saved me a great deal of labor, as well as preserving the fodder in much better condition than if cut and stored in the old way. No snow yet; weather continues fine. C. H. P.

Connecticut—*Hartford County, Nov 4.*—The weather for the past ten days has been cloudy or rainy, and has kept fall work backward; the potato crop will be all dug in about one week more. Corn is being husked as rapidly as the weather will permit; the crop is very sound and hard. Cider making will be finished at the several mills in about one week more; price of sweet cider at mill 5c. per gallon; price paid for apples, 30c. per bush., delivered at mill. The winter apples have nearly all been disposed of, and have been shipped to New York and Boston; prices to growers, 75c. for white and $1 for colored apples, barrels furnished by the apple buyers. Nuts of all kinds are very scarce; walnuts are in good demand at $2 to $2.50 per bush. Price of chestnuts has held at about $2.50@4 per bush. Fresh eggs in good demand at 28c. per doz.; dressed chickens, 18@20c. per lb.; fowls, 16c.; dairy butter, 26c.; creamery, 30c. A. E. H.

Virginia—*Birdsnest, Northampton Co., Oct. 31.*—We have had a heavy rainfall, and one exceptionally heavy rain on the 23d and 24th, lasting 36 hours, with a fall of 4.15 inches. First and only frost on the 9th, which did little or no damage. One thunder storm on the 21st. Maximum of thermometer, 83°; minimum, 41°; mean, 57°; rainfall, 7.40 inches; making for the year so far, 46.35 inches. The heaviest in over twenty years. C. B. H.

Missouri—*Kansas City, Nov. 2.*—November came in rainy and dreary; with high winds and a dark day. The last few days of October were very rainy and cold, nevertheless there was on the night of the 29th a severe thunder shower. There has been the largest rainfall through this section the past summer that has been known for years. Crops of all kinds are very good, and farm work is nearly done for the autumn. Market prices for provisions remain about the same as last month, no material change. Water is plenty, and mud deep. S. M. H.

Wisconsin—*Janesville, Rock Co., Nov. 6.*—The season is still quite remarkable for its mildness and dryness. No severe frost yet. The coldest morning was only 4° below freezing. We have had a rain of eight hours, but only a drizzling one; still it has done much good. The grass has even put on a green, cheerful appearance again. There really has been much more plowing done than report allowed. Only in some unfavorable places is the autumn work behind. But for the generally spring nature of our river it would be dry entirely. Eastern exporters of tobacco are on the ground buying up fillers before the tobacco is stripped. This is a new feature of the Wisconsin tobacco business, and does NOT accord with the interests of our own leaf tobacco dealers. Wheat, 65@70c. per bu.; rye, 50c.; barley, 30@30c.; corn, 25c.; oats, 18@20c.; potatoes, 25@30c.; onions, 60c.; butter, 18@20c. per lb.; eggs, 20c. per doz.; hay $4.50@7.50 per ton; cattle, $2.40@3.40 per cwt.; hogs, $3.60@3.75; tobacco, 2½c., 3½c., 5½@10½ per lb. W. H.

Horticultural Department.

Pears—Selecting Sorts for Market.

Edr. Country Gentleman—I wish to set out a few hundred pear trees to raise fruit for market—what kinds would you recommend?
Ontario County, N. Y. R.

In making a selection, such varieties are to be chosen as will probably retain permanent value at least ten or twenty years hence; and so far as we can know, the most profitable at the present time will be likely to hold their value in the distant future. But we have to run some risk; for some varieties which stand high lose their value. For example, in some localities where the Seckel was formerly the most profitable of all pears, it has now become nearly worthless for market, on account of the black scab; and the Virgalieu, which forty years ago stood far above all other pears for market in Western New-York, became so generally affected with this same disease as to become of no value whatever, and it is now almost forgotten, although occasionally fair specimens are grown. There are some varieties which have been grown for a long time and have never become affected with this disease. The Bartlett, for instance, which was raised in England a century ago under the name of Williams' Bonchretien, maintains its original fairness, and is now the most popular of all pears in this country. It would unquestionably be quite safe for our correspondent to plant largely of this pear; and although more have been set out of the Bartlett than of any other pear, there is still a strong demand for the fruit, and handsome well grown specimens always bring a good price in market, where a proper market is chosen.

The owner of an orchard does not want all the pears to ripen at once, but four or five varieties should occur in succession on account of convenience in shipping. After the Bartlett, the Howell is a good market pear, as the tree is a good grower, an early and abundant bearer, the fruit is always handsome and fair, and of good quality. When it becomes more widely known, it will be more sought in market. Later in autumn, the Anjou begins to ripen, and the specimens continue to mature for several weeks; and in a cool apartment it may be kept into winter. The tree is symmetrical and a good uniform grower. We have trees which are fifteen years old, that frequently bear eight or nine bushels each. The fruit is well known in market, and sells for good prices.

The Clairgeau—Is another late autumn fruit, good specimens of which always bring high prices, as there is no other market pear which equals them in beauty, and when at their best they are excellent in quality. Those which grow on young trees often fail to ripen well, and sometimes rot before softening; but on older trees this difficulty passes away. One of the most beautiful natural objects is a tree of the Clairgeau twenty years old, and loaded in autumn with large, smooth, symmetrical, crimson-shaded pears.

The Lawrence—Is one of the most profitable early winter pears, many of the specimens ripening late in autumn. The trees retain their foliage after the leaves have fallen on most of the other pears, and the fruit may be left longer before gathering than many other varieties.

These five, the Bartlett, Howell, Anjou, Clairgeau and Lawrence we should select as the leading market sorts, keeping up a regular succession for several weeks, or until freezing weather closes the work of gathering, packing and shipping. It would be well to have at least a few trees of the Bosc and Sheldon, large pears of great excellence. The tree of the Bosc is slightly tender, and the Sheldon is not always a reliable bearer; but a purchaser will occasionally be found who wishes pears of uncommon excellence and who will appreciate them. There are many others which may be tested on a small scale, as Clapp's Favorite, Comice, Columbia, Boussock and others; while Louise and Angouleme stand at the head for raising as dwarfs.

Popular Fruits.—The Catalogue of the American Pomological Society, made up of votes from the different States, gives 40 votes for Red Astrachan, 38 for Early Harvest, 33 for Malden's Blush, 30 for Oldenburg, 27 for Northern Spy, Fameuse, Ben Davis and Carolina June; 29 for Gravenstein, 30 for Fall Pippin, and 21 for Baldwin, Jonathan and Roxbury Russet. Early apples are less affected in quality by climate than winter apples, hence the reason that they are often more widely approved.

Celery-Growing in New-Jersey.

Edr. Country Gentleman—The excellent articles on celery-growing in recent issues of your paper omit some vital points: 1. The application of Mapes manure as a topdressing; 2. The handling. To raise good celery requires much manure—the correct quantity best found by practical tests; if too little, the celery will be stunted; if too much, it will be forced, bitter and pithy. Also, the handling of late celery, if not properly done, will result in fungous growth—tough, rusty and stringy—utterly unfit to use.

As I stated last year, I use the method practiced by Mr. Peter Henderson, one of the largest growers of market celery.

Sowing.—Celery seed is sown in beds prepared in spring as soon as ground can be worked—here, about April 1. Ground is first plowed, then Mapes special vegetable manure (for suitable soil, light or heavy—I use light) applied broadcast at the rate of 500 pounds to the acre, dug in (two spits deep) with a spade. Ground then raked over, cleared of stones, and then another broadcasting of ten quarts to a bed ten feet long by three wide. This is then raked in and lines drawn one foot apart and a quarter of an inch deep in the beds, which are six feet wide and as long as desired, with three-foot alleys between. Seed is sown rather thickly—if obtained from reliable sources, three-fourths of an ounce to 100 feet of drill proves thick enough. Ground is then rolled over with a heavy roller if in a dry season, and if damp, patted gently down with a spade, thus *firming the seed in the soil*—another important point neglected by several of my neighbors, who blamed the seedsman because their seed did not germinate, when their own negligence was the true cause. I had the same things to overcome as they, and cautioned some on this mode of treating seeds, especially parsnips and celery. Nothing more is done, except to keep the beds well watered and shaded from the hot sun.

Planting.—From the middle of June to the middle of July is the time for transplanting the celery, and nothing is to be done with the plant beds before then except keeping clean of weeds, and occasionally thinning out the plants. In the cities we sell these thinnings, but here or where the demand is limited I thin out as I transplant, thus giving time between the first and last plantings for plants to be of fair size by the middle of July (the latest celery should be put out in this latitude). I use ground that has had early cabbage and potatoes, planting in the rows after leveling with a smoothing harrow; sow broadcast on the row Mapes manure (special vegetable) at the rate of 1 qt. to 100 feet; then rake or harrow this in, and with boy to drop each plant, 6 inches apart in row, follow with dibble. I put in alone 4,000 to 5,000 in one day (12 hours). This work is begun about June 15th on cabbage ground, and 1st to 15th of July on potato ground. As the celery makes no growth apparent until August 10th to 15th the only work is to go between the rows with hoe and cultivator to kill weeds and keep the soil mellow, but in addition I give an extra dressing of Mapes manure at the rate of 1 qt. to 200 feet of drill, applied by a novel device improved from a seed sower given in a back issue of your paper—viz., a common tomato can with a hole in the bottom (to which is added a tapering cone of tin and soldered on). A stick 4 feet long nailed to side of can completes the implement. By walking along the side of the celery and tapping the stick, one can regulate the supply evenly as by machinery. I drop the fertilizer about 3 inches from the celery on each side of the row as fast as a man can walk. I find it a complete manure, and just what celery requires, making it earlier and more crisp and tender than any other fertiliser I have tried—viz., wood ashes, hen manure, or barnyard manure composted. I apply the fertiliser or manure once to that planted from June 15 to July 1, and twice on that planted from July 1 to July 15. This brings us to the middle of August when we have cool, moist nights so essential to the growth of celery.

Handling.—By this time it has attained considerable size and must be handled—an important point in the cultivation of celery. I find the method practiced around Boston, and described by a correspondent, as a good one and a great saving in labor by the old way. Now comes earthing up for early celery, about 1st to 15th of September. As soon as the plants have grown about 12 inches high (I raise only dwarf varieties) I bank up to top of plants on each side at one operation, and in 7 to 10 days it is ready for use, white, crisp and tender, and of excellent flavor. Here is where some make a mistake: First, too much coarse manure; second, every week drawing earth to celery (many also persist in planting in trenches); this makes the celery hollow, tough and stringy, and utterly ruins it. Earth only as much as can be used or sold at this early period; let the rest grow, putting only enough earth or soil to the plants to keep them upright. I use the cord in place of earth, thus keeping until end of October, when I earth up the whole crop to top.

I now have in trenches stored for blanching for November and December, 1,500 roots of White Plume, and 1,000 Boston Market; have earthed up 500 Boston Market and 1,000 White Plume, which I leave thus until last of November, or as near that as possible, when I take up and put away for March and April. I have sold 1,500 roots here this month of White Plume against 900 last year. Golden Heart and my Boston Market are indeed fine this year; will be ready for next month. I pack in flat bunches of four roots, and get this year 3 cents per root wholesale against 1 to 1¼ last; 3 cents at retail. Next month I shall begin shipment to New-York market.

We have fine soil for celery-growing—in fact all through the county, more especially four miles north and a mile west of here, on what is called the great meadows. Celery has been raised here by several parties for years, but not being properly handled, it did not come up to the standard. A few years back a party of capitalists came into possession of this land, and tried raising onions, but the land being improperly drained, floods came near swamping them. Last year, however, a new party was taken in and, having been to Kalamazoo, Mich., and seen the celery-growers—they in turn visiting here—arrangements are being made to form a celery colony to grow this valuable vegetable for market. Houses are now being erected, and if I understand aright, colonists will come from Kalamazoo and enter on the business of celery growing. This will make competition brisk, as they raise fine celery indeed. C. S. B.
Hackettstown, N. J.

The Flowers of the Season.

Edr. Country Gentleman—Our greenhouses are at present gay with an abundance of flowers. Chrysanthemums are in full flower; some of the early-blooming kinds, such as Lady Selborne, are getting past. While the new and much-lauded Mrs. Carnegie is a flower of great size, the color is not very attractive, and I do not think that size alone will long keep it a leading kind with so many of fair size and much more beautiful color in cultivation. Mrs. Alphens Hardy is much better, its peculiar-shaped flowers giving it an attraction which no other possesses.

Self-colors are always most in demand for cut flowers, such as white, pure yellow and bright red. In larger markets, fancy colors find more ready sale, but with us and in all similar-sized places the demand is limited to a few of the more attractive of the mixed-colored varieties. About one-half of my plants were grown in pots, the other half planted in the open ground during summer. Such as were planted out I lifted and set out in a prepared bed on the ground in a cool-house. On the plants grown in pots the flowers are more perfect and of finer substance than such as were planted out. I also find that on plants which were propagated in March and April, the flowers are finer than on such as were propagated earlier in the season. One reason I attribute for this is that the earlier-propagated plants became pot-bound before time to set out of doors; hence a check was made to their growth from which they never fully recovered. Those propagated in March and April received no check to their growth until full-grown, and therefore matured better flowers.

Carnations are doing well and producing lots of flowers. Among the large number of varieties we grow, I find the following most profitable: As a pot plant for house culture, and well adapted for growing in the dry atmosphere generally found in sitting-rooms, none equals Catherine Pual—pure white, sweet scented, of compact growth, very floriferous and remarkably hardy, enduring more frost than any other variety we have. Sunrise, a good pot plant; color a pinkish yellow ground with red streaks; flowers large; very productive and sweet-scented. For cut-flower work, we have not a white which is better than Hinze's White, nor reds which are better than Portia and E. G. Hill, where long stems are required.

Last spring I secured a number of plants of a new one named Starlight, which is going to make a standard variety for cut flowers. The habit and vigor of growth are identical with Hinze's, but the color is a beautiful lemon, deep enough to be distinct, and suitable alike for funeral or home decoration.

Roman Hyacinths have made a good start, and the first of them will soon be in flower. We grow a great many of this beautiful early flowering hyacinth in 4-inch pots for window culture, a purpose for which they are well adapted, and if kept in a cool room they last a long time in bloom.

Frieasia—The first of these are coming into bloom. The longer we grow them the more useful they appear to be; well adapted for cut flowers and window gardening. While we grow several thousand bulbs of freesia in pots, we have a large stock in boxes for cutting purposes. Grown in this manner we get better and larger flowers than when grown in pots.
Mahoning County, O. M. MILTON.

A Woman's Garden—XII.

Before Snow Flies.

What a different face the thrift of autumn wears from the thrift of spring! In April, all the wide earth sets herself to work. There is a new and urgent activity, felt rather than seen, in the soft, moist air, the humid ground, the tense bark, the loosening bud. Everywhere life is pricking, germs swelling; everywhere great nature, vast, multiform, mysterious, palpitates with secret power. Deeply, now, are stirred all those forces that serve to multiply and expand a throbbing life. On every side the spell works. There is pollen in the catkins; there are tiny new-born leaves in the moist hollows of the woods; the red maple has thrown out her signals of joy. All that is old, outworn, rejected, shall clothe itself anew in living beauty. Even the sodden and ruined leafage of last year is not lost—what was radiance in October becomes food and fibre again in June.

But in the somber days of late fall, when all color is in hiding and the landscape verges toward one common dun; when the grass grow brown, and the browns become sullen and cold; when the skies and the waters are grey, and even vagrant clouds have lost all lightsomeness, then the mother of mothers shows another spirit in her housekeeping. Whatever treasures she may have hid away underground, upon the surface all must be swept and purified. Her scouring winds, her cold, dry, pale sunlight no longer breathe any animating influence. "The time of joy is over;" she seems to say. "Stern duty remains; let us bury the dead." And so where bitter frosts have turned to blackness all the loveliness and grace of the garden, with her threatening besom she sets to work to clean away the débris of all that has had its brief day and perished.

As we worked with nature in the early days of growth so we must work with her still in her day of destruction. Before snow flies the garden, carefully neat however bare, must be ready for its long winter's sleep.

Making ready for this prolonged nap need not be a gloomy task, though it is certainly less inspiring than the work of sowing and planting, which we began with so much enthusiasm in the spring-time. It is not really dreary or hopeless; nothing is hopeless in the world of outward life. We are not burying anything which is really dead; we are only preparing for a series of new beginnings, and in these perpetual new beginnings are we not always looking for advance and improvement?

Some hardy perennials will bear transplanting without injury up to the very time of solid freezing. Indeed, they seem almost indifferent to the surrounding conditions during the hibernating period. A few choice roots, that through adverse circumstances were frozen out of the ground rather than in it, a change of residence being effected by the owner in November, remained for six months in a basket, standing, with very little earth, in a base-

ment closet, and resumed growth vigorously in the ensuing spring when placed in the ground. But this would hardly serve as an example of winter care. In late transplanting or dividing of clumps, which one is sometimes tempted to undertake at the final raking off of beds and ground, special pains should be taken to pack the earth finely and closely about the roots, and to make all very firm; then a little surface protection against the disturbance of frequent freezing and thawing will be desirable. It is this, rather than extreme cold, that we have to guard against in gardening in our northern climate.

In strawing up tender roses and other woody plants we protect them against the injurious effect upon the bark of these changes. When neatly done, the appearance is not at all distasteful; it is a kind of comfortable circumstance that our favorites have put on, something like that which we ourselves assume when we don our furs and our heavy flannels. Vines and even tender shrubs may sometimes be laid down to excellent advantage. Evergreen boughs make the best of all covering, to be put over leaves or light litter. It is thus kept securely in place in a neat, practical and effective fashion, with the least possible labor and with an agreeable effect, which is worth considering when it can be gained without any sacrifice. The custom, too common in many places, of strewing the lawns with coarse, strawy manure in autumn, deserves to be mentioned with disgust. Top-dressing can be done effectually without paying the excessive price of weeks or months of annoyance. Let the farmer's fields have the benefit of this slow process of reduction by a hundred storms; about our homes let us have a fertilizing material that is easily soluble, and that will dispose of itself promptly. This is equally true of the fall feeding which is so desirable for roses, vines and hardy plants. But as a layer of manure may be well covered with leaves. It is, perhaps, less objectionable than when exposed to the full light of day upon the lawn.

Soon nature, with her fleecy blanket of snow, will veil all our mundane cares in her own exquisite purity. She will protect and adorn at once in her own inimitable way. But it is necessary to remember that she only takes care of us when we take care of ourselves; that she works us harm or good according as we have been faithful or unfaithful to those trusts which are given into our own hands.

DOROTHY.

Aloysia Citriodora, p. 824—"My large lemon trifolia, called in the catalogue *Aloysia citriodora*." I think your correspondent has got two different plants mixed up together; the plant meant is the *Aloysia* or lemon-scented verbena, a very common and popular fragrant plant. The "lemon trifolia" is probably a catalogue way of printing *Limonia trifoliata*, a shrub that has been brought prominently before the public by some florists doing a mail trade during the past two years. It is a hardy lemon tree, but how hardy I cannot tell. There is quite a nice specimen of it in Central Park, New-York, which has lived there unprotected for several years, and our plants here live along all right; still, I think if we wish to have it prove hardy we have got to shelter it very kindly for the first few years anyway. It has large fragrant white flowers about the middle of May, but set so close to the spiney stems as to be of no use as cut flowers. But the beautiful fruit upon the old plants is the chief attraction. Propagated mainly from seed imported from Japan, and the young plants are raised out of doors in Florida, and sent north for sale and distribution. W. F.

Glen Cove, L. I.

Entomology and Bees.

The Peach Tree Borer.

Ægeria Exitiosa.

EDS. COUNTRY GENTLEMAN—Please tell us—1. The vulgar and the scientific name of the moth which lays the egg that develops into a white grub in peach-tree bark just at the root of the tree; 2. The appearance of the moth; 3 At what time, and how often it lays its egg; 4. How soon the egg hatches, and how long is the insect in the grub state; 5. At what time, where, and by what process does the grub change into the moth; 6. What is the best preventive from, and what the best cure for the injuries done by, this insect? M. P. G.

Salem, N. J.

[*Answer by Dr. J. A. LINTNER, State Entomologist.*]

In reply to the above inquirer, I would state:

1. The common name of the insect of which inquiry is made, is the "peach tree borer," so named from the tree that it usually infests, although it is occasionally found operating on plum trees and in cherry trees in the same manner as on the peach. It is stated that in one instance it was found boring into the base of the stem of an azalea (COUNTRY GENTLEMAN, XLIV, 1879, page 119, 1st col.) Scientifically it is known as *Ægeria exitiosa* Say—its specific name, meaning "deadly," "hurtful" or "dangerous," having been well chosen for an insect inflicting as much harm as does this species.

2. The moth, with its slender body, narrow wings, and transparent in one of the sexes (the male), has much the appearance of some of the wasps, and is doubtless often mistaken for these insects by those who have not acquainted themselves with its distinguishing features. The sexes are shown in the accompanying cut,

a b

The Peach-Tree Borer Moth—a, the male; b, the female.

to which, to ensure recognition, it is only necessary to add that the male (a) is steel-blue in color, with two pale yellow longitudinal lines on its thorax, two quite narrow pale yellow bands on its abdomen, some yellow bands on its legs, and white borders to the tuft on its tail. The female (b) is also steel-blue, with opaque front-wings, and a broad band of orange-yellow on its abdomen. They are represented in the figures in about their natural size.

3. The moth commences to deposit her eggs, in the State of New-Jersey, as early as the first week in June, and may continue abroad (its females that emerge later) and lay eggs until in September. For an extended reply to an inquiry from New-Jersey, as to how long the moth is on the wing, see a communication in the COUNTRY GENTLEMAN for Feb. 9, 1888, vol. LIII, p. 109.

4. I do not know that the length of time of the egg-stage has ever been noted, but it is probably less than two weeks. The larva, which is a caterpillar and not a grub, continues in that stage for the greater part of a year—through the summer, autumn, winter, and a large part of spring.

5. In the month of May, the caterpillar having fully matured, arouses from its rest (it is believed to pass the winter in a state of repose within a groove which it had excavated in the bark and sapwood of the root), and comes up to or near to the surface of the ground, where it builds around it its well-known pod or case, oval in form, usually about three-fourths of an inch long by one-fourth of an inch broad. The case is generally found resting against one of the roots or lower portions of the trunk within a groove excavated for the purpose, and for supplying the material used in the construction of the case. Within this case, after the lapse of a few days, it throws off its caterpillar skin, and enters upon its third, or pupal stage. It continues as a pupa for about three weeks, when its shell is rent, and the moth emerges in its final stage. The time of pupation, and constantly that of the appearance abroad of the moth, will vary with the latitude of the locality, and also somewhat with the prevailing temperature of the season. Thus while, as stated, the moth may be seen on the wing in New-Jersey early in June, Dr. Fitch has found in Washington Co., N. Y., the insect in considerable number, still within its follicles as pupæ on the 24th of July; and Mr. Worth, as quoted by Dr. Say (locality not given), obtained thirty larvæ from his trees on the 10th of July, which had arrived near the surface of the ground, preparatory to and in readiness for constructing their follicles or cases.

6. In the diversity of opinion that prevails, it would not be safe to say what is the best preventive of the attack of this insect. Mounding about the base of the tree with earth, sand, cinders, ashes, &c., to the height of a foot or more, to prevent the moth reaching the base of the tree for its egg deposit, is highly approved of and practiced by many peach-growers. It is generally believed, however, that safety from attack can best be obtained by a wash or coating that will repel the moth, and thereby prevent egg laying. A recent writer, a successful peach-grower, has given the following as almost a sure preventive of the borer, adding that it would still be desirable to examine each tree in October for traces of the borer, and dig out each one that may be discovered. He says:

"We annually apply a wash for two purposes—first, to smooth the bark, and second, to keep the insect away. For a common water-bucketful we use two quarts of strong soft soap, half a pint of crude carbolic acid, and two ounces of Paris green, with water and lime enough to make a thin paste that will adhere to the tree; if convenient, we add a little clay, which assists in making it stick. This we apply with a swab or brush before the first of June. The odor of the carbolic acid tends to drive the insect away in search of some more attractive place of deposit for its eggs; the soap promotes the growth of a smooth, healthy bark, and the Paris green is good food for borers, mice, rabbits, &c., that like peach bark for a daily ration, while the lime and clay furnish a good body to the mixture."

As a remedy for the borer when in the tree, it need hardly be said that nothing better is known, or promises to be known in the future, than the old method of searching out the borer, as indicated by the exuding gum, cutting it out and destroying it. In this instance, at least, a remedy is better than a preventive. The latter only drives away the ovipositing moth to unprotected trees elsewhere, while one borer killed prevents (if it had otherwise lived to perfect a female moth) the development another season of two or three hundred borers, which would have sufficed to stock a large number of peach trees.

The May Beetle on Plum Trees.

EDS. COUNTRY GENTLEMAN—I have frequently observed the curculio beetle feeding on the leaves of both plum and cherry trees; also a smallish smooth caterpillar of a light green color, numbers of which we sometimes jar down when after the curculios, and which, I have no doubt, (never having tried it on plum trees) spraying would effectually destroy. There has been, however, no noticeable injury inflicted by either the curculio beetle or the green caterpillar on my trees.

But on reading the editorial paragraph (Insects—p. 809, col. 1,) I was reminded of a raid upon the plum trees by an immense swarm of May beetles, which I witnessed May 17 last. The day was very warm for time of year (90° in the shade between 1 and 2 o'clock P. M.,) which brought out hosts of insects of all kinds. Just at dusk the May beetles began to assemble in large numbers about the house and barn, as we could tell by the rapidly increasing taps as the beetles flew against the two buildings. In a short time they made for the plum trees standing near the house, which soon seemed alive with the bugs and their humming. I hung a barn lantern in the middle of one of the trees, by the light of which I watched them for some time. The females ate quickly and continually, keeping up a constant buzzing except just at the time of the frequent attentions of the males; the latter kept flying about, eating only occasionally and then voraciously. The swarm remained in and around the trees about an hour when it gradually dispersed; numbers appeared on subsequent evenings but never collectively as on this night. On examination next morning the trees visited by the beetles presented a rather forlorn appearance, though on none of them, I think, was the foliage sufficiently damaged to check materially the growth of the trees or the ripening of the fruit, thought he severe frost of May 26 prevented the question being settled.

Presuming that this swarm came out of the soil around my plum and cherry trees where we plowed up great quantities of white grubs and a few fresh beetles in the falls of 1887 and 1888 (most in the former year when many bushels of potatoes were rendered useless for sale by them), it was the produce, if Prof. Riley's history of the May beetle is correct, of eggs deposited in 1886; the reason that scarcely any larvæ were noticed at the fall plowing of 1886 may have been that, only a few months hatched and growing slowly, they were not perceptible unless they had been carefully searched for. Those discovered in 1887 and 1888 were big and plump looking, as if they had fattened on the potatoes, in which several of them were snugly housed; from their appearance and the descriptions of the different stages of growth given in Prof. Lintner's Bulletin of November, 1888, I should judge each lot was ready for transformation the following spring; so that the swarm I saw was formed from the larvæ left unearthed in 1888.

Although always on the lookout, I rarely find a May beetle in the state of pupa, only one now and then in the fall; the larvæ found of medium size, corresponding to the second year of their like, were among larger and apparently older ones, and not many in number. The eggs have as yet escaped my observation, notwithstanding many a good hunt for them.

Monroe County, N. Y., Oct. 20. J. H. C.

Winter in the Hive.

It is quiet and silent throughout the bee house. Indeed, bees' work is always silent; the only sound coming from the hive at any time is that made by the fanners moving their wings to ventilate and to cool the hive.

The bees are at work all winter, or nearly all winter, but it may be limited to the warm area covered by the brooding colony. There may be a time in midwinter, between the hatching of the last of the fall eggs and the laying of the first of the new-year eggs, when bees are or may be absolutely at rest, if the weather be of the sere kind when there is nothing to do except "to sit close" and to keep quiet.

The bees in the centre of the cluster sit next to the fire, where the temperature may be 65° Fahrenheit, even when at zero on the outside of the hive. On the outside of the cluster the temperature may be only 45°. While the colony is in a state of rest, yet it is not motionless unless the weather conditions are exactly right. If the outside of the cluster be too cold, every outside bee will, if possible, work his way to the centre or to the chimney corner; he does not stay there long for other bees are crowding in, but he is in the centre long enough to withstand another journey to the outside where he finds himself again. Thus a quiet, slow change goes on, every bee determined to have a chance to warm his toes at the central fire as often as possible.

Sometimes, owing to the presence of much brood in the fall, honey is stored away from the brood nest, or centre of the hive, and in a long stretch of severe weather, the bees consume all the honey near them. If the weather moderates, they use all diligence and speed, and bring honey from the outside combs to the centre, that the table may be prepared in their presence in the next cold snap. If the weather continue cold, however, the colony may perish with abundant food within a few inches of them.

In a hive in which all had died with honey near, appearances indicated that the bees had sent out foragers to bring in food from the distant frames. In the trenches before Petersburg our soldiers suffered from thirst, and men must go forth, and dodge bullets to get water. Many of these water bearers were never seen again. Thus the bees in their last extremity sent out of their number to cross the mountains (two or three frames) scale the glacier of honey, open its frozen walls, take their fill, return and pass the bottle (the tongue) to their comrades. These bees were cut down, chilled in their tracks, some just starting out, some returning, and within an inch of the warm cluster.

Bees should not be disturbed in winter, but it were better to disturb on a warm day than to run the risk of losing them from starvation when there is honey enough in the hive. Place honey frames nearer the centre, or rolls of candy over the cluster, under cover and under mat.

Bees should be left on their summer stands. Let no man persuade you to put them into an earth clamp, or anywhere indoors where they cannot fly when the weather permits. The earth clamp is often a clamp of death, and probably it is no fault of the clamp that it is not always a death dealing contrivance.

Bees do not sleep in winter, they do not hibernate, they do not "lie dormant." Some people may be surprised to learn that bees fly in winter. They do; they fly every fair, sunny mild day, and fly when it is not very mild. Watch the entrance midday on a sunny day in a cold month. Out comes a bee ten feet or more, and then returns to the hive. In this brief flight the bee voids excreta. After a snow storm the snow around the hive is spotted and stained.

Now, the bee in a state of health never voids except on the wing. Therefore, if the bees be placed in a clamp in November, and not liberated till April, the excreta must be retained for four months. Bees do this, but the conditions must be just right, and no one knows today exactly what are the proper conditions. But indoor wintering, even if successful, is contrary to nature.

Protect on the north and west by a wind break, guard against mice, and if the colony have honey enough of the right kind, and if the colony be strong in numbers, it will come forth in the spring like a roaring lion. S.

New Advertisements.

Bronson, W. O.	Cheshire Hens.
Bennett, David C.	Wyandotte Pullets.
Box 48	Stock Farm for Sale.
Bell, G. H.	Lincoln Sheep.
Brown, J. Carter	Jersey Cow.
Hamerton, Hon. L.	Percheron Horses.
Corbin, P. H.	Cattle and Horses Wanted.
Chriswell, A. G.	Percheron Stallion.
do. do.	Jersey Bull.
Clark, M. H.	Holstein-Friesian Cattle.
Carter, John S.	Hand Pail or Pruni.
Cloud, Dr.	Scotch Collie Bitches.
DePuy, C. C.	Poultry Paper.
Dickson, W. A.	Help Wanted.
Delonach Mill Mfg. Co	Saw Mills, Flour Mills, &c.
Dickinson, Frank	Red-Polled Bull.
Farmer	Situation Wanted.
Gibson, Tobias	Fruit Farm for Sale.
Hammond, H. B.	Holstein-Friesians.
Hoopes, Herman	Jersey Cattle.
Hudson, C. I.	Jerseys.
H. B. T.	Situation Wanted.
Johnson, John H	Poland-China Pigs.
Lucas & Vosburgh	Poultry, Berkshires, &c.
L. M.	Manager Wanted.
Lovell, John P.	Automatic Revolver.
Lane, A. N.	Jerseys.
Marsh, W. G.	Shropshires.
Madden, A. G.	St. Lambert Bull Calf.
Potter, W. J.	Holstein-Friesian Bull.
Producer	Apples and Eggs Wanted.
Pratt, H. C.	Chester White Pigs, &c.
Read, M. G.	English Mastiff Pups.
Stevens, Henry	Holstein Cattle.
Sholes, N. F.	Holstein Friesians.
Smalley Mfg. Co.	Farm Implements.
Schlesberger, S. W.	Short-Horn Cattle.
Swain, Jr. James P.	Guernseys.
Trout Run Stock Farm	Jerseys for Exchange.
The Youths' Companion	Sample Copies.
Tabor, Geo.	Ayrshires at Auction.
Williams Stock Farm	Jersey Cattle.
Williams, C. H.	Mirrasses and St. L. Calf.
Wilson, F. M.	Atwood Sheep.
Wheeler, C. J.	Percherons and Berkshires.
Whipple & Co., W. W.	Gospel Cure.

Inquiries and Answers.

Muck in Compost.—How would you advise to use muck or mud from tidewater land to make a good manure? How would composting with acid phosphate to supply phosphoric acid, and cotton seed meal to supply ammonia, answer? How much of each would you advise to use in the compost for an acre where 700 to 800 bushels of muck would be used? The land is sandy and would produce about ten to fifteen bushels corn per acre without manure. I want to make more—say forty to fifty bushels; also to use it for sweet potatoes. L. C. L. *Waverly Mills, S. C.* [The value of the muck as a fertiliser can be determined before trial only by analysis; but it is not probable that this possesses of itself much fertilizing properties. If dried sufficiently to admit pulverizing, it might be used as an absorbent to mix with the fertilizers mentioned; but even then actual trial would be required to ascertain the fitness of the compost for the soil of your particular region. We have stated on former occasions that fertilizers of one kind are greatly beneficial in some places and of little value in others, which is to be determined only by making the trial; but an analysis of the muck would assist largely in deciding in advance. Muck alone, in some localities, has greatly improved the productiveness of land where the ingredients it contains are absent; but in most cases its value is quite moderate, but is increased to a greater or less extent by the addition of barn manure, or special fertilizers where they are needed.]

Cement Pipes.—What is the method of making cement pipe? How many rods will a barrel of common cement make of one-inch bore? What proportions of cement and sand should be used? J. B. *Nassau, N. Y.* [The common mode among farmers is first to make the trench, then procure a box made in the form of a trough four feet long, three inches wide at bottom and five inches at top, and four and a half inches deep. The wooden rod for the bore is five feet long, with a leather bag a foot long and an inch in diameter fastened to the forward end of the rod and filled with sand. This rod forms the bore as it is drawn along. The mixture is made of one part of Rosendale cement and three parts of sand. Fill the trough with the cement and turn it upside down in the bottom of the trench. It will make cement enough or a little more than enough to make an inch pipe an inch thick on all sides. Lift the trough out, then with a trowel make a channel in the middle of this ridge of cement wide enough to receive the rod, and to let it down within an inch of the bottom. Close the cement over the rod, and let it remain long enough for the cement to stiffen enough to turn and draw rod out. Then draw it out, but leave the bag in, two inches of which next to the rod, not filled with sand, will make it limber enough to turn the rod to one side to receive the next box of cement at the end of this one. Then go on till you make the pipe of any desired length. It is of importance that the very best cement is used, selecting sharp, clean sand, and good Rosendale or Portland cement, which will harden and become as durable as stone. The cement should not be allowed to be subjected to freezing for three or four months at least after it is laid, as the little moisture it contains will cause it to crack and be spoiled. If laid below the frost it will be safe. As for the quantity that a barrel of cement will make, if it contains about four cubic feet, twelve additional cubic feet of sand will make sixteen cubic feet of mortar; a cubic foot of mortar will extend nearly fourteen feet for the size given; a cubic foot of cement fifty-six feet, and a barrel of cement thirteen rods, if not wasted. There may be slight variations from these figures.]

Sawdust for Manure.—Will some one who has used sawdust for various purposes tell me how I may utilize it? There are fifty wagon loads of it in 400 yards of my stable lot, and is to be had for the hauling. It is all oak and was sawed this spring. I am farming and grow corn, wheat, tobacco, oats, clover, vegetables and fruits for home consumption. W. B. B. *Christian County, Ky.* [Sawdust alone is of little value as manure, and sawdust from green oak is valueless. Some years may be required to rot it sufficiently for use, for which purpose it may be mixed with soil, kept moist and exposed to the weather. Used mechanically as a mulch, it may be applied to young fruit trees or for other similar purposes. If well dried, it may be used as a litter or absorbent in horse and cattle stables, its chief value being in retaining the liquid portion of the droppings.]

Value of Waste Water.—I have a very large cemented cesspool that contains both laundry and kitchen sink water; this overflows every two weeks. What I want to know is how I can utilize this greasy, soapy waste water. My farmer and my gardener both say that if used as it comes from the tank the grease will choke plants and trees, and that the bluing used in the washtubs acts as a poison. J. L. B. M. *Bellport, L. I.* [The small amount of bluing in the water would probably do no harm to vegetables, to the soil about which it is applied; but the greasy water, if coming in contact with the plants, would form a coating and injure their growth—the amount of harm depending on the quantity and continuance of the grease. If merely running into the soil below, less harm would be done. The best use to make of the water of the cesspool would be to run it on a large compost heap, where water is needed to aid in the decomposition of the heap, the addition of loam, soil, or sand, increasing the quantity.]

Raspberries in Orchards.—I have a side hill, western slope, set out in fruit trees 12 feet apart, every other tree a pear, remainder peaches. Soil strong, extra heavy grass land, heavy growth of witch grass. Will it be feasible to grow raspberries between the trees? Will they do well under these conditions, and shall I be able to subdue the witch grass? Please advise through your columns. J. D. S. *Stamford, Conn.* [You may raise raspberries between the rows of trees, provided you keep the space well cultivated, while the trees are small. When they grow so as to shade the entire ground, they will check the growth of the raspberries, and they will not bear heavy crops. Cultivating the ground thoroughly and repeatedly will keep the quack grass in check, and if done so frequently that the grass cannot reach the surface for an entire season, it will be destroyed. We have seen a twelve acre field which was densely sodded with it entirely cleared of this weed in one season by thoroughly plowing and harrowing once a week, no growth ever reaching the surface.]

Filling Silos.—Owing to a wet summer, I was unable to get a silo built in time to fill with green corn. Consequently we cut corn and put in shock until after we were done seeding. We then commenced to fill a few days ago with this half-dry fodder corn. Owing to some imperfections in elevator to corner on the cutter, we filled the silo only one-fourth full. In a few hours this cut fodder commenced to heat, and in two days it was so hot that it would scald the hand, and smelled very mouldy. We have been feeding out of it for three days; the cattle eat it fairly well. I am afraid to cut any more until I can get some information on the subject. Will this corn get hot enough to set fire to building, and can I—by filling rapidly to top, then packing or tramping, and covering well with cut straw—prevent this mould and heat? Must it be absolutely air-tight below, and lastly, if it does heat and mould, will it affect its nutritive qualities? Silo is 23 by 24 feet, 15 feet deep, built of stone and underground, so that entrance is from bottom of basement of barn. The corn is the large field variety grown in this section, sown in drills about five inches apart, and each stalk has a large ear or nubbin. The blades are well cured, but stalk is green, and the ears are well glazed; and in cutting, the amount of corn or grain in this fodder astonishes one. I think the excessive heat is largely owing to the presence of this corn. My idea was to fill the silo a second time, when empty, with fodder from field crop after corn had been husked—fodder well protected. This would be some time in January next. Should it be necessary to make entrance door at bottom of silo air-tight, please instruct me as to best method of doing so. B. H. B. *Woodbine, Md.* [Heat and fermentation in the contents of the silo are increased by access to the air, and retarded or suppressed by excluding air. Hence the reason that packing solid and pressing under heavy weight is not attended with so much heat as when the fodder is thrown in loosely, or when the filling is often intermitted a few days. By interrupting the filling, we have succeeded in raising the temperature to 140°. The fodder which our correspondent has used being partly dry, it is both lighter and stiffer, and does not pack so solid, and hence the increased heat and fermentation—to prevent which it is important to pack it solid, and to fill the silo rapidly before a high heat can be reached—the weight of the contents pressing compactly the portion below. There would not be danger of taking fire unless the temperature went much above 140°, which the thermometer would show.]

Insects in Cord Wood.—Will some one suggest what to do with a lot of cord wood stored in a cellar? It seems to be infested with worms and spiders—so much so that if one hearkens there is a sort of rustling noise constantly in the pile, and the cellar walls and ceiling over the wood are white with webs. It is unpleasant to handle and unfit to bring up stairs, and there is a quantity to last another year. Has been two years in the cellar, which is dark, small and dry. Have burned sulphur to no effect. INQUIRER. [I am unable to reply satisfactorily, not knowing what causes the annoyance. It cannot proceed from spiders, for they would not make a "rustling" noise. "Worms" have no place in wood under the conditions stated. If insects were there, the noise proceeding from them would be that of the larvæ gnawing within their burrows, and this would be a grating sound rather than rustling. I do not understand the condition of the wood that would render it unpleasant to handle and "unfit to bring up stairs." It could hardly result from mouldiness in a "dry cellar." Insect-borers within the wood could not be reached by sulphur fumes, or any other insecticide that could conveniently be used. Perhaps some housekeeper who may have had similar experience may offer a satisfactory solution of the mystery. J. A. L.]

Marsh-land Plants.—I enclose samples of grasses that grow on our marsh land; there are more, but these may be said to be the principal ones. Please state value of the mixture compared with ordinary mixed upland hay, timothy, clover, red-top, &c. Having a quantity, would it pay to use it with grain to feed cows for butter better than to buy good hay for $10 per ton? J. C. W. *Hampton, N. B.* [Of the specimens sent only one is a true grass. This is *Spartina cynosuroides*, "fresh-water cord grass," also called "tall marsh grass." This is a tall rank grass, but of very little value for hay unless cut while young. When old it is coarse, hard and fibrous, and scarcely more valuable for fodder than so much straw. It is sometimes used in making paper. The other grass like plant is *Carex stricta*, the "uricular sedge." The plant bearing globular seed vessels scarcely larger than bird-shot is *Lysimachia stricta*, "upright loosestrife." The specimen marked "polypod" is the sensitive fern *Onoclea sensibilis*. A mixture of these plants would be far inferior as food for cattle to ordinary upland hay. C. E. P.]

Alsike.—I should like to inquire of your correspondents who have had experience with alsike clover in regard to its value as a dairy feed, and how it compares with red clover. When sown with red clover and timothy would the hay or pasture have an injurious effect in any way upon the qualities of the milk or butter? B. B. G. *Ithaca, N. Y.*

Acknowledgments

Communications for publication have been received during the week ending Nov. 11, from B. M.—N. H. Jessup—P. F. Kuhn—Woodes—A. S. Wells—R. Hackett—J. C. White—Geo. A. Stockwell—J. C. Falconer—E. W. Stewart—W. J. M. E. —Waldo F. Brown—C. B. Moore—Baker—Dr. J. A. Lintner—Dr. C. D. Donman—J. S. H.—Prof. C. H. Ashton—Mrs. S. H. Howell—L. S. I. —R. W. P.—J. H. Clark—Thomas C. R. E. Summer—Mrs. C. I. Allen—Carter—Henry Stewart—T. J. Edge—W. Horne—T. S. Wateman—R. I. B. —J. C. Horner—Florence B. Frost—Johnson—E. F. Johnson—T. M. H.—J. D. Dutcher & Son—I. E. W.—M. C. L. Allen—T. B. Terry—T. B. P.—D. W. T. B.—J. C.—W. S. H.—C. S. tle—Farmer's Daughter.

*** We cannot comply with requests addresses of correspondents for private

*** We cannot answer inquiries by

THE CULTIVATOR AND Country Gentleman.

Albany, Nov. 14.

New-York Dairymen.—The Annual Convention of the New Dairymen's Association will be held Ithaca Court-House, Dec. 10-1 are promised by Col. F. D. Curtis, T. Powell and W. H. Gilbert. P. vord, G. C. Caldwell, E. F. L. Wing, Gov. Hoard, and other w thorities. Headquarters will be Hotel. Prof. I. P. Roberts is p association; Josiah Shull, Ilion W. Burbank, treasurer.

Propagating Bearing P Many of those who have long b cultivating the different varieti are aware of the disease kno and scab, which greatly inju certain varieties worthless. In this disease has nearly destro Beauty; the Virgalieu or W first at Boston and afterward from the highest popularity to ness, has passed out of cultiv recently the Seckel in some quite ruined by it. We have that the most effectual cure trees with such varieties as So far as we know, such popu as Bartlett, Howell, Anjou as escaped, and these we have new tops, and the Bartlett, has taken the lead. We have growing and productive vari were re-grafted, and the best *bore four measured bushels*, an half and two bushels each, t grafted being about seven fe and several grafts being tree, so as to form an even a ing symmetrical top.

The accompanying engra perfect idea of the manner was done. Fig. 1 repres

Seckel pear about fifteen some years has ceased to fruit. It is about to be Bartlett top. The grafts base of the head, at points marked with short double smaller lower limbs are

be grafted the year after the first, as it is not advisable to cut off the whole top at once. Most of the larger limbs are cut, and the wounds painted. Enough shade should be removed to give air and light to the grafts. The second year the remainder of the small limbs are grafted, at which time the shoots from the previous year's grafts will present the appearance represented by fig. 2. One more

Fig. 2.

year's growth will make a good bearing Bartlett tree. To give a full measured crop, several grafts must be inserted spreading from each other.

Correction.—In the notice in our last number of the proceedings of the American Pomological Society, the types are made to say that there are "17 pages" on tropical fruits, for which read 17 *papers and 57 pages.*

A Louisiana Home.—Any one desiring a winter home near New Orleans may advantageously refer to the advertisement of a ten-acre Louisiana fruit farm which appears in another column—the property of Mr. Tomlas Grimon, Versailles, Ky.

Large Bunch of Grapes.—D. M. Dunning, Esq., of Auburn, N. Y., has handed us a fine bunch of the Black Barbarossa grape, measuring sixteen inches long and nine wide, and weighing six pounds, the berries measuring from seven-eighths to an inch in diameter. Mr. Dunning has been very successful in the culture of fruit under glass and in the open ground, and this is only a specimen of many of his products.

"Myself."—This is the title of an extremely pretty octavo pamphlet of 36 pages, handsomely printed in delicate tints, with illuminated cover—which is issued by Mr. James Vick of Rochester as a premium to subscribers to his magazine. The contents are a very pleasing poem and twelve beautiful full-page illustrations. No advertising matter of any kind appears, and recipients of the brochure are certain to be pleased with every part and feature of it.

Vermont Dairymen.—The Vermont Dairymen's Association will hold its 20th annual meeting at Rutland, Jan. 15, 16 and 17, 1890. The new butter extractor will be exhibited, and speakers who have won a national reputation for their knowledge of dairy matters have been engaged to deliver addresses—$300 will be paid in premiums on butter and cheese—let cheese-makers bear this in mind before disposing of their best cheese. Further notice will be given from time to time, and a detailed programme will be issued in December.

West Randolph, Vt. E. L. BASS, Sec'y.

Marketing Fruit.—E. Williams of Montclair, N. J., says it is the absurd and dishonest practice of concealing in packages the inferior fruit by placing the best outside, that does more to depress prices in markets than anything else. There is too much inferior fruit raised, and this course is adopted to effect a sale. The man who desires to build up a reputation and obtain a demand for his products, will see that every package is of uniform quality throughout and that every package is what it purports to be, his name on it being the guarantee. Nothing will close a market sooner than for purchasers to discover that they have been dishonestly treated and imposed on, and the next time they will conclude to go without fruit.

Great Storm in the Southwest.—A despatch of Nov. 8th from Dayton, New Mexico, says unless the snowstorm which had been raging in that region for eight days came to an end soon, next summer will show a country covered with the dead bodies of animals as thickly as was the old Santa Fé trail in the sixties:

The depth of snow is now not less than twenty-six inches on a level, and in many places it has drifted seven feet high. When the storm struck this section seven large herds of cattle, numbering from 400 to 2,000, were being held near this place awaiting shipment to eastern markets. The rain of a week ago was followed Thursday morning by blizzards of snow and sleet which sent the herds in a southerly direction. In vain did the already half-frozen cowboys try to check the march of the herds, but on they went through increasing storm until, finding it utterly impossible to hold the cattle, the cowboys rode aside and let them pass, and, when nearly dead, rode the exhausted horses into canons on partially sheltered places, where they passed many hours of misery, without food or fire.

Numerous cow men and sheep herders are reported as frozen to death, and the snow was drifted in some places seven or eight feet deep. Many cattle are known to have been destroyed, and it is estimated that 30,000 sheep must have perished in the part of the Territory visited by the storm. Hay was nearly exhausted, and trains had been snowbound for a week. Another despatch of the same date, from Clarendon, Texas, reports six inches of snow, the heaviest fall in twelve years, with such drifts as to stop entirely the movement of trains.

Farm-Yard Notes and Items.

Mr. Geo Tabor, East Aurora, Erie Co., advertises that having leased his farm he will sell at auction, Nov. 23d, his entire herd of Ayrshire cattle, between forty and fifty head, together with Suffolk swine and other farm stock.

The Haras National Co., of Montreal, whose card appears in our advertising columns this week, has exceptional facilities for the selection of Percheron and Coach horses in France and is now making its third importation within the past two years. Its president is the Hon. Louis Beaubien, a gentleman of much prominence in all that concerns the advancement of Canadian agriculture.

The American Shire-Horse Association met at Chicago, 5th, agreed to raise the secretary's salary from $500 to $1,000, and elected officers:

President—Alexander Galbraith, Janesville, Wis.
Vice-President—George E. Brown, Aurora, Ill.
Secretary—Charles Burgess, Wenona, Ill.
Treasurer—P. C. Warner, Fox Lake, Wis.

The American Percheron Association has elected the following officers for the coming year:

President—Hon. T. W. Palmer, Detroit.
Vice-President—I. L. Ellwood, DeKalb, Ill.
Secretary—S. D. Thompson, Wayne, Ill.
Treasurer—P. Whitmer.
Directors—H. W. Dunham, Capt. T. Slattery, James Garfield, R. B. Kellogg, Lewis Johnson, Henry Avery, E. W. Cottrell, F. B. Redfield and H. C. Wheeler.

The American Association of Importers and Breeders of Belgian Draft Horses is considering the feasibility of publishing a stud-book, and has elected the following officers:

President—P. J. Jolidon, Elvaston, Ill.
Vice-President—C. E. Stubbs, Fairfield, Iowa.
Secretary and Treasurer—J. B. Conner, Jr., Wabash, Ind.
Directors—Peter Tolear, D. H. Van Dolah, John Hastings, Solomon Degen, Harmon Wolf, John T. Campbell.

A large exportation of Guernsey cattle has lately been consigned to the Sapporo Agricultural College, Sapporo, Japan. Mr. Arthur Brigham of Westboro, Mass., is now at the head of this institution, and this purchase of Guernseys is the result of his desire to introduce into the country a breed of cattle noted for their butter producing qualities. The animals were selected with the greatest care, and include representatives from the herds of E. F. Bowditch, Framingham, Mass; Silas Betts, Camden, N. J.; William Harvey, West Grove, Pa; Francis Shaw, New Braintree, Mass.; J. Logan Fisher, Germantown, Pa; and J. W. Fuller, Catasauqua, Pa; in all eighteen females and two males. They should make a good showing for the Guernsey breed, and the Japanese government.

The seventh annual meeting of the Iowa Jersey Cattle Club was held at Cedar Rapids, and we are indebted to the secretary for a report of the proceedings, under date of Nov. 4th. After the reading of a letter from Gov. Hoard of Wisconsin, in response to an invitation to be present, the names of W. J. G. Dean of Hanover, Mich., Hon. E. Burnett of Southboro, Mass., and Maj. Campbell Brown of Springhill, Tenn., were submitted for the selection of an expert judge at the next Iowa State Fair, and a resolution was adopted recommending to the Board of Directors of the State Agricultural Society that for the testing of dairy cows at the State Fair for butter, they make provision whereby the churn shall be used in connection with the oil test. The following officers were elected:

President—Levi Robinson, Iowa City.
Vice-President—Ben Van Steinberg, Preston.
Secretary—Den D. Deenan, Cedar Rapids.
Treasurer—Job Reynolds, Maquoketa.
Directors for Two Years—J. L. Comstock, Sac City, E. S. Buffum, Leroy; E. E. Harroog, West Liberty.
Test Commissioner—C. H. Parsons, Malcom.
Executive Committee—J. J. Richardson, E. S. Buffum, Levi Robinson.

President Robinson then delivered an interesting address from which we may be able to make some extracts hereafter.

According to our last English papers American cattle were arriving at Liverpool so plentifully that there was insufficient accommodation for their prompt landing.

The English Guernsey Society has now 88 members, and £370 in its treasury. Five volumes of the herd-book have been issued, but the members do not buy it as largely as was expected.

Messrs. Howell & Slocum, Scipio, N. Y., write, Nov. 4th: "We have just imported a very fine lot of French Coach stallions, and will soon place our advertisement in your paper, as our former experiences with you in the way of advertising have been most satisfactory."

Two horses, called Ontario and Roseberry, jumped bars 6 feet 10⅝ inches high at the Chicago Horse Show last week. This is said to be an inch and a quarter higher than any equine leap previously recorded; but it was beaten a few days later at the same show by Roseberry, who cleared a bar 6 feet 11 3-4 inches from the ground.

"With an exportation record for the past fortnight of sixty head of pedigreed Clydesdales," says the London Agricultural Gazette, "there is every evidence of an eager demand for useful breeding horses. The United States, as usual, claims the lion's share of the exports, but South America and Germany have also taken several horses and mares. Since the 1st of January about one-half of the total number of Clydesdales exported have gone to the land of the stars and stripes, over 250 to Canada, about 150 to South America, ninety head to Germany, and four to Australia."

Mr. P. J Cogswell writes under date of Rochester, N. Y., Nov. 4th:

"I have sold to Milton Cayes, Richmond, Va., a beautiful daughter of Isadore Stoke Pogis 37297, four months old. Her dam, as a three-year old, made 16 lbs 9¼ oz butter in seven days. Her granddam, Grace Greenleaf Parks, made 18 lbs. 3 oz butter in seven days. Her sire was from a daughter of St. Helier 45, and by Lucy's Stoke Pogis. Her dam is by Exile of St. Lambert, who has six daughters with tests of from 15 lbs 5 oz to 19 lbs. 6½ oz. in seven days, all made as two or three-year olds. I have just returned to Mr. G S Hutchinson, Englewood, N. J., two of his pure St. Lambert cows sent here for service by Exile of St. Lambert early in the season, and with them sent him a fine daughter of Exile of St. Lambert, six months old, from Alice St. Helier, who has a test on moderate feed of 16 lbs. 13⅛ oz. in seven days, with second calf. I have also sold a bull calf to J L Faulkner—a son of Exile of St. Lambert, from Fancy Litchfield 29455, who made 18 lbs. 14½ oz. butter as a three-year-old, and I think is now capable of making over 20 lbs. in seven days. I also have sold one of the handsomest young bulls I ever raised, to Dr. Peter Failing of Gasport. He is by Exile of St. Lambert, and from the imported cow St. John's Daisy 28388 with a test of 15 lbs. 4 oz butter in seven days."

The London Live-Stock Journal, reviewing the 35th volume of Coates' Short-Horn Herd-book, takes occasion to pay its respects to the "men—who conceive themselves to be leaders of English opinion—who cannot even now disguise their impatience and dislike when any mention is made of any quadruped being the better for a pedigree;" and adds:

"It is a suggestive fact that the chief supporters of the whole series of registers of horses, cattle, sheep and swine, have been, for the year past, the dwellers in the great American republic. It seems as if the very vastness of their country, and the inconceivable variety of admixtures of races among its present inhabitants, had made the Americans more alive than we are ourselves to the value of breeding within restricted limits. While not attempting to disguise our individual opinion that every 'breed'—so called—of farm stock in Great Britain is comparatively of modern combination, we can never emphasize too strongly the conviction that the materials out of which the several breeds were made had existed in this island, for centuries, in a quasi restricted condition, in consequence of the narrow limits of the country and the conservative instincts of the people. These facts led to our predecessors having, when they began stud and herd books, material already so concentrated that it will take the rest of the world many generations before they can catch us up."

The exports of horses from Great Britain to British North America during the nine months ending Sept. 30, were valued at £183 840, against £198 931 in 1888, and £157 673 in 1887. There is also a decrease in the value of horses exported to the United States, while the chief gain has been in the export to other countries, doubtless due to the large number of thoroughbreds taken to South America. The number of stallions exported to the United States was 524, against 568; and of mares 317, against 651. The number of stallions exported to British North America was 1,124, against 1,671; and of mares 993, against 780.

To Our Readers!!

The Elections are over, and political topics, important as they are, may yield for a while to those of more immediate and personal interest. We ask the kindly attention of our readers to the following brief statement:

When the subscription price of The Country Gentleman is remembered—in clubs only two postage stamps per week, and to others but little more—in comparison with the correspondence thus secured from all parts of the country, as well as from abroad; in comparison with the opportunities given for obtaining information through our columns of inquiries and answers, general, veterinary and miscellaneous; in comparison with the means of judging from our advertising pages of the state of the market in all classes of improved stock, and of learning from them all that is new in the improvement of machinery, seeds and plants—not to speak of the scientific and popular discussion of important problems in farming, gardening and stock raising—the equivalent demanded for the return given is absolutely trifling—so small that it would seem wholly unnecessary to ask attention to the matter from any one willing to give it a moment's serious consideration.

These remarks include, very briefly, a few of many reasons or arguments which will suggest themselves to those of our long standing friends who may kindly endeavor to gather in some of their neighbors and associates as subscribers for our coming volume. When we consider that our present circulation, large as it is, bears so small a proportion to the aggregate number of farmers in the Middle States alone, not to speak of the entire country, it is more and more a matter of surprise that a field so vast is as yet so imperfectly occupied.

The demand for sample copies and other purposes always necessitates enlarged editions during the winter months. We should invite the attention of advertisers more particularly to this but for the fact that the space we care to devote to advertising appears to be called for from week to week without stimulus or solicitation on our part; and the position of the Country Gentleman at the head of journals of its kind, as an advertising medium, as well as in other respects, needs no other proof than is readily afforded by an intelligent inspection of its columns.

We shall be happy to mail sample copies with circulars, &c., to any addresses sent us for the purpose, and particularly invite applications of the kind just now.

From Several States.—The Country Gentleman is invaluable to me; each issue worth many times its annual cost. P. L. Tharp, *Roanoke, Va.*

—When I am forced to give up all good things, the Country Gentleman will be the last. I find it to be almost an absolute necessity in farming. C. G. Poulson, *Linwood Station, Pa.*

—The paper has not only afforded me a great deal of pleasure and profit, but my wife has found the domestic department a great help to her. James L. Wright, *Oscoda, Mich.*

—I have derived great profit and experienced much pleasure in reading your paper. J. C. Shepherd, *Edgefield, S. C.*

—Can't do without the Country Gentleman. C. W. Walker, *McGregor, Ia.*

—I like the Country Gentleman far better than any other farm paper. W. G. Baker, *Ellsworth, Kas.*

—The Country Gentleman has become almost a necessity of my life. Mrs. E. A. Brewster, *National City, Cal.*

—Your paper is valuable even here, the information I have gleaned out of it well worth the subscription. M. H. James, *Somerset, Bermuda.*

The Grazier and Breeder.

Brood Sows—Pigs—Sheep-Manure.

EDS. COUNTRY GENTLEMAN—For the purpose of making manure I have purchased five young sows, and shall breed them to farrow about April 1. I propose to divide them in small lots in my large well-lighted basement barn, and feed them with ground western wheat screenings obtained here at about $12 to $13 per ton, and on which they do well; also give them cut clover hay and grass freely and good care. About how many screenings will they eat and corn meal at say $16 per ton, at the age of nine months? Supposing the sows raise 50 pigs, what weight ought they to develop, and how many two horse loads of manure will they make if supplied with sufficient bedding to keep them clean. If they reach only 200 lbs., and I get only 5c. per lb., making $300, will that pay for the feed they and the sows eat? How much well matured red-cob corn ensilage will 100 Merino ewes, weighing about 80 to 85 lbs., eat per day if fed that alone, and how much should be given with bean-straw fodder and poor beans or bran? I have about 30 to 40 tons of ensilage, the fodder of 25 acres of beans and plenty of straw, and would like to know if I have rough feed enough. How much grain should they have before and after lambing? I. A. A.

Monroe County, N. Y.

I. A. A. will find his brood sows do very well upon ground wheat screenings, because this will be composed largely of bran, and this feed must have very much the same composition as bran, with a little larger proportion of the starch of the wheat.

As he has no milk, and his brood sows must have water, it would be well for him to heat 60 lbs. of water and stir into this while boiling 25 lbs. ground screenings, and feed this to them warm. This will contain about the right amount of water for them, and will be sufficient feed per day, during November, December and January, being kept in warm quarters. During February and March, or two months before farrowing, he had better add 1 lb. per head of fine bran. After getting over farrowing he should increase the water to 30 lbs. per head per day, and feed with 100 lbs. of water 25 lbs. ground wheat screenings, 5 lbs. wheat bran, 3 lbs. linseed meal, and 5 lbs. corn meal, or 38 lbs. in all, to the five brood sows. This will furnish a good ration for producing rich milk to grow the pigs. But when the pigs get old enough to take other food than the milk of the dam, no corn meal should enter into this food for the pigs.

To 50 lbs. of water add 10 lbs. ground wheat screenings, 5 lbs. wheat middlings, 5 lbs. fine wheat bran, 5 lbs. linseed meal. Let the little pigs eat this by themselves, what they will take, besides the milk of the dam. Continue this till the pigs are weaned. A little green clover cut short should be mixed into the slop of the little pigs. Food in this proportion may be give to the little pigs after weaning, till they reach about 80 to 100 lbs. in weight, and they should develop on this rangy frames, and be kept in perfect health.

The linseed oil meal will not add very largely to the expense (as he can obtain it at a moderate figure in Buffalo), and it will be worth all it costs in its healthful action upon their digestive organs. After reaching 100 lbs. weight, the ration for these pigs may be compounded in the following proportion: 50 lbs. ground screenings, 10 lbs. linseed meal, and 40 lbs. corn meal. This may be fed in the form of warm mush, and may be continued till nine months old, when they ought to weigh 250 lbs. per head. We think, if fed properly on this plan, the pigs should sell in market for what they cost.

2. It is quite impracticable to give the loads of manure produced, but this may be said, that if the manure is completely saved from all waste, and is carried fresh to the field and worked into the soil, it will be worth two-thirds the whole cost of the food. But there is so little manure entirely saved from waste, and applied without loss, that it is difficult to make an accurate calculation upon it. Yet it may here be said that from careful experiments, it has been proved that in a case similar to this not more than from 5 to 8 per cent. of the fertilizing matter of the food is used to produce animal growth or supply annual waste.

3. I. A. A.'s sheep would not do well on corn ensilage alone. They would probably eat for a time about 12 lbs. ensilage per head, but if the bean straw is run through a cutter, and 2 lbs. of this short cut bean straw is mixed with 10 lbs. corn ensilage, and then the poor beans are ground and 1 lb. of this poor bran meal is mixed with the ensilage and bean straw, he will have a feed on which his sheep will do well and mature strong, healthy lambs.

It would seem from his statement that he has just about the amount of coarse fodder, without using his ordinary straw to feed his 100 ewes to the first of April. But if he has not bean straw sufficient, he can cut some of his other straw and mix with his bean straw before mixing with the ensilage; and if he is short of poor bean meal, he may add an equal weight of wheat bran to his bean meal.

This same feed will be appropriate before lambing, and also after lambing. E. W. S.

The Most Milk at Least Cost.

What to Feed with Ensilage.

EDS. COUNTRY GENTLEMAN—Prof. Stewart's book purchased from you some years ago, has given me many valuable ideas, and I have passed hours pleasantly in its perusal. Still I cannot compound from tables contained therein, a feed for my Jersey cows that I have any confidence in, and want you to assist me in the matter. I keep a dairy farm, and sell all the milk; my object is therefore to feed my cows scientifically, and produce the greatest flow of milk at the smallest cost. All summer while my cows were at pasture, I have used the following feed: 6 lbs. wheat bran 5 lbs. middlings, 2 lbs. corn meal. I find a decreased flow of milk, and an increased quantity of cream. If I desired cream, I could wish for no better result than I have now, but milk, not cream, is what I want in quantity. I keep keep 25 head of Jersey cattle, of which 20 are in milk, and it is necessary to look very closely to the feed, to make dairy farming anything like a success. My silo is full with 150 tons fine cut cornstalks, well eared and matured; will open it about middle next month; before that time cows will be in from pasture, and dried corn stalks will be ready to cut; later 500 bushels of beets will come in to advantage. I have about 10 tons cut straw, which I can use for feed or bedding, worth $18 per ton. I can substitute for bedding salt hay, worth $10 per ton, and use cut straw for feed, if you think to my advantage. I have also about 50 tons hay, worth $20 per ton. The cost of feed in this market is as follows: Ground oats, 50c. per bushel; corn meal, 91c per 100 lbs.; linseed meal, $1.65 per 100; coarse bran, 45c. per 100; middlings, $1 10 per 100.

I have given you my condition, present and prospective, and if you will compound me a feed for the present, and also one when I feed ensilage, that will be economical as well as effective, I know I shall be benefited thereby. Also, if you will state how much less of grain I may give heifers and cows not in milk. I am not, however, a believer in feeding cows any ensilage within a month of calving, as my experience has been that it oftentimes produces abortion, and of some cows it is almost impossible to stop the flow of milk while they are being fed on ensilage. An early reply is greatly desired. C. M. C. *Bridgeport, Conn.*

1. In looking over C. M. C.'s statement we find that he gave 18 lbs. of ground feed to his cows on pasture, and as he does not mention the manner of feeding we must presume that this 18 lbs. of ground feed was fed alone without mixture with corn fodder, and he does not even say whether it was fed wet or dry. This was a large feed to be given on pasture, and if it was fed wet it would be swallowed without any considerable flow of saliva. Had C. examined the droppings of his cows carefully he would, no doubt, have found evidence of a considerable quantity of waste food undigested. Had this feed been given on 3 lbs. of moistened cut straw, he would have found a much better result, although coarse bran if fed dry will not be likely to suffer so much from want of digestion as the middlings and corn meal. We have tried careful experiments in feeding corn meal alone, and feeding it mixed with four times its bulk of cut hay. The difference in yield was 20 per cent. in favor of mixing with cut hay. But it seems a very difficult thing to get even our most intelligent feeders to see the necessity of mixing the coarse and the concentrated food together. Yet they all know, on a moment's reflection, that in a state of nature the grain and the stalk is always eaten together, and when we mix the concentrated and unconcentrated food together we simply follow the teachings of nature.

2. In speaking of the price of ground oats Le says 50c. per bushel, which must mean 36c. for 32 lbs. ground oats, while corn meal is 91c. per cwt., which makes corn meal much cheaper than oats, and his coarse bran is only 45c. per 100 lbs., while middlings is $1.10 or nearly two and half times as much as coarse bran, and if C. will turn to page 156 [of F. A.] he will find oats corded as worth 98c. per 100 lbs., and on the next page coarse wheat bran $1 per 100 lbs. He will see from this that he cannot afford to feed middlings at $1.10 per cwt., while coarse bran is but 45c. and corn meal but 91c. per 100 lbs. We note that oat straw is worth in his market only $2 per ton less than market hay; he cannot, therefore, afford to feed oat straw, which can be worth only from 50 to 60 per cent. as much as meadow hay, and will require more expensive food to balance it.

3. His ration for his cows when brought in from pasture and before he opens his silo may be as follows: 10 lbs. meadow hay, 15 lbs. pulped beets, 10 lbs. coarse bran, 4 lbs. corn meal, 1 lb. linseed meal. In analytical formula this shows the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
10 lbs. meadow hay.....	0.54	4.10	0.20
15 lbs. beets	0.18	1.80	0.03
10 lbs. wheat bran.....	1.17	0.47	0.35
4 lbs. corn meal.....	0.31	2.62	0.19
1 lbs. linseed meal.....	0.26	0.37	0.08
Total.....	2.46	19.36	0.85

This has a nutritive ratio of 1 to 6.

4. When he opens his silo he may feed the following ration: 40 lbs. corn ensilage, 5 lbs. meadow hay, 11 lbs. wheat bran, 4 lbs. corn meal. This in analytical formula shows the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
40 lbs. corn ensilage.....	0.48	4.80	0.36
5 lbs. meadow hay	0.27	2.05	0.05
11 lbs. wheat bran.	1.29	5.05	0.37
4 lbs. corn meal	0.32	2.88	0.13
Total	2.37	14.63	0.71

Nutritive ratio 1 to 6.7. This is a low nutritive ratio for rich milk, but we think the ration is well adapted to quantity of milk, and the ensilage will make it healthful. It will also be C.'s cheapest ration.

5. C. will find the safest and best ration for cows and heifers, not in milk, to be clover hay and bran. But he may not have clover hay. Let him give about 15 lbs. ensilage—or if his objects to ensilage give 15 lbs. pulped beets in place of it—10 lbs. short-cut corn fodder, 2 lbs. hay, and 6 lbs. wheat bran. This will be sufficient food and keep them in good health up to calving. E. W. S.

The Meridale Herd of Jerseys.

In another column will be found an advertisement of this herd. In founding it, the proprietors made a careful study of Jersey cattle, their intention being to secure the best, no matter at what cost, and to breed animals which should not only have a first class butter ancestry, but be of unusual individual merit.

Probably no cow ever brought into this country a better record for butter ancestry, having herself so good a butter record, and imparting to so many of her progeny the same qualities, as Matilda 2938. Her dam and granddam each tested 17 lbs. in 7 days, while her own test was also 17 lbs. in 7 days.

Of her daughters, Matilda 4th has an official test of 21 lbs. 8¼ oz. in 7 days, and a year's test of over 997 lbs., while Matilda 5th has a test of 21 lbs. 6 oz. in 7 days.

Messrs. Ayer & McKinney own a larger number of the noted Matilda family than is to be found in any other herd in the country. Matilda 4th's Son 30214 heads the herd of Meridale Jerseys. His sire, Ida's Rioter of St. Lambert 12656, is the son of Ida of St. Lambert 24990, who like Matilda 4th is one of the most famous cows in the Jersey world, having officially tested 20 lbs. 9½ oz. in seven days, and having the highest milk record for a day (67 lbs.), week (445 lbs.) or month (1,895 lbs.) of any cow of the Jersey breed; so that on both his sire's and dam's side Matilda 4th's Son claims an ancestry unequaled for butter production. Individually, he is worthy of his ancestry, being an unusually fine animal.

Matilda 5th 18066 and Matilda 6th 30290, both daughters of Matilda 3238; Matilda of Meridale 57176, daughter of Matilda 4th 12816 (full sister to Matilda 4th's Son 30214); St. Heller's Matilda 52857 and Matilda Heller 59706, daughters of Matilda 5th, are also in the herd.

Among other noted cows owned by them, are four of the tested daughters of Stoke Pogis 5th 5069, Beauty Doe 18065 (an unusually fine specimen of the Victor blood), having tested 26 lbs. 3 oz. in 7 days; Chiaqua 37384 and Dorine's Brunette 39309, two remarkably handsome cows, with tests of 23 lbs. 9½ oz., and 20 lbs. 3 oz., in 7 days; Kitty of Jefferson 2d, who won first prize for two successive years at the New-York State Fair; and others who will in the future make worthy records. In the herd are eleven tested cows.

Among the promising heifers are Mermaid Stoke Pogis 56963, sire One Hundred Per Cent 16590 (a son of Stoke Pogis 5th 5067), dam Mermaid of St. Lambert 2d 39969; Cora Columbine 56964, sire Canada's John Bull 8888, dam Columbine of St. Lambert 8880, that tested 19 lbs. 1 oz. in 7 days; Cora Pogis 56960, sire Canada's John Bull 8888, dam Oakland's Cora 18853, that tested 19 lbs. 9¼ oz. in 7 days; The Colonel's Daughter 50220—a combination of Stoke Pogis 5th and Hilda blood and others.

Not the least interesting of the 30 registered animals in the herd is the bull calf Ida of St. L.'s Last Son 33001, by Stoke Pogis 5th 5067, out of Ida of St. Lambert 24990, being a full brother to Ida of St. Lambert's bull 19749, that heads the Pomona herd. He is specially interesting, not only on account of his grand breeding, but because the death of his mother takes away one of the grandest cows in the Jersey breed.

Messrs. Ayer & McKinney believe that the "Jersey" is the butter cow of the world, and that the best animals are the most profitable for the dairy as well as for the breeder, and hence they propose to breed only the best. They are not in the business for amusement, but for practical results, and prove in their own butter dairy the value of the animals they own, while at the same time they are demonstrating to their own satisfaction the fact that there is more cash profit from a dairy of high cost cows than from inferior animals.

Pigs Fed for Roasters.

EDS COUNTRY GENTLEMAN—I would like a few suggestions on the subject of pig raising to the age of from 6 to 10 weeks old, or from 40 to 80 lbs. weight. I have very often seen articles on their management after they have reached 30 lbs., but very few from birth to that weight. Such pigs are in good demand in this section, selling from $3 to $5 each, according to condition, or from 6 to 10 cents per lb. live weight. On p 688 of last volume E. W. S. speaks very highly of barley meal and skim milk. We have plenty of separator skim milk at 25c. per 100 lbs., but barley meal is high; would barley sprouts, with some other grain soaked in skim-milk, answer as well? Of course we must take the old sow into consideration. Will E. W. S. make a ration of skim milk and grain to grow the pigs as rapidly as possible after they begin to eat at the trough. Would it be advantageous for them to have the run of a clover field, or would they run off too much flesh? I have a number of 6-weeks' pigs that have the run of a number of acres of territory, and are running a great deal. I think they would be heavier, if they were confined to a fair-sized yard; am I right? The small or medium Yorkshire is a favorite here. S.

South Acton, Mass.

1. S. is in error in supposing that the barley meal spoken of on page 688, 1888, was suggested as the best food for the pig. It was the best food to be used by A. M. A. But S. may use various other foods to better advantage.

S. is right in supposing that young pigs that are to be pushed to sell for early roasters, do not need the run of a field, and are better for being confined in a well ventilated pen or yard. He may make up a ration for his pigs in the following proportion: To 50 lbs. skim-milk add 2 lbs. fine bran, 1 lb. the best wheat middlings, ¼-lb. linseed oil meal. This should be mixed together and fed warm. This will make a rapid growth of muscle, bone and frame.

If the pigs were to be fed to a considerable weight, this programme would be continued until they weighed about 80 lbs. But if he wishes to put them in the best condition for sale at 40 to 50 lbs. weight, then at 25 to 40 lbs. weight, he should feed as follows: To 50 lbs. skim-milk add 1 lb. fine wheat bran, 1 lb. middlings, 2 lbs. corn meal, ¼-lb. oil meal. Feed this warm until the pigs are ready for sale.

As a matter of insuring health let S. mix in a little short-cut clover grass, or softened clover hay—just a little of this for the benefit of the digestive organs. E. W. S.

Oat and Vetch Hay—Peas and Oats.

The reply by E. W. S. to my inquiry on page 610, gives the information required very fully, and having the necessary appliances at hand, will act on his advice as to method of feeding. Would E. W. S. kindly give me his opinion as to whether he would use vetches or peas to sow with oats for my purpose: If peas, would he cut in blossom or while grain is in milk or pretty green? Is the oat at the best stage at same time as the leguminous plants? I have been cutting at a later stage, viz., when oats were well headed out, and tares or peas in pod. ONTARIO DAIRYMAN.

Toronto, Can., Oct. 26.

We think Ontario Dairyman will find oats and spring vetches a better combination than oats and peas to be cut simply for hay. But if the vetch were the winter variety it would be better to sow with winter rye. But as the vetch is a more valuable crop for hay than oats, it should be cut when the vetch would

make the best hay, and this would be in full blossom. Oats should also be in head when the vetch is in blossom. The vetch makes a hay quite as rich and nutritious as the very best red clover.

Oats and peas may be made a profitable crop for milk, using the White Tartarian oat because of its stiff straw, and then allow the pea to mature to the dough stage, when it may be cut and cured, and the peas afterwards threshed and grain ground and fed with the oat and pea fodder.

The pea straw in that case, if well cured, would be a valuable milk fodder. E. W. S.

Rations for Cows and Horses.

Making and Saving Rich Manure.

EDS. COUNTRY GENTLEMAN—Will E. W. S. please give me a ration for fresh native and grade Holstein cows of fair size? I have meadow hay and corn ensilage, which is well cured. I have bought a carload of middlings and I want to use cottonseed meal at $1.25 per cwt., and linseed meal at $1.75. I sell my milk in town at retail, and I want to get a large quantity of good milk. Is it safe to feed cottonseed meal to horses and mares? If so, please give me a ration composed of the above named feeds and corn fodder and millet hay. One horse weighs about 1,200 lbs. and goes on the milk route every day. The others do not do very much in winter, but I want to keep them in good condition. My reason for wanting to feed cottonseed meal is to make the manure richer and get my farm in better condition, but I understand it is not safe to feed much of it. G. D. S. *Bing Bing, N. Y.*

G. D. S. should have given a little more definite information about his cows—what their yield of milk is, &c. This is necessary to make a specific application in a case. He says he has meadow hay, but does not give its quality, whether cut early or late.

Looking to the production of manure, he would have done as well, and paid less, to have bought half fine bran and half middlings. But wheat middlings is a good food for milk. He may feed the following ration: 40 lbs. corn ensilage, 8 lbs. meadow hay, 8 lbs. wheat middlings, and 3 lbs. cottonseed meal. He cannot afford to feed linseed meal at $1.75 per 100 lbs., since he can buy it much lower than that in Buffalo and get it delivered at his place.

The above ration, in analytical formula, shows the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
40 lbs. corn ensilage.....	0.56	4.80	0.32
8 lbs. meadow hay	0.43	3.28	0.08
8 lbs. wheat middlings	0.92	3.92	0.32
3 lbs. cottonseed meal.....	1.05	0.63	0.15
Total.....	2.96	12.63	0.87

This has a nutritive ratio of 1 to 5.

2. It would not be safe to feed brood mares much cottonseed meal, especially while in foal. Horses may have 2 lbs. of cottonseed meal per day safely, and brood mares the same when suckling foals. He may make up the following ration for his horses: 4 lbs. cut corn fodder, 8 lbs. cut millet hay, 10 lbs. wheat middlings or ground oats, and the horses that are subjected to regular work may have 2 lbs. of cottonseed meal.

It must be understood that the cut corn fodder and millet hay are slightly moistened, and the wheat middlings and cottonseed meal well mixed in and given in three feeds, smallest at noon. Cottonseed meal must not be fed to horses without mixing with coarse fodder. It would soon produce colic and congestion.

Brood mares without labor may be fed the above amount of coarse fodder with 6 to 8 lbs. of wheat middlings mixed in, according to size and condition. This would keep them in condition and health.

3. S. is quite right in desiring to make rich manure for the benefit of his farm, and there can be no doubt that he can procure cheaper fertilizers by the purchase and the liberal feeding of the right foods, than by the use of commercial fertilizers. But success in this depends also upon the complete saving and application of the liquid droppings, which usually mostly go to waste. Coarse and fine spring-wheat bran can now be bought in carload lots for what it is worth as a fertilizer when applied directly to the soil—say $11 to $12 per ton. And it is equally true that pure decorticated cottonseed meal is worth, applied in the same way, $25 per ton.

But there is no way to save the liquid droppings without a water-tight gutter under the stall or platform upon which the animal stands. The question of absorbents is only one of saving more or less of this valuable liquid. The *how* to save the manure made by the farmer is first to be considered. It has yet had no general attention. Ninety-nine out of every hundred farmers throw their manure out in piles to be leached into the earth, washed away and mostly lost. E. W. S.

Raising a Colt by Hand.

EDS. COUNTRY GENTLEMAN—I read with interest the article on raising a colt by hand, page 826, and having had some experience the past summer, thought it might be of interest to Mrs. H. W. A., and perhaps others, to relate it. I think, before going farther, I may quote here from Coleridge that to most people experience is like the stern lights of a ship, which illumine only the track it has passed over. Our family road mare foaled a fine colt, May 5th, 1889, and in a few days became lame in hock joint, followed by severe illness from which she died. Being a favorite, her loss was felt greatly, and we have taken unusual pains in rearing the orphan colt, which has been fed in the following manner: When the morning and evening's milk of one cow was strained, a separate pan was set apart for the colt, and to every 2 qts. of milk were added 1 qt. of boiling water and one tablespoonful of molasses. About 4 qts. was prepared, morning and evening. The colt was then fed regularly every three hours for the first three months, always the first thing in the morning and the last thing at night, the quantity of milk given at each feeding being a quart or common dipper two-thirds full, increased according to judgment, the third and fourth months. The milk up to this time was fed warm, and for the fifth month common sweet milk has been fed three times a day.

The other feed consisted of about two quarts of cut hay and a half pint of ground oats and bran, dampened and mixed three times daily; occasionally making a change by feeding a half pint dry oats and clover hay, increasing at the age of four months to one pint of oats at each feeding. The colt has been turned out each day, but taken in every night, and never left out in a storm. He is now six months old, ready to wean, is in good order, bright and playful as a kitten, and I think has never been ill, or out of sorts one hour. Being a farmer's daughter and a farmer's wife, also a lover of horses, I have never found the duty of feeding the colt irksome or unpleasant, but a pleasure, and in return find the colt as fond of me as a well trained dog is of his master. MRS. F. H. W. *Geneva, N. Y.*

The Dairy Department.

A Delaware County Conference.

DELHI—A FAIR-GROUND TEST—HORSE-TROTS AT A DISCOUNT—THE BANNER BUTTER COUNTY.

EDS. COUNTRY GENTLEMAN—The managers of the Delaware County Agricultural Society, with a wisdom not quite in accord with the common custom, decided upon a butter conference to take the place of a horse-trot. The first speaker, Col. Curtis, was requested to mention the fact, and to make such comments as he deemed appropriate. A big tent had been erected for the meeting, and here, at the hour advertised, the people gathered, without any band or special effort to attract their attention. When the speaker's voice rang out over the grounds, the little groups here and there moved toward the tent, and the grandest audience in all the State came together. It was an inspiring occasion. The churns stood near by—the old dash, so full of old memories, and the more modern, with the best worker as a fitting companion. There was nothing lacking. The best dairyman were there, as the speaker said, with a consanguinity of feeling and purpose, which had put Delaware county foremost as the butter county of the Empire State. It was this thoroughbred spirit which had brought together such an audience, and which had turned the fair into an educational institution, rather than a place for amusement. A future could be built on such a foundation which would make, if it were possible, better dairyman and better citizens. To surround our calling with opportunities for improvement was wise, and to ornament it with knowledge and culture was our duty. The young men who are directing the affairs of this society, and who were trying to make the exhibition and the occasion instructive, were clothing farming in robes of dignity and honor. * * The youth on the farms would recognize these facts and esteem their profession as equal to any other in self-respect and high character. * * The horse-trot was always demoralizing. It helped no one. Its education was slang; no boy ever attended a horse-trot and went home any the better for it. It did not help him as a boy, a man, a dairyman, a citizen, or as a Christian. The speaker said he felt like invoking the blessing of heaven upon this day, and the officers who had inaugurated its noble example.

The culminating argument in favor of butter-making as a business, is well illustrated in this county. There are fewer mortgages and more general prosperity than in any other, not excepting those more favored by level lands and a more salubrious climate. There has been more of a unity of effort in their business—dairying—and a public determination to help each other, and to push their products to the front line of quality. The speaker had found out, in New-York, that Delaware county butter stood the highest in its average quality. In this county there were the highest results in the dairies in quantity. One town, Bovina, was undoubtedly the banner town in the State, producing more butter per cow than any other, and as many cows per capita as any other where the milk was manufactured. The foundation principles of dairying—breeding and feeding for a purpose—were carried out in this county more than in any other. The fertility of the soil, naturally productive, had been better kept up, because, by the manufacture of butter, they had helped to enrich it with their purchased foods, and by the sale of butter they had removed from the land but a mere trifle of plant food. Other counties can well afford to imitate this one, and especially those bordering upon her, where the one special crop of hops has depleted the soil of so much plant food. The hop counties have not begun to hold their own with Delaware. None of these special crops have been any more remunerative than dairying. The present price of hops will not repay their actual cost.

At this conference one churning was made in a veteran dash churn, and the butter was brought in the regular orthodox manner. It was churned till the butter held the dasher up high and dry. The butter came out in a mass, and the salt had to be ground through it. The other churning came in a granulated form, and the modern way of salting and working was well demonstrated by Mr. Gilbert. Mr. Munson kindly took the place of Col. Curtis, who was obliged to leave at the close of his address.

The butter in the dash churn was from about 300 lbs. of milk from the dairy of J. T. McDonald, set in large pans in running water at a temperature of 58° to 60°, and skimmed after 36 hours. The cream was nearly ripe when skimmed. One half by measure was brought to the conference; churned at 64°; butter came in 26 minutes; was worked in a butter-bowl with a ladle; product, 12¼ lbs.; ratio, 1 lb. butter to 16 lbs. milk. Cows fed 3½ lbs. mixed wheat middlings and hominy meal in equal parts, per day, with pasture.

The other churning was from the dairy of Z. Farrington, Delhi. His herd consists of 24 cows, grade Guernseys. Feed, pasture, sowed corn and millet, and one quart of mixed cottonseed meal and bran. Milk, 900 lbs., set in large shallow pans; cooled with water at 50°; skimmed in 36 hours; cream slightly sour when taken off; churned at 66°; came in 19 minutes; washed with cold water, and when taken out the granules were not larger than kernels of buckwheat; worked on a Cunningham worker and salted one ounce to the pound; product, 12¾ lbs. butter; ratio, 1 to 16. The conference took the form of an inquiry meeting, and a number of dairymen gave their views and told of their methods.

During the churnings the people stood about as thickly as possible, and kept up a running fire of questions. Every phase of butter-making was brought out and commented upon. There was apparently no conceit or shellbark notions thrust to the front, nor, on the other hand, any dogged silence and attempt to affect wisdom. It was a true conference in the conference sense, and if the average dairyman, who thinks he knows enough to do his business, to his own satisfaction at least, had been there—also the one who does not want to waste time to attend a dairy meeting—both would have seen the best men and woman of this banner county, not only present, but every one of them breathing the spirit of inquiry, and seeking for new points. The scene would have made a picture worthy of a prominent place in every dairy home. F. D. CURTIS.

Milk-Selling Facts and Figures.

EDS. COUNTRY GENTLEMAN—The following letter brings out another form of our dairy interests, and one in which a large amount of capital is invested. I have taken considerable pains to get at the basis of the milk-shipping business and the prices obtained, and also the prices which the milk delivered at the cheese and butter factories have netted the farmers.

COL. F. D. CURTIS: *Dear Sir*—I wish your opinion of the chances of success in making and shipping milk under the following conditions: Farm of 300 acres of fairly good land, very good for grass and average for grain; distant 40 miles from city of 200,000; on railroad where milk can be sent either at 6 A. M or 6 P. M; price of milk at wholesale, 12½ cents per gal. for eight months, 10 cents for four months; cost of expressage, 2½ cents per gal., cans returned free; proposed number of cows to be kept, from 80 to 90, or more if business proves profitable. I also desire to know what would be the best way to keep milk over till second milking; have no spring house, but plenty of ice and well water. What size and kind of cans would be most convenient? Light on other points which your experience and observation suggest is desired. I have had a hankering after the dairy business for several years, but with no chance to engage in it till the present. Our old-style farming certainly does not pay. I have tenant houses on farm and good men in them, and can have all the labor I wish at $18 per month, they boarding themselves. Cheaper labor can be had, even down to $12 per month without board. C. P. W. *Campbellsburg, Ky.*

The New-York State farmer would think his fortune made if he could obtain the prices named in this letter. Some skim-cheese factories, the past season, have not netted the patrons more than 50 cents for a hundred pounds of milk during the summer months. Full-cream cheese factories have paid from 65 to 70 cents per hundred during the same time. It will be seen at a glance that these are not remunerative prices. At the present time, and during the autumn months, the patrons of the cheese factories have received, net, about $1 for 100 pounds of milk. These figures cover the actual income the dairymen obtain for their milk during the milking season. It is the Alpha and the Omega of the business for that class of dairymen. If they should reach out, and so keep their cows that they would give milk during the winter—that is, the greater part of winter—the milk yield could be made with an average of $1.25 per hundred pounds. They do not do it, and who is to blame?

On the basis that 25 lbs. of milk will make a pound of butter, which is the same as allowing 10 lbs. of milk to make a pound of cheese, we can determine the butter value of milk. We find that the average net price of butter in the State during the summer has not exceeded 12c. per lb. The price at the factories for making butter ranges from 3 to 5c. per lb., with an average of about 4c. This includes the making and selling. The average price in New-York for factory butter during the summer months has been 16c., and cheese about 8½c. per lb. Into this butter account must be put the value of the skim milk for the butter dairies. Against a ton of butter sold from the farm there is virtually no charge for the loss of plant-food, while every ton of cheese must be charged upwards of $30 for nitrogen, phosphoric acid and potash, *gone*. There should be a profit in the skim-milk—in pork and calves and food for the family. A blind dairyman ought to see clearly that if he would carry his dairying into the autumn and winter he could swell his income. The average price of butter sold would then run up to 20c. per lb. net.

Now, for those who sell milk, with all of the elements of plant-food lost to the farm, I find that the milk-train prices in 1888 in Madison county were as follow:

	Per 100 lbs.	Per quart.
May 1st to 21st.....	90c.	2c.
May 21st to June 1st.....	85c.	1¾c.
June 1st to July 1st	70c.	1½c.
July 1st to August 16th	80c.	1¾c.
August 16th to October 1st..	90c.	2c.
October 1st to Nov. 15th..	$1.17	2½c.

A creamery in the same locality paid per 100 lbs. in 1888:

May.....	75c.
June.....	68¾c.
July	68c.
August.....	75c.
September.....	93¾c.
October.....	$1.05
November.....	1.05

In regard to keeping the milk over night for shipment, without going into details, I will only say it must be thoroughly aired—that is, aerated by exposing the whole body of the

milk to pure air. It should not be cooled below 50°, but be kept as near this point as possible. The cans best suited for shipping milk hold 40 quarts, and cost in New-York City $3 50, delivered at the shipping point.

Mr. Littlewood of Lisle, N. Y., who manufactures and ships milk, and who pays for the milk delivered at his milk depot, the price of butter as quoted in New-York every two weeks, rating 25 lbs. milk for a pound of butter, or gives the price paid by the Milk Exchange, has furnished me with the actual yield of several dairies and the amount paid each month. It shows the importance of producing more milk when the price is higher. The basis of New-York State dairying is too extensive in the summer. We want more warm stables, and the good sense to keep the cows in them in cold weather, and more ensilage to make milk during this time of the year. These figures are interesting as showing actual results. E. C. Slitor, from 23 cows, sold milk as follows:

1888.	*Milk—qts.*	*Cash Rec'd.*
April	1,177	$39 49
May	6,291	118 31
June	7,815	117 22
July	7,661	134 06
August	4,264	92 50
September	3,796	75 76
October	2,729	56 30
November	2,222	51 48
December	2,158	64 74
1889.		
January	2,156	59 39
February	1,736	41 40
March	2,905	82 62
	45,627	$909.00

Greatest Yield.

May	8,221 qts.
June	7,615
July	7,661
	21,497 qts.

J. W. MERCHANT'S DAIRY—43 cows.

1888.	*Milk—qts.*	*Cash Rec'd.*
October	5,584	$138.16
November	2,676	73 19
December	1,380	41 40
1889.		
January	2,257	66 07
February	2,981	80 02
March	5,819	148 47
April	7,965	159 30
May	12,070	241 00
June	12,171	251 42
July	12,748	246 91
August	10,695	213 90
September	8,051	173 62
	84,327	$2,003.34

Greatest Yield.

May	12,070 qts.
June	12,571
July	12,346
	36,987 qts.

MR. COLLIER'S DAIRY.

1888.	*Milk—qts.*	*Cash Rec'd.*
April	3,230	$85.75
May	5,212	145.77
June	4,858	75.32
July	9,299	162 54
August	1,126	133.91
September	5,490	109.60
October	2,650	66 25
November	781	19 84
	40,636	$798.88

Greatest Yield.

May	8,212 qts.
July	9,299
August	7,128
	24,639 qts.

This dairy was kept out in June from the 4th until the 19th, 15 days. In November there were two prices. Nov. 16th to Dec. 1st the price was 3 cents. This dairy brought 164 quarts from Nov. 16th to Dec. 1st—$4 92 worth.

It will be seen that about half of the season's milk was furnished in the months of May, June and July, when the price was lowest.

F. D. CURTIS.

Capitalists after Cheese Factories.—A somewhat singular statement appears to the effect that an attempt is under way on the part of an English syndicate to buy up the principal cheese factories of the great cheese-producing region of Central and Northern New-York. Such a movement seems strange, because the capital required in cheese-making is by no means the principal element; skill and careful personal attention, together with the cooperative ownership of those directly interested, would appear to meet the circumstances of the case much more adequately than a distant company in proprietorship and agents in charge. However, we quote the statement for what it is worth:

The region in question includes ten counties—Chenango, Delaware, Madison, Otsego, Oneida, Herkimer, Lewis, Jefferson, St. Lawrence and Oswego—with an average of fifty factories each, or five hundred altogether. It is claimed that, owing to the peculiarly rich and nutritive qualities of the grasses of the region, the cheese product is superior to that made in any other dairy district of America. The initial movements of the syndicate have been quietly made, but it is learned that C. B. Ryan of Ingersoll, Ontario Canada an avowed agent of the combination, has been at work for several weeks past in the northern part of the cheese district getting options on the purchase of factories in that section. He claims to have secured options on nearly three hundred factories, but this is believed to be an exaggeration of the real number. R. J. Easton & Son, produce dealers of Lowville, Lewis county, have also been getting options on factories in that neighborhood, but they deny that they are acting in the interest of the English syndicate. Another produce dealer in Delaware county is quietly securing options on factories in the lower part of the district. The options already obtained, it is understood, run to March 1 next, and the prices agreed upon for the factories are usually in excess of what has heretofore been the estimated values.

Under these circumstances the factory owners are not indisposed to sell. But the great body of dairy farmers who are engaged in supplying milk to the 500 factories look upon the movement for consolidating the cheese making industry of the district in the hands of a few foreign capitalists with much disfavor.

Butter at New-York.—The New-York Mercantile Exchange has issued a statement giving the receipts and exports of butter for five years, and showing the yearly, weekly and daily consumption in that city. The amount exported during the past year has been larger than that of any of the five years. The receipts for the year ending May 1, 1885, were 1,616,534 packages, and the exports amounted to 202,-031 packages. The yearly consumption was 1,-334,503, the weekly 25,473, and the daily consumption was 3,639 packages. For the year ending May 1, 1886 the receipts were 1,632,515 packages, and the exports 283,582 packages. The annual consumption was 1,398,963 packages. For the year ending May 1, 1887, the receipts were 1,664,057 packages, the exports were 188,541, and the annual consumption was 1,475,516 packages. For the year ending May 1, 1888, the receipts were 1,690,543 packages, the exports were 140,993 packages, and the annual consumption was 1,549 549 packages.

For the year ending May 1, 1889, the receipts were 1,771,867 packages, the exports were 317,-338 packages, and the annual consumption was 1 454,529 packages. The total receipts for the five years were 8,375 515 packages, and the total quantity exported was 1,772,455 packages.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

WARTS ON NOSE.—A colt, seven months old, has warts all over its nose. Has been out in pasture until the last week or two. J. S. H. *Richmond, Va.* [A light dressing of golden blister will remove most of them at one application, and it may be repeated in two or three weeks.]

FEEDING RYE.—I have a mare, ten years old, with foal. Will feeding her rye mixed with oats (two parts of rye and four parts of oats ground together) do her any harm, that is if I should feed six quarts a day—two quarts to a mess? M. K. B. *Marcellus, N. Y.* [If you mean rye bran go ahead, but if rye I should not advise it. The oats are good food.]

INJURED BY AIR GUN.—A valuable heifer, two years old, an excellent milker, was shot a few weeks ago by an air-gun through the vein of the right hind teat. The wound has caused much trouble, and only the faintest show of milk can be obtained from that quarter of the bag. The milk vein has been more or less inflamed since the accident. O. M. D. *Owosso, Mich.* [How long since the accident occurred? What is the location of wound? What treatment has been applied?]

FAILURE TO SERVE.—A three-year-old stallion served seven mares during past season, all in foal at one service each; time between service about ten days except one case which was following day. A few days since I tried him to a filly in heat and he refused to rise; paid very little attention to her. He has been and is supposed to be in good health, is driven in double harness with a mare often enough for exercise, is handled very carefully and never speeded. Have kept him in good flesh (not fat); changed feed quite often; oats, then ground corn and oats, bran and corn meal, bran and linseed meal, oats and bran; changed about every ten days. Never was fiery; has been quiet and docile in every respect. UNCAS. [Give the colt a dose of physic, then feed oats twice a day and bran nights. It was bad judgment changing feed so often and especially in feeding corn and meal. We should not pronounce the animal impotent as yet.]

DOG'S THROAT SWELLED.—A full-blooded shepherd dog, about this time last year, had a gathering on throat under left jaw, causing face and throat to swell badly. He could not eat for several days until it broke. Little matter but much blood passed. Great pain and itching accompanied the swelling. This year it appeared again, about the same time; it broke, but has begun to swell again in the same place, with much fever and pain. O. S. *Scranton, Pa.* [Rub some of the following liniment on the enlargement once a day, and poultice until it is ready to cut; then a free opening should be made, and the abscess be kept clean and free from pus. There should be no trouble with this: Tincture aconite root, 1 oz.; spirits camphor, 2 oz; tincture iodine, 1 oz.; mix. I recently opened an abscess on a dog's throat that was so large and painful that the dog had nearly died of starvation; but as soon as the pus was let out the animal felt better, drank and ate, and soon got well.]

LEGS SWELLING.—A mare colt, 18 months old, runs to pasture; as the weather is cold and wet, I turn it out only on pleasant days, keep in stable with other horses, tied, giving it hay three times a day, an ear of corn morning and evening. When it is kept up her hind legs swell very much. Colt is thin in flesh but has improved since I bought it. T. F. *Calvert, Md.* [Are you not forcing the filly? If so, cut the feed down a little. Give her in a pail of drinking water every day about 2 tablespoonfuls of the following powder: Powdered nitrate of potass., 4 oz; granulated chlorate of potass., 6 oz; mix. Let her have regular exercise, and if not better in three days give ¾ pt. raw linseed oil. If she shows indications of worms, feed worm powders.]

OUT OF CONDITION.—A driving horse ten years old, which we use on the farm during seeding and fall plowing, is very thin and seems weak, has no ambition on the road, requires whip to travel at all fast. Coat is very rough, sweats easily, and slobbers when traveling or when bit is in mouth; has a good appetite, and gets a gallon of oats three times a day. Has not been on pasture at all, but had fresh grass given him during early summer. S. W. P. *Newmarket, Ont.* [Have his teeth seen to, and give him a dose of physic. Then feed Moore Bros'. worm and tonic powders. His feed may consist of oats twice a day, say 4 qts., and half a pint of whole western corn at dinner; bran, 3 qts., oats, 2 qts., for supper. Also put ¼ lb. of whole flaxseed in a pail *each night*, add a gallon of boiling water and let it stand all night, the next day divide it between the meals.]

Record of the Times.

Review of Passing Events.

The Cronin Trial.—Records of camp 20, Clan-na gael, were produced, and members testified to excitement caused by exposures of Le Caron the British spy, and the charge that the executive committee (or "triangle") had misspent $100,000 of the funds, and that Dr. Cronin was a confederate of Le Caron's. Martin Burke was identified by the Carsons as the stranger who rented the cottage under the name of "Frank Williams." Pat McGarry, senior guardian of camp 236, described previous attempts to kill Cronin. W. T. Hatfield testified to selling trunk and furniture to "J. B Simonds." Saloon-keeper Neiman said P. O Sullivan, Coughlin and Kunze were at his place, near cottage, night of May 4.—Nov. 8 a valise containing Dr. Cronin's clothing and instruments was found in sewer near where body was hidden; identified by man who sold it.—A. O'Sullivan has been released from bail, pending action of grand jury.

Political.—The November elections (5th) went chiefly Democratic. In New-York Frank Rice (D.) was elected Secretary of State by 30,700 plurality; Comptroller Wemple and Attorney General Taber ran behind their ticket. Tammany was victorious in New-York; the Legislature stands—Senate, 22 Rep., 10 Dem. (Rep. gain of 2); Assembly, 71 Rep., 57 Dem. (Dem. gain of 8). Prohibition vote was small. In Ohio, Campbell (D.) defeats Foraker for governor by 11,000 plurality; Legislature 10 Dem. majority on joint ballot. Anti third term and Sunday laws assigned causes. Iowa goes Democratic, for the first time, by 6,700 for Boies, governor. Legislature Republican by 2 in Senate and 1 in House. Prohibition and the railroad ques
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Ky., quarreled in
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death. Goodloe has since died. He was revenue collector and member of National Committee.

The Southern Exposition at Montgomery, Ala., was opened, Nov. 5, President Harrison touching a key in Washington which started the machinery.

Evangelist Moody recently received a draft for $2,500 from a converted Canadian smuggler, the amount he owed the government, to be restored through Mr. M.

The Protestant Episcopal parishes of All Souls and the Holy Spirit, New-York, have been consolidated, Rev. R. H. Newton of the former continuing as rector.

The Belford, Clarke & Co. failure, Chicago, has been settled, property sold to Alexander Belford, and business resumed, under name of the Belford-Clarke Company.

The centennial of the Roman Catholic Church in America began at Baltimore, Nov. 10. It includes the first congress of laymen and inauguration of National University.

Hazing has been so barbarous at the Wisconsin University, that arrests have been made, and a court trial follows. Some of the students refuse to testify, and have been committed for contempt.

Mrs. Mary E. Schenley of England has given the city of Pittsburg 300 acres of land, worth $500,000, for a public park. Mrs. S. inherited the vast estates of Col. William Croghan, an early settler.

Ex Secretary Bayard and Miss Mary W. Clymer were married at Washington, Nov 7. Mr. and Mrs. Cleveland and Mr. George Bancroft were among the guests. The Clevelands also called at the White House.

Ephraim D Ellsworth died at Mechanicsville, N. Y., Nov 6, aged 81. He was the father of Col. Elmer S. Ellsworth, killed at Alexandria, Va., in 1861, while taking a rebel flag from the Marshall House.

Justice Daniels of New York has confirmed the decision of Judge Barrett against the sugar trust, that the agreement entered into by various refineries to control output and prices, was illegal, and injurious to the public interest.

Minister Thayer at The Hague, Holland, has sent to the Minnesota Historical Society copies in Dutch and English of a document dated Nov. 5, 1626, relating to the sale of Manhattan Island to the Dutch by the Indians. The purchase was of 11,000 margins of land for fifty guilders.

The 16th annual meeting of the National Woman's Christian Temperance Union began at Chicago, Nov. 7, Miss Francis E. Willard presiding. Large delegations were present from the South and from the Pacific coast; also fraternal delegates from Ontario, British Columbia and Winnipeg.

A reunion of the descendants of the late William Johnson, father of Col. D. D and Judge Ozay Johnson, took place at the old homestead, Long Reach, W. Va., Oct. 25. Of 14 living children, 8 averaged 70 years and 8 80 years; 73 grand children, 53 great-grand children and one great great grandchild are living, of whom 193 were present. Photographs of the group were taken.

The South Americans reached St. Louis, Oct. 28, in 18 hours from Omaha; saw levee, factories, &c. the 29th; Kansas City, 30th, first rain, and smelting works which receive ore from Mexico. Then turning eastward they reached Springfield, Ill. 31st, and visited Lincoln's tomb, where ex Governor Oglesby and Senora Peraza of Venezuela and Alphonso of Chili spoke; Nov. 1, at Indianapolis, reception by Governor Hovey, responses by seven delegates; 2 at Louisville, addressed in Spanish by Hon. Harvey Watterson, 50 years ago minister to Argentine Confederation. Sunday was spent exploring Mammoth Cave; 4th at Lexington and home of Henry Clay; 5 h, Cincinnati, and election scenes; 6th-8th, Pittsburg, iron mills and an exposition of products; 9 h, Philadelphia, where they remain till 13 h, then reach Washington.

Parties having barren mares, or cows, or irregular breeders, will learn something to their advantage by addressing H. W. CAMPBELL, Racine, Wis. [1yr

SIR MORELL MACKENZIE.

the physician to the late Emperor of Germany, has written expressly for THE YOUTH'S COMPANION a most valuable article on "The Care of the Voice in Youth." A similar article on "The Care of the Eyes in Youth," has been prepared by the famous oculist, Dr. D. B. St. John Roosa.

Beecham's Pills cure bilious and nervous ills. [3

Choice Guaranteed 6% Per Cent. Bonds,

in amounts from $100 to $3,000, interest payable semi-annually.

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Correspondence solicited. Send for Investors' Hand-Book.

Best of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. jyl6eow

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send, free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing with stamp, naming this paper, W. A. NOYES, 820 Powers' Block, Rochester, N. Y. oct5eow13

Farm Produce Markets.

Albany Markets—Nov. 11.

FLOUR.—The Argus says: Demand has been go receipts average, market steady.

	1888. Nov. 8.	1888. Nov. 2.	1889. Oct. 1
Com. State	$3.90@4.00	$3.90@4.00	$4 35@
State Extra	4.10@4.30	4.10@4.30	4 75@5
Amb. State & W	4.50@4 65	4.50@4 75	5 [illegible]
O., Ind. & St. L. Ex.	4.60@4.75	4.60@4 75	5 90@
Winter W. Pat.	4.10@4 25	4.10@4 25	[illegible]
Minn. "Bakers"	4.00@4.10	4.00@4.10	[illegible]
Gr'n W. Pat., new	4.50@4 65	4.50@4 65	7 00@7

Rye Flour—In fair demand at $3.90@3 [illegible] per bbl. Graham, $4@4.25. Oat Meal doing moderately w at $4.10@4.50 per bbl. Corn Meal in good demand a steady at $2.00@2.90 per bbl. Buckwheat flour good supply and fair demand at $1.70@1.80 in stre and at $1.90@2.10 per 100 lbs. in store.

GRAIN.—Corn steady. First receipts of Kans crop held at 43c. No. 2, yellow, 45½@46c. per bu.; 2 mixed, 43½c. Oats firm, business fair. No. 2 whi [illegible]; No. 3, 27½@28c. Rye in large receipt a active; State, 53@54c. per 56 lbs. Barley in moder demand; State, No. 2, 57@58c.; Canada, 63@70c.

HAY AND STRAW.—Receipts fair, demand go Timothy, prime, $16@18 per ton; good, $13@14; clov $7@8; mixed, $11@13. Rye straw, best, $11@13; c straw, $7@10; wheat straw, $10.

HOPS.—Inquiry limited to choice stock.

N. Y. State, 1889	18	@1
N. Y. State, 1888	8	@1
Pacific Coast, 1889	18	@1
Bavarian and Bohemian	20	@2

Albany Street Market—Nov. 11.

BUTTER.—Choice, 19@20c. per lb.; good to prim 16@18c.

EGGS.—Near-by and new laid, 25@27c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@1 per lb.; forequarter, 4½@6c.; mutton, carcasses, 6@8c.; lamb, hindquarter, 11@12½c.; forequarter, 5 @6c.; veal, hindquarters, 8½@10c.; forequarte 7@8c.

POULTRY.—Fowls, 10@12c. per lb.; chicke 12@13c.; turkeys 11@14c. spring ducks, 12@13c.; gre geese, 10@11.

FRUIT.—Apples, $1@3 per bbl.; Cranberries, $1 3 per crate; Grapes, Concord, 5@6c. per lb; Cataw 6@8c.; Niagara, 10@15c.; Pears, $1@4 per bbl.

VEGETABLES.—Beets, $1 per bbl.; Cabbage, $1 per 100; Carrots, 50c. per bu. Celery, 30c.@$1 per d bunches; Cauliflower, $1.00@3 per doz.; Onions, 8 @$1 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, 6 @1.75 per bbl., sweet, $2.25@2.75; String beans, 4 @6c. per crate. Squash, 75@$1 per bbl.; Tomato 10@30c. per bu.; Turnips, $1 per bbl.

New-York Markets—Nov. 9.

BEANS—Marrow, 1889	2 70 @	—
Medium, 1889	2 60 @	2.6
Pea, 1889	2 60 @	-
COTTON—	Colonds.	Mid. Gu
Ordinary, per lb	7¾@ — @	
Middlings	10¼@ — @	
Fair	11¾@ — @	
EGGS—State and near-by, per doz	24 @	
Western and Canada	21 @	
FLOUR—Spring Wheat pat., per bbl	4 30 @	4
Winter	4 10 @	4
No. 2 extra State and Western	3.50 @	3
No. 1 extra	3.45 @	3
Minnesota clear	3.40 @	3
Straight	4 10 @	4.7
Rye Flour, superfine	3 75 @	3.8
Buckwheat	1.70 @	1.8
Corn Meal	2.45 @	2
FRUIT—Apples, Bay, per bbl	1.50 @	2.5
King	3.35 @	3
Baldwin and Greening	1.90 @	2.5
Western, selected	2.25 @	2.5
Cranberries, Cape Cod, per bbl	7 25 @	7.7
Jersey, per crate	2.00 @	2.2
Grapes, Concord, per basket	11 @	1
Catawba	20 @	2
Isabella	25 @	3
Lemons, Fla., per box	2.25 @	3.0
Pears, Duchess per bbl	4.00 @	5.0
Lawrence	3.50 @	4.0
Cooking	2.00 @	2.5
Quinces, per bbl	2.50 @	3.0
Chestnuts, per bus	4.00 @	7.0
Hickory nuts	1.00 @	1.7
Peanuts, per qt	4@5	
DRIED—Apples, evap., 1888, per lb	3@4	1
Evaporated 1888	1½@2	
Filled, 1889	1 @	
Peaches, sun-dried, 1889	5 @	1
Evaporated, 1887	8 @	
Evaporated, peeled	13 @	1
Plums, Southern Damson, 1888	— @	
State, 1889	7@8	
Cherries	7 @	1
Blackberries	8@9	
Huckleberries, 1888	17 @	1
Raspberries, evap., 1888	24 @	
Sun-dried	20 @	
GRAIN—Wheat, State white, per bus	— @	
Ungraded spring	78 @	
No. 1 red, winter	80 @	
No. 2 red, winter	83½@	
Corn, No. 1, white	— @	
No. 1, mixed	41½@	
Oats, No. 2, white	32½@	
No. 1, mixed	30½@	
Rye, State and western	60 @	
Barley, State and Canada	68 @	
Buckwheat	50 @	
HAY—Timothy, choice, per 100 lbs	80 @	
Shipping	60 @	
Clover	60 @	
Straw, long rye, No. 1	65 @	
No. 1	50 @	
Oat	35 @	
Wheat	50 @	
HONEY—White clover, per lb	14 @	
Buckwheat	10 @	
HOPS—N. Y. State, 1889, best, per lb	12 @	
Best, 1888	10 @	
Common to fair	7 @	
California, 1889, best	8 @	
Washington, 1889	11 @	
Pacific Coast, 1888	8 @	
German	17 @	
POULTRY—Live fowls, per lb	— @	
Spring chickens	— @	
Turkeys	9 @	
Ducks, per pair	70 @	
Geese	1.37 @	1
Dressed fowls, per lb	10 @	
Phila. springs	13 @	
Chickens	10 @	
Turkeys	12 @	
Ducks eastern, spring, per lb	13 @	
Western	11 @	
Geese, western	7 @	
PROVISIONS—Beef hams, per bbl	13 00 @	—
India mess	13 50 @	15
Hogs, dressed, per 100 lbs	5 50 @	6
Lard, per tierce	6 60 @	7
Pork, new mess, per bbl	11.00 @	11
Short clear	11.50 @	12
Family	12 50 @	13
VEGETABLES—Cabbage, L. I., per 100	3.00 @	4.
Carrots, L. I	1.00 @	1.
Cauliflower, L. I. & Jer. per bbl	1.00 @	2.

The Fireside.

Hunting the Parson's Horse.

"Charlie, take an ear of corn and the bridle, and go out and catch Nell."

The church was in the city, but the pastor lived on the edge of the country for his children's sake. There was a glorious green, with two great oak trees back of the house, and around it wide commons and patches of woodland. Some new streets had been recently cut, several of which were little more than deep ravines, waiting for the land to be graded down to their level. The pretty mare so enjoyed getting her feet on the soft, cool ground, and the fresh grass in her mouth, and was so safe against wandering away, that she was permitted many a run. Half an hour passed, when the ten year-old boy came in, as near to crying as his dignity would allow, saying:

"Papa, she won't let me touch her—and, papa, there was a man there, waiting around and watching her, and I didn't like his looks at all, and after a while he began coming towards me, and I thought I'd better come home."

"You did perfectly right," said the father, "I'll go myself. And, by the way, I may as well cut those bean poles. Just get me the hatchet."

Now, you must know that Nell was as perfectly behaved a creature as ever wore horse shoes. She had just one trick. When she was loose, no one could catch her till she was ready. Without any apparent intention, she would circle and sidle just out of reach of the out-stretched hand, and go on eating within ten feet of her perplexed pursuer, whom she would infallibly tire out and leave. When she was ready, she would allow the bridle to be slipped on with the most innocent surprise, as if it had just occurred to her. It was now getting too late in the afternoon, however, for much pleasantry. Forth fared the parson, rubbing distending his pockets, bridle and hatchet in hand, and the little boy to show the way. As they rose over the crest of a hill, Charlie cried, "There she is!" and the next instant, in a subdued tone, "And, papa, there's that man!" The minister recognized at once a typical tramp, of the vicious grade, tall, muscular, heavy jawed and slouchy. As soon as the fellow saw he was observed, he started down one of the dodies, and in a moment became two, a mate appearing from somewhere, and they commenced a rapid march city-ward with the air of men who have suddenly remembered an engagement. But all blandishments were wasted upon Nell. She wanted no rubbing, no soft words, and when she saw an attempt to corner her, she broke into a cavalry charge, cutting a black trail through the turf, leaping with a snort an obstructing pile of brush, and sending back defiant challenge from the farther side. When the sex are in this mood, a wise man knows what to do. So man and boy adjourned to the woods, and began cutting bean-poles. When they came back with their load, dusk was just falling, and the common all deserted, without a sign of life. They looked down all the roads, and every opening of hills and woods, but all in vain. Coming in then from such an afternoon, a waiting, hot supper was irresistible. Then it was dark, and a thankless chase with a lantern followed. They found all the ditches and pools, and soft spots and wire grass and brambles. The boy went home "beaten out," and the father continued the search alone till he was in like condition.

With the first streak of dawn the parson was out on the commons, bridle in hand. He came in late, tired and faint, to breakfast, but Nell was still like the lost bride of Netherby.

For two days he pervaded the city with a bridle done up in a religious paper, asking every one about that horse, till he felt as if he had a placard on his back announcing his business. He described the animal till he seemed to himself like a book agent, repeating his "finely bound in limp Levant morocco, silk-sewed, double-back," &c. But all in vain. The pound contained a solitary mule, who looked as if it was a long time since he had contained anything. The police were very clear that the two tramps had checkmated the one minister, and made off with the nice animal. As to the chance of recovering her, in that event, they were not nearly so clear. But the minister kept one obstinate consolation—the repeated attempts of strangers to capture her, which he had seen the bright creature outwit. He made up his mind to quit the city and scour the country.

The third morning, early, he went to Deacon Goodman, and came back with his stately and fleet black steed, which stood pawing at the gate, while the hurried breakfast was eaten. Should they stop for family worship this once? "Yes," said the parson, "prayers and provender hinder no man's journey."

From the Holy Book to the dusty road, behind the trotter's flying feet.

Here comes a man riding a horse something like Nell. Shall we pull up and ask him? Is it any use? Yes, we'll try once more. Feeling as if the man had already heard it five hundred times, the parson fires at him the stereotyped question, with the cluck already on his tongue, to start his horse on when he gets the expected negative. But, to his vast surprise, comes the answer:

"Yes, I saw her two nights ago going out this road near the toll-gate. The gate-keeper was watching her, and his boy started with another horse to catch her, but she left him out of sight."

At last on the track of the game, on went the hunters.

"That delay of worship, Charlie, just sent us to this man. Otherwise we should have passed the turn of the road without meeting him."

On now, to Brother Ransom's, where Nell was purchased. Beyond the high mill, down a little green lane, they found the miller. He was unaffectedly dismayed to find that his favorite, which he had been slow to part with to the minister, had disappeared. She had not been there, nor been seen by any one on the place.

"Whom did you buy her of, Brother Ransom?" the minister asked.

"Why, of Dr. Douglass of Warsaw. He has a large farm at South Salem, but is president of the national bank at Warsaw, and you will find him there in business hours."

South Salem was twenty-six miles east—the direction the mare had taken, the minister having turned from the straight road to drive around to the mill—where he supposed she would have gone had she kept on straight east. It was a slight clue, but would do for what the scientists call a "working hypothesis." Across then to strike the great national road farther on. Then came discouragement. The blacksmith at the four corners had seen no such animal, and, like most people who do not know a thing, was sure he should if there had been anything to know. But with faith in the equine instinct the parson still pressed eastward. A gang of men in a meadow, building a great haystack—a sudden halt by the hedge—a hail and a question: "Ye-e-s!" came the far reply; "just before dark, two nights ago! She went by flying! Going that way" with a long arm pointing eastward. A "thank you" and away! It is well known that ministers do not need to eat; but the horse had boy had to be fed. So a hospitable farm opened its wide gates where the pastor had been guest before.

Fresh, then, for work, and sped with good wishes, away the pursuers went, hot upon the trail. The little burg of Windsor crowns the hill a few miles on. All questions are referred to Rip Van Winkle, the tavern-keeper, store-keeper, postmaster, and unprinted, viva voce newspaper of the place. There he sits at his door in the sun, with a fine outlook all over the village:

"Yes, I saw such a mare, very pretty, round and slick. I knowed she hadn't been astray very long. I was sitting right here about nine o'clock, Tuesday night. There was just a dim moonlight. She come up that hill from the west, and tried to go down that road towards Warsaw. There was two men talkin' at the corner, and she went up two or three times and turned back. Then she started up through town too fast to stop her—up toward the forks of the road yonder, and which way she went, I couldn't tell."

Further inquiry developed the fact that the left-hand road at the aforesaid forks led to Limbo, the headquarters of a horse-thieves' underground railroad, where almost all the stolen horses of the region were passed through. But the right hand road bore eastward, and was a roundabout way to Warsaw and South Salem, the road where the men had been talking that night being the direct one.

The minister decided for the right hand road. But instantly all clue disappeared. Not a man, woman or child had seen such a horse, or any horse. The more he inquired, the blanker grew the ignorance. Would it not be better to turn back and try the other road? But the parson reasoned that these people went to bed early, and a stray horse slipping through after nine o'clock, along that dusty road, would not be apt to be heard or seen. So he stopped asking questions, and kept the trotter speeding to Warsaw. At the bank, Dr. Douglass, stout, gray and kind, gave all the information he had—remembered the mare perfectly; she had been raised on a neighboring farm, and bought and broken at two years old by his hired man, John Sedgwick; he had bought her when John went west, and sold her to Mr. Ransom. He thought the possibility that she had gone all that way home was very shadowy, and was most compassionately kind in giving us parting directions.

Unhitching the black horse, in a musing mood, the parson's eye fell on a man with a lantern and an oil-can, who was stopping to talk with a hardware merchant opposite. A sudden thought occurred to him, and he accosted the man with his inevitable question. Instantly a light came into the man's face.

"Yes, sir," he replied. "It was about midnight two nights ago. I am night watchman, and I saw her walking pretty fast along the street, and I tried to pass her on the sidewalk, to see if I knew her. But as soon as she saw I was trying to head her, she broke into a run, and went out of sight down that street." Eastward still; the lost clue was caught up again.

Then a solid fifteen miles through the hot afternoon without a favorable word, and South Salem was reached. No one in the village had seen the missing horse, but all could direct to the Douglass farm. Soon, however, a man driving in from that direction told how he had seen her the night before, and how she had stayed around the little school-house all the evening, trying to eat the short, dry grass, but was gone in the morning. That looked rather blue, but the minister still drove on, resolved to inquire at the farm itself. He found the house fully a quarter of a mile from the road, with three gates to open before it could be reached. Evidently the patient animal, after waiting in vain for admittance, had gone off discouraged. But whither? As the parson was walking his horse thoughtfully along, and studying the situation, a man drove out of a neighboring field with a horse-rake, and he at once accosted him:

"I think I know where she is," he answered. "I was over at my sister's this morning, and there was such a mare hanging around there all the forenoon. She came up to the pump and seemed pretty dry. We gave her a pail of water, but she just slipped off before we could catch her. But she didn't go away; she stayed in sight, eating by the roadside, and was there when I came away."

The two miles were soon passed, and, on arrival at the place designated, the answer was—"They opened the gate at the next house, and she went in, and is in the barn there, now."

The farmer next door looked half pleased and half disappointed when the parson rattled off the well learned description, and answered:

"Yes, she's here. I raised that mare from a colt. I was away to-day, and she hung around the place, they tell me, all the morning, till I came home and opened the gate. Then she came right in. My boy here knew her, though he was a little fellow when she went away. My house and barn used to be back on that place yonder. It's all fenced up from the road now, and she couldn't get there. But my boy put a bridle on her and rode her over there, and she whinnied, and seemed as pleased as a child to get home. *He* was in hope nobody would come to claim her."

But the minister's boy rushed into the stall and put his arms around Nell's smooth neck between laughing and crying. And after a good supper, with no charge for anything, the old owner and the new cordially parted, and the procession started homeward, the minister with the black horse in the buggy leading the way, and Charlie enthroned on the recovered Nell cantering behind.

The minister's idea is that the tramps were really working to catch the mare till she became alarmed and indignant at their persistence, dashed away, and once fairly adrift, could think of no such restful haven as the farm where she had passed youth's happy days. The more she was watched and chased, the more determined she was to get there. The two men talking by the Windsor corner she took for an ambuscade of enemies, and studied out the other road, three miles farther around, but bearing eastward, kept through the night, till she arrived hungry, thirsty and weary, but successful, at the now fenced-up farm. Then she knew her old master and followed him in, to be once more at home.

Portage County, O. J. C. FERRALL.

Observations in Central Virginia.

EDS. COUNTRY GENTLEMAN—After riding through the monotonous stretch of the comparatively level farm lands of the historic war-tramped fields of Northern Virginia, at Charlottesville one is refreshed by a change of scenery. The western horizon is no longer bounded by the undulating line of the Blue Ridge, but the gentle foothills of the Piedmont district rise up to greet you. The train dashes up, not, as usual, to an old, dilapidated, weather-beaten shanty, but to a large, commodious and tasteful modern station, to which is attached a well-appointed restaurant, in which a hungry traveler can discuss a dinner not inferior to that of a first class New-York hotel, and wash it down, if he chooses, with a free bottle of native claret from the cellars of the Monticello Wine Company.

Charlottesville is the home of Jefferson, and no patriot or lover of the beautiful can resist the temptation to spend an hour at Monticello and drink in the beauties of the surrounding landscape, or pay a reflective visit to the grave of America's distinguished statesman. From the lawn, Charlottesville is seen at your feet, quiet, unpretending, nestled in grass, surrounded on every side with vine-covered habitations; the Rivana river, from the north, is like a sinuous silver thread glistening in the sunshine, until lost in the eastern horizon like a floating gossamer. To the west is the University, with its quaint old buildings, to which are added the more modern chapel, museum and observatory, the child of Jefferson's liberality, energy and fostering care. To the east and south one takes in the extensive fertile valley of the James, while to the southwest, as far as the eye can reach, may be seen the blue, delicate pencilings of the foothills of the Piedmont country.

One should not forget to visit the "Miller Industrial School," one of Virginia's princely benefactions, the gift to Albemarle county of a wealthy and eccentric bachelor, to which, free of charge, about four hundred orphans of both sexes are fed, clothed and educated. It is situated five miles from Crozet, a station a short distance west of Charlottesville, on the R. & O. R. R. The buildings—school, farm, workshop and conservatory—are clustered on a broad, elevated mound, in the centre of an amphitheatre, formed by the appropriately named "Ragged Mountain," a spur of the Blue Ridge.

The site and location were selected by Mr. Miller himself and they seem to reflect the great thought in the mind of the grand old man. Closed in by a rugged mountain fortress, it illustrates a father's protecting care; in the rich and well cultivated slopes and intervales, generous in fruit, bread, milk and honey, one recognizes the mother's provident hand, while sparkling rivulets and bright-eyed wild flowers touch the heart like an affectionate sister's companionship and care.

The soil in the Piedmont country is a heavy clay, not unlike the northern part of the State. The lower slopes and intervales are richer and more susceptible to the influence of fertilizers. The climate is healthful, having an altitude above malarial influence; the water is cool and pure, springs and rivulets abundant, in fact, wells are scarce.

Meadows of orchard grass, clover, red top and timothy, when properly planted and top-dressed, will yield two heavy crops a year; hence this section is well adapted to live-stock, especially horses and mules. When the land is not "foul" with garlic, butter and perhaps cheese would prove profitable. Fruit is cultivated to some extent—apples, pears, plums, cherries and grapes—and where proper care is given, this industry will prove remunerative. It is here that the celebrated Albemarle Pippin attains its greatest perfection.

The land is for the most part, as in other sections of the State, in large holdings, each from one to four thousand acres. The owners, lacking capital to cultivate it properly, are impoverished and discouraged—"land-poor."

The negroes, who form nearly one-half the entire population, are a hindrance rather than a help. In the spring nearly all the able-bodied go north and west to labor on "public works."

leaving the feeble old men, women and children to exist as they can, and they return in the fall, gun in hand, to exist also with a skill only too well known. No one can wonder that many a "stray" pig, sheep, turkey or chicken wanders away never to return; or that many a field of corn and potatoes is cunningly "grabbled."*

One of our favorite "boys" was just married, and after contributing liberally to his cabin outfit, we gave an "infare" feast to his friends, not grudgingly, from our well-stocked pig and poultry yard. During the festivities, by an oversight, the poultry-house was left unlocked. In the morning the contents had disappeared, and investigation was met with big-eyed, astonished ignorance. Prosecution is useless, as no convicting evidence can be obtained against a thief unless caught in the act; hence the planters submit to the inevitable—and locks and shot-guns.

Public schools are free, but poor; the planters usually patronize private institutions, or employ a governess at home. The schoolhouses, even in towns, are very plain and with very few accommodations, while those in the country are little better than log-hovels, without necessities, and still less without comfort. The teachers are very similar to their surroundings, and the public money distributed goes but little way towards accomplishing its purpose.

This is a rich and beautiful country, and in the towns intellectual and material progress in the last decade, has made rapid strides. Manufacturing industries have been successfully established by northern capital and enterprise, and yet there is room. These advances are more than welcomed; and the son of many an F. F. V., whose only previous care has been his horse, horn, dogs and gun, can be found busy in the artizan's shop or standing behind the tradesman's counter. This progress has been slower in the agricultural districts. *Land* is the incubus that crushes out hope and enterprise—land which, in other hands, would prove a rich bonanza of agricultural fruitfulness. S. A. F. *Cullman, Ala.*

The Stars.

Having been much interested in the remarks under the above heading, which appeared some weeks ago in the COUNTRY GENTLEMAN, I take the liberty to send you some doggerel rhymes, which an older boy repeated to me when I was only ten years of age. They were the product of some genius of a former era, which he had got hold of. I can now remember them after the lapse of half a century. As I have always been interested in star-gazing, they have been of much practical use to me in tracing out the stars and their names, the line which they point out through the starry sky assisting in finding other stars on each side of this line. (The rhymester has had to accent wrong the name of Aldebaran, which should be on the second instead of the third syllable.)

The line which they begin now to designate commences at the present time in autumn in the east, with Pleiades and Aries, moving westward at the rate of a degree in an evening, and so on through winter and spring, till the whole has rolled on into view. Some of the juvenile readers of the COUNTRY GENTLEMAN may find these rhymes as useful in hunting stars as I have done. OLD READER.

In the degree
Twenty-three
From Pleiades to Aries:
Of second size, near west it lies.
Southeast of this
You will not miss
Fourteen degrees from Pleiades,
If you don't astray run,
Bright Aldebaran.
This a man sees
Thirty-five degrees
From Aries:
Southeast is placed,
And ever dwelt,
Orion's Belt.

And now from Aldebaran
Let the eye away run
Forty-five degrees
Till east northeast it sees
Pollux, a brilliant star,
From which not very far,
Viz., five degrees northwest,
His brother Castor's placed.

Then east southeast half south from Castor see
Regulus in the thirty-eighth degree,
Whence northward eight degrees
The observer sees
Another smaller star,
That's shown for ages there;
When you have found it,
You'll see five smaller stars around it;
These five with Regulus form a sickle,
As was the ancient whim so fickle.

From Regulus east-southeast
The bright star Spica's placed.
'Tis, and remember, if you please,
From Regulus fifty-four degrees.
Sixty degrees southeast of this
Aquila you can hardly miss:
Both north and south close by
A star you may descry,
In a straight line they lie.

* It is common for negroes in the South to enter the planter's ripening corn field and pluck an ear here and there, or to "prod" the hills in a potato patch with a fork or sharp stick, and remove the largest without disturbing the soil. Such theft is not easily discovered until harvest, and not even then as the negroes are usually the harvesters.

Domestic Economy.

Mutton for Farmers.

Answer to P. H. F., Page 833.

Mutton for the farmer's table is so convenient, wholesome and digestible, it is such a practical substitute for the too general pork diet, that it is a great pity that farmers and especially farmers' wives do not realize how good it is, also. Having lived for many years upon a farm where a sheep or lamb was frequently killed for home use, as a regular source of the family supply of meat, I speak with confidence. On this farm mutton constituted with poultry and eggs, fresh fish and sweet home-cured hams, by far the larger share of the year's provision of animal food. A little fresh pork and a few sausages were eaten in winter; salt pork was always in demand, and sold in considerable quantities to the men employed on the place, but very rarely appeared on the home table, while beef was not very much used, nor was it very much missed. In most American families, beef—usually beefsteak—appears as an almost constant factor in the bill of fare. Every one becomes tired of it, yet it seems indispensable. On the farm pork, as a cheaper and more convenient substitute, takes its place, and sometimes fresh meat of any kind is the exception rather than the rule.

An appreciation of the excellence of good mutton would help both classes. The farmer would have more and better fresh meat for himself, and also something more to sell, as an addition to the resources of his business. For are there not hilly pastures, especially in New England, not fully utilized now, which would grow at the smallest actual cost an abundance of sweet, juicy, well-flavored mutton? A little flock of sheep might often be kept without any appreciable diminution of other sources of prosperity, and would prove almost clear gain.

But to make more of mutton as a regular article of diet, we must first be familiar with some good modes of cooking it. Stewing, with all its variations, must be more highly considered; for in order to use up all parts of the animal to advantage, this is indispensable. Except for fine chops, fried mutton is mutton cooked in the worst possible way. When thoroughly fried, all that can be done to make it both hard and tasteless has been done. The best cuts are delicious when well roasted or baked, but for the larger portion of the entire animal there is nothing like a slow simmering. I give a few long-tried receipts:

HARICOT MUTTON (a combination, resulting from the ardent descriptions of a cosmopolitan Englishman, with no little applied experiment).—To three pounds of mutton chops—or you may use the neck cut as chops, a good and cheap piece—cut in moderately thick slices a large carrot, a parsnip, a turnip, or two or three according to size, one onion (or more if your taste inclines to a strong flavor of this debatable esculent), a few sticks of celery, a handful of parsley, and any other vegetable suitable that you may have in store. There should be in all about three pints of the sliced vegetables, of which carrots and turnips are the most essential. Trim off most of the fat from the chops, and fry them quickly to a delicate brown. They may be slightly floured before frying. Place the meat in a kettle or deep saucepan, and put the vegetables in the frying pan. Fry these also to a nice light brown. Season well with salt, pepper, cayenne, catsup or other condiment; place them over the meat, add boiling water or a good stock to cover, and simmer very gently for two hours. Then take up the meat and vegetables; arrange them neatly on a deep platter, thicken the broth with a little flour and butter well mingled, pour it over the meat, and serve very hot.

IRISH STEW.—Put three pounds of thick chops or slices from any lean portion of the mutton in a deep stew pan, cover well with cold water, and bring slowly to a boil, adding a tablespoonful of salt. Skim off the scum which rises and add a small bunch of parsley, a few pepper-corns, and a little mace, if liked. Set where it will boil gently, and drop in a dozen small white onions. When these have boiled for half an hour, add a quart of nicely pared and trimmed potatoes, either of a even, moderate size, or cut in quarters. As soon as the potatoes are well done, remove from the fire; dish the chops neatly in a circular form, with the vegetables rounded in the

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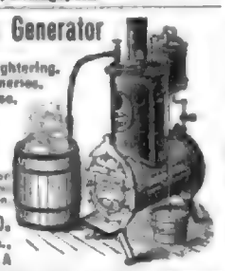

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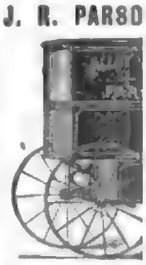

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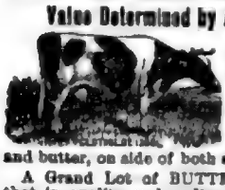

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THE CULTIVATOR AND Country Gentleman

Albany, Nov. 21, 1889.

Orchard Grass.

Experience in Three States.

EDS. COUNTRY GENTLEMAN—A. B. H., in your paper of Nov. 7, inquires in regard to orchard grass. Having had some experience with it, and being near A. B. H.'s locality, although in a different State, I will try to answer his questions.

The conditions that best suit seeding to timothy or herd's grass also best suit seeding to orchard grass. In this locality, early fall is the best time, in ground well manured and prepared for wheat. The next best chance is in spring, in ground thinly seeded to oats. In both cases I would sow no timothy if I wished the orchard to be the main grass. Some clover may be sown, however, to occupy the ground until the orchard grass is fairly established, which takes about two years. It makes a very early and nutritious pasture for cattle, and would also probably for sheep if kept closely grazed. It blossoms in May, and the stems are afterwards too hard and woody for good pasture, or even good hay.

I once cut, in the last week of May, a very heavy crop (estimated at nearly three tons of cured hay to the acre) of mixed clover and orchard grass. It made the best cow hay I ever fed, with one exception. This was a crop of mixed clover and timothy, cut and cured nicely during the first week of June. The difficulty, however, is to catch good hay weather so early; and, partly for this reason, I have discarded orchard grass for hay, as it deteriorates when past blooming faster than any other grass, soon becoming merely hard straw. The aftermath is good pasture, not, with us, throwing up stems again. Half a bushel of seed per acre will give a fair stand, although more is better. I have had no experience in raising it for seed.

As to the yield and length of stand, they vary greatly in my observation. The fact that orchard grass, alfalfa, &c., have been so long known and often tried, and yet not generally adopted by farmers, is proof in itself that they are not so well adapted to general cultivation as clover and timothy. The first crop of orchard grass I saw grow was about forty years ago, on the Beaumont property, which A. B. H. will remember. It was in an old orchard of exceedingly deep, rich, well-drained, loamy soil. A plat of six or seven acres kept ahead of a herd of a dozen or more steers for one or two months in the early spring, and excited the remark of all who noticed it. I was induced to sow some new ground, that was being seeded down, partly with orchard grass, and the results were almost equally favorable. After that, both Mr. Beaumont and myself tried it a number of times with poor success, and at last relinquished it for the more sure stand-by—clover and timothy. Even in a permanent green grass pasture I find its presence unwelcome to the cows, which prefer the green (blue?) grass, and to myself because of its coarse, unsightly stalks. Still, A. B. H. may have, as I had twice, just the conditions to make orchard grass a great success.

It is interesting, and once in a (great) while profitable, to experiment, and I am now experimenting with alfalfa, without great hope of success in this locality.

Bucks County, Pa. ROBT. E. TOMLINSON.

EDS. COUNTRY GENTLEMAN—Having grown this most valuable grass for some years past, I will give my experience with it. It may be sown in the early fall—up to Sept. 15th—in this latitude, either by itself or with wheat or rye. I have usually sown it in the spring, the latter part of February or early in March, with clover on wheat, and harrow the seeds in with the Thomas harrow, if the ground is dry enough. It makes but little progress the first year, the clover overshadowing it, but the second year it makes rapid growth, and more as the clover disappears.

We sow 1¼ gallons of clover with 1¼ bushels of orchard grass, per acre, clover blooming at the same time as the orchard grass, and cut early, it makes a fine hay for cows and sheep. When orchard grass is sown thinly, it grows in bunches or tussocks. If sown by itself, 2½ bushels per acre is not too much. It makes a fine early and late pasture, and is better mixed with other grasses, such as clover, Randall grass (meadow fescue). This last, with the orchard grass, will, after two years, make a sod on good land, which will go far toward crowding out noxious weeds, such as ox-eye daisy, &c.

Orchard grass will make from 15 to 20 bushels of seed per acre, and it makes a large growth, and is, in my opinion, the greatest improver of the soil of all grasses, except red clover. I have sold large quantities of seed at from $1 to $1 25 per bushel. We cut the seed with the binder as we do wheat.

Fauquier County, Va. THOS. HENDERSON.

EDS. COUNTRY GENTLEMAN—I have a few acres in orchard grass which I use for hay and pasture, so I think I can answer a few of A. B. H.'s questions. Orchard grass should be sowed in April or May, and can stand quite thick sowing. If no other crop goes in with it, it may be sowed as thickly as two bushels to the acre. A small crop can be gathered from it the first year in August or September; the second and subsequent years good average land will yield about two tons to the acre of hay relished by cattle, and especially by horses. Sheep and all animals like orchard grass both as pasture and hay. As hay it must be gathered early in June. As pasture it comes into use earlier than most other grasses. The only trouble with orchard grass is that after two or three years it runs to bunches, but it stands as well as any other grass, and a piece of ground where it has once grown has a hard time to get rid of it. Choose a still day for sowing, and sow broadcast. JOHN E. PARMLY.

Monmouth County, N. J.

Handling the Corn Crop.

CUTTING UP—TWINE BINDING—HUSKING BY SHOCK—VALUE OF FODDER—SAVING SEED—SORE HANDS AND TAR—PROTECTION FROM RATS.

EDS. COUNTRY GENTLEMAN—We finished cutting corn Oct. 31 on East View Farm. Our crop was not a large one (about six hundred bushels), but as very few farmers had begun to crib at that date, I feel well satisfied to be done with the job so early before there has been any cold weather. I have cut and shocked all my corn for twenty-five years past, and in noticing the corn in my neighbors' fields, I find that corn put in shock cures out ready to husk about fifteen days sooner than when left on the stalk.

I always hire my corn cut up and husked by the shock, as the work of husking comes at a season of the year when the days are short and the weather uncertain, and if one hires by the day, he is not likely to get full hours, while by the shock there is no keeping account of time, but you have only to count the shocks when they are done. Our corn was cut up early in September, beginning on the 7th, where we were to sow wheat, and here we put 120 hills in a shock, placing our shock rows forty rows apart, and making a shock at every third hill. We do this so as to have wide lands to seed, and then do not try to seed the shock row at all, and we find that we lose less land, and have far less trouble putting in the wheat, than when we make the shock rows only ten or twelve rows apart. I find that it makes very little difference in the cost of shocking whether we put three rows forty hills long in a shock, or a block ten by twelve hills. The corn where we did not sow wheat was cut twelve hills square, 144 hills to a shock, and I paid the same (five cents a shock) for cutting up both sizes, and the man who did my work cut forty shocks a day, assisted by a boy twelve years old.

On the part where we sowed wheat we cut the butts close to the ground before preparing the seed bed. I have usually done this by hand with a heavy hoe or corn knife, but this year I used the mowing machine, and found that it did not hurt the machine at all, and was an

easy and speedy way to do it. We cut only one row at a time, as cutting two rows might strain the machine. I paid six cents a shock for husking the corn, and the huskers bound the fodder in bundles and set up two shocks in one, and tied the top of the shock, so that the wind would not blow it down. We used binder twine for tying the fodder, and I find that it cost almost exactly one cent a shock for the twine. The huskers do not draw in the corn, but throw it in piles, and we take it to the crib.

I cut the twine for the bands, making it of such a length that the binders cannot make the bundles too large, but the husker puts the loop on his own band. This is done by first tying a knot at one end of the string and making a loop an inch or so long. The string is passed around the bundle and the end put through the loop and drawn tight, and then tied with a bow-knot, and in feeding out the fodder we save a good part of the bands to use another year. The bundles are made of a convenient size to handle with a pitchfork in drawing to the barn or stack.

As my shocks averaged 2 bush. of corn each, it will be seen that the cost per bushel of husking and binding the fodder was but 3½ cts., and it would have cost about the same to have husked it from the stalk. I count each acre of the fodder as equal to a ton of hay, and in fact my stock all eat it with a better relish, and certainly thrive as well on it as on the best of hay. I have fifteen acres of corn, about three acres of it quite light, and just fifteen head of stock to winter—three horses, a yearling colt, six cows, and the rest yearling calves—and I expect my fodder to last until April, and the entire cost of saving it, deducting three cents a bushel for husking the corn, will not exceed $35. Good hay is worth $9 a ton in my local market, and at that price it would cost about $100 more to winter my stock on hay than it will with the fodder.

Our seed corn is all selected and put on a shelf above a stove in a room where there will be a fire every day through the winter. This has been my practice for many years, and I never have any trouble about seed growing, and do not re-plant any. So small an amount of seed is required for corn that one can certainly afford to have the best, and in the best condition, and there is no way so safe as to gather early and cure by fire heat. Until I have enough seed selected I am at the crib when each load is thrown off, ready to pick out the finest ears.

On the large corn farms, husking is a long and tedious job. My nearest neighbor has eighty acres to husk, that will average more than fifty bushels to the acre, and three hands expect to do it all. This will require considerably over a month of steady work, if each man averages fifty bushels a day, and to do this they must be in the field in the morning as soon as they can see to follow the rows, and keep at it until dusk. They keep their hands from getting sore by smearing them with tar. A tar-bucket and paddle are kept on the rear of the wagon, and whenever they find the tar wearing off of a spot on the hand, they apply more. At night the tar is easily removed from the hands by washing in a small quantity of kerosene. By this plan the huskers will go through the season without sore hands.

I find that a corn-crib elevated on posts is seldom troubled with rats. My crib was originally built against the end of the barn, and as long as it was there it swarmed with rats, and there would be two or three feet of shelled corn, mixed with rat dung and scented with their urine, in the bottom of the crib each spring. Five years ago I moved it twenty feet from the barn, and set it on posts three feet high, and although there are wooden steps leaning against it, that rats can run up, there has not been a bushel of corn shelled off by them in all this time, and I have never seen but one rat in the crib, and that I killed. A rat cannot cling to the outside of a building and gnaw into it, and as we put the slats too close for them to get between, the only way for them to get in is to climb to the top and come in between the rafters, and their instinct seems to teach them that this would not be safe, for if we moved the corn, we should have them trapped. A rat cannot live without water, and it is not going to nest and harbor where it cannot have easy ingress and egress. With cement floors to our stables, so that there is no place about the barn for them, we shall have little trouble and loss from rats.

Butler County, Ohio. WALDO F. BROWN.

Buying and Using Manure.

Points from Practical Experience.

Eds. Country Gentleman—I speak no flattery when I say that your journal stands among the most highly esteemed that come to my table. I have always admired it for its extremely *practical* value. This is the kind of agricultural literature that takes among farmers who rise at five and retire at eight.

After living 35 years in the country I have just returned to my farm from a year's experience in a publishing house in the city. I had my choice to remain in the city at greater salary or return to the country at a less one, and I chose the latter. There are more horses to feed, more cows to milk, more pigs to slop, more chickens to care for, more fences to build, &c., in the country than in the city; besides I so much like to practice what I write that I shall doubtless remain here under my own vine (which already bears fruit), and fig tree (when I get it planted).

Regarding manures, allow me to state that I find more profit in hunting them up and getting them into the ground than I do in searching the cyclopedias for the best mode of caring for them. I can generally find room for the manure if I only can get it; the trouble is I can never get enough of it. I am not over fastidious about the kind I get, so it is manure. I never drive by a pen of manure in town, though the horses have been bedded with sawdust, that I do not secure that manure if I can. The other day I asked a man what he would take for a pen of manure 10 feet square and 4 feet high. He replied that he would take eight bushels of corn. He was a grain dealer, and was then paying 28 cents a bushel for corn. I told him I would rather pay money for it. He thought that was strange. It did not seem so to me because hogs were worth $4 per hundred weight. But I bought the manure for $3. Saved 24 cents there, see? When we hauled it we had six "slashing" loads. The farm is 2½ miles from town, the toll was 10 cents a load, and the tenant charged me 25 cents a load for hauling it. Cheap, I should think. Even then, you see, it cost me 65½ cents a load delivered on the farm. I had it scattered on that 19-acre field west of the barn. You know there are two long, clay knolls that run through it, with a valley between. Well, we put it on them at the rate of five loads per acre. Thick enough on wheat as a surface fertilizer, don't you think?

While I was looking at that pile I saw two others and went to buy them. The owners did not care to sell, but they would give them to me if I would haul them away. Thanks, awfully! I did so; glad of the opportunity, and before we were through hauling we found quite a good bit of it, which we carted away in great shape. I always felt rather large when sitting on a wagon loaded with manure. It rather makes me think of the increased adipose condition of the "weasel skin" that always follows its application to crops of all kinds.

I know how many bushels of wheat per acre that I got off that twelve acres this year, although I am ashamed to tell it, and if I live I'll tell you how much per acre it yields next year. We shall soon have the two ridges covered with manure at the above rate.

I know a man who lives not very far from me, who raised nine bushels of wheat per acre on a field of 14 acres in 1888. He broke and sowed the same field in the fall of that year, and then began to haul manure upon it. He was told that the manure was too green, too fresh, too new; it would kill the wheat roots sure. But he hauled on just the same. Again he was besieged by a lawyer who was hunting quail in the field, and was cautioned not to put the manure on the ground *after* the wheat was sown. His hair began to turn grey, but he went to another livery stable and bought all the manure they had. His minister told him to pile it up in piles, his doctor told him to give it in broken doses, and a section boss on a railroad said he was wasting time, that he had better feed it to the "praties."

But he hauled on, in all sorts of weather, on all sorts of occasions, and under all sorts of circumstances, despite all opposition. At last the threshing season came on, and when his crop was measured from that field it yielded thirty-five bushels per acre. Then there were more men who "knew it all the time" than you could count.

I trust you will bear with me while I relate the experience of another "practical failer." He doesn't know any more about "surcharged super-hypo phosphuretted carbo hydrate of ammonia" than about the effect of a compound concentrated distillation of South Carolina red oak with a Chinese laundry, but he had six acres of "awful poor land." He concluded that as this field was "crop-sick" and "wouldn't raise black-eyed peas," he would kill or cure it. So he sowed it to wheat, and then to clover. No wheat worth mentioning; good stand of clover. Next year he fed sixty head of hogs on that six acres of ground—ten head to the acre; besides he hauled, to use his own expression, "ah, I don't know how much manure out upon it," and turned it all under. When that man threshed his wheat it yielded 46 bushels to the acre on that field, and he sold it all for seed at $1 a bushel—market price 70 cents. C. A. Robinson.

Shelby County, Ind.

Winter Wheat in Iowa.

The discussion in Iowa between the writer that says the soil and climate of the State are admirably suited to the production of winter wheat, and the other writer who denies the claim reminds me of a similar state of public opinion that prevailed in Illinois some twenty years since, more or less.

Forty years ago spring wheat was an almost certain and profitable crop in Illinois, even as far South as latitudes 39° and 40°. It continued to be so as long as the soil retained a sufficiency of the phosphates to hasten the date of maturity and secure it before the arrival of the time of intense summer heat, while at the same time the vegetable matter and the nitrogen associated with it, were not in so large an excess as to promote rank straw growth at the expense of grain, and in that way retard maturity. But as crop after crop of wheat and corn were taken off, the added vegetation in the way of roots so much increased the vegetable substance of the soil that it became as "loose as an ash heap," to use a common expression. The spring-sown wheat proved a failure through over-growth and consequent lodging, rust and blight, while the winter-sown, if it did not freeze out in the cold season, suffered the fate of the spring wheat in the warm. Thus from 1865 to 1875 it had come to be an almost universal opinion among the farmers of Central Illinois, that the soil and climate were both unfitted to the wheat crops, whether spring or winter. However, about 1876 or 1877 a farmer here and there succeeded in making fair crops of winter wheat, and obtained large prices for them. The example thus set was largely followed, and in '78, '79 and '80 great crops were made, and such large profits resulted that the wheat crop of these years came to be regarded as a special benefaction, that paid off the mortgage on thousands of farms, and saved their owners from financial ruin.

The secret of these successful wheat crops, after half a generation of failures, was simply this: Continued corn and oats cropping had used up the excesses of vegetable matter and its associated nitrogen; the soil had reached a state to admit of being compacted after suitable cultivation; the wheat roots obtained a firmer and deeper hold on the soil; the danger of winter-killing had been measurably withdrawn, and a portion of the material for over-growth had been exhausted—in short all, or nearly all the conditions for the crop were present in the land.

To be sure, the capacity for a successful crop of spring wheat had not returned, to the date of 1879, nor has it to this time, the reasonable explanation being that for the period occupied by the long growth of a crop of winter wheat, there are still phosphates enough in the soil, but for spring wheat, the growth of which has to be made in ninety days, the soil is deficient.

Experience in Illinois in growing both spring and winter wheat, in failing to grow both for a period, and then a turn of success for one crop, is likely to be repeated in Iowa, and thus in a manner show that Mr. Chamberlain's estimate is near a correct one for the present, and Mr. Wallace's not far out of the way for the past and future.

And one word concerning the tree-fruit crop in Central and Northern Iowa—it will be worth the cost of an experiment to see if, choosing the springy slopes and hillsides, and the beds of large ponds which have gone dry, for orchard sites, with the aid of irrigation where needed, the choice varieties now successfully grown in Northern New-York and Maine, will not resist the cold, make healthy growth, and become long-lived and fruitful. D. F. J.

Champaign County, Ill.

Raising Corn for Ensilage.

Southern Varieties Preferred.

Eds. Country Gentleman—Mr. Towle, page 881, refers to the practice of planting southern corn for ensilage, and notes where his neighbor ensilaged a field of such 12 feet or more in height and bare of grain as bean poles, and incidentally remarks that this man for the silo "uses 2 bushels of seed to the acre." Now, in drills 3 feet 3 inches apart 3 quarts of "B. & W." seed will drop a kernel once in 6 inches, so that 3 pecks would mean a kernel every ¾-inch in the drill row. This year was a most disastrous one for corn growth in Ohio, and yet my "B. & W.," planted May 16, eared out finely, and had developed the ears to the full roasting stage when the silo was filled Sept. 25th.

In planting southern corn two things are to be remembered—*thin* planting and *shallow* cultivation. The pruning of the roots is a bad practice, as it delays the maturing of the crop and no doubt defeats earing, I am sure—at least that is my idea, as I have watched two fields, one shallow cultivated, the other root pruned, by the older methods of deep cultivation. The southern corn is tropical in its habits, and its roots run very near the surface in their search for heat. To cultivate deeply severs these roots by the tens of thousand, and nature must repair this damage before growth can go on as rapidly as before.

I have no doubt that the Marblehead Mammoth sweet corn is good, but give the southern corn a chance for its life, and no variety can equal it, as was so abundantly proved by Prof. Henry at Madison, Wis.—a locality on the northern border of the corn belt. With things as nearly equal as possible, the southern white corn yielded 42,000 lbs. to the acre, with 2,460 lbs. sugar and 984 lbs. protein; and the best sweet corn yielded 22,000 lbs. to the acre, with 854 lbs. sugar and 359 lbs. protein. The sweet corn gave 5,500 lbs. dry matter, and the southern, 14,000 lbs., which shows that big corn, pound for pound, is the full equal of any corn grown.

There has been a disposition among our silo men, for a year or two, to try smaller varieties; but this year they one and all went back to southern corn, and thank their stars that they did, for the smaller kinds made a most feeble growth. I notice that Dairy Commissioner Thom of Wisconsin, in a recent article on this same subject, remarks that events have proved it—smaller varieties for the silo—to have been "an unwise conclusion," and the practice will again swing back to the general adoption of the larger varieties.

I also note several efforts of farmers to save seed from this southern corn in an attempt to shorten up its period of growth; but the seed the second year shows great deterioration from the growth from imported seed, and as expressed by one farmer, "I won't be fooled again by saving seed from my own ensilage corn, as it has cost me dearly." As long as seed can be bought for 25 cents per acre, it does not pay to practice economy in this direction, and for the ensilage seen in Ohio it will not pay to grow a crop of the smaller varieties when they can on an acre get from a fourth to often a half more than from any other kind by planting the southern white corn. Of course in New-England it may be different, especially when the ears can in part be sold for market wants, but good ground, thin planting and shallow cultivation will grow the "B. & W." in New-England and to a profit.

Within a week I have received several letters from as many states, asking about the practice of putting corn and fodder that have been in the shock a month or six weeks, into the silo; and what would be the results. I have no opinion of my own, and can only say that I have known only three men who have tried it, and all succeeded fairly well, much better they all claim than following the endless way of drawing and cutting dry fodder, and its attending waste at all points. I recall one pit filled in December and opened in January. The fodder as it fell out of the pits was liberally sprinkled with water, and the ensilage took on heat and settled well, and when fed out showed very little mould and waste, and the corn was fairly well digested by the cattle, much better than when dry corn is being fed. Mr. Edgar Sindekoper, the noted Holstein breeder, of Meadville, Pa., filled a silo late in October with field corn which had been in the shocks some four weeks, and I shall watch its results with much interest. He informs me that so far

it is "behaving all right," and he has great hopes that it will prove a success. I see but little after all to warrant much experiment in this line, save as in the case of Mr. Huidekoper, where the silo is resorted to in a case of overplus to save husking and grinding a corn crop, an outlay that costs one-fourth the value of the crop, not to mention the loss of fodder in husking, tying and drawing, an operation that always seems to make the fodder shrink about half. The extra cost of shocking and tying fodder, the extra power, and lessened amount that can be cut, and the rough, incomplete cutting of the fodder, makes a cost that exceeds that of the work and cost of cutting the crop at maturity right from "the stump" into the silo, so that I think there is a gain in every way over the dry process, and certainly ensilage made from dry fodder is not the equal in any respect to the fresh made from fodder at its best point of maturity, but superior to dry fodder cut from day to day, and made a perpetual litter upon the barn floor.

This year I made another trial of cooking corn fodder. Having about a fourth acre of good fodder left over from ensilage filling, I let it lay in the gavels and wilt for two days, and then cocked it up in generous stacks, crossing each gavel, and making a good water shed on top. They were left out four weeks and were then drawn in. They kept better than last year, but had moulded a good deal. In every cock a large colony of field mice, chipmunks, and even rats, had taken up their abode and established themselves with enlarged views of the future. One month more would have worked the complete ruin of the grain and a good per cent. of the fodder. I must confess to Mr. Rice that I do not succeed with his plan, and now that he is to build a silo, I expect to hear in the future that the box is the place *par excellence* in which to *save* the corn crop, in preference to little stacks.

Western Reserve, O., *Nov. 6.* JOHN GOULD.

Best Corn for Ensilage.

Eds. Country Gentleman—I thought I had it settled about ensilage corn, but recent articles in your paper make me wonder if I am right. This year I raised a few acres of Wisconsin corn. It grows about three-fourths or four fifths as large as B. and W., but with this difference—if not planted too thick it will mature ears. My idea was to plant this variety. By planting it one half thicker than I would our ordinary eight-rowed yellow flint, it will produce a large crop of stalks and ears. If we put it in the silo just a few days earlier than we should cut it for regular corn, it seemed to me that we should be getting the greatest amount of food that it contained at any time of its growth. If an acre of it is equally valuable when the most forward ears are just beginning to be fit to roast, I should like to know it.

I should also like to know, if, in the opinion of men most experienced, southern corn planted much more thickly, say one-half more stalks per acre than I propose to plant my Wisconsin corn, would be as valuable ton for ton. Or even if one and one-quarter tons would be as good as one ton of my Wisconsin corn, raised as I proposed. Of course I can add more grain to the southern corn ensilage. If fifty pounds of wheat bran would make a ton of the southern ensilage equal to a ton of the Wisconsin corn ensilage, it would be better to raise the southern. But my idea is to raise the best possible ensilage. My impression was, decidedly, that the ensilage heavily eared—a great deal I put in would have husked out sixty or seventy bushels of good corn per acre—was far better than the great rank southern corn, of which only an occasional ear had the kernels set, though there were many incipient ears. The southern corn certainly fills the pits fast, but settles much more than the more mature corn. Can you not give us a good article, with the reasons pro and con.?

I can see that it would be better in some places to raise the southern corn and buy bran, cottonseed meal and corn meal to balance it. But here land is cheap and well adapted for raising corn. We want an ensilage that will give us large quantities of rich milk, with the addition of bran, middlings, cottonseed and oil meals only. We want to raise our own corn. It seems to me cheaper to put it in the silo with the stalks, than to raise it separately and then mix it. But I want to learn, and not to prove myself right.

There is only one way to make farming pay, especially where one is not able to work himself, and must keep six to eight men all the time. That is, to think, study and find out how to do things—in short, do as a business man does. One must not adhere to methods or crops that do not pay. We must use machinery—all that is possible. There seems to me great economy in large powerful horses, and three and four-horse teams. To do the work that we do, by the methods my uncle used ten years ago, would require twice the number of men. We of the East must use machinery or western competition will crush us. My grain drill pays for itself annually in the smaller amount of seed required, increased amount of grain raised, and great difference in grass seeding. I have faith in eastern farming. C. L. Allen. *Washington County, N. Y.*

Profit and Loss in Dairy Farming.

Eds. Country Gentleman—In the summary of the report of the dairy census of the town of Ellisburg, Jefferson Co., N. Y., which appeared in your paper of Oct. 31, the farmers of that town are represented as losing $24,980 in one year by keeping unprofitable cows. A loss of such magnitude would soon ruin the dairymen of that or any other town. Statistics gathered by the dairy commissioner show a similar condition of things in other parts of the State, and the figures given and conclusions reached should receive the careful attention of every owner of dairy cows. That the census was carefully taken, and that it contains a valuable lesson, I have no doubt, but as the amount of loss stated is based on the price of hay in market, and not on the real cost of keeping a cow on the farm, the result is unsatisfactory. The market price of hay is even more variable than that of dairy products. Again, if the hay is sold, how is the fertility of the farm to be maintained, and to what profitable use can the large amount of broken land now in pasture be put?

I do not suppose that statement of loss was intended as an argument against dairying, or in favor of selling the hay from the average farm, but many farmers have been led by similar reasoning to dispose of their cows and engage in selling hay as a more sure road to success. In most cases the anticipated profits have not been realized, but the farms have been greatly reduced in value. It is true that $31.74 income is a very low average for dairy cows, but the facts and figures given do not warrant the conclusion that a real loss was incurred when the sales reached this amount.

In the Ellisburg census the average amount of pasture and also of meadow used in keeping a cow, and the value of such land, are given, but the amount and cost of labor required do not appear to have been ascertained. Without the item of cost of labor no correct estimate of loss or gain can be made. From the data given it appears that an average of 3½ acres of land was used in keeping a cow one year. With land at $50 per acre that will do this no loss is incurred, even with the low income of $31.74 per cow.

Supplying the item of cost of labor as well as I can from the experience of myself and others, the account with the average 30-cow dairy and 100 acres of land used to supply pasture and meadow for the same, is as follows:

Interest on $5,000, value of 100 acres of land at $50 per acre	$300 00
30 cows at $20, $600, interest	48 00
Harvesting hay from 30 acres meadow	90 00
Milking and care of cows one year	300 00
Value of feed besides hay and pasture	181 80
Making 750 lbs. butter, @	37 50
Washing of dairy utensils, 50c. per week	26 00
Total interest, extra feed and labor	$987 30
Sales at $31.74 per cow	952 20
Balance in favor of cows	$34 10

This balance would provide for insurance on barn and cows, repairs of fences, &c. The job of harvesting the hay can be let for $2.50 per acre. At 50 cents per bushel for mixed grain feed, as charged in the above report, good profit can be made by raising it on the part of the farm not in pasture and meadow.

A good man can be hired for $300 per year and board. His board is not charged, as the milking of 30 cows that will average but 4,000 lbs. of milk in a year will not require more than seven or eight hours' time each day in summer, and as the average cow goes dry three months, not more than one-half of the time will be required to milk and feed the cows and clean the stable in winter, drawing and spreading the manure each day.

If the other operations of the farm aside from those pertaining to the dairy are arranged as they should be, profitable employment will be found for the man when not engaged in caring for the cows, and so the cost of board will be paid. If the manure is carefully saved, and a liberal quantity of clover seed is used in reseeding the meadows, the fertility of the farm will be increased, notwithstanding that other crops, such as peas and oats, barley, corn and potatoes, enter into the rotation and receive great benefit from such manure. For this reason no charge is made for team used in drawing manure.

In the census report no charge is made for filling up the herd with young cows as the older ones fail, nor is any such charge necessary. Before failure on account of age a cow may be kept farrow and fattened, and the beef sold for enough to purchase a good two-year-old heifer in milk. This has been done in some dairies for many years, the extra butter of the farrow cow paying the expense of fattening. This may have been done in the average dairy herd under consideration.

Why then is there so little money saved by the average dairyman? In many cases the expenses of the family are out of all proportion to the amount of capital invested and labor expended in dairy production. There may be several expensive members of the family whose labor contributes very little to their support. Or the business of the farm is so arranged that the proprietor has plenty of leisure time, and crops are not raised that will afford the help profitable employment when the dairy does not require his attention. On many dairy farms very little regular farm work is done for several weeks in the season.

Among dairy herds far below the average may be found cows neglected and in filth in a temperature below zero, while the proprietor is ably discussing the political situation at the neighboring store or saloon. Other herds are left from early in the morning until late at night without oversight or care, while the whole family are miles away visiting friends. Thoroughbred herds may be seen so thin and pinched for feed throughout the year that they do not pay for what little they do receive. Others have late-cut or inferior hay piled before them in such quantities that it becomes tainted, and they refuse to eat and come through the winter too thin to yield any profit. Calves are raised on whey as described in the report, and such scrubs fill up the unprofitable dairy. Again, cows are bought from a drove at a high price, and half of them never pay for keeping and are sold in the fall at great loss. Where cows are neglected calves and pigs do not thrive, and the sale of stock does not add greatly to profits of the dairy.

In most cases the sales from the average dairy could be increased $10 per cow by a little better care and an increase of expense of $5 for soiling crops in August and September and additional grain feed in winter. Good grades of the best dairy breeds can easily be made to give double the above average at present prices. With sales at $40 a fair profit may be realized. With sales at higher figures the percentage of profit is far greater, as the cost of pasture and hay and labor will be increased but little. I do not advocate the keeping of cows and viewing with contentment the average sale of only $31.74 each, but believe that the real sources of loss must be sought elsewhere. For more than twenty years after the commencement of cheese dairying in Northern New York only the best dairies reached a sale of $30 per cow. The necessary expenses of living were as great as they are now. During that period men bought farms and paid for them with money received from sales of dairy products. Very little purchased feed was used, and in many dairies no grain was fed. Indeed some of the most successful dairymen that I have ever known never fed any grain whatever to dairy cows. One of these, so recently as 1873, purchased a farm of 115 acres, and commenced dairying with a debt of $4,000. He sold only butter, cheese, skins and pork; kept his herd good by purchasing cows; he did not overstock his farm. He cut his hay early and attended carefully to his business. For a series of years, including the period of low prices about 1877-8-9, his average sales were $40 per cow, and in less than ten years his debt was paid and he began to loan money. Sound judgment, careful management and willing hands will succeed in making money by dairying. Failure is chargeable quite as much to the average dairyman as to the average dairy cow. C. S. Rice. *Lewis County, N. Y.*

Ensilage and its Value.

Eds. Country Gentleman—Dr. Councilman, p. 830, asks: "What is the relative value of the ensilage and the fodder, cooked (if need be) by a jet of steam thrown into the feed trough?"

The answer is that the ensilage is worth at least twice as much, and is so much easier to be obtained, in twice the quantity, than the cut and steamed dry stalks, that it knocks out the dry stalks about four to one. That is, four cows can be kept to the acre instead of one.

The *quantity* of food is the first advantage. One of the grandest sights in the world, not excepting Niagara or the ocean, is a large field of ensilage corn, milk-ripe, drilled, and standing in solid acres, fourteen or fifteen feet high! No such quantity of nutriment can be obtained in any other way or by any other plant or product. Corn is queen, and the greatest natural gift of America to the world.

"But," says the doctor, "why not dry all this corn and steam it?" Because you can't, and because drying would take away half of its value. Corn in milk, before its kernels are glazed and hard, will not dry; it will be overtaken by rains and mildew and be lost. If you do not believe it, begin with a comparatively small lot of fodder corn and see where you will come out. To talk of drying solid acres of milk corn is absurd, to say nothing of the labor and expense of housing so vast a quantity, and cutting it up and steaming it in the "feed trough," or anywhere else. But were it possible to dry this corn, or if you were to leave it to ripen in the field, which, being Giant Southern corn, it won't do at the North, you would thereby lose half of its value.

The natural food of all cattle is *green herbage*, and they have a hard time to get through our winters on dry fodder. They have no stomachs fit for it, even when steamed. Therefore, to give them their own fresh food in winter, in a warm enclosure, is to make it summer for them all the year. The result is that they are bright, sleek and healthy, and give "June milk and butter in February." But if the corn could be ripened and so dried, no amount of steam could make it green, milky herbage again. Steam cannot resurrect the dead. When the cellulose, albumen, protoplasm, starch, gums, sugars, &c., have turned to wood fibre or dry skins or hard granules, half of their value is gone and can never be restored. Let the cattle have the choice, and they will settle the question in favor of the ensilage every time.

The doctor to the contrary, then, our little benefactor, the yeast-cell, does "deserve our doxologies," for he enables us to put the solid acres of fresh green corn, just when cattle love it best, into a small solid bulk in a silo. He grows through it, turning the albumen and fibrin to protoplasm, and in so doing digests and warms the whole mass by breaking up the glucose and passing it off as carbonic acid gas and alcohol. The heat of this digestive process, and the solvent and transforming effects of this alcohol and gas, help the gums, starch and fibres well on their way to becoming flesh. Not all of the sugar is thus taken, for the heat and alcohol kills the yeast-cell before he becomes too destructive, and he is succeeded by the lactic acid ferment which carries the heat up to 125° to 150°. The food thus softened, and cooked for a long time, is easy to assimilate. Thus we have "sweet ensilage."

On April 7, 1875, when the committee of French scientists reported favorably on the silos of Auguste Goffart, the inventor of the silo, they said:

"The ensilage has an alcoholic odor, quite marked and slightly acid. It is eaten with avidity by the cows, and constitutes their sole food since the commencement of winter. We were struck by the healthy appearance of the 25 or 30 cows; their eyes were bright, their skins soft, and they were in good condition."

From then till now similar reports have been made wherever the silo has been fairly tried, and in no place is it more useful than in our northern States. It would seem, then, that we ought to include M. Goffart, as well as the yeast cell in "our doxologies," as one of the great benefactors of our race.

Nor ought we to forget the little microbe plant, the *Penicillium glaucum*, who takes up the work where the yeast cell drops it, and turns the remaining milk sugar or lactose into lactic acid, which gives the "acid odor" the scientists reported. Thus oxygen, an acid taste, and a new seat is added to the food, which, if covered properly, as stated in my last article, may be kept for years. If, however, the vinegar microbe (*Mycoderma aceti*) does

get in some of his fine work, or even the putrefactive microbes, nevertheless, until it is really rotten, the cows prefer this to dry food.

The doctor says: "Suppose I avoid this officious microbe and all his works." But then you cannot, and have ensilage at all, and you cannot avoid him in any way. He is everywhere where his food is. We must learn to domesticate and use the microbes as we have the larger animals, and not let them or their works injure us. T. S. WAKEMAN.

Fairfield County, Conn.

From Southwestern Indiana.

ED. COUNTRY GENTLEMAN—We are having a very rainy time of it now; have scarcely seen the sun for three days. The roads are getting sloppy, and will undoubtedly go into winter in a very rough condition. The fields of corn, and especially those inclined to be saggy, will hold water for some days yet. Provided we get no more rain, I fear the corn crop will be damaged; some of it is lying flat from recent storms. I would at this date judge that more than a third is too wet to be husked and housed.

We have no advance in prices of farm produce, but on the contrary a slight reduction. These are trying times for the farmers of the West, and what the result may be is easy to predict, if this condition lasts. I met two gentlemen lately, one from Kansas, the other from Nebraska—both farmers. They told me times were very close, and nearly all farmers in a pinched condition. The railroads get all the profit there is in anything when it is shipped, for the cost of production, with freight charges added, is above the selling price.

In a letter of W. N. Green of Southern Illinois to an agricultural journal of that State, he says: "We have an abundance of wheat, selling at 65 cents per bushel; thousands of bushels of corn that will not bring 20 cents; fifty million bushels of oats at 15 cents; potatoes that can find no market at all; cattle that bring next to nothing, &c. All these staple articles sell for much less than cost of production. Mortgages shadow our hearth-stones, and taxes and interest eat up more than our profits. We have a few orchards, it is true, but more than half of our industrious farmers are tenants, and have not a single spot of earth on which they can plant a tree and claim the fruit. Oh, yes, Southern Illinois is all right! Perhaps one acre out of five hundred is set in fruit trees, and after years of working and waiting they have produced a crop which is selling at 45 to 65c. per bushel. With these discouraging conditions is a mortgaged debt of $200,000,000, and a total registered indebtedness of $408,000,000, with an average tax of at least four per cent. on the assessment."

Indeed, this does look quite blue to one in a little clearer atmosphere. But who can boast of their agricultural success nowadays? Have we the right to ask, where is our government? ED. PEARSON. *Sullivan County, Ind.*

Farm Produce in New-York City.

We clip the following from the New-York Times of Nov. 14th:

The condition of the farm produce market has been unsatisfactory this week. The storehouses are filled with the good things of the land that have been coming into the city in great abundance, but everywhere the complaint is made that trade is dull. The retail men who cater to the wealthy classes and purchase only first-class fancy provisions, are still good customers of the wholesalers, but those who supply the hundreds of thousands of the poorer classes are not taking in any stock, and purchase only what they believe they can sell during the day.

Butter is still in very large supply, and though good prices are obtained for the first-class grades, the medium and inferior grades are very low.

Trade in cheese has been dull. Large receipts have caused an accumulation of cheese in this city, and to day it is cheaper than it was at this time last year. Retailers and speculators are offering still lower figures, but the wholesalers positively refuse to make any further reductions. To help them out the farmers at Canton, N. Y., decided not to sell or make any more cheese until the surplus in this city shall have been consumed.

Trade in eggs is dull. The best fresh laid eggs are scarce and are sold off as soon as they arrive. But of other grades there is a super abundance, and with this muggy weather, retailers are afraid to take in more stock than will last them a few days. The demand for eggs has fallen off with the bad weather.

For many years there has not been such a large supply of potatoes in this city as during the past month. Recently the West has gone into raising potatoes on an extensive scale and has sent very large shipments to New-York. A couple of weeks or so ago the market here was actually glutted with potatoes, prices went down, and the railroads refused to carry any more potatoes until the pressure in the New York markets should be relieved.

In the poultry line business is likewise dull. Thanksgiving is still distant for this branch of trade. The wholesalers are willing to sell cheap and the retailers are afraid to buy.

The hay crop in this State and New-Jersey suffered greatly from heavy rains during the harvest. Much of the hay had been cut, but had not been pressed and put under cover. The rain soaked the drying hay and caused a fermentation that converted the piles of hay into masses of sour stuff which horses and cattle refuse to eat. The storms swept over the salt meadows too, and carried away a large quantity of the salt hay.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *Nov.* 11.

The temperature has been quite moderate for the time of the year, with light rains and skies that look more like April than November. The rather copious rains of last week have softened the ground enough to stop corn shucking for a few days, at the same time affording opportunity to increase the acreage of fall plowed land. The early-sown wheat seeded in the standing corn is looking rather better than that in the open field, where the early sown has now a vast advantage over the late sown, being better prepared for winter. Within a week I have seen perhaps a hundred wheat fields, in not one of which could I recognize that the roller had been used, and scarcely a larger number that rolling would not have benefited by crushing the clod and packing the soil. In the belt of country along the 40° parallel in Illinois, the wheat crop is nearly as large in acreage as any previous one, and should the crop equal, when harvested, the great ones of '78, '79, '80 and '88, it will do much to relieve the financial pressure which a short crop of corn and shorter crop of oats, both of inferior quality, which farmers are forced to sell at lower prices than since 1860, has been brought to bear on landlord and tenant alike.

There are great apprehensions that should the mild and moist weather continue through the month much of the corn cribbed will either heat, rot or mould in the cribs, and be, if not wholly spoiled, so lowered in quality that it will not grade.

The stock of young hogs appears to be considerably above the average of the last three years, due to the relatively good prices which have prevailed, and at the same time hog cholera is reported in numerous sections, as it is almost sure to be when the most profitable way to dispose of 20-cent corn is to convert it into 3½ and 4-cent hogs on the hoof. S. F. J.

From Southeastern Pennsylvania.

A Review of the Year.

ED. COUNTRY GENTLEMAN—The indications of an early and severe winter in this section, as has been predicted by the weather-wise, are not very strong. It is now nearly the middle of November, and the temperature is not unlike that of the early part of September. The mercury yesterday and to-day reached nearly 60° A bed of pansies in full bloom, that can be seen from my window in the bright morning sunshine, recalls the month of May rather than the season of frost and snow.

This has been a peculiar season in many respects. The winter was exceedingly mild. No severe weather was experienced until February, and this was of short duration. It was dry and windy in the early part of March, so that by the middle of the month farmers were plowing. It is seldom that so much farm work has been done in March. Oats-sowing in many sections was pretty well finished before the first of April. A good part of April was also favorable. The rains were generally light, and the ground being in fine order, farming and gardening were quite active. The writer planted corn on the 19th of the month, and there have been few seasons when so much corn planting was done before the first of May. The weather during a great part of May was almost like midsummer, the mercury at times reaching nearly 90°. Peach and cherry trees were in bloom by the 23d of April, and the warm weather in May brought the grass and other vegetables forward rapidly, so that the season was fully three weeks earlier than usual.

The heavy rains for which the year 1889 in this section will be remembered, set in the last of April, when we had a regular downpour for about forty-eight hours. There was enough rain for practical purposes in May, until near the close of the month, when we had another deluge. This storm extended all over this section of country, and will long be remembered in connection with the terrible disaster at Johnstown in the western part of our State. The month of June was sufficiently wet, although the storms were not heavy. On the 15th of July we had the heaviest rain of the season, the Schuylkill, Neshaminy and other streams being higher than for many years. With the exception of the period in March and April already mentioned, and an interval of about three weeks at the last of August and early part of September, the ground has been wet, and at times it was thoroughly saturated. The last heavy rain occurred last Saturday, the 9th inst., when the streams were about as high as they were on the 15th of July.

The wet weather in July and the early part of August interfered very seriously with the gathering of the crops. The growth of grass, under the influence of warm and moist weather, was fine, but the excellent hay crop was very materially injured by the rains. Many farmers sustained great losses in consequence. The rains also interfered with the gathering of the wheat. The oat crop, which was not heavy, was almost ruined in the same manner in many cases. The wet, sultry weather in July caused the potatoes to rot badly, and this crop was a pretty general failure.

From these causes an otherwise productive season has turned out anything but a favorable one for our farmers. M.

Bucks County, Pa., Nov. 12.

Prizes at the Chicago Show.

BREEDING CATTLE—HERDS.

Short-Horn—1. Allen Varner & Son, Indianola, Ill.; 2. J. Henn & Son, Redmon, Ill.

Hereford—1. Geo. Fowler, Maple Grove, Kas.; 2. W. S. Van Natta, Fowler, Ind.; 3. G. W. Henry, Chicago.

Devon—1. J. W. Morse, Verona, Wis.; 2. John Hodson, Minneapolis, Ill.

Aberdeen-Angus—1. Leslie & Burwell, Cottage Grove, Wis.; 2. H. C. Allen, Harristown, Ill.

Sussex—1 Overton Lea, Nashville, Tenn.

Red Polled—1. Gullian & Murray, Maquoketa, Iowa; 2. J. McL. Smith, Dayton, O.; 3. Current & Sanderson, Lost Nation, Iowa.

Holstein-Friesian—1. Stanton Bros., Greenwood, Ind.; 2. Thos. B. Wales, Iowa City, Iowa; 3. Stevenson Bros., Bolgar, Pa.

Jersey—1. Latimer & Miller, Abingdon, Ill.; 2. Jas. T. Henderson, Anvegas, Ark.; 3. D. H. & S. S. Tripp, Peoria, Ill.

Ayrshire—1. E. A. Potter, Lindenville, O.; 2. John Stewart & Son, Elburn, Ill.; 3. A. B. Spencer, Rockport, Ill.

FAT CATTLE—SHORT-HORNS.

Steer or Spayed Cow, 3 years—1. J. H. Potts & Son, Jacksonville, Ill., Richmond; 2. W. S. White, Sabetha, Kas., London Boy; 3. C. S. Barclay, West Liberty, Iowa, Liberty.

Two years—1. W. H. Renick, Clintonville, Ky., Tr-Light; 2 W H Renick, Mose Such; 3. C. C. Bibb & Son, Kewanee, Ill., Captain.

One year—1. Jas. J. Hill, St. Paul, Minn., Bellaher; 2. Moffatt & Bros, Paw Paw, Ill., Blue Ribbon; 3. Bibb & Son, Cardinal.

Under one year—1. Potts & Son, Captain; 2 Bibb & Son, Kriss Kringle; 3. W. H. Renick, Jack the Ripper.

HEREFORDS.

Three years—1. G. W. Henry, Jumper; 2. Adams Earl, Lafayette, Ind., Expressman; 3. J. B. Sherman, Chicago, Ramona.

Two years—1. W. S. Van Natta, Edwin; 2. C. M. Culbertson, Newman, Ill., Wilton 16; 3. A. Earl, Earl of Shadeland 27.

One year—1. A. Earl, Merry Boy; 2. W. S. Van Natta, Bill Fowler; 3 G W Henry, Bright Prince.

Under one year—1. A. Earl, Edison; 2. W. S. Van Natta, Howard; 3. J. E. Price & Son, Williamsville, Ill., Eldorado.

DEVONS.

Three years—1. J. W. Morse & Son, Verona, Wis., New Era.

Two years—2. Morse & Son, Beauty.

One year—1. Morse & Son, Perfection.

Under one year—1. Morse & Son, Prince; 2. B. Waddel, Marion, O., Beauty.

ABERDEEN-ANGUS.

Three years—1. Jas. J. Hill, Monroe; 2. Jas. J. Hill, Horton.

Two years—1. T. W. Harvey, Turlington, Neb., Alexandria Knight.

One year—1. Jas. J. Hill, Maurice; 2. A. B. Matthews, Kansas City, Bonnie Blue Baron; 3. Same, Bonnie Blue Prince.

Under one year—1. J. J. Hill, Defiance.

HOLSTEIN-FRIESIANS.

Two years—1. B. Waddel, Rattler; 2. M. L. Sweet, Grand Rapids, Mich., Ben Jonson.

Under one year—1 and 2. B. Waddel, Spot and Ohio Champion 2d.

SUSSEX.

Three years—1 Overton Lea, Nashville, Tenn., Rover.

Two years—1 O. Lea, George.

One year—1. O. Lea, Woolsen.

Under one year—1. O. Lea, Lock's All.

GRADES AND CROSSES.

Three years—1. W. H. Renick, Bright Light, 63-64 Short-Horn; 2. T. W. Harvey, Geldo's Darha, ½ Aberdeen-Angus, ½ Short-Horn; 3. J. B. Sherman, Anxiety's Eclipse, ½ Hereford, ½ Short-Horn.

Two years—1. Elbert & Fall, Albia, Iowa, Bigdon, ¾ Short-Horn. 2. H. H. Clough, Elyria, O., Clem, ¾ Hereford; 3. Makin Bros., Florence, Kas., Emory, ¾ Hereford, ¼ Short-Horn.

One year—1 Moffatt & Bro, Bonnie Blue Ribbon, ¾ Short-Horn; 2 G. W. Henry, Shadeland Jersey, ½ Hereford, ½ Jersey; 3 Price & Son, Semiramis, ½ Hereford, ½ Short-Horn.

Under one year—1. C. B. Stuart, Lafayette, Ind., Nellie, ½ Hereford, ½ Short-Horn; 2. Geo. Fowler, Maple Hill, Kas., Dick, ½ Hereford, ½ Short-Horn; 3. T. W. Harvey, Star of Turlington 2d, ½ Aberdeen-Angus.

ALL BREEDS BY AGES.

Three years—J. H. Potts & Son, Richmond, Short-Horn.

Two years—Elbert & Fall, Bigdon, ¾ Short-Horn.

One year—Jas. J. Hill, Bellaher, Short-Horn.

Under one year—Potts & Son, Captain, Short-Horn.

HEAVIEST BEASTS.

1. J. B. Sherman, Chicago, Jubilee's Breastplate, Short-Horn, 1800 days old, 2660 lb.; 2. W. H. Renick, Clintonville, Ky., Baby Mine, 3 H., 1361 days, 2,515 lb.; 3. J. J. Hill, St. Paul, Minn., Monroe, Aberdeen-Angus, 1426 days, 2415 lb.

Weather, Crops and Prices.

Meteorology for Nov. 11-17.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30 66	inches.
Lowest do.	do.	..... 29 67	do.
Mean do.	do.	..... 30 12	do.
Highest temperature	do.	..... 63°	
Lowest do.	do.	..... 20°	
Mean do.	do.	..... 42°	

Two clear days; two fair; three cloudy. Four days on which rain fell; total precipitation, 0.86 in. Prevailing wind, S.; maximum velocity, 24 miles per hour on the 15th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	11th	12th	13th	14th	15th	16th	17th
Day ...	47°	62°	50°	51°	39°	29°	30°
Normal ...	44°	44°	43°	39°	40°	40°	40°

Total deficiency for the week, 8°.

Maine—*West Madison, Somerset Co., Nov.* 13.—This has been one of the finest falls for farm work that we have had for years—the weather has been warm, and not an unusual amount of rain. Farmers are well along with their work. The grain crop is below the average, oats yielding only two-thirds of a crop. The apple crop is light and has been bought up at $2 per bbl. for No. 1 and $1 for No. 2. T. B. S.

Delaware—*Kent County, Nov.* 14.—The excess of rainfall still continues. First severe frost occurred Nov. 6; none previous to that severe enough to cut Lima beans. Average acreage fall wheat sown, and is looking well. Weather warm and fine; very few frosty nights. Corn husking about over, and corn eating well. Prices of produce about as follow: Wheat, 75@80c. per bu.; potatoes, round, 60c.; sweets, 90c.; oats, 35c.; beans, $1.75@2; corn, 30c. for 72 lbs. in ear; hay, $10@15 per ton; apples, Michigan, $3.50 @4 per bbl.; no Delaware apples left. R. & P.

West Virginia—*Bunker Hill, Berkley Co., Nov.* 11.—Times are dull among the farmers by reason of the low prices prevailing for produce. With railroad men and others it is different, as they get good wages and buy their supplies at very low prices. Farm hands are asking three bushels of corn per day and board for shucking corn, which makes it hard on the farmers. Wheat was not a large crop, and of an inferior quality; worth from 70@75c. per bush.; new corn, 30c. in quantity, and but little selling—the crop was a good one; hay, a large crop, selling at $6@7.50 per ton at the farm. Live-stock doing finely; pasturage has been good; hogs in good health and thrifty. Lands are getting very low in price, while property in the towns seems to sell readily at fine prices. The farmers are the under dog in the fight certainly. B. L. E.

Kansas—*Hamlin, Brown Co., Nov.* 8.—Husking, or as they term it here, "picking" corn, is now in progress. In our immediate neighborhood the corn was ruined by the terrible hail storm in August. This, however, was confined to a narrow strip of country. Outside of the line of this storm the crop is large. New corn is now selling at 15c. per bu. The weather during the fall has been nice, but rather too dry for the early fall wheat. Recently we had a fine rain, which will temporarily, at least, supply the needed moisture. S.

Wisconsin—*Janesville, Rock Co., Nov.* 12.—The weather is still mild and open. We have had a drizzling sort of Scotch mist for two days, but no rain yet—everything needs rain. The river is beyond any former record for its dried-up condition. All our water-power mills are still, except a portion of the time. There has been more plowing done than expected. Much inconvenience is experienced from the lack of water. Our electric lights failed last night—we are now making the hydro-carbon gas from crude petroleum from Ohio. The Standard Oil Company have put in the plant upon a guarantee; so far it is quite a success. It is a better and cheaper gas than hydrogen. Tobacco is a fine crop, and buyers are here trying to buy of the planters and not of the dealers in the leaf. This is a source of offence against the dealers. Horses are much sought after in our market. Cattle and hogs are down to the bottom. Produce is very low indeed. Potatoes, 30c. per bu.; wheat, 69@70c.; rye, 38c.; barley; 15@20c.; corn, 27c.; oats, 15@18c.; hay, $4@7 per ton; cattle, $2.25 @3.40 per cwt. for prime beef; sheep, $2.25@3.50; butter, 18@20 per lb.; eggs, 18@20c. per doz. Business fair; health fair only. Hogs shaking; must be broken. W. B.

Menomonee, Fond du Lac Co., Nov. 13.—Our drouth continues with the most severe rigor. October 23d we had a slight fall of rain, precipitation not to exceed one-fourth of an inch. The land has been plowed in a very dry state, which may be well enough, but that deeper do on rains hereafter. In case we get pouring rains, the dry-plowed land will wash down and run together like mortar, and before it can be seeded it will require plowing again, or working with a cutaway or spring-tooth drag. Only for the vast amount of plowing and the hurry of the spring seeding, it would have been better to leave the plowing until spring. Wells are failing, and streams drying up all through the West. Well-drivers and drillers are so busy that many wells must go dry for a long time, unless farmers take up the stone walls in their wells, sink them deeper and stone them up again, which is a tedious and unwelcome job. On the 10th there was every appearance of an extended storm, which deemed us again to disappointment. It continued a slight drizzle up to this date. The ground is grey with snow, the clouds are moving off and the sun smiles on us at intervals of about thirty minutes. We give it up, and expect no rain of any amount before winter sets in. Something in the elements seems to be contending for the mastery—it rains hard to rain, and there is something that tries hard to prevent it. At this late day we can hardly expect water except from melted snow. Many farmers are drawing water for house and stock from whatever lake or stream is the most convenient. J. D.

Inquiries and Answers.

A Proposed Ice-house.—I wish to build an ice-house, and have decided upon the following plan: On the north-west side of barn I have dug 8 feet deep and 10 by 11 feet; in this I shall put 2 by 8 inches and 20 feet studs on eaves, and 25 feet next to barn. This makes ice-house 13 feet out of ground. On inside I shall ceil with 1¼ inch plank; on the outside I shall board from top of ground up with 1 inch plank and fill in with saw-dust. There are many ice-houses here, all entirely in the ground and most of them keep ice all the summer. Next to the silo the studs will be 2 by 12 inches, making the walls, boards and all 14½ inches thick. On the north-east is a side street four feet higher than barn foundation and stable yard; the earth from excavation is banked in this private street, and will serve to drive upon to unload ice; thus, door will be high up. The stable is two stories. The roof of barn is extended over silo and ice house. Average thickness of our ice is 8 inches. J. C. H. *Oxford, N. C.* [The thickness of the saw-dust in the walls of the ice-house being one foot, will be sufficient to exclude the heat in the summer if care is taken to keep it free from any cracks or crevices, and to have it pack sufficiently solid. It will be important to have perfect drainage so that the water from the melting ice, or any that can flow into the ice-house from the outside, may escape instantly. With these provisions carefully observed, the ice resting upon a non-conducting substance, or a foot of saw-dust, as much more on the ice, and free ventilation on the top, the ice will doubtless keep fairly well.]

Seeding with Wheat.—I have a 40-acre field of wheat, sown this fall with timothy seed. I intend next spring to harrow the wheat with a Thomas smoothing harrow just before I sow the clover seed, which I will sow with a Barrow seeder. An old farmer said to me, if I did so, the harrow would tear out the young timothy. Is it best to harrow the wheat first and then sow the clover seed, or sow the seed first and harrow after? Is the harrowing of the wheat a benefit or not? If a benefit, will it be also a benefit to the young timothy, or will the Thomas harrow tear it out as asserted by the old farmer. S. F. S. *York, Pa.* [The practice here, as in many other farm operations, must be modified and guided by circumstances. If the timothy has made a fair growth this fall, the smoothing harrow will not tear out any of it, but glide over it and mellow the soil, benefiting both timothy and wheat. If it has made but little growth and is small and feeble, the harrow may loosen some of it. It will be easy to make a brief trial. The harrow will prostrate the young plants, and appear to injure them, but in a day or two they will recover and appear better than ever. If the surface will be fresh, fine and mellow, you may sow the clover seed after the harrowing; if not so fine and mellow, the clover may be sown before the harrowing, or still better between two harrowings.]

Barley Meal for Milk.—Enclosed find sample of barley meal. What is its quality as a milk-producing food, and which is the better, bran or this meal, at the same price per ton? If one is more valuable, which and how much? How should this barley meal be combined with bran, malt sprouts, oil meal and cut fodder, or cut sheaf oats, or cut millet, to make a good ration for milch cows? Would it be wise to mix together fodder, oats and millet, or better, feed them separately with bran, &c.? T. S. H. *Wheeling, W. Va.* [After examining the sample of barley meal sent, I find that it is a very good food to be used in a milk ration, but that its superiority to wheat bran, if it has any, consists in its greater proportion of carbo-hydrates, or in other words, it contains more flour or starch than wheat bran, and not as much albuminoids. It may very properly be used in the ration in lieu of corn meal. As foods are figured, its value appears to be the same as wheat bran, but it must be remembered that a food has its full value only when its elements are all used in balancing the ration. Barley meal and wheat bran, together, are better than either alone. In selecting the coarse fodder for a ration, it is better to combine two or more kinds instead of feeding them separately. If he proposes to use sheaf oats let him cut them short and mix with millet hay. He may combine the following ration: Eight pounds short-cut sheaf oats, 8 lbs. short-cut millet hay, 4 lbs. malt sprouts, 4 lbs. barley meal, 4 lbs. wheat bran, 2 lbs. decorticated cottonseed meal. H. will get the best idea of the value of this ration from the following analyzed formula:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
8 lbs. cut sheaf oats.....	0.80	3.80	0.16
8 lbs. cut millet hay.....	0.96	3.80	0.09
4 lbs. malt sprouts.....	0.75	1.80	0.04
4 lbs. barley meal.....	0.96	2.44	0.07
4 lbs. wheat bran.....	0.48	1.84	0.16
2 lbs. decort'd cottons'd meal	0.70	0.44	0.13
Total.....	3.75	13.62	0.65

Nutritive ratio, 1 to 5.2. This should be a successful milk and butter ration. If there is anything overestimated, it is the sheaf oats and millet hay. It is difficult from description to fix on quality. E. W. S.]

Early May Cherry.—What soil suits best for early May cherry? I can use either a rather stiff soil with red clay subsoil or sandy loam with sandy yellow clay subsoil. What distance apart is best for the trees? Would 100 to the acre be too many? O. W. B. *Kittrell, N. C.* [This cherry (which we suppose to be the Early Richmond, and not the small Early May of former years) will succeed on any good soil where common garden and farm crops flourish, either light or heavy, if well cultivated. These may be unfavorable extremes. If 100 trees are set to an acre, they will be about 20 feet apart, which will give ample room for 15 or 20 years, after which they may need a little more space, if on rich land; but on land of moderate fertility they will not suffer by crowding, but will have ample space.]

Plowing Green Crops.—In plowing under crops for fertilization, why is it now preferred not to plow under in the green state, but when dry and ripened? What is gained by this, or lost by not doing so? And is there any difference (in either case) in the quantity of humus secured to the soil? M. *Pamunkey Co., Va.* [Green crops should not be allowed to ripen and become dry, before turning under. If too green they are too watery and have little substance; if too ripe, they lose substance and do not disintegrate and mix with the soil. A proper medium is to be observed.]

Name Wanted.—I herewith enclose a twig. Will you have the kindness to let me know per return mail, if possible, your decision as to what kind of wood it is? A. G. H. *New-York.* [Judging from the taste of the bark, the twig belongs to some species of Prunus, which includes both plums and cherries. But from a single shriveled twig the particular species is not positively identified, for the twigs of the same species often vary greatly in appearance, according to the age, condition and location of the tree. C. H. P.]

Willow Oak.—How does willow oak compare with white oak or post oak as to durability for inside walls in an ice-house? J. C. H. *Oxford, N. C.* [Willow oak (*Quercus Phellos*) has strong but coarse grained wood, possessing little durability, and it makes poor fuel. Its principal value is for posts and beams inside of buildings, where not exposed to wet, and it may do for such parts of an ice-house as are kept dry.]

Fresh Eggs.—Is there any certain way or instrument for testing the absolute *freshness* of an egg? I mean of discovering whether it has been laid within the previous four days. Of course the instruments in use will disclose the fact that an egg is spoiled or otherwise, but how about eggs represented to be strictly fresh? PIEDMONT.

Value of Roots.—I have raised a number of tons of mangels and ox-heart carrots, and have more than I can consume; so should like to sell some of each. Will you give me the market price of mangels and carrots per ton? W. K. *Denville, Pa.* [We do not know—some of our readers may be able to say.]

Alfalfa.—In your valuable paper of Nov. 7, J. W. Clarke speaks about alfalfa doing so well in different parts of the country. Here in New-Jersey we cannot get more than one-third of it to come up. I sowed 12 pounds last August. If we could get it to come up like red clover we should be proud of it. In Florida, on black sandy bottoms, it will cut 12 tons of hay to an acre during the year, or four cuttings. My seed that I sowed in August has rooted 24 inches deep. Will Mr. Clarke be kind enough to say how they sow seed, on what kind of ground, and whether it is harrowed in, cultivated in, or plowed in? Seed that I cultivated in, I got about one third to come up—of that which I just sowed, none came up at all. E. F. C. *Burlington, N. J.*

The Poultry-Yard.

Green Foods for Poultry.

If we notice a flock of healthy chickens in summer we find that they are eating some sort of green food, as grass, clover or fruit, all day long. They never seem to grow tired of it or to become satisfied. This proves that their nature requires something of the kind, and in winter we must, as far as possible, endeavor to supply their wants in this direction if we wish to keep our flocks in good condition and make them profitable.

Finely cut hay that has been cured green is the nearest approach to green grass, and for the rest we must depend upon the garden vegetables, as cabbage, turnips, carrots, potatoes, beets, onions, &c. In providing a store of winter vegetables for the table it is very little extra trouble to arrange for an over supply in order for the fowls to have their share. They are the most accommodating creatures in the world and will gladly accept what we would otherwise throw away, as the tough leaves of cabbage, the stringy sweet potatoes, small white potatoes left in the bottom of the barrel, pithy turnips, and frosted celery tops. But we must be careful that everything offered them in this line be sound and sweet, else our flock may become diseased before we are aware of it. Half-rotten apples, however, are an exception to this rule, in fact, the chickens seem to prefer them to the sound ones, and begin upon the decayed part first. This year the apple crop in our section is almost a complete failure, and although we were more fortunate than our neighbors and gathered a good many from several different orchards, yet the fruit is very imperfect and in keeping so badly that I fear the fowls will get the most of it. I gave them a peck at noon which they seemed to enjoy greatly; they had also a big pumpkin broken open for their benefit, the seeds of which disappeared as if by magic. Raw pumpkin is very poor food, however, and I only give it them as a variety and to help entertain them between meals. Sometimes, though, when very hungry or the pumpkin happens to be unusually sweet, they will peck it almost to the rind.

Chickens are very fond of green turnip tops, and if I could, I would have a piece of ground accessible to the poultry-yard sowed in winter turnips, especially, for their grazing during winter, so that whenever the snow was off the ground they would have an abundant supply of fresh green food. Last winter I gave them raw turnips now and then, and only the rinds would be left. When desired to take the place of green food vegetables should be given raw, but if we want to make a warm mess, boil till tender, chop fine, and season with scrape of meat or dripping. This, thickened with wheatbran or corn meal, makes a most nutritious food. In cold weather it is a good plan to give poultry a warm meal of some kind the first thing in the morning. To them it is as comforting and as stimulating as a cup of hot coffee and a good warm breakfast is to us. Warm sweet milk is also much relished in cold weather or buttermilk fresh from the churn. Some poultry-keepers declare that with fowls milk goes far toward taking the place of meat, that it is fattening in its tendency and is also an excellent egg-food on account of the large proportion of albumen which it contains. Potatoes are an incomplete food when fed alone; they should be boiled until soft, flavored with salt, mashed hot, and seasoned with cottonseed meal in the proportion of one pint to a gallon of potatoes. Stir a little sweet milk into this, thicken with wheat-bran, and you will have an almost perfect food. Peas and beans are also good winter food for fowls, but the labor of cultivating and of gathering them make them rather too expensive, and as the average farmer does not usually have much money invested in poultry he is always shocked at the idea of spending a cent on their keeping.

In mentioning the various articles suitable for winter foods I do not mean that all of them are absolutely necessary for the welfare of the fowls. My object is simply to suggest cheap and economical ways of feeding, and to call the attention of the husbandman to their wants in order that he may take them into consideration; for although the poultry are the smallest and apparently the most insignificant of the denizens of the farm, yet with proper care they may be made the source of much good living and of no despicable profits.

In conclusion let me repeat the words of an experienced poulteryman who asserts that in order to make poultry keeping a success, "It must be an invariable rule to give every bird, whether young chicken, layer, sitter, or fattening for the table, a portion of each of the three divisions—grain, fresh vegetables and animal food—every day in the year."

A FARMER'S DAUGHTER.

The Crimson Game.

Among the rare varieties of the Game fowl is the Crimson Game, and one which deserves to be better known and more largely bred than it is.

In shape the Crimson is similar to the old-fashioned English Game—that is, it is but moderately elevated upon its legs, has a plump body, and is covered with a full plumage. In the male the hackle is well developed and flows down upon the shoulders, and the tail is full, carried moderately erect, and furnished with long sickles and abundant hangers. In the female the tail is well fanned out and rather large and long. The shanks of both sexes are blue, blue-black, or with an occasional tendency towards willow, though blue is the prevailing color. The fowls are not large, but only of medium size.

But when the plumage is spoken of, then the strong point of the Crimson Game is brought into prominence. The male is, in general, of a rich, deep, lustrous dark red, with a chestnut shade. The hackle shows a tendency towards black stripings, though perfect freedom from this is desirable. The tail is black and the sickles and larger coverts full of rich green lustre. The lesser coverts are sometimes edged with red. The female is of a similar color, but generally not quite so dark in shade, the feathers having a rich lustre. The hackle is striped with black, and the whole body is irregularly but handsomely pencilled. Richer-colored birds are not to be found among domesticated fowls.

The hens lay a large white egg—large, that is for their size, and are fairly good layers. They sit faithfully and are excellent mothers. They appear to be quite hardy as fowls, though somewhat delicate as chickens.

The Crimson Game, so far as I have been able to ascertain, was produced by careful selection of the old-fashioned Game fowl, with the purpose of producing the richest-colored males possible. The result has been that the males are produced with greater uniformity than the females, for among the latter there is occasionally a faded-out drab-colored pullet, not to be compared with its sisters for beauty. These pullets, however, produce very brilliantly-colored cockerels when bred from.

Whether the Crimson Game will ever become very popular with poultry fanciers depends, I think, upon the question whether it will ever be bred to the shape and style of the exhibition Game. So long as it shows the style which is suggestive of the pit, so long probably will it be handicapped in the race for public favor. It is true that there is a tendency, quite marked abroad and less marked at home, to return to the old style of Games, but I think it doubtful if this tendency ever accomplishes more than to perhaps modify somewhat the exhibition type. A less "reachy" type may result—one that indicates greater strength than the present—but nothing more than this will be likely to result. If the Crimson Game is made to take on the style and station of the modern exhibition Game, its exceeding beauty of plumage in both sexes will probably place it among the most popular as it certainly will be among the most beautiful of Game fowls. To a thorough-going fancier this possibility has great charms, and may lead to the attempt to remodel the Crimson Game. If in so doing a little greater size can be obtained, it will be all the better, for additional size will improve the fowl for practical purposes. The attempt is certainly worth making, and I hope it will be made.

Providence, R. I. H. S. BABCOCK.

Crates for Fowls.—In shipping fowls or light live-stock of any kind it is quite an object to have the crates made as light as possible to save expressage. There is nothing that makes better corners or frame for such crates than the sticks which are used to bind shingles together, and which are usually thrown away. Save them all for this purpose. You will find them very handy and about the right length. Crates should have strong floors, and the rest of them can be made of old bagging, laths, or 1 inch wire netting, according to what the occupant will be. Wire netting, put over a stiff, light frame, makes a fine shipping coop for fowls. O. G. B.

Horticultural Department.

Ornamental Shrubbery.

There is no way in which the external attractions of a residence may be increased so perfectly, and at so little expense, as by the planting of ornamental shrubbery. Unlike architectural structures, it does not require the labor of the hand to bring out every part, but natural growth develops into beautiful forms. It requires only a good soil, planting in the first place, and training into the most effective shape. A certain amount of smooth lawn in connection with the shrubbery, serves to develop its charms.

But the surroundings must be kept in a neat condition. We sometimes see planted grounds which have been entirely neglected afterwards. Weeds and grass have grown among the ornamentals and converted them to "brush." They have been allowed to grow into straggling and neglected forms. It is a simple and easy task to give them all the necessary attention. A selection of the best shrubs is of course important, and such a selection was made at a horticultural meeting in Rochester by those present, who placed the following at the head of their lists: The first four were *Deutzia gracilis*, *Weigela rosea*, purple fringe and Japan quince. These had the greatest number of votes. Next in order were Persian lilac, *Deutzia crenata* and *Spiræa lanceolata*. After these were white fringe, snowball, plum-leaved spiræa, Tartarian honeysuckle, double flowering almond, Forsythia and crimson currant. The following had fewer votes: Purple barberry, rose acacia, Siberian lilac, Josikea lilac, double white lilac, *Magnolia obovata*, *Deutzia scabra*, tree peonia and silver bell. Plant these in natural groupings, with a due proportion of smooth shaven lawn between, and a natural beauty may be produced exceeding anything which formal architecture can give.

Strawberry Inquiries.

Eds. Country Gentleman—I have read Mr. Terry's extended article on page 642, but am disappointed in not finding any results from his experiments. All seems to be yet in the future. He has tried "narrow matted rows and wide ones, and thick matted rows and thin ones," but he does not inform us any where in his two columns which one he finds the best, nor give us the number of measured bushels each affords. Such of your readers as have not the same opportunity for making broad field trials that he has, would like to know the comparative results.

He gives a long account of the plantation which has not yet borne, and which was set with very strong plants. Has he ever tried the difference between such large plants and medium ones, after they have borne crops; or is the superiority mere *conjecture* on his part? What we want is accurate measured proof, and your 50,000 readers may think this information due them. What evidence is there of the distinct superiority of the mode of placing plants half a foot apart over the whole ground? What we want is the result of actual trial and measurement. The statements of the article are in giving what is to grow next season. Mr. Terry says he wishes to know "how he can grow 100 bushels of strawberries at least cost," and I should also like to hear from him when he has determined this point, but I do not see the object of his extended article before the trial is made.

There is no doubt that he has made an excellent preparation of the soil, as in addition to his rich, thoroughly pulverized land, an inverted clover sod with manure will unquestionably start the plants; and unless different modes are tried side by side, the one subjected to trial will receive high commendation, whatever the mode may be, because it will certainly succeed. Inquirer.

Conflicting Opinions.—Among the varieties of the grape which came under discussion at the last meeting of the American Pomological Society, was the *Lutie*. Mr. Van Lindley of North Carolina said his vines of this grape had fruited two years, and he "never saw finer vines and fruit," and they had no mildew, no rot, and he regarded them as one of the most valuable varieties. He was followed by Mr. Van Deman, who said he had received samples at two different times, and they were the "worst flavored and smelling grapes he ever tasted." G. W. Campbell pronounced them as excessively foxy. But both he and Mr. Van Deman received the specimens from a distance, and if gathered before quite ripe and inclosed in a tight box for distant conveyance, the foxiness would doubtless be greatly increased. C. Parry of New-Jersey fruited them and found them no more foxy than Berkett's Amber, which by the way is foxy enough. The flavor of such a grape is often much improved by becoming fully ripe under a hot summer sun, and personal preferences differ considerably in estimating foxy grapes.

Raising Chrysanthemums from Seed.

"I have never tried raising chrysanthemums from seed, but it is a simple matter, I believe, and these old kinds, * * large and small, will come true from seed—at least that is what I am told by a friend who grows a large number." So writes your correspondent, page 703.

I would say that she has been misinformed. Chrysanthemum varieties do not reproduce themselves in kind from seed; in fact I do not know of any class of plants which go so far and markedly astray in this respect as do chrysanthemums. But it certainly is a very simple matter to raise the seedlings.

I have raised, grown and flowered hundreds upon hundreds of seedling chrysanthemums, some from my own saved seed, some from John Thorpe's choicest, some from Julius Scharff's, and others, and a good deal of the seed was pedigree stock, and I never yet got a seedling to exactly resemble its mother; but, on the contrary, from the seed saved from one particular blossom I have raised plants showing every color among chrysanthemums, large and small flowers and double and single ones, and tall and short habited plants, and good and bad ones, and only very seldom have I got a seedling as good as its parent.

The plants produce seeds freely if they are kept growing, and in light, airy, in-door quarters; indeed, some of our florists who do not sell cut flowers make a point of running all their flowers to seed, and selling plants and seeds only.

And in order to facilitate the means of fertilizing the double flowers, we clip off the petals pretty close to the stamens, but not near enough to hurt them, and every bright, warm morning we brush these clipped heads with a camel's hair brush; wind and insects also help us in distributing the pollen.

By the middle or end of December the seeds are ripe and saved. Next February or March we sow them in pots or flats in a warm window or greenhouse; if in a window do not sow before March. The seeds germinate in about seven days ordinarily; then we prick them off and box or pot them as they require, and after the middle of April treat them just as we would rooted cuttings of the same size. Early in May plant them out in the open ground and encourage growth all you can, and in fall lift and pot, or leave them in the ground just as you do your old-named kinds. Almost all of them bloom well. And you will be astonished at the motley variety, and no two alike. But you may observe two things—their general vigorous and healthy condition and their vast profusion of bloom. They are "perfectly lovely," and still perhaps there is not one in the whole lot worth saving over for another year. But now and again we do strike something extra; then we mark it, keep it over for another year, and if it still proves good, name it and "send it out" and sell a little slip of it to you for 50c., a price for which you can buy seed enough to raise a couple of hundred plants, and perhaps get a new one yourself just as good as this one is.

The following list is given me by John Thorpe, as being the best twenty-one varieties raised in America from American seed—you will find them described in every comprehensive catalogue: Mrs. Andrew Carnegie, Mrs W. K. Harris, John Thorpe, Mrs. L. Canning, Mabel Douglas, Mrs. John Wanamaker, Mrs. J. C. Price, Pres. Hyde, Coronet, Wm. Wo, Mrs. Judge Benedict, Wm. Dewar, Colossal, Mrs. E. W. Clark, Thorpe, Jr., Puritan, Grace Attic, Sam Henshaw, Wenona, Shasta, Robert Walcott. Wm. Falconer. *Glen Cove, L. I.*

Plant-Protecting Boxes. — Hortense Dudley, p. 624, recommends "a wooden box about six or eight inches in width by one foot in height—both ends must be left open"—to place over somewhat tender plants. Let me suggest old nail kegs. I use these myself, and I get them at the village stores for nothing; but for empty boxes of all kinds I have to pay "return" prices—that is, the same prices as the manufacturers of the boxed goods allow their customers for returned "empties." And nail kegs are better than little boxes to set over even small plants. If the plants are quite small, saw off two or three staves at half their length, or more, and in placing the keg set this open side facing south. Then bank well around it with dry oak leaves, as these keep fresh all winter, but manure gets water-soaked and lies as a clod of ice around the casing.. W. P.

Glen Cove, L. I.

Storing Celery—The Hot-Bed System.

Eds Country Gentleman—Though celery will stand a sharp frost without getting killed outright, it takes but a few degrees to injure the leaves so that the perfect preserving of the bunches is seriously impaired; therefore its winter quarters should be given before it receives such a check.

There are various successful methods of winter preserving, in all which the following conditions are necessary: A temperature not to exceed forty degrees—the more uniformly maintained the better; a situation damp enough to keep the plants in good healthy condition, while it must not be so wet as to induce rotting and dampening of the leaves; and occasional airings, on such days as the temperature outside will permit.

In many cellars, these conditions are pretty well secured, and for family use it is perhaps more convenient than other ways of storing unless it be that of the hot-bed system to be noted later on in this article. Choose the coolest corner of the cellar, pack the bunches closely together, with sand or moist soil over and under the roots, in small boxes, never allowing the plants to wither, still avoiding the evil of water on the leaves. A few holes made with a broom handle between the plants and around the edges of the box, and filled up occasionally with water from a long-spouted watering-can is a good way of supplying the moisture, and will be found convenient. Wetting the foliage causes decay, and while the selling part may not be destroyed, if the celery is to be sold there will necessarily be a lower price on account of the ornamental feature being at fault.

The hot-bed frames used in spring for starting young vegetable and flower plants may be utilized with most gratifying results, not only for wintering celery, but for most garden vegetables; though celery does perhaps better than anything else, and indeed is conceded to keep its crispness much better than in any other way by those who have tried this method.

Prepare the bed by taking out all old manure and soil, excepting about three inches of it which should be well loosened up. Procure a set of boards sawed to the right inside measure, either lengthwise or crosswise, though it is not often desired to have the courses run across the bed, as it makes too many short rows, and the lumber usually saws to waste in this way. The boards are used to keep the tops of the plants together and further develop the blanching, and need not touch the earth if held up by cleats or nails in the ends of the frame.

The boards should be far enough apart so that the plants are not bruised or unduly crowded. In filling, begin at one end, setting the plants closely together in the courses made between the boards, and firm the soil about the roots, proceeding across the bed, and starting new rows until all is filled. The earth should then be well watered. If the weather is cold the first covering may be put on at once, and should be of coarse material. Rye straw is good for the first, though one need not be quite so particular after the tops are first covered as to the coarseness. Shutters may occupy the place of sash until the weather gets too cold. As it increases in this direction keep filling up the space until full, when both glass and shutters will be needed on till the celery is wanted. The outside of frame should be well banked right up to the level of sash to exclude the frost.

The field mouse is one of the greatest enemies to contend with in storing celery, but may be overcome by placing a few heads of lettuce, of which he is very fond, well dusted with Paris green here and there in the pit, of course exercising every precaution that none touches the celery. This kills the mice and preserves the celery.

Celery kept in this way never has that mouldy or cellar taste which it is sometimes impossible to prevent when stored in ordinary vegetable cellars. That pleasant nutty flavor which needs no connoisseur to appreciate is thus secured as long as the celery can be kept. Stored in this way one course at a time may be removed without disturbing the others, which cannot be said of the trench system.

The trench system no doubt is very well understood, and needs no description here; suffice to say that it should be of liberal width and depth and in a dry place, with sufficient covering to entirely keep out the cold, as it will not do to think that if the heads are kept frozen solidly till used, as cabbages, &c., the quality will also be good.

The large celery growers are now discarding almost entirely the giant varieties for the use of the small or dwarf kinds, having come to know that people seek quality rather than quantity. While I would not say that there are not really good large kinds, it is pretty well acknowledged that the small kinds are vastly superior to the general run of giant sorts.

W. F. Lake.

The Anthurium and Narcissus.

Eds. Country Gentleman—A large genus of very ornamental plants, alike beautiful for their peculiar-shaped flowers and large leaves, is the Anthurium. Some of the most ornamental require a high, moist temperature, but no collection of greenhouse plants should be without one or two representatives of the genus. The roots are large and thick, and therefore require an open soil to ramify in. A compost of fibrous peat, loam and sphagnum, with a good mixture of broken pots and charcoal, is suitable for their culture. Ample and perfect drainage is necessary to allow a free passage of water, which should be given in abundance during the time of growth, and at no time should the plant become dry or suffer from want of moisture. When potting, spread out the roots well, and keep the crown or centre of the plant well elevated above the soil. I find they do well if the surface of the soil, after potting, is covered with live sphagnum, and sufficient moisture given it to maintain it in a growing condition.

Most of the species last in flower for a long time, often maintaining their beauty for months—some of the finest being:

A. andreanum—A species from Columbia, the flowers of which are large, the spadix yellowish, with a broad band of white, and the spathe an orange-red color. The leaves are large and heart-shaped, of a beautiful green color.

A. crystallinum.—This species is grown for its beautiful leaves, which are of a bright velvety green, the veins of which are white. A very ornamental species.

A. regale—An easy-grown species, and suitable for window decoration. The leaves, which are one to two feet long, are of a beautiful metallic green, with white veins.

A. scherzerianum and its varieties are remarkably interesting plants, and well suited for greenhouse culture, as also for window decoration, during the time it is in bloom. The spathe is large, oblong, of a bright scarlet color, the spadix of an orange color. A large plant of this is seldom out of bloom, and being an evergreen, should never be without plenty of water. There are also several varieties having white and some spotted red and white flowers, but a good variety of the scarlet flowering kind is most attractive.

The Narcissus.

Among the many beautiful spring-flowering bulbs few excel the hardy varieties of narcissi or sweet daffodils. They are of easy culture, growing and blooming luxuriantly in almost any soil. A partially shaded position from the hot sunshine is most suitable for their most successful culture, and if a deep, stiff soil can be secured, they will bloom year after year, needing only an occasional dividing of the roots to prevent over crowding. Like the crocus they are well adapted for growing in the grass, but care should be taken to allow the foliage to mature before being removed as upon the thorough maturing of the foliage depends the ripening of the bulbs. Dividing and transplanting of the bulbs should be done as soon as they attain a dormant condition shortly after the foliage has matured, which is generally about mid-summer. It is better to be attended to early as new roots begin to form immediately after the decay of the old ones.

For forcing and house culture such kind as Paper-White, Double Roman, Polyanthus, Incomparable and the old-fashioned Van Sion are extensively used. Florists, for their cut-

flower trade, grow and force immense quantities of them; their adaptability for this purpose is remarkable, as by a judicious management they can be had in bloom from November to spring, where a good number of the bulbs are grown. At this date our "grandiflora" Paper-Whites are just sending up their flower spikes, which will be succeeded with Incomparables and Von Sions.

Several bulbs of Paper-White or Hoop Petticoat Narcissus placed in a 5-inch pot in a cool place until they get well rooted, then placed in the window, make beautiful objects for house decoration. A good rich sandy loam is most suitable for this culture, and growing in a cool room does not bring them so early into bloom, but the flowers are of better substance and color than when grown in a room in which the temperature is high.

The Chinese Narcissus, sacred flower of China, has gained considerable attraction of late. It is best grown in water in a shallow vessel with a few pebbles surrounding the bulbs to keep them in position. The flowers are white with yellow centre and quite fragrant. It blooms freely and is quite a curiosity. M. MILTON.

The Chrysanthemum Centennial.

The present year is the hundredth anniversary of the introduction of the chrysanthemum into Europe, and the summary of a conversation which has been had with the secretary of the National Chrysanthemum Society will doubtless be read with considerable interest by lovers of this beautiful flower on your side of the Atlantic. The chrysanthemum was not introduced into England until 1790, but the year previous M. Blanchard brought the first of these magnificent blossoms back to Marseilles after a tour in China, and thus the year which marked the destruction of the Bastille and the fall of the kingly power in France, first welcomed the wonderful new flower from the Celestial Empire.

The craze for the chrysanthemum began in 1846, and since that time has been increasing year by year. Up to that date the flower was little known, except to a few gardeners who took an especial interest in it. In 1830 only twelve sorts were known in England, but six years later thirty-six varieties had been introduced, and in 1833 they were for the first time classified. A show of the chrysanthemum was first held at Birmingham about half a century ago, and in 1846 the National Chrysanthemum Society was founded, to whose efforts the great development of the flower must be largely attributed. Since then it has grown and grown, new varieties have been continually brought out, and there are at the present day between 1,200 and 1,300 different flowers in the market. One great point in favor of the chrysanthemum is that it is a very hardy plant and easily cultivated, as it requires neither a very high temperature, nor any very especial attention, and flowers profusely, remaining in bloom for a considerable time.

November is the month in which the chrysanthemum is mostly seen, but there are three kinds of chrysanthemums, the earliest of which are out in September, while the latest bloom in January or even February, and the time of bloom can be considerably stretched by careful cultivation. Lady Lytton, wife of the British ambassador at Paris, has blooms all the year round, and whether in Paris or England she has a hamperful of them sent to her every week. Her head gardener, Mr. Kipling, by slightly forcing the early kinds and retarding the late ones, has a succession of blooms all the year round, and there are other lovers of the flower who have succeeded in doing the same thing.

There are many colors of the chrysanthemum, and it is difficult to say which is the most in favor. White and cream are both very popular, and amber, pink, chestnut red, ruby and the various yellows are also favorities. But the ambition of all growers is to produce a blue chrysanthemum. The idea of this color was first obtained from a plate in a collection of oriental pottery at the British museum, where is to be seen a Chinese porcelain plate decorated with flowers, and one of these appears to be a blue chrysanthemum. All attempts, however, up to the present have failed, and it is thought that there is very little chance of success, for with very rare exceptions species of plants which produce flowers of a bright decided yellow do not produce blue flowers, and vice versa. For instance, the lobelia, in which are blues of various shades, pinks and whites, but no yellows, and the same may be said of the aster. But with roses and a great many other flowers it is just the opposite, as there are no blues.

New varieties are obtained by hybridizing (but this is a tedious process, and more used in France than in England), and by taking from what are called sporting plants. The latter is the method most adopted in this country. For instance, a red flower with golden reverse may have one flower which is either quite red or quite yellow, or in some way different from the regular color or shape. If the irregularity is an improvement on the flower, all the other flowers or buds are taken off, so that the life and strength all goes into the one leaf. From this cuttings and suckers are secured, and thus a new variety is obtained. When these cuttings or suckers are taken they are potted, and then several times transplanted until, early in summer, they are put into the large pots in which they are to flower. From the stem of each plant several branches shoot out, and each of these has a number of buds, all of which are picked off, except one for each branch, which consequently arrives at the greatest possible perfection. This is the method for securing exhibition flowers. There is also a new way of propagating the plant, which has recently been brought before the chrysanthemum society, namely, by taking a leaf without a particle of the stem or branch to it, and planting it in moist silver sand where after a few weeks it will have taken root, and can then be transplanted in the usual manner.

Chrysanthemums are not an expensive luxury like orchids, but some high prices have been paid for the fancy varieties. One magnificent white, named "Mrs. Alpheus Hardy," was sold for £300, and another new species, said to have the appearance of an ostrich feather, is being offered for £350. When we remember that in England alone there are upwards of 100,000 growers, many of whom are wealthy and can afford to indulge their tastes, the demand for new and beautiful specimens is sure to increase. The one drawback to the flower, for it has great beauty, is its want of perfume. Had it a pleasant fragrance, it would become the flower of the age. S. B.

H——, England.

Entomology and Bees.

A Horn-Tail and Its Enemies.

ENS. COUNTRY GENTLEMAN—I send you a curious wasp, or something. I found it boring with its barbed needle, which you will find in its case or sheath which projects from underneath. I also send the wood, showing the hole made and eggs laid bare. Is it the "Texas fly?" Please give habits of the beast, as it is so curious. L. D. C. *Flanders, N. J.*

The wasp-like insect of which inquiry is made, is one of the horn-tails which bears the name of *Tremex columba*. It is an inch and a quarter in length, exclusive of its borer, with narrow, semi-transparent smoky-brown wings, a dull red head and thorax, and a black body marked with seven yellow bands, most of which are interrupted on the middle. The body beneath is armed with a stout ovipositor of about an inch in length, projecting three-eighths of an inch beyond its tip, and held in place by two side pieces or guides. The whole forms a stout horn-like instrument, from which we have the popular name for the insect of "horn-tail," and by means of which it bores a hole in the trunks of maple, beech and elm trees, and sometimes into the oak, sycamore, apple and pear, for the deposit of its eggs. The larvæ hatching from the eggs, burrow in the trunks, feed on the material excavated, and not unfrequently with their large and numerous galleries kill the trees that they infest.

The specimen sent for name was lying in a block of maple within the tunnel that its larvæ had made, having a diameter of three-tenths of an inch, and as round in form as if it had been bored with a bit. The insect was full-formed, with its antennæ, legs and wings folded upon its body, having been exposed in sawing the wood, before it had come abroad for flight.

What was supposed to be the eggs of the insect is a portion of the end of the ovipositor of another insect, the natural parasite of the horn-tail, commonly known as the "black long-sting," and scientifically as *Thalessa atrata*. This "long-sting" is provided with an ovipositor of the extraordinary length of three or four inches, which it employs in a peculiar manner for inserting its eggs at some depth in the trunks of the trees where the horn-tail larvæ abound. Often it is inserted so deep and so tightly, that it cannot be withdrawn, unless a portion of it is broken off and left within, as in this instance, where a piece a quarter of an inch long may be seen at the end of a half-inch boring.

A feature of unusual interest in this parasitic attack is, that the egg of the long sting is not placed within its victim, but upon hatching, the larva burrows in search of its prey, on the finding of which it attaches itself externally to it, and in this manner feeds and lives upon it.

A figure of the *Tremex columba* and of an allied species of long-sting, viz., *Thalessa lunator*, having the same habits with *T. atrata*, and also some additional information upon the habits, &c., of these two interesting insects, may be found in the COUNTRY GENTLEMAN for April 17, 1884, vol. XLIX, page 331. They have also been treated of in the Fourth Report on the Insects of New-York, 1888. J. A. L.

Corn and the White Grub.

ENS. COUNTRY GENTLEMAN—Unlike many sections of the country, the season of '89 is regarded as anything but a wet one by the people of Central Ohio. It has been favorable for both growth and cultivation, the early part especially so for preparing the soil and planting. The corn that had begun growth suffered from the frost of May 23d. After this damage had been repaired, cultivation was done with scarcely a day's hindrance on account of excessive rainfall. The corn fields in this vicinity have been freer from weeds than for years before, the ground being mellow and easily worked.

The latter part of the season has been dry; the streams have not flowed since harvest till quite recently, but with better than ordinary cultivation there would probably have been a fine crop of corn notwithstanding the drouth, since it is not unusual to have large yields even if the season is dry. A little before harvest, many spots in the corn fields appeared sickly, looking like the undrained portions of low fields after excessive rains, but this difficulty could not be accounted for by too much rain. Later, these spots turned very yellow and finally dried up literally. Investigation revealed that the corn had been destroyed by a pest now in this locality, though old in others. In each hill were found a number of large white grubs around the central roots of the stalks and feeding on the fibrous roots. From six to twelve worms would be found in a single hill, and by digging a circle of three feet around the hill as many as fifty-four grubs were found in one instance. Hence it is plain why the corn crop here falls below the average, and the reports say that the ravages of the grub are extensive in Indiana, Illinois, Iowa and other states. Since the damage is so widespread, it occasions much comment, for the cause is new with many others as well as with the farmers here. There not being much definite knowledge in regard to the matter, many amusing and preposterous explanations have been given.

The white grub is an example of that class of insects which develop by an intermediate or larval stage. The egg is so small that it cannot produce the insect at once, but it hatches into a worm, maggot or grub, which is born with a voracious appetite, and grows rapidly. It reaches maturity, but it never was intended to be a worm essentially, and passes into the pupa state. From this emerges the perfect insect, matured and of full size, for the growth was made in the larval stage. There is a development slightly similar to this in some plants. The agave or century plant grows for many years, storing starch in its large leaves. When sufficient nutriment is stored, it grows into a perfect plant and blooms.

The white grub is the larval stage of *Lachnosterna fusca*, or May-beetle, sometimes called dor-bug. This beetle is often seen in summer; they frequently come into the house at night, where they are drawn by the lights. The beetle deposits its eggs in the earth mostly near the roots of grass. The egg hatches into a tiny grub, which exists two years. The second year is when its presence is most sensibly felt. They attack the roots of trees, weeds, grass and growing crops—in fact it does not matter what so it is vegetable. In the spring of the third year the grub, having grown quite large, burrows down about nine inches, and passes into the pulpa state. In May and June, the perfect beetle bursts forth, and thus the very small egg has been consummated in a lively bug. The beetles pair, deposit the eggs and die. The process is gone over again; and hence there are no marvelous changes, nor are they indefinite in number.

In the localities where the grubs were so destructive this year, there will probably be no damage next year, as they will merge into beetles, and their growth has been accomplished. Sometimes the beetles become so numerous as to attack the foliage of trees, but this is comparatively rare. They are characterized by their dark brown and almost black appearance. There is no practical remedy for the pest so far as I know, as any application to the surface of the ground merely drives them deeper. Hogs and birds eat them. Plowing the ground frequently turns them up to the birds and breaks up their haunts. ROBT. L. DEAN.

Greene County, O., Oct. 31.

Temperature of Bee-Cellars.

ENS. COUNTRY GENTLEMAN—The great cause of loss among bees in winter is the so-called bee-diarrhea or dysentery. Bees are natives of a warm climate, where they can frequently fly in the air and discharge their fæces. The cold of our northern winters confines them to their hives for months, and their instincts prevent them from voiding in the hive, as it would soil their comrades and the combs; hence the intestines become loaded to repletion, until the bees are *compelled* to violate their instincts, or their systems are weakened and the intestines inflamed by the retention of the fecal matter.

Such, in brief, is the disease, if such it may be called, that destroys more bees than all other causes combined. The character of the winter food is the most important factor in this problem. Evidently that food which leaves the least residue after digestion, is the best fitted for a winter food. Pure cane sugar practically leaves no residue, but at present it costs more than honey, is a "spot cash" article, and besides, there is the work of making it into syrup and feeding it to the bees; while honey is not a staple article, it is a luxury that sometimes sells very slowly. Honey contains more or less pollen. Sometimes the quantity of pollen is very small; at other times it is large. Pollen is stored in the bottoms of the cells, then covered with honey and sealed over. Sometimes the pollen remains hard and solid at the bottoms of the cells, and when the honey is eaten off by the bees, the surface of the pollen may be seen smooth and hard. At other times the honey soaks into the pollen, making it soft and mushy; in this case it mixes largely with the honey, and in eating the honey the bee also takes large doses of pollen. It is the pollen that overloads the intestines. The excreta of diseased bees have been examined with a microscope, and found to be almost wholly masses of pollen.

Perhaps the reader will begin to wonder what all this has to do with the temperature of bee-cellars. It has just *this* to do with it: The lower the temperature, the greater must be the consumption of food to keep up the animal heat. All know that cattle kept in warm stables eat less, and it is the same with bees kept in a warm cellar. The lower the temperature, the greater the consumption of food; and the greater the consumption, the sooner do the intestines become overloaded. But the temperature may be too high as well as too low. As winter comes on, bees gather themselves into a compact cluster, and settle down into a quiet state bordering on hibernation. This taste, or ought to last, until near spring, when they again rouse themselves and begin brood-rearing. The more quiet and unbroken is this winter rest, the less food do the bees consume, and the more perfectly do they winter. Too high a temperature makes them uneasy, the cluster is broken, and perhaps brood-rearing is commenced in midwinter. As the result of much experimenting, from 40° to 45° has been decided upon as the right temperature for a bee cellar in early winter, and 5° or 10° higher in the latter part of winter, after brood-rearing has set in. The behavior of the bees themselves is an excellent guide. If they are closely clustered and quiet, and the temperature above freezing, all is well. Dampness must also be considered in connection with temperature, as it is equivalent to a low temperature.

It is very seldom that the temperature of a cellar goes too high; when it does, it can be easily remedied by opening windows or ventilators. If it shows signs of going too low in some cold snap, an oil-stove may be used in the cellar, or even a large lamp kept burning will raise the temperature several degrees.

Special repositories are sometimes built with an ante-room, in which air can be warmed by a wood or coal-stove, and admitted to the bee-chamber as needed. T. W. H. *Flint, Mich.*

New Advertisements.

Aiken, Chas. ..... Poultry Farm, Sale or Ex.
Box 127 ..... Clydesdale Stallion.
Bonner's Sons, Robert .... News-York Ledger.
Byrne, P. ..... Ayrshires.
Ball, Chas. H. ..... Jersey Grade Cows Wanted.
Calderwood Farm ..... Jersey Bull.
Cobb, N. G. ..... Jersey Bull, &c.
Calhoun, John B. ..... Registered Devons.
Cady, W. D. ..... Pyrchermons and Cheshires.
Dodge, R. J. ..... Cattle Shepherds.
Dedreaf, G. V. ..... Holsteins.
Field Force Pump Co. .... Salesmen Wanted.
Farmer ..... Position Wanted.
Hospital Remedy Co. .... Hospital Remedies.
Hench & Dromgold ..... Spring-Tooth Harrows.
Hencock & Baldbone ..... Holsteins Wanted.
Hoffman, H. L. ..... Berkshire Pigs.
Holly Grove Farm ..... Jersey Bulls, &c.
Hill & Co., W. ..... Agents Wanted.
Ingersoll Bros. ..... Patent Printer.
Jennings, Gen. S. ..... Grapevines, &c.
Jones, Mrs. E. M. ..... Jersey Bull Calf.
King, Frank ..... Shenandoah Colts, &c.
Knapp, Edgar ..... Farms for Sale.
Lucas & Vosburgh ..... Guernsey Cattle, &c.
Lewis, R. ..... Shropshire Rams.
Myers & Sneed ..... Help Wanted.
Matherton, J. W. ..... Kentucky Orchard Grass.
Perfect Clothing Co. .... Leather Clothing.
Proctor, T. R. ..... Berkshire Boars.
Practical Farmer ..... Position Wanted.
P. O. Box 425 ..... Fox Hen Wanted.
P. O. Box 74 ..... Situation Wanted.
Patterson, Mrs. V. S. .... Business Men's Jubilee.
Reese & Co., John E. .... To Fertilizer Dealers.
Reburn, Wm. A. ..... Jerseys
Shearer, John ..... Jersey Heifer.
Silver Co., L. B. ..... Improved Shears.
Shelp, Dr. James ..... Cattle Pups.
Sovereign, E. G. ..... Cheap Farm.
Van Woert, P. ..... Milk Route for Sale.
Williams, C. H. ..... Commission Merchant.
W. ..... Position Wanted.
Wilmot, J. A. ..... Farm for Sale.

Subscribers' Wants.

E. A. Riehl, Alton, Ill. Beagle hound, young or old, either sex.

Pamphlets, &c., Received.

Atwood, Geo. W., Secretary, Hartford, Conn. Souvenir of the Chrysanthemum Exhibition, Hartford, Conn., Nov. 13-14.

Bemis, M. D., Harold C., 28 Court St., Boston, Mass. "How far may a cow be tuberculous before her milk becomes dangerous as an article of food?"

Cobb, Henry Ives, Lake Forest, Ills. Catalogue of Hoodlade-shire Horses; pp. 46.

Fiberite Mf'g Co., Stoneham, Me. Circular of the Symmes Patent Hay and Grain Cap.

Joostry, C. H., 3 Cumston Slip, New-York. Wholesale Catalogue of Nursery Stock grown by Lennart-Huet, Calvados, France.

Munsell's Sons, Joel, 82 State St., Albany, N. Y. Webster's Calendar for 1890.

Rigby & Richardson, Houlton, Me. Circular of Rigby's Patent Improved Potato Digger.

Strickler Bros., Springfield, Ills. Catalogue of Cleveland Bay and English Shire Horses; pp. 64, illustrated.

Willard & Co., Chas. P., 126 Randolph St., Chicago, Ills. Circular of imported Shetland, Iceland and Welsh Ponies.

To Our Readers !!

The Elections are over, and political topics, important as they are, may yield for a while to those of more immediate and personal interest. We ask the kindly attention of our readers to the following brief statement:

When the subscription price of The Country Gentleman is remembered—in clubs only two postage stamps per week, and to others but little more—in comparison with the correspondence thus secured from all parts of the country, as well as from abroad; in comparison with the opportunities given for obtaining information through our columns of inquiries and answers, general, veterinary and miscellaneous; in comparison with the means of judging from our advertising pages of the state of the market in all classes of improved stock, and of learning from them all that is new in the improvement of machinery, seeds and plants—not to speak of the scientific and popular discussion of important problems in farming, gardening and stock raising—the equivalent demanded for the return given is absolutely trifling—so small that it would seem wholly unnecessary to ask attention to the matter from any one willing to give it a moment's serious consideration.

These remarks include, very briefly, a few of many reasons or arguments which will suggest themselves to those of our long standing friends who may kindly endeavor to gather in some of their neighbors and associates as subscribers for our coming volume. When we consider that our present circulation, large as it is, bears so small a proportion to the aggregate number of farmers in the Middle States alone, not to speak of the entire country, it is more and more a matter of surprise that a field so vast is as yet so imperfectly occupied.

The demand for sample copies and other purposes always necessitates enlarged editions during the winter months. We should invite the attention of advertisers more particularly to this but for the fact that the space we care to devote to advertising appears to be called for from week to week without stimulus or solicitation on our part; and the position of the Country Gentleman at the head of journals of its kind, as an advertising medium, as well as in other respects, needs no other proof than is readily afforded by an intelligent inspection of its columns.

We shall be happy to mail sample copies with circulars, &c., to any addresses sent us for the purpose, and particularly invite applications of the kind just now.

Acknowledgments.

Communications for publication have been received during the week ending Nov. 16, from Thos. Bowick—Nellie Burns—J. L. J.—O. W. R.—D. W. T. R.—Mrs. M. J. Ashton—R. L. Dean—G. A. Frierson—M. Brown—W. S. W.—Geo. Q. Dow—S. R.—Prof. R. W. Stewart—Thomas Henderson—L. S. W.—Enquirer—Wm. Thompson, Jr.—Robt. E. Tomlinson—John R. Parmly—R. S. R.—Wm. M. Regua—Ed. Pearson—Mrs. Shepherd—Mrs. M. G. Davis—T. E. Cross—Chas. Mason—Stephen Powers—J. P. R.—Helen Brown—O. R. S.—R. G. Packard—W. Horne—C. S. Rice—T. E. Elvins—M. S. H.—R. P. Barry—T. Bowick—P. C. Kellogg & Co.—Dr. C. A. Robinson—G. W. Farlee—S. L. W.—T. B. Wakeman—E. M. Simonton—W. F. Massey—C. H. C.—F. Bowen—H. R.—S. N. L.—J. W. Netherton—Mrs. D. H. R. Goodale—J. J. W. Billingsby—T. D. Salley—R. R. B.—John Gould—H. Bowen—Stephen Senie—V. Lowe—Hortense Dudley—B. Wing—Mrs. K. B. Johnson—W. R. Capehart A. Jeffers—E. B. Moorman—W. F. Massey—F. D. Curtis.

°.° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°.° We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Nov. 21, 1889.

The Chicago Show.—The decadence of the original and characteristic part of this exhibition, the fat cattle, continues this year, so far as numbers are concerned. The first show, in 1878, had 84 beeves. The exhibit gradually grew, until in 1885 it reached the maximum of 220; in 1886, there were 175; in '87, 173; in '88, 164; this year, about 160. Public interest seems also to wane, which perhaps is not surprising, the novelty of the thing having worn off; and this year it has been thought necessary to add a number of "popular attractions"—wild-west shows, trotting dogs, ladies' horseback jumping, and what not—to draw a crowd.

Nor can the exhibit be seen as well as in former years. The management has been badly handicapped by the previous occupation of the building for the horse show, to accommodate which, the whole centre of the floor had been turned into a great ring surrounded by ranges of seats, amphitheatre fashion, and the remainder of the space pretty well filled with high-walled box-stalls. There was not time to make any change in these structures, and the result is that the visitor has quite a walk to take under cumberous scaffolding before he sees that there are any cattle in the building. And when he does find the animals, he finds many of them shut up in dens so dark and confined that it is only by flattening his nose against a wire grating that he can make out indistinctly what they are. This is particularly the case with the new department of the show, the breeding classes, which include the large number of about 270, mostly very excellent animals, well worthy of being displayed to better advantage.

In the fat-cattle division, it is decidedly a Short-Horn year, so far as the awards go, more than half of all the beeves have a predominance of either Short-Horn or Hereford blood, and of the two, the Hereford contingent seems to be a little the more numerous. Yet every prize in the competition of all breeds by ages (the only sweepstakes yet decided) has been given to a Short-Horn—two of the four to a single herd, that of Messrs. J. H. Potts & Son, Jacksonville, Ill. Other breeds represented in the fat-stock pens beside Short-Horns and Herefords, are Aberdeen Angus, Sussex, Galloways, Devons and Holsteins—the first being out in much the largest force.

The Sheep, Swine and Poultry departments are all unusually numerous this year, sheep being about 200 and swine half as many, while the poultry fill 600 coops—these well scattered around the vast gallery of the building in such manner that the fowls may be examined with a degree of convenience and comfort rather unusual for any kind of a poultry show.

In the breeding classes of cattle, Holsteins lead in number, followed by Herefords. Short-Horns, Ayrshires, Jerseys, Galloways, Red Polls, Devons and Aberdeen-Angus come in about the order given. The names of most of the exhibitors of breeding stock appear in the list of awards sent separately. It will be seen that this part of the show is big enough and varied enough to make up a very good exhibition of itself—if it were so placed that one could see it. C. H. T. *Chicago, Nov. 16.*

A list of all prizes awarded up to Saturday night, and notes of various breeders' meetings held in connection with the show, appear elsewhere in this issue.

Seasonable Hints.—Before the season closes and operations are ended by the freezing up of winter, a few brief suggestions may be of use to some of our readers, relating to both in-door and open-air work.

Chimneys.—Where owners of dwellings burn fire-wood for fuel, there is danger that the accumulations of soot may take fire and cause a conflagration. The chimneys should be cleaned at least once a year or oftener. Choose the first calm day after rain, when the shingles have been thoroughly soaked, or when the roof is covered with snow, and clear all out. The blaze of one year's soot will not then be attended with danger; but the accumulations of two or more years', set on fire on a dry day, and especially with a brisk wind, may be uncontrollable—more so if the men are on a distant part of the farm. With no ladder at hand, and a blazing flake on the shingles, house and furniture would be in a frightful peril.

Danger of Kerosene.—Now that kerosene is almost universally used throughout the country, the papers abound with statements of accidents from its explosion. No one who uses it should burn it in a room where a woolen blanket is not at hand for throwing over and extinguishing the flame should it accidentally take fire. Without this precaution taken beforehand, the occupants of the room would be in such a panic that they would likely throw a cotton sheet over the blaze, which would only increase the fire. Some persons insure their houses at great expense, and yet omit this simple precaution against accidents, which would cost nothing. A rug, piece of carpet, shawl, or other woolen fabric at hand, may be sufficient to check the flame at once.

General Waste.—There are other losses and disasters, less frightful than the preceding, but of so general occurrence as to more than exceed them in amount. Among these is the want of due care of farm implements. They are left exposed to the weather, and are weakened by decay, and although appearing sound, will break when subjected to heavy work. The loss of the implements and the purchase of new ones consume capital, and a still greater loss, perhaps, occurs from the suspension of work at a critical period when every day's delay amounts to dollars. Two ways for protection consist in placing under shelter, and in oiling and painting all wooden parts of machines, and in varnishing with grafting wax or oiling with petroleum all the metallic portions which otherwise would rust and lose their value.

Manure.—Another source of waste and loss occurs by allowing manure to be washed away at this time of year. Rain falls upon it, dissolves the liquid parts, which are the most valuable, and carries them to where they can exert no benefit on growing crops. This waste is prevented in three different ways: 1. The manure heap may be placed under a shelter built on purpose. 2. It may be supplied with a sufficient amount of absorbents to prevent the wash and waste, and farmers who raise much grain may have enough straw for this purpose, if placed in alternating layers with the manure. 3. Or it may be drawn at once, as soon as made, to the fields and spread; and the washing it gets from rain and melting snow immediately carries this liquid to the soil where it is wanted, and by which it is at once absorbed and intimately diffused through the particles.

Killing Quack Grass.—We have had occasion to point out the mode by which quack grass, Canada thistles and other weeds which spread by the roots may be effectually destroyed by keeping them constantly plowed under. We saw a communication in a late number of one of our exchanges from one of our best farmers, who says he has thoroughly tried this mode and that it has proved a failure. The plowing was repeated "three or four times" through the summer. This obviously was not often enough. If the weeds get above the surface, so as to breathe a few days, all previous labor is lost. We have seen a 12 acre field of quack completely cleared of this weed in one wet season, but it was plowed or harrowed as often as once a week. The farmer above quoted, says further, that he tried the spring-tooth harrow in another field, "the harrowing being repeated at intervals as often as any grass showed above ground." This tells the story. The grass had a chance to breathe "at intervals," although only for a short time—yet enough. The same failure has occurred in attempts to kill Canada thistles. The plants, at intervals, have been allowed fresh air. The writer above quoted, states that he succeeded perfectly when he turned the quack two furrows deep or fourteen inches, where it could not grow, and none made any further appearance.

Dairy and Food Commissioners.—It has been officially announced that the commissioners of the several states having a Dairy & Food Bureau will meet in Cleveland, Ohio, Nov. 27-28-29.

The headquarters will be the American House. The meeting is for comparison of work. The matter of more uniform and more effective state and national laws will be discussed. This will be the most notable meeting in the interest of honest dairy products and pure food ever convened. Commissioners from Connecticut, New-York, New-Hampshire, Ohio, Wisconsin, Minnesota, Iowa and other states will be present, and a representative from the Agricultural Department at Washington. The governors of the states having no commission established have appointed two leading dairymen to represent the dairy industry of their respective states at the convention.

The Ohio Protective Association meets with the commissioners the last day. This joint meeting will be public. Addresses will be made by State Commissioners Derthick of Ohio, J. K. Brown of New York, H. C. Thom, of Wisconsin, and the representative of the Department at Washington.

Rabbits in Agriculture.—The extent of the rabbit plague in Australia may be inferred from the following paragraph, clipped from the Melbourne Leader:

The rabbit-proof fence now being constructed between the New South Wales and South Australian borders is rapidly progressing towards completion. Camels are being utilized to transport the fencing materials. The line of fence when completed will be 250 miles long. One man only will be employed to look after it, as it is considered he will be able to make monthly inspections. Owing to the recent discovery of rabbits in the Gundagai district, it is believed they are gradually making their way northward.

Not much less serious appears to be the situation in parts of California, where it is stated that these animals have become so numerous and destructive to the farmers that the wholesale extermination of them is imperative. It is estimated that five rabbits consume as much as one sheep, particularly of young grapevines, fruit trees, corn and other grain. The Scientific American gives a picture of a "drive" for their destruction at Wildflower, Fresno Co., near the centre of the State. It was made by stretching fine wire netting about three feet high and seven miles in length, V shaped, terminating at the smaller end in a circular corral into which the animals were driven and readily killed with stout sticks. The mound of slain at the end of that drive was five feet deep, twenty feet wide, and forty feet long, and contained twelve thousand dead rabbits.

Horticulture in Schools.—It is common for writers and public speakers to recommend horticulture as one of the studies which should be taught in common schools, but much progress has not yet been made in carrying it into operation. Trustees and teachers think that students have already as many as they can manage, and more than they can understand properly or thoroughly. Some think the number of studies should be cut down or reduced. Others very properly urge the importance of children and young people understanding well what they undertake; and they insist that a few science well mastered, are better than a long catalogue taken hold of superficially and only a smattering reached at best. Should horticulture be ordered as one of the studies required of the scholars, they suppose (perhaps correctly,) that large books, like "Lindley's Theory," or Vilmorin's "Vegetable Garden" would have to be committed to memory, or the students be required to explain theoretically the meaning of all botanical terms from Gray's Text-book. This would certainly be a mistaken course, beginning at the top of the science, instead of ascending gradually. It would tend to make young people dislike it, and resolve to have nothing to do with it as soon as they could escape from school and its repulsive and dry studies.

And yet the leading principles of horticul-

ture may be taught in or in connection with schools and made really attractive. The teacher should understand something of it, and how to make its practices a pastime. If it happens to be in the summer, he may begin by showing his students how to perform the operation of budding. They must not merely look on and see him do the work, but they must take hold themselves. It will be well to explain to them first what it is for—that by inserting a single bud no larger than a drop of water, ten bushels of luscious fruit may be secured in place of a few choke pears; or twenty bushels of Baldwin apples instead of thorny crabs. Explain to them fully by showing how it is done; let them take hold and try their skill, and see in two weeks when they remove the ligatures, how many have taken and will grow. Grafting may be taught in the same way early in spring. The nature of roots may be exhibited; the use of leaves shown by stripping the foliage from the branch of a plum tree, or the bearing-shoot of a grape vine. The failure of the fruit to grow without leaves will teach an important lesson. The rapid discharge of water from leaves may be shown by placing two leafy shoots in the hot sunshine, from one of which the leaves are cut—one will soon wither, the other remain plump. The sprouting of seeds of various kinds will afford many useful lessons. It is very important that the pupils should take hold with their own hands—in this way it becomes fascinating to them.

These instances are given merely as a few simple illustrations of the manner in which valuable facts may be practically taught. The lessons may not interfere with the regular school lessons in arithmetic and geometry; but with a competent teacher may become rather an amusement and pastime, relieving the mind from the burden of other studies. The teacher who has no taste for such instruction will, of course, be entirely unfitted for it; but the one who will delight in it may fit himself for it in less time than is required to master the science of algebra, or to read Virgil in Latin. Which would be really the most useful?

Girls would probably take hold quite as readily as boys, and lady teachers could be found who would make very successful work of it.

It would have another benefit. It would lead to the planting of school grounds, a portion of which would be set apart for horticultural experiments. Not only would it be necessary for teachers to imbibe its spirit, but school trustees should constantly promote it, and give it the unflagging support which would be required for its continued growth.

Meetings at Chicago.—A number of Hampshire breeders met at the Palmer House, 13th, formed a national association, and elected officers:

President—James Woom, Mt. Kisco, N. Y.

Vice-Presidents—E. F. Bowditch, Framingham, Mass.; J. W. Gaines, Lowell, Wis.

Secretary-Treasurer—J. S. Gordon, Mercer, Pa.

—— The National Poland China Association met at the Sherman, 13th, listened to papers on breeding and diseases, resolved that the world's fair of 1893 should be held at Chicago, and elected officers:

President—W. W. McClung, Waterloo, Iowa.

Vice-President—J. A. Countryman, Lindenwood, Ill.

Secretary-Treasurer—Carl Freigau, Dayton, O.

—— The American Devon Cattle Club met at the Grand Pacific, 14th; heard valuable papers by Rev. E. Huntington, Dr. J. Cheston Morris, Messrs. E. D. Hicks and L. P. Sisson; and elected officers:

President—Edward D. Hicks, Nashville, Tenn.

Vice-President—B. F. Pace, East Bethany, N. Y.

Secretary-Treasurer—James Buckingham, Zanesville, O.

—— The polled cattle men held three meetings on the 14th. The incorporated Red Polled Cattle Club elected the following officers:

President—Gen. L. F. Ross, Iowa City, Iowa.

Vice-President—V. T. Hills, Delaware, O.

Secretary—J. McLain Smith, Dayton, O.

Treasurer—S. A. Converse, Cresco, Iowa.

Directors—L. F. Ross, J. W. Martin, E. S. Jameson, J. W. Knapp, V. T. Hills, Wm. Hanke, J. B. McCoy.

—— The unincorporated Red Polled Club (maintained for the purpose of making a settlement with Ex Secretary Murray, who refuses to surrender the old club books) chose the following:

President—Gen. L. F. Ross.

Vice-President—P. G. Henderson.

Secretary-Treasurer—J. McLain Smith.

Corresponding Secretary—Robert B. Behart.

Executive Committee—S. A. Converse, Granville Jones.

—— An "American Polled Association" was established by a number of breeders who want to register "naturally polled cattle, descendants of the old 'Durham' or Short-Horn family." The officers chosen are:

President—W. W. Crane, Tippecanoe, O.

Secretary-Treasurer—A. E. Burleigh, Mason, Ill.

Executive Committee—W. S. Miller, G. P. Burleigh, S. R. Clawson.

—— The Aberdeen-Angus Association m at the Leland, 14th. The report of the e ecutive committee showed that 1,806 entri had been made on the books during the pa year, which makes a total of 11,260 anima now registered by the association. The pr sent membership is 236. The treasurer's r port showed receipts $5,891, disbursemen $3,542, and a balance in the treasury of $4,51 The following new directors were electe T. M. Andrew, West Point, Ind.; T. W. Ha vey, Chicago; R. B. Hudson, Carrollton, M An amendment to the by-laws making all ma cattle, red in color or with noticeable amou of pure white above under line, and disco nected with it, or on legs, or with scurs, ina gible to be entered as breeding stock, w adopted, after heated discussion.

—— The National Swine Association met the Sherman, 14th; listened to controversi papers on the swine plague by Drs. Salm and Billings; and elected officers:

President—B. R. Vale, Bonaparte, Iowa.

Vice-President—N. H. Gentry, Sedalia, Mo.

Secretary—Phil. M. Springer, Springfield, Ill.

Treasurer—J. A. Countryman, Lindenwood, Ill.

—— The American Hereford Associati met at the Leland, 15th. The Executive Co mittee reported the addition of 26 new me bers during the year, making the total 4 Vol. 9 of the Record, with 3,000 entries, h been published; Vol. 10, with 4,500, is in pre and 1,200 entries have been made for Vol. The treasurer's report may be summarized below:

Cash on hand last year	$6,039
Entry Fees	5,976
Sales of Record	225
Memberships, Interest, &c	1,495
	$13,685
Paid for Prizes	$2,491
Cattle-Growers' Association	50
Vol. 9 of Record	1,738
Secretary's Salary	1,500
Clerk Hire	900
Traveling Expenses	157
Rent, Furniture and Sundries	999
Cash now on hand	6,010
	$13,835

The assets of the association include, besi the cash noted, U. S. bonds worth $15,000, a $7,500 volumes of the Record.

The election of officers resulted in the cho of the following:

President—Adams Earl, Lafayette, Ind.

Vice-President—J. S. Carlyle, Chicago.

Directors—C. H. Ellsendorf, Erastus Corning, R. Yeomans, T. P. McCampbell, E. M. McGillen.

Executive Committee—(vacancy), H. H. Clough

Amendments were adopted to the consti tion and by-laws, reducing the cost of membership and the penalty for not recording cal within six months. It was resolved to du cate all prizes won by Herefords at fat-st shows next year, and also to appropriate $ 250 for prizes at fairs—$500 east of the M sissippi, $500 west of the Mississippi, and $ in Canada. Also to pay $50 for the best ne paper article on the breed to be presented the Executive Committee before the 1st January.

The South-Down breeders met at the Sh man, 15th; appointed Messrs. John Jacks and P. M. Springer, a committee to con with the leading breeders in England wit view to founding there a public record South-Down sheep; and decided not to h single South-Down international show a year, but to supplement the South-Do prizes at the Buffalo, Detroit, St. Lo Illinois State and Sangamon fairs and Chicago Fat Stock Show.

—— At an adjourned meeting of the Natio Swine Breeders, after giving full hearing Drs. Salmon and Billings on hog chol resolutions expressing perfect confidence the Bureau of Animal Industry were adop without opposition.

Hemp in Eastern New-York.—Sc time since we referred to an effort made spring to introduce the culture of hemp am Rensselaer county farmers. A Troy despa says that a meeting of those interested in crop took place at Schaghticoke, Nov. 12th

Addresses were made by A. R. Turner, of Boston, president of the Flax and He Spinners' and Growers' Association of Amer Hon. John A. Quackenbush, member of C gress; Mr. McCreve, treasurer of the K

The Grazier and Breeder.

Balancing Sorghum for Butter.

EDS. COUNTRY GENTLEMAN—Please inform me how to balance sorghum to make butter. The sorghum was cut at the proper stage for making syrup, was well and nicely cured and housed, and is in good condition. It is cut before feeding, of course. Have been trying to balance with ground oats, but cannot; it will go to fat instead of butter. Will try cottonseed meal in a few days, but fear even this will fail to convert the strong natural tendency of the carbohydrates in sorghum to go to fat, whereas I want to make butter of them. Can it be done? P. F. K. *Madisonville, Tenn.*

P. F. K. has a rather difficult fodder to balance alone in the milk ration. If he had a had a proportion of clover hay to mix with it, it would be easier balanced, and he would do well to mix a little common hay or even short-cut corn fodder with it. Let him use the following combination: 20 lbs. short-cut sorghum, 4 lbs. Japan clover or crab-grass, 3 lbs. ground oats, 6 lbs. wheat bran, and 3 lbs. decorticated cottonseed meal. This stated in analytical formula will show the following digestible nutrients:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
20 lbs. short-cut sorghum	0.40	4.80	0.20
4 lbs. Japan clover or crab-grass	0.20	1.04	0.04
3 lbs. ground oats	0.27	1.86	0.13
6 lbs. wheat bran	0.70	2.76	0.15
3 lbs. dec'd cottons'd meal	1.45	0.68	0.30
Total	3.76	10.94	0.82

This has a nutritive ratio of 1 to 4.4.

We have presumed that K. could easily obtain wheat bran, and he will see that the bran and cottonseed meal easily balance it, and if this is fed, after being properly prepared—the sorghum and hay mixed together and well moistened, and then the bran, oats and cottonseed meal thoroughly mixed with it—fed moderately at first, till the cows get used to it, he will find after two weeks a considerable increase in the butter from his milk.

This ration will be fairly balanced if 5 lbs. of short-cut corn fodder is substituted for the crab-grass hay. We trust that this will lead K. out of his difficulty. E. W. S.

Ration for Milk on Pasture.

EDS. COUNTRY GENTLEMAN—Will E. W. S. kindly give me a ration for one day, feeding night and morning, from the following: Bran, corn meal, oil meal, cottonseed meal, ground, oats, dried brewers' grains (from the Penn Feed and Fertilizer Mfg. Co.) and pollard? I use no hay or straw; the cows pasture all the year round (this is in Bermuda Isles). My object is good butter and quantity; also as good manure as it is possible to get from cows. My butter now on bran, corn meal, cottonseed meal and oil meal is reckoned quite up to English butter by English people here, but I want to get more out of my cows, both in quality and quantity. (1) How can I prevent milk going to whey after being set say 36 hours or less? I tried salt in one lot, and I think it prevented it. (2) Norwegian cod-liver oil is advertised in COUNTRY GENTLEMAN—what quantity could I give at a feed? (3) I use coarse corn meal. Now if I were to use bolted corn meal instead, would it be better and would I get more milk; and if so, would the difference in price be paid for by increase of milk, and would it cause better manure to be made? (4) Coarse corn meal, first cost, $1.10 per 100 lbs.; landed in my yard, $1 50; corn meal bolted, landed here, $1 70; first cost, $1.23. M. H. J. *Somerset, Bermuda.*

1. M. H. J. says he feeds no hay or straw; but it would be better for him to feed a little chopped straw or corn fodder with his grain ration. The ground feeds would be better digested, and produce a better result. J. will find it beneficial to give as large a variety of food as he can. We should advise him to use 3 lbs. of chopped straw or corn fodder, and then to feed with this 3 lbs. bran, 2 lbs. corn meal, 2 lbs. ground oats, 2 lbs. dried brewers' grains, 1 lb. oil meal or cottonseed meal. Let these 10 lbs. of ground food be all mixed together, dry, and then thoroughly mixed with the moistened chopped straw. Give half at morning and half at evening. This will give him a good flavored milk in good quantity provided his cows are good milkers.

2. We should not advise him to feed the cod liver oil he mentions, because, in any quantity, it would be likely to injure the flavor of his milk. The coarse corn meal is as good for his purpose as bolted.

3. We infer that the cause of the milk turning to whey is the too high temperature of the milk room. It would probably be better for him to adopt very shallow setting—not more than 1½ inches deep—and then skim the milk the moment it begins to sour on the bottom of the pan; that is the point at which it always begins to sour. If he could keep the temperature of his milk room at 60°, he would have no such trouble.

The price of feed is so high with J. that if his cows get plenty of rich grass in pasture, he may reduce the amount of feed, say 3 lbs. of bran, 2 lbs. of corn meal, 2 lbs. of dried brewers' grains, and if anything more is fed, let it it be 1 lb. of cottonseed meal. E. W. S.

Feeding Young Steers.

EDS. COUNTRY GENTLEMAN—I am going to feed a lot of young steers, year olds, past, weight about 600 pounds. I propose to run these steers on stalk field barley, rye and blue grass pasture, with free access to straw stack, and after about Dec. 15, I propose to feed them what corn it will take to keep them growing and in good condition. Now there is a crusher, two miles distant, that crushes for the eighth. I should like to know whether it will pay to haul this corn two miles to have it crushed without shuck, or chop this corn up fine and feed it, without going to the expense of hauling two miles and paying toll. Corn is worth here now, 25 cents per bushel. I propose to sell these steers the first of next August, when, if they do well, they ought to weigh 1000 pounds. W. K. P. *Wartrace, Tenn.*

W. K. P. should have given a little more precise information so that advice could be made to fit the case. He should have given the number of steers he feeds, because it might be quite advisable to do differently with a large number than with a small number. If he had a large number to feed, it would well pay him to get the proper machinery for preparing his own food. But as it is presumed that he proposes to follow these steers with a proper number of pigs, to consume all the waste, it certainly would not be advisable to haul his corn two miles, not to be ground, but simply crushed. It will be more economical for him to do as he proposes—chop up the corn and feed to the steers in troughs.

And if raw cottonseed is cheap it would pay him to mix in a small proportion of cottonseed meal with his corn. This would assist in preventing the too heating effects of corn, and the steers would be likely to gain faster. They have got to be pretty well fed to add 400 pounds per head between this and the first of next August. He should therefore keep up his feeding of grain every day till ready for market. These steers have no doubt, cost more than they are worth. In a regular economic system of feeding, steers should reach a weight of 1000 pounds at 17 to 20 months old. Early maturity is the only system of feeding which can pay the cost. E. W. S.

Ration for 1700-lb. Cow.

EDS. COUNTRY GENTLEMAN—Will you give me a ration for 1700 lb. Holstein-Friesian cow? Material on hand is—timothy and clover hay (3 6 timothy), crushed oats and barley, cracked or fine-ground Indian corn, ground or whole linseed, mangels and Swede turnips, wheat bran made from soft wheat at a small country mill where stones are used. If there is anything else that will improve the ration, and can easily be got in the Provinces, I should like to get it. My object is to secure a large flow of milk. Cow is fresh in milk, and giving 65 lbs. *J. F. Shediac, N. B.*

1. F. has a cow of great weight, giving a large flow of milk, and she must have food to produce it, besides the food of support. The ration would be more easily constructed if he had first-class clover hay. When he speaks of ground and whole linseed, I suppose he must mean common flaxseed ground or whole. But as this food has about 40 per cent. of oil it could not enter, except in very small proportions, into a milk ration. His hay is supposed to be run through a cutter, and his mangels pulped or grated.

Let the following combination be made: 18 lbs. cut mixed hay, 18 lbs. pulped mangels, 6 lbs. crushed oats and barley, 4 lbs. fine ground corn meal, 3 lbs. wheat bran, 1 lb. ground linseed. The following analytical formula will show the digestible nutrients in this ration:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
18 lbs. mixed hay	0.72	7.20	0.27
18 lbs pulped mangels	0.90	1.80	0.09
6 lbs. crushed oats & barley	0.57	3.06	0.19
4 lbs. fine ground cornmeal	0.31	2.52	0.19
3 lbs. wheat bran	0.66	2.04	0.20
2 lbs dec't'd cottons'd meal	0.70	0.44	0.13
1 lb. ground flaxseed	0.17	0.19	0.25
Total	3.63	16.21	1.32

This has a nutritive ratio of 1 to 6.

This ratio will be right in this case. This is a remarkable ration, nearly sufficient for two ordinary [cows, but] she yields quite as much milk as two ordinary cows, and if this ration can be properly prepared it will keep her up to her present standard, and probably increase her flow of milk 10 lbs. or more. As will be seen, this ration contains 3.63 lbs. digestible albuminoids, 19 21 lbs. carbohydrates, 1.32 lbs. fat—this will supply not only the wants of this large cow, but every element required to produce this large yield of milk.

Should F. feed this ration, he will of course mix the pulped mangels with the cut hay, and then moisten it still further, and after mixing together his 21 lbs. of other feed, will thoroughly mix the whole together so that all must be eaten together, and this cow will probably, after a few days at least, take this ration in three feeds and digest it completely.

F. will understand that if he had the best clover hay, this 3 lbs. of cottonseed meal would not be necessary. We trust that if F. feeds this ration, he will report the result to the COUNTRY GENTLEMAN. E. W. S.

Feeding for Rich Milk.

EDS. COUNTRY GENTLEMAN—Please give me the proper proportions of the following foods for a butter ration. The cow is pure Jersey, 4 years old; calved last August; has had the run during summer of a good pasture, and is now in good condition; gives from 12 to 15 lbs. each milking, night and morning. I cannot give the quantity of butter as the milk is mixed with that of other cows. Materials—timothy hay, bran (wheat), corn meal, carrots and mangels. E. W. *Brockville, Ont.*

E. W. appears to wish a test of his cow's butter capacity, consequently he wants a combination of food to produce rich milk rather than the greatest quantity. But his foods—timothy hay, wheat bran and corn meal, with carrots or beets as a promoter of health—do not contain the right proportion of elements to make a balanced ration. Let us construct a ration out of the foods given. The following analysed formula will show its digestible nutrients:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
14 lbs. cut timothy hay	0.42	5.77	0.15
25 lbs. pulped carrots	0.31	1.87	0.03
4 lbs. corn meal	0.35	2.52	0.19
10 lbs. fine wheat bran	1.17	4.60	0.26
Total	2.25	14.76	0.63

This has a nutritive ratio of 1 to 7.2—too wide for the production of rich milk. It will be seen that this is a full ration in carbohydrates and fat, but deficient in albuminoids or muscle and cheese-making matter. If W. had the best clover hay to substitute for the timothy this would fairly balance the ration, but it would be better to substitute 1 lb. of linseed meal in place of 1 lb. of bran. This ration can most easily be reformed with the timothy hay, as it should be by substituting 3 lbs. of decorticated cottonseed meal for 3 lbs. of the bran. In analytical formula it would show the following digestible nutrients:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
14 lbs. cut timothy hay	0.42	5.77	0.15
25 lbs. pulped carrots	0.31	1.87	0.03
4 lbs. corn meal	0.35	2.52	0.19
7 lbs. fine bran	0.82	3.21	0.18
3 lbs. decorticd C. S. meal	1.23	0.67	0.29
Total	2.93	14.04	0.84

This has a ratio of 1 to 5.2, and is a well-balanced ration for butter. It would take 4 lbs. of linseed meal to balance it as well.

W. will of course remember that the corn meal, bran and cottonseed meal must be mixed together dry, and then well mixed with the moistened cut hay and carrots. The ration as first compounded would do very well for cows fed for quantity of milk only. E. W. S.

Dorset Horn Sheep.

EDS. COUNTRY GENTLEMAN—Of the various breeds of sheep in Great Britain, some deserve to be more known by our American cousins; and among these the Dorset Horn stands in the front rank. Few are equal to [this breed as prolific breeders, while as producers of early fat lambs they outstrip all others. The quality of their mutton and wool is not excelled by any breed except the Southdown.

Forty or fifty years ago Dorset Horns were almost unknown as a breed beyond their native county, except in Surrey and the neighborhood of London, where the ewes drafted annually from the breeders' flocks were taken by graziers who bought them in lamb in the month of October, for the purpose of fattening and selling the ewe and her offspring together by the month of February, or early in March.

Their good qualities have, however, become better known during the past twenty-five years, large numbers of flockmasters in Dorset and other counties having given up Down sheep in order to keep Dorset Horns, which they consider the best rent payers and most prolific. With Dorset Horns two lambs at one birth is very general where the ewes are well fed, triplets are not uncommon, and instances have been known of four lambs produced at one birth! The writer had a ewe in his flock of 450 Dorsets that produced six lambs on the 15th of December, 1864; five of these lambs were born alive, while four were healthy and lived. This ewe was five years old at the time, and had previously presented her owner with three lambs at a birth for three consecutive years, thus making a total of fifteen lambs from one ewe in four years.

Another instance of prolificacy and also of early maturity, is that of a Dorset Horn ewe belonging to Mr. Charles Horrell near Winchester, which had three lambs on the 27th of January, 1869. These lambs were reared in the open field with the rest of the flock, and never had any milk beyond what the mother supplied. When these three lambs were eleven weeks and two days old, they were sent into Winchester market, and were sold for 43s. each, or £7 1s. for the three lambs. During last May and June a breeder of Dorsets, living near Dorchester, sold 25 young lambs in the fat-stock market there at an average price of 38s. each. As the dams of these lambs were at the time not more than eighteen months old, it proves the early maturity and prolificacy of the Dorset-Horn breed.

Sheep of this breed are now to be found in Ireland, Canada and the United States. In the years 1867 and 1868 the writer exported some specimens of his flock to Mr. E. F. Bowditch of Framingham, Mass., who now has quite a flock of Dorsets. This year Mr. T. S. Cooper of Coopersburg, Pa., gave an order for a large number, and "none but the best." At the dispersion sale of one of the best flocks took place at the time, the opportunity occurred of securing some of the best of this breed, and in addition to the grand young ewes purchased there, prize animals in each class at the Royal Show at Windsor were bought and sent out with those previously selected, forming together the grandest collection of 133 Dorset-Horn sheep that ever left the shores of old England.

Let those who wish to breed early fat lambs try Dorset-Horns. If the ewes are really well fed, they will rear another crop of lambs the same year. As a matter of fact, they may be relied on to breed three crops of lambs in two years. The writer had a Dorset ewe that did this, and lived to be eleven years old.

This breed must, of necessity, spread far and wide as their merits become known. An opinion formed after an experience extending over nearly forty years is that no animal will give a better return for food consumed than a Dorset-Horn ewe, provided she is well and properly treated, and with suitable soil and climate.

Dorsetshire, England. THOMAS CHICK.

Holsteins at Maplecroft.

EDS. COUNTRY GENTLEMAN—We are pleased to inform you of our purchase of the Pietertje family (of Dallas B. Whipple, Cuba, N. Y.,) consisting of Pietertje 2d and four daughters, Pietertje 3d, 4th, 5th and 6th, also Pietertje 2d's Holland King, and a young bull by Holland King out of Pietertje 5th.

We purchased of Mr. Whipple in October, 1868, Pietertje 2d's Konigin, and since this young bull came to Maplecroft we have had a great desire to own the whole family, and we now have all animals representing over 75 per cent. of the blood of Pietertje 2d.

The old cow is in fine shape and moves around among the others as though she was aware that she held the world's yearly milk record by over 4,000 pounds. She is a cow of great finish, wedge shape, beautiful head and neck, broad hips, straight on back, very deep in flank, and the finest shaped udder imaginable, and her great record of 30,315½ lbs. of milk in one year seems to have had no bad effect on her whatever.

Her oldest daughter (Pietertje 3d) has much of the finish of her dam, and yet of a different type. Her four-year-old milk record of 20,139 lbs. 2 oz. in one year is the largest ever made, age considered.

Pietertje 4th is a young cow of strong constitution, well finished, proud in bearing, and

perhaps as much admired by those who have seen her as any member of the family. She gave 15,034½ lbs. of milk in one year as a two-year old, and made 23 lbs. 1½ oz. of butter in seven days as a three-year-old.

Pietertje 5th and 6th are young heifers and undeveloped, but as far as can be judged by appearances they are equally as promising as the other members of the family.

The get of Pietertje 24's Holland King are very promising, and if they continue to develop as we have every reason to expect, it will stamp Holland King as a stock getter with no superior. The young bull that we have from him out of Pietertje 5th, gives great promise of developing into not only a dairy bull, but a grand show bull as well. We have no use for him at present, except for the show ring, as we are now using two sons of Pietertje 2d on our herd. We have also De Kol 2d, with a four year old butter record of 23 lbs. 6 oz. in one week, and which stands unequalled by any cow of any breed at the same age. Her son, her grandson, two daughters, and nine granddaughters, all promising young animals, have only to be seen to be appreciated.

The Pietertje and De Kol families, backed up as they are by many choice animals from other families, places the herd at the front, where we propose to keep it, and we shall in the future breed only from animals that can show by their records that they are certainly entitled to the standard of excellence claimed for them. J. B. DUTCHER & SON.

Pawling, N. Y., Nov. 6.

Breeding Pigs.—When breeding pigs, it is important to see that a proper place is selected for the service. Too many sows are put with the boar where the floors to pens are full of holes or slippery with slime or mud, or are put in yards where the surface is very uneven, and full of deep holes in the ground or high mounds of earth. The consequence is a poor service, and (what is of more importance) the sow and boar are apt to become strained and injured. It is better to have the service performed in some place where the animals can stand on a dry, even surface of hard earth; by so doing, a good service can be obtained without straining either animal. G. Q. D.

Irregular Lactation.—I have had an instance come under my observation of a cow having a second calf running on grass and in fine condition with no flow of milk, not giving a drop when the calf came; after a week or two she began to give a little; now after six weeks she is giving about a pint of very rich milk at a milking. The cow had been dry about six weeks before calving. L. S. M.

Christiansville, Va.

The Dairy Department.

Joint Conferences in Allegany.

CUBA—CHEESE AND BUTTER—VALUE OF WHEY—PORK WITH CHEESE—HORNBY CHEESE-MAKING—TWO OBJECT LESSONS.

ENS. COUNTRY GENTLEMAN—The first one of the two days' conferences held under the joint auspices of the State Dairymen's Association and the State Dairy Commissioner, was at Cuba. This is a natural dairy section. The water is of the best, and the grasses are exceedingly nutritious. Cheese-making takes the lead. So intent have the people become in this industry that all other branches of farming have been more or less overlooked and are ignored. I find that two to five hogs are the average annual output of the dairymen, and these are of the smaller breeds—the kinds which need to be waited on and fed, and which make a small weight. The facilities for shipment are convenient on the Erie railroad, and the country fairly swims in whey. This whey has some manurial value which is not to be despised, and a food value which can be turned to good account. We have as farmers reached the day of small things, but many of us are not yet aware of it. The sea of whey in New-York State must be turned to better account, and while there may not be millions in it, there is some money. It harmonizes with our necessities, to wit, the holding and making of fertility.

The whey has the most of the sugar which was in the milk. It is true a portion of this has been consumed in the acid, or changed into acid, and so lost its food value by the acidity produced in the vat; but if the milk was in good order, so that no excess of acidity was required, there is three or four per cent. of sugar value left. There is also some of the butter fat, and usually too much for the good of the cheese, and this is food. Both the sugar and the butter fat are fattening, and grown hogs, those which have their bone and muscle formed, will get fat on plenty of whey. The pork will not be of the best, as it will be flabby, but still it is pork, and the average American who has no higher conception of pork than fat, is well suited with it. There is always some casein, which should all go into the cheese, left in the whey, and this gives the whey its fertilizing value, as there is no food for the soil in the sugar or the butter fat. A considerable portion of the ash—the mineral elements of the milk—the phosphate of lime, the salt, magnesia, lime and impurities in the milk, will mostly be floated off in the whey. These all have more or less value as fertilizing material. The whey lacks in nitrogen. The casein is in the cheese, and this muscle forming food must be restored if the whey is to be made good food. This is easily done by mixing bran and linseed meal in the whey. By so doing, the full value of milk, in its constituents of nitrogen, phosphoric acid and potash may be restored. A good pasture for the hogs especially, of clover, will also make up largely of the loss of the casein or the muscle-forming food, and also supply the waste material needful for good digestion and bowel distention. If I were a cheese farmer, I should also be a proportionate pork-maker. There is no way by which a clover field or pasture can be so cheaply and thoroughly enriched as to fill it with hogs for a season. If the hogs no more than pay for the cost of the extra food and the labor, there is a compensating profit in having a rich field for at least a half dozen years. With me this is fact, without the benefits of the whey as an adjunct.

Another thing—I find that mutton is the highest meat in this market. "Sheep are scarce," said the village butcher. Here is a chance for the cheese-maker to reach out.

It excited interest at the conference, when large ears of well-ripened corn were shown, of home-grown fodder corn, and the half-inch in length, of slices of *ears* taken from the silo. This was a form of fodder corn unusual, and it was an object lesson of great value to those who have patches of fodder corn of the watery sort.

The first session, "cheese day," was held at the factory of G. H. Halsted. A. G. Morton of West Almon was made chairman and Mrs. M L. Rumpff, Angelica, editor of Every Week, secretary. The cheese makers were Geo. A. Smith and W. W. Hall, cheese instructors of the Dairy Commissioner's department. The forenoon was devoted to the making of the cheese, which was not completed until the afternoon. The instructors answered many questions asked by the cheese-makers present. A recess was taken at noon, and in the afternoon Geo. A. Smith read an instructive paper on the preliminary work of cheese-making up to the handling of the product at the factory. Mr. Hall talked of the mode of making. Col. Curtis spoke of the general cheese interests of the State, and pointed out the mistakes which had been made all along the line. It now took more milk to make a pound of cheese, on the average, than it did formerly. This was because the dairyman was breeding and feeding his cows to get weight to his credit at the factory. The butter fats were as important in cheese-making, when we look to actual profit, as the casein. The butter fats should exceed the casein in per cent. The butter fats made weight as well as the casein. A well balanced cheese should have from 25 to 33 per cent. of fats in it, and then with an equal proportion of casein and moisture it would digest better, taste better and make its way to the table of consumers; and when once introduced into the family circle it would come to stay and not to be eschewed, as too much of our New-York State cheese is now. These experts are trying to teach a method of making cheese to keep the butter fats out of the whey vats. "I want to exhort you," Curtis said, "to get more fats into the milk, and to lessen the amount of milk required to make cheese." The cow should be tested for her adaptation to the cheese factory as well as the butter factory. There is no such thing, practically, as a "cheese cow." A fully developed cheese cow would not make cheese fit to eat. Such a cow is a skim-cheese cow, and we have no need of her as we have too much of that kind of cheese now, and it is a curse to the cheese business of New-York. There is no good religion in a "cheese cow." We cheat, we defraud, when we are on this line. We cheat our neighbor as we do not furnish our share of the equivalent to make a good article, or to make up the average of cheese made by the looks. We have furnished casein and water, which make a hard and indigestible cheese which the consumer buys and cannot eat. We defraud the consumer. We kill our business and bite off our own noses. Annatto extracts are not butter fats. It is not a question of breeds, as almost all the cows are of no breed; and if they are, each cow in all breeds has her individuality, and must be tried by herself. People—a few of them—are touchy; more are set in their ways. Cranks, prejudices and notions will not make first-class cheese. Milk, well-balanced as between casein and butter fats, will, and we want to find this out, and all get as near together as possible. This will make a good foundation for coöperation, and our dairy interests must be kept up on this basis to economize manufacture and to ensure uniformity. The sooner we all get the idea into our heads that we must be square with each other, the better it will be for all concerned.

The amount of milk set for the cheese was 2,794 lbs.; temperature, 86°; Hanson's annatto extract was used, 3 oz. to 1,000 lbs. of milk; milk set and rennet put in at 9.45 A. M. It was cut at 10.20, and steam started at 10.45; temperature of 90° was reached at 11.10; temperature of 100° at 11.30. The whey was drawn at 2.15 P. M.; ground and salted at 4.45. The milk was very sweet and worked slowly. A most satisfactory result was obtained, as 319 lbs. of cheese was made from the milk, requiring 8.53 lbs. of milk for a pound of cheese; 9 lbs. is the average now. The cheese was weighed after being pressed and ready for the shelf.

The butter conference was held in the town hall. Hon. A. B. Cottrell, member of the Assembly from Allegany County, and chairman of the committee on agriculture, was elected chairman, with Mrs. Rumpff secretary. Mr. Cottrell considered these conferences most valuable educational factors, and hoped many more would be held in his part of the State. As the material was not ready, no churnings were had in the forenoon. Mr. Gilbert made an address of great practical value, and submitted to a spirited catechising from the dairymen.

In the afternoon three churns were started, one lot of cream being put into two churns, as both were so small. At first there was no icewater, and the cream of Mr. L. D. Stowell, Black Creek, was put into the churns at a temperature of 68° to 69°. This was too hot, as the room was very warm. It seems that natural gaslight is cheaper in Cuba than daylight, as the street lamps burn all day, and about all the stoves, whether they are needed or not. It took an hour to churn this lot of cream, and it was so soft that it was cooled an hour before working it, and then it made nice butter. Ice having been procured, the other churning was cooled down to 60°, and the butter came in fine shape.

L. D. Stowell furnished the cream from 372 lbs. milk, set in a Stoddard creamer 12 hours; milk warmed up to 100°; cooled with water at 60°; cream set in a vat of water at 110°; afterwards reduced to 70° around the cream for 24 hours; cream not ripe—thin and sweet. Churned at 66°; came at 70°; time, one hour; amount of butter, 11¾ lbs.; ratio, 32.1 lbs. milk to 1 of butter. Cows mostly Ayrshire; food, pasture—old hillside—with two quarts middlings twice a day, and corn fodder once, fed in the pasture; cows seven months in calf.

Homer Utter, Hinsdale, furnished the other cream from 300 lbs. milk, set in pans in the pantry. Part of the cream was 24 hours old, part 36 hours, and the last mess 12 hours old. Mixed all together. The temperature of the room where the milk was set was from 55° to 60°. Cream was ripened in a temperature of 70°, and frequently stirred; churned at 60°; came in 30 minutes; amount of butter, 12 lbs.; ratio, 1 to 25. Cows, grade Holsteins; food, pasture, upland, and three quarts of wheat middlings; access to salt and water all the time. Butter churned in a rectangular churn. This cream ripened in part on the pans, and was in the best of condition.

These two object lessons showed the necessity of ripening cream to get the best results, and of regulating the temperature to save labor and to secure the proper conditions. The soft butter was worked with a weak brine in the churn, to harden it, and left there till ice was obtained; then put on to the worker carefully and covered with a cloth wet in ice water and surrounded with ice, the salt having been sprinkled over it. When cooled, it was worked and packed.

The writer gave a lecture, in the afternoon, on "Feeding to Increase the Butter Fats," which was made very much more interesting by the exhibition of the constituents of milk and butter. These novel and instructive samples were furnished by the Geneva Experiment Station. They attracted much attention, and were a most valuable feature at the conference. F. D. CURTIS.

An Error and a Fact.

Production and Reduction.

ENS. COUNTRY GENTLEMAN—The types make me say (page 848 first column) "both cottonseed meal and linseed meal will make more butter than any other single grain food, and either, fed alone, will make soft butter, as they increase the amount of *brine*." The last word should be OLEIN.

Olein is the soft principle in butter and its increase, by the excessive feeding of cottonseed and linseed meal, thereby making soft butter, has led many dairymen to discard its use altogether. This is a mistake; as it is wise to use foods which will increase the butter yield, but at the same time it is also wise to unite with these olein-making foods those which will produce more stearin, which is the hard principle in butter, as well as in lard. Corn meal will do this. Farmers must have observed the fact that when the cows were fed all corn meal the butter was hard, dry and crumbly. Such is the case. Wheat bran seems to be a great regulator of the constituents of butter, and when combined with cottonseed, linseed and corn meal, the butter will be well proportioned and balanced in its constituents. It is also a good balance for cotton and linseed meals.

The lesson is then plain that no single food is entirely fitted for the production of good butter, nor to obtain a large quantity, so well as a variety of foods. The remarks of Mr. Crozier, in a recent number, verify this. Stearin and palmatin constitute one-half of butter, and olein 42.21 per cent.; butterin, 7.69 per cent., and the volatile oils about one-tenth of one per cent.

There are some foods which produce butter so unevenly balanced, or so poor, that it will hardly come together when churned, and it is so soft and lacking in texture, that it is not much different from lard. This is quite generally the case with butter made in winter, and it is because the cows do not have balanced foods, or foods suitable to make good butter. This is dairying under difficulties, and hence most dairymen dry up their cows when the grass is gone, or rather, the cows, with an instinctive sense almost human, dry themselves up, rather than to use up the stores of muscle and fat they may have accumulated in their bodies while they had a chance to procure God's food, grass, which being balanced and proportioned by His wisdom, gives such satisfactory results in growth and production in milk strong in solids. How queer it is that a supposed business man, who relies upon his cows as his factors or partners, by which to obtain a living, should expect that these partners would make a return to him of profit, or even income, for nothing; for food is nothing in the dairy unless there is in it enough of the elements required to produce an income, beyond the bare maintenance of the cow. In most cases, I am forced to charge, the food is not enough for maintenance, and depletion sets in as a junior partner to use up a considerable portion of the former profits. A little additional food, properly selected, would turn the dairy business from simple maintenance or depletion to production and profit. Farming, or wintering stock, for reduction is too common. The dairyman should exchange some of his surplus foods, which are alike in constituents too much carbonaceous, for bran, linseed or cottonseed meal, and unite these with the cornstalks, the mixed hay and the straw, and so fit his cows for the production of milk which will make good butter. Cows should be made productive at least ten and a half months in the year, and they can be with proper food and comfort. There are no milk solids, and especially butter

fats, in barnyard shivers, icicles suspended from the cow's nose, or in frozen tears. One would think there was from the common methods of wintering cows. F. D. CURTIS.

The Veterinarian.

Answers to Correspondents.

[By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

INTERFERING.—A horse, five years old, interferes badly with hind feet; use him for driving. H. B. *Coppats, Mo.* [You should state how you have had him shod. The method that succeeds with one will not with all. State kind of work and character of roads. In the meantime use a pair of Fennell's, Cynthiana, Ky., ankle boots.]

CALF NOT THRIFTY.—What is best treatment for calf that appears somewhat unthrifty; hair rough and animal under size, not growing as it should? C. F. S. *Louville, N. Y.* [If calf is more than three months old, give 2 oz. castor oil, then a tablespoonful of Moore Bros.' cattle tonic twice a day in a gill of molasses and warm water (equal parts). Whole flaxseed steeped, as often recommended in this department, would be excellent for the animal.]

HAIR NOT SHEDDING.—My mare, 14 years old, has not shed her hair in two years; had her clipped a year ago, and had to clip her again last June. Hair became so long and thick and looked so faded, have just had her clipped again. Skin is covered with dandruff; no sores or eruptions; she bites herself; is in good condition seemingly, and feels well. S. F. K. *Rosendale, N. Y.* [Give ½ oz. Fowler's solution in feed 3 times a day for a month. Give her a dose of physic and repeat it in 2 weeks. Does the mare ever show signs of worms?]

BRUISED HOCK—HEAVES.—A mare, about two weeks ago kicked in wagon, hit the double tree, and raised a knot just below hock. (1) Another mare has had heaves for about two years; only coughs when fed upon hay. W. H. A. *Meadow View, Va.* [1. Rub twice a day with some of the following: Tincture of opium, 2 oz.; tincture of aconite root, 3 oz.; spirits of camphor, 4 oz.; chloroform, 2 oz.; mix. In two weeks apply golden blister. 2. Oat straw or corn fodder should be substituted for hay—give ½ pint of raw linseed oil twice a week for two weeks, then a dose once in two weeks.]

PUFFED PASTERN.—A valuable horse, young and speeded but little, has a puffed pastern joint, left hind foot. Has never been lame. First there was a crack across in skin just above the hoof under fetlock; little pimples would gather and break; with care it has finally been healed. Drive him out a few miles in evening; swelling is nearly gone next morning, and there remains then a thick puff only, over the old crack. Little heat to be observed; foot perfectly natural and horse in fine condition. C. H. K. *Pomona, Cal.* [Give one of the following balls every four days: Powdered colchicum root, 3 dr.; powdered Barbadoes aloes, 1½ oz.; powdered nitrate potass., 1 oz.; powdered gentian, 6 dr., and a sufficient quantity of Venice turpentine; mix, and make into three balls. Rub the parts twice a day with some of the following lotion: Acetate of lead, 2 oz.; tincture opium, 4 oz.; tincture aconite root, 3 oz.; powdered nitrate potass., 1 oz.; water, 2 qts.; mix. Keep wet bandage on days, but never at night.]

COLD IN HEAD—OUT OF CONDITION.—My work horse has had a bad cold in head since last summer; think he took it on ferryboat crossing the river to Philadelphia; first noticed a watery substance running from nostrils; now large clots of white matter come from them; seems to distress him very much at times; is in pretty good condition. (1) Bought a mare last spring about 8 years old, was in poor condition but in good spirits; has now lost her spirit, holds head low and seems to have no ambition. (2) S. J. W. *Marlton, N. J.* [1. You should not have allowed it to go so long; it will be much harder to cure it, if it can be remedied at all. Is there any lump or enlargement under throat between jaws? Are there any ulcers in either nostril? Give him ½ oz. solution potassa arsenitis in feed 3 times a day. Get ½ gallon and use it all. Apply golden blister to throat and inject hard rubber syringe full of the following lotion up each nostril once or twice a day: Carbolic acid, 2 dr.; creosote, 2 dr.; water, 2 pints, mix. 2. Give the mare a dose of physic, then in 3 or 4 days feed worm powders. If she does not brighten up write again in 3 or 4 weeks.]

FAILURE TO BREED—INCREASING APPETITE.—A 4 year-old cow comes in heat every three weeks; has been served repeatedly, but fails to get with calf. She gives a good mess of milk, and is in good condition. (1) What can be given to fattening cow to increase her appetite for grain? (2) B. *S. C. Columbus, N. Y.* 1. Stop services for three months, and use Moore Bros.' injectio vaginæ. 2 Mix in feed two tablespoonfuls of the following twice a day: Powdered goldenseal, 4 oz.; powdered gentian, 8 oz.]

URINE NOT RETAINED.—A 12 year old mare is unable to retain her urine; when backed from stall seems to move hind legs with great difficulty, and urine always flows more or less. Legs are badly stocked, and she looks gaunt as from a long drive. In moving, either in walk or trot, has an uncertain gait, as if from weakness, and at times while in motion urine will issue quite freely. Has no sensitiveness about loin, and yet I think she may have been strained. Was put to horse about a week ago, and I question if it was wise, as she has been so for some weeks. W. J. M. *Gloucester C. H., Va.* [Give 2 oz. spirits of turpentine in a pint of raw linseed oil. Give the following ball: Powdered barbadoes aloes, 7 dr.; powdered gentian, 2 dr.; sufficient quantity syrup; mix and make into a ball. Let her be walked twice a day. Mix in feed twice a day 2 tablespoonfuls of bicarbonate of soda. Write again in a few days.]

Record of the Times.

Review of Passing Events.

Revolution in Brazil.—Dispatches were received by New York merchants, Nov. 15, stating a revolution had occurred in Brazil, the army was in control and the ministry had resigned. A liberal cabinet was organized, June 7, under Viscount d' Ouro Preto. The Lower House was dissolved, and at the election of Aug 31, 95 of the 125 members elected were Liberals. But generous as was the legislation proposed the people strongly favor a republic, and dislike the Crown Princess and her husband Count d'Eu. No rebellious movement was expected, however, during Emperor Dom Pedro's life. A revolution may seriously affect American trade, as Brazil furnishes one half our coffee ($33,000,000 worth), nearly all our rubber and one-tenth of the sugar. Later dispatches say a provisional government has deposed the Emperor, who has sailed for Portugal.

Mormon Oaths Revealed.—In preparing for a municipal election at Salt Lake City many Mormons have applied for naturalization. Objection was made that no one who had taken oaths in the Endowment House could be a good citizen, and the court took testimony on this point. Various men swore they were required to obey the church in everything, especially in opposition to the government, to avenge the blood of Joseph Smith on the nation, and to teach their children the same, under penalty of death and disemboweiment. All had seen or known of murders on account of these oaths.

Conventions.—The Catholic Congress at Baltimore was attended by 1,200 delegates. Addresses were made by ex-Governor John E. Carroll, Daniel Dougherty, Cardinal Gibbons and Premier Mercier of Canada; various papers were read. A torchlight procession of nearly 15,000 men took place the 12th. The opening of the University at Washington, 13th, was attended by President Harrison, Vice President Morton, Secretaries Blaine, Noble, Tracy and Rusk, Cardinal Taschereau of Quebec, various archbishops and several college presidents.—The W. C. T. U. convention at Chicago adopted the majority report favoring third party prohibitionists, whereupon the Iowa delegates, headed by Miss Foster, withdrew, and will organize a new party.—The seventh congress of the American Ornithologists' Union was held in New-York, Nov. 12-14. A paper on "Birds that have Struck the Statue of Liberty, Bedlow's Island" said that 690 had there been killed since August—44 varieties, 60 per cent. Maryland yellow throats. It is proposed to erect a monument over the remains of Audubon, now in Upper Trinity cemetery.

Deaths.—Col. Alfred Rhett at Charleston, S. C., Nov. 12, aged 60. A son of R. Barnwell Rhett, United States and Confederate States Senator, he graduated at Harvard in 1850, commanded the battery that threw red-hot shot into Fort Sumter in 1861, and afterwards commanded the fort until battered down by Gillmore. He killed in duel, in 1863, his former commander, Col. Ransom Calhoun; was chief of police in Charleston and afterwards magistrate and rice planter.—William N. H. Smith, Chief Justice of the Supreme Court, North Carolina, at Raleigh, Nov. 14, aged 78. He was a Whig and member of Congress before the war, a Union man during its progress, a conservative Democrat since.—David T. Wambold, an old-time negro minstrel, in New-York, Nov. 10, aged 54. He was with the original George Christy and later was a partner with Birch and Backus in the San Francisco minstrels. He was a noted vocalist.—Gen. T. F. Bourke, a well known Irish agitator, in New-York, Nov. 10, aged 49. He served in the Confederate army; took part in the Fenian uprising in Ireland in 1867; was sentenced to be hanged but an eloquent speech in the dock led to his life imprisonment instead; in 1871 was released when general amnesty was proclaimed, and returned to United States, where he has been an active member of the National league.

Other Foreign News.—A flood in the Yang-tse-Kiang river, China, has drowned thousands of persons and destroyed crops. The province of Fo-Kien is suffering from drouth.—Emperor William received a great ovation at Venice, Nov. 18. A procession of gondolas escorted him through the Grand Canal, and the Rialto was black with cheering crowds.—The French chambers met Nov. 12. M. Pierre Blanc, as doyen of the deputies, made an address, congratulating the members that the Republic, for the fifth time, had repelled the attack of a hostile coalition.—The Sultan has sanctioned the building of a chapel at Bethlehem for the use of Protestant pilgrims.—Barnum's show opened in London, Nov. 11, in the presence of 26,000 spectators.—Gen. Boulanger has issued a manifesto to the French people from the Island of Jersey.—The Egyptian cotton crop is estimated to reach over 3,000,000 bales.—The Sultan of Zanzibar refuses to pay the East India Company for losses caused by the late revolt.—Another letter from Stanley says he expects to reach Zanzibar about the middle of January. Captain Wissman has been ordered to his relief.

Minor Items.

Broadway, New-York, is to have a cable road.

A national window-glass trust is being organized.

The President issued a proclamation, Nov. 11, admitting Washington as a state.

Gardiner's Island, in Long Island Sound, has been rented for a game preserve.

Chicago expects to spend $20,000,000 in drainage and canal improvement.

Archibald Forbes, the Scottish war correspondent, arrived in New York, Nov. 15.

A re-union of war prisoners is to take place at the rebuilt Libby Prison, Chicago, Dec. 10.

An attempt was made to blow up a Milwaukee kindergarten last week, but it happily failed.

An inquiry into the dock department management, New York, reveals gross carelessness or worse.

Millet's "Angelus" and Barye's wonderful animal bronzes are on exhibition together in New-York.

The oldest living Hudson river pilot is John Humbar of Albany, 84 years old. He went on the river in 1819.

The Rev. Dr. J. E. Rankin of Orange, N. J., has been elected president of Howard University, Washington.

The New-York world's fair guarantee fund has reached nearly $4,000,000, the brewers having promised $446,000.

The Bois Fort Chippewas of Northern Minnesota have ceded to the government 110,000 acres of their reservation.

New-York anarchists commemorated, Nov. 11, the execution of their Chicago brethren. Shevitch and Most made violent speeches.

A family in Logansport, Ind., were made severely ill by eating cabbage which had been sprinkled with Paris green while growing.

Rhode Island usually furnishes the President's Thanksgiving turkey. This year it will come from the flock of Mr. Whalley of Kingstown.

Payment of Contractor Smith's claim of $39,000 as due on assembly-ceiling contract, has been postponed by the State board of claims.

An electric light produced by chemical reaction instead of dynamos, the invention of Prof. P. R. F. D'Hamy of Paris, is on exhibition in New-York.

By old records of St. Peter's Episcopal church, Albany, it seems evident that the body of Lord Howe rests under the vestibule of the present edifice.

W. J. Arkell of New-York has offered the government $100,000 yearly on 4 years' contract for the privilege of advertising on the backs of postage stamps.

Daniel Carmichael, wall-paper manufacturer of Amsterdam, N. Y., was arrested, Nov. 11, on charge of forgery of $110,000, by the National Exchange Bank of Albany.

Sunol, the California filly, has been bought by Robert Bonner. The price was over $40,000. She will remain in California a year. Mr. Stanford expects her to trot in 2.04.

California fruit and vegetables attract much attention at the American Institute Fair, New-York. There are sweet potatoes weighing 12 pounds each, and onions weighing three pounds.

A negro boy employed by a farmer of Sterling, N. J., was so inordinately fond of milk direct from the cow that his master had a muzzle made of steel bands and bars which he compelled him to wear in the field. The boy still tried to get his milk, and while handling a Holstein Friesian cow was kicked in the face, and a rod pierced his eye and brain, causing death.

The Niagara Falls reservation commission report the year's expenditure at $27,000: visitors, July-Sept., 139,000; south shore of Goat Island is wearing away and must be cribbed, at cost of $5,000.

At a recent conference of post office officials, called by Mr. Wanamaker, the question of doing away with fourth-class matter was considered, putting merchandise in third-class, at one cent for two ounces.

In the Cronin trial a witness was produced, Mrs. Hoertel, who saw Dr. C. enter the cottage and heard his cries. Blood and hair found there have been microscopically examined. The defence is preparing its argument.

Restless, the old war horse recently noticed in these items, died Oct. 31, at Hamburg, N. J., aged 33. He had been under fire in over 50 battles, and was buried with military honors, wrapped in the flag he had helped defend.

Republican inspectors in Troy, N. Y., having refused to sign election returns in six wards on ground of fraud, the matter came before Judge Edwards in special term, Nov. 15. It appeared that the inspectors had been arrested and put in jail.

While Mr. Wiley of Wiley & Wallace, chemical manufacturers of Philadelphia, was emptying out a bottle of flash powder, Nov. 11, it exploded, instantly killing him and two assistants, and terribly injuring three others. The building and stock were badly damaged.

The 6,000-mile, 43 day trip of the South Americans safely ended Nov. 13. Engineer Hunt, Fireman Tarr and Repairer Booth had charge of the train; Tourist-Agent Draper and W. E. Curtis of the State Department supervised the outside details with courtesy and firmness.

Rube Burrows the Alabama outlaw is reported dead. An Atlanta Constitution reporter was entrapped into an interview with a pretended Burrows, with many scary details. His thrilling report and the true story appeared simultaneously, the latter in the Birmingham Age Herald, and special trains rushed the two papers one into Birmingham the other into Atlanta.

Parties having barren mares, or cows, or irregular breeders, will learn something to their advantage by addressing H. W. CAMPBELL, Racine, Wis. Box

BEECHAM'S PILLS cure sick headache. B

CATARRH—CATARRHAL DEAFNESS—Hay Fever—A New Home Treatment.

Sufferers are not generally aware that these diseases are contagious or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on application by A. H. DIXON & Son, 337 and 339 West King st., Toronto, Canada.—Christian Advocate.

Sufferers from Catarrhal troubles should carefully read the above.

CARLOADS OF ORGANS

Are being shipped daily from the Cornish Organ factory, situated at Washington, New Jersey. This firm started a few years ago manufacturing instruments on a small scale, but when the superior qualities of their organs became known, their trade increased with such rapidity that it necessitated the building of additional factories, until to-day they have one of the largest and best equipped institutions upon the face of the globe. They are entirely responsible financially and enjoy an enviable reputation as organ manufacturers. Send for their handsome illustrated catalogues. Always address Cornish & Co., Washington, New Jersey.

MR. GLADSTONE'S

Second contribution to THE YOUTH'S COMPANION deals with an American subject, Motley, the Historian and Diplomat," whose characteristics he sets forth with remarkable vigor and simplicity. Mr. Blaine has written an article on "Our Government" for the same periodical.

TO OUR SUBSCRIBERS.

THE SPECIAL ANNOUNCEMENT which appeared in this column some time since, announcing a special arrangement with Dr. B. J. KENDALL Co. of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby subscribers were enabled to obtain a copy of that valuable work FREE by sending to the above firm their address and inclosing a two-cent stamp for mailing, remains in force for a limited period. All should avail themselves of the opportunity of obtaining this valuable work. To every lover of the Horse it is indispensable, as it treats in a simple manner all the diseases which afflict this noble animal. Its phenomenal sale throughout the United States and Canada, make it a standard authority. *Mention this paper when sending for "Treatise," and address with care,* Dr. B. J. KENDALL Co., Enosburgh Falls, Vt. 50t-13

Farm Produce Markets.

Albany Markets—Nov. 18.

FLOUR.—The Argus says: Receipts and business were quite good, and market firm.

	Low. Nov. 16	Low. Nov. 9	Low. Nov. 2
Com. Grade	$4.00@4.20	$3.90@4.10	$3.90@4.10
State Extra	4.30@4.50	4.20@4.40	4.20@4.40
Amb. State & W.	4.30@4.50	4.20@4.40	4.20@4.40
O., Ind. & Ill. Ex.	4.30@4.75	4.20@4.75	4.20@4.75
Winter W. Ext.	4.10@4.75	4.10@4.75	4.10@4.75
Minn. "Bakers"	4.30@4.70	4.20@4.70	4.20@4.70
Sp'g W. Ext., new	4.30@4.60	4.20@4.60	4.20@4.60

Rye Flour still selling fairly, and rather more firm at $3@3.10 per bbl.; Graham, $3@3.25. Oat Meal dealing moderately well at $4.50@4.60 per bbl. Corn Meal in good demand and steady at $2.40@2.50 per bbl. Buckwheat flour in good supply and steady demand at $1.70@1.80 in street, and $1.60@1.65 per 100 lbs. in store.

GRAIN.—Corn stronger, with fair demand. No. 2 yellow, 46½@46¾c. per bu.; No. 2 mixed, 45½c. Oats firm, business good: No. 2 white, 29½@30c.; No. 3, 29c. Rye in free receipt and steady: State, 53½@54c. per 56 lbs. Barley quiet; two-rowed State, 56c.; six-rowed, 51½@52c.

HAY AND STRAW.—Receipts light, demand good. Timothy, prime, $14@14 per ton; good, $13@14; mower, $10@11; mixed, $11@11. Rye straw, best, $11@13; oat straw, $7@10; wheat straw, $10.

HOPS.—More buying for export.

N. Y. State, 1888	18	@19c.
N. Y. State, 1887	9	@10
Pacific Coast, 1888	16	@18
Bavarian and Bohemian	30	@35

Albany Street Market—Nov. 18.

BUTTER.—Choice, 26@28c. per lb.; good to prime, 24@26c.

EGGS.—Near-by and new laid, 24@25c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 9@10c. per lb.; forequarter, 6½@6¾c.; mutton, carcasses, 7½@8c.; lamb, hindquarter, 10@11c.; forequarter, 9½@10c.; veal, hindquarters, 9@10½c.; forequarters, 7@8c.

POULTRY.—Fowls, 10@11c. per lb.; chickens, 12@15c.; turkeys, 14@16c.; spring ducks, 12@14c.; green geese, 9@10.

FRUIT.—Apples, $2@5 per bbl.; Cranberries, $2.75@3 per crate; Grapes, Concord, 4@5c. per lb.; Catawba, 8@10c.; Niagara, 10@11c.; Pears, $1@4 per bbl.

VEGETABLES.—Celery, 5@10 per bbl.; Cabbage, $3@4 per 100; Carrots, 30c. per bu.; Celery, 30c.@$1 per doz. bunches; Cauliflower, $1.50@2 per doz.; Onions, $1.75@2 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, $1.60@1.80 per bbl., sweet, $4@4.25; Squash, 1½c.@2½ per bbl.; Tomatoes, 40@50c. per bu.; Turnips, $1 per bbl.

New-York Markets—Nov. 16.

BEANS—Marrow, 1889		2.05	@ 2.10
Medium, 1889		1.90	@ 2.00
Pea, 1889		1.80	@ 1.85
COTTON—	(Uplands.	N.O.& Gulf.	
Ordinary, per lb	—	@ —	@ 7½
Middlings	10½@ —	@ —	@ 11½
Fair	11½@ —	@ —	@ 11¾
EGGS—State and near-by, per doz		27½@	28
Western and Canada		27	@ 28
FLOUR—Spring Wheat pat., per bbl		4.60	@ 4.80
Winter		4.35	@ 4.55
No. 2 Extra State and Western		3.55	@ 3.80
No. 2 extra		3.25	@ 3.40
Minnesota clear		3.75	@ 4.00
Straight		4.00	@ 4.30
Rye Flour, superfine		3.00	@ 3.25
Buckwheat		1.60	@ 1.70
Corn Meal		2.00	@ 2.05
FRUIT—Apples, Bay, per bbl		1.50	@ 2.10
King		2.75	@ 3.25
Baldwin and Greening		2.50	@ 2.60
Baldwin and Green, western		2.25	@ 2.75
King, western		2.25	@ 2.35
Cranberries, Cape Cod, per bbl		7.25	@ 8.00
Jersey, per crate		1.00	@ 2.25
Grapes, Concord, per basket		15	@ 20
Catawba		15	@ 20
Isabella		20	@ 25
Lemons, Fla., per box		3.00	@ 4.00
Oranges, Fla., bright		3.00	@ 3.50
Mussels		—	@ 2.00
Hickory nuts, per bush		1.75	@ 2.00
Peanuts, per qt			@ 2
Dried—Apples, evap., 1888, per lb		9	@ 10
Evaporated 1888		7	@ 8½
Sliced, 1888		6	@ 6½
Peaches, sun-dried, 1888		6@8	11
Evaporated, 1888		8	@ 10
Plums, Southern Damson, 1888		—	@ 7
State, 1888		8	@ 9
Cherries		9	@ 12
Blackberries		5	@ 5½
Huckleberries, 1888		12	@ 12½
Raspberries, evap., 1887		22	@ 24
Sun-dried		12	@ —
GRAIN—Wheat, State white, per bus		—	@ 57
Ungraded spring		57½@	59½
No. 1 red, winter		59	@ 60
No. 2 red, winter		56½@	57
Corn, No. 2, white		—	@ 43½
No. 2, mixed		41½@	41¾
Oats, No. 2, white		34	@ —
No. 2, mixed		28½@	29
Rye State and western		57½@	57½
Barley, State and Canada		70	@ 72
Buckwheat		49	@ 50
HAY—Timothy, choice, per 100 lbs		80	@ 85
Shipping		60	@ 70
Clover		60	@ 65
Straw, long rye, No. 1		65	@ 70
No. 2		55	@ 60
Oat		35	@ 40
Wheat		30	@ 50
HONEY—White clover, per lb		13	@ 14
Buckwheat		10	@ 11
HOPS—N. Y. State, 1888, best, per lb		12	@ 20
Best, 1888		10	@ —
Common to fair		7	@ 9
California, 1888		8	@ 11
Washington, 1888		11	@ 13
German		27	@ 31
POULTRY—Live fowls, per lb		9	@ 10
Spring chickens		9	@ 12
Turkeys		9	@ 10
Ducks, per pair		60	@ 85
Geese		1.25	@ 1.60
Dressed fowls, per lb		9	@ 11
Fowls, spring		12	@ 13
Chickens		8	@ 13
Turkeys		7	@ 10
Ducks, eastern, spring, per pr		70	@ 75
Western		60	@ 70
Geese, western		50	@ 60
PROVISIONS—Beef hams, per bbl		12 00	@ 12.50
India, new		14 00	@ 15.00
Hogs, dressed, per 100 lbs		5 00	@ 7 75
Lard, per tierce		6.00	@ 7.15
Pork, new mess, per bbl		11 00	@ 11 25
Short clear		11 50	@ 12.50
Family		12 00	@ 12.50
VEGETABLES—Cabbage, L. I., per 100		3.00	@ 4.00
Carrots, L. I		1.00	@ 1.50
Cauliflower, L. I. & Jer., per bbl		1.00	@ 4.00
Cucumbers, Fla., per crate		1.00	@ 3.00
Celery, L. I., per doz. bunches		50	@ 1.00
State and Western, per doz. roots		15	@ 20
Green peas, Southern, per crate		1.00	@ 2.00
Sea plant, Fla., per bbl		2.50	@ 4.50
Onions, eastern, red, per bbl		2.50	@ 3.00
Orange County, red		1.00	@ 2.50
State, yellow		1.50	@ 2.00
White		2.00	@ 4.00
Potatoes, Eastern, per bbl		1.75	@ 2.00
State		1.15	@ 1.80
Western		1.35	@ 1.60
Nova Scotia, Harvest			@ 1.80
Scotch, per sack		1.00	@ 1.15
German		1.00	@ 1.10
Sweets, per bbl		2.00	@ 3.25
Squash, Hubbard		1.00	@ 1.25
Marrow		75	@ 1.00
String Beans, Southern, per crate		1.00	@ 1.50
Turnips, Russia, L. I., per bbl		60	@ 70
Russia, Canada		55	@ 60

Cattle Markets.

NEW-YORK, Nov. 16.

BEEVES.—Receipts, 11,676 head. The week opened with a slow demand and a steady tone in values. Wednesday the weather, which was warm and wet, so seriously hindered trade that values declined 1@c. per cwt., on a moderate supply. Friday the weather became cool, and the tone of trade improved; values were steady. The herds in general were of coarse quality, ranging from poor to fair. There were no Spanish or half-bred herds offered. Grade steers were readily taken for export.

(For canal, rail.)	This week.	Last week.
Good beeves	$4 20 @ —	$4 30 @ —
Fair	4.00 @ 4.20½	4.00 @ 4.27½
Coarse	3.75 @ 4.00	3.90 @ 4.00
Poor	3.40 @ 3.75	3.60 @ 3.87½
Oxen	2.50 @ 4.00	2.50 @ 4.00
Dry cows	1.50 @ 3.25	1.50 @ 3.10
Bulls	1.75 @ 3.25	1.75 @ 3.10
(For canal, cwt.)	This week.	Last week.
Good beeves	$4 20 @ —	$4 30 @ —
Fair	4.00 @ 4.20½	4.00 @ 4.27½
Coarse	3.75 @ 4.00	3.90 @ 4.00
Poor	3.40 @ 3.75	3.60 @ 3.87½
Oxen	2.50 @ 4.00	2.50 @ 4.00
Dry cows	1.50 @ 3.25	1.50 @ 3.10
Bulls	1.75 @ 3.25	1.75 @ 3.10

MILCH COWS.—Receipts, 94 head. There were no fresh arrivals on Monday last, when the tone was very dull. Wednesday the arrivals were heavy, and 21 cows were sold at $30@47 per head; Friday one cow with calf sold for $60 the lot.

VEALS AND CALVES.—Receipts, 1,773 head. There has been no change in the tone of the markets, which are steady on a light supply. The State calves to hand are coarse and lean, being below the quality of western calves offered in competition. Range of prices: Calves, grass-fed, 3@3½c. per lb.; part meal-fed, 4@4½c.; western calves, 5@5½c. Veals, coarse and lean, 6@6½c. per lb.; of fair quality, 7@7½c.; a few selected 8c.

SHEEP AND LAMBS.—Receipts, 26,913 head. The week opened with a steady tone in sheep, and a recovery of ½c. per lb. in lambs. Wednesday sheep remained unchanged, while lambs declined ½c. per lb. Thursday trade was steady; Friday the markets closed unchanged. Range of prices: Sheep, sell@4c. per lb.; cull sheep, 2½@3½c. Lambs, 4@6½c. per lb.; cull lambs, 4@c.

SWINE.—Receipts, 17,739 head. The weather has been most unfavorable for trade, so that on Monday last when 36 loads were offered, none were sold. Wednesday there were no live hogs for sale, and values were off ½c. per lb.; Thursday 17 State hogs sold at $4.35@4.40 per cwt.; Friday the tone improved, and four car loads were held on sale.

BUFFALO, Nov. 16.

BEEVES—(For canal, cwt.)	This week.	Last week.
Extra steers	$4 40@4 75	$4 40@4 75
Best butchers'	4.00@4.30	4.00@4.25
Second quality	3.60@3.90	3.60@3.90
Poor to common	1.75@3.40	1.80@3.40
Stockers, light	2.00@2.90	2.10@2.45
Stockers, good to choice	2.40@2.75	2.60@2.90
Bulls	1.75@3.75	2.25@3.60

Receipts, 4,200 head, against 14,450 last week; market opened easier, all classes of buyers purchasing liberally. Experts took all the offerings at quotations, and good handy butchers' steers, 1050 to 1300 lbs., were also well cleaned up, but common to fair steers and thin cows and heifers were too plenty, with quality no rule even poorer than last week, closing firm with prospects better for next week; export sellers asking $4.60@4.75. Receipts of stockers exceeded last week's; mostly thin, for which there was little demand; heavy sold readily at quotations. Bulls demoralized; fair to good lots of massage and and butchers' selling down to $1.85@2; export, $3.50@3.75.

MILCH COWS.—Choice milchers and early springers were wanted, few on sale; bulk common thin dairy which were very dull. Extra sold at $50@60, good to choice, $40@45; common to fair, $18@22.

CALVES—Veals, extra, 6½; fair to good, 5½@6; heavy, 3½@4.

SHEEP AND LAMBS.—Receipts 25,000 head. The price of choice sheep here is generally considered to 50c. west buyers head off; still all the offerings of good mixed droppers were sold, and common shell; straw ewes and wethers wanted at $4.65@4.75. Extra sheep, $5.15@5.35; 90 to 95-lbs., $4.90@5.05; common to fair, $3.25@4.30. Lambs active; Canada, $5.30@5.45; western, $5.30@5.40.

SWINE.—Receipts 22,400 head; market dull until near closing of week when easier; buyers took hold, closing medium, Yorkers and mixed, all one price, via: $4.10@4.; pigs, $4.10@4.

BOSTON, Nov. 16.

BEEVES, NORTHERN.—Good oxen, dressed, $6.75 per cwt.; fair to good, $5.50; second quality, $5@5.50. WESTERN, Alive—Extra, $4.60; good to prime $4.50; light to fair, $3@4.25.

MILCH COWS—In good supply; best at $70@80 per head.

CALVES.—About 1,600 head at 5@6½c. per lb.

SHEEP AND LAMBS—Nearly 4,000 Canadian: in lots at $3@5 per head; yearlings, 5@6½c. per lb.; spring lambs, 6@6½c.

Dairy Markets—Nov. 18.

ALBANY.—Choice Butter firm; receipts limited; low grades neglected. State creamery, choice, 28@29c.; Western creamery, 26@28c.; State dairy, 26@28c.; fair to good, 24@25c.; Western dairy choice, 26c.

Cheese steady with fair receipts. State factory, full cream, 11½c.; fair to good, 10½@11c.

UTICA.—The change which took place here in the cheese market last Monday was attributable chiefly to the fact that the stock sold was composed mostly of October stock, and was partially skimmed. Transactions amounted to 9,150 boxes at 9½@10c., and even a fraction more on certain fancy goods of full cream make and stamped with the State brand. The ruling was 9c., and was, of course, based on skims. Little Falls sold 6,100 boxes at 10½c., the bulk at 9½c. As was the case the week before, the buyers took a goodly share of the best stock to go to western points, but one buyer, who usually purchases for a shipping house direct, probably to a more stock at the highest prices than any one else on the board. The weather has been a decided turn this week, and has suddenly become really cold for the first time this season. Many of the factories have closed, and others are closing every few days. In New-York the market remains about as before with a tendency to put colored stock a little above white, and quoting the former at 10½c.

Butter met with little change, although it can hardly be deemed worth as much at this time of year as when the cows were getting food in pastures. Sales at Utica were 70 packages creamery at 21½@22c. At Little Falls they were 95 packages dairy at 18@19c.

NEW-YORK.—Best grades Butter continue firm; other grades quiet. Receipts, 10,316 packages. Eastern creamery, 19@23c. Western creamery, 20@25c. State dairy, prime to best, 24@25c. Western dairy, 18@21c. Western factory, choice, 18@19½c.

Cheese in greater demand. Receipts, 4,819 boxes. Factory, best, 10½@10¾c. per lb.; good to prime, 9¾@10c.; light skims, 7½@8c. Ohio flats, 10@10½c.

BOSTON.—Western creamery, extra, 28@30c.; firsts and extra firsts, 26@27c.; factory, 19@24c.; Vermont extra, 28@30c.; dairy, choice, 23c. Eastern creamery good to choice, 19@25c.

Cheese, Northern choice, 10@10½c.; western, 10@10½c.; sage, 11@12c.

Wool Markets—Nov. 18.

ALBANY.—Market firm; sales nearly 70,000 lbs.

Medium washed	30@32	Unwashed	22@24
Fine washed	29@31	Pulled	31@34

NEW-YORK.—Ohio and Penn., 31@32½c.; Michigan, 29½c.; delaine, 31@32½c.; unwashed western, 19@23c.; pulled, 30@33c.; combing, 30@33c.; Territory, 30c.; secured, 36c.; Colorado, 16c.; Oregon, 19@23c.; scoured, 45c.; Texas, 30@32c.; scoured, 45@47c.; California, 19@23c.; Oregon, 23@25c.; Georgia, 31@32c.; Australian, 40@41c.

BOSTON.—The sales reported indicate an improved condition of trade, but chiefly a temporary character. Most of the wool sold has been at lower rates than dealers would have accepted some weeks ago. There has been more inquiry for Australian wool. London sales are unimportant; Antwerp reported firm; advices from Mostcow also discouraging for heavy importation to this country. Sales, 2,670,000 lbs., comprising and foreign: Ohio and Pennsylvania, 31@32c.; Michigan, 30@31c.; combing and delaine, 32@33c.; scoured, 45@50; pulled, 30@35; unwashed, 21@34c.; Territory, 15@36c.; Texas, 30@32c.; California, 19@23c.; Oregon, 23@25c.; Georgia, 31@32c.; Australian, 40@41c.

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The Fireside.

Lessons from a Roadside Pool.

Probably most of my readers have at some time or other noticed the green scum that so often covers the pools and ditches by the roadside, but only to think of it as a sign that the water was stagnant. Did it ever occur to you that in that scum and the mud on the bottom under it is a whole botanical collection, and that a microscope will reveal plants rivaling in beauty and symmetry any in the neighboring wood? If you are fortunate enough to own a microscope, get some of the material and take a glimpse at its hidden beauties. You who have none, take a look through my glass and see what you can learn.

Here we shall find plants of almost all sorts, but let us begin with the simplest. There are plenty of them—plants consisting of a single cell—just little drops of living matter with perhaps a shell around each. If the water is very stagnant we shall see, but indistinctly, myriads of bacteria, those strange little plants on which the blame of so many diseases is laid. They are harmless-looking enough, simply little oval or rodlike transparent bodies, so small that only the very highest powers of the microscope will show them clearly. Occasionally a larger and spirally twisted one comes wriggling across the field. What, a plant wriggling? you say. Yes; and not one but many of them, wriggling, swimming and almost crawling! We shall find these bacteria in any stagnant water, and also in the bodies of diseased animals or in any decaying substance.

As we place a drop of the water that looks green under the glass we find that it is filled with elegant green crescents, each gracefully shaped and filled with a bright green material, the same that gives their color to the leaves. We can see that there is a slight separation of the green material across the middle of the crescent, and at each end is a little pale brown cavity in which a great number of tiny specks are boiling and whirling. This is one of the plants known as Desmids, and it belongs to the group which go by the name of closterium. It does not move very rapidly, but will probably shift somewhat while we are watching it. Like the bacteria it consists of a single cell. By searching for a time we may find a closterium which is multiplying. It is a very simple process; the cell just breaks across the middle into two, and each half grows to the size and shape of the parent. This is the common process with all these simple one celled plants. Fig. 1 (a) shows the form of a closterium just

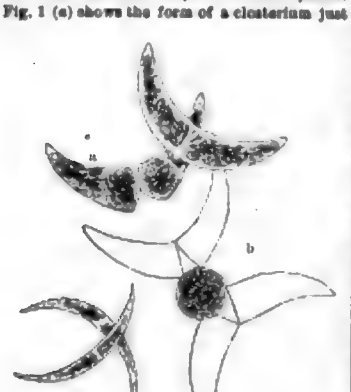

Fig. 1.—*Closterium, showing Six Modes of Reproduction: a, dividing; b, two cells conjugating.*

after this division, and next to it is a drawing (b) illustrating another way it has of multiplying. The outer wall of two closteriums near each other breaks, and the contents of the two cells flow together; this mass becomes rounded, and after a time develops into a new plant. The process is called "conjugation," and is common not only among the desmids but in many higher plants.

Beside these closteriums we shall find many other members of the great desmid family. Some are shaped like diminutive green dumbbells, and have the outer shell fluted or covered with minute knobs or prickles; others are almost oval, with hardly any constriction in the middle. Another looks like two triangular blocks joined by a stalk. The outside is marked with granulations which add greatly to its beauty. Among the most striking are several species of pediastrum. The most common species is that shown near the bottom in fig. 2, consisting of a number of green cells held together by a transparent mucilage. The cells are arranged in regular order around one which forms the centre, and each cell is deeply divided. You would hardly suspect it to be a plant, but it is. Another species has just four of these two-lobed green cells. This is not so common. In these forms each cell is really

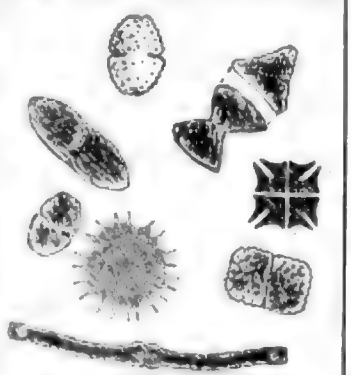

Fig. 2.—*Group of Desmids highly magnified.*

separate, but they are held by the jelly in one family. All these multiply in much the same way as closterium.

Closely related to these plants are the diatoms. We shall always see more or less of these in our pond water. One of the most common forms looks like a small double ended gunboat or monitor, and the resemblance is heightened by the fact that it goes cruising around under the glass, now backing or turning, and again running straight forward till it meets some obstacle. The interior is filled with a yellow substance, and if we find an empty shell we shall see that the outer surface is covered with fine dots and lines. These shells are of the same material as flint, translucent or white, and the engraving on them is often of wonderful beauty, and of almost inconceivable fineness. Very high powers of the microscope show the lines to be really rows of perforations, in some hardly more than a hundred-thousandth of an inch apart.

If we could separate the shell we should find that it consists of two valves, which either just meet at their edges, or fit one over the other like the two parts of a pill box. It is this shell which is so wonderfully marked. It seems very strange to see these little bodies go sailing through the water, and the manner of their motion is a mystery which has not yet been solved to the satisfaction of all. There are two explanations given; one is that there are minute holes in the shell, and that water is drawn in at one end and forced out at the other, thus producing motion. Other observers claim that through holes some of the soft interior is thrust, and that the motion is a creeping rather than a swimming.

Some of the diatoms are composed of a great number of narrow strips joined in plates, and the motion of some of these is a puzzle. One species looks like a solid plate and you fancy that the strips are joined along their sides, but just then they begin to slide past each other till they form a long chain, each clinging to the next by one corner. Then, before you have solved that, they are back in the tabular form, but each has slipped a little past the next along the edge, so that they resemble a spiral staircase more than anything else.

The diatoms multiply in much the same way as the desmids, and perhaps we may see some of them under the microscope dividing. Of course when they divide each takes half the shell, and as it grows a new valve fitting *inside* the old one, one set must be continually diminishing in size. After a time this process ceases and the diatom either sheds its shell and grows a new one, or else conjugation between two takes place, as in the desmids.

They are found more or less in almost all waters, salt and fresh, and even in boiling springs. Fig. 3 shows the shells of several species from the water supply of Chicago. Of course they are not harmful unless they exist in enormous quantities. One sometimes finds a brook with its bed thickly coated with the brown slime containing them. They are also found in fossil forms in various parts of the country, and in immense quantities. In Virginia there are beds nearly fifty feet in thickness, and others in California. In the Yellowstone park it is said that one can see these beds in process of formation, the mud of certain swamps being composed very largely of the shells of species which are swarming in the surface water.

One could hardly fancy any plant simpler

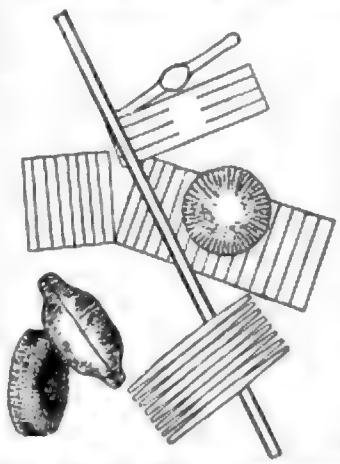

Fig. 3.—*Diatoms from Chicago Water Supply, highly magnified.*

than these, though there are some so simple that it is almost impossible to tell whether they are plant or animal. Some readers may have been wondering why we call these plants rather than animals. That is a hard question to answer. Perhaps the best reason is the nature of their food and their respiration, though it must be said that unless their relationships and such facts are taken into consideration, there is little reason for one name more than the other.

L. H. J.

Preparations for Christmas.

One of the most pleasant features of the unique boarding house of Madame Y——, so unlike all other boarding houses with which I have any acquaintance in this great city, is its Christmas club. Twice each week during November and December it meets in the dainty, home-like parlor, and its members devote the hours between luncheon and dinner to the making of Christmas offerings of love and good will for their respective relatives and friends.

Chamois is a favorite material this year, and many are the exquisite articles fashioned from it. The color is so delicate and neutral that it blends harmoniously with almost any shade or color of ribbon; it can be embroidered or painted, or etched in India ink. The members of this club are helpful to each other in various ways. Ethel C. paints with skill, and Mattie S. has a deft hand at embroidery, which gifts, in return for something else, are often at the service of their neighbors. An exquisite case for photographs is made of a piece of chamois skin something larger than the cabinet size of photograph in order that it may accommodate a number of pictures. It is in the form of a sealed envelope with one end cut open. It is lined throughout with pale green silk, with a very thin interlining of wadding sprinkled with sachet powder. It is painted with a spray of bittersweet on the flap of the envelope, with a bit of the vine trailing down over the lower right hand corner, and around to the back. The words "Hidden Treasures" are done across the lower left hand corner in India ink. The edge is finished with a fine silk cord. A case for postal cards might be made in like fashion. A chamois sachet bag has blue convolvulus painted on it, and is tied with a blue ribbon. The top and bottom are finished with a fringe made by cutting the chamois in narrow strips for an inch.

A glove-box (one of the favorite possessions of most young girls) is composed of two pieces of pasteboard, 8 by 18 inches. That for the bottom is covered on one side with yellow silesia, on the other with a layer of perfumed French wadding, over which a rich shade of soft cardinal silk is slightly fulled, the edges turned in and neatly blind-stitched to the silesia, which has been turned over to meet it. The piece for the top is covered on the outside with chamois, across which is sewn diagonally a rather heavy cardinal silk cord; in the upper right hand corner a spray of mistletoe, with its deep red berries, and thorny leaves of dark olive green is embroidered in silk. In the lower left hand corner is lettered, "For that pretty white hand of thine." Now these two pieces are made into a box in the most novel fashion. Large brass rings, an inch in diameter, are crocheted over with silk of the same shade as the leaves of the mistletoe, and very firmly all around the edge of the pasteboard intended for the bottom, and then joined each to the other so as to form a box like inclosure. Through these is run ribbon of the shade of the berries and lining, in and out, so as to entirely fill the open centre of the rings.

A scarf for a chair back, but quite too handsome to be desecrated by the touch of a head, is made of gendarme blue plush with a broad band of chamois about an inch from either end. On this band is stamped a design of large conventionalized black-eyed Susans. The open petals of these are couched in a heavy rope silk of a golden color, and a circle with the same is made in the centre, which is thickly filled in with French knots in heavy dark brown silk. The chamois between these flowers is then cut away, leaving the silk for a ground. It is edged with little silk tassels of gendarme blue, gold and dark brown.

Chamois and tissue paper are the two inexpensive materials which seem to have caught the fancy of these fashionable ladies who are not limited in their expenditures.

The most exquisite necktie case, having paper cases, handkerchief boxes and many other articles, are made from these paper. One set is in white and gold, and is intended for a young married friend whose bedroom is furnished in these two colors. For the handkerchief box, take an ordinary box such as letter paper comes in, about ten by seven inches. The flap must be removed from the cover at the back, so that it may be made to open and shut like a lid. This can be done by glueing a stout strip of muslin to the box and its cover in such a way as to give play to the latter. No stitches are taken in this work; it requires only neatness and glue—mucilage will not answer. First cover the bottom of the box inside and out with tissue paper—yellow for the outside, white for the inside—laying a sheet of wadding sprinkled with a sachet powder under the latter. The edges are simply turned in and glued together neatly. Line the cover of the box, and raise the upper side into a sort of a cushion with wadding. Cover this with the white paper, with corners of yellow, or diagonally with half yellow and white; then stretch across diagonally a rich moire ribbon with a picot edge, of course gold in color, on which is lettered "Mouchoirs." A bow can be placed in the middle or at the upper right-hand corner. The necktie case is eight by twenty inches. It is not a box at all, but simply made of two pieces of pasteboard covered in like manner, with the upper piece an inch and a half wider than the lower, to admit of its being curved. It is crossed with a yellow ribbon, on which is lettered the word "Neckties." Before working up, the sheets of tissue paper must be tightly twisted, and then lightly shaken out; this gives it a look like crêpe cloth. Two shades of green or of blue are very effective in work of this kind, and certain shades of red and gold combine well. It may be supposed that this work is very fragile and destructible, but such is not the case. It wears quite as well as silk or plush, and does not fade as readily.

A handkerchief sachet is made of brocaded satin, with a cream ground, and a pattern of small flowers in faint peach color. The flowers were outlined with gold rope silk couched down with fine silk of the same shade, and were veined with silk in shaded pink. It was lined with soft silk of shell pink, wadded and perfumed and tied with ribbon of the same shade.

The babies are not forgotten, and two especially pretty afghans deserve mention. They are made of heavy white cloth or flannel called elder down. One has a heavy white silk cord sewed all around the edge. A bouquet of wild grasses and fine pink flowers was quickly worked in the centre with ribbonsoe of pink and shaded greens, arrasene being also employed effectively here and there. A large bow and ends of white satin ribbon, with the ends painted with grasses, is fastened a little above the centre on the right. The other has yellow silk cord, yellow daisies worked with ribbonsoe, and a bow of yellow ribbon.

Yellow, by the way, is the fashionable shade for fancy work and decoration. All sorts of baskets for the parlor and sitting room are half hidden in great splashes of ribbon that look like molten gold, sometimes like pale refined gold, and again of a barbaric red tinge that is very warm and effective.

ALICE CHITTENDEN.

Domestic Economy.

Thanksgiving Dinner Accessories.

PLAIN FORCEMEAT FOR CHICKEN OR TURKEY.—Into a bowl break in small pieces three teacupfuls of stale bread, add four ounces of butter, one teaspoonful of salt, one-fourth of a teaspoonful of white pepper, the grated rind and half the juice of one lemon, and two tablespoonfuls of either powdered sage, parsley or thyme; moisten and bind together with the well-beaten yolk of two eggs.

GIBLET STUFFING.—These consist of the head and neck, the loin, heart, gizzard and immature eggs. Boil until tender, remove all bones and cartilage, and chop. Break into small pieces two teacupfuls of stale bread, season highly with salt, pepper, butter, and any powdered sweet herb preferred. Mix thoroughly with the chopped giblets and the well beaten yolk of an egg. Some people also prefer an additional seasoning of onion, but this should be avoided unless you know the tastes of your guests.

Sweet potatoes, either baked or boiled, and mashed very smoothly, then seasoned highly, make a stuffing very highly prized by some.

A DELICIOUS FORCEMEAT.—Is also made by adding a dozen chopped oysters to the plain bread forcemeat above. French cooks make a delicious forcemeat of boiled chestnuts. Remove the shells and skins, put in a stew-pan and season highly with butter, salt and pepper and parsley.

CHICKEN PIE.—Cover the fowls with boiling water and let them boil until tender. Take them from the fire and let them cool in the water in which they were cooked. When cold, free from the bones and skin. Spread evenly in a pudding dish, seasoning with butter, salt, pepper, and some of the broth in which the chicken was boiled. Sift two teaspoonfuls of baking powder through a quart of flour twice; with a large spoon stir it into a rather stiff dough by the addition of sweet milk, and add two tablespoonfuls of melted—not hot—butter. Spread evenly over the top of the chicken and bake 25 or 30 minutes. Rub two tablespoonfuls of flour smoothly in a little cold water, and thicken the remaining broth into a rich gravy.

CHICKEN CROQUETTES.—Chop fine the meat of a roasted or boiled chicken. Season with salt and pepper and moisten with its own gravy. Shape into small oval cakes. Dip first into well beaten egg, then roll in either cracker or bread crumbs and fry in hot butter.

CHICKEN SALAD. — Boil one good sized chicken until tender; let stand in the water in which it was cooked until cold. Pick up rather coarsely with a fork; cut fine with a knife three heads of celery, and chop fine one-half an ordinary sized head of cabbage and mix the two well together. Make a dressing of half a teacupful of vinegar, butter the size of an egg, stirred to a cream with the vinegar; one tablespoonful of mustard, one of salt, one-half a teaspoonful of equal parts of white and cayenne pepper, and three eggs. Mix the mustard, salt and pepper smooth with a little vinegar, beat the eggs light, add the vinegar and seasoning; then boil in a farina boiler to the consistency of thick cream. When thoroughly cold, stir through the chicken and celery carefully and serve.

CABBAGE SALAD.—Half a teacupful of vinegar, two-thirds of a teacupful of sugar, two tablespoonfuls of butter, one tablespoonful of flour, a pinch of salt, and two eggs, well beaten; put all the ingredients in a double boiler and boil, stirring it constantly until smooth and thick. When perfectly cold, pour over half a head of cabbage which has been chopped very fine. Boiled onions should have the water nearly evaporated from them when done, and one teacupful of warm sweet milk added, with butter, salt, pepper, and one tablespoonful of flour rubbed smooth in a little cold milk. Squash are much more delicious baked than when they are boiled. Break in two or three pieces, remove the seeds, put in a dripping-pan with one teacupful of water, and bake. When done, scrape out of the shell with a spoon, and strain through a vegetable strainer or mash, seasoning with butter, salt, pepper and cream.

APPLE PIE.—The secret of making flaky, crispy pie-crust, consists in having the lard and water both very cold, and in handling as little as possible. Do not attempt to make it smooth; roll in what flour is actually necessary to prevent its sticking to the board, but on no consideration knead it. Never slice an apple for pies; pare, quarter and core, then lay smoothly on the bottom crust. Season with sugar, a piece of butter the size of a walnut, placed around in small bits, a little water, and whatever you prefer for flavoring. Be sure to cut two holes in the upper crust for the escape of steam. The quantity of sugar and water required must be regulated by the tartness and juiciness of the apples. When ready for the oven, sift one tablespoonful of sugar evenly over the top, and bake.

PUMPKIN PIE.—In preparing pumpkin to stew do not cut it up into inch-square pieces, but cut it from the pumpkin an inch thick; pare and leave the pieces as large as your kettle will accommodate; stew with only enough water to prevent burning. In half an hour remove the cover, stir thoroughly, and add a piece of butter the size of a walnut; one tablespoonful of sugar and a quarter of a teaspoonful of salt for each pie. Leave uncovered, cook slowly for two hours longer, stirring often to prevent burning. Rub through a colander, and when cold take for each large pie four tablespoonfuls of pumpkin, two tablespoonfuls of sugar, a quarter of a teaspoonful of ginger, a quarter of a teaspoonful of ground cinnamon and mace combined, the well beaten yolk of two eggs and two teacupfuls of milk. Bake in a hot oven, and when done put on top a frosting made of the whites of two eggs, one tablespoonful of sugar; flavor with a hint of cinnamon and brown slightly.

THANKSGIVING CAKE.—One pound of sifted flour, one pound of white sugar, one pound of butter, two eggs, one teaspoonful each of cinnamon, mace, cloves, allspice, one ounce extract of rose, one-half a teacupful of New-Orleans molasses, one-half teaspoonful of soda dissolved in boiling water, two pounds of currants, one pound of stoned raisins and one-half a pound of thinly sliced citron. Line the mould with buttered paper, and place the citron in evenly as the dough is being put in. Bake one hour and a quarter in a slow oven. Make a thick, white frothing flavored with vanilla or lemon.

CRANBERRY SAUCE.—Carefully pick over and wash one quart of berries, put in a porcelain lined kettle, with one pint of hot water. Stew till tender, then rub through a colander, adding one pound of granulated sugar while hot, stirring thoroughly.

If berries are scarce, four tart apples, pared, quartered and cored, can be added to each quart of fruit without materially changing the flavor.

CRANBERRY JELLY.—Use only enough water to stew the berries; strain through a colander, and, when boiling hot, add an equal quantity of hot sugar; boil until a little will jelly on trial. Dip the moulds in very cold water, and let stand 24 hours before using.

KATHERINE B. J.

Holiday Feasting.

Some Old-Time Reminiscences.

"Aunt Patience," and pretty Mollie Brown settled herself comfortably on a hassock at the old lady's feet, "won't you tell me something about Thanksgiving in the old times? Mr. Brown said last Thanksgiving that turkey had ceased to be turkey, that one could not think of it with pleasure beforehand, nor eat it with satisfaction. Then he always talks about the Thanksgivings at his mother's house in Guilford, and so John said that before we went to housekeeping and had any Thanksgiving dinners of our own, we would just go and visit Aunt Patience and find out the secret of those wonderful feasts that papa is always talking about."

Aunt Patience Pynchon was the youngest of seventeen children that had once made the old house merry. She was fond of telling the Scripture names of her sixteen brothers and sisters, and how when she made her appearance her mother named her Patience, and accounted for breaking her rule of Scripture names by saying that under the circumstances she thought Patience was a Christian virtue. She was the only one of all the seventeen alive to witness the 250th celebration of old Guilford, at which Mollie and her husband were going to be present as descendants of one of the oldest and best of New-England's many illustrious families. She was a pretty, little old lady, with bright black eyes, and although over ninety, was one of the brightest and best informed ladies that you would meet in all the town.

"Well, child," said the old lady, "one reason why people now-a-days enjoy neither the anticipation, realization nor remembrance of a holiday, dinner, is because they live like Thanksgiving all the time. Our Sunday dinner, and indeed many of our week-day dinners, are as much in the nature of a feast as were the holiday dinners half a century ago. Now let me give you a bit of advice. When you go to housekeeping, just keep John on short-commons for a month before Thanksgiving, and he will enjoy the smell of the roasting turkey to the utmost. Still, there is no doubt about it," and here the old lady fell into a retrospective mood, and from behind her spectacles seemed to be looking backward into a dim and shadowy past, "there is no doubt but that things did taste rather differently when the meats were roasted at an open fire and the pies and puddings baked in stone or brick ovens."

"But, Aunt Patience," and Mollie stroked the old lady's soft, warm hand with a gentle, soothing motion, "just try to give me some idea of what you had for dinner. Did you have oyster soup?

"No, no; at least the Pynchons never did. Why, we sometimes had thirty to sit down at the table, and soup would have been cold before it could have been served. We didn't have any courses, either. Everything was just put on the table at once. We had *tables* in those days, and not such narrow, inhospitable-looking affairs as people have now. In the first place, almost everything was cooked the day before, except the turkey, spareribs, goose and roast beef; for if we lived plainly before, we made up for it at such times, I can tell you. We used to cut up six chickens for the pie and parboil them. Then a great pan was lined with crust an inch thick, and the chicken was put in and seasoned with butter, pepper and salt. Don't add any juice until the pie is done, and then pour it through the hole in the top crust. When cold, this turns to jelly, and it is good for a week. But you must be sure to have a hole in the top crust for the gases to escape. I read the other day of a whole family that had been poisoned, and the only thing they had all eaten of was chicken pie. Now you can be sure that that pie had no hole in the top crust. Then we had fricasseed chickens besides, and there is no use in telling you how the dumplings were made, because you use either prepared flour or baking powder, and in those days such things had not been heard of. We used soda and cream tartar, but they wouldn't be safe in the hands of such a servant as I have in my kitchen." It was quite evident to Mollie that Aunt Patience and the modern servant girl mixed about as well as oil and water.

"Did you have applesauce for the spareribs?" asked Mollie.

"Yes, but that too is a lost art. It was made of cider boiled down, with apples and quinces, and it was boiled all day, and stirred every minute of the time too. How did we stuff a goose? Well, with sage and onions, but the onions were boiled soft first, and mashed with boiled milk and a few bread crumbs. It is important to boil the milk first. Of course we had cranberry sauce and mashed potatoes and turnips, onions boiled and seasoned with milk, butter, pepper and salt, and sometimes squash also. We had white bread and rye bread. Nobody makes real rye bread now. They don't use Indian meal enough."

"But you haven't said a word about pies," suggested Mollie.

"Pies!" and the old lady chuckled to herself. "Oh, yes, we had pies. There was one lady who had thirty-two kinds of pie, and she had to make the thirty second out of potatoes. Tell you all the different kinds of pies she had? La! child, I couldn't remember them, even if I ever knew them, but we used to have pumpkin, mince, apple, quince and apple, cranberry, dried raspberry, huckleberry, peach, currant and gooseberry tarts, custard, lemon, barberry, cracker and Marlborough pie. Now I dare say, my dear, that you and John would like that last. Take equal quantities of stewed apples, thick, sweet cream and sugar, and to a pint of the mixture add six eggs, and the inside of one lemon chopped with the peel grated. Bake in open shells of paste. I don't believe you ever made a lemon pie exactly like the one Mother Pynchon used to make either. Cut two large lemons in slices and take out the seeds, then chop them fine; seed one pound of real fine dark-purple Malaga raisins (cooking raisins won't do), add two cupfuls of molasses, one of sugar, a handful of flour, and almost a quart of water. Let this stand over night before you bake it. What do I know about pastry? Well I know that you make it very differently in these days. We always used lard, but we tried our lard out ourselves. The old-fashioned test to know when lard was ready to be strained was when the scraps were settled to the bottom. No, I didn't measure or weigh. I just went by guess, and I didn't use ice-water, and I didn't roll the dough out three or six times, and I don't see but what we had better pies three quarters of a century ago than now."

The old lady was loyal to her day and generation. Mollie mentioned pickles and Aunt Patience went on her retrospections. "We had cucumbers, beans, peppers and onions pickled, and sweet pickles and preserves. There was always coffee and tea, and to finish up with, hickorynuts, butternuts and blackwalnuts, apples and pears, and a great flip bowl full of home-brewed ale. It was sweetened, and just before we were ready to drink it a hot iron called a 'flip dog' was thrust in it."

"Really," said Mollie, "if our ancestors used to taste of all these things even once a year, it is no wonder that we are a race of dyspeptics now."

"Pshaw, child, you don't know what you are talking about. We didn't have dinner at six or seven o'clock in the evening. We had it at one in the afternoon, and the guests had ridden far, and sat down with hearty appetites. We did our own cooking in those days and didn't have dyspepsia." Aunt Pynchon's *bête noir* surely was poor inoffensive Norah, whose only fault was that she hadn't lived three-quarters of a century ago.

And then Aunt Patience and Mollie fell to talking of the young folks of three-quarters of a century ago, and the old lady's spectacles glistened with a suspicious moisture as she spoke of handsome David Robinson, who was lost at sea seventy years ago as he was coming home from England, and there was a sympathetic tear in Mollie's own eye, and a gentle pressure of her Aunt's hand, for she knew that this was the reason why John's great-aunt had always been Miss Patience Pynchon.

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The Cultivator and Country Gentleman

Albany, Nov. 28, 1889.

Agriculture in New-England.

THE OBSTACLES WITH WHICH IT CONTENDS AND THE BEST MEANS OF MEETING THEM—SPECIALTIES IN FARMING—MORE CO-OPERATION NEEDED.

EDS. COUNTRY GENTLEMAN—We hear a good deal now-a-days about the decadence of New England agriculture, and it is true that there never was a time when farms in certain localities could be bought as cheaply, but when you come to examine the circumstances under which they are placed on the market it will be found that either one or the other of the following conditions is true, viz., that the location is such that a market is not available, or that schools and churches are not near enough to make it desirable to bring up children on them, or lastly, that the style of farming pursued in their locality is such that it will not pay. The cheapening of general farm products, such as grain, pork, beef, etc., or even such a crop as hay by the so called "bonanza" farming of the West, combined with the low rates of transportation, make New-England farming even at its best a very poor paying business, except in certain localities where conditions are favorable, or where some one has struck a specialty and created a demand for it.

That the soil of New-England is exhausted, I deny. There is abundant proof that the average of crops per acre is as great to-day as it ever was. Statistics show that it is greater than in most of the great cereal-producing states. To be sure the surface in some locations is rocky or uneven, but the soil generally is one that responds to good treatment, and that generously. The *true cause* of this decadence of farm values, in the writer's opinion, is due to several reasons, which may be summed up by saying that we are "*behind the times.*" Let us specify:

1. The town roads of most agricultural townships are a disgrace to this civilized age. They are no better, may even worse than they were a hundred years ago. The old-fashioned way of repairing them by working out taxes or by contract never will make permanent improvements on roads, and a poor road in a hilly section is a discouragement to good farming. No farmer can compete in general farming and have to draw stuff over six miles of average New-England roads in agricultural towns.

2. The district school system needs a thorough revising; the old system of appropriating money for each district, based on the enumeration of children of a school age, gives so little to some farming districts that it is impossible to have a school, or hire a teacher that can teach properly the three R's—reading, writing and arithmetic. A thorough revision of the school system in New England is necessary to its salvation, by a consolidation of districts and inspection by officers appointed by the State.

3. I claim that the legislation in our States East is against the farmer and in favor of the towns and manufacturing interests. Taxes are so assessed that the farmer often pays on a valuation much greater in proportion than those who live in towns or villages, where they have all the privileges of good schools, churches, mail facilities, &c.—in fact all that goes to make life worth living; and in many farming towns farmers help with their taxes to procure these things, which are no benefit to them, owing to location. The property of people who live in thriving towns is usually salable, while a New-England farmer is generally anchored for life.

Lastly, the writer believes that the working of an iniquitous tariff has done much to discourage and dishearten farmers East. They see a certain class built up by a protection which avails them but little, and are made uneasy by the sight and example of those whose wealth comes largely from the hard earned wages of the farmer. They feel that what they buy in the way of implements, dress, or even the necessaries of life, pays a profit for which they receive no compensation on their products, as these are sold on the basis of "supply and demand."

Under these circumstances, is it any wonder that farming in New-England has not the attractions for its sons and daughters that life in towns, and manufacturing villages has? The isolation on some New-England farms is so depressing that those who have once tasted the feverish town life and acquire a taste for it can never go back to the peace and quietude of the old homestead.

But after all a farmer's life has its compensations, and there is a future for enterprising New England farming. We can see evidences that the tide has turned, and that there is a change going on.

Farmers begin to see that consolidation of interests and combination for mutual protection is necessary for their success. The "Grange" in this State is doing effective work in drawing them closer together, to promote social as well as business interests. It has also made itself felt in the legislative halls of the State, in procuring an appropriation in aid of agricultural education, and in stirring up an interest at the State and local fairs by a combined display of farm products. The "oleomargarine" law, providing that the "stuff" should be sold and branded by its true name, and that sellers and users should, by a conspicuous sign, declare they sold or used it, was passed by the united effort of the farmers.

The growth of the co-operative creamery interests in New England is also due to the fact that it has been found that a combination which allowed the cream to be gathered on a uniform plan and made into butter, made an article which commanded a better price on the average in market than that made by individual dairymen. In towns where the co-operative creamery is established farmers are in easier circumstances and more enterprising, as a systematic gathering of cream shows what cattle are the best for dairy purposes, and also the fact that good care and feed are a great help financially.

The co-operative system is one that can be carried much further, and can be made a great benefit to our agricultural population. It is a system which farmers, perhaps more than any other class, need to avail themselves of. The time has gone by when all that is consumed in the farmer's family can be produced profitably on the farm. The spinning-wheel, the shoemaker's last, or loom, "sap" molasses, or even the supplies of salt pork or beef cannot all be made profitable for each individual. While it pays to a certain extent to produce the food his family consumes, yet in the main it is found that a specialty for which there is a demand is more profitable and satisfactory. This is so true that in certain towns now, the principal product is onions, apples, peaches or small fruits, or in others, dairy products. This attracts customers, for they know where to look for what they want.

The writer for ten years past has been engaged in a business which has brought him into intimate contact with the farming interests in New-England, and at the same time has lived on an ancestral farm, which he has tried to make pay. We have tried to indicate a few of the causes of the decline of New-England farming, and what I believe will be its salvation, and in conclusion would say, that there never was a time when it would pay to invest in Yankee farms as well as to-day, but the purchaser must know what he wants, and buy in a locality where he has a market for his specialty, and where the neighboring farmers are abreast of the times. This being done, he will live in a section where he will not have to endure the deprivations of a frontier life, but will be near the centres of the great population of this country, which alone cannot fail to be of advantage to him.

Many, whose early life was spent on these abandoned farms, where they learned the lessons of industry and economy, can quote with truth Cowper's phrase, (New) "England, with all thy faults I love thee still" On such there rests a duty, to see that New-England *homes* are kept for Americans alone.

Hawthorn Hill Farm, Conn. HENRY SEDGWICK.

Shed Attachment to a Barn.

Locating Stacks Near the Barn.

When the writer was a boy it used to be a common occurrence to have more than a barn full of crops, even when most of the hay was stacked out. Our barn was the largest one in the neighborhood, with a bay on one end running to the basement floor, but we invariably had a stack of wheat or oats near the barn door, or at one end of the barn, and in a wet season it often made it unhandy in getting our turn with the threshing machine, as the stacks would be too wet to thresh. This led me to do considerable thinking and contriving on the subject of cheap, temporary shelters for grain or hay during the time, (in those days, often three months,) between harvesting and threshing.

The prevalence of the weevil or wheat midge finally almost stopped wheat-growing for a few years, so that we had barn room sufficient, and I never put in practice a plan I had, which I believed, and still believe, one of the best that can be devised. The barn had 16-foot posts, and at one end the sills were 4 feet from the ground level, and at the other 8 feet. My plan was to insert in the end girts, at the level of the plates, strong iron legs, projecting 18 inches, with a hook at the end like the hook of gate hinge, and on these hang, with a strap-eye, panels of 16-foot boards 8 feet wide, and of two thicknesses, lapped part way, after the manner of board roofs. These, when not in use, to hang suspended at the end of the barn, with the lower ends resting on a slight sill to take part of the weight off the hinges at the top.

When in use these panels were to be swung up in roof form, and supported at the middle and lower end by supports of 2 by 4 scantling, carrying joists 2 by 8, 12 feet long, or the width of two panels. These panels, if supported with 12-foot posts at the eves, would require 21 feet at the hinge end to give a pitch of three-eighths, which is little enough for a board roof. With modern barns with 20-foot posts this is easily obtained with the addition of the depth of the basement. Of course the distance below the sills or depth of basement would have to be added to the length of the supports.

On a barn 40 feet wide, with 20 foot posts standing on an 8-foot basement, such a roof would give a mow 12 by 40 feet, 15 feet high at the eaves and 28 feet at the ridge, or a capacity for nearly a ton of mow-pressed hay for every foot in height, or for more than 300 bushels of wheat, or 400 bushels of oats in the straw. Such a roof would require 30 boards 18 inches wide, placed 4 inches apart; for each course, or 900 feet in all. These might be planed on one side and painted the color of the barn, and thus be no great detriment to the appearance of the building. A cap-board 14 inches wide, of the same pitch as the roof, above the hinges would make snug and dry, and the supports could stand behind the roof when not in use, and thus all would be secure and ready for use at a moment's notice. For the base of the supporting scantling, stone or locust posts set in the ground with a slight projecting iron pin would be best.

Such an arrangement, if the cap was tinned and painted, could be used for three or four months in the year for probably 20 years, if pains were taken to put it down as soon as emptied. By cutting four small doors into the barn, both grain and hay could be pitched inside to thresh or use. The engraving, fig. 1, shows part of the end of a barn without basement, with 20 foot posts, with two panels of shed roof hung to girts on a level with plate. The foundation gives the extra foot necessary to have a three-eighths pitch with shed 12 feet high at eaves. The dotted lines show the supports standing behind the hanging panels when not in use. The joists to lower supports are cut 6 inches shorter, so as to admit posts between the others.

Fig. 2 shows a cross section of shed as in place for use; *a a a* are supporting studs 2 by 4, resting on stone posts *f f*. The middle studs, supporting inner ends of joists *c c*, stand side by side, and are made stronger by fastening together with the small bolts *g g*. The end studs had best be 4 by 4. The joists *c c* are halved on to the studs so as not to occupy extra room when set up behind the panels when panels are down; *b b b* are ends of 2 by 4 cleats, to which roof boards are permanently and securely nailed with long nails; *d* is protecting coping, and *e* iron bracket hook or lug on which strap-eye turns. If the coping *d* is three or four inches higher than the iron brackets, the roof panels may be temporarily raised to a horizontal (or even more) position for filling, and then replaced. In fact, the mow could be built higher than the supports, letting the roof rest upon it for a day or two until settling permitted it to rest upon the joists. Such a shed,

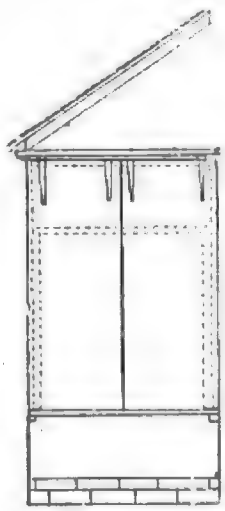


Fig. 1.

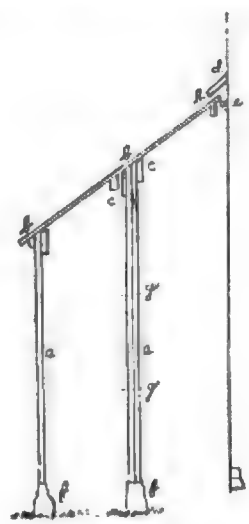


Fig. 2.

40 by 12 feet, would take for roof and coping 1,000 feet of inch boards, costing $20. For scantling it would require two pieces 4 by 4, 16 feet long; eight pieces 2 by 4 by 18 feet; ten pieces 2 by 4 by 12; 120 feet long of 2 by 4 for cleats, and 80 feet long of 2 by 8 joists—in all say 330 feet, at $15 per M., $4.80, to which add $10 for eight pairs of legs and hinges, $1 for bolts and nails, $3 for tin on top of coping, and $1 for painting, making for materials $41.00, and cost of making would probably bring it to about $60, the interest of which would be $3.50, and if it lasted 20 years, annual portion of cost $2.50, or a total of $6 per year. In this figuring panels are only 8 feet wide. Probably it would pay to put a grout foundation under such a shed raised a few inches from the ground after the English method of permanent stack bottoms.

In this connection I might say that there is an immense annual loss in the country at large by careless stacking and want of thought in building or placing stacks. An acquaintance, this season, cut several acres of very fine second-growth clover for hay. The barn was full of grain and so he stacked it, moving it in after threshing. He stacked it 40 rods from the barn, but there was nothing to hinder stacking it at one end of the barn, where by removing two or three boards or making a permanent door it could all have been pitched into the barn, saving the loading and unloading of 20 large loads of hay. Another man I know stacks his surplus hay in little square stacks containing two or three tons each, building a square pen of 11-foot rails 4 feet deep as a beginning. The result is that the stacks are exposed on four sides, where if he built in the form of a long rick he would have only the beginning and end of the stack exposed in addition to the sides. Out west they add continuously to the end of a rick until sometimes the rick or stack extends for 20 or more rods with one sharp ridge like a long, narrow building.

L. B. PIERCE.

Orchard Grass in Kentucky.

Eds. Country Gentleman—In reply to an inquiry from A. B. H., Lambertville, N. J., page 341, on raising orchard grass, I will say that I have been a grower of it for fifteen years, principally for the seed.

In this locality seed is sown during the winter months on land that has been sown to wheat in the fall, or land prepared in the fall for seed. The soil should be prepared as for wheat in the fall previous to sowing. I usually sow the seed from Jan. 1 to Feb. 15, on the surface, and leave the freezing and thawing of the soil to cover it. One bushel of seed per acre is sufficient where grass seed is grown, and 1¼ bushel if for hay or pasture. It will require two years, from time seed is sown, before a profitable crop of seed can be secured. The average yield per acre in this locality is not more than eight bushels. I have raised several crops of twenty bushels per acre on unfertilized land. I do not know of a farmer near me that ever used stable manure or commercial fertilizers.

I cut the grass seed in June and if a good growing season follows, a rank undergrowth will appear and make one ton of excellent hay per acre on grass that is cut for hay and pastured six or seven months during the year. Land seeded with pure seed, and not pastured much, will not require seeding for a number of years. However, A. B. H. should not forget to practice rotation of crops.

He will probably find it profitable to sow a small amount of red clover with the grass seed, say one bushel to ten acres. This combination makes a very fine crop of hay the next year following the sowing. Never sow mammoth clover with grass where grown for seed.

I would advise A. B. H. to seed his fall sown wheat, and he will not lose the use of the land for a year, which would be the case if sown alone. He will probably find it difficult to get the grass threshed clean from the straw and well cleaned, unless there are experienced threshermen with improved threshers in his vicinity. I have made the raising of orchard grass seed a specialty, and any one wishing pure seed is referred to my advertisement in your paper of Nov. 31st.

Prospect, Ky. J. W. NETHERTON.

Experiments on Exhausted Soil.

Eds. Country Gentleman—Some recent statements have been made concerning the Woburn (England) agricultural experiments which were made on land that was completely exhausted. It was thought that such soil afforded a better basis for intelligent experimentation than the soil under ordinary cultivation, and some American commentators have insinuated that the experiment stations in this country should profit by this step. It appears to them that the application of fertilizers will show far better results on an exhausted soil, and that these results will be invariably uniform.

Though some of the experiment stations here have been established in locations where the soil is naturally more fertile than the experimenters may desire, as for instance in our own State, yet the spirit of the Hatch bill did not provide so much for redeeming exhausted soils as for developing the agricultural resources of the State. Hence these stations are not to concern themselves about the elements of fertility that succeed best on this worn-out land, more than other questions that may bear upon the progressive agriculture of their several States. If the agricultural area of any State has been utterly reduced in fertility, then it is the duty of the experiment station to take this very soil and seek out the best means of restoring it; but if the soil has not been so exhausted to any appreciable extent in area, there is no reason why the field experiments must be confined to a worthless worn-out tract.

Much need be said in regard to maintaining fertility, but there is a difference between an impoverished and an exhausted soil. The shiftless methods of the early settlers tended to impoverish the soil but not to exhaust it. Therefore the experiment station should be located upon a soil that is as near like that of the greater part of the state—not too rich nor too much reduced. By these means the manner of growing a maximum crop may be shown. It is doubtful if it is always wise for one to proceed in improving a farm in the same manner he would redeem one from almost hopeless exhaustion. An impoverished farm may be deficient in one or two constituents of fertility only, while an exhausted one may be deficient in all the necessary elements. We are not ready to adopt this English method because the land has not been tilled for centuries, and the experiment stations can do better service by showing how exhaustion may be prevented. Robt. L. Dunn.

Jamestown, Ohio.

The Silo Should be Gas-Tight.

Some Other Suggestions.

Eds. Country Gentleman—In answer to J. H. B., page 893, inquiring about silos, I would say that the silo must be gas-tight at bottom as well as sides, and doubtless the cause of his corn spoiling is a leak below, allowing the carbonic acid gas to escape, and so admitting the air. Few seem to understand the principle of the silo—it is not an air-tight room, but a gas-tight box, by which the carbonic acid gas is held in, and pushes or buoys up the air as it fills the silo, but if there is a hole or crack or open drain below, it flows out as water would do, and then the air returns and spoils the contents.

When the silo is filled with the ensilage there is air, moisture and heat, the combination of which starts fermentation, the result of which is carbonic acid gas. Being heavier than air it sinks to the bottom and seeks to escape, but if no vent is found it rises in the silo and pushes the air before it, when fermentation ceases and the ensilage will remain in that condition for years if the gas remains. Mr. Hatemayer in New-Jersey opened a silo last year which has been closed for seven years, and he found the ensilage perfect.

If farmers understood the principle of the silo they would not go to the expense of weighting it, or even covering with tarred paper, but put on, after filling, a good layer of weeds to ferment and give out more carbonic acid gas, or enough to cover the last layer of ensilage; then when the black and mouldy weeds were taken off on opening the silo, they would find the ensilage sweet and green to the very top. The weeds could then be thrown into the manure pile, and there pay for the trouble.

I think B. H. B. made a mistake in building of stone instead of boards, and in not having it 24 feet in depth instead of 15, and I should advise, when the silo is empty, to go himself and see that it is absolutely gas-tight, not forgetting the corners, when pressed out by ensilage. I make my corners tight by a double thickness of tarred paper, say 6 inches wide from bottom to top, to guard against spreading; also the door, by the same plan, tacking a strip in the gains where the boards set in, when closing the doorway as filled. The pressure of the ensilage pushes the door-boards into the tarred paper, and so makes a tight joint. My ensilage is as free from mould in the corners and by door as in centre.

In filling silo I do not tread down until the second day, so as to leave plenty of air in to excite plenty of heat; then I tread well to insure the ensilage getting down into the carbonic acid gas, where it will be safe for all time, and these imperative facts are all the farmer wants to keep before his mind, when he can fill with anything and with perfect safety. Mouldy feed is poor feed, and it is said will dry up the cows.

If he cannot feed out all before filling again, I advise him to tread down what is in, thoroughly, and see himself that it is so done, then tighten silo perfectly from level to top, and when filling, close the doorway as silo is filled, and tread his half-dry ensilage, say 12 hours after filling, each time, and tread it so that he knows that it is down in the carbonic acid gas. Should an accident stop the filling at any time, put in something that will ferment or give out gas to prevent the last layer getting mouldy. Wet straw will do if nothing else at hand; it must be taken out on begining to fill again, or there will be a streak of mould. J. V. Henry Nott.

Kilbadon Farm, N. Y.

The Season in Northern New-York.

Success with Ensilage.

EDS. COUNTRY GENTLEMAN—The season thus far has been unusually wet, and up to within ten days rather cold. Since then it has been mild with a great deal of cloudy weather, and to-day it has cleared off, after several days of rainy, cloudy and foggy weather, so warm and bright that one can sit out doors and enjoy the weather without feeling at all cold. Owing to there having been so much rain during the past year farmers find it very hard plowing this fall, and some fields that have been long in grass can hardly be plowed.

In such a rainy fall as this has been those farmers who have silos and put their corn crop therein early in the season have the advantage of their less provident neighbors, both in securing it so early and in having such a superior food for their cattle during the winter. Owing to the wet season we were unable, like many of our neighbors, to take proper care of our corn, and before we put it in the silo some parts of the field had three or four tons of barn grass, some buckwheat—where it was sown in where there was no corn—and various other weeds per acre, and added to the wet season, which of itself was a source of great loss, the wire worm destroyed over three-fourths of the crop and greatly damaged nearly all the rest, thus making our crop under the ordinary management almost a total failure.

About the middle of September we commenced filling the silo. We took a team and reaper and cut every thing in the field clean to the ground, and a variety of vegetable growth it was too. The corn was drawn from the field to the cutter as promptly as possible, cut into half-inch lengths and elevated into silo, which is 13 by 13 by 26. We kept the outside about two feet higher than the middle, tramping it occasionally on outside but otherwise not tramping a bit. We had only enough to fill one of the silos half full, giving us about 100 tons of ensilage in all. After fodder was all in silo it was allowed to ferment one week before covering, and then two feet of common uncut oat straw was spread evenly over the surface and well tramped, and it was then left to take care of itself. For a week it began to grow warm, and in ten days the temperature of the straw a foot below the surface was such that one could not hold his hand there without scalding it.

It was allowed to steam and ferment until Oct. 24, when the feed getting short it was decided to open, and if possible feed contents to our cows. On uncovering, it steamed a considerably and an acid odor was perceptible, but not of a disagreeable nature. The first four or five inches on the surface was found somewhat musty, so much so that it was thrown away, but below that the ensilage was as sweet and palatable as the day it was put in, and the cows ate it readily the first time it was given them, and they were in from good feed in meadows at that. Since Nov. 1 we have gradually increased the ration until now we feed a good bushel to each cow per day; together with same ration of grain as when on grass, and there seems to be no falling off in flow of milk or in quantity of cream secured.

Now we have 100 tons of good succulent food for our cows that will last them nearly all winter with one feed each day of hay, all secured in as good a condition as possible, and at a cost for securing and siloing, of not to exceed $50, when but for the silo we would have had practically nothing, as corn was so weedy and poor that it would have been hardly worth harvesting the ordinary way.

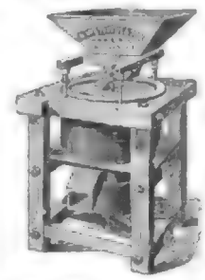
It is thought by some that it is impossible to make good sweet ensilage that will be relished by live-stock and eaten in full ration without damage to them. If such persons can be made to believe the evidence of their own senses, and will come to Elm Lawn, we will show them some good sweet ensilage that makes the cows laugh for very joy when it is fed them, and not only that but it makes good rich milk and saves the hay to feed to other animals—and, by the way, if we had enough to go around, every animal on the farm would have at least one feed each day during the coming winter, as it is eaten with avidity by the cows, horses, hogs, and doubtless when they have a chance, by the sheep as well.

The farmers of this country don't realize one-half the value there is in raising Indian corn to feed their animals, and when they do fully realize its value and utilize it by the silo system, then I predict they will be able to come much nearer making both ends meet than they have done in the past. T. E. CROSS.

Washington County, N. Y., Nov. 13.

A Good Mill for Farmers.

The accompanying cut shows the Stevens French Buhr Stone Mill, for corn and feed grinding, the advertisement of which is familiar to our readers. The manufacturers have been one of the leading concerns of the country over fifty years and their goods are spread far and wide throughout the States. Their business size mill here with illustrated is manu-



factured in the most improved style. Many of the disadvantages of ordinary mills are here overcome. The stones are imported direct from the quarries in France; they are nicely furrowed and dressed after the mill is completed, and are carefully and accurately balanced. The wood, iron and steel entering the construction of the mills is first class in every respect, select material and only that, being used. The increasing demand for these mills attests their value. Not only a high grade of mixed feed can be ground by them, but also the finest table corn meal. Readers needing machinery of this description should correspond with Messrs. A. W. Stevens & Son, Auburn, N. Y., and obtain fuller information.

The Japan Pea in North Carolina.

EDS. COUNTRY GENTLEMAN—The Japan pea, or Mongolian bean, samples of which I send you, is, in my opinion, among the most important forage plants that can be grown in the South. It is a heavy and most nutritious pea, and the sample of stems with pea pods intact is just as it was taken from the shock in the field, where it has been exposed to the weather for the past forty days.

We prepare the land as for cotton or corn, rows 3½ to 4 feet apart; use common corn planter; and arrange it so that it will plant 18 inches, and drop 13 to 15 peas to the hill; set the machine so that very little earth will be put over the peas, and begin planting for this section April 25 to May 25. When up a few inches high, bar them off close with a common plow, or scrape with a cotton scraper as we do cotton; then with a small wing on plow turn a furrow on one side, to keep them from falling; wait for six or eight days, and turn furrow in same way on another row. Now you have four rows of peas on a narrow ridge, and with favorable weather, growing rapidly, soon shading out all grasses.

In a week use a larger wing on plow, and put on additional furrow, which covers up any young grass that might be coming on the narrow ridge alluded to. Another ten days and you can split out the small middle remaining in each row, and the cultivation is over. If it has been wet and showery weather, this middle would have become covered with grass, and in that event we run a harrow or iron edge at the same time we turn the second furrow, leaving the middle flat and ready for the last plowing above mentioned. Nothing further to do until gathering time, by all odds the most important to do carefully.

In handling I use a common Louisiana sugar cane knife, or any other heavy hand blade. A man catches the hill or bunch of peas in his left hand, bends them over and cuts the cluster off at the ground. This we start to do as soon as the lower leaves begin to turn yellow. The peas now being full size, and the stalk covered with its rich green leaves and pods, be careful to have all the tops lie the same way, for the convenience of the stacking or shocking party. Let them remain twenty-four hours if the weather promises well, never longer. I often shock immediately behind the cutters, but prefer them to get wilted and limp, because making a more compact shock, and consequently nearer waterproof. The shocking party comes and gathers as many in his arms as he can conveniently handle, being careful to set these armfuls butt down, and have added to it enough to make a stool 5 feet in diameter. Then push in the

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porting this year, as regards corn, and we hope soon to see Virginia in that list. With a soil and climate preëminently fitted and adapted to clover and corn, there is no good reason why Eastern Virginia should be obliged to buy a bushel of the one, or a ton of the other.

Norfolk Va., Nov. 14. A. JEFFERS.

New-York Farmers' Institutes.

The Meeting at Plattsburg.

EDS. COUNTRY GENTLEMAN—The first institute of this winter's series, under the management of the New-York State Agricultural Society, was held at Plattsburgh, Clinton county, Nov. 18 and 19. As this was the first meeting of the kind in this county, the opening session was not so largely attended as the subsequent ones. The attendance increased with each meeting. One of the noticeable features of this institute was the small attendance of young men and women. Is it possible that agriculture in this section of the State is going to die out with the older men? Or must we believe that the young men who are to be the future farmers are wise enough already, or are so wedded to the ways of their fathers that they do not contemplate any changes?

The institute work in New-York has grown rapidly in extent and popularity in the State. Why should it not be so when this great industry is so much depressed and earnest and experienced men are endeavoring to do all in their power to help brother farmers to obtain a greater increase from their capital, and a more satisfactory remuneration for their toil. In Feb. 1885 a voluntary institute meeting was held under the direction of Prof. I. P. Roberts, at Ithaca for three days. This meeting was the foundation of the institute work which has followed. There were present at this inaugural meeting, for agricultural instruction, from Cornell University, Profs. Roberts, Caldwell, Prentiss, Comstock, Law, Dr. Adams the president, and other speakers—J. S. Woodward, the lamented Harris Lewis, Prof. H. E. Alvord, Mr. Sibley of Pennsylvania, and F. D. Curtis. In the winter of 1885–'86, four institutes were held and the expenses of the speakers were paid by the New-York State Agricultural Society; the first one at Lockport. These institutes were managed by J. S. Woodward, the present secretary, who is entitled to the paternal credit of this work more than any other man. These four meetings were pronounced successes, and so inspired the State society and the people with their usefulness, that provision was made by the legislature for the expenditure of $6,000, for institute work under the direction of the society. During the winter of 1887–'88, under this law, twenty-six institutes were held, each of two days' sessions. The next year the appropriation was increased to $10,000, and in the winter of 1888–'89, forty-two 2-days' institutes were held and assistance given to twenty-six local and one day meetings. A number of local one-day meetings were also aided in 1888.

Forty-five institutes this season have already been arranged for by Secretary Woodward, who selects the speakers and makes all the arrangements, and to whom all correspondence should be addressed. J. F. Converse, a member of the executive committee of the society, has the business and platform charge the institutes and is the conductor.

By the liberality of Thomas Armstrong, the hall at Plattsburg was furnished free of cost.

Secretary Woodward called the meeting to order; Editor Mannix named Thomas Armstrong as chairman for the forenoon session, and S. H. Taylor, Schuyler Falls, was elected secretary. Mr. Armstrong welcomed all to the first farmers' institute ever held in Clinton county. He wanted to see farming in this section put upon such a basis that it would afford a better remuneration, and he wanted to see the farming lands improved, bringing a higher order of agriculture in the future.

Mr. Woodward followed with one of his ringing and pointed opening addresses. He said the State had widened out in its efforts to aid and educate the people, and had at last reached the farmers. They had been affording facilities for the benefit of other classes, and it was a gratifying fact that the legislature was willing to do its part on the line of improvement. The next thing was for us to do our part as institute workers and as farmers. We have a mission to fill, to feed and clothe the world. The world now demands and must have cheaper products. It has a right to these things, as these are times when economy is abroad, and we must reduce the cost of food. This new era will call for the application of the discoveries of science, and the results and demonstrations of successful men. The time was, and not very long ago, when the mention of the word science would frighten a farmer; but it is not so now. The truth is, agriculture and science have been affianced, and we are here to publish the bans, and we invite you all to the wedding.

Geo. A. Smith of the Dairy Commissioner's department read a paper on cheese-making, in which he urged the importance of three things, to wit., better milk, better care of the milk, and better quality of cheese. His paper was supplemented by Col. Curtis. In this State he said the amount of milk required to produce a pound of cheese was actually increasing. This ought not to be. One reason was the impoverishment of the soil, on account of which the grasses were of poorer quality in kinds—the more nutritious varieties dying out, and the coarser, more hardy, and less nutritious, were taking their places. Then again, we must have more uniformity in our cows. The mixing of all sorts of breeds and grades would not produce superior cheese or butter; and if no regard was had to the quality of the milk, only weight, we must expect an increase in the amount of milk required for a pound of cheese, as is the case, and too much milk for a pound of butter. We shall have this increase of quantity for product just as long as we do not heed the idea of uniformity—cows of a kind, some uniform kind. The general-purpose cow will, if bred universally, keep up the ratio of milk as to cheese and butter. We must till our pastures and reseed them with more nutritious grasses—white clover, red top, orchard grass and blue-grass, and the fescues. There are other grasses of value, but they are not all hardy.

A. D. Boomhower verified the statements of Col. Curtis.

Mr. Armstrong thought that Clinton county was naturally adapted to the production of rich grasses, and our natural pastures were superior. The trouble was, our farmers let the grasses run out, and when they put down a pasture, or rather when they designed a field for a pasture, they did not sow any seed, but trusted to nature to prepare the sod. This often makes the pastures thin and unprofitable, and accounts for the unsatisfactory results. F. D. CURTIS.

[The remainder of this report is necessarily deferred. EDS.]

Prizes at Chicago Fat-Stock Show.

(*Concluded from page 878.*)

SWEEPSTAKES, FAT CATTLE.

Best Short-Horn—J. J. Hill, Brittisher, 641 days, 1340 lbs.
Best Hereford—W. S. Van Natta, Edwin, 1001 days, 1500 lbs.
Best Devon—J. W. Morse, New Era, 1191 days, 1695 lbs.
Best Aberdeen-Angus—Jas. J. Hill, Manroe, 1486 days, 2415 lbs.
Best Holstein-Friesian—B. Waddel, Spot, 388 days, 1010 lbs.
Best Sussex—Overton Lea, Nashville, Tenn.
Grade or Cross-bred—Elbert & Fall, Bigdon, ¾ Short-Horn, 1060 days, 1920 lbs.
Best Beast in Show—Elbert & Fall, Bigdon.

FAT HERDS.

Short-Horn—J. H. Potts & Son, Jacksonville, Ill.
Hereford—Adams Earl, Lafayette, Ind.
Devon—J. W. Morse & Son, Verona, Wis.
Sussex—Overton Lea, Nashville, Tenn.
Grade or Cross-bred—J. R. Price & Son, Williamsville, Ill. (Hereford, Short-Horn and native blood).
Best Herd in Show—Adams Earl, Hereford.

CARCASS PRIZES.

Steer or Spayed Cow, 3 years—J. W. Morse & Son, New Era, Devon.
Two years—Makin Bros., Emery, ¼ Hereford, ¾ Short-Horn.
One year—J. J. Hill, Brittisher, Short-Horn.
Largest Percentage of Edible Meat—J. R. Price & Son, Larry, Hereford.
Largest Percentage of Net to Gross Weight—J. H. Potts & Son, Richmond, Short-Horn.
Best Carcass in Show—J. W. Morse & Son, New Era.

FAT SHEEP.

South Down—John Rutherford, Roseville, Ont.; J. H. Potts & Son, Jacksonville, Ill.; J. F. Rundel, Birmingham, Mich.
Shropshire—S. H. Todd & Son, Wakeman, O.; G. Allen & Son, Alberton, Ill.; J. F. Rundel.
Oxford—Stone & Harris, Stonington, Ill.; John Rutherford.
Cotswold—John Rutherford; Frank Willson, Jackson, Mich.; J. F. Rundel.
Leicester and Lincoln—J. Rutherford; J. F. Rundel.
Merino—J. F. Rundel; F. Willson; F. M. Sprout, McLean, Ill.
Cross-Bred—J. F. Rundel; Allen & Son; Todd & Son; J. Rutherford; Wm. Newton, Pontiac, Mich.

FAT SWINE.

Berkshire—Cass & Burns, Buffalo Heart, Ill.
Poland-China—W. T. Lian & Son, Yorkville, Ill.; F. M. Sprout; J. H. Williams, Kenney, Ill.
Chester White—J. R. Price & Son, Williamsville, Ill.; Todd & Son.
Essex—F. M. Sprout, McLean, Ill.; Frank Willson.
Duroc-Jersey—Thos. Bennett, Roseville, Ill.; Cass & Burns.
Yorkshire—A. P. Chapman, Sugar Grove, Ill.; F. Willson.
Victoria—Stone & Harris; W. H. Riley, Greenville, Mich.; G. F. Davis & Co., Dyer, Ind.
Other Breeds—Thos. Bennett (Tamworth); F. Willson (Suffolk).
Grades and Crosses—F. M. Sprout.

Society Meetings at Chicago.

President Earl has appointed the following committees to distribute the money appropriated by the Hereford Association for special prizes at leading shows next year:

East of Mississippi River ($500)—J. S. Carlyle, Chicago; Geo. N. Bissell, Milford, N. Y.; F. W. Le Sueur, Defiance, O.

West of Mississippi ($500)—C. H. Rinsendorf, Kearney, Nebr.; —— Makin, Florence, Kas.; J. A. Funkhouser, Platteburg, Mo.

Canada ($250)—M. H. Cochrane, Hillhurst, P. Q.; F. A. Fleming, Weston, Ont.; T. A. Dawes, Lachine, P. Q.

—— The Shropshire Registry Association met at the Sherman, 19th, 26 members answering to their names, though there must have been fifty gentlemen present. Business seems to be active, as the secretary said he receives an average of 65 letters every day. The treasurer's report is:

On hand last year	$1,721
Receipts	4 319
	$6,040
Paid for Printing	$1,250
Postage and Stationery	1,000
Salaries, &c.	2,740
Now on hand	950
	$6,040

The rules of entry were amended by striking out the provision for admitting, under certain circumstances, animals of imperfect pedigree, and by making fees as follow: *To members*, each imported animal entered within one year, $1; each home-bred animal, if entered before Dec. 31 of the year of its birth, 50 cents; after these dates, triple fee in each case; to *non-members*, twice the members' fee. Also a section was adopted providing for the forfeiting of the privileges of membership in case of violation of the rules or dishonorable conduct.

It was resolved to appropriate $500 for special prizes at exhibitions next year.

Officers were elected as below:

President—S. H. TODD, Wakeman, O.

Vice-Presidents—John Dryden, Richard Gibson, Prof. Thos. Shaw, Robert Miller, Jr., C. D. Smead, T. H. Allison, C. Hills, T. A. Bixby, Polk Prince, J. F. Camp, Eugene Hatch, C. H. Ballinger, Jas. Lawrence, W. A. Banks, W. J. Green, W. C. Vandercook, Louis Bennett, V. P. Bennett, J. D. Cass, T. P. Branch, E. C. Palmer, J. D. Wagner, C. B. Tilghman, Rollin Sherman, W. W. Gleason, G. H. Mallory, C. H. Mitchell, A. W. Wilcox.

Secretary-Treasurer—Mortimer Levering, Lafayette, Ind.

Executive Committee—J. L. Thompson, W. H. Beattie, W. C. Latta, W. J. Garlock, J. F. Rundel.

Pedigree Committee—John Dryden, John Campbell, Jr., T. H. Allison, J. L. Thompson, W. C. Latta.

Auditing Committee—W. C. Latta, O. C. Goldsmith, E. R. Kenny.

—— The Twelfth Annual Meeting of the American Cotswold Association was held at the Sherman, 19th. The treasurer's report showed a balance of $675. The secretary reported that the record has about 100 patrons; trade has been good, and prices are advancing. It was resolved to publish the fourth volume next January. Officers were elected:

President—R. C. JUDSON, Farmington, Minn.

Vice-Presidents—E. B. Emory, Centreville, Md.; J. C. Snell, Edmonton, Ont.; C. E. Carothers, Houstonville, Pa.

Secretary-Treasurer—George Harding, Waukesha, Wis.

Directors—E. B. Emory; J. O. Malley, Waukesha Wis.; J. B. Herkness, Knightstown, Ind.

—— The managers of the Western Circuit of State Fairs met at the Sherman, 19th, and agreed that the shows should be held as follows: Iowa, first week in September (beginning on the 4th); Nebraska and Minnesota, second week; Kansas and Wisconsin, third; Illinois, fourth.

—— The Victoria Swine Breeders' Association met at the Sherman, 19th, with $76 in its treasury; resolved to close the second volume on the 1st of next July; and elected officers:

President—Grosvenor P. Davis, Dyer, Ind.

Vice-President—H. W. Riley, Greenville, Mich.

Secretary-Treasurer—H. Davis, Dyer, Ind.

Directors—Collins Dysart, Dr. H. Wheeler, J. B. Renbagen, I. L. Curtis, M. H. Walworth.

—— The American Short-Horn Association met at the Grand Pacific, 20th. President Coss's opening address was largely devoted to an examination of the causes of the present depression in prices, which he thinks largely due to overproduction and especially to the large marketing of cattle within the last three or four months. He looks for early improvement, however, for two reasons. One is, that many large companies have been compelled, in order to keep peace with their creditors, to sell large numbers of females, which will of course reduce production; the other is, that drouths in Wyoming and Montana have left nothing for winter grazing, which has compelled owners to reduce their stocks, and he thinks the ranchemen in the mountain districts will restrict their herds hereafter to such numbers as they can maintain the year round, thus reducing competition. The far-western ranchemen who prior to 1885 used Short-Horn bulls, but have more recently been induced to try Herefords and Polls, are now returning to their first love. Mr. Cobb thinks Short-Horn breeders should develop general-purpose qualities, and most especially dairy powers, and should compete often and everywhere for dairy prizes. It is lamentable that so few entries were made this year for the premium for milk and butter yields offered by the association.

The treasurer's report may be summarized thus:

Cash last year	$9,871
Received for pedigrees	17,289
Herd Books	1,304
Interest	1,033
Copying pedigrees, &c.	993
	$40,490
Paid Salaries	$5,000
Board Expenses	720
Printing and Binding	5,202
Rent and Janitor	1,000
Pedigree Money Returned	2,301
Special Premiums	1,400
Postage, Stationery, &c.	950
Furniture and Insurance	257
National Cattle-Growers	75
Taxes	700
Sundries	333
Cash on hand	22,201
	$40,490

The association is not going to the poor-house, for the assets are:

Cash (including investments)	$27,201
Herd-Books at cost	14,697
Furniture and Stationery	795
Due on accounts	900
	$43,593
Liabilities:	
Capital Stock	$30,000
Open Accounts	3,124
Printing, &c.	2,000
Balance	10,979
	$43,593

The association has also on hand 3,104 volumes of the Herd-Book (8 to 24), 2,793 of the Short-Horn Record (1 to 10), 475 of the Ohio Record (1 to 3), 365 of the English bull reprint; and 345 of Warfield's History.

The secretary stated that 10,879 pedigrees have been checked for Vol. 25; 1,125 volumes have been sent out during the year, and 9,967 letters received and answered. The prizes for dairy Short-Horns offered by the association were accepted by societies in Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, New-York, Ohio and Pennsylvania; but of the $2,500 offered, only $1,010 was awarded. Revision of the early volumes of the herd book is finished for 10,000 cow pedigrees, at a cost of $900; $2,000 more will prepare the manuscript for publication; $7,000 to $8,000 will be required for electrotyping and printing. The live-cattle exports for three months this season averaged a thousand a day, of which number, at least 75 per cent. were high-bred Short Horns. Nine members of the association died during the year—Jas. Moore, Geo. Allen, J. M. Thompson, T. C. Anderson, A. L. Hamilton, J. D. Gay, John Lair, D. B. Haight and W. M. Gentry.

Three of the directors, whose term of office have expired, were reëlected by the meeting—W. A. Harris, John Hope and N. P. Clarke.

It was resolved to refund $2,650 to persons who subscribed for Short-Horn prizes at the early Chicago fat-stock shows; also to offer premiums next year for best herd—calf, yearling and two-year-old—bred and fed by the exhibitor; also to co-operate with other live-stock associations in establishing a national live-stock show; also that the association favors governmental subsidies to Central and South American steamship lines.

Delegates from the Chicago organization that is endeavoring to secure the world's fair of 1892 were admitted to the floor, and pleaded for help in raising the proposed $5,000,000 fund, stating that ten-dollar subscriptions would be welcome, and could be paid in installments covering two years of time. They hinted that they would like to circulate subscription books at the meeting, but the association contented itself with passing a resolution favoring Chicago as the place for the show.

At a subsequent meeting of the directors, the old officers were reëlected, namely, Edgar Coss, Kankakee, Ill., president; C. E. Leonard, Bell Air, Md., vice-president; T. W. Harvey, Chicago, treasurer; J. H. Pickrell, Chicago, secretary. In addition to the re-

quirements made last year of the societies accepting the offer of money for prizes from this association, the Board adopted the following:

Resolved—That Short-Horns contesting for dairy prizes shall be pure bred cows actually giving milk and subject to test. All other classes shall be dropped. No arrangement for these premiums shall be made with any society except upon condition that they require actual tests of dairy cattle on the grounds. Classes to be as follows: Cows over 3 years old, 1st prize, $100; 2d, $50; cows under 3 years, 1st prize, $50; 2d, $25.

Secretary Pierrell writes to the COUNTRY GENTLEMAN:

"Since New-York made a fair showing last year, we would be glad if you would give this an early publication so that Short-Horn breeders throughout the country will know what the prizes will be next year."

—— The Duroc-Jersey Swine Association met at the Clifton, Nov. 14. Treasurer has $816. Officers were elected—

President—THOMAS BENNETT, Roseville, Ill.
Secretary-Treasurer—S. E. MORTON, Camden, O.
Directors—C. H. Searle, Edgar, Neb., and Edwin Hummer, Iowa City, Iowa.

—— The (somewhat mis-named) American Poultry association met at the Exposition Building, Nov. 19, and elected officers:

President—J. B. FOOTE, Norwood Park, Ill.
Vice-President—F. L. Sewell, Evanston, Ill.
Secretary-Treasurer—E. E. Bast, Chicago.

Weather, Crops and Prices.

Meteorology for Nov. 18-24.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week	.....	30.32	inches.
Lowest do.	do.	..... 29.37	do.
Mean do.	do.	..... 29.86	do.
Highest temperature	do.	..... 55°	
Lowest do.	do.	..... 20°	
Mean do.	do.	..... 41°	

Seven cloudy days. Five days on which rain fell; total precipitation, 1.56 in. Prevailing wind, S. & W.; maximum velocity, 15 miles per hour on the 20th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	18th	19th	20th	21st	22d	23d	24th
This year..	33°	44°	49°	46°	46°	47°	45°
Normal	39°	35°	34°	35°	35°	36°	36°

Total excess for the week, 36°.

New-Hampshire—*Dover, Strafford Co., Nov.* 18.—There has been a large amount of rain during the autumn, which has delayed farm work. A cold wave struck here the 15th, and the ground is now frozen so that plowing is stopped. Beef, which in former years was one of the main resources of the New-Hampshire farmers, is now so low that it does not pay to produce it. Western competition has practically destroyed this industry. Our State Board of Agriculture will unite with Eastern New-Hampshire Pomona Grange in holding farmers' institutes at Rochester and Strafford, in this county, during the coming winter. The trade in apples is active, prices continuing firm, best quality selling for $2.50 per bbl.; milk sells at the railroad station for 2c. per can of 8¼ qts. J. M. H.

North Carolina—*Raleigh, Wake Co., Nov.* 14.—One or two light hoar frosts in October nipped the cotton leaves and those of the sweet potato vines, but up to this date we have had magnificent weather. In the city the cotton beds are still unhurt, and the beds of geraniums, salvias and verbenas are gayer than a month ago. Chrysanthemums are still in wonderful profusion, and the roses are superb. Souvenir de Malmaison is now and always is in this latitude in its greatest perfection at this season of the year. The flowers now reach a size and richness they never attain in the hot weather. Late Irish potatoes are still growing vigorously, and a lot planted Sept. 1 promises to make a good crop. Farmers are very much discouraged by the short crop of cotton, but the tobacco men are in good spirits. The bright tobacco grown here has averaged most growers close to 20c. per lb. W. F. M.

Ohio—*Mechanicsburg, Champaign Co., Nov.* 18.—Weather fair; mercury 40°; 4° below freezing this morning. Farmers busy husking corn. Winter wheat looks well here and in Kentucky. After investigating East Tennessee thoroughly I do not think as much money can be made there as in other places—in fact, I believe that those who have good homes and good health do not make anything by a change. There are signs of an approaching storm. Eggs, 17c. per doz.; butter, 18c. per lb.; wheat, 75c. per bu.; corn, 30c.; potatoes, 25c. E. W.

Indiana—*Sullivan Co., Nov.* 17.—Raining, sleeting, with driving wind this morning. No precipitation for a week until last night. First freeze to crust the ground the nights of 13th and 16th. Thermometer standing this morning at 40°. Corn husking progressing rapidly the last ten days; all will soon be housed. As the work progresses the fact of a short crop is more generally accepted. While writing, rains and sleet storm changed suddenly to a genuine snow, first of the season, but melting as fast as it falls. E. F.

Wisconsin—*Janesville, Rock Co., Nov.* 19.—The weather still remains quite open and mild. The coldest day, or night, has been about 5° below freezing, only. Everything is dry—no moisture in anything; all and everything is thirsting for the rain that will not come. We are badly off for our electric light. There is much speculation regarding the result of our long drouth. Many experts proclaim a failure next spring of our reasonable wages. Some affirm, from experience, that we shall not be able to raise enough to eat hardly. I know, myself, from long, proverbial sayings, that we may be content to expect an ordinary spring provision. The old prairie saying: "No winter until the sloughs are full, no spring crops if they be not *full* filled." This old prophecy generally was true during my farming upon the Illinois prairies in the fifties. The muskrat does not seem to anticipate a flood or high water. His sign is pretty sure always—there is no humbug in such criterions—hardly, let us trust. Wheat, 60@70c. per bu.; rye, 40c.; barley, 35@36c.; corn, new, 25c.; old, 30c.; oats, 18@20c.; potatoes, 20@25c.; hay, $4@5.50 per ton; apples, $2.75@3 per bbl.; cattle, $2.40@3.40 per cwt.; hogs, $3.40@3.75; butter, off, 16@20c. per lb.; eggs, up, 20c. for store; 25c. for fresh domestic; tobacco, firm, 8¼c., 9½c., 9½@11¾c. per lb.—the '89 crop seems to be wanted for export. Business good; health only fair. W. H.

Kansas—*La Cygne, Linn Co., Nov.* 18.—The autumn so far has been as fine as the summer was; corn has dried out in good shape, and thus far no severe storms have occurred to damage anything. Some have finished gathering, but much remains in the field yet. The crop is sound, but light, and as I prophesied last summer a much smaller yield than estimated by the so called crop experts. Still the aggregate is enormous, and the price only ill come. A great deal of the poor corn is due to poor farming chiefly, and also to the fact that the land will never again produce so large crops as it did a few years ago, until it has undergone a rotation and is farmed in a civilized manner. It is a great effort to get the truth in regard to western crops, and requires an immense amount of moral courage to publish it, as the result is always the same. In witness of this see the fate of Prof. Chamberlain of Iowa, but the truth will leak out once in awhile; and such men as Prof. Chamberlain, John M. Stahl and B. F. Johnson, although abused to-day, will yet be praised for the words they write in regard to the West. Thousands every year are drawn to this region by a systematic exaggeration of everything, and in many cases spend their days in disappointment, but so long as land agents exist and town boomers are at large, it will go on regardless of the consequences. If the truth will not advertise a State or town, it had better be left in solitude. It is about time a halt was called in this respect. Markets fair at following prices: Corn, 17c. per bush.; oats, 12c.; wheat not raised to any extent; hogs, $4@4.50 per cwt.; cows, $10@15 each; beef, $2.50@3.75 per cwt.; hay, $3.50@4 per ton; butter, 12@15c. per lb.; eggs, 12c. per doz. Very little money in the country. D. S. S.

The Veterinarian.

Answers to Correspondents.

By DR. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*

SORE FEET.—Some of my cows have sore feet; are very lame, lose flesh, fall in milk, and as soon as turned out of stable leave the others and lie down. J. T. K. *Germantown, Md.* [Moore Bros.' foul hoof ointment is a specific for this disease.]

APPLICATION OF BLISTER.—Can golden blister be applied three or four times in succession, at intervals of one month, without danger? W. *Lithgow, N. Y.* [Golden blister may be applied once a month for a year, if necessary, with no ill effects. The hair will be just as luxuriant at the end of a year as at starting.]

FAILURE TO SERVE.—I wished last week to breed a sow to a thoroughbred Cheshire boar, but was surprised to find boar unfit or unable to perform service. Boar is one year old, and has not had a sow in two months. Prior to that time has served fifty sows, and litters have been uniformly large and pigs strong and thrifty. Boar is in good condition—not over fat. C. I. H. *Lansing, N. Y.* [Give 2 grains of quinine and 5 drops tincture nux vomica in feed three times a day for three weeks, and blister the spine from loins to tail.]

LUMP ON LEG.—A running horse cut his leg midway on front of shinbone, about two months ago; think he did it on a rock in pasture; healed nicely, but there is slight lump remaining on leg. He can also trot fairly now. Would you shoe him to make a fast trotter? J. P. B. *Bing Bing, N. Y.* [A small amount of golden blister put on the enlargement would relieve it, and the animal could be used moderately all the while. The blister should be repeated in three weeks. I cannot advise about the shoeing, as I know nothing about the size of horse, his gait and requirements.]

BREATHING DIFFICULT.—A mare nine years old seems to have some lung trouble; has difficulty in breathing, respiration long, but suddenly expels air from lungs, causing her sides to drop; has a cough, often raises phlegm and nostrils slightly inflamed; has good appetite, and works continuously on the farm. M. C. H. *Richmond, Va.* [Give one of the following balls every other day until three are used; then stop for four days and repeat: Powdered nitrate potass., 2½ oz.; powdered Barbadoes aloes, 2 oz.; calomel, 1 oz.; powdered gentian, 2 oz., and a sufficient quantity of syrup; mix and make eight balls. Advise us how she is in two or three weeks.]

BOWELS LOOSE.—A pony, 12 to 15 years old, is troubled with looseness of bowels. I have not been able, in the two months I have owned him, to get him to ball his dung; neither does he fatten up. I feed him eight to ten ears of corn a day, with corn fodder and peavine hay. Rice bran has best effect on bowels, but seems to cause a cough. T. B. P. *Goldsboro, N. C.* [Have his teeth examined and, if necessary, attended to. Mix in feed two tablespoonfuls of the following powder three times a day: Powdered extract hæmatoxylon, 8 oz; bicarbonate of soda, 8 oz.; mix. Can you not feed hay and oats? It may take a month or two to get him in good order.]

LUMPS ON BAG.—A three-year-old cow with first calf is troubled with lumps about the size of black walnuts on her bag near teats. Sometimes they entirely disappear, then come in another place. There is no matter, but they scab over and are painful. She came in about three months ago. W. B. H. *Inkster, Dak.* [Give a wineglassful, or half a gill, of the following twice a day in a gill of molasses: Powdered iodine, 4 dr.; iodide of potass., 2 oz.; water, 1 quart; mix. Rub the udder daily with some of the following: Spirits of camph., 4 oz.; tincture of aconite root, 2 oz.; alcohol, 8 oz.; mix. Keep bowels loose. Avoid corn and other food of its character.

PASTERN SWOLLEN.—A mule five years old is not right in hind limbs; is swelled in upper pastern joints; when he walks on wet ground he steps on joint of toe; some times pastern joint knuckles forward; after he travels awhile he walks all right; there is no soreness or fever that I can find; swelling is soft; does not seem to be in bone. Mule is somewhat low in the heel, stands on earth floor which slants back about four inches. S. J. S. *Hopkins, O.* [Mule should stand on level dry floor; his hind shoes should have good sized heel and no toe calks; apply golden blister to sides and back of legs, from hocks to feet, and give two weeks rest; repeat in three or four weeks.]

EPISTAXIS.—An 11-year-old work-horse some six weeks ago took to bleeding at the nose, the blood running in streams till about two gallons was lost. Two weeks ago he again took to bleeding in same manner, viz., by throwing up his head and giving a short cough, this time losing a greater quantity—in fact, bled till he fell. A week ago he bled again, about a pint. After bleeding, he takes to coughing, and continues it for about two days. Has good care, looks well, and is kept at work. A. E. C. *Brainard, Minn.* [Give in feed one drachm of gallic acid twice a day for a month. Mix in drink, daily, two drachms of dilute sulphuric acid. This is a very dangerous trouble, and you are liable to find the animal dead at any time.]

FORE FOOT LAME.—A large fine mule has something the matter with one of her fore feet; she walks on the point of hoof and the foot inclines to turn over forward. Have been using a shoe with toe, thinking it might strain the foot back to place, but it seems to get no better. The frog was quite shrunken, but I have been trimming out the foot inside and it has come back, but cannot get the foot to come back to its natural condition or place. L. C. L. *Waverly Mills, S. C.* [Apply golden blister to sides and back of leg from knee to hoof, and give two weeks rest, then work mule two weeks and repeat. The shoe should have long heel calks, if they will touch, if not they are useless; the toe must not have calk. Some of these cases are incurable.]

STOCKING—SKIN TROUBLE—IN FOAL (?)—Have a young horse beginning to stock in hind legs. (1) A mare for several years has been covered with spots or patches where hair is very short, almost looks like mange. (2) Same mare had a colt in May; took the horse again in eight days; after that did not show any signs of being in season for four months; since then has came in season regularly every three weeks, but only for a few days at a time. May she be in foal or ought she be put to horse again? (3) C. J. C. *Hampton, N. B.* [1. Give him half a physic ball, and repeat in three or four days. Have him exercised daily. 2. This skin disease is so chronic that it is probably incurable. Touch the spots with a little golden blister once a week; wash blister off in two days always. 3. I cannot say whether she is in foal or not, she may be and yet show estrum, but it is improbable; better be fairly certain before having her served.]

CRACKED TEATS PREVALENT.—There is a disease among the dairy cattle of this neighborhood, new to all. It comes on suddenly and affects the teats and bag; first symptoms are cracks on the teats, which turn black or dark red, and they become in a day or so crusted over with a scab and bleed badly when milking. Some cows have sore noses and blotches on the body; they fall off in milk and flesh very quickly after being taken; appear to have some fever; not much appetite, and it is almost impossible to milk them; costive at first, afterwards more loose. Most of the cows in this neighborhood are affected; some have had it for two weeks or more, and do not improve. C. H. S. *Manor, Md.* [The unaffected should have a dose of physic and be fed plenty of salt. Also have a tablespoonful of powdered chlorate of potass. in feed twice a day for a week. The affected should have ½ lb. epsom salts and 2 oz. nitrate of potass. each and repeat it on second day after. Also give them three tablespoonfuls of the following powder in feed twice a day: Powdered nitrate of potass., 1 lb; granulated chlorate of potass., 1 lb; mix. Apply to the teats some of the following ointment daily: Powdered acetate of lead, 1 oz.; powdered opium, 2 dr.; carbolic acid, 2 dr.; vaseline, 6 oz.; mix.]

URINATION FREQUENT.—My horse, six years old, urinates frequently, six to eight times a day; urine at times thick and yellow, and sometimes stringy; will not let me catch any; sweats easily and on a long drive gets leg weary; is very sensitive under belly, and if brushing is persisted in will eject urine in small quantities; is restless, fretful and easily irritated. The horse is driven two miles, morning and evening, sometimes has more work; eats and digests food well; coat is sometimes dull, but in cool weather bright; is generally in good spirits. J. C. *Morristown, N. J.* [Have the horse clipped. Give one of the following balls, and repeat in a week: Powdered barbadoes aloes, 12 dr.; powdered rhubarb, 4 dr.; powdered gentian, 4 dr., and a sufficient quantity of Venice turpentine; mix and make two balls. Feed only bran mashes for three meals after each ball is given, and allow only exercise for next 24 hours. It may be necessary to prescribe further after a time.]

DEATH OF COWS.—Have lost two three-year-old heifers. One died early in September, when I was feeding green sweet corn well eared. Flow of milk began to fall, refused food, lost cud, was indisposed to exercise; nose naturally moist, horns warm, and breathing natural to within twenty-four hours of death, when breathing became labored, and she grunted every breath; swayed her hind parts slightly when walking at first, later both hind and fore legs seemed to be rather stiff; drooled at the mouth from the first; urine scant; failed to get physic to work. On opening, found liver fully one-half larger than natural, and covered with whitish yellow spots, that seemed to have extended through it; gall greatly enlarged; lungs natural, except discoloration from inflammation of other parts. Time of sickness one week. No. 2's bowels moved every day, kidneys acted two and three times per day till last day. Ate and chewed cud more or less till last two days. Opened her and found liver same as first, also grown fast to spleen; gall greatly enlarged, and contents on lower side next liver formed into yellow sediment with brown colored spot on one side; sediment covered whole of lower side of gall; was filled with water color of urine around bowels; around heart and lungs fluid the color of dark blood; manifold baked somewhat in both cases. Am feeding only dry hay. Have not fed any grain since spring. Cows in fine condition. Time of sickness one week and three days. C. C. *Shattuck, N. Y.* [The description is not very good, but I am of the opinion that the disease was acute inflammation of the liver followed by suppurative processes. Such cases are invariably fatal. The treatment to try in case you have another animal so affected is to give 1 lb. epsom salts, and in twenty-four to thirty-six hours half a pound, and repeat the latter dose as often as the condition of the bowels will admit. After bowels work off well give ¼ dr. calomel twice a day for two days.]

Horticultural Department.

Editorial Notes and Comments.

MARKETING APPLES.—L. Woolverton of Grimsby, Ontario, stated to the American Pomological Society that that province had nearly 200,000 acres of apple orchards; that in 1887 Canada exported over 400 000 barrels, one-quarter of which went to United States markets, and the rest to British markets. Mr. Woolverton has an orchard of a hundred acres, including about sixty varieties, but only half a dozen for profit, namely, Oldenburg and Red Astrachan for home summer market, Gravenstein for autumn, and Baldwin, Greening, Roxbury Russet, Northern Spy and Tompkins King for winter export. The Fameuse has had a high reputation, the Wealthy is becoming popular, and the Winter St. Lawrence is valued as an early winter fruit for home use. His Kings and Gravensteins sold in Covent Garden, London, in October, for six dollars a barrel. The charges were one dollar a barrel to Liverpool, and forty cents more to London, besides commission. Harvesting costs ten cents a barrel, packing as much more, and the barrel thirty cents. Two dollars a barrel are required to cover expenses. Mr. Woolverton's orchard, on the south shore of Lake Ontario, is in a favorable locality, and Baldwins and Greenings usually yield seven or eight barrels a tree; but one season he took from "an immense Greening" no less than fifteen barrels, while his father gathered on one occasion no less than twenty barrels. This is a part of the same general fruit region as Western New York, extending westward.

EARLY TASTE FOR FRUIT CULTURE.—A correspondent of the Canadian Horticulturist gives an interesting example of the strong taste for horticulture which children take from their superiors. He visited the grounds of the president of the society at Goderich, occupying two acres in extent. They were neatly laid out in lawn and flower beds, and separated from the fruit garden and orchard by an evergreen hedge. Pear trees were loaded with ripening fruit on every hand, and a hundred apple trees showed the care they received. The children showed the visitor through the grounds, and every one of them was an enthusiast in fruit and flower culture, and "little chaps five and seven years old could name you every variety of pear or apple tree in the orchard as we came to them." If the owner had cared nothing for horticulture, these children would not have known a pear tree from a crab.

BEN DAVIS CROPS.—The Rural World reports the following as the usual crops of the Ben Davis apple, according to a leading western orchardist: A well-grown tree at eight years will bear from two to four bushels; at ten to twelve, six to eight bushels; at fifteen, ten to twelve bushels. As the tree becomes still older, the crop will of course be greatly increased.

THINNING FRUIT.—A writer in the New England Homestead says he would pick off half the fruit on a pear tree, because one good pear is worth four poor ones. Do not ever prop a tree; pick off the fruit before it gets large, if it is going to be too heavy a load. Always assort thoroughly; putting poor with good fruit makes it all poor. We add that it does more; it makes the poor appear still worse by the contrast. Ten bushels of good and ten of poor will sell separately for much more than the twenty would seized together.

UPPER STORY GRAPES.—E. Williams of New Jersey, in his address on the culture of the grape, told how a city gentleman, who had his small yard filled with fruit trees, with no more room, obtained a good crop of grapes above stairs. The vine was planted among the trees, and as it grew was trained up the side of the house in single cane, to the eaves of the second story, and given a trellis built from the gutter to the roof. An attic window to the roof gave access to the vine for pruning and gathering the grapes. For years that vine responded annually with a bounteous crop of delicious fruit, beyond the reach of outside thieves.

QUACK GRASS.—F. P. Root states in the New York Tribune that he has effectually destroyed quack grass by the cultivation given to a large bean crop. A very thorough previous preparation with spring-tooth harrowing was given to the soil, and the beans, planted in June, had a vigorous start. The after-cultivation was thorough, but no more than for the good of the crop. The cultivator was passed several times between the rows, and no grass was allowed to grow. The grass along the rows was covered with the hand hoe. As soon as the beans were removed, the gang plow was set at work, turning the soil four inches deep. The bean harvester, which cut all clean along the drills in harvesting the crop, had made thorough work. Not satisfied yet that the weed was entirely extinct, the same process was repeated the next year. Thus two crops of beans in succession did the work.

Garden Notes from Long Island.

"LEMON TRIFOLIA."—Apropos of my note, p. 861, my friend Mr. Joseph Meehan of the Germantown Nurseries, Philadelphia, writes me: "In regard to 'Lemon trifolia,' about Philadelphia this name is just as often used to designate the *Aloysia* as the lemon verbena is; in fact oftener, I think."

THE WEATHER.—"It's the funniest kind of a fall I ever knew," is the common remark of the people. Rain, rain, and cold, raw, disagreeable weather has been the general record, but up till now frosts have been few and very slight; indeed, in our place here, which is on the edge of Long Island Sound, although in some open parts a slight white frost appeared twice, no tender plant was injured. But on Friday (Nov. 15) it was evident a great change in the weather was at hand, and what a pity! We had 1,200 chrysanthemums in glorious bloom out of doors, our French marigolds were banks of gold and brown, dahlias were in gay estate, and nasturtiums in vivid thousands clothed the trellises and spread upon the ground. In the morning the thermometer indicated 24° Fah., and all were gone! And this was succeeded by bright sunshine, and next night by 10° of frost, followed by warm sunshine to complete the ruin. And this has ended our summer garden. We have a few roses and sweet alyssum, and tritomas, and English marigolds, and pansies and mignonette yet left to cheer us on, but our energies are now directed to clearing off and away that which was "cut," and manuring and covering up for winter.

A NAUGHTY CATALPA.—In a little grove of trees we have two young plants of *Catalpa speciosa*, with stems a foot in diameter. The land, except an inch or two on the surface, is pure sand for many feet deep; still these catalpas have grown with the greatest luxuriance, so much so that every windstorm breaks many of their branches. A week ago Saturday (Nov 9th) it rained continuously all day, and Sunday morning our mushroom cellar was a flood with water. The drains were clear at the mouth, but evidently choked somewhere. We dug down (nine feet deep) in several places to find the cause of the trouble, and we traced it to the vicinity of the catalpa trees, which are growing within a few feet of the line of the drain. Then we opened a hole beside the trees, and found the pipes completely choked with long ropes of the fleshy, thready roots of the catalpa trees; in fact, a large proportion of the main roots from these trees made a straight line for the drain, which was of glazed tile. Birch, oak, soft maple, flowering ash (*Fraxinus ornus*), linden, red cedar and honey locust also grew near the line of this drain, but not one of them has rooted into it, or shown an inclination to throw their roots toward it.

A MESS OF MUSHROOMS.—If the farmers have not got a mess of mushrooms for their Thanksgiving dinner it is their own fault. They have lots of horse manure and a cellar or outhouse, and up till this time of year any way, no artificial heat whatever is needed. By shaking out the manure in August, making up the bed about the middle of September and spawning it towards the end of September or first of October, the crop will come in in nice time for Thanksgiving. And there is no bother at all with it, and the little time it will take to shake and prepare the manure, and make up and plant and cover the bed, will hardly be felt. The spawn costs only 10 cents to 15 cents a cake, and each cake divided into ten parts, will plant a square yard of bed, and this ought to bear 5 pounds of good mushrooms at the least. The manure is just as good for farming purposes after the mushrooms are done growing in it, as it was before it was made up into a bed, better, perhaps, for it is better rotted.

There is a current idea that artificially-grown mushrooms are not as good or well-flavored as are natural or wild ones, but this is a great mistake; in fact I think the contrary is the truth. And there is not a more delicious vegetable on the face of the earth than plump, fresh, young mushrooms. And what a delicacy! And they are healthful, digestible, nutritious and powerfully invigorating; but they must be used when they are young and fresh.

And then their market value is worth considering. The demand for fresh mushrooms is increasing every day, and the supply has never been near equal to the demand. Fresh mushrooms cannot be imported from London or Paris—the two greatest centres for mushroom-growing in the world—so our markets must depend solely upon home grown produce.

Many farmers could add mushroom growing to their system of crops with benefit to themselves, interest to their families, and profit all round. And it is a crop particularly interesting to the young people. You will require a team of horses to haul a $10 load of hay to market, but you can put $10 worth of mushrooms into a chip basket and bring it along in your hand. And it isn't too late yet to begin. Shake out or prepare your manure in December, make up your bed at Christmas, spawn it at New Year's, and gather and market the mushrooms in February and March.

WM. FALCONER.

The Chrysanthemum in England.

This part of the old world is just now playing high jinks over our favorite autumn flower. Its easiness of cultivation, its endurance of November fogs, of London smuts, and of light frosts are all in its favor. But the craze which has run on for a generation over sports and new varieties, makes the centenary of its introduction too good an opportunity to be lost by its devotees. Hence in Belgium and in France I lately found all growers on the alert; while here we have had exhibitions without number, and this week a conference of its recognized association.

I have seen several of the shows during the past few weeks; for growers manage to make successful plants run all the way from September to January, and have found enthusiasts at each of them. To my mind, the very best collection of all is that shown in the great Temperate House, at Kew Gardens. Not for extent, it is true, but for character in giving specimens of everything worth seeing, and having none save the very best of each in its class. Of colors, the prevailing taste falls on the smaller whites, creams, and some of the shades of yellow; but the richer ambers are not forgotten. The flaring quilled sorts yield the palm to the more compact pompon varieties; while a few oddities, recently imported, do not add much to our stock varieties. The Temple Gardens have long been a home for chrysanthemums in London, and this year the show is well to the front. Every cottage garden in the country, however, can have its own border of this plant; and if they are placed on a sunny wall, with a ten or twelve inch coping board to throw off the rain, you can get as good specimens as are possible to be obtained anywhere.

During the 2,000 years they have been grown in China and Japan, no approach to a blue flower has ever been recorded, though they have secured a few climbing sorts, and other oddities. Fortune, whose name is dear to every horticulturist, did more toward the introduction of this plant to the British public than any one else; and the subject appears to have laid hold of the affections of a certain class of growers from the very first. Extravagant prices have at times been paid without perhaps securing wholly adequate results, some of the highest figures, as well as some of the most notable subjects, being credited to our French neighbors. I had the opportunity of seeing a little of their doings at Lille, lately, but was not fortunate enough to see the gigantic "Maid of Guernsey," grown by M. Phaiser of Roubaix. This perfect specimen, standing six feet high, in a 12-inch pot, and with a circumference of over 20 feet, had some 800 fully expanded blooms, all of good size and substance.

Chrysanthemums under glass have necessarily a heavy pull over those that are grown outside, though these latter, in the Channel Islands more particularly, run the specially protected sorts very hard in the race. It need hardly be said that chrysanthemum-raising costs, like any other hobby, a good deal of money. Not a single pot has been shown anywhere, but must have stood its owner a dollar or more to bring it to the exhibition stage. But the buttonholes of our city men, and the baskets of our city flower girls, are alike the richer for the current taste. In its native habitat it claims the title of the "Queen of Flowers," while the Imperial Order of the Chrysanthemum is the highest dignity that the Mikado can bestow in his empire. The distinction is reserved almost exclusively for royal personages, the present Emperor of Germany being the latest recipient of this dignity near us.

In the flowery lands the name of the plant is associated with many of their pet names for female beauty and loveliness. Perhaps one reason for general popularity is the near affinity of the plant to our old-fashioned Michaelmas Daisy, which has received considerable attention and also marked improvement during the past ten or twelve years.

It were ungracious not to add that recent American imports have given something to the glories of the chrysanthemum world, while at the great gathering at Chiswick the specimen "Mrs. Alpheus Hardy" received the attention which it well deserved. English tastes, however, not to say English prejudices, claimed to have quite its equal among other specimens.

London, Nov. 6. T. BOWICK.

Fruit in Northern Florida.

THE ORANGE CROP—SEEDLINGS AND BUDS—PEACHES AND SOIL MOISTURE—STRAWBERRIES AND THE DROUTH.

EDS. COUNTRY GENTLEMAN—The promise of an unusually heavy crop of oranges which the trees gave last spring, has been gradually whittled away, until now the indications are that it will fall considerably below an average. The principal cause of this reduction was the phenomenal drouth last spring, which made the young fruit drop off. The splitting of the oranges, which always takes place in the fall, does not seem to be more extensive than usual. It is believed by experienced growers that too late cultivation of the trees in the summer, including too copious a flow of sap, is one of the chief causes of splitting and dropping. My own experience seems to confirm this view, since this season I ceased to cultivate my bearing trees two months ago, and there has been less splitting than in former seasons, when I continued the cultivation through October and the greater part of November.

Contrary to the usual order of things, the orange crop will be proportionately heavier this fall in Bradford county, and other parts of North Florida which produce oranges at all—so far as I can learn—than in South Florida. Our soil here is the "flatwoods," as it is called, which is nearly level, and with a considerable percentage of vegetable matter in it, making it more retentive of moisture than the light and porous sands which generally prevail in the orange belt of South Florida. Lawtey is near the northern boundary line of this county, and barely falls within the orange belt. Macclenny is only twenty miles north of us, but it is considered quite a waste of time to plant oranges there. The difference between these two places would not be so pronounced from reasons of climate, but at Macclenny the water in the wells is twelve to sixteen feet below the surface, while here it is only six, and often, after a heavy rain, only one or two. This moisture near the surface not only sustains our trees against drouth, but also against frost in winter, since in the great freeze of January, 1886, the orange trees at Lawtey did not suffer nearly so much as did those at Kingsley Lake, six miles southeast of us, where the sand is very loose and the water deep below the surface.

On the other hand, Kingsley Lake is much better adapted to peaches than Lawtey. In the light, porous sand around the lake the peach tree is prolific and early in bearing, while in our cold, damp soil the attempts at peach culture are rather unsatisfactory. The orange being an evergreen, needs a liberal supply of moisture to sustain it against the cold, dry winds of winter; while the peach, being deciduous, requires little or no moisture during the season of rest. At Kingsley, therefore, the fall drouth, which comes regularly in this climate, puts the peach trees to sleep, so to speak, while at Lawtey the lingering moisture in the soil keeps the trees in a semi-evergreen condition, unless the winter is exceptionally severe, and causes them to fritter themselves away in blossoming all the way through the late fall and winter. There are

now two or three dozen of my Peento trees, and a half dozen of the Maggie variety—both very early—which are speckled over with bloom. I am getting disgusted with this foolishness of my trees, which they annually repeat, and am thinking strongly of pulling up all my early trees and attempting nothing in the line of peaches except with those varieties which bloom late. These, belonging chiefly to the native or Spanish strains, generally do tolerably well here, though the fruit is not so large and fine as that which grows in lighter, drier soils.

But oranges and strawberries are all right here, and I am still firmly of the opinion that the distinctive character of our soil gives us an assured position within the orange belt, even though the northern boundary line of that belt may have to be finally drawn very crooked. True, our orange interest here is in a very backward condition, but that is due largely to the mistaken notion entertained by the early settlers that seedling trees alone would survive the cold at a point so far north as this. This error has taken deep root; and grove owners, even though "convinced against their will" that budded trees are safe and much better every way, are reluctant to cut back the large seedlings around which they have toiled so many years, and have them budded. I have myself about 275 trees, of which over 100 are magnificent specimens, 20 feet high or thereabout, and 15 feet in spread; yet this fall the best of them will not yield over four or five bushels apiece. They are about 14 years old. It takes a seedling 14 or 15 years here to get really down to business. Still, I believe that orange trees—even seedlings, if one has patience to wait—are good property here, when properly cultivated and liberally supplied with potash and bone; and I would almost as soon cut off my wife's hair as to hack these grand trees in such destructive fashion as would be necessary for budding.

As to the strawberry, we have no doubts whatever. Our damp, heavy soil carries them through the fall drouth, while in the light, porous sands of other localities the plants perish by thousands, sometimes even the old or stand-over plants dying nearly all out. From Sept. 25 to Oct. 26 we did not have a drop of rain, and this drouth prevailed very extensively over the State. Where the soil had been fairly well prepared and the plants set with any kind of care, not the half of one per cent. died in this drouth; while at some other points a fourth or a half of the stand perished.

Some time ago a South Florida correspondent of the COUNTRY GENTLEMAN stated that a hundred acres of strawberries at this point had been bought by a New-York merchant at 15 cents a quart up to May 1 next. This is an error. The merchant referred to offered 15 cents for one crop here—possibly others—but the owner declined to sell at that price, preferring to risk them on consignment. A few growers last spring netted 20 cents a quart; I think the average of the colony, excluding the colored shippers and a few irresponsible whites, was at least 12 cents. The present acreage at this point is estimated at 250. STEPHEN POWERS. *Bradford Co., Fla.*

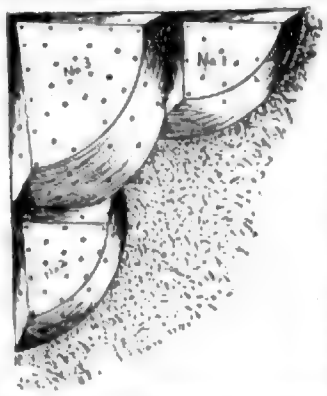
A Hundred Tulip Bulbs.

Having just finished preparing and planting a bed containing the above number of bulbs, it occurred to me that it might not yet be too late to call the attention of your numerous readers once more to the necessity of starting this fall, if some of these showy flowers are wanted next spring before other tender plants can be planted out.

How universal is the regret, when the tulips display their gorgeous colors, that the opportunity was neglected for preparing at the proper time, for a similar display of one's own, and the florist is eagerly questioned as to why the spring would not do just as well for the planting, not understanding the nature of a bulb, as differing from an ordinary flowering plant.

The prime difference between a plant like a geranium planted out in the spring and a tulip, hyacinth, or other early-blooming dry bulb, lies in this: The geranium having a ball of fibrous roots when put into the ground is thus able to grow and bloom right along, as it is able to draw sufficient nourishment from the soil for its daily needs. Not so with the bulb, however, for if it were planted in the spring, it would not have time to start out its roots before the warm sun and moisture would start the top into growth that had nothing to sustain it, so the foliage and flowers could not develop themselves, but would turn a sickly yellow hue, and likely die without displaying a particle of beauty.

When the bulb is planted in the fall before the ground freezes (it is better, however, if done as soon after Sept. 1st as they can be procured), time is thus given it to make a root-growth in the warm soil, while at the same time the air is too cold to encourage any great growth at the top; so with the first sunshine of spring, the roots are in shape to support the rapid development of leaves and flowers in all their glorious beauty. Having briefly explained (though clearly, I trust) the reason for planting the bulbs in the fall, I will mention my way of preparing and planting my bed, of



which I also send a sketch, which plainly shows that I attempted nothing elaborate.

This bed during the past summer was filled with flowering plants of various kinds, which I did not care to pull out sooner, some being quite hardy. The soil was spaded up deeply, then a good dressing of rotted manure was applied, which was then thoroughly mixed through the soil. The bed was formed into three sections, each being a quarter-circle of different sizes and heights; No. 1, the lowest and smallest, was raised about 5 inches above the surface, the straight sides each having a length of about 3 feet; No. 2 was about 7 inches above the surface, the sides having a length of 4 feet; No. 3, the main section, was elevated about a foot, and the upper side was 5 feet long, the other about 4 feet.

In general it is hardly admissible to give beds such an elevation, as they so much more rapidly dry out, but with bulb beds it is practicable for they are through before it begins to get dry, and our strong loamy clay soil is particularly well suited for such beds. The matter of varieties is of no great importance, as a bed planted with a good mixture of color will please the majority of persons, and in such a mixture the bulbs need not cost over three or four cents a piece. However, to many eyes (mine among them) distinct colors in masses are the most pleasing, and the cost need not be over five cents each for such bulbs by the hundred. I got named varieties, which is also not essential, the bulbs in distinct colors but not named being generally just as satisfactory.

In the sketch, No. 1 was filled with 29 bulbs of Kaiserkroon, a fine red and golden striped sort in which the latter color predominates, that is very effective in a mass. The dots in this section, as well as the others show the position of the bulbs, one row being placed on the sloping sides all around in order to increase the apparent size of the bed. No. 2 contains 26 bulbs in two varieties, those on the top being Proserpine which has a rich cherry hue and is one of the finest of all the colored varieties. The row on the sloping sides of this same section is composed of Duchess de Parma, a sort similar in color to the Kaiserkroon, excepting that the red is the prevailing color.

The largest section, No. 3, has the top part planted with sorts in which white is the chief color, the sorts being Pottebaker, a pure white, for the centre, while the side toward No. 1 contains a rose and white tinted sort called Cottage Maid, while the opposite side is filled with Silver Stripe, a most delicately shaded variety. Together these three sorts will make a most effective mass, especially as they are surrounded with a row of Crimson King, which is of a deep scarlet, planted on the sloping sides, the section taking just 30 bulbs to fill it. The bulbs were set from 9 to 12 inches apart, and planted about 4 inches deep, and the ground slightly firmed with a rake after covering.

As a winter covering, I shall put on two inches of fine manure which contains considerable sand, the latter having been used for bedding. Evergreen boughs, strawy manure, leaves or any similar substance would do equally as well and be more easily gotten where such covering as mine is not at hand. Next spring while the cold winds still blow, I expect from my hundred bulbs (of which nothing can now be seen) a most beautiful display, and would urge all of my readers, wherever the ground is not now frozen, to plant at least a few, even if not more than a dozen; they increase rapidly and the next season you will likely have two dozen, as I expect to have two hundred to plant next fall, which will permit of a more varied arrangement. E. E. SUMNER.

Niagara County, N. Y.

Things to Do and Not to Do.

TYING UP BRANCHES.—Now is the time to go among your fruit trees and tie together the limbs of those that have made a long spreading growth, and whose limbs fork out. This is especially the case with the apricot and peach. By tying all the limbs together about a foot up from where they leave the trunk, they are prevented from breaking or splitting down with the snows and ice storms of winter, as well as by strong winds. Use a stout, soft string and it will do no harm, and not cut into or chafe the tree.

STRAWBERRIES AND FRUIT TREES.—One often sees the advice to set strawberries between young fruit trees in order to utilize the space and get the benefit of the cultivation given the trees. Like many other things said and written, the idea is all right, but the practice is all wrong. For this reason: Strawberries require very late cultivation—as long as any growth can be obtained. Young fruit trees want all the cultivation possible up to a certain time, and then it should cease in order that growth may stop and the wood have time to ripen up and harden before cold weather. If strawberries are among them, the late cultivation they get also affects the trees, causing growth to continue up to cold weather. This late growth is tender and winter-kills. I was caught this way this fall, and some of my peach trees were throwing out new growth Nov. 1st, which is sure to die. Use the space between the trees for early crops if you like, but keep strawberries on some other ground.

PLANTS TO A HILL.—In setting out raspberry plants, I do not think one plant enough for each hill, in starting them. It is far better to set in three or four good plants, then if one or two die you do not lose the hill, and a far more satisfactory stand of bushes is made for the following season. Plants do not cost much, and it is better to be liberal in their use. It is easier to pull out some than to find you have not enough when it is too late.

CUTTING RUNNERS.—The best tool to cut strawberry runners, and save your back, is what is called a sidewalk snow and ice cutter. Get a good one with a wide steel cutter and sharpen it to a chisel edge, and you will find it does the work well. GEORGE Q. DOW.

North Hyegate, N. H., Nov. 11.

The Poultry-Yard.

Winter Foods for Farmers' Fowls.

As winter approaches, and all insects as well as the tender vegetation in fields and meadows are frozen and dead, the farmer's fowls which have hitherto gathered for themselves the principal part of their living now begin to look to him for their daily sustenance. And if he expects his flock to continue healthy and profitable it is necessary to take their wants into serious consideration, and endeavor, as far as possible, to supply them with the foods containing the same nutritive elements as those which nature prompted them to select during the summer.

The necessary foods may be divided into three classes; the first, and most important, being grain food; the second, animal food, which is intended to take the place of insects; and the third is green food, such as vegetables, apples, etc., which we must substitute for the tender grass and clover that the fowls were eating so industriously all summer. Indian corn is the staple grain for fowls; there is no getting along without it, and after all that has been said about its injurious effects, yet, when fed in moderation and in connection with other things, there is nothing more wholesome or nutritious. To a hungry fowl on a cold winter evening the cheerful clatter of whole grains of corn rattling down on the frozen ground is the sweetest music in the world. Thus fortified they no longer dread the long cold night, and come down from their perches in the morning brisk and alert, ready for whatever the day may bring forth. It is a good thing to boil the corn for them occasionally, as it is thus greatly increased in bulk and also in nutritive power; and lately I have been feeding a good deal of cracked corn, which is best boiled until thoroughly done when it becomes almost solid. This is the most economical way of feeding corn, and when seasoned with a pinch of salt and dripping it is excellent as a hot meal in the morning. Dry corn is best given at night.

If winter eggs are desired it is necessary that hens should have in addition to corn some sort of small grain, as wheat, oats, buckwheat or rye. When only two meals a day are allowed the small grain should be given in the morning, for the soft food being rapidly digested the fowl soon becomes very hungry.

This winter I am rejoicing in an abundant supply of sorghum seed. The cane was raised for the cattle, and the poultry are to have the seed; they are remarkably fond of it, and it must be wholesome for them as the flock keeps perfectly healthy, most of them already resplendent in new plumage, and their egg-production very fair for the season.

I was surprised to find that sorghum seed partakes of the nature of popcorn, expanding under the influence of heat and bursting into beautiful little capsules; it is also said to make good meal or flour, something on the order of buckwheat.

I like to give my flock some wheat every day, but the last screenings that came from the mill were more than half chaff, so it will not pay to buy any more. My father has a granary full of wheat, but he is keeping it back for a big price next spring; he lets me have shelled oats though, in place of it, which ranks next to wheat as an egg food. My boasted acre of buckwheat did not turn out very well; it was sown rather late and the frosts which came earlier than usual caught much of it in bloom. I had it mowed down, but when the men went to gather it up they said there was not enough grain in it to make it worth paying, so we let the turkeys finish it.

So much for the first division, grain food; now we will discuss animal food which is designed to take the place of insects. Our nearest approach to this is fresh meat, and on a large farm where beef, mutton and pork are butchered at intervals all the year round, their wants in this direction are very easily supplied. Tender bits, such as the fowls can easily swallow, are best left raw; but the gristly portions and the heart, lights, and liver, should be boiled till tender, chopped fine, and mixed with meal or wheat bran. We always notice that the number of eggs is greatly increased after hog-killing, when fresh meat is plentiful. When the lard is made, a store of cracklings is always put by for the use of the fowls. They are also very fond of the taste of old bacon, the tough rinds of which should be boiled till tender, and with dripping, old gravies, &c., be used to season their soft food.

The table scraps are at all times their exclusive property, and by enlisting the services of the cook, we occasionally concoct for them an excellent meal by putting the refuse vegetables, potato parings, cabbage leaves, turnip tops, &c., into the liquor in which meat has been boiled, and putting it over the fire again, cook the mass until tender, then thicken it with meal or wheat bran. This dish is a prime favorite with my flock: they eat of it with as much relish, and discuss its merits with as great satisfaction as we do the first buckwheat cakes.

The discussion of the third division, green foods, must be left for another time, as I do not want to monopolize more than my share of space. A FARMER'S DAUGHTER.

Frog Farming.—A western correspondent encloses us the following clipping in reply to an inquiry published some time ago with reference to raising frogs for the market—the speaker being the proprietor of a frog farm at Menasha, Wis., interviewed by a reporter. He said: "My farm is all right. I have over 2,000 females, and each produces from 660 to 1,100 eggs at a time. Next spring I will show you myriads of eggs. In ninety-one days the eggs hatch. The thirty-ninth day the little animal begin to have motion. In a few days they assume the tadpole form. When 90 days old two small feet are seen beginning to sprout near the tail, and the head appears to be separate from the body. In five days after this they refuse all vegetable food. Soon thereafter the animal assumes a perfect form. Next spring 25,000 at 20 cents per dozen will be my reward—figure it yourself and see if there is any money in batrachia, alias frogs."

New Advertisements.

Akin, John W	*Percherons & French Hors's.*
Billingsley, J. J. W.	*A New Book.*
Brown, Homer J.	*Cheshires.*
Barlow & Co., A. G.	*Poland-Chinas.*
Butterfield, J. F.	*Berkshires.*
Burnet, Mrs. A. G.	*Pekin Ducks.*
Coleman, W. W.	*Ranch and Farm for Sale.*
Clarkson, R. L.	*Jersey Bull Calf.*
Cloud, Dr.	*Chilo Pups, Dogs, &c.*
Chisholm Killer Co.	*Bacon's Chisholm Killer.*
Common Sense	*Help Wanted.*
Ely, L. D.	*Albert- Pearl Calf.*
Farmer	*Position as Foreman.*
Gardiner Park	*Chestnut Mare.*
Hawkins, A. C.	*Prize Fowls.*
Holcombe, Wm. M.	*Scotch Collie Puppies.*
Horr, J. Aldus	*Poole Bull.*
Ingersoll & Bro.	*Three Articles for 10c.*
do. do.	*Fifty Cent Printing Outfit.*
Jamaica Work Co.	*A Nice Present.*
Jonison, D. H.	*Help Wanted.*
do. do.	*Trial Power; Brood Mare.*
John P. Lovell Arms Co.	*Champion Mist Gun.*
Knabe & Co., Wm.	*Knabe Piano Forte.*
Live Stock Association	*To Stock Owners.*
Lewis & Co., David W.	*Situation Wanted.*
Midland Avenue	*Stallion for Sale or Rent.*
Pratt, C.	*Illustrated Monthly Page.*
Raymond, J. B.	*Farmer Wanted.*
Schnebly, M. M.	*Berkshire Pigs.*
Townsend, N. F.	*Position Wanted.*
The Drainage Journal	*Monthly Magazine.*

Subscribers' Wants.

C. S. WHITNEY, *Bethlehemville, N. Y.* Bronze Turkeys.

G. E. NICHOLAS, *Afton, N. Y.* Good second-hand Steam Generator.

Pamphlets, &c., Received.

AULTMAN, MILLER & Co., Buckeye Binder and Mower Works, *Akron, O.* Handsome illustrated Calendar for 1890.

BLACK, PAUL C., Secretary-Treasurer Nova-Scotia Dairyman's Association, *Falmouth, Hants Co., N. S.* Proceedings of Annual Convention, March 13-14: pp. 32.

DODGE, Hon. J. R., Statistician, *Department of Agriculture, Washington, D. C.* Advance Copy of November Report, with specialty interesting matter about crop reporting in general.

GILFILLAN & MURRAY, *Sequatchi, Iowa.* Circular of Red-Polled Cattle and Suffolk-Punch Horses.

HAGERTY, F. H., Commissioner of Immigration, *Aberdeen, Dak.* Circular relating to alleged Destitution in Dakota.

KONVALINKA, J. G., *School-inspector, Long Island City, N. Y.* "How to Improve the Climate of the United States:" pp. 8 illustrated—10 cents

Inquiries and Answers.

New Roofs.—What is the best way to treat roofs of matched boards that have begun to leak between the boards? The slope is gentle, 1 foot in about 3½ feet. Will tarred paper last any time worth applying it? Has any one tried painting tarred paper after applying it? How is gas tar prepared and applied? Does it need gravel mixed in it to make it last? Should it be laid on the boards or on a layer of felt or paper? Is there any reliable, cheap felt roofing that only needs to be fastened in place on the boards? C. *Spring dale, Conn.* [There are many kinds of roofing paper and felt and roofing paint offered for sale, but years are required to determine by trial which is best. We advise our correspondent to apply to the *Indiana Roofing Company*, 43 West Broadway, New-York, whose advertisement appeared last month in our columns, and who will furnish testimonials and samples, and directions for applying. The roof mentioned by you is too flat for shingling or slating, which would otherwise succeed well, and tin would require re-painting every three years. Tarred paper or gas tar causes the roof to heat, warp and crack in the sun's rays, and the addition of gravel does not abate this difficulty, but only retains a thicker coat.]

Feeding from Silo.—We have a silo 20 feet square, filled to the depth of 16 or 17 feet. We have sectional doors from the top to bottom, the latter on a level with stable floor. We intend to feed it to about 30 head of stock. How shall we open it, from the top or bottom? We have no experience. A. L. W. *Middletown, Conn.* [The position of the "sectional doors" is not sufficiently explained to inform us into how many vertical sections the ensilage is divided. If with only one division, the one-half would give 200 square feet of horizontal surface. By taking off successive horizontal layers in feeding the twenty head of cattle, the mass of ensilage would be laid bare often enough to prevent it from spoiling by exposure; and when the one half is fed to the bottom, feeding could be commenced on the next half. With a greater number of subdivisions, the advantage of taking off horizontal layers would be greater. Without any sub-divisions, the mass of ensilage might be cut down vertically with a hay knife in successive slices as fed.]

Management of Night Soil.—I have a farm of 45 acres, all under cultivation, and within the city limits. I have received since August last about 350 tons of night soil from the city, about 100 tons in a liquid state, which I have made into a large compost heap, with as much horse manure, to use in the spring. (1) About 250 tons are solid, which I had dumped on an old meadow, at the rate of about 20 tons per acre; have spread and plowed under about five acres for corn, and about seven acres spread for meadow. Have I done right? (2) Will 20 tons per acre, with one-third horse manure, hurt the flavor of vegetables, grasses or small fruits? (3) C. V. R. *Oswego, N. Y.* [1. In order to obtain the largest benefit from this refuse, there should be enough of some good absorbent placed in alternating layers with it in the compost heap, to retain all the fertilizing ingredients. In addition to the barn manure used, it would be well to use a copious supply of dry muck, turf, road dust, loam or other ingredient, to act as an efficient absorbent; and the thinner the layers, the more perfect will be the intermixture effected, and the more valuable will be the combined manure. Horse manure alone would be too imperfect an absorbent, especially in the small quantity used, but it would greatly aid the value of the new compost, both in composition and texture. 2. It is important that it be finely broken and evenly spread, to effect which it should now be thoroughly harrowed many times, for which a smoothing or slant-tooth harrow is best, the sloping teeth pressing downward and finely grinding, without collecting it in lumps as a common harrow would do. 3. If the manure is finely and thoroughly intermixed with the soil, it will not at all injure the quality of fruits and vegetables, if a moderate quantity is used.]

A Hot Silo.—I filled my silo from time to time, about a month or more ago. The contents now are awful hot; am feeding it, but is there danger of setting barn on fire? How could I cool it? What ought I to do if it gets over 140°? I opened the silo a few days ago; stock eat it, but it seems to be as hot as a month ago. O. H. S. [There will be no danger unless the temperature rises many degrees above 140°. Different combustibles take fire at various temperatures, but it is not probable that green stalks will inflame with any heat in a silo. Heat is prevented by compact pressure, so as to close the crevices through which air can enter; but as it is now too late to give a heavy pressure to the successive layers of fodder as they are put in, the next way to exclude the air will be a heavy drenching with water, but this will undoubtedly be unnecessary. So long as your thermometer does not indicate a heat greatly above 140°, you need have little fear.]

Measuring Weight of Animals.—Do you know the different rules for determining the dressed weight of a pig by measurement while animal is alive? I have tried this one: Multiply the length (in inches) from between the ears to root of tail by the heart girth (in inches) and divide the product by eight if half fat or seven if full fat. This rule makes the pig too heavy, according to my judgment. W. S. W. *New-York.* [We cannot give correct and reliable rules for this purpose. A neighbor whose business is to purchase and slaughter animals informs us that he never found any rules that were better than judging or estimating with the eye, and generally not so accurate. But a novice may find a rule better than guessing in the dark. We shall, therefore, be glad to hear from those who have used reliable and accurate rules.]

Soapstone Griddles.—Shall we get a soapstone or steel griddle; which is best? I have been told that cakes do not brown nicely on soapstone. L. S. H. *Washingtonville, N. Y.* [Those who have used soapstone griddles inform us that their special advantage is in not causing the smoke of hot or burning grease, so common to metal griddles; and that their defect is in not giving a brown color to the cakes; and that they require more skill to use than metal. They are therefore more particularly adapted to those who do their own cooking. We trust, however, that some of our housekeeping readers who have had full experience with both kinds, will favor us with their views.]

Paspalum Grass.—As Prof. PECK, your State botanist, seems in doubt about the name of grass I sent you, owing to lack of root development on specimen sent, I forward another sample more carefully extracted from the soil. In digging it up I notice another kind growing with it, which so closely resembles the paspalum, that only close observation would distinguish the difference—I think this grass, which I have marked No. 2, is one of the numerous panicum family which grows in our pasture. I also send a paspalum grass marked No. 3, which is a more valuable pasture grass, in my estimation, than the platicaule. Our stock keep this pretty well grazed down during summer, whereas they will not touch the platycaule in our pasture until November frosts have killed the Bermuda and lespedeza. Outside of our pasture, where the pasturage is not sufficient for the cattle of the neighborhood, this platicaule is the grass that survives all others. It seems to need constant grazing and trampling to make it take full possession. G. A. P. *DeSoto Parish, La.* [1. *Paspalum platycaule*, the "broad-stemmed paspalum." These specimens show the creeping habit of the species and render the identification satisfactory. The name "platycaule" has reference to the broad, compressed, or flattened, upright stems and their sheaths. These stems grow from the joints of the creeping stems or root-stocks. The name "Louisiana paspalum" is somewhat misleading, for this grass ranges from South Carolina to Texas. 2 *Panicum anceps*, the "two-edged panic grass," also called "flat-stemmed panic grass." It may be distinguished from the preceding species by its more pointed spikelets, which are arranged in panicles instead of spikes. Its spikelets are also mostly supported on short pedicels. It is not generally considered a very valuable grass, though it affords some pasturage. 3. *Paspalum dilatatum*, the "hairy-flowered paspalum." It is a perennial grass and is said to withstand dry weather remarkably well. It has also been recommended as a valuable forage grass. It extends from Virginia to Texas. It bears considerable resemblance to the "smooth paspalum," *Paspalum laeve*, from which it may be distinguished by its hairy spikelets, which are also more pointed than in that species. C. H. P.]

Fertilizer for Celery.—In the article of C. S. R. on celery growing in your issue of Nov. 14, page 880, your correspondent appears to recommend an excessive application of fertilizer. After spading in 800 lbs. per acre he says: "And then [apply] another broadcasting of ten quarts to a bed ten feet long by three wide." Supposing the fertilizer to weigh eighty pounds per bushel, this would be at the rate of *eighteen tons per acre*. Is there not a mistake somewhere? E. H. S. *Gloucester Co., N. J.* [C. S. R. replies: "*Ten* quarts should read *two* quarts. Even this may seem a large amount of fertilizer, but as it is a complete manure, I manure with it alone—rather heavily for two years, and then reduce the quantity, but to what has yet to be determined. On B.'s soil it may not do so well, or he may not need so much. He should try as to the quantity best suited in his case. As I stated, the proper quantity is best found by practical applications or tests. Mr. B. can use the A brand, which costs less, $37 per ton; this costs $45. If he uses A brand he may apply 200 lbs. broadcast, and 4 qts. on the bed; or in other words twice as much to the seed bed and at each top dressing by the plants, and less broadcasted to the acre. If it suits his soil he will no doubt be pleased with results, if only in small quantities. But we must feed the plant if we want to profit by it."]

Seeding Down—Cattle—Taxidermy.—Are oats and vetches a good crop for seeding down land for meadow? (1) Which side of cattle's horns should be scraped to make the points turn inwards? (2) What has been the general result for dairy purposes of a cross between the Holstein and Jersey? (3) Where can I get the best work on taxidermy, and at what cost? (4) Also taxidermist's supplies? (5) A. B. C. *Sheffield, N. B.* [1. Oats forms a rather dense shade in growth and is not generally favorable to seeding to grass, but if half the usual amount of seed is used, and the surface soil is fine and rich, it does fairly well, especially in a wet season. A dense crop of vetches forms too heavy a shade. 2. This is disputed and uncertain; but we think the horn will generally turn toward the scraped side, provided the scraping be thorough enough. 3. We think experience has hardly been extensive enough to give any "general" result, but should be glad to hear from readers. 4. Send $1 50 to this office for Batty's work. 5. Of dealers in surgical instruments and drugs.]

Butter Extractor.—With what success has the newly invented butter extractor met as a substitute for the cream separator and churn now used in most creameries—and how does the butter compare in quantity and quality with that made by the separator and churn? F. *Culpeper, Va.*

Acknowledgments.

Communications for publication have been received during the week ending Nov. 25, from J. V. Henry Nott—E. J. Packard—R. S. C.—C. V. Houghton—I. H. Coates—R. W. Stewart—Wm. Falconer—Harry Sidgwick—L. S. H.—J. W. W.—G. R. Silver—D. R. Andrews—R. R. B.—G. M. Tallot—J. J. F.—R. Pearson—G. A. Stockwell—W. F. Lake—F. D. Curtis—W. L. B.—A Maryland Matron—J. Turk—W. H. Sherart—A. D. Smithson—Mrs. S. Holley—S. H. Mudcock—W. B. Capehart—C. R. Nichols—T. S. Terry—J. M. Hayes—W. Horne—W. F. Brown—A. A. Miller—L. J. Culver—Mrs. E. M. Jones—R. R. Brown—W. C. Pinkham—Mrs. E. B. Johnson—Hortense Dudley—C. K. Westbrook—R. H. Sumner—F. D. Curtis—J. W. Ingham—C. B. B.—George Abbott—C. S. B.—J. H. Baker—P. A. V.—D. S. B.—J. A. F.—W. B. Capehart—S. S. L.—E. H. W.—S. Smith—P. C. Stark—C. S. Rice—Henry B. Abell—Thos. Bowick—A. D. S.—G. K. W. & Son—A. C. Gliddon—L.—E. Worthington—T. H. P.—S. F.—E. F. Colwell—T. C. Greene—W. M. Wiley—Adele K. Johnson—Henry Stewart.

°.° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°.° We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Nov. 26, 1889.

Live-Stock at Chicago.—The following table shows the number of animals exhibited for fat-stock prizes at the last ten shows of the Illinois Department of Agriculture at Chicago:

	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89
Short-Horns	13	14	20	21	26	29	30		48	38
Herefords	6	5	7	20	14	16	8		20	37
Devons	5	5	0	0	0	0	14	60	13	5
Ab. Angus	0	0	0	0	5	6	10		6	7
Holsteins	0	0	0	0	5	21	9		1	4
Sussex	0	0	0	0	0	1	1	4	4	4
Jersey	0	0	0	0	0	7	0	0	0	0
Ayrshire	0	0	0	0	0	0	1	0	0	0
Grades, &c.	79	74	115	196	112	147	109	103	67	49
Texans	0	0	0	0	0	0	0	0	0	21
Cattle	103	101	142	200	160	230	175	172	154	154
Sheep	111	56	104	98	50	112	102	101	80	103
Swine	36	30	69	76	60	91	107	109	70	71
Total	250	190	339	374	260	433	434	382	304	328

The leading department of the show, the fat cattle, has been for some time steadily diminishing, as will be seen, and the decline this year is really greater than appears, for the Texans constituted altogether a special class, not competing with anything else, and were placed at the far end of the building from the other beeves. It is pleasant, however, to be able to add that what has been lost in numbers may be said to be more than gained in quality, for the prize-winning animals this year were notably excellent specimens of the feeder's art, extremely even and smooth, and entirely free from that jelly like over-fat feeling that was so noticeable in several of the champions last year, and prevented their carcasses (except in a single case) from receiving any award. It is pleasant also to note the reappearance of the old-fashioned fully detailed catalogue, stating accurately the breeding, age in days to Nov. 13, weight on that day, and average gain per day since birth, of every beef in the show; and to say that arrangements for furnishing information to the press (which have always been good) were this year even better than usual.

In the competition between the breeds, while Short Horns and Herefords (including their respective grades) were about equal in number, it will be seen by the lists of awards published last week and in the present issue that Short-Horns were "way, way ahead" of everything else as prize-winners, Herefords beating them for first place in a single instance only, the fat herd class. The grand sweepstakes, best live beast in the show, was this year taken by a grade Short-Horn for the seventh time, winners of the same honor at the other five shows having been pure Short-Horn once, pure Hereford once, pure Aberdeen-Angus once, and Hereford grades twice. The champion this year, "Bigdog," is three-quarters Bates and one quarter native; he was 1,060 days old, Nov. 13, and then weighed 1,950 lb., which is very good for a two-year-old, but what we liked about him especially was his smoothness, evenness, solidity, and generally beefy (rather than tallowy) aspect. He was not extremely thick-meated, being in fact a trifle light over the shoulders; but was splendidly developed behind, where the costly cuts are found. He was fed by Elbert & Fall of Albia, Iowa—chiefly on corn, cut hay and oil-meal, running out at night this past summer on a good blue-grass pasture. No roots, syrups, drugs or condiments of any kind were used, the owners say.

Of the three other winning animals in the rings where all breeds and grades compete together by ages, two belonged to a single firm, J. H. Potts & Son, Jacksonville, Ill. These were the pure Short-Horns Richmond and Captain. The first was 1393 days old, which is three years, and weighed 1770 lb.; the second, 836 days, and weighed 850. They have been fed about everything they would eat—corn, oats, bran, oilcake, and we believe sugar. The same management has been pursued with the winner in the yearling ring of the same class—Britisher, property of Jas. J. Hill of St. Paul, except that in his case reliance has been largely placed on fine sweet turnips. He was a capital animal, this Britisher—weighed 1510 lb. at 641 days, having great growth and thickness of flesh, though tapering off rather too sharply at the rear. He was got by a Scotch bull bred by Mr. Hill, out of a cow by an Oxford.

Of the remaining classes of butchers' stock it may be said, first, that the sheep show was rather unusually good, especially of Downs, Shropshires leading in number and including the sweepstakes animal as best sheep shown, while Oxfords and Southdowns were not far behind. Leicesters and Lincolns were also out in force, one of the latter—called Will, and property of John Rutherford, Roseville, Ont.—winning the "heaviest-sheep" prize, his weight being 367 lb. at 937 days. Merinoes were few and ordinary. The cross-bred rings included a great variety of interesting combinations. The sweepstakes here went to a two-year called Joe, belonging to J. F. Rundel, Birmingham, Mich.—half Shropshire, quarter Merino, quarter native, 997 days, 311 lb.

In the swine department perhaps most noteworthy was an exhibit of the unattractive but meritorious (though, in this country, very little known) Tamworths, made by Thomas Bennett of Roseville, Ill., who it seems made a direct importation ten or a dozen years ago, and has now about 50 head. He finds a good demand (chiefly west of Illinois) for all he can spare. The heaviest pig in the show was a Poland-China called Jumbo 2d and owned by Wm. T. Linn of Yorkville, Ill.; he weighed 575 lb. at 386 days.

——The carcase awards have been made since the foregoing was in type, and it will be seen that (as usual) the grand-sweepstakes winner alive failed to distinguish himself on the block. The sweepstakes carcase prize goes this year to a Devon, for the first time—Mr. Morse's New Era, winner alive of the first prize in the three-year Devon ring and also of the Devon sweepstakes. The second honor (carcase furnishing largest per cent. of net to gross weight) was awarded to a Short-Horn—so that this breed came pretty near maintaining in the carcase competition the supremacy that it showed in the live classes.

——An interesting competition (new this year, we believe) was the "milk test for all recognized, recorded breeds of cattle, to be judged by the milk product of three successive milkings—the value of the milk to be estimated from the weight and tested butter qualities." The entries were:

No. 1. F. C. Stevens, Attica, N. Y., May Overton 2010, Holstein.
2. D. H. & S. S. Tripp, Peoria, Ill., Maree 10167, Jersey.
3. D. H. & S. S. Tripp, Peoria, Ill., Helen of Oxford 3rd, Jersey.
4. R. A. Forbes, Lindenville, O., Lady Angus, Ayrshire.
5. Jno. Stewart & Son, Elkora, Ill., Spotty G 4990, Ayrshire.
6. Jno. Stewart & Son, Elkora, Ill., Young Ellen, Ayrshire.
7. Stanton Bros., Greenwood, Ind., Mollie Anderson 4873, Holstein.
8. Stevenson Bros., Bolger, Pa., Schrolling 3320, Holstein.
9. J. T. Henderson, Auvergne, Ark., Dot Bloomfield 36551, Jersey.

No. 4 was withdrawn. The 24 hour tests of the others resulted thus:

No.	Milk. lb. oz.	Butter Fat. oz.	Butter Fat. per cent.	Solids. oz.	Solids. per cent.
1.	65 7	36.10	3.45	100.30	11.48
2.	94 14½	21 24	2.38	56.09	14.06
3.	13 14	13.51	6.10	31.34	15.47
5.	82 9½	21 54	4.13	64.77	12 40
6.	80 1½	18 59	3.56	58 46	12.95
7.	16 9½	9.59	3.61	34.58	12 93
8.	87 13	22.66	3.65	91 21	9 86
9.	30 3½	14.03	4 35	44.47	13.79

The awards were based solely on the *quantity* of butter fat, without regard to its *percentage*, no account being taken of the relative richness of the different samples. Hence the first prize was given to Mr. Stevens' Holstein May Overton; the second to the Stevenson Bros.' Holstein Schrolling; and the third to Stewart & Son's Ayrshire Spotty G. It will be noted that the second prize cow's milk had less than 10 per cent. of total solids, and could not therefore legally be sold in New-York; also that the cow yielding much the richest milk (15¾ per cent solids, and more than 6 per cent. butter fat) received nothing—which seems a little odd in a dairy competition.

—— The Dairy display was rather unusually good. We noted fine butter from Illinois, Indiana, Ohio, Michigan, Iowa, Wisconsin, Nebraska, Minnesota and Kansas; and cheese from Illinois, Indiana, New-York, Iowa, Minnesota, Nebraska and Kansas. The oleo men were also on hand, and must be credited with knowing how to show their goods to excellent advantage, exhibiting the materials in all conditions of manufacture, as well as the finished product, and catching the eye of visitors by several really very meritorious and striking pieces of statuary constructed of bull butter.

Among miscellaneous exhibits, we noted fine displays of the Genesee Salt Co.'s factory-filled dairy salt (office in Mercantile Exchange, New-York), with bulletins showing a remarkable list of prizes won by butter in which it was used; also fine-appearing samples of the butter-preservative salt made by the Kellogg Royal Salt Co., 384 West 11th St., New-York—a compound that is claimed not only to prevent rancidity in butter but to preserve for months its freshness, aroma and fine flavor, even when exposed to atmospheric influences. O. G. Stowell, Delavan, Wis., showed a "removable stock-tank water-heater," consisting of a curved cast-iron pipe, one end of which rises to form a chimney, while the other is expanded into a fire-place; it seemed to be simple, cheap, and durable, and worthy of the attention of breeders, feeders and dairymen. The Appleton (Wis.) Mfg. Co. had also a comparative novelty in the Peck husking, shelling and threshing attachment to a fodder cutter, by which the owner can cut the corn stalk and shell and clean the corn at one operation, thereby saving both husking and shelling the corn.

—— The list of prizes awarded appears elsewhere. The exhibit was well managed, under great difficulties, and the officers deserve credit. We are pleased to say that the State Board has secured the first right to the building next fall (if it still stands, which is not certain), and will avoid being put to inconveniences, as on the present occasion, by a preceding horse-show. The draft and general purpose horse-breeders, by the way, are said to prefer exhibiting under the management of the agricultural authorities somehow, and will probably do so in future. They do not think an exclusive horse show, including a preponderance of the light and fancy kinds, draws mainly the class of visitors among whom they find most of their customers.

Storrs Experiment Station.—There are some interesting figures connected with the components of manufactured fertilizers. Of the three principal ingredients, nitrogen is the most expensive in market, and where specially needed, the most efficient. The commercial price, which farmers pay for it, is about sixteen cents a pound. According to Bulletin No. 5 of the Storrs School Experiment Station, which we have just received, cultivators in Connecticut pay not less than $500,000 annually for commercial fertilizers, a large amount of which goes for nitrogen. And yet the atmosphere in which we live and breathe is four-fifths nitrogen. Its weight is twelve pounds on every square inch of surface, equal to 37,000 tons on an acre, and as we compute it about 150,000,000,000 tons on the whole State of Connecticut. A more summary computation is required for the whole atmosphere of the earth, the nitrogen of which is equal in weight to 120,000 cubic miles of cast-iron. It seems strange, indeed, with the progress of chemistry and the practical skill of chemists, that they are still unable to utilize so little of this immense mass of uncombined nitrogen.

Prof. W. O. Atwater, Director of the Storrs Station, is confident that chemists are in error in maintaining that growing plants do not use any of the free nitrogen of the air. He gives the results of experiments indicating the use of free nitrogen by such growing plants as clover, beans, and others of a leguminous character, "which generally get on very well without nitrogenous fertilizers in worn-out soils, and it would seem that these plants must in some way be able to make use of the nitrogen of the air." In experiments performed at the Station years ago, plants when grown were found to contain more nitrogen than had been supplied to them artificially and by the seeds from which they grew, and for this gain there was but the possible source of the atmosphere. Other investigators have since obtained more striking results. Prof. Hellriegel of Germany (as quoted by the Bulletin) has conducted a large number of experiments with the pea and lupine, obtaining nitrogen from the air, while oats and barley obtained it only from the soil. He has found a strong connection between the small root tubercles found on leguminous plants and the quantity of nitrogen acquired from the air, the larger and more numerous the tubercles (in size from a pin's head to a pea) the larger the quantity of nitrogen acquired.

This subject is one of great interest, and much further investigation is demanded. Could plants be found which could be grown in large crops, and would draw and utilize uncombined nitrogen abundantly from the atmosphere, they would wholly change the production of human food, and increase many times the capacity of the earth to sustain a multitudinous population, and the destruction of human life by famine would be greatly reduced if not unknown. The man who will procure such a plant as a fertilizer, or devise some mode for drawing abundantly from the immense resources of the atmosphere, would confer a benefit for himself and the human race, far exceeding the utility of the steam engine and the printing press.

Queens County.—After the annual meeting of the Queens County Agricultural Society held at Mineola on the 16th inst., the farmers present organized a meeting by calling Isaac H Cocks to the chair, and appointing Jacob Hicks secretary. Discussion was had upon the question of having the leading roads of the county put in such condition as would enable farmers and market gardeners to reach the markets of Brooklyn and New-York with good loads at all seasons of the year. The advantage of having good roads was conceded by all, but how to get them was the question. A committee of three from each of the six towns in the county was appointed to take the matter into consideration, and the meeting adjourned to meet in the town hall, Jamaica, on Wednesday, Dec. 4, at 10.30 A. M.

Following are the officers of the Queens County Agricultural Society for 1890:

President—Edward Cooper.
Vice-President—G. Howland Leavitt.
Treasurer—Thos. H. Bacon.
Secretary—Jacob Hicks.

Obituary.—We have the following from a Pennsylvania correspondent:

"October 13th, James F. Scott, a merchant of Pulaski, Lawrence Co., Pa., died very suddenly. Mr. Scott devoted a great deal of his time and means to agricultural pursuits, owning, all told, 1,000 acres of land in the immediate vicinity, not in one body. Engaging in business at Pulaski in 1839, Mr. Scott saw his small capital of $1,000, at the start, increased almost one hundred and fifty fold. Temperate in all things, never using tobacco, an ardent upholder of the government, and a staunch friend of the soldier in the civil war.

"The death of Hon. John W. Wallace, M. D., of New-Castle, Lawrence Co., Pa., last June, was caused, it was said, from the seeds of strawberries lodging in the smaller intestines. Dr. Wallace ate two saucers of berries at the house of a friend. Dr. W. was a learned man, an expert in his profession, frequently called on to give expert testimony in court, and was a great loss to the community where he lived."

The Apple Crop.—On this subject the Philadelphia Ledger says:

Last year New-York State furnished the bulk of the apple crop of the United States; this year the crop is a failure in that State, and what few it does produce are of inferior quality Michigan looms up as the banner apple-bearing State this year, its crop, Mr. Hellings estimates, being 1,500,000 barrels, the heaviest crop it has produced for ten years. This apple product of Michigan is, it is thought, over half the product of the United States. Southern Illinois has raised a fair crop, but the fruit is "clouded" and otherwise inferior, while, on the contrary, the Michigan product is the finest ever grown anywhere, and of a greater number of varieties. Mr. Helling's advices from the West are to the effect that the crop is being shipped away very rapidly, not only to the East, but to the farther West. The growers are disposing of their fruit at once, only keeping over enough for their own use. Mr. Hellings also stated that his firm was shipping apples to Boston and New-York at an advance over Philadelphia prices.

Last year Europe received 1,200,000 barrels, and so greatly are American apples preferred there that the people are already clamoring for them even at the advanced price. The indications are that so much of the reduced crop of this year will be exported as to make a severely felt scarcity in this country later in the season. New-York State alone produced 1,500,000 barrels last year, to few or almost none at all this year, and had not Michigan come to the rescue apples this season would have been a luxury instead of a necessity.

The Detroit Tribune says that Michigan will be short of apples for winter eating because the greater part of the crop has gone to supply New-York's deficiency. There are said to be over one quarter million of barrels of Michigan apples in cold storage in New-York city, and one Chicago man is said to have shipped there over 150,000 barrels. Prices average 75 cents a barrel more than last year. In London Baldwins are quoted at $3.80 and Kings $5.75 per barrel. Freight from Michigan to London is $1.25 per barrel, and 5 per cent. commission to seller there.

Farm-Yard Notes and Items.

The Hereford Cattle Company, which was organized at Chicago in 1887, chiefly to aid the smaller breeders in disposing of their pure-bred young bulls to the far-western ranchmen, has failed to accomplish much, and is to be dissolved.

A press despatch states that Messrs. Miller & Sibley of Franklin, Pa., last week declined a cash offer of $36,000 for the yearling colt Electric Bell, full brother to their noted stallion St. Bel. This is said to be the highest price ever offered for an untried trotter.

The Palo Alto catalogue for 1890 (horses belonging to Senator Leland Stanford) is a bound volume of over 300 pages, containing the full annotated pedigrees of 466 high-bred trotters, headed by the great Electioneer, and 77 thorough-breds—truly a mammoth stud. Palo Alto is 33 miles from San Francisco, in Santa Clara County, but the P. O. address is Menlo Park, San Mateo Co., Cal.

The Fourth Volume of the American Galloway Herd-Book is a duodecimo of 340 pages, containing 1,630 pedigrees (4464 to 6308), of which 307 are those of bulls and 1,033 those of cows. "The association," the preface says "is on a firm basis, and while the cattle market has been quite low for the past two years, our transfer-list shows a healthy state of affairs during the past year, and at the present time is on the increase." Hon. David McCrae of Guelph, Ont., is president; L. P. Muir, Independence, Mo., Secretary-Treasurer.

Mr. G. E. Nichols, Afton, N. Y., writes Nov. 19th:

"My 7-line advertisement brought me lots of inquiries for the stock, and sold them to Frank J. Bell of New-York City. I had three or four other orders for them after they were sold. I have purchased two heifer calves of E. W. Bemis, bred by J. H. Walker, Worcester, Mass.—stred by L. D't. Victor St. Heller; dams Beauty Dee (23 lbs. 3 oz.), and Rosa Dee, daughters of Explodee."

From Mr. S. E. Hitchcock, Conesus Centre, N. Y., we have the following note:

"I have recently purchased from Mr. H. C. Pratt of Canandaigua, N. Y., four registered Shropshire ewes. About a year ago I purchased from him a party of unregistered Shropshire ewe lambs. These purchases were, one directly, the other indirectly, the result of his advertisements in your paper. I cannot see why, with the above-mentioned stock as a starter, I shall not be able to raise a flock that will in its turn be worthy of a place for the surplus sheep in your advertising columns."

Mr. Lyman writes us of the safe arrival at their destination of the importation referred to in the following clipping from the Baltimore Sun of Nov. 9, and adds: "Our State, and locality especially, has been very successful in sheep husbandry:"

"About forty high-bred Shropshire sheep, direct from Shropshire, England, arrived on the British steamship Barrowmore yesterday for Mr. Henry L. Lyman, of Charlottesville, Va., member of the board of agriculture of the State, where he resides. Mr. Lyman owns several fine farms in Albemarle county, and is endeavoring to improve the grade of Virginia stock by purchasing the best animals for breeding purposes. The sheep were imported by Mr. John Williams, a former resident of Shropshire, who has lately purchased a fine estate near Charlottesville, and are said to be the finest ever taken to Virginia."

The Grazier and Breeder.

Feeding Value of Rye.

Eds. Country Gentleman—We have quite a quantity of rye for which there seems to be no market. Can it be used as a food for stock (milch cows, young stock and hogs) in connection with meadow hay, ensilage, corn meal, cottonseed meal and bran? A. B. B.

Waterville, N. Y.

1. Good rye may be used as a substitute in the milk ration for corn meal. It has all the elements of corn meal, in nearly the same proportion, except fat. Rye and corn both being of the same quality, weigh the same to the bushel.

It would be well to grind corn and rye together in equal weights. Having the two ground together, the following would make a good ration for cows of 1,000 lbs. weight and in full milk: 16 lbs. meadow hay, 8 lbs. corn and rye ground together, 6 lbs. bran, 2 lbs. cottonseed meal.

The following analytical formula will show its digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
16 lbs. meadow hay.....	0.80	6.56	0.16
8 lbs. ground corn & hay...	0.69	5.13	0.19
6 lbs. bran.....	0.70	2.76	0.15
2 lbs. cottonseed meal.....	0.76	0.44	0.12
Total.....	2.95	14.88	0.62

This has a nutritive ratio of 1 to 5.5, and will produce a good quality and large quantity of milk when fed to good cows.

If the milk ration is to include ensilage then 5 might be constructed as follows: 30 lbs. corn ensilage, 6 lbs. meadow hay, 6 lbs. ground rye, 6 lbs. wheat bran, 2 lbs. cottonseed meal. The corn ensilage will render it unnecessary to feed any corn meal in the ration. This will have a slightly different nutritive ratio, but it will be well adapted to the production of quantity and quality of milk.

2. If to be fed to young and growing stock it would be better to have the rye ground alone and then mixed with an equal quantity of fine wheat bran. The proportions of this feed may be the following: 15 lbs. ensilage, 3 lbs. cut meadow hay, 4 lbs. ground rye, 3 lbs. fine wheat bran. This all mixed together will make a good combination for growing young stock.

3. If to be used for feeding hogs during the fattening stage, let three bushels of corn be ground with two bushels of rye, and this will be a good combination for fattening hogs. E. W. S.

Feeding Brood Sows and Pigs.

Eds. Country Gentleman—Please give me a ration for feeding sows with pigs, and the pigs after they are weaned, from the following foods: Corn meal, $21 per ton; ground oats, $23; ground rye, $20 50; wheat bran, $14,15; wheat middlings, $15.15; rye feed, $15.25; oil-meal, O. P., $27 25. The pigs are to be kept until they dress 150 lbs. Have about 100 lbs. of milk per day for four sows. Should the feed be fed as soon as mixed, or let it sour first? Also wish a ration for a horse that will not eat enough oats, bran and middle quality hay to keep him in flesh when at hard work. D. W. T. B. *Rhinebeck, N. Y.*

1. D. W. T. B. will find a good deal written upon his topic in the answers during this year. We will refer him to page 113, in answer to T. L. D., where he will find a detailed formula for feeding pigs, and also to page 172 in answer to W. W. M., where he will also find detailed instruction; to page 233 in answer to J. T. D. J., with different food, and to page 446 in answer to L. D. C., on feeding brood sows and young pigs. But as he may think his foods are somewhat different from any of these let him feed his brood sows until the pigs are weaned the following combination: 4 lbs. corn meal, 6 lbs. wheat bran, 4 lbs. wheat middlings, 4 lbs. rye feed, mixed with the milk.

It may be that these sows, depending upon their size, will not eat as much as here advised, but this is given not strictly as a ration per head, but a combination of food, and the feeder must use his judgment as to the amount to be given.

2. The pigs when weaned may be fed the following combination: 15 lbs. wheat bran, 15 lbs. wheat middlings, 15 lbs. rye feed, mixed in milk and fed warm. This also simply shows the proportion of food; the feeder must apportion the amount to each pig. But this will grow the muscle, bones and frame rapidly, and this may be given for about 2 months.

Then let 20 lbs. corn meal be added to this formula, and still feed the pigs all they will eat with a good appetite, and this latter combination should be right to grow these pigs to 150 lbs. dressed weight, as he wishes.

3. In reference to his horse, it seems probable that B. does not cut the hay and mix the ground feed with it. It is also probable that his horse does not grind oats well and that they are not well digested. Let him give the following ration: 10 lbs. cut hay, 6 lbs. ground oats, 6 lbs. wheat bran, 5 lbs. wheat middlings. Let the cut hay be slightly moistened and the ground feed well mixed with it and then given to the horse in three feeds, smallest at noon, and we think he will be improved in a few weeks. E. W. S.

Barley for Sheep and Pigs.

Eds. Country Gentleman—What is the value of barley as feed for sheep or young pigs? I have 450 bushels of barley that is badly shrunken; it will clean out one-half and weigh 43 lbs. to the bushel, for which I can get about 45c. per bu. I am feeding 100 sheep. Can get corn for 47c. per 56 lbs. Shall I sell my barley and buy the corn, or buy six weeks' old pigs at $1 per head and feed the barley with some corn mixed with it to sheep and pigs? The sheep are wethers, three years old, that weigh 105 lbs. E. H. *Seneca, N. Y.*

1. It is inferred that the barley, after being cleaned, weighs 43 lbs. to the bushel. It would certainly, for the purpose of feeding sheep, be advisable to exchange 43 lbs. barley for 56 lbs. corn with the gain of 4c. on the bushel. H. will still have half of his barley of the poorest quality, which if fed to sheep might be mixed in the proportion of 2 of light barley to 1 of shelled corn. His sheep should do well on this and about 2 lbs. hay per day. He would improve the fatting, or at least the healthful quality of this food by giving 1 5 lb. of linseed meal to each young wether per day. Success in feeding sheep depends largely on the feeder.

2. If he should purchase 6 weeks' pigs to feed it would not be profitable to use any corn during the first three or four months. This time should be devoted to growing the muscle, bones and frame, preparing them to lay on fat. As often explained, corn contains too little material to grow the bones and frame of a young animal. His poorest barley would be better to develop the young pig than the very best corn. One pound of good wheat bran contains as much material to grow the bones and frame of the pig as 5 lbs of corn meal. H. may find some suggestions by turning back to page 933 of present vol. and reading the advice given to J. T. D. J.

In his present case if he will grind oats with his shrunken barley and then mix 1 part wheat bran with 2 parts of this ground feed and a very little linseed meal (1 lb. to 8 lbs.) and boil this all into a slop for these pigs they will do well and grow thriftily from the start. When they reach from 80 to 100 lbs. weight they may be given a fattening ration by using ¼ of this mixture and ¾ corn meal. E. W. S.

Rations for Cows, Calves and Pigs.

Eds. Country Gentleman—Please make me a ration for Holstein cows 1150 lbs. weight, from the following: Mixed clover and timothy hay, ground oats, crushed corn and cob, middlings and O. P meal. Hay worth $6 per ton; ground oats, 35c. per cwt.; corn, 75c.; middlings, 60c.; O. P. meal, $1.25. Also from above feed a ration for Holstein calves, seven and eight months old; want to produce large growth in these. My bull, which is eight months old now, weighs over 500 lbs., and would like him to weigh 1,000 lbs. at a year old. I would like also to have a ration for three months old pigs, which I want to crowd this winter. R. H. C.

Mount Sterling, O.

1. R. H. C. appears to be well situated as to price of hay and other foods. If he uses corn ground on cob, he should have it very finely ground; otherwise it is dearer food than middlings. We will combine for his Holstein cows the following ration: 13 lbs. mixed hay, 6 lbs. finely ground corn, 6 lbs. middlings and 2 lbs. O. P. linseed meal. When analysed, these give the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
13 lbs. mixed hay.....	0.98	7.28	0.26
6 lbs. finely gr'd corn & cob.	0.41	3.46	0.20
6 lbs. middlings.....	0.96	3.84	0.21
2 lbs. O. P. linseed meal....	0.59	0.64	0.13
Total.....	2.94	15.22	0.79

This has a nutritive ratio of 1 to 6. It is a large ration for large cows, but a cheap ration, and well constituted to produce quantity and a good quality of milk.

2. C.'s ration for his seven or eight months calves should have as much clover hay in it as he can get; no corn meal. Let him make the following combination: 6 lbs. cut clover hay, 3 lbs. ground oats, 3 lbs. middlings, ¾ lb. O. P. linseed meal. When they grow so as to require more than this, let him add 1 lb. to the hay, 1 lb. to the middlings, and ¼ lb. to the linseed meal. But they probably will not take as much as this after the first two months.

3. In C.'s ration for his three-months-old pigs, he does not mention that he has skim-milk or milk for his pigs, but this may be presumed. His first object is to form the muscles, bones, and frame of his pigs. Let him mix as food for these pigs, 2 lbs. ground oats, 3 lbs. middlings, ¼ lb. linseed meal. If this is wet up in skim-milk it will be all the better. They should have a little very short-cut clover hay mixed with it, and after softening by wetting, especially in boiling water, they will eat it, and it will keep their digestive organs in a healthy condition. E. W. S.

Tests Actual and Presumptive.

Eds. Country Gentleman—A correspondent states, page 864, that the Jersey cow Matilda 4th has a year's test of over 927 lbs. of butter. Matilda 4th is a grand cow, and it is very possible that she can make that amount of butter in a year, but as I recall the statement of her performance at the time it was rather a *presumptive* than an *actual* year's test—that is, judging from tests made at different times during the year there were indications that she may have made over 927 lbs. in the year. Now, as I understand the matter a test means an actual practical performance witnessed by the actual results of the churnings of all the cream or all the milk produced—*if for a week for every day in the week, if for a year for every day in the year.* There is only one cow to my knowledge that has made such a test that has produced over 900 lbs. in a year, and that is Landseer's Fancy. I make this statement with no disposition to be captious but in justice to others who take the trouble to conduct a year's test, and in spite of the risks of accidents and variation in the cow's health succeed in getting a good year's record, though possibly not a 900-lb. showing.

No one who has not attempted to carry a cow safely through a year's test can conceive of the risks of defeat in the experiment from accidents of various sorts. For instance, if my memory serves me, Landseer's Fancy was once very badly upset through the mistake of the herdsman in giving her for one day double the quantity of grain she was regularly taking. Mr. D. F. Appleton, whose superb cow Eurotiesma has shown by her six months' performance that she bid fair to reach the 900-lb. class, tells me that she got all out of sorts by eating a lot of apples. He has now got her in fair condition again, and she is making 17½ lbs. a week, but the injury is in a measure irreparable, though she will probably make a great test.

In testing my cow Gazella 2d I had an accident in the 8th week that I thought would cause me to abandon the test. A lump appeared on one quarter of the udder, the result of a bee sting in the judgment of my veterinary, which caused an enlargement of the udder to double the natural size, caused inflamation in the whole udder, and decreased the flow of milk and yield of butter very materially. She had been fed no grain for two months previous to the commencement of the test, and this accident occurred just when the grain she was then fed was beginning to tell on her production of butter. Her flow of milk was reduced to 26 4-7 lbs. a day. She had yielded 30 lbs., and I reasonably expected she would reach 36 lbs. She reached 31 4-7 lbs. a day for the 10th and 11th weeks, and then gradually declined in yield.

I mention these cases to show the casualties the tester has to take the chances of, and write this note in justice to the reputation of cows that have borne the burden of actual performances for the year with all the risks incident to the trial. Every cow should earn her record and its glory, not by the rule of three but by the concise test of work performed for each and every day of the test. I hope we shall have many tests for a year. The Jersey, by reason of her habit of persistent milking, is peculiarly adapted for great usefulness for the year round, a quality of essential value in a dairy cow. Breeders need not be discouraged because their cow does not make 900 lbs. in the year. I should value a cow that makes 600 lbs. in a year on moderate dairy rations more highly than a cow with a week's record of 26 lbs. on heavy feed, that shown no staying power for a year. G. W. Farlee.

The Cows and the Cornstalks.

Eds. Country Gentleman—"I should like to ask what kind of cows Mr. Rice has. They must have powerful grinders to devour clean such large stalks as grow 13 feet high." This sentence may be found in an article signed Inquirer, on page 868. The only objection to answering him is that perhaps more valuable matter might be found to fill the space thus occupied. The cows, 20 in number, are Holstein grades, and although they have not been highly fed, still they are strong enough to grind the large stalks above mentioned. They are now fed hay once a day and a large feed of corn fodder once a day, and since they have been regularly stabled, leave hardly a taste of the big stalk butts for the bull. They have been fed largely with the fodder in the stable since Sept. 10, and I do not think that Inquirer could find a bushel of refuse about the yard or barn, or in the field where the manure has been spread. The corn is of the variety known here as "sheep's-tooth." As to the cows—or rather heifers, as but four of them are six years old, and the others younger, down to two years—one of the oldest was farrow, and there were two cases of abortion. Under these disadvantages, they have made an average of 275 pounds of butter in the year ending Nov. 1. The one that was farrow, now has a calf two weeks old, and is giving 40 pounds of milk a day. The earnings of these cows and heifers, on the basis adopted in the Ellisburg cow census, has been $75 each in the year. The butter has been mostly consumed in the village near the farm. No fancy prices are paid or received for the butter in this market. It has taken about 25 lbs. of milk for a pound of butter, and the large amount of sweet skim-milk, has been profitably fed to breeding sows and pigs and calves. I think that the older ones averaged 325 lbs. of butter, and the younger ones and abortion 225 lbs. The one giving the largest amount of milk, gave 7,500 lbs. in 180 days, beginning May 20, an average of 50 lbs. a day. She gave in one year as a three-year-old 10,000 lbs., and will without doubt reach 12,000 this year. Tested for cream, her milk is as good as the average. None of them have been tested separately for butter. They have been fed three pounds of grain feed, a mixture of shorts and a little cottonseed meal each per day through the summer. The one giving the most milk has been fed nearly double that amount.

If there is anything remarkable about the heifers, beyond the fact that they eat large corn stalk butts, it is this: One cross of a thoroughbred bull of a breed formerly thought to be of no value for butter has added more than 50 per cent. to the butter production of the dairy. This has been done without selection, as the heifer calves have all been raised. Some cows have been sold, but they were an average of the whole. The old herd was well fed and well cared for, but it was useless to feed them much grain as they made no adequate returns for extra grain except in fine appearance. The small increase of grain consumed by the present herd bears no proportion to the increase in butter.

The sire of my cows was a son of the famous Jacobs Hartog; I think the finest cow owned by the Unadilla Stock Breeders' Association at that time. Several of her calves made in the vicinity of 20 lbs. of butter in a week.

My experience with thoroughbred bulls warrants the advice that I often give to men who have had no such experience who come wishing to purchase a grade bull calf. By all means buy a full blood if you can find one of a butter family, with dam of a good butter record, and at a reasonable price. My cows are only medium size.

About Corn Fodder.

For some reason some have failed to cure corn in the cock to their satisfaction. Others highly prize this method. One correspondent of the Country Gentleman wrote last winter as follows:

"If any man says that a crop of fodder corn of large growth can be cured in the cock in a very wet season without its becoming wet and spoiling, he does not know what he is talking about."

If the writer of the above will visit my place soon I will show him several acres of such corn in perfect condition, and as good as when cocked early in September. What has not been fed is still in the large cocks in the field, and will remain there until wanted for feeding.

Thirty acres of corn fodder have been raised on my farm and cured in the cock in the last five years with best results, and not 1 per cent. of loss or waste in any manner. If the corn is short the cocks must be small; if the corn is tall the cocks must be of height to correspond. With tall corn, if the cocks are low, the stalks do not have room to bend down at the ends, and thus give the conical form necessary to shed water. A friend of mine who has just finished feeding corn from the field has opened his silo, and tells me that he does not think his cows eat the ensilage as well as the fodder from the field. His ensilage has kept fairly well. He wishes that he had had more cocked in the field, and postponed feeding from the silo until later in the season. I think of building a silo, but for four months from September 1, my cows eat a large amount of corn fodder put before them with very little labor from the time of cutting.

Will the extra value given by cooking in the silo pay for the extra labor and cost of silo? My present crop was cut and cocked with an average of five hours to the acre with two men. But one or possibly two of the tops of cocks have been blown off. For a time the hay-knife was used on the cocks to shorten the stalks so that they could be handled with a fork, but the loading was heavy work. Now the wagon is left convenient for loading and the team removed. Three planks are laid from the ground to the hind end of the rack and with the team and an inch rope 60 feet long, with a large iron ring at one end, the cocks of corn are drawn on to the wagon. All that the team can draw to a load is quickly placed on the wagon in this manner, the cocks being disturbed or torn to pieces but very little. The rope is passed around the cock, part of the way just under the ends of the stalks and part of the way a foot or more up on the cock. The rope is passed through the ring and the cock taken clean from the ground, as all is held tight as in a bundle. The rope is passed over the wagon and the work of loading is completed in less time than by hand and no lifting whatever. Such a load will last my stock five days, and the fodder is thrown from the wagon directly in front of the cows with no extra labor in storing. It appears that by the method which I have described in this and other articles, the labor of curing and feeding corn fodder is reduced to about the smallest possible amount. The quality of the fodder is excellent. C. S. RICH.

Lewis County, N. Y.

The Principles of Feeding.

EDS. COUNTRY GENTLEMAN—I have read with interest in your paper, and in statements otherwise issued by Messrs. Smiths, Powell & Lamb of Syracuse, concerning remarkably uniform results in butter production attained by their herd—results not only uniform but large. But I have several times asked myself these questions: At what cost are these records made, and what profit does the product show? The farmer is being steadily driven to study the true principles of feeding and the cost of production. It is on these points that information is needed. For instance, at a public dairy cow test, conducted by Prof. Robertson, at the late Provincial Fair held in London, Ont., one lot of three cows showed a profit of 47 per cent. on the food consumed as against 13 cent. by another lot of three, the food being valued and also the milk by weight and analysis. Visiting the herd of a leading firm of breeders a gentleman asked, so I am informed, "What is your system of feeding?" Pointing to the big bins of grain the manager in charge said, "I can turn my cows in there loose and they won't hurt themselves." That statement was significant of heavy feeding and probably heavy cost in developing cows and in the production of milk and butter, especially the latter.

A practical discussion of this subject by such successful breeders and feeders as those I have mentioned above, and others, would be of great service to many readers of the COUNTRY GENTLEMAN. WM. THOMPSON, JR.

Derwent, Ont., Canada.

Keeping Cream.—I would like to say, in reply to your correspondent E. D. B., Marlboro, N. Y., page 847, that it is not only entirely practicable to keep cream the length of time mentioned, but much longer, if the cream is kept submerged in ice-water. It can be preserved two, three, four, or even six days in perfect condition so as to produce the finest quality of butter, if properly ripened at the end of that time. The only secret in this matter is to preserve the cream without chemical changes, which can be done with absolute certainty in the way above mentioned. JOHN BOYD.

Chicago.

The Dairy Department.

Joint Conference in Madison.

HAMILTON—COLLEGE MEN PRESENT—BUTTER BUTTER AT BUTTER PRICES—MILK DEFICIENT IN BUTTER FATS—POINTS IN MAKING CHEESE—AERATING MILK.

EDS. COUNTRY GENTLEMAN—The joint conference of the State Dairy Commissioner and the Dairyman's Association at Hamilton was made more inspiring and interesting by the presence at the meetings, in the public hall, of professors and students from the Madison University. Prof. L. Osborne was made the chairman of the meeting the first day and evening, and Sylvester Burchard the second day, with Hon. Josiah Shull acting as secretary both days. At the first session, butter day, the writer gave a short history of the needs of the dairy interest in the State, and the efforts of the legislature to protect this great industry, the effect of which was that the best of our butter now sold for from one to two cents per pound above the same class of goods from the Northwest. It had shown that our butter could be made to conform to the demands of the best class of consumers, and that our people only required to be taught in regard to new methods and new market standards in order to compete with other sections. The enforcement of the salutary laws in regard to the quality and sale of milk had saved the lives of thousands of helpless infants, and had made milk a common beverage in the place of other drinks which could not be classed as both drink and food. The confidence of the people in the cities in the purity of milk, had wonderfully increased its use and widened the milk districts. By the same law of increased value in the product, and increased consumption, all the other dairy interests would be advanced. This increased output, with an enhanced value, would carry with it an increase of trade and manufacture everywhere, sustaining and magnifying the dairy industry.

It was a most excellent idea to hold a dairy conference under the shadow of a university of learning and divinity, so that from these centres of knowledge and Christian influence there might be reflected the inspiration of better things.

W. H. Gilbert gave the principal address, showing how first-class butter could be made. He assumed that the milk was good. It should be set for the cream to rise, so that there would be a falling temperature with an extreme of 40°. When this was done, he was of the opinion that the cream would rise within 12 hours. If the milk was cooled down when strained it should be warmed up to a degree to secure the 40° cooling. He dwelt on the folly of mixing cream of different degrees of sourness and sweetness. The first cream skimmed should be kept from changing until the whole batch designed for the churning was collected, and then it should be set in a temperature warm enough to insure a slight acidity in about 24 hours. Mr. Gilbert believed in churning at a somewhat higher temperature than most others, and then cooling the butter granules and hardening them with brine and cold water. He always finished working his butter at one operation, and packed it on the spot, or fitted it for market. The talk was full of good points, and brought out a perfect shower of questions. In the evening Col. Curtis lectured on the constituents of milk and foods, urging, illustrating and enforcing the necessity of supplying the cow with the elements to produce the solids, and showed the unwisdom of foods being consumed to overcome "stupid, wasteful and cruel exposure." His argument was illustrated by the exhibition of milk and butter constituents prepared and furnished by the State Experiment Station at Geneva. The whole audience examined these samples, after the address, with great interest.

The second day was "cheese day." Geo. A. Smith and M. T. Morgan made cheese in the forenoon in the factory of Thomas Stradling. The butter-making also took place in this factory. Mr. Stradling is deserving of thanks for the trouble he took in furnishing every facility possible. With him was associated Mr. F. Blanding, Hubbardsville, who was an efficient aid in making the united conference a success. The cheese made by the instructors was pronounced to be of superior quality, and weighed when taken from the press next day, as reported by Mr. Stradling, 298¼ lbs. There were 2,700 lbs. of milk, which made a ratio of milk as to cheese of 9.06 lbs.

The milk was not of the best, as is shown by the yield of butter. The cows were not fed enough nitrogenous foods, and there was a lack of butter fats and [an over] proportion of casein. It would seem that too many patrons of cheese factories forget that 16 oz. of butter fats weigh one pound, and that this constituent counts as much in weight as the casein, and is a factor not only in weight, but very important in making up the quality. There is also another deficiency in the milk brought to this factory to be made into butter, in its color. We suggest that if the butter color was in the cow it would save the necessity of using annatto extract in the cream, and there would naturally be more butter.

The first churning, in charge of the writer, was cream from 563 lbs. of milk furnished by A. F. Cole, Eaton. Cows fed old pasture, and dry sweet cornstalks, ears mostly removed, with 4 to 6 lbs. of shorts in two rations; salt once a day; plenty of water; thoroughbred Holsteins, 21; grades, 7. The cream was sweet, having been centrifuged the night before. It was creamed at 78° to 80°. The cream had been cooled, and was put into the churn at 64°; churned in 35 minutes; temperature, 64°; washed with water at 48° to 50°, and so thoroughly washed and drained that the butter was reduced in weight by working but one-half pound; salted with Genesee salt (the kind used in this large factory), one ounce to the pound, and weighed when worked 23 lbs.; ratio, 1 to 25.50 lbs. If this cream had been matured there would have been more butter.

Mr. Gilbert had charge of two other churnings, as follows:

L. W. Knapp, Hamilton, furnished the milk, 338 lbs. This was set in deep pails in water at 48° when first set, and left in the water 24 hours; cream skimmed, and skimmed milk warmed up to 85°, and set again 24 hours in water at 48°, then skimmed again and both lots of cream mixed and ripened 26 hours at a temperature of 55°. The first cream was kept at 55° for 24 hours before the second cream was added. The entire cream was ripened at 55° till the time of churning, when the temperature of the cream was raised to 64°; churned in Gifford churn, 56 revolutions to a minute; butter came in 24 minutes; temperature, when granulated, 67°; cooled to 52°; washed and drained. There was 15¼ lbs. drained butter; 16 ounces of salt added; butter worked and weighed 16½ lbs. Ratio, 22.14 lbs. of milk to a pound of butter.

A second churning was made from the same dairy, the cream being extracted by the centrifuge from 303 pounds of milk. This cream was held to ripen at a temperature of 66° for 27 hours, and was in prime order for churning, being slightly acid and thick. Churned at 60° in a revolving box churn; butter came in granules in 18¼ minutes, 56 evolutions to the minute. There was 13 pounds of salted butter ready for packing, requiring 20.2 lbs. milk for a pound of butter. There is great significance in the report of the handling of this milk. It shows how easy it is not to get all the cream up unless the conditions for setting are favorable. The mass of milk in the cans warmed the water so fast that there was no practical difference, in a short time, between the temperature of the milk, the water, and the atmosphere, and so the cream had to come up by its natural gravity, and the extreme, which might be caused by the milk being cooled more rapidly than the butter globules, did not exist. This would make the rising more feeble, as the milk would not be more than one or two degrees cooler than the atmosphere. Under such conditions the cans should not be more than half full. The second lot of cream recovered by heating and re-setting, was not weighed, nor the first.

Mr. Knapp's cows are natives. Their feed is pasture, no grain; have access to salt and water. His milk goes to Mr. Stradling's creamery. It is delivered in the morning. The night's milk is strained into the cans and aërated by dipping from one can to another. The cans are left open over night. The milk is well stirred in the morning, and the morning's milk is strained with the night's. The first churning of Mr. Knapp's was the milk of 24 cows, two milkings. Mr. Stradling does a large business. He utilizes the milk for making butter, and then makes skim cheese from the milk, and also uses as much of the buttermilk as he can.

The cream is put through the centrifuge at a temperature of 78° to 80°, then is run into a large open vat, where it is well aërated and frequently stirred for 24 hours. The first 12 hours the cream is kept cooled down to about 65° in summer, and now to 67°. It falls to 60° during the night, and in the morning it is warmed up to 64°, the churning temperature. It is usually churned in 40 minutes. The butter, in the granulated state, is washed with four waters and salted one ounce to the pound. It is worked a little and then left until evening and worked again. It is kept in tubs during this time. Some of the butter is sold directly from the factory on wooden trays to persons who come for it, and some is packed and sent to market in return wooden pails. The general average of pounds of milk required for a pound of butter is about 25 pounds.

At the cheese meeting in the hall, Geo. A. Smith gave a carefully prepared lecture, from which we make some extracts:

"To be successful in the making of cheese, the farmer must coöperate with the maker. It is one of the most difficult things that the cheese-maker has to meet, to convince a farmer that his milk is not in good condition as long as it is not sour. Tainted milk is one of the things difficult for the inexperienced to detect. The cheese-maker is in a measure to blame for this, as when the cheese-factory system was inaugurated in this country we knew very little about the tainting of milk, and thought that if it was only sweet we were all right. We have found since that time that sour milk is one of the least obstacles we have to overcome; in fact, the great drawback to the factory system to day, is the getting so much tainted, gassy milk. It has been the great study of the cheese-maker how to get along with it. But we are on the wrong track, trying to make good cheese out of poor milk. It has never been a success; for while the expert maker has succeeded in making a passable cheese, it has lacked in keeping qualities and the peculiar fine flavor of cheese made from good milk, for the reason that the maker was obliged to develop so much acid to kill the gas and taint that the oils which give the fine flavor were destroyed. There is not only the loss in quality, but also a loss in quantity, as the developing of a large amount of lactic acid destroys the butter fats, and the consequence is that considerably more milk is required to make a pound of cheese.

"The cheese-maker must educate the farmer to the proper care of his milk, as he can reach him better than any one else. If you have a patron whose milk is not what it ought to be, do not speak harshly to him before all the patrons, but go to his farm, at night, while he is milking, and talk it over with him. Try to find out where the trouble is. Explain to him the difficulty that you have, and if he is a man of any principle he will find where the trouble is and rectify it at once. If he will not, the sooner you get rid of him the better it will be for both maker and patrons.

"The question now comes, how shall the night's milk be taken care of, after milking, in order to secure the best results? There has been a great deal of discussion on this point—whether it is best to cool the milk or aërate it. The farmer has always inclined to cooling, as that was the easiest way, and he was sure not to have sour milk. It has been proved time and again that the animal heat in the milk, when drawn from the cow, does not differ from any other heat, and has nothing to do with the animal odor. You can prove this to be so by running the milk through an elevated strainer in air of the same temperature of the milk, and you will find the animal flavor gone. Take the new milk and cool it rapidly with ice or cold water, and you get rid of the heat; but when you taste of the milk you will find that the flavor is there, although you will not smell it very much until it is warmed up. This is where the cheese-maker is very often deceived, to wit: The milk is brought to the factory cold, and he does not discover anything wrong until he gets it heated up; then his trouble begins, for the milk is so sweet that he cannot get the acid to kill the taint which is the inevitable result of that way of handling the milk. There is only one way that milk can be properly taken care of for making cheese during the summer months, and that is by exposing it to the air, by using an elevated strainer, or pouring with a dipper from one can to another until the temperature of the milk is about the same as the surrounding atmosphere. If this is thoroughly done, the gas will be entirely driven out, and the milk will be about the proper ripeness for making good cheese. Repeated experiments show that this animal odor or gas in the milk, rather than acidity, is what we have to contend with in our efforts to improve the keeping quality of our cheese, which is the greatest fault that is found with it at the present time, and what we *must* remedy if we are to compete with Canada in the markets of England."

F. D. CURTIS.

Ration for Best Milk.—Please give ration for the coming winter for a cow of medium size to produce quality not quantity of milk. I can procure almost any kind of food. W. M. S.

South Orange, N. J. [W. M. S. would have assisted very much in combining a fit ration by giving the character of his cow—the ration she has been fed and the production of milk from it. But he has not given even her age or breed or quality of milk. I trust that S. does not

suppose that any combination of food can produce the best quality of milk in a cow that has never yielded good milk. It is true that any cow can be improved by persistent good feeding, but such improvement takes time, especially when we expect to raise the normal standard of a cow's milk. But trusting S.'s cow is of the best character I will compound a ration that will produce the best quality of milk from a good cow, and when persistently fed will enrich her milk beyond her normal standard. Fourteen pounds good clover hay, 6 lbs. corn meal, 4 lbs. ground oats, 4 lbs. fine bran and 2 lbs. linseed meal. In analytical formula it shows the following digestible nutrients:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
14 lbs. clover hay	0.98	5.60	0.21
6 lbs. corn meal	0.39	3.79	0.19
4 lbs. ground oats	0.36	1.84	0.14
4 lbs. fine bran	0.47	1.84	0.16
2 lbs. linseed meal	0.26	0.49	0.11
Total	2.97	13.56	0.80

This has a nutritive ratio of 1 to 5.5. In this case the clover hay must be cut and moistened, and the ground oats, corn meal, fine bran, linseed meal mixed thoroughly with it and given in three feeds. This should produce the best flavored milk and butter, and keep the cow in fine health and condition. It is a full ration for such a cow, and I trust will realize S.'s expectations. E. W. S.]

An Iowa Herd of Jerseys.

At the recent meeting of the Iowa Jersey Cattle club, the president, Mr. Levi Robinson, Iowa City, gave a statement of the returns from his herd, of which he says:

I have not been keeping full account of milk produced from my cows as my ultimate object has been the production of cream and butter, and of these I have kept accurate account—that is, of the butter churned and of the cream sold. I have raised a few veals on new milk, fed my skim milk to the calves for the most part, and the buttermilk to the pigs and growing swine as well as the surplus milk I might have.

Two families aggregating from 10 to 12 persons have had an unlimited supply of milk and cream, averaging not less than two quarts of cream per day. My cream I have sold mostly to the restaurants for making ice cream at 70c per gallon. My butter I have in part sold to special customers at 30 cts. per pound the year round, but mostly to a Des Moines grocer who has special customers for it who pay him a price that enables him to pay me 25 cents in summer and 28 and 30 cents the rest of the year net. So that my butter has averaged me 27¼ cts. net the year round. I have been farming 155 acres, 90 of which I rent, and hire all my labor, except in haying time, I myself do most of the mowing and raking. Last year I milked 28 cows, 4 of which were young heifers (two of which it is usual to count only as equal to one cow), so that I milked the equivalent of 21 mature cows. I had on the place of all ages and kinds, 80 head of cattle, 8 head of horses and colts, and from 9 to 15 swine. Having now my situation and surroundings, you will query if I made Jersey farming pay, seeing that I had to depend entirely on hired help (barring my own superintendence and little help in haying) and hire so much land at cash rent.

From the figures that follow we tabulate the following statement:

VALUE OF PRODUCT.

4118 lbs. butter, 27½c.	$1067.08
144½ gals cream sold, at 70c.	101 14
180 do. consumed, same price	126 00
Five veals sold	38 50
Other cattle, including fat cows and steers	917 00
One bull calf sold	47 00
Hogs sold for $121.80—credit half to dairy	60 90
Total	$2543.62

CONTRA.

Farm labor	$547
Extra house labor	100
Land rent	360
Mill feed and grinding	250
Straw for bedding	35
Bull purchased	100
Calves do.	96
	1388.00
Balance	$1154.62

To the above Mr. Robinson adds:

In this computation I have allowed nothing for the rent of the 65 acres I own myself as I have considered that the growth of my colts, other cattle and swine would fully offset it, as well as the interest on my original investment, and is not this balance fairly to be credited to the cows that have yielded the butter and the cream for sale and kept up the numbers of the herd and really improved it with younger and better blood? Thus are they not entitled to be credited with giving me a net income of $54 50 per head, and a gross income of over $100 per head?

If the cream sold and that consumed in the two families had been converted into butter it would have made at least two pounds to the gallon or 649 pounds more, making a total of 5,267¼ pounds an average of nearly 251 pounds per cow. Not so much as many herds have averaged by 50 to a 100 pounds; nor so much as they would probably average could I have given them my personal attention; but double in quantity and four times in value of the majority of the common herds of the country.

In discussing President Robinson's address Mr. Hoyle stated that the butter sold from his grade Jerseys at 25 cents a pound brought him about $55 per cow. This year he is doing better and hopes to bring his cows up to an average of 300 pounds of butter each per year he is convinced that he can do nothing on his eighty acres that will pay him as well as making Jersey butter.

Ration for Butter in New-Brunswick.—Please give me a ration for Jersey cows in full milk, for butter, from following foods and prices: Corn meal, $1 40 per cwt.; shorts, $1; cottonseed meal, $1.50; linseed meal, $2; ground oats, $1.35; buckwheat bran, $1.35; buckwheat bran and flour, $1.50; good hay, 50c.; sample marsh hay, 25c. G. J. C. W. *Hampton, N. B.* [G. J. C. W. is unfavorably situated as to price of his foods other than hay for making economical milk and butter; but his prices are probably in proportion. Let him combine the following foods for his Jerseys: 12 lbs. good hay, 5 lbs. marsh hay, 3 lbs. corn meal, 3 lbs. shorts, 2 lbs. ground oats, 4 lbs. buckwheat bran, 3 lbs. cottonseed meal. This should give him a good ration, and to show him its digestible nutrients, we give the following formula:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
12 lbs. good hay	0.60	3.97	0.13
5 lbs. marsh hay	0.15	1.09	0.05
3 lbs. corn meal	0.35	1.80	0.14
3 lbs. shorts	0.44	1.35	0.14
2 lbs. ground oats	0.17	0.92	0.08
4 lbs. buckwheat bran	0.54	1.76	0.16
3 lbs. cottonseed meal	0.70	0.44	0.13
	2.75	12.71	0.83

This has a nutritive ratio of 1 to 5.5, and is a well constituted ration for the production of butter. It is also the cheapest ration that can be constructed out of the foods he gives, unless the ration is made smaller. W. will of course understand that the hay is to be run through a cutter, well moistened, and this ground food thoroughly mixed in. This ration will bring his cows up to a full flow of milk. He should have mentioned the yield of milk in order that we might understand the production, which was to be kept full. But the ration here given will probably be ample for that purpose. E. W. S.]

Aconite for Milk Fever.—I enclose you my experience with milk fever. A very large, fat grade Jersey cow dropped a calf at noon, Oct. 3; all ordinary appearances correct. At 6 o'clock milked quite freely, calf sucked, and cow appeared all right. At 5 o'clock the next morning she was down and unable to rise. At 7 o'clock gave 3 pts. linseed oil, 1 pt. molasses and 3 oz. ginger, and fifteen minutes previous to this dose I gave 40 drops tincture of aconite. At 8 o'clock removed by hand all substance in rectum, and gave injection. At 9 o'clock gave a teaspoonful of aconite. The cow seemed nearly comatose. I applied bags of ice between the horns, and at 11 o'clock gave 25 drops nux vomica. At 1 o'clock repeated dose of aconite, and followed this treatment, alternating the doses, until next morning. At 6 o'clock morning of the 5th, the cow seemed restless; no passage yet. Reduced nux vomica to 20 drops and increased aconite to 1½ teaspoonfuls, giving at same hours as day before. At 6 o'clock night of the 5th, cow seemed brighter and noticed things around her; reduced aconite to spoonful doses, same hours. At 4 o'clock morning of the 6th, the cow had copious passage (not physicked); soon after, with little help, she got on her feet. At 6 o'clock reduced doses one-half, and continued till 8 o'clock same day, when I discontinued them. Morning of 6th, cow had a pailful of thin oil-meal gruel, same at noon and night. Next day fed on cut potatoes and pumpkins; milked all right, and was as well as ever. Throughout the entire treatment, gave injections every two hours, milked clean, and turned over every six hours. On the evening of the 5th gave four pounds fat salt pork.

Santa Barbara, Cal. E. J. PACKARD.

Damaged Wheat for Food.—I have wheat slightly damaged (as all in our section was by storms before cutting), not fit for milling; sweet corn ensilage (corn mostly pulled for canning), and can buy corn chop refuse of the Horning mills at $15 per ton—whole corn chop $22 per ton; will grind the wheat. Wish to feed Jersey cows and grades for butter. Please give me best formula. W. S. W. *Whitford, Md.* [W. S. W. does not mention whether his wheat is winter or spring, but it will be presumed to be winter. His sweet corn ensilage if cut immediately after corn was fit for canning will prove a very good fodder, not very nitrogenous but still a very good quality. Let us suppose that he combines the following ration: 30 lbs. sweet corn ensilage, 5 lbs. common hay, 6 lbs. ground wheat, 4 lbs. hominy chop, 3 lbs. cottonseed meal. This in analytical formula shows the following digestible nutrients:

	Albuminoids, lbs.	Carbo-hydrates, lbs.	Fat, lbs.
30 lbs. sweet corn ensilage	0.85	3.60	0.15
5 lbs. common hay	0.30	1.70	0.05
6 lbs. ground wheat	0.77	4.30	0.14
4 lbs. hominy chop	0.32	3.04	0.21
3 lbs. cottonseed meal	1.05	0.60	0.18
Total	3.29	13.24	0.73

This has a nutritive ratio of 1 to 5.5, and is an excellent milk and butter ration, and with good cows should produce an excellent yield. We have given a larger proportion of ground damaged wheat, because it contains carbohydrates in a digestible condition which can be converted into butter fat in milk, and renders corn meal unnecessary. But in order to balance the ration properly it became necessary to use 3 lbs. of the very nitrogenous decorticated cottonseed meal. Of course W. understands that the hay must be cut and mixed with the ensilage, and that the finely ground wheat, hominy chop and cottonseed meal must then be thoroughly mixed with the ensilage and hay to be most completely digested and produce the best result. We have presumed that the wheat is considered by W. as perhaps his cheapest grain food. As this is a somewhat peculiar ration, we trust W. will report its performance as a ration to the COUNTRY GENTLEMAN. E. W. S.]

Record of the Times.

Review of Passing Events.

Our New Navy.—The "squadron of evolution," composed of the new steel cruisers Chicago, Atlanta, Boston and Yorktown, started from New-York, Nov. 18, on their cruise in European waters. They were escorted to Sandy Hook by the dispatch boat Dolphin, carrying Secretary Tracy, ex-Secretaries Whitney and Robeson, General Howard, and various naval and military men. After spending a few days at Boston the vessels go to the Mediterranean, visiting all the ports, and in the spring will go to the ports of France, Germany and Great Britain. The cruise is to show European powers our vessels, and to be a school of practical training.

Dry Rot in Docks.—The New-York Dock investigation shows that the leasing of docks has been done in a most reckless manner. Officers of the department displayed marvelous ignorance of matters under their care. The city is charged with $10,000 for repairs on one dock, which should have been paid by the lessee. Steamship lines at adjoining docks were paying respectively $30,000 and $60,000 for the same accommodations. Thirty-eight leases were found binding the city but not the lessee. The half-million dollars' worth of supplies are obtained without advertising for contracts. The oyster dealers' association gave lessee John O'Byrne $15,000 as "counsel fee" to secure special legislation for dock privileges.

Ohio Crops and Live Stock.—From the official report of the Ohio State Board of Agriculture on the condition of crops and live stock, November 1, we clip the following estimates of acreage and condition of crops which are based on returns from the regular township crop correspondents. The percentage comparison for acreage is made with the acreage sown last fall. The condition or prospect is by comparison with a full average:

Wheat—Sown last fall, 2,349,633 acres; sown this fall, 98 per cent; estimated area for harvest of 1890, 2,310,962 acres; condition, 89 per cent.; average date of seeding, Sept. 23; condition of soil at time of seeding, fair. *Barley*—Acreage sown this fall, 94 per cent.; condition, 91 per cent. *Corn*—Prospect, 76 per cent. *Buckwheat*—Prospect, 81 per cent. *Clover Seed*—Prospect, 79 per cent. *Potatoes*—Estimated product per acre, 96 bushels; affected by rot, 26 per cent. *Apples*—Prospect, 40 per cent. *Hays*—Condition, 95 per cent.; to be fattened compared with last year, 91 per cent. *Commercial Fertilizers*—Farmers using on wheat, 31 per cent.

Stanley Near the Coast.—Captain Wissman telegraphs that Henry M. Stanley arrived, Nov. 10, at Mpwapwa, a station 150 miles inland, between Zanzibar and Lake Tanganyika. He has 240 Zanzibaris and his six lieutenants with him; Emin and Casati have 800 Soudanese and a large quantity of ivory. They repeatedly fought and repulsed the Mahdists, capturing the Mahdi's grand banner. A cable dispatch and letter from Stanley confirm the news, also the discovery of an extension of the Victoria Nyanza, southwest, to within 150 miles of Lake Tanganyika. He describes the downfall of Emin's government, the doom of the rebels, and his own dangerous illness of 28 days.

Other Foreign News.—The new Brazilian government will be known as the United States of Brazil. The change has been effected without bloodshed or trouble. Emperor Dom Pedro will live abroad, receiving $2,000,000, and a pension of $450,000. Queen Victoria has invited him to visit her at Windsor. The provisional government has decreed universal suffrage. Uruguay and the Argentine Republic have recognized the new government.—Nellie Bly reached London, Nov. 22, met Jules Verne in Paris same evening, and took the Brindisi express.—Sir Henry James finished his speech for The Times, before the Parnell commission, Nov. 22.—The French government suffered a defeat, Nov. 21, in the chamber of deputies on a vote relating to a protected match monopoly.—The Paris exposition took in 2,540,000 tickets—double the figures of 1889.—Dr. Talmage has preached at Rome, Brindisi, and Mars Hill, Athens, securing at the latter place a corner stone for his new church. These sermons are telegraphed home and appear in many papers.—It is now thought that Dr. Peters is still alive, as letters from him as late as Oct. 5, have been received. The German consul at Zanzibar confirms the report.

Minor Items.

Senator Evarts has returned from Europe much improved in health.

Secretary Tracy has ordered the South American squadron to Brazil.

The Lawrence bank of Pittsburg has failed with liabilities of nearly $700,000.

A western society of the Army of the Potomac has been formed at Chicago.

In the Cronin trial the defense has made efforts to establish an alibi for the prisoners.

Heavy rains last week caused floods in the river valleys of this State and Pennsylvania.

Postmaster Wanamaker has decided that printing advertisements on the back of postage stamps is illegal.

The new fast mail to the Pacific coast reached Portland, Ore., Nov. 20, a day earlier than under the old schedule.

An elderly farmer, in liquor, going home near Williamston, S. C., night of Nov. 13, fell asleep and was frozen to death.

The Old Dominion steamer Manhattan was run into off Fenwick Island, Maryland coast, Nov. 20, by a schooner and ten lives were lost.

Mayor Grant has reappointed Mrs Agnew school commissioner of New-York, and Mrs. Clara M. Williams in place of Miss Grace Dodge.

Theodore Whiteman, general agent of the Cromwell line, New-York, was sandbagged in Washington Park, about 8 P. M., Nov. 20, and robbed of $150.

The new tower erected by Prof. E. N. Horsford on the supposed site of the ancient Norse city of Norumbega in Watertown, Mass., was dedicated, Nov. 21.

The china works of Knowles, Taylor & Knowles at East Liverpool, Ohio, one of the finest potteries in the world, was burned, Nov. 18, with loss of $250,000.

Lewis C. Cassidy, an eminent criminal lawyer of Philadelphia, died Nov. 18, aged 63. His defence of men accused of murder usually resulted in an acquittal or mitigated sentence.

The centennial of the ratification of the constitution by North Carolina was celebrated at Fayetteville, Nov. 21-23, with addresses by Senators Ransom and Vance; 30,000 persons were present.

Capt. Ledyard Ellsworth of Hartford, Ct., is the inventor of the smokeless, noiseless powder, for the right to make and use which the German government pays $300,000 and $4,000 yearly for 99 years.

Letters written last August bring information of the government party now exploring Alaska. They were then up the Yukon river beyond the eastern line and farther than any steamer had been before.

The Illinois State Grange offered $10,000 for a device to bind grain with straw. Out of 40 competitors one was awarded the prize, but he declines it, having received larger offers for his machine and patents.

Stephen Pettus, a New-York merchant and Brooklyn Bridge trustee, was shot near the Fulton Ferry house, New-York, Nov. 22, by Mrs. H. B. Southworth, a widow. He received five bullets and died almost instantly.

Seven unfinished houses in West 80th street, New-York, collapsed Nov. 21. The builder, Bernard S. Levy, says that materials and construction were of the best, but excessive rains had swelled the timbers and kept the mortar from setting.

The old Sheffield mansion, New-Haven, long the residence of Joseph E. Sheffield, founder of the scientific school bearing his name, has come under the control of the Yale authorities and has been made one of the most complete biological laboratories in the world.

Mrs. Elizabeth C. Kinney, mother of the poet Stedman, died at Summit, N. J., Nov. 19, aged 79. She was a favorite magazine contributor between 1840 and 1850, and author of a volume of poems and several dramas; a sister of the

late William K. Dodge and near relative of Bishop Coxe and ex-President Cleveland. Her second husband was founder of the Newark (N. J.) Daily Advertiser.

In view of the scarcity of apples in New-York State this year a Rochester syndicate congratulates itself on having secured several thousand tons of dried apples last year when evaporating apples were selling at ten cents a bushel. The stock is held in cold storage.

Bold thieves locked the iron safety gates in a jeweler's doorway, Sixth avenue near Third street, New-York, about 5 P. M., Nov. 21, smashed the window with a brick, stole several thousand dollars' worth of diamonds, and walked off with no policeman or citizen to hinder.

The Pan-American Congress came together at Washington, Nov. 18. Proceedings will be in English and Spanish. W. G. Curtis was appointed executive officer. Delegate Henderson (U. S.) offered a resolution recognizing the new Brazilian government but the southern delegates were unwilling to commit their governments.

Scientists are studying a little stone image, 1¾ inches long, which was pumped up in boring an artesian well at Nampa, Idaho, about 20 miles from Boise City. It came from a depth of 320 feet, the drill having passed through lava deposits, and the sand pump being in use. The figure is of pumice stone, female, with one leg missing.

The will of John Crerar, formerly of New-York, leaves $250,000 for a public library in Chicago, $200 000 to the Second Presbyterian church, $100,000 for a statue of Lincoln, $25,000 to the Scotch Presbyterian church of New-York (where he was baptised), $10,000 to the St. Andrew's Society of New-York, and legacies of $10,000 to $50,000 to relatives and partners. He was a bachelor, the last male member of his family, and is buried by his mother in Greenwood cemetery, Brooklyn.

Parties having barren mares, or cows, or irregular breeders, will learn something to their advantage by addressing H. W. CAMPBELL, Racine, Wis. [1yr

Have you seen the 5-A Five Mile Horse Blanket? If not, why not? If you have a Horse you need it! no30-3t

Beecham's Pills act like magic on a weak stomach.

Choice Guaranteed 6% Per Cent. Bonds, in amounts from $100 to $1,000, interest payable semi-annually.

Secured by First Mortgages on Improved Farms in Eastern Kansas. Negotiated and for sale by THE EASTERN KANSAS INVESTMENT COMPANY, Oswego, Labette County, Kansas.

Correspondence solicited. Send for Investors' Hand-Book.

Best of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. 1y26sow

THE ROYAL ACADEMICIAN,

W. P. Frith, whose charming reminiscences have been so widely quoted, has written two fascinating articles for THE YOUTH'S COMPANION on his experiences with "Youthful Models," including Italian bootblacks, coolney Arabs, and children of the royal family.

A Letter from Dr. Hans Von Bulow.

The Knabe Pianos, which I did not know before, have been chosen for my present Concert tour in the United States by my Impresario, and accepted by me on the recommendation of my friend, Rechestein, acquainted with their merits. Had I known these pianos as now I do, I would have chosen them by myself, as their sound and touch are more sympathetic to my ears and hands than all others of the country. DR. HANS VON BULOW.

New-York, April 6, 1889.
To Messrs. Wm. Knabe & Co.

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send, free of charge, to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 Powers' Block, Rochester, N. Y. ow15

CATARRH—CATARRHAL DEAFNESS—Hay Fever—A New Home Treatment.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on application by A. H. DIXON & SON, 337 and 339 West King St., Toronto, Canada.—*Christian Advocate.*

Sufferers from Catarrhal troubles should carefully read the above.

TO OUR SUBSCRIBERS.

The SPECIAL ANNOUNCEMENT which appeared in this column some time since, announcing a special arrangement with Dr. B. J. KENDALL Co. of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby subscribers were enabled to obtain a copy of that valuable work FREE by sending to the above firm their address (and enclosing a two-cent stamp for mailing same) is renewed for a limited period. All should avail themselves of the opportunity of obtaining this valuable work. To every lover of the Horse it is indispensable, as it treats in a simple manner all the diseases which affect this noble animal. Its phenomenal sale throughout the United States and Canada, make it standard authority. *Mention this paper when sending for "Treatise,"* and address with care, Dr. B. J. KENDALL Co., Enosburgh Falls, Vt. no1-3t

Farm Produce Markets.

Albany Markets—Nov. 25.

FLOUR.—The Argus says: Market remains steady with good trade.

	1889. Nov. 22.	1888. Nov. 16.	1888. Nov. 24.
Com. Wests	$3.40@4.40	$3.50@4.00	$4.30@4.
State Extra	4.10@4.40	4.10@4.30	4.70@4.
Amb. State & W	4.40@4.60	4.60@4.75	5.10@5.
O., Ind. & St. L. Wt.	4.60@4.75	4.60@4.75	5.10@5.
Winter W. Pat.	5.10@5.25	4.75@5.00	5.75@6.
Minn. "Bakers"	4.10@4.75	4.30@4.75	5.40@6.
Spr'g W. Pat., new	5.00@5.40	5.00@5.60	7.00@7.

Rye Flour firm and in good demand at $3.75@4 per bbl.; Granam, $3@3.25. Oat Meal doing moderately well at $3.10@3.50 per bbl. Corn Meal in good demand and steady at $2.60@2.90 per bbl. Buckwheat flour in good supply and steady at $1.70@1.75 in street, and $1.30@1.40 per 100 lbs. in store.

GRAIN.—Corn firm, with fair demand. No. 2 yellow 44@44½c. per bu.; No. 2 mixed, 43½c. Oats firm, free to the guild: No. 2 white, 32½@33c.; No. 3, 29@31c. Rye in improved request: State, 56@56c. per 56 lb. Barley dull: two-rowed State, 56@58c.

HAY AND STRAW.—Receipts moderate, market firm. Timothy, prime $16@16 per ton; good, $15@15.50; over, $13@14; mixed, $11@13. Rye straw, best, $11@12; oat straw, $9@10; wheat straw, $10.

HOPS.—Market steady for best grades

N. Y. State, 1888	7	@13
W. Y. State, 1888	7	@30
Pacific Coast, 1888	10	@12
Bavarian and Bohemian	20	@28

Albany Street Market—Nov. 25.

BUTTER.—Choice, 24@25c. per lb.; good to prime 22@23c.

EGGS.—Near-by and new laid, 28@30c per doz.

FRESH MEATS.—Steer beef, hindquarter, 9@10c per lb.; forequarter, 6@6½c.; mutton, carcasses, 7@8c.; lamb, hindquarter, 10@11c.; forequarter, 8@10c.; veal, hindquarters, 9½@10½c.; forequarters, 6@8c.

POULTRY.—Fowls, 10@11c. per lb.; chickens, 10@11c.; turkeys, 11@12c. spring ducks, 12@13c.; green geese, 9@10.

FRUIT.—Apples, $1.50@3 per bbl.; Cranberries, $3@3.25 per crate; Grapes, Concord, 2@3c. per lb; Catawba, 5@10c.; Niagara, 10@12c.; Pears, $3@4 per bbl.

VEGETABLES.—Beets, $1 per bbl.; Cabbage, $3@4 per 100; Carrots, 50c. per bu.; Celery, 30c.@$1 per doz bunches; Cauliflower, $1.50@2 per doz.; Onions, $4@5 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, $1.40@1.50 per bbl.; sweet, $3@4.25; Squash, 2½c.@$1 per bbl.; Turnips, $1 per bbl.

New-York Markets—Nov. 23.

BEANS—Marrow, 1889		2.80 @	—
Medium, 1889		1.90 @	—
Pea, 1889		1.80 @	1.80
Cal. Limas		— @	3.00
COTTON—	Uplands.	N.O.& Gulf	
Ordinary, per lb	7½@ —	— @	7½
Middlings	9½@ —	— @	10
Fair	11¾@ —	— @	11½
EGGS—State and near-by, per doz		26 @	28½
Western and Canada		22 @	25½
FLOUR—Spring Wheat pat., per bbl		4.90 @	5.25
Winter		4.10 @	5.00
No. 2 extra State and Western		3.65 @	3.90
No. 1 extra		3.30 @	3.75
Minnesota clear		3.40 @	3.80
Straight		4.15 @	4.70
Rye Flour, superfine		2.75 @	3.00
Buckwheat		1.10 @	1.70
Corn Meal		2.80 @	3.00
FRUIT—Apples, State, mixed, per bbl		1.35 @	1.75
Baldwin and Greening		1.75 @	2.25
Baldwin and Green., Mich		2.25 @	2.75
King, Sonw, western		3.00 @	4.00
Cranberries, Cape Cod, per bbl		7.00 @	8.00
Jersey, per crate		1.50 @	2.25
Grapes, Concord, per basket		10 @	20
Catawba		20 @	30
Isabella		14 @	15
Lemons, Fla., per box		2.00 @	4.00
Oranges, Fla., brights		2.00 @	3.50
Mussels		— @	2.00
Hickory nuts, per bush		1.75 @	2.00
Peanuts, per qt		4@5	6
DRIED—Apples, evap., 1888, per lb		7 @	8
Evaporated 1888		5 @	6
Sliced, 1888		4 @	5½
Peaches, sun-dried, 1888		6@8	11
Evaporated, 1888		9 @	12
Plums, Southern Damsons, 1888		— @	7
State, 1889		7 @	9
Cherries		9@10	12
Blackberries		5 @	6
Huckleberries, 1888		12 @	13
Raspberries, evap., 1888		23 @	25
Sun-dried		20 @	24
GRAIN—Wheat, State white, per bus		— @	86
Ungraded spring		75 @	80
No. 1 red, winter		85 @	90
No. 2 red, winter		84 @	84½
Corn, No. 2 white		42 @	42½
No. 2, mixed		41@42	42
Oats, No. 1, white		32½@33	33
No. 2, mixed		31 @	32½
Rye, State and western		52 @	57
Barley, State and Canada		60 @	75
Buckwheat		47 @	50
HAY—Timothy, choice, per 100 lbs		80 @	85
Shipping		65 @	70
Clover		55 @	60
Straw, long rye, No. 1		70 @	75
No. 2		60 @	65
Oat		35 @	40
Wheat		30 @	35
HONEY—White clover, per lb		13 @	14
Buckwheat		10 @	12
HOPS—N.Y. State, 1889, best, per lb		12 @	13
Best, 1888		10 @	—
Common to fair		7 @	9
California, 1889, best		9 @	11
Washington, 1889		11 @	12
German		27 @	33
POULTRY—Live fowls, per lb		7@8	8½
Spring chickens		7@8	9
Turkeys		7 @	10
Ducks, per pair		25 @	30
Geese		1.25 @	1.50
Dressed fowls, per lb		8 @	11
Chickens		9 @	13
Turkeys		10 @	12½
Ducks, eastern, spring, per lb		10 @	12
Western		10 @	12
Geese, western		7 @	10
PROVISIONS—Beef hams, per bbl		13.00 @	—
India mess		13.50 @	14.00
Hogs, dressed, per 100 lbs		4.75 @	5.50
Lard, per tierce		6.15 @	7.25
Pork, new mess, per bbl		11.00 @	11.50
Short clear		11.50 @	12.00
Family		12.50 @	13.00
VEGETABLES—Cabbage, L.I., per 100		3.00 @	6.00
Carrots, L. I		1.00 @	1.50
Cauliflower, L. I. & Jer., per bbl		1.00 @	2.00
Cucumbers, Fla., per crate		2.00 @	3.00
Celery, L. I., per doz. bunches		50 @	1.00
State and Western, per doz. roots		15 @	25
Egg-plant, Fla., per bbl		2.00 @	4.00
Green peas, Southern, per crate		1.00 @	2.00
Onions, western, red, per bbl		1.25 @	2.25
Orange County, red		1.00 @	2.00

The Fireside.

Thanksgiving in a Dug-Out.

On the night before Thanksgiving, 18—, four travelers in the northwestern corner of Kansas, were looking for a lodging-place. As they had slept in the wagon and on the prairie with their boots on as often as was agreeable, they longed for beds, even husk beds in which occasionally there might be "knobs," unhusked ears of corn, pieces of grindstone, or a lost munchey wrench.

About mid-day the travelers were told that there was a ranch ten miles further north where man and beast were entertained, but the traveled way became more and more indistinct as they proceeded. It was not easy to angle, and to go around sections, and to keep the path. At nightfall no ranch appeared, and the travelers prepared to camp in a cluster of trees on a creek-bottom, and dine again on jerked-beef, pilot-bread, cheese and coffee.

One of the travelers, however, making a detour, discovered a light on the other side of the creek not far away, and soon they rode up to a dug-out. Could they stay all night? They could, if they were not particular and could sleep on the floor, for the family numbered seven, and all the beds were engaged. As they were stabling the horses in the dug out barn, the settler, whose name was Crafts, exclaimed:

"Give me your hand, every one of you. Shake! You are from New-England! That's where I used to live, and I've wished a hundred times I was back there. I know your talk, and as soon as I saw you"—he continued, addressing one of the travelers—"throw that trace into a bowline knot, I knew you were from New-England."

As they entered the house, Mr. Crafts introduced them to his wife and five children as "Some of our neighbors from New-England; come to stay all night and to spend Thanksgiving with us." Mrs. Crafts shook hands with her guests as though they were old and dear friends, and the children took a hand in the reception. All gathered around the big cooking stove, into which the host thrust long ears of calico corn, so called because the kernels have many colors. Corn was the only fuel. Coal, even soft coal, cost much more than corn, and as for wood, there was none. The settler, especially the New-England settler, would burn his boots sooner than the wood in the few trees on the creek.

The dug-out was larger and better than the average. It contained three rooms, the centre-room being the living room, or kitchen. An excavation was made in the bank that faced the creek, the creek being within fifty feet of the door. The front of the dug-out was made of sods with two windows, and a door with a half window. Resting on the front wall of sods, and the top of the bank, were tree-trunks, just as they were cut, trimmed a little with the axe, but with the bark on. These formed the ceiling of the three rooms, and the support of the roof. On the beams was laid, first, brush and grass, then two feet of earth, and sods to crown all and to prevent the earth from washing away or blowing away. The roof was a little higher than the bank in front, but sloped down to meet it, and one coming from the prairie would see no sign of a dwelling except a chimney made of stones almost as scarce as trees.

But this dug-out, facing the south, was as warm and cosy as if built of granite and heated by steam, and was kept at the proper temperature with little fuel. It was in and under the earth, and in cold weather, when there were no fires, water would not freeze.

The next day, two neighbors, living two and five miles away, respectively, arrived with their families in the farm wagons, used throughout the West, drawn by mules. These wagons have no springs, but usually the seats have springs. Most farmers have no other vehicle. A funeral procession of these wagons is a strange sight to a New Englander. One of the neighbors brought two young men, strangers, who like Mr. Craft's guests, had stopped for the night. The neighbors brought victuals, and contributed to the dinner. All present, except the two young men, who were from New-Jersey, were originally from New-England.

There was little space in the three rooms not used at dinner. Those who could not find place at a table, or on the top of a barrel, took the plate in the lap. Such a feast and flow of soul! And what did they talk about? About New England and the old homes! A day of reminiscence—a renewal of other times and scenes to to keep the memory green.

The young men from New Jersey evidently did not admire New England, and one of them said that a farmer there, with the help of hired men and a big dog, could raise almost a whole acre of corn, but the company was in no mood to hear criticism of New-England, and talked the louder in its praise till the man from Jersey relapsed into silence, and gave his whole attention to the dinner.

And the dinner—a turkey dinner! The host said it seemed a pity to kill the turkeys after they had escaped so many dangers, and lived through so many difficulties. Of thirty brought to maturity, the coyotes secured more than half. The turkeys roosted in the trees, but came down too early in the morning. Then they were shut up at night, but the coyotes dug into the coop. The only way he could save the remainder was to go a gunning before daylight. As a result all these and other excursions he had a wagon-robe and a rug for the best room made of coyote skins, and a covering for a settle of gray-wolf skins. Two coyotes quarreling over a bone will make more noise than a village of dogs, but the gray wolf is a silent, stealthy forager.

But besides turkey there were quail, prairie-chicken, veal, pork and two immense jack-rabbit pies; also vegetables, squash pies, bread, ginger moon-cakes, and a little wild-grape wine. One of the young men from New-Jersey had such affection for the grape-wine jug, that Mr. Crafts smuggled it out of the house, and put it in a safe place. But this did not disturb his good nature, or his hospitality. Nothing can disturb the hospitality of a prairie settler. Life is lonely—so lonesome sometimes that the "lonesome fever" falls upon the settler with such force that he is almost incapable of exertion—weak, sick. Visitors are like rays of light in a dark place.

Thus the day passed—a New-England day on the prairie. The neighbors, with their sleeping children in their arms, returned to their homes, and the four travelers, rolled in their blankets, like mummies, slept again under the hospitable roof, and the next day, with many handshakes, and exchange of compliments, resumed their way. GEO. A. STOCKWELL.

How a Horse Started for Home.

ED. COUNTRY GENTLEMAN — Your issue of Nov. 14th contains the story of "Hunting the Parson's Horse." "Respect for the cloth" induces a desire to render still more probable the entire correctness of this interesting incident, by stating a fact which occurred, I think, in the year 1856.

Mr. Jonathan Shafer of Rockbridge county, while on a visit to Rockingham county, Va., bought a large and handsome grey mare, four years old. After bringing her home (about 80 miles' travel), he used her on his farm for several months, when I purchased her. Being very tractable, she soon became a favorite with my wagoner, who treated her so kindly that after a few months, whenever turned out, she would come to his call, and was always the leader of the animals returning from pasture to the stables.

One morning, about daylight, the wagoner awakened me, stating that this mare, after being turned out from the pasture field, instead of coming up with the other horses, had gone past the stable and in a direction opposite to Mr. Shafer's, from whom I purchased her; that when he attempted to turn her, she had dashed off at full speed, &c. Ordering my horse, I went in pursuit of the runaway.

The place in Rockingham where she had been reared was northeast of my residence, and the road she had taken for about two miles bore northeast. It then bore southeast for some distance, then due east for about a mile, then again southeast for nearly a mile, and then resumed a northeast direction. On reaching the point where the road bore southeast, I found the mare had left the road, and continued her course through woods and fields northeast. At one place where a high fence barred her progress, she followed the fence several hundred yards until she found a place she could cross it, and then, strange to relate, she followed back beside the fence until on a line with the line of travel she had left, and resumed her course as accurately as if guided by a compass. This course she followed until she regained, after a travel of several miles, the road again bearing northeast. Nine miles from my residence, and on her line of travel direct to her early home, was a toll-bridge with gates, and there she was stopped, having made the distance (partly over some very rugged country) in about one hour.

How did this animal know, and why did she follow, the direct course to her old home?

Roanoke, Va. R. B. MOORMAN.

The Little Ones' Christmas Tree.

A letter from "Lulu"—who says she is a very little girl and has very little money—wants to know what she can do to help with a Christmas tree. There are many other little girls and boys in Lulu's situation, and to them this article may be of some assistance. A Christmas tree to those living in the country costs nothing, and the choosing of it and bringing it home is always a day of frolic and pleasure to the little folks.

Among the pretty articles for decoration that can be made by very small children, and that are costless, are little sail-boats from English walnut shells. Halve them carefully with a penknife, scrape out the inside and varnish with shellac dissolved in alcohol. Glue in a slender mast on which paste a paper sail of gilt or silver paper. These sail very nicely, and have a very good effect suspended from the outermost boughs of the tree.

Beginning with the oldest members of the family, Lulu might make a sand-bag case for grandma. This is very useful in sickness or during a long drive in cold weather. Make of strong, unbleached muslin a bag a foot square. This is to be filled with sand, and can be heated in the oven when wanted. Make a slip-cover of bright colored red or merino, and if you have only a small piece it will do quite well if one-half for the bottom is of dark calico. Border with a ruffling of the same, and work in the dear old lady's initials. Or the cover may be made of coarse canvas bagging and a border worked in scarlet and blue, which contrasts prettily with the fawn-color of the canvas.

A spectacle case is nice for grandpa. Cut a piece of paste-board a little longer than the spectacles are when shut, and with the top scolloped like a three leafed clover. Cut a second piece an inch shorter than the first, and one-third wider; fit the lower end of this cut three slits, lap them, baste them firmly and trim off so as to fit the bottom of the back piece, which should be in the shape of a scollop. Cover these pieces with chamois leather, kid, velvet or silk, and ornament as well as you can with floss. Sew the two pieces together at the sides and bottom, and stitch a fine cord around. The front piece being a little wider than the back will stand out so as to allow the glasses to slip in and out easily.

Mamma will like a work case for her basket. Take a piece of Japanese canvas, yellow or gray, 13 inches long and 7 broad; a bit of silk of the same size for lining. Work a border with worsted of any color or shade you may fancy down both sides of the canvas, a little way from the edge, and across one end. This border may be as simple or as elaborate as you please. When the border is done baste on the lining, turn in the edges and overhand neatly. Turn the lower third of this lined strip up to form the bag, and sew the edges together firmly. The embroidered end folds over to form a flap like a pocket book, and must have two small buttons and loops to hold it down.

What can be nicer for papa's desk than a baby shoe pen-wiper? For this you will have to buy a pair of the smallest size baby shoes of soft red kid. They will cost 25 cents. Then cut four round pieces of black cloth three inches in diameter, pink the edges, fold them in half and this again in half, and push the pointed ends into the top of the shoe, so that the pinked edges of the cloth may project. Since you have two of these shoes you might make another pen-wiper for a favorite uncle. For your big brother who is just beginning to shave nothing can be nicer than a shaving paper case. There are many pretty shapes for this, but one of the easiest is that of a small palm leaf fan. Cut out two shapes in pasteboard, and cover the outer one neatly with any bit of bright silk or merino that you may have. A pretty initial worked in the centre, or the words "a clean shave" worked across it in outline stitch will add to its beauty. Cut two dozen leaves of tissue paper of different colors the same shape and a little smaller, and stitch them tightly between the covers. Tie a bow of ribbon around the handle to hang it up by. An ounce of sachet powder, violet or heliotrope will make a number of scent cases or bags for sister's handkerchiefs and laces. Cut two layers of thin wadding three inches square, sprinkle powder between them and tack the edges together. Make a little bag of bright silk the same size one way and two inches longer; push in the wadding smoothly; fringe the open end, and tie tightly with a narrow ribbon.

A. G.

Thanksgiving Days, Old and New.

This season of the year when the long days of labor are over, field, tree and shrub have yielded their burden, and our cellars are filled with the products of orchard and garden, should indeed be a season of thankfulness for our many mercies. While peace and harmony prevail in our borders and abundance is the key-note of the season, it is fitting that we should turn back the tide of time and contrast that first Thanksgiving ever held on American soil with the present.

In 1608 the Pilgrim church, exiled from England, went to Holland, where they remained until 1620, when they sent off the Mayflower colony to New-England. After the first harvest on those bleak and inhospitable shores had been gathered in, Gov. Bradford set apart a day of thanksgiving, which was duly observed by fasting and prayer. But the little colony had scant food for the feast that was to follow. The governor accordingly sent out four hunters to shoot game for the occasion, which undoubtedly was used in common. This occurred in the autumn of 1621, and is the first in modern times, but by no means the first in history. The ancient Hebrews at the end of harvest celebrated with religious ceremonies certain set days which corresponded in our national Thanksgiving, as did also the Greeks and Romans.

Special Thanksgivings in more modern times have not been unusual. In our grandparents' time, the days of open fireplaces and brick ovens, it was as universally observed and as religiously kept as at the present time, notwithstanding that our grandmothers had few of the conveniences of life, and not much knowledge of modern cookery. But then as now, the best turkey in the flock was sacrificed, and the requisite number of chickens to make a family chicken pie. After the turkey was duly prepared, it was suspended by the legs before an open fire until done.

The chicken pie was baked in the large brick oven, and according to my childish recollection, it was rather superior to any I have since made with the modern appliance of a good stove oven. As many of the products of the garden as could be conveniently cooked, were also served. The table was covered with one of grandmother's finest home-made tablecloths, and the best china and cherished silver spoons graced the occasion. When all had dined, one poor family at least was made glad with what remained over. A. C. B. *Meridian, N. Y.*

A Fatal Duel between Cows.

Two families living side by side in a country village, had each a cow. The cows grazed in different pastures, but often came together in the highway when going to and from pasture. They were on good terms, for they had been acquainted several years.

One of the cows was sold, and a new one, a younger cow, came to take her place. When the young cow and the old cow of the other family met for the first time, the younger attacked the older. They locked horns several times, each trying to drive the other, but they were so evenly matched that no advance was made by either.

As the fighters became more enraged, and as the younger cow had no buttons on her horns, they were driven apart, fearing that injury to one or both might result. The owners regretted that the cows could not "fight it out," for until one did conquer, the battle would be resumed at every opportunity.

Several battles followed, always with the same result—they must be separated, for they become more furious at every onslaught. This state of things was inconvenient. The owners were not farmers, were away during the day, and must depend on the children to drive to pasture and drive home, and there was no way to either pasture except through the highway. The cows were driven in and out at different times, but when they came to the place of battle, they lingered, threw up the earth, and the children had difficulty in driving them further.

The owners had nearly reached the conclusion that there must be a change of cows before peace was restored, when "the duel" occurred and settled the matter. By a misunderstanding on the part of the drivers one day, the cows came together at the usual place.

As they had not seen each other for several weeks, and lingered less at the former place of meeting, their enmity might have diminished. At all events they were not "on guard" so much as they had been, and owing to this fact, and to intervening roadside trees and bushes, they did not see each other till they were less than fifty yards apart.

Evidently they saw each other at nearly the same moment, for both started into a run, which increased as they went on, and, heads down, they came together, head to head with a crash, a report that was heard in both houses. The older cow fell and did not move again—she was dead, knocked in the head as with a butcher's ax. The other was uninjured.

GEO. A. STOCKWELL.

A MOTION TO "SQUASH."—Col. M——, commonwealth's attorney for —— county, had unbounded influence over the presiding justice of the county court under the old system. B——, a young lawyer, had been retained to defend a prisoner, and discovering what he conceived to be a fatal defect in the indictment, submitted a motion to quash. He was proceeding to sustain his point as best he could, when the presiding justice, a fat old fellow, settled himself in his chair and fell asleep. The argument proceeded, and at its close "the squire" roused up, and rubbing his eyes, said, "Squash 'er!" Col. M—— was on his feet in a moment, and inquired, with much asperity: "Do I understand this court as sustaining the motion to quash my indictment?" "Oh, no, Kurnil," said the squire; "I squashes the motion to squash!"—*Harper's Magazine.*

Domestic Economy.

Items in Home Economy.

LEAKAGE AROUND CHIMNEYS.—A serious inconvenience often occurs at the shingles which surround brick chimneys. It may be easily cured by making a paste or mortar of tar and dry sifted road dust, and applying it with a trowel about four inches over the shingles. It will harden and form a perfect collar, lasting many years.

TYING PARCELS.—In tying small parcels, the packthread or twine is apt to slip back again after being drawn closely around it, rendering necessary a close pressure of the finger on the forming knot. This slipping back is easily prevented by slightly moistening the twine where the two parts come together, and those who tie many packages will save much time and labor by using this remedy.

PURE AIR IN ROOMS.—Rooms that are much frequented, or school rooms, often contain much carbonic acid and corresponding impurities, causing headache to those who remain long in them. The impurity may be ascertained with lime water. Fill a pint or quart bottle with water, and empty it anywhere in the room the air of which is to be examined. The bottle then becomes filled with that air. Then put into it a small spoonful of lime water, and shake it. If the lime water remains clear or colorless, the air is good enough to breathe. If, on the contrary, it becomes milky, the air is impure, and is unfit to breathe, the room requiring airing or ventilating.

DRIVING NAILS—Into hard seasoned wood, as carpenters are aware, is often attended with the doubling of the nail on account of the hardness of the wood. But dip the point of the nail in oil or lard, and there will be no difficulty in its penetrating freely. But care is to be taken not to allow any of the oil to touch the face of the hammer, or it will slip from it when struck.

REMOVING BOX COVERS.—Fruit, seeds and other objects are often received in boxes with the cover well nailed down. To remove it without splitting, get two hard-wood wedges a few inches long. Set one in a crack between the lid and the box, near a nail. Drive it in so as to raise the lid a tenth of an inch. Then set the other in the crack thus made and drive it, and so on alternately till the lid is off—whole, unsplit and unhurt.

COPPER WIRE AND COPPER TACKS—Always kept on hand, will be found very convenient for various repairs. Copper is more substantial and durable than twine, and more pliable than stiff iron wire. Any fractured wooden tool may be mended by passing the wire many times neatly around it, twisting the ends together, and pressing the twisted knot into a small cavity. Copper tacks will mend belts, harness and shoes, the points being easily bent and doubled. Narrow copper straps, nailed on flat wooden surfaces, will repair a cracked surface. Baskets are made stronger with copper wire.

How I Make a Chicken Pie.

There is probably no other one dish that is more universal favorite than chicken-pie. And surely its popularity is not undeserved, for when successfully made it is a delicious article of food.

My own way of making it is as follows: Par boil a fat young chicken (from six to eight months is the best age) until perfectly tender. I use baking-powder and creamy, sweet milk in making the dough for the crust and dumplings, as they are much superior to those made with sour milk and saleratus. Grease the sides of the pan in which the pie is to be baked and line it with dough rolled to a quarter of an inch in thickness. On the bottom of the pan put a layer of chicken, then a layer of dumplings, followed by another layer of chicken. Over this sprinkle black pepper and scatter some generous lumps of butter. If the chicken was salted enough when parboiled, no salt need be added to the pie, but if not some must be sprinkled in, as the pie loses much of its merits if it is too "fresh." The last thing before putting the pie in the oven, add the water in which the chicken was boiled, and cover the whole with a top crust, so perforated as to allow the steam to escape. Bake in a moderately hot oven; but much care should be given that it is neither under-cooked nor over-cooked.

One of my neighbors, instead of putting dumplings in the centre, lines the bottom of pan with dough. The former way has this advantage. It will not burn at the bottom; as the heat penetrates the entire pie more quickly than though the bottom of the pan was covered with a thick crust. NELLIE BURNS.

Modes of Cooking Oysters.

OYSTER STEW.—Turn one quart of oysters into a colander and pour over them one pint of boiling water; when drained, boil this liquor and skim thoroughly. Add half a teacupful of finely powdered cracker crumbs, seasoning with butter, salt and pepper, then one pint of sweet milk; add the oysters and bring to a boil.

FRIED OYSTERS.—I select large ones, wipe dry with a cloth, sprinkle a trifle of salt over them. Dip first in well beaten egg, then in cracker crumbs and fry in hot butter.

OYSTER FRITTERS.—Make a batter of one well beaten egg, a trifle of salt, three-fourths of a teacupful of sweet milk, one teaspoonful of baking powder, and flour to make it the consistency of griddle cakes. Fry in hot fat, adding one oyster to each fritter.

SCALLOPED OYSTERS.—In an earthen pudding dish place a layer of oysters; season with butter, pepper and salt; then a layer of stale bread or cracker crumbs. Alternate in this way until the dish is full. Add half a teacupful of cream to each quart of oysters. Cover closely and bake half an hour.

OYSTER PIE.—Line the sides of a pudding dish with puff paste; put in one pint of oysters, seasoned with butter, salt and pepper, chop the yolks of three eggs, strew over the top of the oysters, and cover with half a teacupful of bread crumbs. Cover with a crust and bake quickly. KATHERINE B. J.

Cooking and Curing Mutton.

On page 689, I notice a request from P. P. P. for some one to give directions for cooking and curing the flesh of mutton, so that not be lost. It is generally conceded that the flesh of sheep is the most healthful of animal food. A farmer would not be apt to butcher a great number at one time; as there is no difficulty in disposing of one without loss. The hams can be cut out smoothly and laid in a large earthen or wooden box and salt, sugar and a dust of black pepper rubbed over it, just as you cure dried beef, and it is just as nice for eating as beef. The sides can be cut up and fried for mutton chops. It is nice to stuff and bake the thin part of the forequarters; eaten either hot or cold it is real good. Then if you have more than will keep fresh, soak in a weak brine, to take out the blood, then corn it, as you

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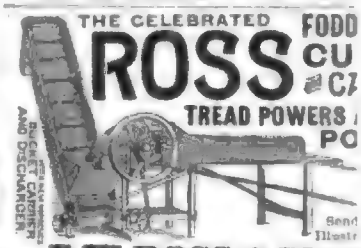

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VOLUME XXXIII. ALBANY, N. Y., THURSDAY, JANUARY 1, 1874. NUMBER 1.

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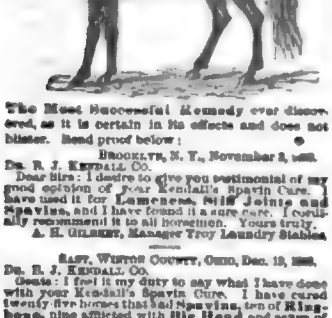

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These remarks include, very briefly, a few of many reasons or arguments which will suggest themselves to those of our long standing friends who may kindly endeavor to gather in some of their neighbors and associates as subscribers for our coming volume. When we consider that our present circulation, large as it is, bears so small a proportion to the aggregate number of farmers in the Middle States alone, not to speak of the entire country, it is more and more a matter of surprise that a field so vast is as yet so imperfectly occupied.

The demand for sample copies and other purposes always necessitates enlarged editions during the winter months. We should invite the attention of advertisers more particularly to this but for the fact that the space we care to devote to advertising appears to be called for from week to week without stimulus or solicitation on our part; and the position of the COUNTRY GENTLEMAN at the head of journals of its kind, as an advertising medium, as well as in other respects, needs no other proof than is readily afforded by an intelligent inspection of its columns.

We shall be happy to mail sample copies with circulars, &c., to any addresses sent us for the purpose, and particularly invite applications of the kind just now.

LUTHER TUCKER & SON,
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THE CULTIVATOR AND Country Gentleman

Albany, Dec. 5, 1889.

A Letter about Seed Clover.

EDS. COUNTRY GENTLEMAN—I wrote you during the summer about how one field of clover was treated with a view of getting a crop of seed in spite of the midge. It was the common small clover. We mowed it about the middle of May, when perhaps 8 inches high, and let the crop lie. The second crop grew up through, and according to the authorities should ripen its seed at a time when the midge would not be present. If the clover was left until the latter part of June, so as to make hay of it, the second crop would ripen its seed at a time when the midge would be ready for business, and some years destroy nearly all the crop.

The clover that was cut back in May was ripe enough to put up for seed about the first of September. It was cut with the Eureka mower, the clover on the headlands being moved into a winrow with a fork, so the horses would not tramp it in turning around. It was stacked right in the field. As usual we covered the stacks with straw. We finished hulling yesterday. The yield of seed was just about three bushels per acre. This was on our poorest field. When the clover bloomed it was a beautiful sight. I have not seen a field of clover bloom out so perfectly for years. Evidently the midges will have to change their time table to catch clover thus treated. Clover seed can be grown in spite of them and the clover root beetle. But there seemed to be one trouble with this method of treatment. Cutting back the young clover produced more stalks and weaker ones, apparently; at any rate I never saw clover lodge so badly. It was impossible to cut under all the heads with a mowing machine knife. Taking every thing into account, the crop was a good one.

We did not wish to take any hay from the field, any way, but wanted all the growth left to increase fertility. The haulm will be spread back immediately. From the last of April until about the first of September the field was heavily shaded by the growing crop, and the clover grew up again promptly after the seed crop was cut. In addition to the mulch from the growing clover we covered the field lightly with strawy horse manure, carefully put on with a spreader, as soon as the ground was firm enough to go on in the spring. Perhaps this is one reason why the clover got down so badly. Although the manure was largely composed of straw, it was made on a cement floor and kept under a roof; so that it was stronger than ordinary "strawy horse manure." We have been obliged to stop using fresh manure on land for potatoes, directly, as it makes the potatoes much more scabby. One point in passing: I expected that strawy manure would rake up in the clover cut for seed and make us trouble. It did not, however. It seemed to be about all gone. I do not think you could have found a trace of it in the stacks. Shaded by the heavy growth of clover it rotted perfectly. This knowledge is valuable to me.

To give you a chance to compare clover treated in this way, for seed, with the ordinary second crop cut for same purpose, I will give you my experience in another field—the one where we cut our hay this year. It is our best land and the stand of clover was better, in fact perfect. The season being wet, a heavy second crop grew. Last year we let one second crop stay on the ground and plowed it under this spring for potatoes, thinking that there was not seed enough in it, on account of the working of the midge, to pay for the harvesting. This year there seemed to be rather more, in fact promise of half a crop, and as we had to have a heller here any way, we thought it might pay to cut this

second crop, take the seed out and return the hauls. Well, we got a trifle over a bushel and a half of seed per acre. There is not much money in it, but as my man and I did nearly all the work when there was not anything else that needed doing, it paid well enough, provided we get the hauls back as evenly as the clover grew (which we cannot do).

How easy it is to tell people what to do, and how difficult it is to know what it is best to do one's self, sometimes! This wet season clover was very late ripening. We cut the last mentioned field and then it rained. When it cleared up we were anxious to get the clover in stacks as soon as possible, remembering the "40 days' rain" of last fall, and how many acres of cut seed-clover we saw in the winter that the owners had been unable to secure. As soon as the water dried off the clover, but while it was yet tough as a hemp string, not dry and brittle, I began raking and stacking. It was with some considerable anxiety that I did this, not knowing whether the seed could be got out as well as if left to get real dry. Well we put the crop in this field into two large stacks, as nearly as possible of the same size. It got pretty dry by the time we put up the second stack. Do you know my mind was quite relieved, and I had learned something when the huller gave us a bushel, nearly, the most seed from the first stack put up? Quite possibly there were other causes for the difference in yield; but I have written it down in my head that it is not necessary for one to wait for the clover to get very dry before stacking, when he is in a hurry.

I wonder how many farmers take the trouble to go over their clover fields just before the crop ripens and pull or cut out all weeds whose seeds might get in with the seed of the clover? The writer was taught this lesson years ago, when he took a sample of seed to a fancy city dealer. He examined it and said; "Why, that is beautiful, plump seed. If it is perfectly clean I can give you $6 a bushel for it, for some special customers who will have the best." Then with the help of his glass and knife point he began to poke out the dock seed. He preferred to "look farther," and I vowed I would try hard never to get caught that way again. It makes me mad all over now, after so many years, to think how just a little work at the right time would have taken those docks out. How mean I felt when slinking out of that store! Man cannot always help having a few weeds in his crops; but he can help letting them get in his grain and seeds nearly always. I would not dare say my seed was *perfectly* clean; but that city man who taught me such a good lesson would have to do a little more more hunting before he could poke out any dock seed—that I know.

I enjoy reading what Waldo Brown writes, but for once think he was wrong in advising a covering of boards over a stack of seed-clover instead of one of straw. His experience with straw for a roof, if I remember correctly, came from a neighbor who had thatched a stack once, and would not do it again. Now, I have covered stacks this way for years (four this year) and I must say it works perfectly, and is the simplest, cheapest roof for a stack I know of or care for. The huller men this year, as heretofore, said they wished other farmers would do my way. They told of stacks so wet they knew they did not get nearly all the seed out. Mine was as dry and nice as if in the barn. Of straw we, in common with most Ohio farmers, have plenty, and the time taken to put it on is hardly worth mentioning by the side of the saving to the stack over no covering, or simply a board roof over the top. If I had occasion to stack them out I should cover all hay and grain in the same way.

Let me tell you just how we covered these stacks this year. Every one may not know how to do it if they haven't had experience. First we built the stack on a bottom of rails twelve to fifteen feet across, building up straight and tramping well until about six or seven feet high. Then we began "laying out," a little more each time around, and thus carried up the stack until it was say 15 feet high. When left, the top was simply well "rounded up" but by no means "topped out." With a prospect of fair weather we would leave the stack in this shape to settle until the next morning. Then, when it was likely to be still (it is not so easy to pitch straw in the wind), and also before it was dry enough to work in the clover, we would take the wagon to the barn floor and load on a jag of straw, perhaps 600 or 700 pounds. When my man was loading and son pitching down to him, I stood by with a sprinkling can (the one we use to sprinkle clover hay, so the horses will not get the leaves) and had about three gallons of water put on each layer of the straw as the load was built. By the watch two men got the straw and topped out a stack, containing about 10 loads, in less than an hour and a half. We are careful to put the first layer of straw well out, and to lay the forkfuls flat and whip them down with the fork. When the sides of the stack settle down over the smaller base, the straw follows down, protecting the sides of the stack almost entirely. To build a stack up straight, or gradually draw in from the bottom up, and then pile a little straw right on top would not answer. But wet straw put on as I have stated, and fastened, is the cheapest and most perfect protection I know of. If desired, the straw can be thrown off on to a wagon and returned to the barn for bedding, when it is no longer needed on the stack. Rain caught us with one stack partly hulled this year. In a few minutes the straw was put on again, and the clover kept entirely dry through a heavy rain.

For fastening the top we use strings of binding twine, tying a stick of stove-wood on each end, both of which articles can be quickly picked up. I am not anxious to push my way, but I know by long experience that it is a good way, far better than many who have not tried it would have any idea of. While I write, a neighbor (A. D. Croy, one of your readers) has been broken off from hulling by rain, and has re-covered the open stack with the straw which has protected it from the rains of the last few weeks.

Clover seed seems to be lower in price this year than usual, a grand thing for farmers who have thought they could not afford to buy at high prices; but the price is usually low and market very dull at this season, when dealers are buying in. Wait till next spring, when these men sell, if you want to know what clover seed is really worth! I well remember, perhaps have written you of it before, when nearly every farmer in several counties about here sold his seed in the fall at $5, and your correspondent held his for 90 days and got $7.50. T. B. TERRY. *Summit Co., O., Nov.* 19.

Handling Cocked Corn Fodder.

EDS. COUNTRY GENTLEMAN—I read with interest Mr. C. S. RICH's article about cocking corn fodder. Do I understand that the fodder is to be drawn from the field and fed as wanted, or does he store it in barn when cured? I shall raise twelve acres of sweet corn next year, pick the best ears for canning factory, and cure the stalks and remaining ears. It appears to me a large job to get these loose stalks into the barn, which I must do, in order to feed in winter, as they are my winter feed, although I begin feeding them in October.

Madison County, N. Y. J. WEAVER WILSON.

[Answer by MR. RICH.]

Mr. Wilson can cut the stalks of sweet corn, after the ears have been picked, with the reaper in the manner that I have described in previous numbers of this paper, leaving them in large bunches and in rows convenient for cocking. They may be placed in cock directly after cutting. The cocks should be built of a size proportionate to the height of the corn. Six or seven feet across the bottom and five feet high will be about the right size. Enough of these cocks may remain in the field to supply his live-stock through October and November. The remainder, after being four weeks in the cock, can be stacked either in the field or near the barn. The stacks should be eight feet wide on the bottom and ten feet or more in height, and of any desired length. On my farm this course would result in excellent fodder.

Mr. Wilson would better build a silo than try to dry such fodder sufficiently to mow in the barn. Cows do not relish dry cornstalks, and will not eat them without waste. Neither does thoroughly-dried fodder retain all the nutriment of the green stalks. A friend says that the jaws of my cows are strengthened by grain feed, so that they can chew the large stalks and avoid waste, but I observed that he was afraid that his cocked fodder would get wet, and protected it by setting some of it on end around the cocks and binding about the top. As these stalks would shrink, giving the air free access, they became very dry and hard, which accounts for waste fodder around his barn. Another man, a very good farmer, succeeded very well with cocked fodder last year, but this year had a field of sweet corn from which the best ears had been picked, and thought he must bind it up and dry it. He tells me that his cows will not eat it clean, and next year he will cock such fodder. He has found out that dry fodder is not the best fodder. Another man has built a silo. His corn was 10 or 12 feet high, with some ears on it. After filling his silo he had a quantity left which he placed in large bunches or cocks in the field. He has now fed the last of this fodder and says all the mistake he made was in not having more of it. He has opened his silo, and although the ensilage is in good condition his cows do not eat it as well as they did the fodder, and he cannot see that it is in any way superior to it. Another very successful dairyman and farmer likes the cocked fodder so well and finds that it can be so cheaply placed before the cows, that he says we do not want a silo with the present high prices for labor. The Rural New-Yorker tried the method this year, and says "the product is as good as any ensilage we have seen." Others, in the COUNTRY GENTLEMAN, have spoken well of the method after one or two seasons' trial.

To the long list of those who speak well of the method of curing corn fodder in the cock after having given it a trial, I wish that I could add the name of that successful farmer and your highly valued correspondent, John Gould of Ohio. But alas! For some reason that I cannot understand, his trials are not successful. The rain will penetrate the cocks, and the fodder moulds and would spoil if it was left for any length of time in the field. And then the mice, rats and squirrels make sad havoc with the ears of corn, so that I fear that no farther trial will be made.

As an offset to his experience I will repeat what I have before stated. I have cured several hundred tons of corn fodder in the cock with varying weather and seasons, and have not lost 1 per cent. of the crop through rain, mice or mould, or waste through failure of cattle to eat it clean. Several years ago, however, I placed a number of loads of nice fodder that had been four weeks in the cock, in the mow in the barn and mixed with straw, and much of it moulded and spoiled. I think that for four or five months, beginning with September, the best of corn fodder can be secured for the dairy by my present method, and that it can be put before the cows with the least expense for labor possible. If in connection with this I can secure good ensilage for late winter and spring use, and perhaps to take the place of soiling crops in summer, I may be able to furnish the cows with plenty of cheap suitable feed every day in the year.

From Southwestern Georgia.

MONEY IN COTTON—IMPROVED LIVE-STOCK—ORCHARDS IN GEORGIA—WOODSFUL OF BLACKBERRIES.

EDS. COUNTRY GENTLEMAN—The middle of November finds the farmer of this section near the end of his harvest. The fall has been an exceptionally favorable one for gathering the cotton crop; fine, clear weather from the latter part of August through October. Most of the corn has been housed, sweet potatoes dug, and now the sugar cane is being made into syrup; 1889 has been good to us, and no farmer who has given honest work to his soil has failed to get fair returns.

The cotton crop here has been very good, and added to this the price has been higher than for several years. I am safe in saying that the present crop will sell for one and a half cents per pound more than last year. This means a great deal. The receipts of our county amount in round numbers to 12,000 bales, and the increase in price on this runs up to something like $90,000—a snug sum. The good crop has made itself felt in business, and the clerk of my county tells me he has cancelled an unusual number of mortgages.

I am glad to report a general awakening on the subject of improved live stock; fine home-raised colts are seen every day; and in cattle great progress is being made. Jersey cattle do admirably in our section, and so do Devons; the larger breeds, as Holsteins and Short-Horns, do not seem to succeed well.

A good deal has been said of the visit of a delegation of Georgia farmers to the State of Ohio last summer, for the purpose of looking into the more improved methods of farming, and incidentally to cultivate friendly relations with their western brethren. The delegation was headed by a citizen of our town, a former resident of Ohio. The trip will long be remembered by those who participated, as most enjoyable; it was an ovation from beginning to end. Good is sure to come from it. We have already a number of these sturdy, thrifty farmers who have come in our midst during the past few years, and others will follow. They bring with them new ideas, new methods, and improved implements, and their coming also serves to strengthen the bonds of friendship and union between a people who should be as brothers.

The writer has enjoyed Mr. Terry's strawberry articles, in your columns, very much, and has gained a point or so from them, though his methods would hardly do for our climate. We are unable to do much here with raspberries, but in strawberries our grey loams on red clay foundation, properly treated, can show with Ohio or any State. As for blackberries, it is amusing to us to hear of their being cultivated. Here the "woods are full of 'em." My new Ohio neighbor (came here last winter) spoke of planting blackberries. I told him to wait till June and then go to his fence rows. He was astonished at the size and quantity; and after canning, preserving and gathering all he could, worried over not being "able to save the crop." J. H. H.

Sumter County, Ga., Nov. 12.

Selecting and Testing Seed Corn.

EDS. COUNTRY GENTLEMAN—The frequent practice of farmers, when ready to plant corn, of going to the crib to select seed, is sometimes attended with great disadvantage. The results often are that the seed fails to germinate, that vital seed is scarce and commands a high price, and when obtained is perhaps a variety not preferred by the farmer; also the time of planting is belated and the proper season for it is past. It involves additional labor and expense, and allows weeds to get the start.

All this may be easily avoided. A temperature of zero and below will be likely to destroy the vitality of the germ unless the grain and cob are perfectly dry. Corn cribbed in bulk is often too damp to withstand these low temperatures without fatality to its germinating powers.

I have made it a practice for many years to select from the field in early fall such ears as I prefer as to type and the best specimens. I put these on shelves in my dry house, and keep up a moderate fire until corn and cob are thoroughly dry. No temperature, however low, will then injure the germ.

I make a further test before planting by placing a few seeds from different ears in a box of soil, keeping it properly warm. In due time its vitality or its failure to sprout will be shown.

By adopting the above practice I never have imperfect seed corn. W. C. PINKHAM.

Clermont County, Ohio.

Southwestern Michigan.

EDS. COUNTRY GENTLEMAN—Since my last, thirty days ago, the weather has changed to the opposite extreme. Then it was cold and dry, with frosty nights; now it is foggy, misty and warm. I mentioned in the last letter that threshing and husking corn by machinery must wait on favorable conditions of the weather. This has been the very worst possible for such business. I engaged the corn husker early, but did not get to work with it until the 13th inst., and was then delayed nearly a day by wet weather before finishing. The machine this year is doing as good work continuously as it did at the start last year. The firm at Sterling, Ill., rebuilt the weak parts and corrected some of the faults which practical work had developed, so that now the prediction made in this correspondence a year ago, that the day of corn husking by hand had nearly gone by, is verified. I had 30 acres of corn again this year, which I intended to husk entirely with the machine, but the delay in getting the machine made it necessary to husk by hand about two acres. The 18 acres left was husked in 2½ days. There were 16 large double-box loads of husked corn. It requires six men to manage the handling, cribbing and moving away the cut fodder, besides the three men who go with the outfit. I paid $10 per day for the machine, and $1 per day for labor. The bill for the machine was $32 50, and counting myself and hired man at the price of day labor, the labor cost $13.50, or a total of $36 for the job. The cost of husking by hand here has been 3½c. a shock, cut 8 hills square. My corn

was cut in shocks 9 hills square, which at 3 feet 8 inches apart in the row, makes just 40 shocks to the acre. At the rate for husking paid for smaller shocks, husking by hand—which would include tieing and setting up the the fodder—would have cost me $25 20. The corn then must be hauled from the field and cribbed, and the fodder stacked or crowded into the barn. For the $10 60 this last labor is done, and the stalks are all cut fine and placed in the barn, where they occupy only one-third the space they would if bound in bundles. The fodder also is better as it is only exposed to the weather on the outside of the corn shocks, whereas, if it was husked in the field and tied and set up in the usual way to await a favorable opportunity to haul to the stack or barn, a large part of it is turned to the weather and bleached out by storms.

This year I had secured in each barn some dry straw and chaff to mix with the cut fodder to prevent heating. In the barn where the first day's work was done while the stalks were dry no heating has occurred, but in the other the work was done while the fodder was damp, and there is some ferment but nothing serious.

Now as to the faults of the machine. It needs another pair of husking rollers and 4 inches more length of cylinder knives, so that it can do one-third more work. It takes now the time of nine men, but they are not all busily employed. If the crop is near the barn, the one team and the three men are standing idle a part of the time, and so with the others. I judge the men could conveniently perform one third more labor in the time if the machine could take care of the product as fast as the men could get it to the machine and take it away. With this improvement the cost would be reduced in proportion to the labor performed.

To-day there is a cold, drizzly rain-storm coming from the northwest—one of those days that make the farmer think of his sheep in the back pasture, and the calves that have not yet learned to shelter themselves under the shed. A few degrees drop in the thermometer and we should have snow. Wheat has a fair growth at last, somewhat less than the average, but not so small perhaps as to be considered weak.

The scarcity of good ewes for new flocks and the demand for them has steadily advanced the price, until now good grade Merino ewes of two and three years would readily bring $5 per head. At an auction yesterday 17 ewes of poor quality brought $6 25 each. Four of the best of them I sold a year ago as culls for $3 a head. This is a fair sample of the advance all along the line of sheep husbandry, except for feeding stock. The uncertainty of the recent market keeps the prices down. Spring lambs bring from $2 25 to $3 50, and wethers of feeding age $2 50 to $3.

Hogs have steadily declined, and are now sold for $3.25 per 100 lbs. live weight. I stated in my last that there were no complaints of hog cholera or other malignant diseases of animals in this vicinity, but now there are some instances of cholera among market hogs, where corn and water has been the exclusive diet.

Fresh cows are in demand at from $35 to $50 but dry cows are scarcely better than dead ones. They are sold for about the cost of wintering them. The best bid for a large cow yesterday, due to calve March 1, was $17. A large yearling heifer sold for $10, while there was sharp bidding for a small fresh cow that was struck off at a little over $30.

Horses are very cheap. Auction sales are at $35 to $100 for good young horses, but likely spring colts of Cleveland Bay or Wilkes stock bring good prices still. A pair of Cleveland Bay spring colts recently brought $240, but they had been the round of the fairs and taken $94 50 in premiums.

Clover seed is plenty and cheap. Dealers are offering on a basis of $3 for average seed, going a little above or below as the sample is poor or extra. It will be a good time to sow seed in the spring, as the tide seems to have turned. Last spring's seeding has made a good stand, which, in connection with cheap seed, will give an impetus to seeding that ought to clothe all the barren fields with a June robe of red. A. C. GLIDDEN.

Van Buren County, Nov. 23.

Minneapolis Exposition.—Mr. WM. M. REGAN writes us under date of Minneapolis, Nov. 11th:

"I have recently assumed the duties of General Manager of the Minneapolis Industrial Exposition, and hope to secure a display next fall that will prove both interesting and beneficial to the great agricultural and dairy interests of our State and section."

National Farmers' Congress.

The National Farmers' Congress, composed of delegates appointed by the governors of the States of the Union, convened at Montgomery, Ala., Nov. 13. About 300 delegates were present.

Addresses of welcome were made by Mayor Graham; and by Hon. T. J. Carlisle, on behalf of the State Agricultural Society; responses by Hon. A. B. Smith, speaker of Kansas House of Representatives; Secretary B. F. Clayton of Iowa, and Hon. Geo. W. Spofford of Chicago. President R. F. Kolb, secretary of agriculture and commissioner of immigration of Alabama, then delivered his annual address. This was the first meeting of such a representative body of farmers in the South, the region in which is produced the material in which half the world is clothed. This year's cotton crop will bring $350,000,000. When one single article of production yields such revenue, it is not easy to calculate the capabilities of the wealth producing power of our country. Workers in nearly all other industries are organized; farmers should organize. The cotton planters will, by organized effort, defeat the jute bagging trust. Farmers should insist that the department of agriculture should be kept, as far as may be, free from partisan politics and sectional bias; that the tariff laws should be made just to every interest. We should oppose all class legislation and demand that all legislation be for Americans.

Hon. R. J. Sledge of Texas read an able paper on "The Handling of the Cotton Crop." It is a freak of nature that cotton, so universally needed, could be produced by only a few people. The Southern States control 83 per cent. of the world's supply. Compared with the yearly values of the cotton crop, the gold mines of Peru, California and the Indies are insignificant. Cotton planters should be wealthy, but on account of unjust conditions and legislation they are poor.

There is not care enough taken in harvesting cotton to avoid trash, sand and dirt. The presence of such substances is very expensive, because it lowers the grade. Cotton is ginned too fast, cutting and napping the fibre. The size of the bale makes handling very wasteful. The bales must be rolled in mud, sand or dirt, require heavy, coarse wrapping, and heavy iron bands, which make a tare of 15 to 20 lbs. per bale, and even then the cotton is not protected. A bale weighing 150 lbs could be handled without putting it in mud or sand, requires only wires to keep it in shape, and could be shipped in a sack, which could be returned to the shipper, thus saving tare. The small bale would be a vast improvement over the existing system, and can be more economically made. The small bale would save yearly $18,000,000 to the cotton-planters. Cotton should be kept in dry storage houses while awaiting sale.

Many planters are under such financial obligations to merchants that the control of their product is virtually taken from them; they are compelled to dispose of their crops at unremunerative prices; and at a time and in such quantities that prices are depressed, and thus other planters are injured. The crop mortgage should be forever abandoned; and this can be accomplished only through the organized cooperation of cotton-raisers. This would enable planters also to ignore speculative demands, and no cotton would be sold except to supply the actual demand of manufacture at fair prices. Such cooperation would also greatly reduce the expense of handling. The aggregate saving would be $75 000 000 per annum. Cotton grown in the South should be manufactured in the South. This would effect another saving, and keep money at home.

—— This paper was followed by another on the same subject by Mr. Herbert Post of Selma, Ala. Small bales could be made with any hay-baling press, made a little stronger than for hay. With small bales much space is saved in storing and shipping. Brokers, under the excuse of sampling, annually robbed planters of millions of dollars. Small bales would greatly reduce this. It might be avoided altogether by putting a sample in the mouth of the sack containing the small bales.

—— This was followed by an address by T. B. Norton of Wisconsin, on "The Relation of Agriculture to Manufacture and Commerce."

—— Mr. Coffin of Iowa spoke on the Railroad Problem. The States should lodge somewhere the power to say when and where a railroad was needed and should be built. Parallel lines should not be permitted. We underestimate the carrying capacity of a good railroad. There are too many railroads, and the result is a fight for existence. All "gentlemen's agreements" will fail. Left to themselves, rates will in the end adjust themselves to the wants of the country. No legislature should fix transportation rates. A legislature cannot know of the thousand circumstances and contingencies that a competent railroad manager must consider. We have too much arbitrary railroad legislation. Rates should be reviewed by a non partisan railroad commission. The interstate commerce law should be amended to give each State a commission, whose decisions would be subject to appeal to the national commission.

—— This address was criticised by several delegates. Mr. Smith of Kansas showed that in several cases the building of parallel lines had secured cheaper transportation to large areas. Several delegates thought that we should have more, not less, railroad legislation; that the States should fix a maximum rate, and that the people should exercise a stricter control over railroads. Mr. Coffin explained that he did not object to governmental restrictions, but to the machinery by which those restrictions were imposed. Rates should be regulated, not by arbitrary enactments, but by a commission. JOHN M. STAHL.

New-York Farmers' Institutes.

Meeting at Plattsburg, Concluded.

INTENSIVE EXTENSIVE FARMING.

Prof Sanborn said:

"Our system of land tenure is the first on an important scale, in the world's history, where an intelligent yeomanry has owned the soil they till unhampered either by tradition or by law. This system has supplanted the old, uninterested muscular service of the many on the farm for the benefit of the few, by intelligent owners of the soil, and therefore a more interested class of farm workers, who prosecute an agriculture that gives larger products per man than is now known or ever has been known elsewhere. Here has been erected a higher order of life on the farm than ever before witnessed in the progress of the evolution of man on the farm. The success and preservation of this system of land ownership is of great moment to our republic and to the world. But it is now facing relatively the most depressing period known to its history. Its returns are more unremunerative than the same capital and brains invested in any other important occupation in our country. Farm revenues are so low that unrest is common to our farmers, and so meagre that if continued permanently, either fewer owners and more hired workers will result, or the entire character of farm life must sink to a lower level, and approximate to that of European peasantry.

"Less than a cent a ton a mile for freight, the Suez canal, the revolution of steamship transportation, and the penetration of the iron horse and of farm tools into all quarters of the world, have made the earth competitors in one market. It is now not the East against the West, but Americans against the world—against cheap labor, newer fields and a lower order of living. Our brainy farmers will hold their own order of living and free homes against the world, but only by a greater application of their intelligence, of capital and labor, in a higher order of farming—in extensive farming, each acre being handled on the intensive plan. No civilized people of the world till so few of their acres as the eastern farmer does. He has minimized the use of capital, of employed labor and tillage on the farm. This is carried to the extreme in New England, where scarcely 15 per cent. of her area is in the staple crops where one-half or more of Europe is so used, while the West has 35 per cent. of her tillage area constantly under the plow for staple crops."

Here the speaker reviewed the history, in brief, of the bearings of art and science on tillage, showing from experimental and practical data that the aeration of the soil increases air circulation in it when its agents, oxygen, carbonic acid, &c., acting as the tooth of time, greatly hasten soil disintegration, or in effect, that it became manuring by unlocking the insoluble food materials in the soil. Quotations from Lawes, Sturtevant and others were made in demonstration of the proposition. Sir John B. Lawes had decreased the nitrogen and carbon of his soil one-half by constant tillage, from adjoining areas in grass. Said the speaker:

"Grass holds a quiet air between its blades that resists frosts long after bare ground has again and again frozen. Its close mat shuts off free circulation in the soil. Manure beneath grass on my farm can be traced 25 years after application in its effects on growth, while when under constant tillage, its influence is found to be brief. We know how logs beneath alluvial soil and the ribs of leaves in muck-beds closed to air are found thousands of years after formation, while when exposed to air, they are soon wholly rotted. Our northern clime and coarse soil, frost-locked much of the year, of all soils most needs the good effects of tillage. But tillage is only an aid in good farming, and not the sum of good farming. Indeed, constant tillage is the soul of bad farming in mixed husbandry, inasmuch as disintegration and destruction of organic matter is too rapid, or is accompanied by too great leaching in fall and spring, too great loss of organic matter by summer suns, and too much surface washing. Lawes' reduction of nitrogen is an evidence, while his ground laid down to grass at intervals showed nitrogen accumulation in amount in ratio to length of time laid down. This accumulation of organic matter in the soil is not serviceable until breaking it opens it up to decomposition. This group of facts leads me to alternate tillage crops with what I term 'cover crops,' or those that close the soil after a year or so of tillage, thus alternately gathering and making available organic matter without carrying tillage to the point of loss. The two systems wedded are powerful factors. I then use rotation for the above reasons and others to be given.

"Let me prove its practical value by a personal trial of a four-year's rotation: Wheat after wheat, unmanured, gave 12,775 lbs. of total growth; wheat after wheat, manured, 15,351 lbs; four crops in rotation, manured, gave 26,561 lbs.; two crops in rotation, manured, 16,340 lbs; four crops in rotation, unmanured, 15,103 lbs. The fifth year all plats were in wheat, starting the rotation again in its four-years' course. Wheat after wheat gave 23 bushels per acre, while wheat in the rotation gave 36 bushels. It will be observed that wheat after wheat, manured, gave less yield than wheat in rotation, unmanured."

The Chemistry of Foods.

Prof. E. F. LADD of the State Experiment Station spoke as follows:

"But a few years ago the terms nitrogen, phosphoric acid and potash were almost unknown to the farmers of our State. With a soil producing bountiful crops with little or no cultivation, they had little need to inquire as to the source or amount of fertilizing matter contained in the crops grown. With failing crops from depletion of the soil, and the close competition in our markets with crops grown upon the cheap and productive lands of the West, farmers were forced to use commercial fertilizers. They soon learned that these fertilizers were purchased and used solely for the nitrogen, phosphoric acid and potash which they contained, and to day these terms are familiar words in the vocabulary of every progressive farmer in New York; he heralds with pleasure any new source of their supply, and every reduction in their cost, and no longer is one looked upon as a 'book farmer' who has additional information to impart on this subject, but rather is he listened to with eager interest.

"One-half of the money now expended for commercial fertilizers is wasted, from a proper lack of knowledge as to their use and the needs of one's soil. With the tons of nitrogen everywhere about us, constituting four fifths of all the air, it seems there should be no need of purchasing this most expensive of all the fertilizing constituents required in plant growth; and I believe the time will come when by a proper system of crop rotation and cultivation we shall be able to draw our needed nitrogen from nature's bountiful supply. The recent experiments at the Storrs Experiment Station inspires much hope that this will prove true. As to day it is generally recognized that a rational system of fertilization is essential to successful crop production, so a rational system of cattle feeding is just as essential to success in the production of growth of beef, or of milk and butter.

"The feeder who succeeds best in compounding a ration to produce a desired effect, must know something of the chemistry of

foods, their digestibility, palatableness and physiological effect. Some foods seem to tend to the production of lean meat in the growing animal, some to fat meat, some to milk, while others tend to increase the butter fat in the milk without increasing the milk yield. Again, food influences very materially the physical and chemical properties of the butter fats. Corn meal fed in connection with good hay produces a hard, firm butter, while linseed meal produces a soft white butter, containing three to four per cent. more olein than was found in the butter produced from corn meal. So we see from experiments made at the Geneva Station, that food may influence to a considerable extent the animal products. In plant fertilization the time came when it was necessary to adopt a rational system of fertilization; so to-day the time has come when, if we would compete in the production of dairy products with Wisconsin, Iowa and other western States, we must adopt a rational system of cattle feeding, and in order to aid you better to understand the chemical composition of our cattle foods, I have samples to illustrate the chemistry of foods."

Prof. Ladd at this point of his address exhibited and pointed out the different constituent elements of a number of foods, and explained their nature and adaptation to the purposes of growth and fertility. It is needless to say that this exhibit attracted great interest.

Knowledge on the Farm.

The evening session was taken up with an address entitled "More Knowledge Wanted on the Farm," by Col. Curtis, who said:

"I am the son of a farmer and have been a farmer all my life. There should be some influence on the farm to inspire the boys and girls with more love for it. I apprehend that the reason a boy leaves his father's farm is his desire for less drudgery and more knowledge and influence. The girl sees the wives of farmers with no prospect ahead but one of toil, while other women, who are no better, occupy positions amidst joys and pleasures. There should be in the farmer's house an elevating influence. If it is possible to create an atmosphere at home that will increase the love of children for it, let us do it. It is my hope and ambition that my boy may never be allured from his home, and that my girl may marry a farmer, if marry she must.

"Since my little boy was three years old, he has been my intimate associate and friend. I have taught him a love for the trees I have planted, for the fields, for the grand views to be seen in all directions from my home, for the animals as they grow. Both children love their pigs, cows, sheep, poultry and ponies. They are taught to love the animals, how to care for them, and their value. When sold, the income is theirs, and they are taught how to expend it for needful uses, and in this way a knowledge of business is acquired and a proper appreciation of money and its use.

"The boy or the girl may be made a scientist when very young, and in this way an enthusiasm for learning may be acquired. Science is, after all, a plain thing. It is knowledge—exact knowledge—in one word, *fact*. Cannot a boy or girl be inspired to search for facts? A fact found out is knowledge—science—and it is none the less so because its finder is young. We can scarcely go too far to stimulate the ambition in our children to reach out after facts. We should aid them with papers and books. The farmer who does not provide his son and daughter with some agricultural periodical and paper and books, has no right to expect better things in his children, and to hope that they will love a profession upon which they starve. Brain starving will not fill any child with a reverence for the farm hearthstone, or fire their hearts with a determination to protect and perpetuate the homestead. The more of the homestead inspiration we can create, the stronger will be the ties which bind us to the farm, our fathers and our country. More knowledge will do this, as with it will come more comfort, privilege and honor. The farmer's boy sees too little preferment in his future. What are we doing for boys other than our own? Do we give the farmers' sons the places of trust, influence and honor? More knowledge and culture in our homes, will lay a foundation for this. We must, or our ranks will be thinner. No farmer need allow his boys to grow up in ignorance. Teach them all you know; gather knowledge wherever you go that you may carry it home. There is no profession on God's green earth that needs more knowledge than farming.

"The food a farmer provides has a great deal to do with his intellect and that of his family. We make a mistake when we provide our tables with the coarsest foods. Do not sell the best products of the farm and keep the poorest for your own consumption.

"We must acquire a taste for recreation and pleasure. It is not necessary that the boy should seek pleasure in the saloon, on the street corner or at the circus. Take your family in your wagon and travel to the neighboring lake or river. Be social; invite your friends to see you; be happy, and let us begin now. The time for any improvement is now."

Prof. A. J. Cook of Michigan closed the evening with an admirable address on Home Physiology.

The last day's session was made interesting by a valuable lecture by Prof. J. W. Sanborn, who took for his text the advantages of tillage. The writer spoke on feeding for solids in milk.

It was a gratifying feature at the close of the institute, that a farmers' club was organized on the spot with a full corps of officers. An effort will be made to gather the same kind of wholesome fruit after each meeting.

F. D. CURTIS.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, *Nov.* 26.

The light snow of the 17th of this month is the only one we have had, and it belonged to the middle region rather than the north-west, its largest depth being at Cairo, Ill., thence lessening south until it disappeared in Central Mississippi, and north a few miles south of the lakes. This is something like a parallel to the snow storm and blizzards in New Mexico and Southern Colorado, which prevailed the last week in October and first in November. These, while progressing, left all the northern country in the mild and dry. Whether we are to have a mild and open winter or a cold one, is a matter of uncertainty of course, but I am inclined to think it is to be a compromise between the two—that is, not so warm as last winter nor so severely cold and stormy as the winter before.

The soft weather of the last half of the month has interfered with the progress of the corn harvest and a considerable portion remains to be cribbed. The per cent. of soft corn not dried out and of chaffy corn where it has, is unusually large. Tenants, landlords and those who cultivate their own acres, are alike disappointed at the outcome. For the tenant who pays cash rent of $3 50 to $4 per acre, the crop at 20c. a bushel for 80 pounds is little more than enough to fill his engagement; the landlord who gets two-fifths is only a little less a loser; while he who tills his own acres, finds small remuneration in a half crop which sells per bushel at half former average price. The cash rent landlord is the only one of the party who gets all he bargained for, and if he is endowed with a sense of justice, he must feel as if half his rent was blood money. Whether the low price of grain and cattle and half crops of the former, will retard or accelerate the movement of the farming population from the country into the cities and large towns, it is impossible to decide till it is made plain whether the land owners who have drifted into towns and will be forced back to cultivate their own acres, outnumber those tenants who, impoverished by half crops and high rents, seek centres of population as the last resort of the poverty-stricken and friendless.

The fall months have been quite favorable for the winter wheat crop and hardly less so for grass in pastures and clover and grass in meadows. The second crop of clover gave so poor returns in seed that thousands of acres were left unharvested, and on account of the want of division fences much of the large growth could not be consumed, and will rot where it grew.

There is a great deal written just now, advocating the abolition of all fences except to enclose stock. If the farms of Illinois had double the fences they have, a vast amount of green and dry herbage now lost might be saved, and the capacity of small farms to support stock, increased from 20 to 30 per cent. But whether more division fences would pay for the investment at present is doubtful, even though a sufficient and lasting wire fence can be made for 15 to 20 cents per rod.

The Cultivation of Artichokes.

Having had some experience with the Jerusalem artichokes I offer the benefit of it to your correspondent who in a late issue requested information how to cultivate them and to the best advantage. At the same time I add incidentally a peculiar and not generally recognized feature of all or nearly all vegetation, which the artichoke in common with some other plants, displays in quite a remarkable manner.

Almost any soil in almost any situation that will grow vegetation, will yield a fair crop of artichokes; but in every case the product will be in a quite direct ratio with the fertility of the land. It is easy to over-manure and fertilize land for corn, potatoes or wheat—that is, in the one case, the result is smut; in the second, great vine growth and small tubers; and in the third, overgrowth that insures rust and lodging before maturity. But not so the artichoke; it seems next to impossible to make the land too rich, and when it is thus made, the yield is enormous. As for details, if the same methods of planting and subsequent cultivation are followed as with Irish potatoes, they will be as nearly the right ones as any. But artichokes may be planted in the fall provided the seed is not cut; if in the spring, it is best divided as for potatoes. The harvest should be deferred to the latest safe hour, and if convenient, delayed till the following spring, because the tubers increase in size so much during the cold months that the spring product will be found to be from 25 to 30 per cent. better over that of the fall.

After one big crop of artichokes, there are tubers enough always left in the ground to make a second volunteer growth, but it rarely amounts to anything. One crop seems to exhaust fertility to a measure it is difficult to account for, if we attribute the result to commonly known or supposed causes.

But there is another which Mr. Bowick formulates in a late communication from the other side, by stating that the roots of some—probably all—plants secrete and give off matter offensive to themselves, but which is neither offensive nor detrimental to the roots of other plants. This accounts for what is commonly called "the rotation of nature," where one species succeeds another—conifers, deciduous trees; red top, ragweed; timothy, blue-grass; while at the same time it throws much light on the mysterious causes of "clover sickness." Whether artichokes throw off this poisonous matter so much that it prevents a second crop has not been demonstrated; still such a conclusion is a logical and reasonable one.

Among the common plants which take possession of fields and meadows, and often invade lawns and hold them with great obstinacy, are plantain and dandelion, and in old blue-grass pastures in this region, bull thistle. These, if left to themselves for three or four years, voluntarily disappear, and probably for the cause stated by Mr. Bowick. For this reason, I have recommended that these invaders be left alone to poison themselves by their own secretions, except perhaps where the labor of pulling up each plant by the roots, pays in the improved appearance of the invaded territory. The common opinion is that clover-sick land recovers in course of five or six years, but the testimony as to alfalfa is, that after having possession of the land for half a generation, there must be a rest from the crop for a whole one, before another can be successfully grown.

The truth stated by Mr. Bowick, though not original with him, is calculated to clear up the mystery of the partial failure of a crop on lands which seem to still contain all the elements of fertility for that crop, and will more clearly demonstrate the value of rotations, even where there is no applications of amendments, manures, or fertilizers.

Nov. 27.—A snowfall of 2 inches last night. This morning mild and clearer weather, with promise of a bright, pleasant day. E. F. J.

English Notes by T. Bowick.

A mean temperature of 61° at Aberdeen Sunday last is unparalleled in November in that region for well-nigh twenty years. We have had the same warm, atmospheric wave from the Atlantic further south, though accompanied with more cloudiness, and with less rain. In fact, no part of Europe, north of the Riviera, showed a higher temperature; and a run across Surrey, on Saturday, gave evidence that nature had responded in a very marked manner—many of the trees having lost few of their leaves, though the autumnal tints were almost as rich as in the Hudson valley. It is true that the ground is sodden, but for all that, work is well forward, and I saw several fields of soft, pale-green after fallow, just showing the promise of next year's wheat harvest in the rows of the drill.

This morning a thick coating of frost was on every farmer's cart that had trudged on through the night, bringing its load of hay or straw 20 or 30 miles to the metropolis. Certainly the weather described has been the reverse of desirable so far as the keeping of meat is concerned. Happily in London, and many other towns, cold storage is now the order of the day, and losses are less. By the agency of an artificially lowered temperature, we now get an almost unlimited supply of excellent meat, which could not have been dreamed of a generation ago. New-Zealand and River Plate muttons are established elements in our food supply; so also is the North American meat trade, which has assumed such gigantic dimensions. Thus we have 24,000 quarters of beef due in next week from Atlantic ports, no less than eleven lines of vessels being represented in that consignment. And it will all arrive in good consumable condition—the bulk of it being worth within two or three cents a pound of our better qualities of home-grown beeves. You naturally enquire how it is that our antipodal colonies, which furnish such quantities of frozen sheep do not have a share in the remaining trade as well? To bring beef across the equator has hitherto not proved successful, nor is it likely to do so, for the reason that the vesicles of beef being bigger than those of mutton, in the act of freezing (or rather of thawing) the said vesicles are fractured, and the natural juices drawn away, while a notable flabbiness characterizes the meat offered for sale. Your Illinois ranchmen need have no present anxiety about the competition of Australians in the field that is specially their own.

Our new Minister of Agriculture needs looking after. Some foot-and-mouth disease is reported from Schleswig, so that suspected ports are prohibited from sending live animals. But Mr. Chaplin's order goes much further, and reaches the shutting out of 15,000 cattle and 300,000 sheep during the present year. The trade is not happy, contracts being based on estimated supplies, and Deptford is grumbling hugely, as unemployed labor, which has hitherto been engaged at the cattle market, is now loading about her streets. Mr. Chaplin has a large sum at his command with which he can do a great deal, whether for good or ill. The amounts allotted to the departments of agriculture in several European countries vary greatly: England, $1,800,000; Germany, $3,000,000; France, $7,500,000; Denmark, $280,000. In the case of France there are contributions to the large horse-breeding establishments for war purposes; while with the small item noted for Denmark, that spirited little country has almost revolutionized her agriculture.

Sir John B. Lawes' estimate of the wheat crop of the year corresponds more closely than usual with the forecasts made by hundreds of practical men at the beginning of harvest. Allowing us 27¾ bushels to the acre (64 lbs. per bushel), and also allowing for a smaller breadth grown, he shows—

	Quarters.
Home product	6,724,778
Deduct for seed	600,000
	6,124,778
Our estimated consumption for a population of 36 millions, at 5.45 bushels per head	24,500,000
To be provided by stocks and imports	18,375,222

A near neighbor of Sir John's, Lord Salisbury, our prime minister, who is, in fact, the greatest landholder of the district, has just received a notice of the growing power of the people, and of the decay of feudal conditions. His lordship has a nice ancestral home—Hatfield, Queen Elizabeth's favorite residence, within 25 minutes by rail from London. In that small country town his influence is of course preponderant and also far-reaching. Everybody must think as the Hall thinks, and wear a primrose in the buttonhole (real or artificial) all the year round. But in matters religious some people—not dependent on baronial grace—have tried to worship after a different fashion, and have found it difficult to do so. These people—the Methodists—received notice to quit their old quarters (a tumble-down-stable sort of erection, beside what used to be the chief inn of the place) from the Earl of Salisbury on his becoming their landlord, by an exchange with the original lessors from whom the property was rented. Application was made for a new site, which was refused by his lordship, who was only willing to let a plot of land for the required purpose a mile and a half out of the town. The difficulty was met by the purchase of two old houses on ground not belonging to the estate of the noble marquis. And so the world moves on.

This Primrose leagueism is so decided in its boycotting of opponents as any part of Ireland is. This shows itself in many ways, but especially in stifling the land-hunger which the allotments act was supposed to make provision for. At Winwick, a village in Northamptonshire, the clergyman's wife spoke thus to a youth, one of whose brothers had wandered to another fold: "Your mother knows the rule. If Albert goes to the chapel Sunday school, the allotment will be taken away." And it was taken away—much to the horror of many whose sympathies were not with dissent in the slightest degree.

"A cunning witch is the Primrose dame.
As she flitteth from door to door;
* * * * * * *
She doles out blankets comforts and coal.
As arguments clear and constant
And buys with each favore the workingman's soul.
Where votes may be had for the price."

London, Nov. 18.

The Kennel.

The Beagle.

[See Illustration on page 933.]

This variety of the dog can claim very long descent; there does not appear to be much doubt that it is mentioned by writers pretty early in the Christian Era; even Oppian speaks of this variety of dog as being found among the ancient Britons. That writer says:

> There is a kind of dog of mighty fame
> For hunting; worthier of a fairer frame:
> By painted Britons brave in war they're bred,
> Are Beagles called, and to the chase are led;
> Their bodies small, and of so mean a shape,
> You'd think them curs that under tables gape.

And further the same writer gives a description of the Beagle in the following terms:

"Among the noble breeds of dogs that are used for hunting, let me note those breeds which have been sedulously preserved. Thus we see that in Britain there have been specially cherished those dogs that have been termed *Agasæi*. All these are adapted by their form to search for their adversaries, even in their own burrows, for which their apparently feeble aspect does not unfit them. Their gliding motions, their feeble loins, their wire-like hair, fit them for this purpose, and we are enabled to see that their powerful jaws belie the impression of their feebleness. This breed of dog is especially known as the *Agasæi*, and its derivation stands apart, so that those who know them merely from the aspect of their form may naturally be led into the impression that they are a feeble breed of hound. Such a conclusion is, however, not warranted when we look at their achievements within the burrows."

Another old writer (Janus Vitius in Venatim Novantiqua) makes other interesting references to these hounds, saying: "There are also the *Agasæi*, which are very slender and small, and being very much like the hare hunt them out in the burrows where they dwell, where they bite them to death, in spite of all their struggles to get free. They are bred to be especially delicate and slender, so that one hand may encompass the whole of their body. They are great pets at the table, and it is a great pleasure when they are led to the chase."

There have been many discussions and voluminous controversies as to the origin of the Beagle, but thus far these have led to no definite result. With so old a breed of hound it is scarcely possible to do more than surmise, and build theories upon slender foundations. That being so we may well leave the matter where it is, and proceed to something of more immediate interest.

The Beagle is the least of the hounds, and is not now very much kept, not yet having come under the favorable notice of the goddess fashion, whose power is so great for the making or marring of any breed of dog. At one time there were more kept than at present, there being very few packs, which is much to be regretted. Although nearly every English hound under sixteen inches is called a Beagle, there are very many of these which have no right to that name. The true Beagle is a miniature specimen of the old Southern hound, except that he possesses more symmetry. The craze for breeding the Beagle as small as possible has resulted, as might have been expected, in the loss of that hardiness of constitution so essential to a sporting dog, as well as loss of symmetry. A pack of Beagles between nine and ten inches high was hunted regularly in Dorsetshire for a long time, but the difficulties in rearing the puppies was so great that it was found impossible to maintain the diminutive size. These little Beagles, however, showed some good sport in hare hunting, but in crossing drains they had frequently to be assisted up the banks to save them from drowning. Packs of twelve-inch Beagles were often used in hunting "drag," and many a good day's run with them has been enjoyed. Owing to the desire for something quicker, this favorite of a past generation has gradually been losing ground, but very recently there have been signs of an attempt to bring it into greater favor, and as shown in this country there have been better classes of Beagles than have been seen for a long time previously. It has been suggested that the modern fox terrier has sprung from the Beagle, and there is no doubt that the description given by Markham of the latter hound corresponds in many respects to the fox terrier.

In "British Dogs," after speaking of the Beagle as a dwarf hound, the author goes on to say:

"There is considerable difference in outline between him and the modern Foxhound: The former is not so clean in the shoulder, his head is different in shape, the skull being in proportion broader and flatter, the jaw shorter, the ear longer, and there is always more or less dewlap or throatiness. Beagles may be fairly classified as Hare-Beagles and Rabbit-Beagles, other distinctions than size being minor. Their power of scent is exquisitely keen, and their intelligence great; and, when well sorted in these respects, and in size, they work wonderfully well together, puzzling out even the coldest scent, while their music is most charming. Although occasionally, they are not much used with the gun, except in driving woods and spinneys for rabbits, &c. Of whatever size, the Beagle should be shapely, as free from lumpy shoulders as possible, legs straight, and more bone and stronger pastern than are generally seen would be an improvement; the ears are very long, broad at base, hang close, and very fine in the leather; ribs rather more rounded than in the Foxhound, with the back ribs well let down; back and loins strong, and hind-quarters very cobby and muscular; the tail roughish and gaily carried. The colors are various as in the Harrier, and chosen to suit individual tastes."

The Beagle has not yet attained to the distinction of a specialist club, nor is there any authoritative standard, but the following was drawn up by Mr. H. A. Clark, Master of the Cockermouth Beagles, and is published in the work just referred to:

Head—Like that of the Foxhound, not quite so broad across forehead, with sweet, intelligent countenance; the head long, and the nose should not come to a sharp point.

Ears—Long, and set on low down, and carried close to head; not too broad, and the thinner in the leather the better.

Neck and Throat—Very long and lean, but some of the heavier hounds are very loose in throat, and have a deep voice.

Shoulders—Long and strong, well clothed with muscle.

Chest—Deep and wide; ribs also deep.

Back—Strong and wide, and especially wide across loins. Bitches are generally better across loins than dogs for their size.

Hind Quarters—The stronger the better; wide and deep; stern strong at set on, and tapering carried high but not curled.

Legs—Straight, although for work they are no worse for standing a little over the forelegs strong of bone; feet round like those of a cat.

Color—Black, white, and tan; black and white. I had a heavy dog the latter color that was always first to find game, and always led. He was well known among the Cumbrians. Occasionally beagles are the color of blood hounds.

The beagle should be hard in condition with plenty of muscle. STEPHEN BEALE.

Weather, Crops and Prices.

Meteorology for Nov. 25-Dec. 1.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week			30.62 inches
Lowest	do.	do.	30.51 do.
Mean	do.	do.	30.19 do.
Highest temperature	do.		50°
Lowest	do.	do.	15°
Mean	do.	do.	36°

Two clear days; two fair; three cloudy. Three days on which rain or snow fell; total precipitation, 1.56 in. Prevailing wind, W. and N. W.; maximum velocity 18 miles per hour on the 27th and 30th.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	25th	26th	27th	28th	29th	30th	1st
Day							
This year	48°	30°	35°	42°	30°	34°	34
Normal	34°	35°	34°	35°	33°	28°	28

Total excess for the week, 29°.

General Review of the Month.

The temperature for the month has been from 1 to 3° above the average in the lake region and 1 the districts on the Atlantic coast, and slightly below the average in all other districts east of the Rock mountains; the greatest departures being in Arkansas and Texas, where the temperature has been from 6 to 7° below the average. There has been a slight increase in temperature on the Pacific coast. The line of killing frosts has extended southward to the Gu coast and Northern Florida. Light frosts occurre in Central California.

There has been more rain than usual in the New England, Middle and South Atlantic States, and t the Ohio valley; the greatest excess being in Easter New-York, Eastern Pennsylvania, Maryland, Del ware and the District of Columbia, where th rainfall has been from 3.5 to 6 inches above th average for November. The excess in the Ohio valley Tennessee and southward to the Gulf coast ha been from 2 to 4.5 inches. In Minnesota, th Dakotas, Iowa, Nebraska and the extreme North west, there has been a slight deficiency in rainfall. I California the rainfall has been about the averag Snow was reported on the ground at the end of th month in extreme Northwestern Pennsylvania an Northern Ohio, in Michigan, Eastern Iowa an Minnesota.

The most prominent meteorological feature of th month was the storm which moved from Tex northeastward to the lakes, and thence to the mar time provinces, between the 26th and the 29th. It w accompanied by rain and snow in the Mississip and Missouri valleys on the 26th and 27th, with ra in the lake region and New-England on the 27t turning into snow in the lake region on the 28t Snow was reported as far south as Tennessee on th 29th. Violent gales prevailed in the lake region a

Horticultural Department.

Editorial Notes and Comments.

"FAMILY APPLES"—The editor of the Prairie Farmer, who thinks it was "a great oversight" on our part, to omit in a list of select family apples, such varieties as Ben Davis, Rome Beauty and Red Astrachan, is kindly requested to turn again to the list on page 837 of our current volume, where he will find that the selection we made was intended to comprise "those of best quality rather than market varieties." If he thinks the Ben Davis, Rome Beauty and Red Astrachan, although productive apples, come under the above description in quality, he certainly differs from many pomologists. Charles Downing places these three down the third from the last in the scale of the American Pomological Society.

PRODUCT OF STRAWBERRIES—In answer to the frequent inquiry, "What will the strawberry yield?" E W Wood, in his address at Boston, said that two hundred bushels to the acre was a good crop, although more than twice that amount had been grown. One grower in Arlington, he stated, had sold in the previous season, from 24,000 feet of land, something over a hundred bushels of fruit. This is an unusual way of measuring land, the real extent being a little over half an acre, and the crop was no unusual one; but the rows being five feet apart, beds were grown between the rows the first year, and the ground was partially covered with the strawberry plants. The fruit, however, was very fine in quality, and returned the owner over $300, or eight dollars a bushel—twenty-five cents a quart.

THE TOMATO—A recent bulletin of the Agricultural Experiment Station at Cornell University furnishes the details of the experiments made there during several years on the tomato and its culture. Among the facts which these experiments have brought out or confirmed are the following:

Early sown plants gave the earliest fruit, the gain sometimes amounting to three or even four weeks. The early plants bear the heaviest crops. The opinion that a thin soil is best has been fully proved to be erroneous; but the gain due to very heavy dressing may not repay the cost. The varieties of the tomato are usually rather short-lived. Ten years is supposed to be the average profitable life of a variety, and varieties popular more than ten years ago, the Tilden among others are now nearly extinct. Others have a shorter period, and many sorts break up and disappear in two or three years. Four fifths of the varieties now offered by dealers possess no points of superiority for general culture. To be worthy of general introduction, a variety should be superior in some points to the best at present known. Nearly 80 varieties were grown at the station this year—which is less than one half the number grown last year—in all, 200 varieties, out of which six could be selected comprising the merits of all. These are named Acme or Beauty, Mikado, Perfection, Favorite, Potato-leaf; and for very early, Advance, Selzer and Prelude. Frequent transplanting is necessary, at least two or three times. Productiveness is greatly increased by early planting. Started under glass about ten weeks before transplanting into open ground, fruit was a week or ten days earlier than from those started two or three weeks later, while there was a much greater difference when the plants were started six weeks later.

THE CLIMATE OF IDAHO—The following is an extract from a letter from J. H. Evans of Northern Idaho, dated Nov 2, 1889:

"The extreme of our climate is always to drouth; during 1888, we had less than 12 inches of rainfall, and through the season of growth during the present season only 7 inches. Without any snow in the mountains to temper the atmosphere, the air seemed perfectly dry and hot, although the heat of summer was not above the normal. With the mercury not above 100° Fah., the leaves on many of the trees were burned as though scorched by fire, and that when the trees were irrigated, so that it was not from any lack of moisture at the roots. Although the hills looked brown and barren this summer, the scene has now changed; we have had light rains, and the hills are carpeted in green. Could you visit my place today, I could show you my grapevines and apricot trees still growing—the tomato plants still blooming and untouched by frost. I have a patch of potatoes all the way from the size of a pea to two pounds weight. The fig trees are full of figs from nearly grown to those just setting; raspberries in bloom, green and ripe. While all this presents a scene pleasing to contemplate in November, especially when I read of snow storms below us in the east, and cutting frosts down in Dixie, yet when I remember that we had colder weather last November than any during the winter, I grow anxious for the white frosts to come and check the flow of sap. Late-growing autumns like the present are by no means unusual, but sometimes prove disastrous to the trees. The weather will sometimes continue mild away on towards Christmas, when the mercury will suddenly drop away down into the twenties and perhaps thirties below zero, when it is good bye to the peach, apricot, and many of the apple and pear trees. Thus it is that I believe that the Idaho pear will keep its place among the hardy pears in the North. It has maintained a luxuriant foliage and made a vigorous growth, while other varieties by which it is surrounded have grown but little."

We have received specimens of this pear from Mr. Evans for two successive seasons, grown in Idaho, and found in it a remarkable combination of large size and excellent quality; and the tree, not yet borne with us, appears to possess vigor of growth. See advertisement of this pear in late numbers of the COUNTRY GENTLEMAN.

Strawberry Growing in Indiana.

EDS. COUNTRY GENTLEMAN—Mr. Terry's communications on strawberries seem to be attracting a great deal of attention, and if he goes at them with his usual earnestness, his experiments will result in much good. Twelve years ago last July, I saw some strawberries exposed for sale in a store. Their extraordinarily large size, fine appearance and good flavor caused me to ask so many questions concerning them, that the merchant informed me that the man who grew them was still in town, and would be back in a short time. I waited for him, and bought one dozen plants, which he delivered to me a few days later. They were the Sharpless. On my heavy clay they did well, giving better satisfaction than any berry I have ever tried.

My method of planting and culture, is in rows three feet apart, and the plants eighteen inches in the row; all runners are cut off, (except when I want plants for new beds) and weeds and grass kept out by frequent stirrings of the soil. I use old well-rotted manure when I can get it, droppings from the hen house, ashes (both wood and coal)—in fact any thing in the way of fertilizers. The result is berries that would tickle the palate of an epicure, and attract attention anywhere. The cost is nothing, the labor being bestowed at odd times, and most of the culture by horse power, the area being less than an acre, more frequently less than one-quarter of an acre.

I had at one time no less than 32 varieties, but have discarded all except the Sharpless, Crescent and Wilson. The Wilson is the most slandered berry in existence, but it continues to lead, and will for many years be the main stay as a market berry. In many localities it turns red before it is ripe, and in this state is usually sent to market. When thoroughly ripe its slightly acid flavor is very agreeable, and superior to many highly praised varieties, whose insipid taste causes one to soon tire of them.

The Crescent stands neglect better than any other kind—in fact, it yields the largest crop under the matted-bed system, but the fruit is small and inferior in quality. The Sharpless, on strong, heavy land, well manured and kept in rows, with runners cut, and clean cultivation, exceeds all others in size, yield and quality, remains longer in bearing, and furnishing berries, if properly managed, for several weeks. No matter how much the market may be glutted, they always find a ready sale at good prices. Last season they never brought less than 20c. per quart in our market, while Crescents and others were selling as low as 5c., bushels of them spoiling, not finding a sale even at that price.

The raising of small fruits for the market is a very nice and very remunerative business when properly managed, but it requires rare business tact and exacting care and attention. A farmer in our county went into small-fruit raising five or six years ago on a farm where he had been barely able to make a living at ordinary farming. Season before last, after paying all expenses of every kind, he put $3,500 away, and the past season he has done even better. He has two grown sons—hustling, wide-awake young fellows—who look after sales, and a good market close at hand. I would not advise any one to go into the business unless he is fully satisfied he has the requisite business qualifications, and thoroughly masters the details. He will come into competition with shrewd men who have years of experience in the business. Very few farms make sufficient manure for over three to five acres of small fruits. After taking two, or at the very outside three, crops of berries from a plantation it should be turned under and put into something else. No one has ever really tasted a strawberry until he grows it himself; berries bought in market bear about the same relation to a freshly picked berry from your bed that a half rotten apple does to a sound ripe one. Mr. Hale of Glastonbury, Conn., a recognized authority on small fruits, now plants in hills, laying the ground off in check rows. I have not tried this system, but from the fact of Mr. Hale's adopting it, am satisfied it will be a success. B.

Brazil, Ind.

Rejuvenating Unfruitful Trees.

EDS. COUNTRY GENTLEMAN—It is not an unfrequent occurrence to see an orchard of apparently healthy trees which is practically fruitless, bearing but few specimens of unmarketable quality. I know of such an orchard that used to bear abundant crops, but having come into the possession of a different owner, who is in too much of a hurry to get rich, evidently, he tells us that they have "run out." The orchard was a young one, having borne for about four years quite plentifully, and the trees were planted rather too far apart, not a common fault, however. Until the trees had shown signs of bearing, the first owner cultivated the ground, usually growing some crop like buckwheat, not forgetting however to manure quite heavily in order not to detract from the proper growth of the trees. After the trees came into bearing, cropping was omitted. Now, when the land passed into the second owner's hands it was in good condition, and for a time stood the test he subjected it to—that of bearing two crops, the fruit of the trees and either a crop of grain or hay, while the manure was used almost exclusively on the regular fields of corn and wheat. What else could be expected of such treatment?

The course I advised to restore fruitfulness was to give the trees the food of which they had been robbed, by drawing on the land which was then in sod a heavy dressing of manure, and there being no fruit buds on the trees that spring, I advised it's being plowed in at once. With the hot weather it soon decayed, when another plowing was necessary, deeper than the first, having applied a heavy dressing of lime and ashes mixed, equal quantities well harrowed. Pruning was also recommended, though not very thorough.

Apple trees will often reach an unfruitful condition because of neglect in pruning, and in one of the most successful orchards I am acquainted with this was done at least once each year, though not many branches were removed, the larger wounds being painted to prevent bleeding. Being done so often the suckers are removed before they have attained such a size that much would be taken from the vigor of the tree. In pruning, it is well to bear these points in mind: Never take out a branch or large limb without a reason for it; if the top is crowded, cut enough out all over that air and light may be readily admitted to the centre; on one-sided trees remove the necessary branches to restore the balance, carefully painting all large cuts with a dark paint; remove all suckers one time each year at least.

An observant person passing through the country at large cannot fail to see that the general idea of farmers is that peaches, plums, cherries and pears should never have the saw touch them. Nothing could be more misleading. Take the peach for instance. It is almost safe to venture the assertion that one half the bare long poles of many trees are caused by witholding the knife and saw. Take such a tree, and cut back thoroughly and young branches will spring out making a more shapely tree, which will bear more fruit, and I believe will be less subject to leaf curl and other diseases. The chief requirement is to keep in good healthy growth with shapely forms, and when the mercury does not go below the killing point we may safely look for a good crop.

The true way to trim is to do a little each year, thus avoiding any severe methods which are necessary when neglected for any length of time—to the retarding of a crop. W. P. L.

Buffalo, N. Y., Nov. 18.

Points in Strawberry Growing.

EDS. COUNTRY GENTLEMAN—In Mr. Terry's article in issue of Nov. 7, are many excellent hints, but if cheapness is desired some things are over estimated. There is no necessity of "shaking off the earth and putting them in water," if a suitable time is selected for planting, early as the ground can be worked and marked; then with cool, showery weather, when hired help can do nothing else, the best results follow. It takes a good deal of neglect then to kill a plant. Some thrown on top of the ground last spring rooted and grew. Too much sentiment cost much money and backache. Shove a straight-bladed spade into the ground, push the handle from you, drop the roots into the crevice, draw out the spade, and firm the soil by stepping on each side of the plant. An acre and a half was thus planted by one boy and myself, in three days, without loss of a single plant. We had to dig the plants and mark the ground, and averaged eight hours per day.

The kind of plants Mr. Terry speaks of (runners grown this season from plants not allowed to blossom) are the only ones fit to set. We put out a new bed every year to keep a supply on hand. Many of the plants advertised at $1 to $1 per 1,000 are from old beds plowed up, and cost the seller nothing but labor and box. They are dear at any price, not worth the freight. I cannot see why Mr. Terry could not sell the two thirds he roots up for enough to pay for all labor, and get his home supply for nothing, as well as to destroy them. The thinning out should be done with reference to the variety. The Sharpless does well for some in hills, but rarely in matted rows. The Wilson does better in thin matted rows, while the Crescent should be quite thick. His idea of taking out the plant set in the spring is contrary to my experience. It is in its prime, not having borne fruit during the season. It has a vigorous healthy growth, and will give more and large berries than any of its runners. Why take it out?

Many articles besides Mr. T.'s give an indirect thrust at the "uninterested hired help." Interest them if possible, and if not capable of being interested turn them off—they are not worth their board. Give the most careful one a nice carefully-worded recommendation spoken loud enough for the rest to hear, and a basket of the finest berries to take home. There will be more careful ones the next picking. Show them the difference in price obtained for nice fruit and for that which is "knuckled off" the vines. Talk over the yield, the quality, manner of growth, the curiosities of nature's ways. Show how ripe berries left on the vines keep the green ones from growing. Make them partners in the "pride of the concern," and when your hired help speak of "our ways," "our berries," thinking of them as they would of their own, there will be no trouble.

To prolong the season, have an old bed in addition to the new one. This will give several days' difference in time of ripening of the same variety. Early and late kinds vary a few days, but not enough to pay for the extra trouble of keeping so many kinds, many of which give a very small yield. The Crescent gave us the first and the last ripe fruit this season. Mulching to retard growth in spring will make a little difference, but a delay of a few days in removing it spoiled the crop; no blossoms appeared on this part. If the variety is one requiring fertilization, and the other varieties are out of blossom, you are left again. I have been experimenting on this point for several years, and as yet have not been successful as applied to large areas for market. The mulching now used is coarse, wide-bladed swale grass; this does not rot easily. Some of it, lasting two seasons, contains no weed seed, and is worth all it costs for manure. I cannot afford to use straw, as I cannot get it free from timothy seed. When one can make grass grow in the meadow as rank as it will in a strawberry bed, his future is assured. C. E. CHAPMAN.

Tompkins County, N. Y.

Limonia (Citrus) Trifoliata.—I would say to W. F. (p. 861) that the name lemon trifolia is very commonly given all over the South, by ladies, to the *Aloysia* (*Lippia*) *citriodora* or lemon verbena. In regard to the hardiness of the *Citrus trifoliata* there is no manner of doubt. The writer had thirteen young trees in Northern Maryland exposed, in the winter of 1880-81, to a temperature of 18°, without the loss of a twig. These were plants which had only been turned out of four-inch pots the previous spring. The trees are now, and have been for several years fruiting abundantly. The fruit is reported to make good marmalade, but is too bitter to eat out of hand.

Raleigh, N. C. W. F. MASSEY.

The Poultry-Yard.

The Sevastopol Goose.

The variety of goose which is now under review is called in some cases the Danubian, and it is under that name we generally see it at continental shows. This is probably the more correct term, for there does not seem any reason to connect it with the town of Sevastopol. Possibly the name may be explained by the fact that it was brought over to this country about the time of the Crimean war by ships returning from the Black sea, and the name would be given because of the intimate connection of England with Sevastopol at that time. Less satisfactory reasons than this have been adduced ere this for the giving of an appellation such as this one. It is possible that geese of this description were to be found in the country surrounding the city for so long besieged by the allied troops, but at present there does not appear any evidence that it is at all a resident of Russia. It is common, however, off the banks of the river Danube, and the distance from the mouth of that river to the ports of Southern Russia is not so great as to make the transportation of fowls from the one country to the other a very unlikely thing. It is often by means of ships calling at different ports that varieties of fowls are distributed, and many of the most popular breeds of to-day have been introduced to notice in this manner. However, the fact that they are common on the banks of the Danube, shows that Danubian would be the better name, only when in books and shows we find one term given to a variety it is often better to quietly accept it, for to secure a change however desirable is very difficult indeed.

Now the breed has found its way over all western Europe, and there are usually very good classes of Danubians at the French show. At the great show held in Paris recently there were large numbers, and among them some very fine specimens. In Britain it is not very common—in fact, not so much so as the qualities of the breed would warrant. The great peculiarity of the Danubian is that the hind-quarters of the bird are covered with loose, shaggy feathers, long enough to trail on the ground. These differ from the frizzled fowls which also come to us from Southeastern Europe, in that they do not curl back in the same manner. The authoress of "Ornamental Waterfowl" describes them by saying that "its peculiarity consists in the extraordinary elongation of the back, wing and body feathers, which in good specimens trail on the ground, the web being non-adhesive, giving a silky appearance to the birds." This gives them at once a peculiar and yet a very ornamental appearance, and even had they not great economic qualities, which the breed certainly possesses, it might have been expected that they would win greater favor than has been the case. But the freaks of popularity are never to be measured by the ordinary rules of life, and we must just take things as we find them in such matters as these. As we have already remarked, they find considerable amount of favor in France, and travelers tell us that very fine specimens are seen in the various countries which lie on the borders of the lower Danube. The scarcity in England makes them more expensive too, than would otherwise be the case, and this has probably much to do with keeping them in the background. They are not much seen at our shows; only at some of the largest do they make an appearance.

The plumage of the Danubian goose is pure white; in some grey or light brown patches are to be found, but the correct color is pure white. They are moderate layers, but make excellent sitters, and not having the disposition to roam so much as do some other varieties, are on that account to be recommended for all who have only a limited space at their disposal upon which to rear their stock. When used for ornamental purposes they are especially suited to small sheets of water, as they do not take to the wing, and are not so liable to be lost. They are gentle in disposition, and thrive well with other fowls, being also good foragers, and look well after their own living on pastures. They cross freely with other varieties of geese, showing that they are merely a variation from the common goose. The general form resembles that of the Embden, but they have a rosy-red bill, a bright blue eye, and red legs and feet. The weight of the gander 9 lbs., which or the Embd more to be rec fowl than for vate breeders

large goose th utility, as the shell is pure w cubation is fr E——, *Englan*

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New Advertisements.

Aspinwall Mfg. Co..... *Potato Planter.*
Bowen, M. M ..... *Farm for Sale.*
Bowen, J. M ..... *Brown Leghorn Pullets, &c.*
Barnes, Wallace..... *Mulberry.*
Cochrane, M. H..... *Imp. Hackney Stallion.*
Curtis, Mrs. D. C. ..... *Maker Wanted.*
Carryl, F. M..... *Jersey Cattle.*
&c. *Farms for Sale.*
Curtis Publishing Co..... *Agents Wanted.*
Evans, Wm ..... *Nursery to Let.*
Field Force Pump Co..... *Spraying Outfits, &c.*
Garnett, Theo. S ..... *Farms for Sale.*
Graf, H. C ..... *Packing Mats, &c.*
Gadney, Jr., B..... *Hostetter.*
Harrington, Wm..... *Farm for Rent.*
Hasbrouck, Jr., O..... *Tinker Horse-Nail Tie.*
J. M. Sanders Pub. Co.,... *Breeder's Gazette.*
L. A. B..... *Situation Wanted.*
Marsh, S. E..... *Holstein Cattle.*
Mowerson, J. J..... *Jersey Cows.*
Moseley & Sanders Co... *Butter Paper.*
Morrison & Co., G. & C.... *Webster's Dictionary.*
Prentiss, P. J ..... *Jersey Bull Calf.*
Pratt, H. C ..... *Chester White Pigs, &c.*
P. O. Box 671..... *Farm for Sale.*
Purton, Mrs. E. C..... *Jersey Bull Calf, &c.*
Rice, John L..... *Silver Grey Dorkings.*
Ralph, Wm ..... *Cheviot Rams, &c.*
Reed, M. G..... *English Mastiff Pups.*
S. E. D..... *Farm for Sale.*
S. ..... *Lawn Mower Wanted.*
Stone & Fowler ..... *Grade South-Down Rams.*
Spicer, James..... *Short Horns.*
Taber, Geo..... *Public Sale of Ayrshires.*
The Huber Mfg. Co..... *New Huber Engine.*
The Champ'n Wagon Co.. *Champion Wagons.*
Williams, A. F..... *Monitor Incubator.*

Pamphlets, &c., Received.

AMERICAN NEWS Co., *New-York.* "The Curse of Marriage a Novel," by Walter Hubbell: pp. 218, illustrated—25c.

HOUGH & CO., FRANK E., *Brattleboro, Vt.* Health Calendar for 1890, with receipts, &c.—20c.

MANN, H. E., *Warwick, Cecil Co., Md.* Circular of Holstein Cattle—see advertisement.

PERE, GEO. R., *40 N. Clinton St., Rochester, N. Y.* Circular of Flowers and Plants.

RUGGLES, FRANK A., *Three Rivers, Mass.* Circular of Rotary Cultivator.

ULSTER TIE CO., *Modena, Ulster Co., N. Y.* Circular of Ulster Horse-Tail Tie—see advertisement.

Inquiries and Answers.

Measuring Weight of Hogs.—In the rule quoted on p. 908 for determining the weight of swine, there was at least one obvious error. In measuring the girth, a double quantity of tape line would give four times as much bulk. If for instance, one animal was three feet in circumference, and another six feet or double, the latter would be four times the bulk—one being a foot in diameter and the other two feet. Thus the larger animal would not get its due. Then again, the larger animal would get only its lineal measurement of increase in the same way. Suppose for instance, that one hog measures twice the circumference around the girth and twice the length, it would be four times the size by the rule, or would increase in size by the square; but it would really be larger according to the cube. Another difficulty in measuring the length is that a very fat and heavy animal will measure the same in length as a thin and lean one, but weigh very differently. It is well to observe these errors in devising any other rules.

Apple Pomace.—Please state what percentage of potash there is in the ashes of apple pomace; also the cheapest and best way to decompose apple pomace in large bulk, say 300 tons, so as to make the potash they contain available as manure. A. D. S. *Chester Co., Pa.* [We have no perfect analysis of apple pomace at hand, but the fruit is not distinguished for a large amount of potash as compared with such other fruits as the pear, plum and cherry. Its value applied to land would be largely owing to its character as a mulch; and if used for manure, the best way would probably be to spread it broadcast and harrow it in late in autumn. To reduce large quantities in heaps, it might be mixed in alternating layers of loam, ashes, lime, &c.]

Treatment of Evergreens.—What shall I do with my young evergreens? They were planted on ground rather too poor and wet, and have not made that progress desired. Many died; the survivors merely existing. I shall underdrain the slope, thereby removing excess of moisture, but am undecided as to use of fertilizers, &c., whereby to give and keep vigorous and healthy growth. Some suggest the use of stable manure as top dressing. Is it safe in moderate quantities in such form of application? Is use of lime commendable? How shall I handle the trees? P. S. L. *Washington, D. C.* [The main difficulty is probably in taking up the trees with too little roots, or with denuded roots. Hence the reason of a part of them dying. We are not informed whether they came from the wild growth or from the nursery rows. If the former, a mass of earth on the roots would be essential and without which very few would survive. There is much less difficulty when taken from the nursery. Poor and wet soil is not favorable to a good growth, but fine old manure thoroughly intermixed with the soil will aid them. There is a difference however, with different kinds of evergreens. For most kinds, a wet soil is unfavorable. It is safer to apply barn manure as a top dressing, the fertile portions of which will be washed out into the soil, than to mix it coarsely with the earth.]

Feeding from Silo.—I filled my silo with whole cornstalks, and the most of it has perfect ears on. I want to know how to get it out in the best shape to feed, as it is my first experience with the silo. In filling, I put the stalks all one way, so I can cut crosswise. Is there any implement made to cut it out? W. H. P. *Madison, N. Y.* [The common hay-knife will doubtless answer your purpose for cutting across the stalks; it may be bought at any agricultural implement store. After cutting the stalks across, you may lift them into a large basket with pulley, using a prong-fork or a potato hook.]

"Cwt."—Does this symbol mean 100 or 112 lb? Please encourage persons to be more explicit. R. L. [We suppose a modern hundredweight is always a hundred pounds.]

New-York Process.—What is the New-York process for storing eggs? Is a special storage-room necessary? I see in your paper that parties name the New-York process, but I cannot find any description of it. P. B. B. *Slatington, Pa.* [We understand it to be merely a term used among dealers for designating eggs that have been limed with extra care, and to have no reference to any system of storage.]

Drainage—Butter Breeds.—What is the latest and best work on the drainage of land? (1) Will an A. J. C. C. Jersey cow of about 800 lb give as much butter with half the feed as is fed to a 1200 or 1400 lb. Holstein? (2) S. F. S. *York, Pa.* [1. See page 913, top of second column. 2. It might possibly be.]

Keeping Eggs—Creamers.—What is the best way to preserve eggs a month or two? (1) Is there any particular creamer you would recommend? (2) LAWRENCE. [1. See COUNTRY GENTLEMAN, vol. 50, pages 267 and 967; also vol. 53, page 47. 2. The Cooley and Stoddard rather lead in general favor with the public, though many successful dairymen use Moseley's Occident, Carter's O. K., and the Lincoln.]

Propagating the Quince.—Will seeds from orange quinces grow orange quinces, or do they have to be grafted? (1) What is the proper way to keep the seed during winter? (2) I have a quantity and wish information on the subject. S. R. B. *Carlton, N. Y.* [1. Quince trees will grow readily from healthy well ripened seed; but the seedling trees when they bear will not certainly produce the same variety as the original; most of them will be rather inferior, while some of them may bear good fruit, but little if any inferior to that from the parent tree. They are easily budded if in a thrifty state of growth, and this course will be sure to give the desired varieties. A common way is to propagate them by cuttings or by stool layers, which will give the original without any change, the same as by budding and grafting. If they are propagated by budding, the Angers quince will make the best stock. 2. The seeds may be kept through winter in an equal quantity of damp sand or leaf mould, preserved from drying, and exposed to the weather, covered with moss or soil.]

Curing Pork.—I should like information in regard to curing meat. I am in the habit of killing about 45 hogs. I have no trouble with the shoulders or hams. My hams are very fine, and I have a good demand for them. First, my shoulders are fed to the hands, then we commence on the middlings. By the first of July the middlings turn yellow and become rancid. My mode of curing is to salt down, on the floor of 2 inch oak plank, hams, shoulders and middlings in a bulk. After remaining five or six weeks, according to weather, it is taken up and hung up in the smoke-house and occasionally smoked. It remains hanging until used. I am not at all troubled with skippers. I could not very well put my middlings in brine as it would take too many and too large vessels. How would it do to make a close box, pack them in this with salt and take them up as used? Can you suggest any plan to keep them from becoming rancid? L. S. M. *Charlottesville, Va.* [The use of the tank or close box which you suggest, by which saturated brine could be used in addition to compact salting, would doubtless answer the purpose and save the pork. We know of no other effectual method.]

French Cattle.—Can you or any of your numerous readers inform me whether any of the "Cotentin" or Norman breed of cattle are to be had in this country, and if so where? J. J. P. *Memphis, Tenn.* [We do not know of any.]

Value of Roots.—If my experience is of any benefit to W. K., Danville, page 879, I would say his mangolds are worth here 10c. to 12½c. for 60 lbs., carrots about 5c. higher. Have raised a good deal of each crop, and if I can sell mangolds at 10c. in fall, would not ask for a better crop to raise. Had a small lot this year, but after the break in canal had damaged them to a great extent (they being under water 48 hours and a number of square rods washed out entirely), I harvested from one-fourth acre over 400 bushels. I cannot tell you any big "potato story" (as I promised Mr. Terry last fall), for the break laid my potatoes low also. The old saying has proved true to me, that "water is a good servant but a hard master." Had a very fine fall in Orleans county. Farm work about closed up. Had a big rain the 17th and 18th that started little creeks lively, and wet things in general.

Orleans County, N. Y. P. A. D.

Surplus Corn Stalks.—Having more good bright corn stalks than my cattle can eat in connection with ensilage, I wish to ask to what advantage can I feed the stalks to breeding ewes (Downs), and to horses and colts which are working only enough for exercise? If horses are compelled to eat them as their principal food, will they be harmed thereby? I would like to hear from farmers who have tried it. The practice here is to feed the stalks all to cattle. But if ensilage takes care of the cattle and we continue to grow some corn to be husked, what shall we do with the stalks?

Shenandoah, N. Y. G. M. T.

Fresh Eggs, p. 879.—There cannot be really any need of discovering the age of an egg four days or even a week old. It must be quite fresh, in the full sense of the word, to far as the condition of the egg for eating or packing is concerned. If an egg is of a true pinkish flesh color when held in the sun, or before the flame of a gas jet or other light, it is fit for food. When only semi so, or more in one part than another, though wholesome as food, it is too strong—fit only for cooking. If generally of a muddy or opaque hue, it is worthless. WM. HOMER. *Janesville, Wis.*

Collie Dogs.—Can any reader give instructions for training a young Collie dog to care for cattle? J. C. B. *Albany County, N. Y.*

From Late Exchanges.—The COUNTRY GENTLEMAN is the standard agricultural journal of America, and for a long time has occupied that prominent position.—*Monroe (Geo.) News.*

—— Altogether different from the cheap catchpenny compilations that are flooding the country and are nearly worthless; a standard journal for any farm or fireside.—*Averett (Pa.) Press.*

—— In refreshing contrast to journals which farmers are fast learning to weigh in balances of their own, is the old stand-by, the COUNTRY GENTLEMAN. It is truly a journal for farmers, thoroughly devoted to their interests, as it has been for almost sixty years. It is an able exponent of progressive agriculture.—*Hartford (Conn.) Times.*

—— The greatest and best of farmers' papers.—*Yorkshire (N. Y.) Press.*

—— Has headed the list of agricultural papers for years; a paper that no farmer should be without.—*Keokuk (Iowa) Gate City.*

—— The oldest and best of the agricultural weeklies.—*Canandaigua (N. Y.) Times.*

—— Devoted to farming, dairying and fruit-growing, and just the paper for those whose business is along those lines.—*Rushford (N. Y.) Spectator.*

—— A paper of acknowledged standing in its special fields, which unites the interests of the farm, the garden and the fireside.—*Battle Creek (Mich.) Good Health.*

—— A most valuable agricultural periodical.—*York (Pa.) Gazette.*

—— Stands ahead in the list of the agricultural weeklies.—*Jefferson (N. Y.) Courier.*

Acknowledgments.

Communications for publication have been received during the week ending Dec. 2, from C. S. Rice—C. H. Fletcher—Prof. E. W. Stewart (2)—F. G. Curtis—J. W. Akin—R.—John M. Stahl (2)—Geo. Q. Dee—J. W. Ingham—C. E. Chapman—L. B. Schaeffy—Robt L. Dean—V. Lowe—Geo. A. Stockwell—Waldo F. Brown—L. C. Graham—Agricola—Geo. Wood—Wm. Horne—A. B. C.—T. B. Terry—Henry Stewart—C. S. Rice—S. W. Smith—Wallace Bette—George Cheadon—N. S.—R.—H. H. D.—Geo. T. Powell—Edwin Wing—Dr. C. A. Robinson (2)—Blaine Goodale—D. S. M.—T. B.—R. Reynolds—Lillian Mayne—Charles Wright—F. D. Curtis—Seneca R. Todd—W. F. Osborne—D. Harrington—B. L. Cooley—Jacob Meyer—W. J. Haviland—Prof. E. W. Stewart—Martin West—Phil. Thurston—Thomas Bowlck—Hermann Dudley—L. B. Pierce—F. D. Curtis—M. J. Ashton—A. Reneau Strachan.

°.° We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

°.° We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Dec. 5, 1889.

Farmers' Institutes.—These meetings are now in full progress in this State, and have been very successful thus far, both in the character of the papers and discussions and in the size and interest of the audiences. We complete in this issue (p. 917) our account of the proceedings at Plattsburg. Meetings are held this week at Newport, Rome and Woodport. The schedule for the remainder of the list is as below—being the same as previously published except that Fonda and Canandaigua have exchanged dates:

Place.	*County.*	*Date.*	
Penn Yan	Yates	Dec.	12, 14
Canandaigua	Ontario	"	16, 17
Cairo	Greene	"	18, 19
Walden	Orange	"	20, 21
Monticello	Sullivan	"	23, 24
Walton	Delaware	"	27, 28
Geneseo	Livingston	"	30, 31
Albion	Orleans	Jan.	3, 4
Akron	Erie	"	6, 7
Warsaw	Wyoming	"	8, 9
Argelica	Allegany	"	10, 11
Bath	Steuben	"	13, 14
Watkins	Schuyler	"	15, 16
Tymansburg	Seneca	"	17, 18
Albany	(Annual Meeting)	"	20, 25
Glens Falls	Warren	"	24, 25
Cobleskill	Schoharie	"	27, 28
Owego	Tioga	"	29, 30
Bainbridge	Chenango	Jan. 31, Feb.	1
Binghamton	Broome	Feb.	3, 4
Oneonta	Otsego	"	5, 6
Horseheads	Chemung	"	7, 8
Lyons	Wayne	"	10, 11
Hamilton	Madison	"	12, 13
Boonville	Oneida	"	14, 15
Carthage	Jefferson	"	17, 18
Oswego	Oswego	"	19, 20
Poughkeepsie	Dutchess	"	21, 22
Millerton	Duchess	"	24, 25
Mt. Kisco	Westchester	"	26, 27
Riverhead	Suffolk	Feb.	28, Mar. 1
Spring Valley	Rockland	Mar.	3, 4
Marathon	Cortland	"	5, 6
Elbridge	Cattaraugus	"	7, 8
Sinclairville	Chautauqua	"	10, 11
Le Roy	Genesee	"	12, 13
Fonda	Montgomery	"	14, 15

Excluding Frost.—A writer in the New-York Tribune, in recommending substances for banking cellars to exclude *frost*, says he has seen compact sand frozen four feet deep where muck did not freeze ten inches under the same circumstances. Muck, if perfectly dry, will be a much more perfect non-conductor of heat than when wet, and when finely pulverized it will exclude frost more perfectly than when the spaces between the particles are filled with water. Sawdust, which is a very porous substance, is a good non conductor, but dry and finely pulverized muck is more perfect. Wet sawdust conducts better than dry, the water filling the interstices and giving it more the character of a solid. Dry forest leaves are a good non-conductor, because they include many thin strata of air between the leaves. If wet, these interstices are filled with water, and their efficiency is lessened.

Non-conductors are wanted at this time of the year, for banking up the outside walls of cellars, to prevent the warmth of the cellars from escaping to the colder air outside; or as commonly expressed, "to shut out the cold." They are also needed to pack fruit and vegetables to preserve an equal temperature in the fruit, and to retain the natural moisture of the vegetables.

Where there is danger of frost entering cellars through the underpinning of dwellings, one of the best substances for excluding it is a sloping bank of forest leaves. They may be kept in place, and the wind prevented from blowing them away, by a thin layer of evergreen branches, cut as long as the breadth of the

bank of leaves, and placed with the tops downwards to throw off the rain like a roof. This is much better and far neater in appearance than the too common mode of banking with earth, or than the still more repulsive use of barn manure.

Apples and winter pears are most conveniently and cheaply kept in the air of a separate apartment which may be preserved at nearly the temperature of freezing; but rare or choice specimens, wrapped in tissue paper, and packed with the interstices surrounding them in fine, dry sawdust or dry pulverized peat, will retain their freshness a long time, and any that chance to decay will not carry the rot to the others. Fine chaff will answer the same purpose. Currents of air are excluded, and the packing retains a uniform temperature.

The same general principle will also apply to many operations in the cultivation of the soil. Ground which can be finely pulverized by plowing and harrowing before the freezing of winter will not be frozen down to so great a depth as when allowed to become wet and solid. Hence the great advantage of underdraining, which makes the soil dry enough to admit this pulverizing. It frequently becomes important to prevent the soil from freezing to much depth, and the readiest way to do it is to pulverize well the upper portion. The same principle is adopted with advantage in digging drains in winter, when the bottom of the partly dug drain is prevented from becoming frozen during the cessation of work in cold nights, by loosening up a few inches of bottom soil just before closing work for the day.

Virginia Real Estate.—Attention is invited to an advertisement of valuable farming property in Southern Virginia, to be sold at Hickford, Dec. 16, by Mr. THEOPHOUS S. GARNETT as trustee.

Agricultural Science.—The Proceedings of the Tenth Annual Meeting of the Society for the Promotion of Agricultural Science, at Toronto last August, are issued in a pamphlet of 130 pages, adorned with a portrait of the late Prof. Geo. H. Cook of New-Jersey. Prof. C. E. BESSEY, University of Nebraska, Lincoln, is president; Prof. Wm. R. LAZENBY, Ohio State University, Columbus, secretary; Prof. T. J. Burrill, University of Illinois, Champaign, treasurer.

Colleges and Stations.—Thirty-two States and Territories (including Ontario and the District of Columbia) were represented, by 75 delegates, at the Washington meeting of the Association of Agricultural Colleges and Experiment Stations, last month. Dr. Atherton of the Pennsylvania State College presided. Six permanent committees were appointed—on agricultural colleges, agriculture, botany, chemistry, entomology, and horticulture—to report at each annual meeting. Dr. SMART of Purdue University was elected president; Prof. H. P. Armsby, secretary; President H. E. Alvord, chairman of the executive committee.

The Wool Tariff.—The Pennsylvania and the Ohio State Wool Growers' Association met last week, at Harrisburg and Columbus respectively, and adopted resolutions setting forth the danger to their industry that would follow any relaxation of the tariff restrictions. More specifically, the Pennsylvania growers protest against classifying wool as raw material and against the modification of the tariff so as to substitute ad valorem for specific duties, while their Ohio brethren ask Congress to give the wool and mutton industry protection to the full extent of the most favored of the manufacturing industries.

Illinois Horticultural.—The 24th Annual Meeting of the Illinois State Horticultural Society will be held at the Hamilton city hall, Dec. 10-12, with a show of horticultural products for prizes. H. M. DUNLAP, Savoy, is president; A. C. Hammond, Warsaw, secretary.

Honduras Real Estate.—Secretary Treager of the American-Honduras Company writes to the COUNTRY GENTLEMAN: "I want to say that your paper has done us more good for the amount expended than any other journal."

Cattle in Colorado.—The Colorado Farmer of Nov. 14th says:

It is hard for one who has not been dealing in live stock for a number of years, either as a breeder or a buyer and seller, to understand the straits to which cattle-growers are put. Is not many years since fairly good beef animals brought five or six cents a pound, live weight, while first-class stock brought even more. This was at local market prices. How is it now? On November 11th, western cattle were quoted at $2.40 to $2.50 per hundred, the Union Stock Yards, Chicago, with Texas cattle much lower. These prices, let it be remembered, are for cattle on which freight has been paid. In Denver native steers weighing 1,000 to 1,200 pounds were quoted on the same day at $2 40 to $3 75, and few get more than the minimum price, except for choice animals. The result of such prices is that cattle-men

HIGH-BRED BEAGL

are losing money every day. Before another autumn comes thousands of stock men will have been ruined unless prices are much improved. * * * Last week at Greeley, Mr. Tregoning sold four steers, that weighed over 900 pounds each, for $64. The time has been when one of the steers would have sold for as much as he got for the four. Two years ago Mr. Tregoning bought a Holstein calf for ten dollars. The calf is now a handsome heifer and the highest price offered for her a week ago was seven dollars.

Agricultural Schools in Prussia.—Agricultural education appears to be developing rapidly in Prussia. According to a report issued by Herr Shiel, Under Secretary of the Ministry of Agriculture, quoted in the London Live Stock Journal, there are now 179 agricultural colleges and schools spread over the kingdom. These comprise eleven first-class colleges and academies, sixteen middle-class schools, twenty-nine elementary schools, fifty-nine winter schools for agricultural laborers, forty-five establishments for instruction in gardening, fruit-growing, &c., and twelve dairy schools. There are also thirty-six institutions where special instruction is given in horse-shoeing.

Farm-Yard Notes and Items.

The Eleventh Annual Meeting of the New York State American Merino Sheep-Breeders' Association will be held at Rochester, Whitcomb House, Dec. 10 and 11—meeting called to order Tuesday evening at 7.30. J. H. EARLE, Skaneateles, secretary.

The word "*sired*" in the third line of Mr. FRANK KING'S advertisement of Shenandoah colts (p. 914, 4th col.) was misprinted "*served*" last week, but we suppose every reader must have seen what was meant. This offering, by the way, merits attention.

EDS. COUNTRY GENTLEMAN—The Ayrshire Sale advertised for Nov. 28 by George Tabor was postponed until Dec. 19, on account of severe rain. The writer had not seen Mr. Tabor's herd for several years, and was agreeably surprised to find such a collection of choice animals, most of them fit for the show ring.

East Aurora, N. Y., Nov. 28. F.

A second and greatly enlarged edition of the first volume of the Swiss Record is publis hed (in pamphlet form, this time, we regret to say—such books are worth cloth binding, if they are worth anything) by the Brown Swiss Breeders' Association, N. S. FISH, editor, Groton, Conn. The original work, issued in 1881, included the pedigrees of 73 bulls and 111 cows, which numbers are now extended to 423 and 607 respectively.

Each of the two Red-Polled Cattle Clubs, desiring to tell the story in its own way, has printed an account of the recent meetings at Chicago. The trouble seems to be that Secre-

The Grazier and Breeder.

Care of Sheep in Winter.

Eds. Country Gentleman—Sheep require constant watchfulness. Confinement in yards and pens in the winter is adverse to the habits and needs of a flock; but it is unavoidable at times. It is a mistake, however, to keep the sheep up the whole season. Many new beginners in sheep herding make the mistake of coddling them too much. A sheep can stand anything short of fatal neglect better than coddling. It weakens them, and does a great deal of mischief. It is better to have them lie out on a dry snow bank on a cold night than sweating in a huddle in a close pen reeking with the foul odors of heating manure. Every fine day the sheep should be turned out and fed in a field or lot unless the snow is too deep for them to move about easily, and then a short run in a yard where the snow is beaten down, and the grateful exercise of shelling off a few nubbins of corn will do them much good.

Too much warmth is exceedingly dangerous. It inflames and irritates the skin, and causes the wool to drop off; it induces chills and causes disorders of the lungs or inflammation of the nasal and bronchial membranes. I don't think a sheep ever died of cold. Even those which die on the exposed plains perish for want of water and food, and not from the cold. Flocks have been buried under snow drifts in the Scotch mountains for days, but they have come out all right whenever they could find room enough to pack the snow away from their bodies and get room enough to breathe. But they must have food. They are easily starved, and regular rations are indispensable. No other animals are more regular in their habits than sheep; they will follow in single file along their regular paths, and never diverge until on their feeding grounds. They become used to times and hours of feeding very quickly and do not forget it, and if disappointed they worry and suffer. Therefore the hours of feeding should be quite regular, and the food always be given in the same way.

A close eye should now be given to the early lambing ewes. An extra feeding is good for these, and therefore provision should be made to divide the flock and keep these by themselves. I have found a mixture of 200 lbs. of buckwheat and 100 lbs. of corn, ground together, makes an excellent food for the ewes in lamb up to the time when the udders begin to swell, and after they have had their lambs. A pint a day at two feeds will do them a world of good and make the lambs grow. The other ewes should have a little corn and rye mixed every morning, given in long troughs, so that each can get her share. A tri-weekly allowance of salt is necessary; one ounce a week is a proper ration for each sheep, and it should be given as regularly as the feed. Water is also to be provided with regularity and in abundance. It is a common opinion that sheep do not require water. How such an unreasonable idea should prevail is surprising, but we hear it from unexpected quarters quite frequently. It is a great mistake, however, and the withholding of water is a great injury and damage. Some of my sheep drink several times a day, sipping a little each time. The water is supplied from a spring that never freezes, and this is an important point to note in this regard. An unborn lamb is lost at times by reason of chilling of the stomach of a thirsty ewe by copious drinks of ice-cold water.

Exposure to cold rains, which saturate the wool, is also a great damage. This is a thing to be guarded against by southern shepherds who are too apt to take undue advantage of their mild climate and let their sheep suffer from the cold rains. I have seen heavy-fleeced sheep so loaded down with water in the saturated wool that they could not rise. The shelter of a roof at least, if no more than one of bark raised on poles, 5 feet high in front and 3 feet in the rear, and closed in on the rear and ends with bark or brush to break the driving rain, will keep the sheep comfortable. This shelter should be put on a knoll or on a south hillside, where the water will not flood it.

In our climate sheep need feeding no more than from 10 to 30 days in the winter; the rest of the time, the abundant green winter grass affords them ample provision. Acorns also furnish them acceptable food when they are ranging in the woods. This wild food makes the best flavored mutton, and gives it a short texture like that of venison.

Were it not for the dogs which are suffered by their neglectful and unjust owners to range abroad at night to destroy the property of neighbors, sheep could be kept at one-half the cost they now are, for the necessity of enclosing them safely against these marauders every night, entails a tax of at least 50 per cent. of the income from a flock upon the shepherd. When will the shepherds be relieved of this unjust tax, and when will the owners of these savage wild beasts which destroy sheep learn how great a wrong they are inflicting upon their sheep keeping neighbors? The profit from a well-kept flock can easily be made to reach 100 per cent. per annum, if there is no loss from dogs and the management of the sheep is judicious. But the sheep must be liberally fed, and where green food cannot be procured, as it can on the southern mountain range, some roots must be provided. Few southern shepherds feed their flocks any hay or grain, but I find a provision of clover hay and a small allowance of corn has a great effect upon the lambs, increasing their size, and giving the ewes a good flow of milk.

Macon Co., N. C. A MOUNTAIN SHEPHERD.

Ration for Butter Jerseys.

Eds. Country Gentleman—I wish to be informed of proper rations of feed for butter and milk. Have about forty Jerseys, and have clover hay worth $14 per ton; wheat screenings, $13; corn and oats, mixed, $11; millet, mangolds, carrots, pumpkins, corn fodder, and from above want ration for milk and also for butter; desire the best made and most economical. J. E. H. *Covington, Ky.*

J. E. H. appears to have nearly all the foods required for a well balanced milk and butter ration. His wheat screenings should be ground as well as corn and oats. If he means millet as grain and not as fodder, this fine seed is almost wholly undigested unless ground. He will find mangolds, carrots or pumpkins an advantage in the milk ration, because affording succulent food and assisting in the digestion of other foods in the ration. It is doubtful if he can properly balance any ration except that with clover without adding a more nitrogenous food. Let us try the following combination: 14 lbs. of clover hay, 6 lbs. of corn and oats ground in equal weights, 6 lbs. ground wheat screenings, 15 lbs. pulped carrots. To show its digestible nutrients, the following formula is given:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
14 lbs. clover hay	0.98	5.60	0.21
6 lbs. corn and oats	0.53	3.12	0.39
6 lbs. ground wheat screenings	0.72	4.20	0.30
15 lbs. pulped carrots	0.22	1.87	0.09
Total	2.45	14.79	0.79

This has a nutritive ratio of 1 to 6.8. A little too wide for the best butter ration. But if we substitute 2 lbs. of cottonseed meal for 2 lbs. of wheat screenings, we narrow the nutritive ratio down to 1 to 5.4, a very good butter ration.

If we compound a ration with half clover hay and half corn fodder, with 15 lbs. of pulped carrots, 6 lbs. of corn and oats, 6 lbs. ground screenings and 3 lbs. cottonseed meal, we have a ration with the same nutritive ratio as the last.

I trust this will give H. the basis of the proper combinations of a ration in his case, and should be glad to have him report on the formula used, and its success. E. W. S.

Buckwheat Bran.

Balancing Milk Ration.

Eds. Country Gentleman—Please give analysis of average quality buckwheat bran, and state best grain to combine with buckwheat bran to make a well-balanced milk ration.

Providence, R. I. E. E. S.

E. E. S. should have stated whether this is the old-fashioned buckwheat bran or made at the improved buckwheat mills. Buckwheat bran proper is made by grinding the whole grain and separating the buckwheat flour, leaving the ground hulls and the coarse and fine bran together.

This buckwheat bran had the following composition: Albuminoids, 17.1; fibre, 14.7; other carbohydrates, 46.4; fat, 4.4. This contains the following digestible nutrients: Albuminoids, 13.5; carbohydrates, 44.00; fat, 3.9. This was a very good feed, but now the mills have hullers, which separate the hulls, then grind the flour, leaving a very rich buckwheat middlings. This middlings has the following composition: Albuminoids, 30.3; fibre, 4.00; other carbohydrates, 36.29; fat, 7.85. This contains the following digestible nutrients: Albuminoids, 28.6; carbohydrates, 29.3; fat, 5.2. This is a very strong food to balance poor fodder in a ration, quite different from the bran described. Now, I do not know which quality S. refers to, but should naturally suppose, where he is located, that it would be buckwheat middlings.

S. S. desires to know the best combination with buckwheat bran to make a well-balanced milk ration, but does not mention what his coarse fodder is which is to be balanced in the ration. Perhaps he thinks the grain only is to be balanced, instead of the whole ration. If the fodder was the best clover hay, it would require very different grain food to balance it than if it were common hay, corn fodder or ensilage.

It seems a little strange that S. should not have given the foods out of which he proposes to make a balanced ration. Let us suppose that he uses the following materials in his ration: 8 lbs. of good clover hay, 6 lbs. of oat straw, 3 lbs. of corn meal, 6 lbs. of old-style buckwheat bran, 4 lbs. of buckwheat middlings. This, in analytical formula, shows the following digestible nutrients:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
8 lbs. clover hay	0.80	3.92	0.13
6 lbs. oat straw	0.06	2.80	0.06
3 lbs. corn meal	0.25	1.89	0.14
6 lbs. old-style buckwheat bran	0.81	2.64	0.36
4 lbs. buckwheat middl'gs.	0.94	1.30	0.21
Total	2.86	11.05	0.70

This has a nutritive ratio of 1 to 5, and would be a first-class milk ration.

S. will see that if his fodder were different, he would require a different combination to balance it, but this illustration must suffice, unless he gives more facts concerning his actual foods. E. W. S.

Malt Sprouts and Brewers' Grains.

Saving Liquid Manure.

Eds. Country Gentleman — With malt sprouts at $15 per ton and brewers' grains at $5 per ton, which is the cheaper food for dairy cows, and is there any material difference in the two feeds as to quality of milk?

What is your opinion as to board floors in cow stables causing abortion in cows? I have a new cow stable with water-tight board floors and manure troughs, made with the idea of saving all the manure, and in about fourteen months have had six cases of abortion, scattered along through the above time, and at different times of gestation. The cows which have aborted are all young or middle-aged ones, natives and grade Jerseys, nine from small to quite large. I notice the cows slip occasionally, and quite badly at times, when putting them in stalls, or letting them out, or when getting up, and have nearly concluded to take out floors and let liquid manure go. Am I right in charging abortion to the floor?

Bronte, N. Y. E. B. L.

The first question is not susceptible of an absolute answer. If we take the dry matter in malt sprouts and brewers' grains, and consider each equally valuable according to weight, then the malt sprouts would be the cheapest, because the malt sprouts have 90 per cent. dry matter and the brewers' grains only 25 per cent. The digestible nutrients in malt sprouts are: Albuminoids, 18.22 per cent.; carbohydrates, 53.95; fat, 0.86. Brewers' grains have 4.06 per cent. albuminoids, 9.73 carbohydrates and 1.41 fat. One ton of malt sprouts would have 376 lbs. albuminoids, 1,059 lbs. carbohydrates and 17.6 lbs. fat. One ton brewers' grains contains 81.3 lbs. albuminoids, 194.6 lbs. carbohydrates and 28.2 lbs. fat. This will show L. that the brewers' grains contain, proportionately, less albuminoids and carbohydrates, and a much larger proportion of fat.

As to the effect of these foods upon the quality of milk, if the brewers' grains are obtained and fed fresh they will not unfavorably affect the quality or flavor of the milk, but if fed sour they would injure the quality. The price of brewers' grains should not be above $3.50 to $4 per ton, because, containing 75 per cent. water, the cost of handling is too much. This food is usually sold at from 12 to 16c. per bushel, which is about the price above named per ton. When properly mixed with cut fodder and fed fresh, brewers' grains are a profitable and wholesome milk food.

L. L. does not give a very clear account of the construction of his water-tight board floor. He does not say whether his boarded floor is slanted back from his manger, but we presume it is, which makes the cows slip worse upon it. We think the slipping of his cows in getting up, going out and coming in, is the real cause of his cases of abortion, or at least that this caused his first cases. Possibly some of the later may have been caused by the effect of expelled matter on the others; but this does not seem probable, because of the time intervening between the cases. The strain of slipping has been known to cause abortion.

L.'s endeavor to save all the liquid and solid manure is a very important economy, and should be accomplished, not given up. If he should change his present plan, make his board floor 3 feet 6 inches, or 3 feet 10 inches wide (according to size of his cows), letting the boards or planks run at a right angle to the stalls or parallel with the manger, and then place the self-cleaning grate behind this, with a water-tight gutter under, he would effect a complete saving of all his manure, keep his cows quite clean, and save very much labor, without any danger of his cows slipping, to their injury. It is not necessary to have stalls, but only a thin standard to separate the cows, set at the back edge of the wooden floor, next the grate. The writer has used this with from ten to thirty cows for more than ten years, and never had a case of abortion. With this device L. can save and easily apply, without waste, all his liquid and solid manure. E. W. S.

Growing Milk Stock for Butter.

The Milk Standard.

Eds. Country Gentleman—How best and most profitably to develop from calfhood upward and maintain the butter-producing tendency in a cow is a practical question which many dairy farmers are only beginning to revolve in their minds. The conditions in Western Ontario, foods grown and obtainable, resemble very closely those of the principal dairy districts of New York. The animals under consideration in this case are Short Horn or Holstein grades, weighing at maturity from 1100 to 1300 lbs. As an item of information to readers of the Country Gentleman, I might add that the Chief Analyst of the Dominion has recommended to his department that 12 per cent. of total solids and 3.5 per cent. of butter fat be the lowest limits for milk of good standard quality in Canada. The recommendation will doubtless be adopted.

London, Ont. CANADIAN READER.

The question of Canadian Reader has been indirectly, if not directly, answered several times. The best method of growing heifer calves to cowhood so as to maintain the butter-producing tendency, is to feed them only upon such food as will grow the muscles, bones and frame without laying on surplus fat.

Breeding cattle for show has always been destructive to the milking capacity, has nearly developed the beef capacity. In growing heifers for milk, there should be none of what feeders call forcing; but yet there may be, and should be, a thrifty growth, such a thrifty growth as produces an evenly developed animal, which should be regarded as the most beautiful form, because such feeding as produces surplus fat in young animals certainly distorts the most beautiful normal development.

The Short-Horn is now the typical beef animal of the world. And yet these beef strains were formerly the best milkers. This unfortunate change has been produced mostly during the last fifty years. Animals are plastic in the hands of the feeder. The Holstein has had different treatment, being grown principally upon the grasses of lowlands—having abundant food, but not of a fattening character. Yet it was evidently rich in the mineral elements to grow the bones and frame, producing large animals, with a large milking capacity, producing, as might be expected, milk of a lower standard than cows fed upon richer food. In their native country their food is adapted to produce quantity rather than quality; but under our better system of feeding they are soon developed to a higher standard of milk production. In proof we have only to refer to some of the best herds of this breed in this country, many of which can safely contest milk and butter production with any other breed.

In laying down a practical system for growing this young milk stock, the effort should be to produce a good share of grass having a large proportion of albuminoids, such as the clovers, lucern, vetches, peas, oats, &c. Ontario is successful in growing all these as well as the dairy districts of New York.

These young animals should not be fed highly fattening foods, because it prepares the

system for the deposit of fat instead of the secretion of milk. The corn crop is very valuable when raised for grain, and especially for ensilage to be fed with those other more highly nitrogenous foods, giving a succulent winter food which promotes the health of the young animal, and assists very materially in its growth.

Descending to the practical system we would take the heifer calf at two weeks old, and feed it upon skimmed milk, bran, oat meal, and a little linseed meal. It is not necessary, where oats bear a much higher price than wheat bran, to use oats in the ration.

In all parts of the country where it is easy to obtain flaxseed, the model ration would be made as follows: To 30 lbs. skimmed milk add 1¼ lbs. of fine wheat bran, or 1 lb. of bran and ¼ lb. of oat meal, 2 oz. of linseed meal, 1 gill of flaxseed jelly (flaxseed boiled 15 minutes in 8 times its bulk of water). Let this be given to the calf up to 3 months old, twice or three times per day. The quantity to be given the calf must be determined by the judgment of the feeder. From 3 to 6 months old, the bran and linseed meal should be doubled in the same quantity of milk. In addition to this the calf should have what hay it will eat from 4 weeks old to develop its first stomach.

It is better that calves up to 6 months old should be fed in barn. They will make more uniform growth than if allowed to run on grass. But they should have exercise in a yard near the stable. Between six months and a year old, these heifer calves should be fed on good pasture, or if not the season for pasture, or the farm not good pasture, then on clover hay, ensilage, a little wheat bran or ground oats, and more if the pasture is short—with plenty of exercise. No corn meal or other highly fattening food should be given. They should be bred between a year and fifteen months old, and should be kindly handled nearly daily by gently passing the hands over the legs and udder. Such heifers will be easily broken to milk, and, in a few days, will stand as cows that have been milked for years.

I Canada will show its good sense in adopting the milk standard mentioned, instead of following Massachusetts in adopting so high a standard that it accuses a majority of the milk producers of the State of fraudulent adulteration. Its standard of 13 per cent. solids is not reached by one-half of the milk production of the State. E. W. S

The Dairy Department.

Butter-Making in a Small Dairy.

ED. COUNTRY GENTLEMAN—I have lately begun to make butter, having gained from your paper all the information I possess. I am still, however, very ignorant on many points, and will you kindly answer the following questions: When the milk is brought into the house it is at once placed in the cellar until skimmed; the cream is also kept there until ready for churning. The temperature varies at this season from 48° to 54°, and I am afraid it will be much colder in winter. Is this a bad arrangement? The milk is poured into flat pans to depth of an inch. Does cream rise better in shallow tins or in deep ones, and why? The milk is skimmed after 24 hours' standing, put into a large, open earthen jar, and each skimming added to it for three days, being well stirred each time. It is then allowed to ripen for about 30 hours, or until it tastes moderately acid. The jar is then placed in a large pan of hot water until the cream reaches 62° to 64°. At first I added warm water to the cream until it reached that point, but was told that the cream would make less butter, and the butter would run rancid more quickly if I did; so I adopted this plan, for which I have no authority. Is it true that water in cream has this effect? Does the temperature of room in which churning is done affect the butter, and how? I use an old-fashioned wooden churn, and the butter comes in from 15 to 30 minutes. What would be an average yield of butter to a gallon of cream, and what is the average a week to one Jersey cow? When the butter is quite formed I pour off the milk entirely and wash and work it in about four waters. Then I add an ounce of salt to the pound and work it in pretty well. Twenty four hours after I work it again and make it into rolls, wrapping each in a cloth to be sent to town. Please tell me where I am wrong, for I am anxious to make first-rate butter. I should like to thank the author of "How to Make Good Butter" for the help the article has given me. INQUIRER.

Glen Cove, N. Y.

This reply will be incomplete from the fact that the size of the dairy is not mentioned, and some other details that would have an influence in the manufacture of butter.

If the cellar is well ventilated, and is not laden with odors of vegetables, &c., there can be no objection to setting milk in it, but as a rule, the cellar is not a good place—it is usually too damp. The temperature mentioned is rather too low for open setting, as the varying temperature while the cream is rising is not considered good. It is not bad, but uniform temperature is better. This can be remedied by a shallow tank with a good cover in which water from the well is placed, and the pans are set to the depth of a few inches in the water.

I am not in favor of the open pan, as I consider the deep 8 inch-in-diameter pail as superior, and if set in a tank of water the change is rapid, and the cream obtained in 12 hours by the use of cold water is as great as can be obtained in 36 hours by open setting. To get the most perfect results in butter-making, the time of exposure of milk to the air should be as brief as possible. When milk is set in cold air, which is a much poorer conductor of heat and cold than water, the milk and butter fats do not separate as perfectly as they should; and in skimming, it is difficult to tell just what amount of cream to remove, and a per cent. of cream escapes back into the milk through the "holes in the skimmer." It is difficult to remove perfectly the cream from milk only "one inch in depth," as the dripping back from the skimmer agitates the milk and reincorporates this cream and results in loss. The open pan is not so economical of time, labor and uniformity as the later-devised creamer, but as the correspondent talks of one cow, it will be difficult to get satisfactory work from a creamer, owing to the small amount of milk to do with, which in this case argues for the use of the open pan of some sort. So perhaps "Inquirer" can do no better than continue to use the open pan, set the milk deeper and keep the temperature as evenly near the mentioned 54° as possible.

The plan of ripening the cream is hardly orthodox, from the standpoint of Dr. Babcock, Col. Curtis and other present day lights. Milk set in open pans for 36 hours, usually at the end of that time, is covered with a cream about ripe enough to churn at once. No cream should be over three days old when churned, and 24 hours after skimming is about the correct thing. The better way would be if the cream is not already ripe—and ripeness is not sourness—at the second day, to warm it up to 70° *at once*, and let it stand in a warm room well covered for the temperature to fall, and churn as soon as the pleasant lactic acid appears, and not allow it to get moderately sour. This hastens the process by 36 hours or so, as mentioned. The warming up is not done when just ready to churn, the ripening takes place on a falling temperature, is no more work than by the other plan, and is usually regarded as the better way. The last skimming should not be placed in the cream jar, as it will not "age" with the remainder sufficiently to all come with the other, and results in some preventable loss of unrecovered butter.

If the amount of cream seems small to churn, add one-fourth of its bulk of boiled water, cooled down to the churning temperature of the cream—64° or 62°, as the case may be. Some one who does not know the facts, has misstated the truth when they say that adding pure water to cream lessens the amount of butter recovered by the churn, or causes the butter to turn rancid. The value of water both to cream and the after washing of butter, is now attested by every first-class butter-maker in the United States, and the first prize goes to washed butter every time at the great dairy contests. Water is a dissolvent of the cheese and sugar, and makes these two elements in the cream more fluid in character, and so loosens their hold upon the globules of fat, and they are removed with correspondingly greater ease. In the winter months, and even as early as Oct. 1st, I would add one gallon of water at 100° to each three gallons of milk, before setting for cream; making the milk more fluid in character, and offering less resistance to the upward movement of the cream globules.

It is impossible to say how much butter a gallon of cream will make, as the accompanying content of milk with the fats varies so with the conditions of cream-raising, the "individuality" of the milk, and the time elapsed from the birth of the calf. Nor is the richness of milk or the density of the cream any safe guide to go by to indicate what amount of fats the churn will recover. The cow herself has much to do with this. A cow giving milk indicating 4 per cent. of butter fat may not make as much butter from a like amount of milk obtained from another cow whose milk rates only 3 per cent., as the former may be so combined with the casein and sugar that no amount of agitation will free all the globules of fat, and so a large per cent. of butter goes out unchurned with the buttermilk. Water in both milk and cream is a very valuable agent in such cases, and *never* does harm in any instance. Perhaps with favorable conditions, a pound of butter to a quart of good cream may be expected, but the churning can only tell.

The same answer applies to the weekly butter yield of a Jersey cow. Some Jersey cows will make 21 lbs. a week, and others would need 21 days at their best to make a like amount. The average good Jersey cow may be set down as making from 8 to 12 lbs. per week, more shading the lesser figure than the latter. You will do better in the formation stages of butter coming, to add water liberally to the mass before drawing off any of the buttermilk. The object is to make the buttermilk very thin, and float the butter at the start, so if there were six gallons of cream I should put in at least three gallons of wash water at 55°, in which a single handful of salt has been dissolved. This is added just as the butter is the size of small shot and the mass agitated a very little to mix it well, and is then allowed to stand. In two minutes the butter will be all at the surface in a "mat," and the buttermilk can be all drawn out from beneath and no strainer will be needed, provided no attempt is made to draw out all the water and milk. Then the "four washings" that are mentioned may be reduced to two, or three in all; and a butter pretty near pure is the result.

The plan of salting you mention is all right, though I prefer to brine-salt; churn the butter at the last into lumps in the churn, and pack them then and there into little fancy 4 and 8 lb. pails, and have no after job of reworking butter that can add no value to it, and often results in breaking down the grain, and making it salvy and streaky.

As to the churn, I should exchange it for a revolving churn-barrel, rectangular, or possibly, a good swing churn. I have one of the latter that the "head of the house" thinks is a "daisy," and I concur. The churn that brings the butter by concussion, should be fully one third larger than demanded by a float churn, and should never be filled to exceed one-half full, and then one has a chance to add as much wash water as needed without crowding the churn. With these revolving and swing churns the whole operation of butter-making can be made complete without any lumbering butter worker, which in the private dairy has no more place than a canal boat has use for a fog horn. Good and fine butter making is the nearest approach to simplicity, with the absence of all superfluous mechanism, and unnecessary detail. Well understood, there is an economy of labor at every point in butter-making, and as said in the COUNTRY GENTLEMAN, time and again, "the best butter is that which has had the least done for it." *J. S. Western Reserve, O.*

Milk-Test Laws too Exacting.

ED. COUNTRY GENTLEMAN—Being absent from home at the time of your issue of 10th mo. 3d, '89, the article on p. 753, "Milk Standard—Developing Ration," has but just come to my notice. Your correspondent B., of Middlesex Co., Mass., without doubt will be obliged to retire from the business of selling milk, or be liable to penalty under the Massachusetts law. I do not believe that any ration that can safely be fed to cows will give exemption from the penalty of this law. From years of observation of the results of analysis of milk, I am satisfied that few herds, not in whole or in part Jersey or Guernsey breeding, yield milk that will not at times fall below even 12 per cent. total solids, and I have long held that if the Massachusetts law was enforced, the jails could not accommodate the victims of said enforcement.

"E. W. S." gives some of the results of analyses obtained at the Connecticut Experiment Station, pointing to the occurrence of low analyses in pure, healthful milk. I have thought that the reckless and ruthless blasting of the character of honest producers of and dealers in milk that is taking place in some of the States of our Union, is a matter that might well claim more space in the columns of the COUNTRY GENTLEMAN, and I accordingly present some additional showings extracted from the reports of the experiment stations of Massachusetts, Connecticut and New-Jersey, demonstrating that existing laws on the subject are very unjust.

Massachusetts reports for 1884, '85, '86 and '87 give 174 analyses of the separate milk of 11 cows of known purity; 116 fell below the Massachusetts "legal limit" of 13 per cent., and 11 below 12 per cent. The Connecticut report for 1888 gives 209 analyses of herd milk samples taken in the 5th, 7th, 8th and 10th months from 127 herds, of which 86 fell below 13 per cent. The analyst, Dr. E. H. Jenkins, believed the majority of these to have been pure. He also stated in said report that "the larger number of the cows in these herds were grade Jerseys; but there was also a considerable number of natives, Jersey thoroughbreds and Guernseys."

Now it must be borne in mind that the tests of the above mentioned herds were, at the most, only *very occasional*. Milk from the same herd of cows receiving uniform feed will vary greatly in solids from day to day and from week to week, a variation of one per cent. frequently occurring within a few days; hence sampling done at long intervals, as was the above, does not at all give the sum of the depressions in solids, and without doubt, had the tests in said cases been made daily, the low results would have been greatly augmented; yet dairymen and milk-dealers are obliged to stand fire every day in the year.

The New Jersey report for 1888 contains tests of 140 samples of herd milk of known purity, taken once monthly throughout the year from 13 herds: highest analysis, 15 47 per cent; lowest, 11 67; 53 fell below 13 per cent.; 6 below 12—6 of the 13 herds falling below the New-Jersey "legal limit" of 13 per cent. during the year. These herds were generally highly fed for the production of milk for the Camden, N. J., market. One herd was composed of registered Jersey and Guernsey cows, and some of the other herds contained grades of those breeds.

I have for several years past had the milk of forty to fifty herds analyzed about five times monthly. I have found that the milk of herds of general breeding will average, taking the year through, about 13 per cent., and this may be said to be the general average as reported the world over. I have also found that herds that will thus average near 13 per cent., will with slight exception fall below 13 per cent. at times. The law in New-Jersey sets the limit of solids at 13 per cent. I found that in handling the product of eight herds of general breeding in said State, I was liable, as estimated, to fines aggregating $10,000 annually, and, more, I was continually liable to impeachment of character as an adulterator of milk. The risk was too great, and after two or three years of careful investigation, I declined to sell or become responsible for the milk of any herds not wholly or largely of the Channel Islands breeds, and dismissed all others from my list for supply. Such legislation is vicious in the extreme, and indicates either ignorance or tyranny, or both, on the part of its promoters, and servility on the part of its victims.

Philadelphia, Nov. 13. GEORGE ABBOTT.

A Washington County Creamery.

Smith's Basin is situated on the Delaware and Hudson Canal Company railroad, sixty-three miles north of Albany and in the township of Kingsbury, Washington County. Consequently Albany has drawn heavily on the farmers of this section to supply the city with milk; and as the farmers of this region like those in many others, are not organized, they have been at the mercy of the few city dealers. During the season of 1888, the Albany Milk Association operated a creamery at this point, the object of which was to consume the entire product of the dairymen, who furnished them milk by shipping to Albany what they required for their city trade, and manufacturing the surplus into butter. The project was a good one, both for the consumer and the producer.

But the season of 1889 ushered in a different state of affairs. Early in the season the superintendent of the association came up and offered 60c. for forty-quart cans for the summer and $1 for the winter. The price formerly was 80c. and $1.20, and this was rather too much of a drop to suit the producers, so they firmly refused to contract on those terms. When their existing contracts expired, March

81st, 1889, they held their milk until other arrangements could be made, which they did by securing the services of a butter-maker with his plant, to whom they pledged their milk until Nov. 1, reserving the right to sell and ship both milk and cream wherever they could, the butter-maker being allowed a certain price per can for his trouble in handling. During July and August they disposed of large quantities of both milk and cream in Albany and Saratoga at very good prices, the surplus being made into butter which compared favorably with other creamery butter. This plan, although not without its faults, has proved quite satisfactory to the majority of the producers.

Now, if the milk producers of Kingsbury, after this season's experience, fail to organize thoroughly and prepare to meet the requirements of another season's trade, they certainly deserve to be left in the mercy of the scheming money-grasping Shylocks of the milk trade.

CREAMERY.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

STIFLE JOINT WEAK.—A horse nine years old has been strained in some way, the stifle joint being the weak point. Do not think stifle has been cut, but muscles controlling it are weak. He stands on the other foot, barely touching this foot to the ground; is very lame when he attempts to trot; keeps the lame leg forward all the time. S. M. L. [If you are sure that the stifle is the seat of pain and lameness, use golden blister; if not, write a full description of the case. When a stifle is blistered it should be treated thoroughly.]

BONY LUMP.—A valuable young gray mare has a bony excrescence on outside of arm on line with stomach. It is large enough to disfigure. R. S. C. *Fort Penn, Delaware.* [An injury to the bone at this locality is apt to cause very troublesome lameness. In this case you do not speak of any defect in the gait. If it is a bony growth, there is little probability of its being entirely removed, but it may be reduced. Use one-third of a box of golden blister every three weeks as an absorbent. The animal may be used except for a week after each application.]

SOFT SWELLING.—A mare, 5 years old, with foal, began swelling under her belly three weeks ago; limbs are also swollen a little; swelling is soft. Has also small, dry pimples over body and on neck. Previous to this she was very spirited; now is dull and slow to move; appetite good. Have been giving saltpetre, ginger and a little gentian. L. B. S. *Fairview, Md.* [You should have said how long she had been pregnant. These symptoms probably arise from that cause. You must be careful about dosing in such cases. I will not prescribe until better informed.]

SWOLLEN LEGS.—Four days ago hind legs of five-year-old mare were swollen to twice their usual size. Her mother had at times swollen hind legs, which subsided on being driven. But swelling in this mare only partly subsides, by moderate exercise. Has been in harness doing farm work almost every day the past summer and fall; has been fed all the timothy hay she will eat and about twenty ears of corn a day, with every Sunday and occasional week day in pasture. She is in fair condition, and otherwise apparently well. S. S. *Waterviet, Mich.* [Give the mare a dose of physic and let her have exercise, but no work next day. After that, use her daily and have hair clipped from legs.]

COLTS NOT THRIVING.—Two colts, six months old, weaned when four months old, fed at weaning, grass, wheat bran and ground oats, with Pratt's prepared food. No. 1 is a filly, and has made no perceptible growth; all four ankles swell up, sometimes more than others; apparently lame in all her feet; appetite good; hair long and shaggy; rather poor flesh; eye bright. Two weeks ago commenced feeding cut hay, bran and ground flaxseed meal. (1) No. 2, a horse colt, was exceedingly well developed when weaned, abdomen large, and hangs down low; hind legs thin, and bend at hocks; appears weak behind, sometimes have to help him up; eyes bright; appetite good; hair long and shaggy; legs do not swell. For past two weeks has had same feed as No. 1. (2) UNCAS. *Blandford, Mass.* [1. Give ground oats and bran mixed with flaxseed tea; the tea is made by steeping ¼ to ½ lb. of whole flaxseed in a pail with three quarts boiling water, and allowing it to stand until morning. Feed worm powders, and once a fortnight give a dose of castor oil, 3 or 4 ounces at a time. 2. Treat same as No. 1. If necessary write again in three or four weeks.]

LEGS SWELLING.—A mare four years old, in standing in stable over night or one day, will swell her legs badly. She does not digest food properly, especially grain. Some old hair will stick to her sides; is hearty and in good flesh. Has been troubled with worms, but do not see any now. M. S. H. *Charleston, N. Y.* [Have teeth looked at; the mare is young, but still they may be out of order. Give the following ball, and repeat in a week: Sub chlor. mercury, 1 dr.; powdered Barbadoes aloes, 4 dr.; gentian, 2 dr., and a sufficient quantity of syrup; mix and make into a ball. Mix in feed daily for ten days, two tablespoonfuls of powdered nitrate potass. If she is not materially improved in two weeks, feed Moore Bros.' worm powders.]

DEATH OF BULL.—Have just lost a fine yearling bull. Had cold ears and horns at times. Beating of pulse above brisket was very rapid, and never ceased after he was taken. He coughed when getting up in morning; ate as if jaws were stiff; passages were right at the time. After death found windpipe almost as white as snow, also lungs, intestines, and even fundament; heart was enlarged; fat about it tender; could pull it apart with your hand. A clot of blood from heart about six inches long and half an inch in diameter was all the blood I found. W. H. S. *Chestertown, Md.* [I have no idea what was the cause of death. It is so easy for people not accustomed to the anatomy of animals to mistake appearances that one cannot form an opinion from this letter.]

ABORTION IN COWS.—I have had three abortions in my herd of cows within the last six or seven months—one a few days ago, and one about three or four months since. If I keep a cow that has had an abortion from the herd for a month or more, will there be any danger of abortion in the herd if suffered them to run together? AGRICOLA. *Leesburg.* [When abortion assumes an epidemic form, it requires that the affected animals be treated, disinfected and isolated. The pregnant cows need preventive treatment also. A cow that has aborted should not be allowed to rub with pregnant cows under two months, and should be disinfected and washed off so far as tail can reach.]

ACUTE COUGH.—A four-year-old mare has an acute cough; others have had it, but recovered. This one seems to be more severe; no swelling or soreness in throat or glands; an occasional discharge from nostrils, but not much, and then only when sneezing. Appetite good, feels lively, but frequently has severe fits of coughing. I moisten her hay, and feed hot bran mashes; also use a cough mixture and liniment. F. B. *Highland.* [Give one of the following balls every other day: Powdered rhubarb, 4 dr.; powdered Barbadoes aloes, 6 dr.; powdered nitrate potass., 9 dr.; powdered nux vomica, 6 dr., and a sufficient quantity of syrup; mix and make into three balls. Rub throat daily; drive but little for six days; give whole flaxseed steeped and mixed with food.]

PUFF REAPPEARING.—A yearling filly running in pasture Sept. 1st, threw out a puff on near hind leg like bog spavin and thoroughpin, with some fever and lameness. Placed her in box stall and bathed leg with solution of sal ammoniac, vinegar and water, rubbed and bandaged. In three days lameness disappeared, and after a week's treatment turned her out. The puff went down but came and went. About Oct. 20 blistered it, with little effect. It puffs up or disappears without apparent cause. Rubbing or exercise makes no difference. No lameness or tenderness. D. [Give half a physic ball every 4 or 5 days, until 4 or 5 doses are used. Rub the hock daily with some of the following: Tincture of iodine, 4 oz.; tincture of aconite root, 2 oz.; spirits of camphor, 4 oz.; alcohol, 16 oz.; mix.]

OVERFED FILLY.—A six-months colt filly, apparently from worms and lack of milk, was very thin when weaned in October. Was put in box-stall and fed clover hay, a small ration of oats and wheat bran, and all the sweet skim-milk she would drink, which was a great deal. She gained rapidly, but in two or three weeks appeared stiff all over and swelled in legs, especially at ankle and stifle joints. Reduced feed, and turned in clover pasture in pleasant weather. Has improved somewhat, but is still stiff, and stifle and ankle joints appear swollen, or to have a liquid collection about them. Did I founder her? O. M. T. *Skaneateles, N. Y.* [Undoubtedly you forced the filly too fast with sudden increase of food, which was also an entire change in diet. Give in warm molasses one of the following powders twice a day: Powdered iodide potass, 2 oz.; saltpetre, 1¼ oz.; mix and make into 30 powders. Keep bowels loose by giving a little castor oil twice a week. Allow plenty of exercise. Rub swollen joints twice a day with the following lotion: Spirits camphor, 4 oz.; tincture iodine, 2 oz.; alcohol, 8 oz.; mix.]

Record of the Times.

Review of Passing Events.

The Burning of Lynn.—This famous shoemaking town of Massachusetts was swept by fire, Nov. 26, and property covering 30 acres and worth $5,000,000 was destroyed in eight hours. This included 142 dwellings, 112 wooden and 42 brick business blocks, one church, three newspaper offices, four banks and one railway station. Nine-tenths of the shoe business is wiped out—about 150 concerns employing 7,000 hands—and 164 families are homeless. The city was founded in 1629; population in 1880, 38 274; shoemaking began in 1750; annual output, $18,000,000. As the fire occurred "between seasons," the shoe trade will not be seriously disturbed at present.

Flames in Boston.—Before the ashes were cool in Lynn, a fire was raging in Boston, Thanksgiving day. It started in a large sandstone building corner of Bedford and Kingston streets, and was not stopped for six hours, when it had burned over 2½ acres bounded by Summer, Lincoln, Essex and Chauncey streets, including some of the finest business blocks in the city built after the fire of 1872, which started near the same point and covered 65 acres. A high wind aided the flames (a postal card was blown three miles) but a timely rain helped to check their progress. Aid was summoned from all surrounding towns and cities—even from Providence and Springfield. Electric wires operating clocks thought to be the cause. Loss estimated at over $6,000,000; insurance, $3,500,000.

Other Fires.—A large grocery house in Philadelphia, Nov. 24; loss $250,000, and one fireman killed.—The Hecla Iron Works, Brooklyn, Nov. 25; loss $150,000, and 1,000 men out of employment.—A large part of Leechburg, Pa., Nov. 26; loss $80,000.—A part of the business portion of Keyport, N. J., Nov. 29; loss over $50,000; one man burned to death and his family terribly injured.—One of the mills of the Hartford Carpet Company, Thompsonville, Ct., Nov. 29; loss $180,000—insured.—The gasometer of the Delavan House, Albany, took fire morning of Nov. 30, and two large brick buildings were destroyed; loss $80,500.—The ten story Minneapolis Tribune building was burned night of Nov. 30. Seven (perhaps more) persons lost their lives, including two editors and two associated-press agents. The managing editor, foreman and six printers were badly burned. The building was poorly constructed, and had only one fire escape, from which several persons were knocked off and killed. Loss $300,000.

Deaths.—George H. Pendleton, late United States Minister to Berlin, at Brussels, Nov. 24, aged 64. He was elected to Congress in 1857; in 1860 was a supporter of Douglas; in '64 was nominated by the Democrats for vice-president with Gen. McClellan; in 1879 entered the Senate and prepared the bill for improving the civil service; in 1885 was appointed Minister to Germany by President Cleveland.—Martin F. Tupper, author of "Proverbial Philosophy," at London, England, Nov. 28, aged 79. An industrious writer of verse and prose, whose chief work, though severely criticised, had an enormous circulation among the middle classes of England and America because of its wholesome, cheerful spirit. Mr. Tupper visited the United States in 1857.—John G. Chapman, N. A., engraver and painter, at New-York, Nov. 28, aged 61. An old member of the National Academy of Design, and one of the founders of the Sketch Club and of the Century Club. He passed most of his life in Rome. His "Baptism of Pocahontas" is in the capitol at Washington.—Elias P. Needham, inventor of reed organs, at New-York, Nov. 28, aged 79.

From Abroad.—Further letters are published from Stanley. He seems to have had great difficulty in getting Emin Pacha to leave his province, even after a rebellion had broken out. Emin has sent thanks to the Belgian Anti-Slavery Society.—M. Corvilain, owner of the Antwerp cartridge factory where the explosion took place in September, has been sentenced to four years and six months imprisonment; Engineer Delauney to one year and six months; both pay fines of 25,000 francs.—France has recognized the Brazilian republic.—The London Graphic will begin the issue of a daily edition next January. A million copies of a specimen number of 16 pages have been prepared.—Sir Sidney Waterlow has given his home estate in North London for a public park. It is on the southern slope of Highgate Hill, well timbered and watered.—Mr. Balfour and Lord Ashbourne have prepared an Irish land bill.—White's drapery store at Aldershot was burned, Nov. 28, with loss of £100,000.—Dom Pedro reached St. Vincent, Cape de Verde Islands, Nov. 30.

Henry Harris, a New-York dry goods clerk, while helping to move in a show-case, Nov. 30, was instantly killed. The case touched an electric lamp while he stood on an iron grating, and a current passed through him. Another clerk holding the case but standing on pavement was unharmed.

Minor Items.

Montreal had 14 inches of snow, Nov. 21.

Bodies are still being found at Johnstown, Pa.

Lyman R. Casey has been chosen U. S. senator from Bismarck, N. D.

The capstone of the Bennington (Vt.) Battle Monument was laid, Nov. 25.

The supreme court of Illinois has decided that the gas trust is illegal.

The Yale and Princeton foot ball game, Thanksgiving day, was won by Princeton.

Robert Bonner recently visited his new purchase, Sunol, at Palo Alto Ranch, California.

The First Congregational church of Fairfield, Conn., celebrated its 250th anniversary, Nov. 26.

The bark Germania went ashore at Long Branch, N. J., Nov. 27, was wrecked and 11 men lost.

The apple crop of Iowa this year is immense and of high quality. The surplus will yield a large revenue.

Mrs. Southworth was promptly indicted for killing Stephen Pettus, New-York, and will be tried in December.

Frederickson & Co., a Chicago firm of land agents, have been arrested for frauds amounting to nearly one million dollars.

Coffee has declined under word from Rio de Janeiro that the crop will be 2,000,000 bags greater than the first estimate—5,500,000.

Thomas B. Reed of Maine has been nominated by the Republicans for speaker of the House of Representatives. Congress met, Dec. 2.

The first conviction in Illinois under the "habitual criminal act" took place Nov. 25, and two thieves were sent to prison for life.

A Silver convention has been in session at St. Louis. Remonetization of silver was urged, and a memorial will be presented to Congress.

The Court of Appeals has decided that Thomas C. Platt has no legal residence in New-York city and cannot hold the office of quarantine commissioner.

The New-York organ grinders united in protest against the recent ordinance forbidding street music, and it has been repealed, except as relating to street bands.

The steamer Egypt took out from New-York, Nov. 29, for the London Christmas market, 300 Kentucky beeves, averaging 1 850 pounds. Cost $90; expected price $120 each.

The British freight steamer Santiago was burned at sea, Nov. 20, and her crew and passengers were taken from lifeboats by the American ship Fuller and brought to New-York.

Four little girls, children of a wealthy mine owner, at Elliottsville, W. Va., exploded a keg of powder in an abandoned shop, Nov. 25, and were blown to atoms. Their mother has lost her reason.

The "blue rose" men have invaded the South and taken in the good people of Atlanta, Ga. They professed to come from Dupton, Ohio, where blue roses grow wild in greatest profusion.

An iron viaduct is being constructed on Hawk street, Albany, to connect Capitol and Arbor hills. A large derrick used in unloading stone swung round and fell, Nov. 29, killing a young man, a spectator.

A boy of 14, playing in a Milwaukee brewery, Nov. 24, jumped into a bin of barley just over the hopper and was drawn down. Two other boys tried to pull him out but could not, and was taken out dead below.

The Court of Appeals has decided that the Third Avenue railroad, New York, must pay the city $20 per car under the act licensing its stages for that amount. Judgments are pending, aggregating $107,262 43.

Governor Richardson of South Carolina, in his annual message, recommended the careful preservation of Confederate battle flags belonging to the State; also the separation of negroes and whites in railroad cars.

A two-story brick house in Dayton, Ohio, was blown to pieces by natural gas, Nov. 26. Of a family of eight, a little boy was killed, his mother and grandfather terribly injured, and the others bruised and suffocated.

Testimony in the Cronin case was closed, Nov. 26. Three days later Officer Flynn stated that he took Cronin's pocket knives from Coughlin the night of the arrest. The case was reopened, the knives produced and identified.

A sudden squeeze in November corn at Chicago, Nov. 29, caused the price to jump from 33 to 60 cents a bushel, and "Old Hutch," the arch manipulator of the market, was cornered short 250,000 bushels. Cudahy, his victim in September, 1888, was the engineer this time. All the corn possible was hurried into Chicago on Saturday.

A Congregational council, including Dr. Fitch of Buffalo, Dr. Taylor of Binghamton, and Rev. T. K. Beecher of Elmira, recently ordained to the ministry at Brooklyn, N. Y., Mrs. Annie F. Eastman of Canandaigua, whose husband, a clergyman, is disabled by ill health. Her examination was thorough, and the vote to ordain unanimous. She has supplied the Brooklyn church the past year.

LITERARY NOTE.

We have received the Thanksgiving Double Number of THE YOUTH'S COMPANION. The contents are all complete, and are profusely illustrated. Among the writers are Hjalmar Hjorth Boyesen, with a story for the boys, entitled "The Story of Siraia." Hezekiah Butterworth writes a story of the Coyotes of New-Mexico, written in the style that

has made him so popular among the young people. Adelaide D. Rollstin tells "Why Rhea was Thankful," a story for Thanksgiving Day. Cara Lee on "Siam and its Royal White Elephant." Beatie Osgood writes about "Grandma Fenton's Antipyne."

The editorials refer briefly to the Imperial travels of the Emperor William, and to other current events. A page is filled with pictures, puzzles and short stories for the very youngest readers.

Parties having barren mares, or cows, or irregular breeders, will learn something to their advantage by addressing H. W. CAMPBELL, Racine, Wis. [1y7

Have you seen the L-A Five Mile Horse Blanket? If not, why not? If you have a Horse you need it! no1-3t

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For a disordered liver try Beecham's Pills. [1

CATARRH—CATARRHAL DEAFNESS—Hay Fever—A New Home Treatment.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membranes of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on application by A. H. Dixon & Son, 337 and 339 West King St., Toronto, Canada.—*Christian Advocate.*

Sufferers from Catarrhal troubles should carefully read the above.

TO OUR SUBSCRIBERS.

The SPECIAL ANNOUNCEMENT which appeared in this column some time since, announcing a special arrangement with Dr. B. J. KENDALL Co. of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby subscribers were enabled to obtain a copy of that valuable work FREE by sending to the above firm their address (and enclosing a two-cent stamp for mailing same) is renewed for a limited period. All should avail themselves of the opportunity of obtaining this valuable work. To every lover of the Horse it is indispensable, as it treats in a simple manner all the diseases which afflict this noble animal. Its phenomenal sale throughout the United States and Canada, make it standard authority. *Mention this paper when sending for "Treatise,"* and address with care, Dr. B. J. KENDALL Co., Enosburgh Falls, Vt. no1-13t

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Farm Produce Markets.

Albany Markets—Dec. 2.

FLOUR.—The Argus says: Receipts have been larger, and volume of trade good.

	1888. Nov. 30.	1888. Nov. 30.	1887. Dec 1.
Com. State	$3.10@4.00	$3.00@4.00	$4.25@4.40
State Extra	4.10@4.40	4.10@4.50	4.60@5.00
Amb. State & W	4.30@4.60	4.60@4.80	5.75@6.00
C. Ind. & St. L. Ex.	4.60@4.75	4.60@4.75	5.75@6.00
Winter W. Fla	4.10@4.30	5.10@5.30	5.50@5.75
Minn. "Bakers"	4.00@4.75	4.00@4.75	5.25@5.75
Sp'g W. Pat., new	4.50@5.00	5.50@5.65	7.00@7.25

Rye Flour fairly active and steady at $3.00@3.20 per bbl.: Graham, $3@3.25. Oat Meal: doing moderately well at $5.10@5.40 per bbl. Corn Meal in good demand and steady at $2.80@3.20 per bbl. Buckwheat flour in good supply and steady at $1.75@1.80 in store, and $1.60@1.70 per 100 lbs. in store. Buckwheat grain in moderate call at 47@48c.

GRAIN.—Corn weaker, demand moderate. No. 2, yellow, 43½@43¾c. per bu.; No. 2 mixed, 43c. Oats scarce and advanced; No. 2 white, 31@32c.; No. 3, 29@30c.; Rye in better receipt: State, No. 1, 55c.; No. 2, 53. Barley still dull: State, 55@57c.; Canada, 56@58c

HAY AND STRAW.—Receipts moderate, demand good. Timothy, prime $1@1.10 per ton; good, $1@1.05; mixed, 97½c.@$1; clover, $1@1.05. Rye straw, best, $1@1.05; oat straw, 80@90; wheat straw, $5.

HOPS.—Choice quality in fair demand.

N. Y. State, 1887	7	@11c.
N. Y. State, 1888	7	@10
Pacific Coast, 1888	10	@13
Bavarian and Bohemian	30	@35

Albany Street Market—Dec. 3.

BUTTER.—Choice, 24@25c. per lb.; good to prime, 19@23c.

EGGS.—Near-by and new laid, 30@35c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 4½@6c.; mutton, carcasses, 7¼@8c.; lamb, hindquarter, 10@11c.; forequarter, 9¼@10c.; veal, hindquarters, 9@10½c.; forequarters, 7@8c.

POULTRY.—Fowls, 10@12c. per lb.; chickens, 12@14c.; turkeys, 18@18c.; spring ducks, 18@19c.; green geese, 10@12c.

FRUIT.—Apples, $1.00@3 per bbl; Cranberries, $3@3.25 per crate. Grapes, Concord, 6@7c. per lb; Catawba, 8@10c.; Niagara, 10@12c.; Pears, $3@3 per bbl.

VEGETABLES.—Beets, $1 per bbl.; Cabbage, $7@8 per 100; Carrots, 30c. per bu. Celery, 30c.@$1 per doz. bunches; Cauliflower, $1.50@2 per doz.; Onions, $2@2.50 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, $1.20@1.40 per bbl.; sweet, $2@2.25; Squash, 1½c.@1c per lbl.; Turnips, $1 per bbl.

New-York Markets—Nov. 30.

BEANS—Marrow, 1888		1.85 @	—
Medium, 1888		1.80 @	—
Pea, 1888		1.75 @	—
Cal. Limas		— @	2.00
COTTON—	Openends.	N.O.A Gulf	
Ordinary, per lb	7¼@ —	— @	7¼
Middlings	10½@ —	— @	10¾
Fair	11¾@ —	— @	11¾
EGGS—State and near-by, per doz		27 @	28
Western and Canada		24 @	26
FLOUR—Spring Wheat pat., per bbl		4.80 @	5.25
Winter		4.10 @	4.70
No. 2 extra State and Western		3.65 @	3.80
No. 1 extra		4.15 @	4.75
Minnesota clear		4.45 @	4.60
Straights		4.15 @	4.75
Wire Flour, superfine		3.35 @	3.50
Buckwheat		1.95 @	1.95
Corn Meal		2.50 @	3.00
FRUIT—Apples, State, mixed, per bbl		1.50 @	1.75
Baldwin and Greening		1.75 @	2.25
Baldwin and Green., Mich		2.50 @	2.75
King, Snow, western		3.00 @	4.00
Cranberries, Cape Cod, per bbl		7.25 @	8.50
Jersey per crate		2.00 @	2.10
Grapes, Concord, per basket		20 @	25
Catawba		20 @	25
Isabella		14 @	18
Lemons, Fla., per box		3.00 @	4.50
Oranges, Fla., bright		3.00 @	3.25
Russets		— @	3.00
Mandarins		3.00 @	5.00
Hickory nuts, per bush		— @	2.00
Peanuts, per qt		4@4	6
DRIED—Apples, evap., 1888, per lb		9 @	10
Evaporated 1887		8 @	9½
Peaches, sun-dried, 1888		9@9	11
Evaporated, 1888		8 @	10
Plums, Southern Damson, 1888		— @	7
State, 1888		8 @	9½
Cherries, 1888		8 @	11
Blackberries, 1888		4 @	5½
Huckleberries, 1888		11 @	12
Raspberries, evap., 1888		20 @	24
Sun-dried		11 @	20
GRAIN—Wheat, State white, per bus.		— @	—
Ungraded spring		79 @	80
No. 1 red, winter		80 @	—
No. 2 red, winter		— @	—
Corn, No. 2, white		41½@	42
No. 2, mixed		41½@	42
Oats, No. 2, white		— @	30½
No. 2, mixed		29½@	30½
Rye, State and western		56 @	57
Barley, State and Canada		55 @	75
Buckwheat		47 @	—
HAY—Timothy, choice, per 100 lbs		90 @	95
Shipping		85 @	87
Clover		80 @	90
Straw, long rye, No. 1		70 @	75
No. 2		55 @	60
Oat		50 @	60
Wheat		50 @	55
HONEY—White clover, per lb		13 @	14
Buckwheat		10 @	13
HOPS—N.Y. State, 1888, best, per lb		13 @	13
Best, 1887		10 @	—
Common to fair		7 @	9
California, 1887, best		8 @	11
Washington, 1888		11 @	13
German		17 @	23
POULTRY—Live fowls, per lb		7 @	9
Spring chickens		— @	9
Turkeys		8 @	10
Ducks, per pair		60 @	80
Geese		1.25 @	1.37
Dressed fowls, per lb		8 @	—
Chickens		9 @	—
Turkeys		14 @	16
Ducks, eastern, spring, per lb		11 @	14
Western		10 @	12
Geese, western		7 @	8
PROVISIONS—Beef hams, per bbl		21 00 @	22 00
India mess		13 50 @	14 00
Hogs, dressed, per 100 lbs		6 00 @	6 75
Lard, per tierce		6 25 @	7 25
Pork, new mess, per bbl		9 75 @	11 00
Short clear		11 50 @	12 50
Family		12 25 @	13 00
VEGETABLES—Cabbage, L. I., per 100		3.00 @	4.00
Carrots, L. I.		1.00 @	1.75
Cauliflower, L. I. & Jer. per bbl		4.00 @	6.00
Cucumbers, Fla., per crate		1.50 @	2.50
Celery, L. I., per doz. bunches		50 @	1.00
State and Western, per doz. roots		15 @	25
Egg plant, Fla., per bbl		2.00 @	4.00
Green peas, Southern, per crate		1.00 @	3.00
Onions, eastern, red, per bbl		2.75 @	3.00
Orange County, red		1.00 @	2.75
Western red		1.75 @	2.25
State and western yellow		2.00 @	2.50
White		3.00 @	4.50
Potatoes, Eastern, per bbl		1.25 @	2.50
State		1.50 @	2.00
Western		1.50 @	2.00
Scotch and Irish, per sack		1.25 @	1.75
German		1.50 @	1.75
Sweets, per bbl		2.25 @	4.00
Squash, Hubbard		1.25 @	1.50
Marrow		1.00 @	1.50
String Beans, Southern, per crate		1.25 @	1.75
Carrots, Russia, L. I., per bbl		60 @	75
Russia, Canada		60 @	65

Cattle Markets.

NEW-YORK, Nov. 30.

BEEVES.—Receipts, 11,078 head. The market opened dull on Monday last, and closed off 10@ per cwt.; on Wednesday the quality of the herds Thursday did not suit the needs of buyers. There were fair quality. Trade was dull at former values. Friday the markets opened with a fair demand, but closed weak and dull. The dry cows and bulls coming for sale are so miserable as to be distasteful to breeders. The best of the herds offered were taken for export.

[Per cental, lbs.]	This week.		Last week.	
Good beeves	$5.00 @	—	$5.00 @	—
Fair	4.60 @	5.00	4.50 @	4.85
Coarse	7.00 @	7.00	7.00 @	7.00
Poor	6.75 @	6.75	6.75 @	6.87

[Per cental, gross.]	This week.		Last week.	
Good beeves	$4.50 @	—	$4.50 @	—
Fair	4.00 @	4.37½	4.00 @	4.25
Coarse	3.50 @	4.00	3.50 @	4.00
Poor	3.10 @	3.50	3.15 @	3.50
Oxen	3.50 @	4.00	3.60 @	4.00
Dry cows	1.00 @	1.50	1.50 @	2.00
Bulls	1.75 @	2.15	1.50 @	2.15

MILCH COWS.—Receipts, 140 head. Trade has been quiet as to demand, with a steady tone in values; one cow sold for $35, one cow with one calf for $50, one cow with one calf for $62.50, and 19 Michigan cows at $45@50 per head.

VEALS AND CALVES.—Receipts, 1,317. The arrivals have been light and the demand active, with a firm tone in values. Quality of the calves offered coarse and lean. Range of prices: Calves, grass-fed, 3½@5c. per lb.; western calves, 3½@4c.; calves partly fed, 5@6c. Veals coarse and lean, 6@7c. per lb.; of fair quality, 7@8c.; in selected lots, 9@10c.

SHEEP AND LAMBS.—Receipts, 12,913 head. The week opened with a steady tone in sheep and a recovery of ½c. per lb. in lambs. On Wednesday the markets were entirely unchanged; Thursday being a holiday, no sales were reported. Friday sheep closed steady, while lambs declined ½c. per lb. Range of prices: Sheep, 4@5c. per lb.; cull sheep, 3½c. Lambs, 6@7½c. per lb. Quality of the Scotch very poor.

SWINE.—Receipts, 37,120 head. The markets have been slow as to demand and weak as to values. The hogs offered remained over from day to day. Wednesday one carload was sold. Friday eight carloads were offered, of which 419 hogs, 125 lbs. average, sold at $4.10 per cwt.

BUFFALO, Nov. 30

BEEVES—[Per cental, gross.]	This week.	Last week
Extra steers	$4.70@4.85	$4.30@4
Best butchers'	3.85@4.10	3.85@4
Second quality	3.00@3.60	3.50@3
Poor to common	2.00@3.00	2.00@3
Stockers, light	2.00@2.25	1.90@2
Stockers, good to choice	2.50@3.00	2.40@3
Bulls	1.90@2.25	1.90@2

Receipts, 11,300 head, against 14,300 last week. Export steers very quiet, and prices hardly as steady as last week, while good handy butchers' cattle were wanted the demand being in excess of the supply. As a rule, the quality of offerings was not up to last week. The most noticeable improvement was in good light butchers' steers and fat heifers. Outlook at closing slightly better for the next three weeks especially for choice steers and also for common, the rush to market this week is thought to be over. Stockers and bulls in light supply; fair demand.

MILCH COWS.—Firmer for best; receipts light. Extra, $45@50; good to choice, $40@45; common to fair, $15@25.

VEAL CALVES.—Firmer; light supply. Extra, $4.25@4.50; good to choice, $3.50@4; heavy fat, $3@3.50.

SHEEP AND LAMBS.—Receipts, 20,000 head. Market for sheep strong and higher, owing to light receipts; quality generally good. Extra sheep, $5.2

The Fireside.

A Daily Paper on Farm Life.

Eds. Country Gentleman—For chivalrousness I think the following article (from the Iowa State Register) has seldom been equalled:

We spent two or three days with a farmer of comfortable circumstances, with two sons and two daughters at home, and all the business of the farm and the house conducted by the man, wife, sons and daughters. When we arose in the morning the wife was as busy as a bee and as happy as a queen, cooking breakfast. Punctual as the clock, it was announced that breakfast was ready. Just as we were gathering around the table the two daughters came in from the cow yard with two buckets each brimming with foaming milk. Their cheeks were as blooming as June roses, and their limbs as agile as a fawns'. They soon disrobed their milking overskirts, and one deftly walked on the table, while the other stepped into the parlor, with the door open, and played sweetly and artistically on the piano, while breakfast was being eaten.

Pray where were those two young men while their sisters milked? That might pass—one may have been consumptive and the other have lost an arm in a threshing machine, but when the writer goes on to tell us approvingly that one sister stood behind the chairs of these gentlemen at breakfast, while the other discoursed that music which hath charms "to soothe a savage," one rube one's eyes and wonders if she has fallen asleep and wakened in the dark ages. In Esquimaux land and among the Digger Indians, I believe the men do eat first and the women take thankfully what is left. My sister teaches her little sons that it is unpardonable to sit while a lady stands, even if the lady should be their mother or sister; but I suppose the writer of that article would think this all nonsense.

I have lived on a western farm most of my life, and never knew anything of the milk until it was handed me in the pail, or of the fires, except that there were good ones all over the house when I came out of my room to get the breakfast; if there was a hired man he made the kitchen fire for the "girl"; if neither man nor maid, father or brother made it for me—it simply never entered their heads that they could do otherwise and retain self-respect.

I think nothing makes us love Hawthorne more than his wife's story of his tender, beautiful care of her—helping her prepare the meals when she was without servants—"that marasmic cent hood bent over the potato pot." Nothing is more beautiful than to see a daughter lifting burdens from an aged or crippled father; nothing is unmanly that is done from love.

HELEN BROWN.

A Look toward Christmas.

The pleasant custom of giving gifts at Christmas-time, brings both pleasure and secret anxiety to many who have a numerous circle of friends to remember. A few hours spent in quiet pondering over the wants, tastes and needs of various friends will do much to settle the vexing question, what to give. A very simple gift, selected with tact and a happy heart, will often give more pleasure than the sender ever knows.

If one decides early in the season what gifts shall be made and what bought, commencing those that are to be made by her own fingers several weeks before Christmas, the work is certain to be the pleasure it ought.

Those whose purse is not of length proportionate to the number of people to whom they wish to give remembrances, but have a good supply of leisure time, can make a variety of acceptable articles which will meet with a warmer welcome from the recipients than gifts purchased at the shops.

A token for a near relative or friend which will have a value far above its cost is a souvenir of the old home, or of some spot about which the giver and recipient have pleasant memories in common. This may take the shape of freshly-gathered moss and winter-greenery from some protected corner, arranged in a box or basket, with a card bearing the sender's greetings. It may be a framed sketch or water-color of some loved landscape, or a plaque on which is painted some familiar nook.

I once saw with what pleasure and keen appreciation a picture of a tiny waterfall and the tree-shaded banks on the home grounds was received by a friend who was spending her first Christmas over the water. The little scene was painted in water colors on a heavy card. In each corner was a bit of green, and writing on the reverse side told from what particular spot each came. The picture may not have had any great merit from an artist's point of view, but for the time the works of world-renowned painters paled before its charms.

It is difficult to find articles that can be made at home for the masculine members of the family. Among really useful presents is a case for holding shirts, as they come folded from the laundry. A convenient form for such cases is a strip of plush or other material, lined with silk, with a layer of cotton batting and scent between, the ends turned over to form shallow pockets, and folded in the middle like a book.

Another very desirable gift for those who often leave home for a short trip, is a case for holding collars and cuffs. It is made of leather, lined with silk, and should be twelve inches long by six wide. It is fastened by a strap and small buckle. The strap should be slipped through a loop fastened on the back of the case, and have a number of holes punched in it.

For those who possess the luxury of a smoking room, a banner made of cream-colored satin, and painted with a design of a tobacco plant in bloom, is a handsome present. The long reed stem of a red clay pipe may take the place of the usual banner rod.

For the brother or friend at college, to whom the style and tie of his cravat is a matter of great importance, a welcome gift is a cravat case filled. These cases are very handsome and convenient affairs. They are in the form of a book, tied together at the back with narrow ribbon. Two pieces of stiff pasteboard fourteen inches long and four wide, are covered on one side with plush and on the other with satin of a contrasting color. Across the middle of each on the lining is sewed a strip of silk elastic about one inch wide. The cravats are folded in the middle and slipped through this strap. The cases can be ornamented in any manner desired.

A unique gift is a small hammock netted of fancy cord. It is intended to be stretched across a corner, or from the corner of a book case to the wall, to serve as a newspaper rack or (when made quite small) to hold cards.

Housekeepers always appreciate anything that adds to the convenience or beauty of their homes. A few yards of linen or cotton flannel, and an hour or two at the easy-running sewing machine, will enable one to prepare cases for holding knives, forks and spoons, with an individual compartment for each, stitched in, finished with a binding, and rings by which they may be hung on the inside of the china closet door.

A pretty memorandum can be made of a common slate, decorated on the front and frame, hung by a ribbon with pencil attached. On the back of the slate is pasted a strip of paper the entire length and one-third the width, on which is plainly written the names of such articles as are ordered from the store. All the housekeeper has to do is to mark the quantity needed after each.

Tray covers and carving cloths of momie cloth or fancy linens, ornamented with outline work in the heavy linen threads or with drawn work are handsome. Fancy table covers, large and small, are always acceptable. Scent bags filled with dried rose leaves or lavender to put among the bed linen are appreciated. If the scent for filling them has to be bought, remember to get a spicy, aromatic odor, not a heavy perfume. Tiny pincushions in fancy shapes of handsome material to be hung in hall and parlor are new.

Among knit and crocheted articles are slippers, shawls, capes and skirts. A particularly easy and pretty knitting pattern for the latter is worked by casting on any number of stitches divisible by 14:

1st row—Knit 1, over, knit 5, slip 1, knit 8 together, pass the slipped stitch over the knitted one, knit 5, over. This makes a scollop, and is repeated to the end of the needle.

2d row—Purl back. These two rows complete the pattern, and are to be repeated over and over.

A cloth brush is made of a strip of hair cloth a yard long and 8 inches wide, fringed out on each edge until a solid piece only 3 inches wide is left in the centre. This strip is tightly rolled up and fastened. Around the centre a satin ribbon is tied in a full bow, under this a narrow ribbon is sewed to hang the brush up by.

A sofa pillow, of a long rather than square shape, covered with soft-tinted China silk and filled with field balsam, hops or similar herbs, makes a useful present to an old person or an invalid, as does also a head rest for a chair.

Embroidered book covers of silk or velvet, that can be fitted to any volume of ordinary size, are a fancy of the present day. For a musician, a handsome cover for the pianoforte keys can be made of a strip of plush, satinlined, the exact length and width of the keys. It may be ornamented with a design in embroidery or painting. A motto put on in quaint letters would be preferred to either by many.

A rug for a baby just old enough to sit alone, will be a nice present for the child or mother. Make the rug of gray felt and cut the edge into shallow points. Around the whole inside of the points put a border of animals and birds cut out of different colored cloths and appliquéd to the felt. A few outline stitches can be added, and the naturalness will be surprising. The rug should be lined with canvas. For the little baby, a blanket for the cab can be made after any of the lovely designs so often seen.

A suitable present for any one is an ornamental calendar. One of the newest designs has a sheet devoted to each month and painted with suitable designs; these are in an open faced portefolio, which rests on a small easel. At the end of a month a design is removed and a new one appears.

Two or three new family photographs in a bag made expressly for holding them, are a nice present for an absent member of the family. The bag should be made of plush or velvet, just large enough to hold a cabinet picture, and open along the length instead of across the end. It should be lined with a similar material, or silk of a contrasting color. It may be left plain or ornamental, to suit the taste of the giver. With photographs of some celebrated persons, instead of family pictures, the above makes a pretty present for a less intimate friend.

Mrs. Bushnell.

The Christmas Spoon.

One of the pleasantest and perhaps one of the most desirable of old time customs which should be perpetuated, is that of presenting to the mother or ladies of the household at Christmas a silver spoon. The custom was introduced in the seventeenth century, and was much in fashion in England and on the Continent, particularly among the nobility and upper classes; and it came to be of considerable significance and importance, inasmuch as the donors vied with each other in securing for their wives or other friends such specimens of silver as were not only of considerable intrinsic value, but of rare and unusual pattern and of exquisite finish. And so each spoon naturally came to be in a certain sense historic; at least it would always be a souvenir of the particular Christmas festival when it was presented. The matron of middle life would have suggested much of her family history and experience by simply looking over her Christmas spoons. Besides, these gifts came to be valuable heirlooms, prized and handed down the family line as witnesses of high social position, if not of wealth and antique lineage.

The demand for Christmas spoons from high quarters very naturally stimulated dealers and silversmiths to exercise their genius and skill in designing and executing unusual forms and patterns, many of which were very fanciful and suggestive. These spoons of course bore the name of the recipients, as well as the date of bestowal and any other legend which the occasion or fancy of the giver might suggest.

Is not this a good time for all our refined and artistic people, who are supposed to be possessed of considerable Christmas sentiment, to revive this beautiful custom of giving the Christmas spoon?

M. M. Fridelle.

The New Croton Aqueduct.—Compared with other tunnels, the new aqueduct is easily at the head of all works of a like character in the world. The cities of Chicago and Cleveland are each supplied with water through tunnels extending out into a lake. The first Chicago tunnel is 5 feet in diameter and 10,567 feet long. The second tunnel is 7 feet in diameter and 31,400 feet long. The Cleveland tunnel is only 5 feet in diameter and 6 061 feet long. All of these tunnels were laid in comparatively soft materials. The Baltimore water supply includes a rock tunnel, twelve feet in diameter and seven miles long, and is lined with brick work for about two miles. The old Roman Aqueducts were several of them longer than the Croton Aqueduct, but they were all very small, and were merely masonry conduits a few feet in diameter. The Liverpool water supply is conveyed by an aqueduct about twice as long as the Croton Aqueduct, but it is mainly a surface aqueduct, there being only a little tunnel work. A portion of the aqueduct is merely a pipe line. The supply is from a reservoir formed, like that at Croton or at Bodom, by building a dam across a narrow gorge in a valley among the mountains in Wales. The dam is larger than that at Bodom, being 136 feet high, while that at Bodom is only 78 feet. Compared with the proposed dam, it will be small, as the new dam is to be over two hundred feet high, and will be the highest dam in the world. The aqueduct tunnel, when compared with railroad tunnels, is a little smaller in diameter than the three most famous tunnels, but is very much longer. The Hoosac Tunnel is only 24 000 feet long, the Mont Cenis is 8 miles long, and the St. Gothard 9¼ miles long, while the new Croton Aqueduct is nearly 30 miles long.—*Century.*

Our Modern Fiction.—The everlasting repetition, through countless thousands of volumes, of the story of the imaginary courtship and marriage of fictitious and impossible young men and women; and when all conceivable incidents that could attend this happy narrative are used up, and the exhausted imagination of the narrator refuses any further supply, then in their place an endless flow of commonplace and vapid conversation, tending to the same matrimonial result, until it is clear that the parties, if they were real, would talk themselves to death—this is the staple of what is now well called fiction, because it never could exist in fact. What a food for an immortal mind to live on, year in and year out, as its principal literary nourishment! And what sort of mental fibre is it likely to produce?

—*Scribner's Monthly.*

Christmas Forethought.—The most puzzling task at Christmas is to select presents for fathers and brothers. Two years ago, a certain young woman (this by way of reminiscence) failed to find anything she thought suitable for her brother. But after much perplexity a coffee-cup and saucer, daintily decorated, was selected, and it was gratefully used at about three hundred and sixty breakfasts during the following year. The next year a cut-glass salt-cellar and pepper-box were given. Besides these and similar articles, one might try canvas or linen slipper-cases, made to hang against the wall, inkstands and other articles for desks, silver match boxes, razors (for which the traditional penny should be exacted), shaving-glasses, cases of shaving paper, or, that always welcome friend, a silk muffler. A case for carrrying collars and cuffs when traveling, is a useful present for many. The outside may be of any material available, and the lining should be of silk; but a stiff interlining of buckram should be inserted. In short, make it like a music roll, but not so wide, and fasten it with a fancy leather strap and buckle. Decorate the outside with some pretty device—the initials or monogram of the prospective owner.

—*St. Nicholas.*

Changing Doctors.—One of the annoyances which every physician is sure at some time to experience, is to be told (what perhaps he perfectly well knew, and more than any one else deplored,) that his patient has not been improving in his hands, and that the family had decided to try another doctor. Sometimes this is a keen disappointment and real sorrow to the physician. Had he not worked hard, met symptoms as they arose as well and promptly as any one could, and enjoined patience till the fever should turn? What, though, for fifteen long days the temperature rose to 104° every night, and fell to 101° in the morning, had he not assured the family and friends that this was the natural course of the disease; that no man could stop that fever till it *turned*, and that it would turn some time? Had he not kept in check an obstinate diarrhea, and allayed restlessness and insomnia, beside supporting the strength of his patient by a judicious exhibition of nutrients and stimulants? It was all of no avail. "Madam," or the "Captain," or somebody else was dissatisfied, and they had concluded that they would try the "new doctor." Nothing is said about settling the old account; Dr. A is discharged, and Dr. B steps in, and just about that time the fever turns, and Dr. B gets the credit of a great cure.—*Medical Classics.*

Trials of Authorship.—There is by far too prevalent an impression that literature is a bed of roses, where all seed bears flowers. No calculation is safe that is made on products of the pen. I have known of several instances where young authors have assumed obligations based upon the probable success of their work. Disappointment invariably follows in such cases. In few professions are there so many uncertainties. Because a story is accepted this week, is no guarantee that you will have another accepted next week. Yet, again and again, have I heard rising young authors make such a calculation. A young writer receives $50 for an accepted story which has probably cost him a week's work. Immediately follows the multiplication of $50 by 52 weeks. It apparently never occurs to him that for weeks, and perhaps months, he will receive only declinations. Literature makes a precarious foundation for financial calculations, and it would save much unhappiness and disappointment if this was more generally understood and credited. As in all callings, success in literature means hard, steady work, plenty of it, and even then success may not come. There are ten, yes twenty and forty, failures to every success. The literary market has never been so full as at the present day, with sharp

competition at every turn. Never have there been more people with pen in hand striving for a livelihood, each doing their utmost to out-distance the other. It will be well for young authors, too ready to adopt literature as a profession and too sanguine of success, to consider and digest some of the disadvantages of authorship as well as the rose-colored joys of fame and praise which are spread upon the canvas of their inexperienced visions.

—*Ladies' Home Journal.*

Domestic Economy.

Mutton for the Farm Table.

Eds. Country Gentleman—No doubt mutton is the most desirable meat for the farmer's household, because it can be procured easily and cheaply. The carcass is small enough to supply two or three families, who can exchange with each other, or the surplus, after providing for one's own use, can be sold very readily to neighbors. The Shropshire is the best sheep for home use, as it is larger than the South-Down, has equally good flesh, and bears a better fleece, which can be sold to pay the expense of rearing the sheep, leaving the mutton costing really nothing. And if the preparing of the meat is rightly done, the common objection that it tastes "wooly" will be overcome. This objectionable flavor is due not to contact of flesh with wool, but to a common fault in slaughtering. To some extent this flavor is due to want of cleanliness in keeping sheep, especially in winter, and to too close confinement in yards or pens in which the perspiration from the sheep is checked, and being absorbed by the flesh, gives it the strong, sheepy flavor.

To kill and dress the sheep it is convenient to have a table prepared large enough to hold the sheep laid upon its side—such a one as is used in shearing. Two trestles or horses made of 3 by 4 stuff, 3 feet long and 18 inches high, are made to support three boards 12 inches wide and 5 feet long. These laid loosely upon the trestles make the table. The whole affair can be laid aside in some convenient corner when not in use, and should be kept in readiness for the work.

The sheep is laid upon the table and its legs tied. The head and neck hang over one end so that the blood may be caught in a pail. A small sharp-pointed butcher's knife is used; it should be sharp. This is thrust through the neck near the vertebræ and is twisted round, by which the artery and veins are cut through and the animal rendered senseless at once. There is no suffering; the struggles are only a reflex action of the muscles and nerves; the brain is paralysed by the cutting off of its supply of blood, and there is no sensation.

When dead, the sheep is turned over on his back and the skin slit down from throat to end of belly, and up the legs to knee and hock joints, which are severed. This takes less than one minute. The hocks are skinned to expose the tendons, under which the notched gambrel stick, to be kept in readiness with a small rope always attached to it, is pushed, and the carcass is lifted and hung on a cross-bar, or a hook in a beam, always ready, at a convenient height. The belly is then opened and the entrails taken out, falling into a wheelbarrow ready under the carcass, and removed. Take care to loosen the gut by cutting around it, and tie it at the vent the first thing, and not to cut the urethra and let the urine escape; neglect of these things, and delay in taking out the intestines, cause the wooly flavor.

The skin is then stripped off as quickly as possible, and a pailful of warm water is dashed into and over the carcass, to wash it. If cold water is used, the pores of the meat are closed, and evaporation of animal odor prevented; thus the flavor so much complained of is kept in the meat. The heart, liver and pluck may be laid aside for use, as these are all edible. The head, with part of the neck, is carefully cut off (but not skinned) and preserved. The feet are also worth keeping, as "sheep's trotters" make a very agreeable dish with the head, when properly cooked. The meat should then hang where it can cool slowly. This facilitates the escape of the natural odor, and tends much to the longer keeping of the meat. When cold and stiff, the carcass is taken down and divided into quarters, if it is desired to be used in this way; but as the saddle of mutton is the choicest part, it is better to cut the forequarters off, and then divide the other half of the carcass crosswise, so as to retain the saddle whole, and cut the legs apart from t leaving the tail on the saddle.

As to the cooking. The saddle is alway roasted and eaten with currant jelly as flavo ing. The legs may be roasted or boiled, and boiled leg of mutton with turnips is a ver popular dish with shepherds. The roasted sa dle, and legs too, should not be cut crosswi of the bones. This lets out the juice of th meat, and makes it eat dry and hard. Th cuts of the saddle should be made along th back bone, and the leg should be cut lengt wise along with the bone. A knife with shar edge and point should be used. The shoulde or forequarters should be roasted. If chop are desired, the whole hindquarter may b thus cut up down to the small part of the le Mutton chops should not be fried or boile They are exquisite when dipped in beaten eg and dry bread crumbs and cooked in a kettle very hot tallow in a wire basket, now happi to be procured here, but which have long bee in use among the French cooks. The chops a laid in the basket, which is hung in the kett until the meat is cooked; there is no turning scorching one's self over the stove, but th basket is lifted out with a wire hook withou any of the usual inconveniences, drained for minute, and emptied on to a hot dish for th table, where it should be carried at once. Pa of the forequarter may be cut into chops. very nice way of preparing the chops and roast leg is to cut the meat back from end bone before it is cooked, and then wrap the ends with clean white paper neatly fringe when the dish is served, so that the carver the eater may handle them easily and in cleanly manner.

The forequarter may be roasted whole, as when brought to the table the shoulder neatly cut off and laid on the dish separatel to be eaten cold for breakfast or supper. preparing the quarter for cooking the ba bone should be chopped through to ease t carving, and the ribs should also be cut throug half way between the backbone and the th flank. Onion sauce is served with the for quarter as a rule, or stewed onions may served as a side dish; stewed cucumbers a often served with this joint. All mutton f roasting should hang a week at this seaso and as long as may be at other times. T meat will keep in a cool, airy cellar sever days, even in the summer, if hung in a wi gauze safe, but it should never be kept in dish or laid on a shelf, as it will spoil ve quickly. A quarter of mutton hung at th season until it is really tender—which may ta week or more—but not frozen, will have a ve sweet flavor. The neck makes a very tend roast; it is prepared by dividing the bone in cuts with a sharp meat ax, or it may be cut in chops—indeed the whole carcass may be cut i in this way, if the meat ax and saw are used.

Mutton for boiling should not be kept lo or it will lose color. The leg, shoulder a neck may be boiled. The accompaniments f boiled mutton are stewed onions, mashed pot toes and caper-sauce. Nasturtiums pickled vinegar with some horseradish make an e callent substitute for the more costly capers.

The butchers prepare shoulders by takin out the bone, and in this way a shoulder w make a variety of exquisite dishes. One wi oysters is made in this way: The joint is rubb with salt and hung for three days. Then c out bone with a small sharp knife, turni back the meat until bone is out. Mix half ounce of sugar and ground black pepper wi half as much each of cloves, mace and ging and rub over the meat; spread three or fo dozen oysters in the meat, which roll up a fasten with skewers; stew, with some cele and an onion, very slowly for three and a h hours; take out and thicken broth with butt rolled in flour; add liquor from oysters (sav for this purpose) and some more oysters; co for ten minutes and pour over the meat; ser with boiled rice around it in the dish.

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A great number of dishes may be made the parts usually wasted. The heart is stuff and roasted, with slices of fat bacon skewer on to it. The kidneys are stewed—cut in slices and flavored with butter, parsley, a lit onion and cayenne pepper; after ten minu a little lemon juice and cider vinegar (cla wine is better and champagne is best) are adde and in ten minutes more they will be ready

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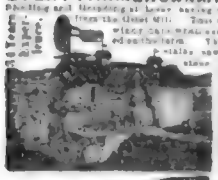

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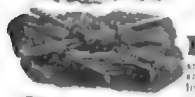

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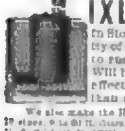

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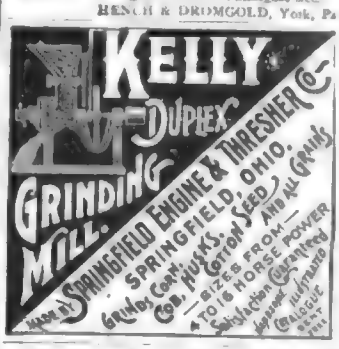

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Black Fly is 15½ hands, jet black, small star, with little white on inside of left forefoot. Has never been trained, but can trot better than three minutes. Is perfectly sound, gentle and reliable in every spot and place. Was sold by ourselves to her present owner, Mr. S. H. Ward of Chatham, N. J., where she may now be seen. The gentleman desires to travel, and has placed her sale in our hands. Price $600. First check takes her.
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MT. HOLLY SPRINGS, PA., Oct. 26, 1888.

We are in receipt of your favor of the 25th inst. We have no copy of the letter to which you refer, and do not remember its contents. We presume, however, it bore testimony to the benefit we had received from the use of "Injectio Vaginæ" in our herd of Jerseys, in which case we could have no objection to your making use of it for the purpose of conveying to our brother breeders any information it may contain relative to the value of your remedy in restoring the generative organs of animals to a healthy and natural state, and overcoming the abnormal conditions which produce barrenness.

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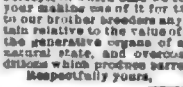

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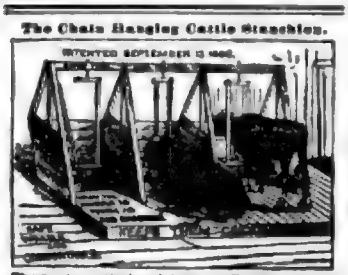

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A. H. GILBERT, Manager Troy Laundry Stables.

EAST, WINTON COUNTY, OHIO, Dec. 10, 1888.

DR. B. J. KENDALL Co.

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THE CULTIVATOR AND Country Gentleman

Albany, Dec. 12, 1889.

Dragging Wheat—Lucern.

EDS. COUNTRY GENTLEMAN—I would say, in answer to S. F. S. (page 879), that it has been my practice for several years to harrow my wheat in the spring as soon after the ground becomes thoroughly settled, and I sow my timothy about the same time I do my wheat in the fall. I use a heavy 30-tooth square harrow; the teeth, on the point, are about like the end of first finger; a very sharp tooth will not do as good execution as a duller one. If the wheat is sown with a drill, then it should be dragged cornerwise, not with the drill marks nor square across; if dragged with the drill marks, it will do but little good, and if square across, it will cover up too much.

I sow my clover seed just before the dragging, my experience being that it does better than when sown after dragging. Since I have been in habit of dragging my wheat I have not failed to get a catch of clover seed, but have had the drouth kill it after it had grown to the third leaf. I could not see that the dragging ever did any damage to the timothy, but a benefit, as well as to the wheat.

I think the smoothing harrow on heavy land would be of but little account; it does not work up the land enough. I give my wheat a good dragging—try to break the top of all the ridges.

I would as soon think of planting my corn and allow it to grow without cultivating, as I would to let my wheat go without dragging in the spring.

I would say to N. P. C. that I think the trouble with his lucern is that he had poor seed. I have had a like experience with it, and I attributed it to poor seed, and since I have allowed some to ripen seed I am convinced that is the trouble. I find that the seed does not ripen at one time; there will be seeds fully ripe, and others in all stages of growth from blossom to ripe seed. To save seed from such a plant one must expect that much of it will be imperfect, and cannot grow.

I have found the best time, to seed with lucern, is to sow in spring, with some other crop, and to sow it after all dragging is done, and then roll it. The rolling is all that is required to cover it. J. H. BAKER.

Cayuga County, N. Y.

Improving Land.

EDS. COUNTRY GENTLEMAN—I have 35 acres of land which has been in meadow for a few years; I wish to have it all plowed and cultivated in corn, oats and wheat, then sowed down again, and wish to make out of it the best possible permanent meadow. (1)

The land is clayish, inclining a little to sand. It is easily cultivated. Five or six acres are benefited by washings from the barnyard, and are quite rich; four acres are in clover, and for some years have been troubled with running briers; two or three acres soon run out of grass, and are infested with a mossy something; the rest is fair clay land. (2)

I have no barnyard manure to spare for this ground before it goes into wheat; can put 150 loads on it then, or if that is deferred, can put 200 loads on it the autumn after the wheat is off. (3)

I have plenty of ground steamed bone, and can use any quantity from now on. (4) Could also get slaked lime (5) if it would pay well enough. The steamed bone shows the following analysis: Reverted phosphoric acid, 12.18 per cent.; insoluble phosphoric acid, 18.60 per cent.; nitrogen as ammonia, 2.05 per cent.

Give me your best advice as to the treatment of this land from now on, so that the 35 acres may bring 100 tons of hay the second crop. (6)

Will subsoiling pay? If so, when ought it be done, and where can the plow be had? (7)

Valparaiso, Ind. E.

1. To produce a heavy crop of hay, two leading requisites are essential to all land, namely, a fertile soil and heavy seeding. This fertility

is to be obtained by a free and judicious use of manure, such as can be obtained, and which is adapted to the particular soil to which it is applied. A copious seeding is needed, so as to give a dense growth without bare spots or streaks.

2. The different conditions here mentioned will of course require special treatment to bring the land into the fine state to receive the seeding of grass, clearing out briers, and possibly the mossy ground may be too wet and require thorough underdraining.

3. In the absence of barn manure, it will be hard to make the ground rich enough to give heavy grass crops; but this result may be partly aided by plowing in green crops and the use of bone manure and lime, which two, however, are of much benefit only on land specially adapted to them. The 200 loads of manure applied in two years will be a light dressing for the 35 acres. Land cannot be made rich without some enriching material.

4. The value of bone can be determined only by making a trial with it. If it has been already tested on your land and proved decidedly beneficial, it will aid in the desired improvement.

5. The same rule will apply to lime, to some degree.

6. If the land is already partly sterile, it will require some years and a sufficient amount of manure and fertilizers to bring it to the productive condition you desire.

7. The value of subsoil plowing is conditional; if there is a hard and rich subsoil, and if a crust has been formed at the bottom of the common furrow in plowing, it would doubtless be of much benefit, or in hard, well-drained land generally, but in deep sand or loose gravel it would be useless. The plow may be had at the large implement stores.

The Restless Habit.

Eds. Country Gentleman—Mr. Stahl is certainly right in his remarks about "the labor problem on farms," but I beg leave to question the value of the remedy he suggests for the trouble, viz., the providing of neat, comfortable homes, with attractive grounds, garden, fruit, cow, poultry, and the joy and advantages of home life to the farm laborers, in the hope to secure better and more stable labor. The very circumstances of the case forbid the realization of this hope. The best laborers are forced by their poverty and not their will to work for an employer, and as soon as they can accumulate sufficient money to enable them to work for themselves, they leave the best home, with all the joys and advantages of home life, to "hustle" on a homestead where they undergo such privations as they would not for one moment submit to as hired men. I have been a constant employer of labor for nearly forty years, and have had a very abundant experience with hired men, and have found the restless habit as general among them as it is with those farmers who have left their eastern homes for the new West during the whole history of America since its settlement with white men. The spectacle afforded by the recent settlement of Oklahoma, the rush to the Northwest, the desire for change which prompts men in comfortable homes, and with the joys and advantages of home life, to abandon all these in the search for something new, with all the drawbacks of an uncertain change, in all parts of the unsettled and settled region, and even in foreign countries, all prove that this restless habit is inherent in the people—doubtless inherited from ancestors who had the same habit and did the very same thing that the majority of Americans do when they can, and when they cannot, pine in an unhappy restlessness and constant but futile search for some better land which it is hoped they may finally reach when they leave the world. And we should not be surprised if men who have no homes in this land of homes feel something like contempt until they secure one of their own, which however lonely and poor it may be, is still a home in which they are independent and are their own masters.

These very words have been spoken to me by hired men who have left their employment by which they were saving money, were provided with homes too comfortable for them to realize; with more privileges than I can enjoy myself; freedom from all care; a garden; pasture for cattle; range for pigs and poultry; fuel free; easy work confined to regular and moderate hours; and pleasant and agreeable treatment; with pains to teach them the best ways of working; many gifts and kind services when any of the family were sick; and no reduction of wages when casual sickness kept them at home; and who left and hired rented farms or bought themselves land to clear and lived actually worse than their hogs, in the rudest huts, with harder and endless work; and took their wives and children into absolute wretchedness, to become their own masters, and have a piece of their own. One man recently left me without a word of notice in the middle of a day, to whom I had given a good suit of clothes and shoes which he would not buy because he was saving money, and is now wearing them out to rags at the beginning of winter, and living in a cabin into which I would not turn my calves for a shelter. But he can walk to the village when he feels inclined and can work when he has a mind to, and loaf when he feels like it, and is his own master. Truly "freedom has a thousand charms, that laborers however contented never know;" and with "freedom's soil beneath their feet" men will suffer privations and labors which no hired man would submit to from an employer.

This is human nature. It is an instinct, and cannot be controlled except by long education and inherited disposition, and we must make the best of it we can. Probably there have been no men so thoroughly bred and trained to work as servants as the English and some of the European farm laborers, who have lived in the same service for several generations, but even with them this instinctive sense has broken out, and one such man, who had left his home in England, once remarked, when I expostulated with him for leaving a good place where he had at command the joys and advantages of home life but wanted to leave to make a home for himself on a western homestead, that "service was no heritage," a common adage that speaks volumes on the subject, which Mr. Stahl so well treats in his communication (page 857). What are we to do? I have no suggestion to make but the homely one, to "grin and bear it." Perhaps it is part of our vocation in life that those who can are mere helpers of those who are less able to struggle with life's possibilities, to teach them, to educate them, to show them how they can fill their place in the world, as the suffering progenitors of a race who will soon rise in the world and help to found new homes, that in time will be occupied by employers of the same kind of man, and who in their turn will go through the same experience. As "no man liveth to himself," but is a servant to his race, it seems as though we are all to be burdened with the care and loss and labor of fitting other men to advance in life through a painful exodus, which natural laws oblige them to undergo for the sake of posterity. Some of the best men now living were once in the bonds of restless service, and had they not felt these too irksome to be borne, the world would have lost something.

I once, when visiting England, met the renowned Paxton who became a baronet (Sir Joseph Paxton) and was the architect of the famous Crystal palace, who told me of his history—how he left a situation as a gardener carrying his shoes slung over his shoulder, and walking barefoot, to seek a better fortune and became in time the superintendent of the great estates of the Duke of Devonshire, and the vast gardens and grounds of Chatsworth, renowned through the world. But he was still a servant, and his innate restlessness caused him to leave his grand position to work for himself, and to become one of the most useful men in the world—a noted architect who designed the grand mansion of Baron Rothschild at Ferrières in France, then organized the English army work corps in the Crimean war; became a member of the English parliament, in which service—service still—he died honored and revered as one of the most useful men of his age. He might have had the "joys and advantages of home and family life" so well described by Mr. Stahl with garden and fruit, and cow and pigs and poultry, and have died unknown, and the great Chatsworth conservatory, the Crystal palace and the first of the list of great international exhibitions which have been the world's wonders, and his eminent services, would all have been lost to the world. And it was a very humble friend who first taught him, when a servant, the way to start on his great career, and who no doubt, in losing his service, thought the young man was making a very great mistake in leaving his employment, and was putting him to great inconvenience.

Taking this view of the question, I am led to think that it will never be solved in our way; that farmers will never, in our time, have any better or more stable labor than we now have, and that we must meet the circumstances in the most patient and pleasant way we can.

Henry Stewart.

Notes from Central Illinois.

Eds. Country Gentleman—The weather for fall work has been simply shocking—cloudy and rainy nearly all the time. I never remember seeing so many cloudy days in so short a space of time. Fall work has been much impeded, excepting the plowing, which is finished, as there was much time when nothing else could be done. The ground has been in excellent condition most of the time. We shall not be as much bothered next spring with cut-worms as in the two preceding. In the springs of '88 and '89 the worms made sad havoc with most vegetation that appeared before June 1, but the falls previous were so dry that plowing was next to impossible. Wet weather and fall plowing seem to keep them in check. We have had five days of fair weather to husk corn in, until day before yesterday, when a wet snow began to fall. To-day the wind changed to north, and was cold, the snow drifting badly. Hard on corn-husking and live-stock.

Three-fourths of the corn is still in the field, and the present outlook is very discouraging for finishing it. In many fields the ground is so soft that full loads cannot be hauled out. Corn is quite soft and seppy, owing to the wet, cool weather and early frost; the bushel average is fair, but the quality poor, indeed.

Many farmers who wanted to clean out and deepen the open ditches in their fields have been disappointed by the wet weather filling them with water. The two or three dry seasons we had previous to this have been disastrous to open ditches. Weeds, grass and willows have grown up in them and choked them. Cleaning out an old ditch is a bad job, especially when left so long; if they are properly worked in dry weather, they will take care of themselves in the wet—but few of us succeed in doing everything in time, and that is the farmer's "besetting sin." Extremes of dry and wet weather and the high price and poor quality of paid labor, together with the low prices of farm products, are some excuses for the omission.

Live-stock prices are very low just now, especially for cattle and hogs. At a recent sale of Short-Horn cattle in this county, good year-old heifers sold for $15 per head; butchers are paying $3.25 per hundred for fat cattle; fat hogs are now $3.25. There is a good demand for store hogs and feeding cattle, but the prices offered are quite low, ranging from $3 to $3.50 for the former, and 2½ to 2¾c. for the latter. More cattle are being fattened this winter than for several years past, owing to the low prices of both cattle and corn, and to the fact that the corn is soft, and better adapted to feeding cattle than anything else. Summer feeding for both cattle and hogs is getting to be the rule now, feeding grass and corn together. New corn is selling for 20c. for large lots; small lots bring 25c.

I have at last reached a point aimed at for years, and that is, to have shelter for every animal on the farm. The saving in manure and feed will soon pay for barns and sheds for all stock. I have been experimenting on keeping cows tied up in cold weather—something that is not practiced in this locality, except in dairy herds about cities and towns. Knowing nothing practically about it, I made my stalls five feet wide, same as stalls for horses, and haltered the cows up same as the former, but soon found this would not do, as the cows would turn around in the stalls and drop the dung up near the manger. I then reconstructed the stalls and made them only four feet wide, which was an improvement; the cows could not turn in them, but it was very inconvenient to milk the large cows, there not being room for both cow and milker in the stall; the floor, which was an earth one, would get muddy, and the cows would get much soiled with the droppings. I next tried placing a pole about four inches in diameter just in front of their hind feet. This worked well with part of the herd, but others would not lie down until compelled to by fatigue, and then they would lie on top of the pole. Wishing to learn more on the subject, I went to an old German neighbor, who kept his two or three cows tied up. He gave me a nice talk, and showed me how he kept his in double stalls, two cows in one wide stall, one chained to either side; he said that the cows would soon get so they would drop the manure in one place, but turn nearly half way round and lie down in a clean part of the stall. A few weeks later, passing his farm in pleasant weather, I saw he had turned his cows out to exercise, and their hind quarters were caked with dry manure about an inch thick. I have never seen any cows that were fastened up that kept clean.

I have now torn out the stalls and put in stanchions three feet apart, with a floor made of inch pine, double-laid, so as to break joints, with a gutter behind the cows for the droppings. I first made floor 4 feet 8 inches long, but found that to be too short, as the cows stood with their hind feet in the gutter; tore it up and made it 8 inches longer. They now stand on the floor, but drop part of the manure on the floor, and part behind the gutter, on the walk. Cows vary in length so much that it is difficult to make a floor and gutter adapted to a herd of half a dozen or more. I should like to keep up cows if I could hit on a plan to keep them clean, but they seem determined to be slovenly in spite of all one can do. The ceiling is about the only part of our cow stable that does not get smeared with manure, although cleaned thoroughly twice a day. I dislike to go out to milk and find a cow's udder, teats and hind quarters covered with manure; it takes half an hour and a pail of water to get one decent enough to milk, and the odor adheres to one's hands for hours, regardless of soap and water. While a great lover of milk and butter, I never touch any away from home, even if on the tables of persons known to be neat, as too often they trust the milking to hired hands, and an intimate knowledge of the ways of most hands would deter me from drinking the milk they had drawn.

Winter apples are scarcer and higher than for many years; good ones are as high as $2.50 per bushel. Potatoes, 25c.; onions, 50c.; wheat, 70c.; oats, 18c.; eggs, 15c.; butter, 12½c.

Mercer County, Ill., Nov. 28. A. N. Curry.

Southern Corn for Ensilage.

Eds. Country Gentleman—Mr. Gould advises to plant southern corn for ensilage. He planted B. & W., and to prove it best, refers to the Wisconsin Experiment Station reports. Not every reader of your valuable paper has the reports, and so I take the liberty to quote Prof. Henry in the same—vol. 5, page 9: "Large sweet corn gave 26,960 lbs. per acre—6,369 lbs. dry matter, 783 lbs. protein; the B. & W. corn, 47,040 lbs. per acre—8,326 lbs. dry matter, 851 lbs. protein. In Bulletin 19, the B. & W. corn stands 6th in value out of 9 samples, with 39,600 lbs. of green corn per acre—9,008 lbs. dry matter, 1,329 lbs. sugar, and 474 lbs. protein. The southern Horse Tooth is first, the Smedley dent (a northern variety of dent) second, with 33,570 lbs. of green corn, 10,160 lbs. dry matter, 1,893 lbs. sugar, and 639 lbs. protein.

Prof. Henry says, in Bulletin 19, p. 17 (not speaking of the B. & W. as you will see): "Although the southern ensilage is slightly ahead of the Smedley dent in actual pounds of dry matter produced, the greater maturity of the Smedley would place it second in the list if ranked according to feeding value. While the above figures would indicate, that the sweet and flint corns were of rather low value for the silo, yet we must take into account the fact that the summer of 1888 was exceptionally favorable to the growth of the southern and adverse to the northern varieties. Another season may reverse these figures, especially if it is a cold, rainy one."

After opening silo, Prof. H. says, p. 20: "With B. & W. corn in one case, the water reached 88 per cent. with 1.16 per cent. of acid. There is therefore not only the extra labor of handling an excess of water into and out of the silo, but also the production of an inferior quality of ensilage, when watery immature corn is used. Surely in these figures we read a strong argument in favor of matured well-grown fodder corn for the silo."

As far as I have seen, of the corn planted for ensilage in this State (Wisconsin), there is not one-third the B. & W. planted that was planted last year. My own corn for fodder and silo consisted of B. & W., yellow dent and flint corn side by side. My cows, fed grain all summer, had some of each variety when fed this fall. They would eat the flint and dent corn

with rest; when fed the R. & W. would stand looking into the field longing for the other, and only the fact that they could not have anything different would make them eat a little of it. V. Lown.

Jefferson County, Wis., Nov. 25.

National Farmers' Congress—II.

Judge Lawrence spoke on "The Wool and Mutton Industry of the United States." He said:

The people of the United States annually consume for use in all forms about 600,000,000 lbs. of unwashed wool. In January, 1889, we had 42,599,079 sheep, producing about 240,000,000 lbs. of unwashed wool. According to custom-house returns, during the fiscal year 1889, we imported 29,266,317 lbs. of clothing wool, 6,689,871 lbs. of combing wools, and 90,391,541 lbs. of so-called carpet wools. The imports of combing wool are equivalent to 12,000,000 lbs. unwashed, and clothing wool to 35,000,000 lbs. unwashed, and of carpet wool to at least 150,000,000 lbs. unwashed. The imports of "rags, shoddy, mango, waste and flocks," aggregated 5,662,209 lbs., and there is evidence that nearly all of these imports consist of "waste;" and this "waste" is a swindling term, for "waste" is a highly purified article of scoured wool, one pound of it equivalent to three pounds unwashed Merino wool. Hence the import of waste, mango, &c., is equivalent to 26,000,000 lbs. unwashed Merino wool—more than is produced by the 4,000,000 sheep of Ohio.

The custom-house value, or under value, of worsted and woolen goods imported in the fiscal year 1889, was $32,564,942—equal to $80,000,000 of our wholesale prices, and requiring for their production 130,000,000 lbs. of wool.

In 1880—the latest reliable figures obtainable—the capital invested in, labor employed by, and product of wool industry, were—

Capital in lands, barns and equipments	$320,291,288
Capital in sheep, their valuation	119,402,766
Number of flocks and flock masters, 1880	1,020,726
Men employed by flock owners	100,000
Total value of wool produced annually	$76,000,000
Value of mutton and pelts annually	26,000,000
Wages 100,000 hands at $20 per month	24,000,000
Allowance to flocks masters for services	60,000,000
Cost of washing, shearing, &c.	5,000,000

In addition, the industry employed men to clear, fence and cultivate lands, provide food for sheep, and to erect barns; and it patronized lumber and hardware dealers.

As a cheap and healthful food, good mutton has no equal. A single mutton sheep can be consumed by one family, but a whole beef cannot be so disposed of while it remains suitable for food. Our people consume annually about ten million mutton sheep, of which we imported during the last fiscal year 393,891. If sheep husbandry is much reduced, the cost of meat food will be enhanced.

The sheep in the United States in 1880 required 12,000,000 acres of land. Much of this was unsuited for cultivation. Sheep husbandry will utilize hill lands, mountain sides, and other lands which cannot be otherwise utilized, and will make a demand for hay and grain produced on other lands, for which there will not be a market if sheep husbandry is allowed to decay.

Many of our farm lands have become partly exhausted. Sheep-growing would improve these lands.

We can produce all the clothing, combing and carpet wools we need. This would require 160,000,000 sheep. An increase of 50,000,000 would utilize 12,000,000 acres of land now idle; give employment to 180,000 men and boys; distribute $45,000,000 annually in wages; and add to our tax lists to share the burden of taxation, in value of sheep, $100,000,000 and in enhanced value of idle lands utilized, $60,000,000. It would add to the value of every acre of arable and pasture lands in the United States, give work to every idle carpenter in the land, increase the business of merchants, increase freights for railroads, and cheapen the meat supply.

The southern States have an immense area of pasturage unoccupied. In the South, Bermuda grass is the equal of blue-grass in the North; Johnson grass in the South is more productive for hay than clover or timothy in the North. In the South sheep require at most only two months winter feeding. Unless the States of the South utilize a portion of their lands with sheep, immense areas must be for a long period unused. The world's supply of cotton can be grown on less than seven per cent. of the area of Texas.

There is not a State in the Union that has not some of its wealth invested in sheep husbandry which can be conducted, not only on cheap lands, but, in some forms, on high priced lands. The prairies and plains of the West and Southwest will in time graze mutton sheep to be fattened on the grains and other foods of the older States.

We can produce all the carpet wool we need. The coarse wools from any section may be used for carpets. The carpet-wool product of the United States is almost exclusively the fleece of sheep of Mexican origin. Texas and the Territories can supply the carpet mills of the country. The native carpet-wool sheep, slightly improved, will increase more rapidly in numbers than any other; are more hardy, require less care, and can be kept on lands where clothing and combing-wool sheep cannot. The Department of Agriculture says the South should undertake at once the supply of all the carpet wools required by our manufactories.

We should manufacture in the United States all the woolen and worsted goods required by our people. The destruction of our wool-manufacturing industry would be a calamity. Owing to the great expansion of carpet manufacturing in this country in 1870, the import trade in carpets collapsed, our markets found a better supply and at a lower price than the English mills could send here, and we gained a large immigration of skilled workmen in all branches of the woolen industry.

We must shut out the importation of foreign mutton and foreign wool. Why should we patronize foreigners and send them our money, when our own citizens ask our patronage, need the money, and stand ready to supply all wants?

The address following the one by Judge Lawrence was delivered by Mr. Scott of Illinois on "A Word of Encouragement for Farmer's Boys," and this by a short and very interesting paper on "Capabilities of Southern Agriculture," by Prof. Newman of Alabama. The cotton planters, he said, throw away the greater part of the value of their crop. If they had live stock to consume the cottonseed, and returned the animal's manure to the soil, they would get twice as much from their crop. He conceived that the first duty of the farmer was to make a living for himself, family and animals, and then an excess to sell. The South is just as good a grass country as is the North, but southern planters fight instead of encouraging grass. In Alabama fall rye can be cut every month during the winter. The South should have more sheep. On Bermuda grass pasture hogs will keep in good condition without grain, and on it sheep will live summer and winter.

Mr. Powell of Pennsylvania spoke on the influence of climate and breeding on animals. It was decided to hold the next meeting in Iowa, the place to be decided on by the Iowa delegates with the understanding that in 1891 the congress should meet at Richmond, Va.

About 300 delegates were present. The delegates were for the first time appointed by the governors of the States. Each State is entitled to as many delegates as it has members of congress. Of the three or four States not represented in the congress, New-York is the only considerable one. Why was not New-York represented? Ever. Maine had a full delegation. The congress was largely composed of able men—a heavy sprinkling of judges and ex-congressmen, and members of State legislatures were thick; the rest of us were colonels or generals—after we got there. Plain misters are mighty scarce after you get South. We were kindly and generously entertained, and brought home with us many pleasant memories.

John M. Stahl.

The Kelly Feed Mill.

In a mill intended for grinding feed the following constitute the essentials:

First—It must cut up the material to be ground, into small, fine particles. The object is to enable the stomach of animals eating it to appropriate all of it so that none of it is voided in the dung and wasted. If the grain is so cut up into minute particles of uniform size, the greatest possible surface is thus presented to the action of the digestive fluids in the stomach of the animals. Most mills crush a part of the grain or material into a pulp and leave the balance in coarse particles. Mills of that kind are not to be accepted as good grinding mills.

Second—It must do the work with economy to the power.

Third—It must do it rapidly so that the largest possible quantity may be ground in the shortest possible time.

Fourth—It must be able to grind successfully all kinds of grain and grind uniformly well.

Fifth—It must have a regulating device by which the operator may easily, and without the loss of time or *consumption of power*, regulate the quality of the grinding.

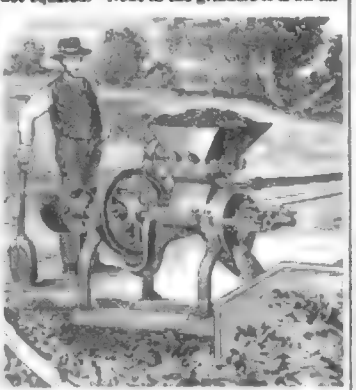
It is claimed that the Kelly Duplex possesses these qualities in a preëminent degree. Its claims for superiority over other mills rest on the following points:

(A.) It has a double set of grinders, or burrs, which present double the grinding surface of any other mill of equal size, and is thus enabled to do double the amount of work.

(B.) The whole (or practically so) surface of these double grinders or four burrs is utilized in the grinding, and none of it is really lost, as is the case with all other mills with their large single set of burrs.

(C.) The nearer the grinding is done to the running shaft, the less the consumption of power. This is very noticeable in the Kelly Duplex. Its burrs are small, compared with those of any other mill, and the work of the grinding is done so much nearer the centre of the shaft that a great deal less power is required to do an equal amount of work.

(D.) The regulating device of the Kelly Duplex acts with a promptness and efficiency not equaled. Next to the grinders it is the important feature of the mill. By it the quality of the grinding is easily regulated and the uniformity of the meal absolutely insured, for when the mill is once set to grind a certain grade of meal it will produce that grade until changed. The *change* in the grinding is effected *without friction* or heat, so that the danger of injuring the meal when grinding fine, so common to other mills, is not present to the Kelly Duplex.



New-York Farmers' Institutes.

Plattsburg Meeting—Horse-Breeding.

In answer to the question, "Can horse raising be made profitable?" Prof. Sanborn said: It is common to charge twice as much for pasturing a horse as a cow or steer. It does not cost this difference. A pound of horse can be produced as cheaply as a pound of steer, and it ought to be worth a great deal more. This has been proved to be so by carefully weighing the food of each.

Col. Curtis—New-York is specially fitted for raising horses, as its grasses and the water (the natural conditions) are favorable. Horses reared in New-York have 25 per cent. more value for wearing out than those coming from the West, as they have better bones, joints and feet, and these give them more staying qualities. The great markets are near us. Why should we not take advantage of these blessings? The next thing is, to find out the class of horses wanted. The common horses, called in the markets "car-horses," are now at a discount and will be, as so many car lines, with long distances and not too high grades, are using electric motors instead. It is true that there is a demand for 1200-pound horses, with fair action, not lunkheads, for foreign army use in the cavalry and artillery service. Why cannot New-York State farmers go into the business of supplying this want, and so reach this market, which will continue in the future? Great Britain has made a vast empire of herself, in commerce and trade, by improving and sometimes making opportunities for trade. We may imitate her example, and make New-York the great mart for these horses, and so have another opening for agriculture—and in the line of fertility, as these colts can be made factors for making manure. We can utilize our mares in summer at work on the farm and as mothers in the winter. The time to start is now, and if any one has a good mare, take measures to rear a colt from her next autumn.

Mr. Woodward—There is too much loss in our present way of breeding horses, with thousands of mares "eating their heads off" in the winter. They should rear colts in the winter and so pay for their keeping. There is no trouble about it with warm box stalls, and these can be made readily.

Mr. Converse—I have had experience in rearing horses, and I know it is a profitable business. We have had half-blooded Percherons, and now we are breeding French Coach horses. I think there will be more demand for them than the regular draft horses.

Malone Meeting—Sheep Husbandry.

Paper Read by E. G. Whitney.

The sheep seems to be one of God's best gifts to man of the animal creation, furnishing both food and clothing; its habits and disposition so simple of wit, harmless, gentle, confiding and intelligent. A natural shepherd cannot be a harsh man. But why keep sheep? Because it is both pleasant and profitable, because there is a constant and increasing demand for both wool and meat—one, the best material for the clothing of the human family, and the other one of the most delicious and nourishing articles of flesh food in the world. Every season there is a demand for both sheep and lambs, and the question is often asked, Why are not more sheep raised? Too often the answer is, Because there are too many worthless dogs prowling around, day and night, so that no flock is safe unless closely sheltered or watched. In some countries they are carefully tended by day and gathered into a safe fold by night. The same might be done here with advantage, for in every branch of industry it pays to be careful, thorough and master of the situation. In raising fine horses, it is not considered extravagant to spend time, labor, money, care and feed, to accomplish a desired end. It will pay as well in the case of sheep. We seldom see a man or family so poor that they cannot keep a dog, and the rule is, the *poorer* the family the *more* dogs, half starved, and the result is, those of us who have sheep must contribute mutton and lamb to feed those hungry dogs. Let those who prefer dogs to sheep have them, *keep them in their place*, and give the owners of sheep the privilege of protecting them. Surely we must all agree that here is a case where a protective tariff is needed. But our legislators seem to be as wise as serpents and as harmless as doves, when they come to deal with sheep-killing dogs. I have great respect for the dog, and admit that he is often a noble animal and a faithful friend, yet when we remember the awful tax that we as a nation pay to support an *army* of dogs, and not one in one hundred is worth his keeping, we conclude that it would be far better for us as a people to keep more sheep and fewer dogs, keep something that would feed and clothe children, drive want and misery from the door.

Another advantage in keeping sheep is the fact that while they prefer the sweet grass for their principal food they still like a variety, and will eat many kinds of weeds and shrubs, and thus exterminate them from pastures. This is true of thistles, milkweed, daisy, yellow dock, raspberry bushes and others. In this respect they are surely the farmer's friend, helping to conquer the weeds.

One man has a bale of hope. They may have a nominal value in dollars or cents (with the exception of this year) when they have cost more than they are worth, but no one uses them for food or nourishing drink, no one wears them or receives any direct benefit from them. Another has a fleece of wool; there is warmth, comfort and happiness tied up in that soft bundle, and when mother gets out the old-fashioned spinning wheel and plays a few tunes on it the knitting needles are brought into play, and how happy are both younger and older children from the blessed product of that one fleece of wool. We almost involuntarily exclaim: "Lord, bless the sheep!" But some one says if we all keep sheep there will be a dangerous surplus, more supply than demand. Never fear. See how much we have to pay for articles manufactured of all wool. See how much shoddy, the very dust and shadow of real wool, is sold and worn, and then you will see how much better it would be to have more genuine wool, and more sweet nourishing meat for the poor industrious workingman at prices he could afford to pay.

Still another reason for keeping sheep is found in the fact that it is one of the surest and best ways of enriching the soil, keeping our farms in good condition. The quality of the manure, and the form or manner in which it is applied, render it one of the real sources of profit in our stock account.

We are told that we, in Northern New York, cannot raise and fatten a bullock without loss, when we have to compete with our western farmers, where they can do it so much cheaper. I can hardly believe this is so, and yet it may be. Many of our dairymen have become discouraged in view of the low price of dairy produce, and here we have another reason why it would be well to try sheep. With regard to kind or breed of sheep, we think that for our locality, in this county, the larger breeds which produce a fair quality of wool, a good average fleece, and raise one or two lambs each season would be the most profitable. Where wool is the principal object, the Merinoes are without doubt the sheep. Some have tried this kind and given them up in disgust, but our friends in Vermont and other States

which rank well in wool or sheep, will show us that they are not an inferior breed.

In this section we are of opinion that the larger or mutton sheep, in moderate-sized flocks, well cared for, would be the most profitable.

Buildings for shelter need not be expensive, nor should they be made too warm. They are protected by nature from the inclemency of the weather, and the quality of the wool will be improved by being kept in comfortable rather than in too warm quarters. They need exercise in the open air, and would be benefited by a ramble in the open field occasionally on fair bright days, when they will find the ground and a stray spear of grass under the snow. No animal is more benefited by a grain ration than the sheep, and oats, peas, beans and barley are all excellent for them; potatoes and roots in moderate quantities, in moderate weather, are also good. Corn may be fed to fattening sheep, but not to ewes with lamb. These should be kept in warm quarters at the time of having their young, and much care is necessary at this time. And when they are turned out in spring comes the educating period; when the fences should be looked to, and not allow either young or old to learn the habit of crawling or jumping, in which case your flock is ruined and may as well be sold at once. Sheep like children are creatures of habit, and if well trained are a great blessing, or if otherwise a great curse.

Keep only what you can keep well, and cull out the poor or inferior. Keep only the best, especially to breed from. In this way you will find more profit, more pleasure, more food, more clothing, more successful crops, less weeds, more sheep, fewer dogs, more market and more money in sheep husbandry than in some other branches of modern farming.

N. D. C.

Notes from Western New-York.

ED. COUNTRY GENTLEMAN—While the mean temperature of October during the past four years has gradually fallen from 49° to 39°, the mean of November has risen from 33° to 37° in the same time. The mean of November in 1886 was 39°; in 1887, 33°; in 1888 and this year, 37°. The first half of the month was made up of nice, autumn weather, giving farmers a fair chance to bring up any arrears of farm operations. On the 18th a change came o'er the scene, when on that and the next day we were treated to a rainfall of 2.90 inches; since that time rain or snow has fallen almost every day, giving us a further supply of nearly two inches. Snow made its first appearance on the morning of the 27th, in the shape of a blizzard from the east, while the rain, snow and slush on Thanksgiving day rendered any enjoyment of the holiday out-of-doors impossible. November made its exit with "winter" written in the sky, in the air, and on the ground.

It required scarcely 48 hours of steady cold to reduce the soil temperature, at four inches deep, from 43° to freezing point on the 16th, though the freezing was not sufficient to prevent the use of the plow toward noon; the following week the temperature underground rose only to be reduced again by the cold weather during the last few days of the month. It looks as if we should keep below the "forties" from now until next spring. I intend to follow the range of freezing point underground through the winter.

Depth.	Nov. 1.	9th.	15th.	21st.	30th.
4 inches	49°	42°	37°	34°	34°
8 do.	49	44	41	38	36
8 do.	49	45	36	42	37
20 do.	49	46	37	38	38
12 do.	49	46	36	44	39
Mean tem. of air..	41°	39°	35°	39°	31°

Wheat has not gone into winter quarters promising as well as it did last fall, when it was, in this section, a sight to cheer the heart of any farmer. Owing to the difficulty in making a proper tilth for the young plants they could not gain headway sufficient to enable them to thoroughly cover the ground, giving the fields the appearance of being covered, as last year, with dark green velvet. Notwithstanding the excellent opportunity offered both as to time and season, very little fall plowing was attempted; should we be visited with much more rain this autumn the soil in low places will be in a very sodden state for early cultivation in the spring. I kept the plow going eight days, and had only just struck out a fresh land on the morning of the 16th, when the rain called a halt, which proved to be a permanent one for this year. Among other pieces plowed up was an acre of Kittatinny blackberries, planted in 1883. This bed has not proved a paying one; for two years I was bothered with rust, and in two successive seasons just at time of berries ripening a dry spell came on making light crops, so that I have had only one really good one from it. Considerable labor is required for their successful culture as well as a good temper, the canes being utterly regardless of the feelings of man and horse if roughly interfered with. The rows were seven feet apart, with wire stapled to top of stakes, three feet high, on each side of every row. The old canes were cut off directly after fruiting, and the new ones cut back to from four to five feet in length, with laterals shortened to about 15 inches; this was done with a Waters' tree-pruner, having a handle 5 feet 6 inches long. With this same tool I trim all my red and black raspberries, currant bushes and small trees; held with the left hand not far from the knife, with the right hand working the lever handle, some rapid trimming of raspberry or currant bushes can be done.

I anticipated some trouble in clearing and plowing up the Kittatinny patch, but was agreeably disappointed. After drawing out the staples with pincers and pulling up or breaking off the stakes, I took the ends of four of the wires (two rows) and fastened them on a flour barrel, letting them run between two rows of a manure fork stuck in the ground two or three yards in front of the barrel; then, by revolving the barrel, I drew out the wires from the rows and they were thus neatly coiled on the barrel; in this way I put eight wires on each barrel (nearly half a mile of wire) and now have them in convenient shape for any future use. The rows were one hundred and six yards in length. The plowing was stiff, but nothing more. The suckers between the rows gave little trouble, and by first plowing close to the row without disturbing it, the stools were dislodged and buried before they knew it; the couch grass which had gradually been gaining ground in the rows for the last two years made harder plowing than the berry roots. The canes were cut off with the heel of an ordinary scythe. I propose planting beans of some kind on this acre of land next year, which will enable me to keep down the weeds which I must expect. The following spring, I shall devote the heavier and stiffer half to black currants and the other to red ones; the latter to succeed the one thousand bushes now between the young apple trees, and which will soon have fulfilled their mission; the former to help meet the increasing demand in Rochester for fruit of this variety. A large Rochester canner told me this summer that he wished black currants were much more generally grown, as the jelly made from them was becoming more and more inquired after. In England this jelly is highly prized, and kept in most families for use in cases of cold and sore throats. Despite its peculiar odor and flavor it is the richest and nicest jelly made, and when once well introduced will hold its own against any other.

The black currant is as easily raised as the red, only requiring richer soil; unlike the red, however, which fruits on wood not less than two years old, it bears fruit, and the best, too, on wood of the year previous, so that care should be taken to induce a good and constant supply of young wood by cutting back that which has already borne. I am uncertain as to whether it is exempt from the attacks of the currant worm, but will make sure, if possible, next season, as I hope to have some bushes in bearing. I remember, years ago, feeding silkworms on its leaves to obtain a darker silk. The mulberry leaf was the general food, but by feeding lettuce or black currant leaves a lighter or darker shade of silk could be secured.

Wheat is still quoted at 89 to 85c. per bush.; oats also remain at 28c. to 30c.; corn has advanced, being quoted at from 53c. to 55c. Hay is rather lower than last month, being now $9 to $15 per ton; oat and wheat straw $6 to $8. Potatoes are selling at from 45 to 50c. per bush., an advance of ten cents on last month. Cabbages are realizing $4 to $4.25 per 100 heads; onions 60 to 65c. per bush.; new dairy butter, 18 to 20c. per lb.; eggs, 34c. per doz. Western apples are selling in Rochester as follows: Ben Davis, Greening and Baldwin, $2.75 to $3 per bbl.; King, $3 to $3.25; other varieties, $2.50 to $3. Duchess pears are worth $1.25 to $1.50 per bush. Beans, medium, are quoted at $1.50 to $1.60 per bush.; marrow, $2 to $2.10; pea, $1.60 to $1.75.

Turkeys were unusually scarce in Rochester at Thanksgiving, and our dealers were driven to their wits' ends to know how to supply their customers. Buffalo, Medina and other places were appealed to for help, but were found to be in much the same plight. The birds are plentiful enough in this vicinity, and the only plausible reasons that can be given for their failure to reach the market are the abominable state of the roads and the dread by the farmers of a repetition of the low prices realized of late years—rarely more than eleven cents per pound. This year the dealers paid sixteen cents, live weight.

I was glad to see in the COUNTRY GENTLEMAN of Nov. 7, such a goodly list of farmers' institutes appointed to be held this winter. Last spring Brockport, in this county, was favored. Our nearest points from here (Rochester) this year are Albion in Orleans, Lyons in Wayne, Geneseo in Livingston and Le Roy in Genesee. With such a large territory to be covered, it is impossible to reach all places anxious for a visit, and it must have cost Mr. Woodward much labor and trouble to arrange such an excellent campaign as a study of the list will afford. All farmers and others interested in this and adjoining States, should ascertain their nearest points and then, on the dates appointed, "get there."

Monroe County, N. Y., Dec. 3. J. H. C.

Our Illinois Correspondence.

CHAMPAIGN COUNTY, Dec. 8.

We had a sharp spell of winter a day or two before and after Thanksgiving, with 3 inches of snow. Since then the temperature moderated, yesterday and the day before were fair and fine, and the snow left in a hurry. To day is cloudy and foggy, there is a northeast gale, and indications of a snowstorm remote, and likely to be here before sundown. The snows and quite severe cold of the last week in November were rather an unusual beginning for the winter season, though after such early beginnings there is pretty sure to be a two or three weeks' term of moderate and thawy weather some time about midwinter.

I do not recognize any material change in the agricultural situation. The prices for corn and the small grains remain as they were, and with only slight fluctuations in the stock market. In towns a trade prostration and small and unprofitable sales respond to half crops and half prices, and in the country there is so much despondency over the gravity of the present outlook for the future, as in a manner to paralyze schemes for future improvement.

Under these conditions we are not surprised to learn that an English syndicate has been formed to buy up these Central Illinois lands that the despondent farmers are ready to part with at anything like a reasonable figure, where they hold a clear title, and at prices far from reasonable on the wrong side for the proprietors, where a trust deed or a cut-throat mortgage threatens to clutch the whole, even the equity. If, after getting possession, the English syndicate should sell to English emigrant farmers, the State could hardly be the loser, since those of that race are among our best cultivators and citizens, and for the most part the more prosperous and the wealthiest. At any rate, if an English or some other combination of capital does not take these farms as fast as they are offered on the market, representatives of the Germanic and Scandinavian races will, so that the central counties will become as nearly German colonies as some of the southern counties—St. Clair, for example—or be possessed by a population as nearly Swedish and Norwegian as many counties in Wisconsin. It is not an agreeable outlook for the present representatives of the early settlers in Central Illinois, who came largely from the slave States, to be made to feel that they are now small in numbers and, less than that, in influence; nor is it more satisfying to the second immigration from New-England, New-York and Ohio, which appeared contemporary with the construction of the Illinois Central Railroad between 1850 and 1860, to find themselves outnumbered and outvoted, and likely in the not distant future to be forced out of the country by shorter races, who by working harder and more hours manage to save more and spend less. Late visitors abroad who have traveled over portions of the United Kingdom, France and Germany, speak of the homogeneousness of the people, as if they were all of one family or nearly related. Nothing can at present be further from a similar state of things in Illinois. The population is heterogeneous, and to the extent that if twenty men or women in an average neighborhood were to come together, fifteen States and countries would be represented, and in these the descendants of the Pilgrim and the Cavalier would cut a small figure in numbers, if not in wealth and influence. But there is one thing certain, however races may come or races may go, the deep, rich soil, the fruitful climate and the nearness of the market, will continue to contribute to make Central Illinois one of the favored agricultural sections of the world, and possibly it may become a century later a second valley of the Nile, where the lands to the east and west have been sterilized by centuries of exhaustive and unscientific farming.

There is a paragraph occasionally seen here and there in the agricultural papers stating how the crops on the best blue grass land in Kentucky having failed to make anything like the old-time yields, the suggestion is offered that these lands need tile drainage, and nothing more, to restore them to their old-time fertility. How any one who has been over the blue grass lands and noticed the contour of surface is such that it is hard to find an acre of upland that is perfectly level, and that the natural surface drainage is complete, could suggest underdrainage, for a renovation of the soil, it is difficult to understand, unless in the minds of the advocates of open and tile drainage, this is the sole and universal remedy for sick lands, as seventy-five years ago, calomel, bleeding and blistering were the cure-alls employed to mitigate the sufferings of diseased humanity.

But there is a more satisfactory solution of these failures of blue-grass lands; the crops taken off have been too closely confined to three or four, and have left poisonous secretions in the soil which gives less yield than the present fertility would logically account for. If this than is the case, there can be no better practice than to introduce a general system of rotation, in which timothy for a time should take the place of blue grass, alfalfa that of clover, leaving it to the ingenuity of Kentucky farmers to learn how to renovate their lands long given over to hemp, tobacco, corn, oats and wheat, and by other crops, perhaps not as profitable as these, except as they have become necessary as amendments.

The "American" Fat Stock Show.

What is the propriety of this name for an exhibition, that has less than 200 fat animals to represent an industry confined to no State or Territory, and one that amounts in dollars to hundreds of millions? Again, why should an exposition, the whole work of which could be done through in three or four days and the work done well in that time, be stretched to near two weeks, and especially since not a single one of the shows has paid on its own account, and therefore extension of time is an increase of the loss? Further; the show was organized at a time when beef, hides and tallow were worth nearly double what they are now, when the average price of corn was not less than 40c., and oats 32c., with other farm products in proportion, and farmers were as prosperous as any class of workers in the country, and the condition of entry of stock, tickets of admission and rates of transportation, were made on that basis. Is it the right thing to continue original conditions of access to the show, when corn and the small grains (except wheat,) have declined in price nearly fifty per cent, and export cattle packers and butchers stock nearly as much? Fifty cents to-day to the average Illinois and western farmer, represents a larger value than a dollar in 1878; yet it would have seemed absurd had the admission been fixed originally at a dollar.

If the current low prices of farm products continue, there must be a heavy reduction in the cost of transportation and the expense of staying in Chicago and other great cities, or the average farmer and his family will fail to visit them, preferring country seclusion to the necessity of selling a portion of the farm to pay expenses.

But these eleven fat-stock shows have taught more than one valuable lesson, and have opened the way for a radical change in common methods of breeding and feeding. In 1878 so little was known of the real merits of overfed beef, that hotel-keepers and caterers sought out the fattest animals and carcasses, and advertised that they were to be served on the tables of this, that or the other leading hotel and restaurant. But it needed no more than two or three experiments of the kind to demonstrate that overfat beef is less desirable than beef overly lean, with the result, for the last

two or three shows, that the tickets of sale and admiration have not been seen. In the matter of the baby beef idea, that the best beef, is that made in the shortest time and at the least cost, I do not know how many will agree that the fat-stock show has been the theatre of its origin, rise, fall and disappearance, but it is certain that we heard little of it at the late show, while its unpopularity with consumers of the best class is unquestioned.

If two or three years ago it had been claimed for the full-blood Jersey steer, that when slaughtered his meat was superior, or even equal, to that of the beef breeds, the author of such an opinion would have been regarded as little less than a crank or a fool; yet at the exposition of 1888, a Jersey steer took, or should have taken, the first prize for the best carcass, and the justice of the decision was subsequently endorsed and enforced by a hotel-keeper of experience and excellent reputation, who pronounced it the best beef he had ever served on his tables.

And lastly, an enterprise that was organized to show to the world a triumph of fat, has practically turned out to be an apotheosis of lean—a radical change that all do not now recognize, but will do so as time moves on.

S. F. J.

From Southern Minnesota.

ED. COUNTRY GENTLEMAN—We have not had a good soaking rain since the spring of '88; the earth is closing up with a scanty supply of water, and lakes and streams have not been so low for many years. Farmers who have hauled water from some distant lake or stream have long been watching the clouds for the expected fall rains. But such hopes are about dead at the present late hour. The winter months are nearly always so cold and dry here that we never look for any precipitation save in a frozen state.

October will be remembered by not a few throughout this region on account of the destructive fires that did so much harm. Many hundreds of acres were burned over in this county, and much hay destroyed. On low ground the beds of peat were so dry that they burned to a depth of three to five feet. November came in with a little rain and sleet moistening the surface of the ground, and starting the plows at work in fields that had been condemned as too dry. Plowing continued till about the 20th, before the ground froze sufficiently deep to stop such work.

Farmers who haul water a mile or more for their stock get little consolation in the thought that the best of their beeves represent a market value of but two cents per pound. A neighbor tells me that he has eight three-year-old steers in fair condition which he had intended to market, but is at a loss to know what to do. He has kept a strict account of their cost, which to date amounts to $165. If he marke(s them now he will not get more than $140 for the lot. The question is whether to lose the $25 now, or take the chances of losing more. There are many others wrestling with a similar problem.

Well, thank heaven, 1,000 pounds of beef will make just as many mouthfuls of steak and roast as ever. And many a farmer whose economy would lead him to sell the fatted steer, if prices were good, will now serve it upon his own table. Unquestionably the average farmer has to practice a close economy, and this economy touches the more salable articles even of his own production. A neighbor told me yesterday that he had slaughtered the second beef animal for his own use within a few weeks. He says he is solving the beef problem right on his own premises, and in a way not affected in the least by combines, trusts or even middlemen.

Wheat is 68 to 70c. per bu.; corn, 25c.; barley, 40c; potatoes, 15c.; hogs, $3.75 to $3 per cwt.; beeves, $1 to $3; butter, 15c. per lb.; eggs, 17c. per doz.

It now takes a load of potatoes to buy a pair of boots. A big fat steer buys a very plain suit of clothes for every day wear; and it takes a good cow to buy an overcoat of same grade. A load of corn supplies cap and mittens, and a load of oats might furnish a suit of under clothing. So about as cheaply as the farmer can dress, as he starts for town he will carry on his person the cash value of a big steer, a good cow, and 80 bushels or more of corn, of oats, and of potatoes. When one figures up the cost of labor represented by these farm products, and remembers that the raw material of nearly the entire suit comes from the backs of three or four sheep, he is prepared to look back upon the spinning wheels and looms of his ancestors with some degree of longing. And when he compares the wearing quality of the ready-made suits that he buys with that of the home-made suits of yore, he feels quite excused from any lung-splitting shouts of enthusiasm over the wonderful blessings of our modern industrial improvements.

The annual prophecy of a season of uncommon severity is heard as usual. We can hardly expect another winter with the mildness of the last one, and more snow than it gave would certainly be desirable. But whatever the winter may have in store for us, the comforting thought remains that there will be no meeting of the State legislature this winter. Our sessions are biennial.

The warm-water-for-stock craze is little heard of at the present time. Experience has not fulfilled the hopes of its former advocates, and many a tank heater of last winter now hibernates in the back yard or fence corner. With another year of experience, I would like to add another word in favor of feeding unthreshed oats. Most dairymen think well of feeding ground oats to cows when oats are cheap enough to be afforded for that purpose. At the present price of oats it takes about every third bundle to pay for the threshing and grinding. When fed in the bundle, eaten with the straw and remasticated with it, it seems to me to be about as good as though the oats were ground. To obtain the best results one needs a feed cutter. A fresh bundle of unthreshed oats finely cut and well mixed will almost fool any animal into the belief that it is all oats.

Fredonia County, Dec. 2. C. L. H.

Last Jobs on the Farm.

ED. COUNTRY GENTLEMAN—The first real touch of winter occurred on Thanksgiving day in the form of a blizzard following a storm of snow and sleet. Most farmers have corn still in the field unhusked; some have two or three weeks' husking to do yet. To such the prospect is rather dismal. With two or three inches of solid snow covering the ground, with half of each weak stormy and slushy and the other half freezing cold, the chances at this season are that husking will be a tedious and unpleasant task. Corn has dried but little during the last month, and as much of it scarcely ripened before frost, it is still green, scarcely fit to crib, or would not be if the danger of warm weather had not passed. The scanty yield and the low price, 23 to 25c. for 50 lbs. in the ear, is not encouraging. The price of live-stock also being at the bottom leaves little for the farmer to be thankful for in the way of financial prosperity in this season of national rejoicing. With this state of things there is danger that much will be neglected that requires attention at this time. Many little jobs about orchard, garden and outbuildings may be profitably done now, some of them even after snow covers the ground, and the weather is unsuitable for corn-gathering.

Young apple trees should be protected from rabbits where these are abundant. A good plan is to stand four or five cornstalks around the stem of the tree and tie them in place by two strings, one wrapped around near the ground, the other a foot or two higher up. This not only keeps off rabbits but protects the stem from the sun and prevents alternate freezing and thawing, which is believed to be so destructive to fruit trees. If there are any missing trees, holes may be dug any time before the ground freezes solid, the subsoil loosened and the hole again filled with clean, mellow soil, ready to receive a new tree in the spring. Grapevines should be pruned and laid down. Concord and other hardy varieties require only to be held close to the ground by stakes or weights, such as poles, brush, stones or tiles. More tender varieties had better be covered with soil by first cutting a shallow trench, then carefully bending the canes closely together and laying them along the bottom, holding them there with the feet while earth is thrown on them to the depth of two or three inches. Asparagus and rhubarb need a good covering of manure. Fruit trees in grass should be mulched with coarse manure, and this may be done any time during the winter. Tools should be looked after to see that snow cannot blow in upon them. Plows and cultivators especially should be well sheltered as well as greased or painted to prevent rusting. Much annoyance is often occasioned in spring by rusty plows, when it was thought sufficient precaution had been taken to prevent rusting. Moisture in damp weather and melting snows blown through small crevices wear off a light coating of oil, and before spring enough rust has gathered to cause much annoyance in black prairie soils. Axle-grease, or a mixture of tallow and white lead, make an efficient covering for polished steel surfaces, and when wanted in the spring an application of coal oil applied a few hours before will cause the covering to rub off easily.

Many farmers leave shock corn standing in the field till wanted for use, and then haul only a load at a time, or enough for one feeding. I prefer to haul it all out of the field before snow accumulates around it, or the butts freeze fast in the ground. I have tried various ways of handling and stacking it. The eastern plan of husking in the field and tying into bundles and stacking is hardly practicable with our tall variation. To make this plan more feasible I have cut the corn high, leaving the stubble of two feet or more; still, the method involves so much labor at a busy season that it will never become a custom at the West. The plan I prefer is to stand the stalks against poles supported by crotches or stakes, in the same position it stood in the shock. These posts and poles should be in some convenient place for feeding. The corn or fodder may be stood quite thickly along them on each side, double the thickness of a large-sized shock. Light poles or narrow boards should be laid along against the sides, 5 or 6 feet from the ground, and held in place by other short pieces of poles or boards braced against them to prevent the winds from blowing the corn down. G. *Rantoul, Ill., Dec. 1.*

English Notes by T. Bowick.

Among the lesser commodities handled in Mark Lane, perhaps the most curious is that of bird-seed, from Morocco, which totals some 4,000 quarters within the year. The seed is never sown apart by the Moorish farmers, nor is any special attention paid to its cultivation. It is sown with wheat, and when reaped and threshed is separated by the country women in sieves. The reason for this practice is that there is a general superstition among the Moors that in every wet season the wheat is in part converted into bird seed, and hence they sow the two together. I went on Saturday to the Agricultural Hall to see the exhibition of the Ornithological Society, and the vast collection of singing birds there left no doubt as to the necessity for adequate food supplies.

Among home birds—migrants I admit—the nightingales were a grand collection, and looked happy enough in their enforced detention, though I daresay nature would have told them that the cases of the Sahara would have been more congenial. Nearly all were song birds, in which the many varieties of canaries naturally took the lead; but we had birds up to the size of starlings, and others like the water-wagtail and yellow-hammer that could not by any stretch of imagination be called song-birds. But for all that, food had to be found for them—from Morocco or elsewhere.

The floods in North Italy have abated, but their marks remain, and much suffering during the winter will follow the track of the Po. It is pleasant to add that public credit has regained confidence, with the resumption of payments by the bank which recently suspended business there. That was a case not unlike the Warwickshire bank, whose affairs have just been wound up with a payment of about fifteen cents to the dollar.

Sheep farmers—nay, all farmers, for every one has a dog about the homestead—are sure to make a great outcry if the proposal to muzzle every dog throughout the country is carried into effect. But here, where we have now had the practice for many months in London, and have got our streets cleared of many wretched curs in consequence, the animals take to it without murmur or complaint. A properly adjusted muzzle causes no pain and does not interfere with eating or drinking, while one makes it second nature to the dumb animal. When we have the fact before us that last year there were twenty-seven deaths registered in the metropolis from rabies, and that there have been over one thousand such deaths since 1850, it is time the matter were looked fairly in the face, and no sentimentalism allowed to intervene. I have no faith in the Pasteur business—the results being of the most damning nature, although the increased attention which he has caused the subject to receive is even greater on the Continent than here. I had occasion to send an old favorite to Switzerland last month, and as he had never had a muzzle on (being at board and lodging in Derbyshire), and no muzzle was required at his destination, I thought the animal might pass, especially as he was being conveyed by a member of the family. They traveled by the Dieppe route, but were not allowed to leave St. Lazare terminus (even to ride in a cab to the Lyons station) till a proper apparatus was affixed. There were in London seventeen cases of hydrophobia recorded during the quarter ending Sept. 30th, while no fewer than 793 unmuzzled animals were seized by the pole during that *month*—only 142 of which were afterward claimed, and the charge of $1.25 paid, at the Lost Dogs' Home at Battersea.

It is not difficult to recognise rabies in the dog, even in the initial stage. He has a most depraved appetite, chews very filthy articles, and then drops them out of his mouth, being unable to swallow through loss of power in the muscles of deglutition. An unquenchable thirst also compels him to dip his head into water, through being unable to lap in the ordinary manner. He rarely misses an opportunity to start on a tour, which is maintained at a *trot*, seeming to have no object in view, and rarely attacking anything unless molested or excited. It, however, takes very little to excite him, and the mere fact of rapidly moving from him would cause him to turn out of his course and attack one; and it is perhaps owing to the natural tendency of sheep to fly from a dog that so many of these animals get bitten when a rabid dog is met with in agricultural neighborhoods. As to the time elapsing between a human subject being bitten and the development of disease, the majority of cases run from five days to four weeks, the latter time being rarely exceeded. Happily in the frigid zones, and in our Australian colonies, the disease is entirely unknown.

A Scotch farmer writes me that he saw a flock of Iceland sheep—the last of several imports for the season—arrive in Liverpool ten days since, and that he could hardly make out that they were sheep at all, being piebald in appearance, with horns nearly allied to the goat, and wool of a long silky texture. At the Anglo Danish Exhibition at South Kensington, as my readers will remember, I described at some length the various articles of native manufacture made from this wool in its undyed state, and shown on the stand from the far-off Arctic island.

Our consul at Havre has just had his eyes opened on the subject of the small peasant farmers of that country. He had formerly joined in the cry against subdivision (and it has some weak points certainly); but now he has got behind the scenes, he finds the shield has two sides to it. During a holiday in the valley of the Oise he had the opportunity of examining things, and now goes to the other extreme, viz., affirming that the district is "a brilliant example of prosperity." I never accepted the ultra antagonistic coloring of Lady Verney's book, but could not trust myself to dispute its conclusions. This man does so, and gives chapter and verse in a clear manner; but it is not difficult to see that fruit-growing, which is there carried out extensively, has more to do with the profits than have the other crops grown on the allotment-like patches into which the land is divided. It is, however, satisfactory to find prosperity general in their midst. At home we have Baron Rothschild letting out single-acre plots of land to workingmen in Buckinghamshire, at the same rent as the ordinary agricultural land, and providing the necessary equipment for following the rearing of Aylesbury ducks for market. Still further, the rector of a Northamptonshire parish sends me the report and balance sheet of a cooperative farming association, which has not hitherto achieved very brilliant results. The former, which is signed by Earl Spencer and the clergyman, is so brief that it may be quoted in full:

"In issuing our third report and balance sheet, we are glad to find that the hope we expressed in our last report of being able to turn the corner in the year 1888-9 has been realized. The balance sheet shows a profit of £38 3s. Had it been as good a year for corn as it was for grazing, the profit shown would have been a more substantial one. We are still mindful of the fact that the deficit caused by the two preceding bad years has yet to be wiped off, and that the future of the undertaking in our case, as in the case of farms which are mainly arable, depends to a great extent upon the price of corn. In the two former years, the losses were of an extensive character; it is to be hoped that now the corner is turned, there will 'be brighter days in store for the experiment.'"

In contrast to the above we have another Northamptonshire nobleman (at least he inherited by marriage very great estates in that county, before he was made an English peer), whose farming is done in the Royal County of Berkshire. I refer to Lord Wantage, and the two parishes which are kept solely in his own hands. He has 2,413 acres in the home farm, and 4,627 acres of land on the Downs, which of course is largely devoted to sheep-keeping. With 3,000 sheep, about 1,000 cattle, and close on 200 horses, he would pass fairly even in Texas; while to his credit be it said that those employed by him are well paid, and comfortable in respect to the surroundings of life. *London, Nov. 20.*

Horticultural Department.

The Value of Apples on the Farm.

It is not claimed for the apple that it is a complete food in itself, but on the food list it possesses a value far above the nutrients it furnishes. Apples aid the stomach in the digestion of other foods, and therefore the best results are obtained from eating them after, rather than before, meals. If one feels that he has eaten more dinner than is compatible with his after comfort, he will find that an apple will facilitate an early digestion and afford greater relief than an alcoholic drink or a drug-store prescription.

Adapting this same theory to all kinds of live-stock, horses, cattle, hogs, sheep, and even poultry, we find that their appetite prompts them to eat apples, and that they receive the same benefit therefrom that we do; that is, the fruit is a partial food, and it also enables them to digest and assimilate from 25 to 50 per cent. more food than they would otherwise be able to appropriate.

Relative to this, I remember hearing a parsimonious farmer say that his animals already ate too much, even without the aid of an appetizer. This man was trying to feed his live-stock a quantity just equal to the food of support; he simply proposes to preserve the *status quo* and postpones the *growth* to some future day. He has not learned that it is that portion above the food of support, which the animal is able to devote to growth, fat, or the production of milk.

The more we can get an animal to eat, provided always that he digests and assimilates the food taken, the greater the profit in feeding. Farmers lose much by feeding sparingly, and by not making the ration complementary. There is scarcely a farm product that is an all-round food either for man or beast.

An inexperienced farmer, seeing how fast his neighbor's hogs fattened and how many pumpkins they ate, tried to fatten his hogs on pumpkins alone. He failed, of course, and then said there was about as much richness in a pumpkin as in good yellow pond water: whereas those who have given pumpkins a fair trial assert that three wagon loads of corn and one of pumpkins are equal to four loads of corn fed alone. The one per cent. of peptic acid in the pumpkin insures the hog against dyspepsia, and prolongs the fattening period as long as you may think advisable.

In planting an orchard for live-stock, remember that the sweet apple is considered the most nutritious, the sub-acid less so, but more valuable as an appetizer, while sour apples are of little use except in the latter direction, and are not very much sought for in that either by man or beast. Still it is a good idea to have some trees of each kind, though there should always be a preponderance of the sub-acids. Leave out all the large varieties as being sparse bearers, and try to get those that have shown acclimation, and which appear suited to the soil of your neighborhood. Buy one-third summer, one-third fall, and one-third winter apples, though our experience with winter apples in Kentucky is that most of them fall off in autumn. This is just as it should be, however, for a large proportion of those we put up for winter fail to keep.

When the first apple falls put some kind of animal in the orchard. A good farmer never likes to see anything wasted; besides, it is very important that the apple should be eaten at once before the grub has time to burrow into the ground. Hogs fatten to advantage in an enclosure where they have a variety of food, as corn, grass, fruit, &c.

It is better for a tree to head low, and some of our best farmers do not trim their apple trees at all, but let them grow as they will, or should one happen to prove unusually perverse, they dig it up and sow grass where it grew. Even if the first died young, another tree should never be planted in exactly the same spot.

Our young orchards are usually cultivated in corn, peas, potatoes and the like, but never in small grain. Should the trees appear to grow too much and bear too little after they have attained the requisite size, it is a good plan to sow the land down in grass and let it be grazed and tramped. This will cause the tree to grow less wood and pay more attention to fruit.

In enumerating the various uses of the apple on the farm, we must not forget that its highest office is to furnish all the year round an abundant supply of fresh, wholesome fruit to the tenants, transients and day laborers, as well as to the owner and his family.

HORTENSE DUDLEY.

Strawberry Questions Answered.

Eds. Country Gentleman—"Inquirer," on page 860, says that he was disappointed in not finding any results in my extended article on page 842. I thought it was all results, but it seems I did not make it plain enough. If one had studied and experimented for years, and learned all he could from others, would not the way he was doing now be likely to be the best in accordance with what he had learned?

I do not look on the treatment of my present half-acre of strawberries as experimental at all, but as the result of experiments on my farm and many others. Of course the crop is "in the future," but the correctness of the practice for our land and the varieties grown and for horse culture is pretty well established. I would be pleased to give the difference in yield between thin and thick matted rows, and between matted rows and hills, if I had measured and kept the figures exactly. This I did not do. It was not necessary for my own use, the difference was so marked. When the pickers brought me so many quarts from thin, broad rows, such as we now have, and a decidedly less number from the thick rows every time, that was all I cared to know. When thin, wide rows yielded altogether more than hills or narrow rows, side by side, that settled the matter for me. We put in our half-acre that way. We are now also drawing out manure on to another half acre, to set out the same way next spring.

Yes, I have tried the difference between the large, strong plants and weaker ones that had borne crops and those that had not, and the result was so marked that we shall never set out any old plants again, and only those new ones that are large and thrifty. I should never have tried the old plants, only a grower sent them to me on an order, when I did not know one from the other. I should not have experimented on this point because it has been settled by some of the best growers in the country. J. M. Smith says that is the reason his Wilsons continue to do as well as ever, largely because he sets only new plants grown from plants that have never produced fruit. Some points one must learn from experiments on his own grounds, under present conditions; but some are settled for all localities.

"What evidence is there of the distinct superiority of the mode of placing plants half a foot apart over the whole ground?" Every large grower that I ever met except one, advised this distance apart, on the average, over all the ground except what was needed for paths. The long experience of these men, agreeing as it did with common sense and my own shorter experience, settled this point for me.

By the way, that article has brought me two letters from great berry growers. One, who asks me to withhold his name, says he has no fault to find with my management of my half-acre, except that for most farmers a mulch of strawy horse manure put on this fall, as recommended by you on the same page of the Country Gentleman, would usually double the crop. He says the mass of growers fail to make their land rich enough for profit, and hints that I could not make better use of 20 loads of manure than to put it on that half-acre. My friend is entirely right from his standpoint. But I am a farmer. The whole field where these strawberries are goes into wheat next fall, followed by clover, in regular rotation. The land is already very rich. If it did not get down too badly, it would bring 50 bushels of wheat per acre, or 300 to 400 bushels of potatoes in a good season. To put any more manure on there would ruin it for wheat at least, and again, what manure we have is needed on farm crops. I am trying to grow berries in a way that any farmer can consistently do; not by robbing my fields to enrich a pet acre. Also if it is a favorable season I doubt whether we can sell around home any more than we shall have, any way. For my friend, near a large city, with high-priced land used for gardening and unlimited manure, a different way is of course wiser. I thank him very much, however, for his advice and kind words.

The other letter is from my friend J. M. Smith of Wisconsin, whose words always cheer and inspire one. Listen to the grand old man: "For more than 30 years I have been honestly trying to do better each year than ever before; still, I make no claim to being a perfect cultivator, only a constantly improving one."

He writes also: "Why did you not take your steel garden trowels to thin out your strawberries with? You could have done it better and in less than half the time." Why, because I had not wit enough to ever think of it, although there were three nice sharp ones in the tool house. My ignorance has cost me a week's work of one man, then. Thanks, friend Smith. Please set me right as often as you can. Like yourself, I shall never be too old to learn and improve.

Now, gentlemen, I wrote that long letter to you because among your many thousands of readers some are wanting to learn about strawberries, and many more are situated so they might grow a quarter of an acre or so to advantage and profit, and it seemed as though, to such, an exact account of just what another farmer was doing might be of interest. I know I am greatly interested in reading just what others are doing, and comparing it with my way. I am sorry I did not write just in the way that would please "Inquirer," but thankful that he thinks my way "will certainly succeed." T. B. Terry.

Summit County, O.

Apple Growing in Wisconsin.

Eds. Country Gentleman—Much is printed in the agricultural papers of the West in reference to raising apples on the farm, and as I have been experimenting in that line for the last thirty-eight years, meeting with many disappointments and losses, as well as some pleasure and gain, I will give my experience, as many of my townsmen have abandoned fruit-growing altogether, and depend on eastern fruit-growers for a supply.

In the early settlement of this State, the farmers supposed they had a good fruit-growing region, and set out thousands of apple, plum, pear, peach, and even quince trees, most to be destroyed by causes then unknown. It was soon found that peaches, pears, plums and quinces could not survive our rigorous winters, and they were abandoned. Then more attention was paid to apples. Some purchased and set a thousand trees from eastern nurseries. They were cared for with the same skill as at the East, but the practice proved erroneous, for the reason that our virgin soil had too much push, and trees grew so fast and so late in the fall that the winters caught them with leaves on, and branches tender and sappy, and the freezing and thawing chilled the sap of the entire tree, causing premature decay. Then the eastern method of pruning was resorted to, which was the greatest evil of all, and up to the present time it is sure death to an apple tree to prune it any more than to cut away sucker shoots, and thinning out so as to get into the tree for picking. In no case should a limb be cut off over an inch in diameter. While the trees are young, should there be a prospect of two limbs crossing each other so as to chafe, remove one of them and cover the wound with shellac or grafting-wax. I have several trees of Fameuse and Talman Sweets of twenty years bearing, that have never been pruned except to make convenient picking, which yield very fair crops of apples.

Up to within ten years my losses in fruit-growing would just about equal my income. I could balance my account by "nothing from nothing, nothing remains." But I profited by the pleasure it gave me in growing the trees and the anticipation of having fruit some time. Since the more hardy varieties have been introduced I have succeeded much better. My small orchard yields on an average about 80 bushels annually. I have 6 Fameuse trees, 4 Talman Sweet, 8 Duchess of Oldenburg, 6 Wealthy and 7 Walbridge, all good bearers. Of kinds not come into bearing, I have the Northwestern Greening and the Alexander. Buying of traveling agents has become an uncertain business. In your order there is a clause giving the nurseryman liberty, if he has not the variety called for, to substitute some other in its stead. The farmer knows nothing of what he has got until the trees come into bearing, and then in about thirty cases in a hundred he is disappointed. It has been five to seven years since the purchase; there is no way to remedy the evil, and the farmer carries his disappointment, while the agent goes on his way rejoicing, as he is not disturbed by the farmer's fruit-finding, for it is too late for that. He has his pay and the farmer has no redress.

I give no orders to traveling agents. I know my nurseryman, and order such trees as I want by express, and if he has not the varieties ordered, he will leave that part of the order blank, and notify me that he has not that variety; then I can look elsewhere.

It is a losing business for farmers in Wisconsin to attempt to raise any more fruit than is required for their own use. I have, after experimenting for 38 years, settled down on the following varieties: Early fall—2 Tetofsky, 4 Duchess of Oldenburg; late fall and early winter—4 Fameuse and 6 Wealthy; late winter—6 Walbridge and 6 Northwestern Greening; 30 trees in all. This list, if properly cared for, will furnish a family of five persons with apples from July 15 to June 1 of the next year. Just as soon as I see signs of decay in any one tree I set another of the same variety in another locality, and by the time the old tree is dead I have a young one come into bearing. All surplus and knurly apples are made into vinegar.

Fond du Lac County, Wis. H. REYNOLDS.

Market Gardening as a Business.

Following is the substance of an excellent practical lecture delivered by the veteran Peter Henderson at the Fitchburg meeting of the Massachusetts State Board of Agriculture, Dec. 8:

Market gardening is not the profitable business it was twenty years ago; yet we have so simplified our operations of late years that even at the lower prices there is still a fair profit—certainly more than in ordinary farm crops.

There are thousands of farmers whose lands are near to the smaller towns, hotels, watering places and summer boarding houses, where, if the farmer would devote a few acres to fruit or vegetables, there is scarcely a doubt that it would be found that every acre so cultivated would be much more profitable than if devoted to ordinary farm crops. In most cases success would be proportioned to the quality of the land, but no one need hesitate to begin the cultivation of either fruit or vegetable crops on any soil that will raise a good crop of corn, hay or potatoes. The farmer, when he grows to supply a local demand, has a great advantage in selling direct to the consumer. A few years ago an old friend told me of his success in this line. His farm adjoined a village of 2,000 inhabitants, which was to some extent a summer resort. He had one year a large surplus of strawberries and sweet corn, and had many applications for the fruit and corn by the village people. About three hours daily were used in delivering the products, at such prices as paid him a profit of $175 per acre, which was five times as much as the average of his farm crops. In addition, the sale of the strawberries created an increased demand for cream, which was sold at higher prices in consequence.

When it can be done, select the land that is level and well drained by having a gravelly or sandy subsoil, and not less than ten inches in depth of good soil. If you are not a judge of soil, look around the neighborhood and observe the farm crops: if these are not strong and vigorous, the soil is not such as will answer for market garden work. Again, get as near to your market as possible, and see that the roads leading thereto are good. The business of market gardening, though healthful and fairly profitable, is exceedingly laborious. The labor is not heavy, but the hours are long—not less than an average of ten hours a day, summer and winter. No one should engage in it after passing middle life, neither is it fitted for men of feeble constitution, for the owner must put his shoulder to the wheel at least as strongly as his roughest employé.

The capital for beginning market gardening in the vicinity of a large city should not be less than $300 per acre for anything less than ten acres. The first year rarely pays more than current expenses, and the capital of $300 per acre is all absorbed in horses, wagons, implements, seeds, manures, seeds, etc. If the capital is insufficient to procure these properly, the chances of success are correspondingly diminished. Above all be careful not to attempt the cultivation of more land than your capital and experience can properly manage.

It has been the practice in the past to use hot bed sashes almost exclusively for forcing vegetables, or forwarding plants for use in open ground. But of late years greenhouses are largely used, both for *forcing* lettuce, radishes, beets and cucumbers, and for *growing* plants of early cabbage, cauliflower, lettuce, celery and tomatoes;

and in either case, we believe that in well constructed greenhouses not only is the work better done, but that the saving in labor in three years will more than offset the greater cost of the greenhouses. We ourselves grow immense quantities of vegetable plants of all kinds, all which are now started in greenhouses, in the following manner: We make first sowing February 1st, in our greenhouses, where the temperature will average about 70°; that is, about 60° at night, and about 80° during the day. When there is not the convenience of a greenhouse, a hot-bed will answer the same purpose. A hot-bed, made with manure, about two feet deep, in a proper manner, produces just about the same temperature and general conditions as a well appointed greenhouse will. We now invariably sow the seed in shallow boxes (those used in the importation of tin) which are 1¾ inches deep and about 20 inches long, by 14 wide. We use any light rich soil for the purpose, sowing enough seed in each box to produce 1,000 to 1,500 plants, or if sown in the hot-bed, without the boxes, each 3 by 6-foot sash should grow about 5,000 plants, but we find it more convenient to use the boxes than to sow in the soil, put direct on the bench of the greenhouse, or on the manure of the hot-bed. The plants sown Feb. 1, in a temperature averaging 70°, will give plants fit to transplant in about three or four weeks. We then use the same kind of shallow boxes, putting in the bottom of each ¾ of an inch of well-rotted manure. Over that we place an inch of any ordinary rich, light soil, smoothing it so as to have it as level as possible. In these boxes, which are 14 by 20 inches, we put an average of about 150 plants. After transplanting into the boxes, they are continued to be grown in the same temperature for about ten days; they are then placed in a temperature averaging 55°, where they are allowed to remain for ten or twelve days, and finally are placed in cold-frames. The boxes should be placed as close to each other in the cold frames as they will stand—about eight boxes fill a sash, thus holding about 1,200 plants. If the weather is cold they are matted; if not, the sash will be sufficient protection. For the past five years we have each season grown about half a million of cabbage, cauliflower, celery and lettuce plants in this way, and have never failed to get fine plants, much superior to those raised by the old cold frame plan of sowing in the fall.

Plants sown on the 1st of February are transplanted into the boxes about the 1st of March, and are fit to be placed in the cold-frames about March 10 or 15, and make fine plants to transplant to the open ground any time after the 1st of April, if they have been carefully attended to by watering, airing and protecting from frost. These dates refer particularly to the vicinity of New-York, where we can plant out usually in the open ground all kinds of cabbage, cauliflower and lettuce plants from April 1 to 10. If in districts where they cannot be planted out sooner than the end of April, then the sowing should not be made before the 15th of February, and the process of transplanting, &c., gone through as before stated, so that the plants will be in condition to set in the open ground by end of April. In sections where cabbage cannot be planted in the open ground before the 1st of May, the sowing should be delayed until nearly the 1st of March, and the process of transplanting in the boxes or frames the same.

Twenty-five years ago the market gardeners of New-Jersey, mainly located in Hudson county, grew better vegetables than the Long Island men, but their limited area of land getting less and less annually in consequence of the inroads made by buildings, does not allow them to give their lands the needed relief of laying down a portion yearly to grass, so that their grounds have become actually surfeited with manure, and for this reason, vegetables, such as cabbage, lettuce and celery, do not now average as good as those grown on Long Island, or other districts adjacent to New-York, where the land is cheap enough to allow one-third to be put down annually with some grass or clover crop. I believe that in a garden of fifteen acres, if one-third is laid down in grass each year, and the balance kept under the plow, that the gross receipts will be greater and the profits more than if the whole fifteen acres were under tillage; for less labor would be required, and manure tells better on sod land than on land under tillage.

The subject of manure is one of never-failing interest to the gardener and farmer. I can tell

HIGH-BRED PI

you nothing new on the subject, except to say that dried peat moss, now used in the cities for bedding, is likely to be of great value to the market gardener, if it can only be had in sufficient quantities. There are no doubt many swamps in the United States composed of peat moss, which may some day prove a gold mine to discoverers.

All who intend engaging extensively in market gardening should have attached to the business greenhouses to a greater or less extent, not only that they need never fail to give a good return for capital invested, whether for use in forcing vegetables, fruits or flowers but, in addition, a matter of much importance is, that the labor of the workmen can be utilized as well in midwinter as in midsummer. This enables the employer to keep his hands all the year round, instead of having the annoyance of hiring inexperienced men when the work begins in spring. From my first beginning of the business, now over forty years ago we have always used greenhouses in connection with our out door gardens, and in consequence have been able to keep our old hands at least twenty-five of whom have been with us from ten to thirty years. We pay these men nearly twice the wages of inexperienced work men, and find it has paid to do so, for in all the years we have been in business, we have never passed one where the balance has not been on the right side of the ledger.

Management of Blackberries.—Mr. H Ohmer of Dayton gave at a horticultural meeting in Indiana the following description in substance of his successful management of his blackberry plantations, the result of long and extensive experience: When the bushes have grown to about three feet high, and early in the season, the laterals are clipped back not to exceed eight or ten inches. This will reduce the berries in number, but they will be so much larger as to bring more money in market. This remark applies to the Snyder and Mr. Ohmer said there was more money in that berry than in any other he had ever tried. Every bud where the bush is cut back will produce a large cluster of berries. Without this treatment you will have only small ones. He had a good crop at the same time that the berries of other persons were dried up. Both cutting back and frequent cultivation between the rows are necessary. The bushes should not be allowed to grow more than three feet high, and be cut back early in the season. The rows are eight feet apart, and the bushes four feet in the rows. The canes so full of fruit, said Mr. Ohmer, that "you can hardly get through for the berries." He has a sharp five-blade tool, which cuts all the sprouts out of the way and gives clean ground. This clean culture is doubtless a prominent reason of his great success. A person present at the meeting said that the fault of the Snyder was that it undertook too big a contract, and sets more fruit than it can properly support, and hence the advantage of cutting back.

The Poultry-Yard.

The Pile Game Fowl.

This is one of the most beautiful of all varieties, and in this country it has a host of admirers and breeders. It is, moreover, one of the oldest of the varieties, and appears to have been known almost as long as the sport of cock-fighting itself. At the present there are really only two varieties known, namely the yellow-legged and the willow-legged, but at one time there appear to have been quite a

New Advertisements.

Beck, Robt. J.	Horned-Horned Sheep.
" Boettner	Situation Wanted.
Cevelar, Wm.	Berkshire Boars.
Chaffin & Co., S. H.	Virginia Farms.
DeBois, Wm. H.	Guernsey Bull Calf.
Grannan Detect'e Bureau	Detectives Wanted.
Hasbrouck, Ira H.	Scotch Collie Pups.
do. do.	Duroc Jersey Pigs.
Lord & Son, B. B.	Trotting-bred Mare.
Morehouse, Geo. E.	Holstein Cattle.
Midland Avenue	Hay Stations.
Moore, Edward	Fancy Pigeons.
Patterson, Mrs. V. S.	To Lady Readers.
Packard, S. G.	Holstein-Friesians.
Peak, Corydon	Guernsey Calves.
" Pigeon	Pigeons Wanted.
Sealey Brothers	Palliacide.
Stephens, W. P.	Trotting-bred Teams.
Staples & Co., Henry L.	Farms for Sale.
White, J. C.	Choice Young Cows.
Zook, E.	Jersey Heifers.

Subscribers' Wants.

GEORGE BOE, Augusta, N. J. Pair of Irish Terriers.

Pamphlets, &c., Received.

BARNES, WALLACE, Box 924, Bristol, Conn. Circular of Haberitri and Preventio for Abortion in Cows—see advertisement, p. 902.

DEPARTMENT OF AGRICULTURE, Toronto, Ont. "The Swine Industry in Ontario," pp. 62.

DUDLEY, H. C., Colorado Springs, Col. "What Climate can Do, a Record of Invalid Experiences;" pp. 68.

FISHKILL MANUFACTURING Co., Shenhagen, Me. Illustrated Circular of Symmes Waterproof Hay and Grain Cap—see notice, p. 947.

FRITSINGER, F. P., Sec'y Poultry, Pigeon & Pet-Stock Association, 102 Genesee Ave., Cleveland, O. Circular of 3d Exhibition, Jan. 14-19.

GOLD, T. R., Sec'y State Board of Agriculture, West Cornwall, Conn. Programme of Farmers' Convention at Birmingham, Dec. 17-18.

HALL STRAW-PUMP Co., 91 Liberty St., New-York. Circular; pp. 48, Illustrated.

JOHNSON, Dr. W. C., Sec'y Poultry, Pigeon & Pet-Stock Club, 31 E. 3d St., Frederick, Md. Premium-List for 3d Exhibition, Dec. 31-Jan. 3.

MIDDLEBROOKE, H. C., Sec'y Poultry & Pet-Stock Association, Rock Rapids, Iowa. Prospectus of 3d Exhibition, Jan. 6-10.

NIXON NOZZLE & MACHINE Co., Dayton, O. Circular of Spraying Machinery, Force Pumps, &c.; pp. 32, Illustrated.

POPE MFTG. Co., Boston, Mass. Columbia Bicycle Calendar for 1890, very ingenious and convenient.

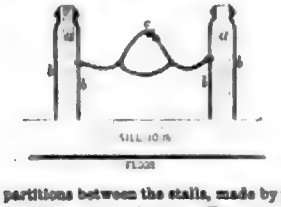
SHELBY BROS., 33 Barclay Slip, New-York. Beautiful sample of "Palliacide" for finishing Hard Wood—see advertisement, p. 903.

THORNTON, JOHN, 7 Princes St., Hanover Sq., London, Eng. Catalogue of W. T. Talbot-Manle's Short-Horns, to be sold at Ardfert, Co. Kerry, Ireland, April 1; pp. 36.

WEBSTER, W. J., Columbia, Tenn. Catalogue of Jerseys to be sold at Nashville, Dec. 18; pp. 55.

Inquiries and Answers.

Stable Apparatus.—Should cattle chains have two rings and run on two poles, or is one as good? (1) How should mangers be made, with a view of watering and keeping the cows in the stable, and feeding ensilage and hay? (2) What is the most convenient way of watering? Would V-shaped troughs, made of 8 by 10-inch hemlock boards, and constructed to turn up and down on hinges attached to the ends, be convenient for the purpose? They could be filled through hose attached to the main pipe. The troughs could be long enough to water four cows at once. Would such a plan be approved? If not, what plan would be better and less expensive? (3) E. J. D. *Johnstown, N. Y.* [1. The simplest cattle fastenings, and attended with least labor, are the common stanchions, but they are objected to by many on account of the rigid confinement. This objection is obviated by the swinging stanchions, though these are more complex in structure, and a long line of cattle cannot be secured with them, as with the common stanchions, at one movement of a long rod—the cattle eagerly finding the feed in position. More freedom still is allowed by the use of chains and sliding rings. The ring may slide on an upright of wood, or on a long staple in a post. Another mode of securing the animal between two posts is represented by the figure—*a a* being



the partitions between the stalls, made by nailing planks on vertical posts. The iron rods, *b b*, an inch in diameter, bolted at the top into the partitions, allow a free sliding of the chains as the animals raise or lower their heads. The fastening at *c* is simply a crossbar and ring. In an article published some years ago in the COUNTRY GENTLEMAN, Jonathan Talcott stated that a hook for connecting the chains should be what is termed a "snake hook," bent in a circle nearly back to the eye, and that such a hook is perfectly safe from never unhooking, as he has proved by forty years' experience, while a snap is often attended with accidents. The feeding manger should be divided so that only the two animals could get their appropriate feed; and the division plank should extend back between them two and a half feet, to separate them. Our correspondent can judge by the preceding the best form to use under his circumstances. 2. Separate wooden vessels may be used, one for each stall, and they will be all kept equally supplied with water, if connected through the bottom with pipes curving slightly downward, the water passing from one to the other. If the pipes are below the floor, they will be kept from freezing. We give this mode to be adopted instead of the one proposed by our correspondent. 3. The mangers will vary in size according to the feed given them. More space would be required for hay or uncut cornstalks, than for cut stalks and ensilage. They should be at least two feet wide and a foot deep. If the bottom is six or eight inches higher than the floor it will be more accessible.]

Rot in Potatoes.—After lifting my potatoes, I used air-slaked lime on them freely. Do you think the lime will affect them for seeding? The potatoes have a yellowish coat, and taste a trifle bitter. Is there anything better than lime that can be used to stop the rot? S. W. S. *Centre Hall, Pa.* [Air-slaked lime will not probably injure your potatoes for seeding. It affords some check to the rot in potatoes when dusted over them after digging. But we find a better way to check or prevent rot in freeing the tubers entirely of soil on the surface, housing them in a cool apartment which has a slatted floor, and through which there is a free ventilation, and if the weather becomes very hot, dash cold water over them, and let it drain freely among them. We have tried the slatted apartment with much success.]

Jersey Annual Records.—Mr. G. W Farlee states in a letter to your paper that only one Jersey cow, "Landseer's Fancy," has produced over 900 lbs. of butter in a year. I have often been told otherwise, and have been referred to a statement made in the published volume of "Butter Tests," lately issued by the A. J. C. club. It is there stated that three cows have such a record. Will you state the facts? A. B. C. [We do not find the statement that our correspondent refers to, in the book mentioned. Such references should be *by page number*—we can hardly be expected to take time to make much of a search, when the page number might just as well have been given us. To the best of our recollection, Landseer's Fancy is the only Jersey cow that ever produced 900 lb. of butter in a year.]

Barns and Ensilage.—Please inform me of the best book on barn-building for horses and cattle, and building and filling silos, and where obtained. S. J. J. *Mannys, Md.* [Most of the books on barn-building refer to the more expensive suburban ones. The best information on farm barns for common purposes may be found in the several volumes of RURAL AFFAIRS, more particularly in Vols. II, III, VII and VIII. Miles' book on ensilage (price 50 cents) is as good as any. Much additional information has been given in recent volumes of the COUNTRY GENTLEMAN.]

Blackberry Culture.—What blackberry is best for market, combining earliness and productiveness in largest degree? (1) At what age do they bear, and how long? (2) Also what soil and manure suits them best? (3) When and how far apart should they be planted? (4) How cut back, &c.? (5) C. W. S. *Kittrell, N. C.* [1. The best blackberries for North Carolina are probably the Wilson, New Rochelle, and where not affected with rust, the Kittatinny. An earlier variety, too tender at the North, but doubtless succeeding well in North Carolina, is the Early Harvest. There are several other varieties which are valuable at the Northwest on account of their hardiness, but not so good South as the first three named. We cannot name one variety alone which will do, but as the quality is apt to vary more or less with soil, aspect, cultivation and other influences, the test of trial must be resorted to. 2. Good plants, well set out and taken care of, will begin to bear well the second year, and more afterwards. The plants will continue to throw up bearing canes for many years, with diminished crops after some years. 3. Any good garden soil will answer, or such as will raise good corn and potatoes. 4. For field culture, they may be in rows seven or eight feet apart, and three or four feet in the rows; but if well shortened back, they may stand nearer than when neglected, and rather nearer in gardens than in fields. 5. The canes should be pinched back when three feet high, and the side shoots kept shortened to eight or ten inches. This will keep the bushes in compact shape, instead of the straggling, inconvenient ones where neglected, and they will bear longer, and finer berries. Constant and clean cultivation should not be omitted; and in procuring the young plants to set out, accept only those which have plenty of side shoots, raised from cuttings of the roots.]

Tobacco Stems.—I own a farm near Philadelphia, and a friend suggests that I buy a quantity of tobacco stems, which are to be had in large quantities in the city, and used by many in their composts as manure. Is there any real value in this material as a fertilizer? If there is I can get it cheaper than any other fertilizer, but if there is but little virtue, of course don't want it. J. C. C. [A ton contains about 36 lb. nitrogen, 153 lb. potash, and 15 lb. phosphoric acid, and may be worth $10 or $12 as a fertilizer.]

Computing Weight of Ice.—Please give rule for computing weight of ice in house. E. C. [About 36 cubic feet of ice make a ton. Multiply together the length, breadth and height of your ice room, in feet, and divide the product by 36, and the quotient will be the number of tons.]

Feeding for Rich Milk.—Would Prof. STEWART be so good as to inform me whether the ration as propounded by him for "feeding for rich milk," on page 864, of your journal, is intended for two or three feeds, or whether I am to understand that 4 lbs. linseed meal would balance the ration as well as the 3 lbs. decorticated cottonseed meal? E. W. *Brockville, Ont.* [The ration may be given in two or three feeds, small-est at noon, and I meant just what was written—that 4 lbs. linseed meal would balance the ration as well as the 3 lbs. of decorticated cottonseed meal. But as 4 lbs. linseed meal would cost more than 3 lbs. cottonseed meal he would naturally prefer to use the latter. E. W. S.]

Training Horns, p. 902.—If experience is knowledge, the horn will turn to the opposite side scraped. I shaped the horns of several of my cattle during the past year and scraped them on the opposite side from which I desired them to turn. The scraping may be done with a common knife, and when the horn is large and heavy, it can be chipped off like a stick of wood, taking care not to cut deep enough to draw blood. However, no serious results followed such a mistake made by me some time ago. The horn will in a very short time show a curve when it is scraped. S. W. S. *Centre Hall, Pa.*

New-Jersey.—The Fifteenth Annual Meeting of the State Horticultural Society is to be held at Trenton, Dec. 18-19, and all persons in any way interested in the objects of the society are cordially invited to attend and take part in the proceedings. E. WILLIAMS, Montclair, secretary.

"Superior Dairy Goods."—This is the title of a catalogue and price-list of approved butter-making apparatus and dairymen's supplies, just issued by the MOSELEY & STODDARD MFTG. Co. of Rutland, Vt., in the form of a handsome pamphlet of 64 pages, profusely illustrated. The catalogue, in short, is worthy of the goods it describes, which is giving it high praise. The more that a practical dairyman knows of the products of the Moseley & Stoddard Co., the better he is certain to like them.

Combustible Barns.—The following despatch from Arcade, N. Y., Dec. 4, comes just in time to add force to the suggestions of an article by Mr. G. A. Stockwell, published on page 944:

"The large barns of J. W. Cramer in this town burned last night with the entire contents, consisting of 39 head of cattle, 80 tons hay, and farming tools. Insurance, $1,000."

Apiary Interests.—The International Bee-Keepers' Association held a well attended meeting at Brantford, Ont., last week, Michigan, Illinois, Ohio, New-York and Massachusetts being represented. Officers were elected:

President—R. L. TAYLOR, Michigan.
Vice-President—Eugene Secord, Iowa.
Secretary—C. P. Dadant, Illinois.
Treasurer—Dr. C. E. Miller, Illinois.

Acknowledgments.

Communications for publication have been received during the week ending Dec. 6, from Mrs. D. H. R. Goodale—J. C. P.—A. N. Curry—H. P. Robinson—H. S. Tilney—Peter Henderson—J. Hannah Clarke (2)—C. S. Rice—R. B. Bartlett—Prof. R. W. Stewart—C. Mason—C. S. Moore—Simon Hart—L. F. Scott—W. J. Moss—F. T. B.—Mrs. D. H. R. Goodale—Wm. Thompson, Jr.—M. W. S. K.—Hiram P. Hopkins—A. M. Goff—Prof. R. W. Stewart—Hugh R. Summey—W. F. Massey—Somerset—L. S. Pierce—On the Road—Chas. L. Hill—E. L. Holmes—F. B. Park—Adele K. Johnson—C. I. Hudson—R. F. Johnson—R. A.—Mrs. S. H. Howell—S. W. Smith—S. R. Strong—Jonathan Talcott—F. D. Curtis—Miss Hortense Dudley—Stephen Beals—C. E. Jones—E. B. Backus—A. Devereaux—Dr. Wm. Horne—E. G. P.—W. W. S.—H. L. M.—Prof. R. W. Stewart—Miss Florence E. French—Galen Wilson—Robt. L. Dean—Monroe, Judson & Stroup—Wm. R. Hughes—Mrs. Chas. L. Hill—R. M. Simonton—Jonathan Talcott—Prof. R. W. Stewart—Prof. L. N. Johnson—H. Warren Phelps—J. J. W. Billingsley—J. T. Smith—Geo. Jackson (2)—W. F. Massey.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Dec. 12, 1889.

Farmers' Institutes.—Notes of the meetings at Plattsburg and Malone appear on p. 987. For the current week, in consequence of the dairymen's convention at Ithaca, 10th to 12th, only a single institute is appointed—at Penn Yan 13th and 14th. Next week there are to be three—Canandaigua, 16th-17th; Cairo, 18th-19th; Walden, 20th-21st. Prof. J. W. Sanborn, who has assisted materially at these meetings thus far this year, has received a flattering call to go to Utah to aid in the organization of the Utah Agricultural College.

Obituary.—We regret to chronicle the death, at his residence at Springfield, Mass., in the 73d year of his age, of WILLIAM STARR, formerly a leading Ayrshire breeder and for some years president of the Ayrshire Association and a member of the Massachusetts State Board of Agriculture. He was of Scotch birth, but came to this country at an early age. An interesting biographical notice in the Springfield Union shows that his life had covered an unusually varied and extensive business experience, prosecuted with much energy and success.

Wool.—The National Association of Wool-Growers met last week at Washington, listened to various addresses, discussed the present hardships under which the industry labors, interviewed the Secretary of the Treasury and various members of Congress, appointed a committee to prepare an address to the wool-growers of the United States, resolved to meet in Chicago on the 11th of June, and elected officers—

President—COLUMBUS DELANO, Ohio.
Vice-President—J. T. Rich, Michigan.
Secretary—George H. Wallace, Missouri.
Assistant Secretary—Davis Comitt, New-York.
Treasurer—C. H. Beall, West-Virginia.
Executive Committee—E. N. Russell, Vermont; W. B. Buck, Texas; John McDowell, Pennsylvania.

American Horticultural.—The ninth regular meeting of this unwisely named society will open at Austin, Tex., Monday, Feb. 17. W. H. RAGAN, secretary, Greencastle, Ind.

Ohio.—Secretary BONHAM has issued his institute circular for 1889-90, naming the places and dates for 60 or 70 meetings. The annual agricultural convention will be held, Jan. 15, and a convention of farmers and breeders on the day preceding, at Columbus.

The 33d annual meeting of the State Horticultural Society is in progress at Columbus this week.

Poultry Judging.—A duodecimo volume of something over 200 pages, with illustrations, entitled "The Philosophy of Judging, a Manual on the Scoring of Exhibition Fowls, intended to meet the Wants of the General Breeder and the Exhibitor as well as the Professional Judge," by I. K. FELCH and H. S. BABCOCK, (two first class authorities,) is published by Wm. D. Page, Fort Wayne, Ind. Price not stated.

The World's Fair.—Mayor Grant of New-York has appointed President JAMES WOOD of the State Agricultural Society a member of the permanent committee of the World's Fair of

1860. We understand that the selection of Mr. CHAS V. MARSH to represent the fertilizer interest has been strongly urged. Like that of Mr. Wood, it would be a very fitting appointment.

Winter Feeding Structures.—There are many who have comparatively few animals to feed through winter, who suffer loss by not providing convenient arrangements for the purpose. They may not need the magnificent structures which extensive landowners are able to secure, but there are many smaller fixtures which may be had at little expense, and will prove important aids by way of economy, in preventing the waste of food and in contributing to animal comfort.

Those who feed their animals in sheltered yards or under sheds, may employ racks for retaining the fodder, which may also be provided with troughs for holding grain or meal when it is fed separately. Those who appreciate neatness will desire to construct such racks as present a neat appearance. Such a one is represented in fig. 1, of a rack for feeding sheep. The posts may be of hemlock or other timber, 3 by 4 inches, and 3 feet long. The boards must be planed on the edges, so as not to catch the wool. The end pieces may be boards a few inches wide and 31 inches long. The long bottom boards will make a tight bottom, and the posts will be about three feet long. The slats are 22 inches long and 2½ wide. All the feed that drops through the slats is caught in the trough, and afterwards eaten by the sheep.

Fig. 1.

Fig. 2 is a cross-section of this trough, showing the 12-inch space at *a*, through which the sheep pass their heads for the fodder in the rack; *b b* are the long boards; *c c*, flat bottom; *d d*, inclined bottom, and *e e*, slats. The flat boards are about 8 inches wide, and the inclined ones, *d d*, are 11 inches. The length of this rack will correspond with the length of the boards used in constructing it, and it will feed about two small sheep for every foot of running length, but for large sheep about 16 inches are required.

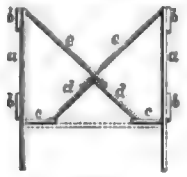


Fig. 2.

A modification of this rack is made by covering tight with boards the part of the slats over the heads of the sheep, thus preventing the hay-seed from dropping down on their heads and wool. An advantage is likewise gained by separating the spaces for the sheep from each other, by nailing an inch board upright for each space, leaving 7 inches opening for each sheep, and thus allowing 16 inches for each, which would be required for large breeds. (The upright boards at each end would of course be only half as wide as the others.)

Fig. 3 represents another rack, having some advantages over the one just described. The front, from which the sheep feeds, is vertical, so that the hay-seed cannot fall into the wool.

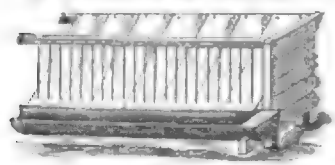


Fig. 3.

Fig. 4.

The back side is boarded tight, and has a slope for the hay to fall down against the rack. The feeding trough is in front and separate, so as to be turned over for cleaning. The attendant walks behind and fills the space with hay.

Another and a more elaborate sheep-rack is

The Grazier and Breeder.

Compensation of Food in Manure.

Early Maturity.

Eds. Country Gentleman—What portion of the value of bran and cottonseed meal, as a fertilizer, is lost in feeding to cows or other animals? E. W. S. says, in reply to G. D S., page 865, that coarse and fine spring wheat bran at $11 to $12 per ton, and cottonseed meal at $26 per ton, are worth this much to be used as a fertilizer. How much of the cost of these foods passes through the animal into the manure, and how much is utilized and turned into milk and butter by the cow?

If instead of applying on 20 acres of corn ground next spring, four tons of fertilizers at a cost of from $160 to $180, this money were invested in bran and cottonseed meal, and fed to cows for milk or cattle fattening for market, and the manure made in this way applied to said corn ground, would the result be more profitable and therefore more satisfactory to the farmer? In this portion of Maryland, many cattle are kept during the winter on coarse food, such as corn fodder, straw and rough hay, and fattened during the next summer on grass; in this way they are made ready for market by the first of November. Generally at this time of the year (owing I suppose to the shortness of pasture, when it would be necessary, if cattle were kept longer, to supplement the pasture with corn or other nutritious food, and consequently the great rush of fat cattle to the markets) the price is low and the profit to the farmer small.

In the spring, much money is spent by these same farmers in buying fertilizers for the corn crop. If, therefore, this money was spent in buying bran, cottonseed meal, &c., and fed in connection with the corn fodder, hay and straw to the cattle during the winter, in this way getting them ready for an earlier market, when prices are generally better, would not the result be more satisfactory? The answer to this question depends upon the actual value of the manure. If we can determine what is retained by the food in its passage through the animal, and deposited in the manure heap, the question is easily answered. G. E. S.

Deer Creek, Md.

The questions raised by G. E. S. are important for every farmer—and as an aid to considering them, he should send $3 to the Country Gentleman for the book on "Feeding Animals." He will find his first topic carefully discussed on page 415 and the pages following. He will also find in this book instruction on all topics relating directly, or indirectly, to feeding animals.

It may be stated, in a general way, that if the droppings from fattening cattle could all be saved, and applied to S.'s corn field, he would get back in the manure about 25 per cent. of the cost of the food. But since he does not speak of or seem to contemplate any mode of saving all the droppings—liquid and solid—from the great waste usually suffered by farmers in the management of their manure, he would be sadly disappointed in the result.

He must first understand that the fattening part of the food, or the oil and carbohydrates, have no manurial value, consequently it matters not how much the animal stores up of this. The real manurial value consists in the nitrogen, potash and phosphoric acid contained in the food, and of these the loss in passing through the animal is not more than 5 per cent. for fattening cattle. For milch cows, about 8 per cent. But if the manure is stored and handled in the ordinary way it will lose about one-half of its value before it reaches its destination in the field.

In the case which S. mentions on page 865, I was speaking of the manurial value of the food to apply directly to the soil. The best decorticated cottonseed meal at $25 per ton, or wheat bran at, say $11 per ton, would produce as great an effect, per cost, as any commercial fertilizers which he could use. I have seen most remarkable effects produced by the application of wheat bran in the growth of various crops in a moist season—the season has a modifying effect upon all fertilizers.

Yet S. will note that in this case of applying these foods directly to the soil as fertilizers, the carbo-hydrates of the foods are simply thrown away when they would have an important value as food, if utilized by the animal. But when strongly nitrogenous and phosphatic foods are fed, then so great a loss of these valuable fertilizers occurs in the manure pile, that it would be more economical as a fertilizer to apply the foods directly to the soil and waste the carbo-hydrates. Yet this does not apply to the strongly carbo-hydrate foods, such as Indian corn, the value of which consists principally in its starch and fat as food. The potash and phosphoric acid in 4 lbs. of corn are less than in 1 lb. of wheat bran. The question is very well settled as to what is utilized by the animal and what passes in the droppings, both liquid and solid, but no means has been found by the general farmer to save the fertilizing matter in the droppings so that it can be applied as S. supposes. The first question to be settled is how is the fertilizing matter in the droppings to be saved and applied without loss. S. speaks of its being deposited in the manure heap, from which we suppose he regards it as safe after it reaches the "heap," but there are many farmers in this State and in many parts of the country, who buy 4 tons of commercial fertilizers to apply to crops, and waste in the "manure heap" every year more than this, of precisely the same manure elements. And this waste cannot be prevented without having the droppings (liquid or solid) fall into a water-tight gutter under the platform on which the animals stand, and when removed they should be carried directly to the field or deposited in a water-tight tank, where they may remain without loss till applied to the crop. This is the reform that should first be made.

Another important question suggested by S.'s letter is a reform in feeding the cattle he mentions—by which these steers shall be pushed from calfhood to market condition at two years old. Instead of being kept in winter, without growth, to take advantage of grass the next summer, and to be finally marketed at over 3 years old, with 200 lbs. less weight than they could have reached at two years, beside saving one-third their cost. Early maturity of animals and a complete adjustment of ration to purpose intended, with a complete saving of all the fertilizing matter of foods, will yet renovate the soil of the older States and put them on a competing basis with the more improvident new States. These are the grand reforms which we have only space merely to mention. E. W. S.

Life-Saving Barns.

Eds. Country Gentleman—One part of our farm economy does not receive the attention it deserves and demands, namely, that part relating to life-saving barns.

The number of cattle, horses, sheep and swine burnt up every year is enormous, and the value is a big factor in the agricultural budget. It is an extraordinary fact, a lamentable fact, that the farmer whose costly barns and stock are reduced to ashes, builds again the same kind of barns, and sets again a similar death-trap. Here is a barn in process of construction. When completed the cost will be not much, if any, less than five thousand dollars. It will contain all the cows, horses and sheep, and in the cellar the swine. Above all these animals will be stored the hay and grain, piled from scaffold over the stalls to the ridge-pole. In most cases, a barn like this must go, if on fire—nothing can save it or its contents; and the protection against fire cannot be depended upon absolutely; it is always an unknown quantity. Certainly, the lightning cannot be controlled, even with rods, at least, with some rods, and accidents will happen. A lantern may be upset; a hired man, when the owner is away, may light his pipe in a place which he thinks is safe; and spontaneous combustion has resulted from the heating of hay insufficiently cured.

Again, the farmer must depend upon the laborer; the latter is often intemperate, often vicious, often unreasonable, often easily offended, and as the record shows, is often an incendiary; the torch is his weapon of revenge. Thousands of fires have been traced to men of this class who had "a misunderstanding" with their employer; and the farmer must admit that the floating population which labors on farms becomes every year more "foreign" (always foreign to our ideas and methods) and more and more unreliable.

Already many large farmers have come to the conclusion, and have acted upon it, that the animals must be housed in barns in which no hay is stored. Not only does this save the animals in case of fire, but it also saves the farmer much outlay. The animals require only stable room, a broad low building with central space for preparing food and for feeding. If this building be of wood, there is only the shell to burn, and that may be extinguished; if the building be of corrugated iron, the fire has no effect upon it.

Barns stuffed with hay make warm stalls, but every farmer knows that a cow is as good a heater as a stove, and that in an average barn, full of hay or not, the stable, if inclosed by itself, is warm and comfortable even in the coldest weather. If the horse stalls be in the same part of the barn, divided from the rest of the barn, they have the benefit of these bovine stoves.

As to the storage of hay, the stack in the open air is good enough, especially when the top of the stack is roofed with boards. If the farmer can make and cap and bind an Irish rick, he need not be troubled about waste even if no roof be over it. But if barns be built solely for the storage of provender, their cost may be little compared with barns that hold everything.

The modern farmer delights to show his friends his immense barn, and everything in it; he takes pride in it, and he has a right to be proud of it; the barn is convenient, too; the hay falls from the mow almost into the manger; but, and this "but" ought to be written with a capital letter, how many farmers with large barns full of hay and grain, horses and cows, go to bed once a week without the thought, without asking themselves the question, "Will all this be in ashes before morning?" and do they not, before they get into bed, lift the curtain to see if the barn is still undisturbed?

Is it not worth a thousand, aye, five thousand dollars a year, to know that whatever may happen during the night, fire cannot be a destructive agent? Therefore, in view of all these things, the separation of the hay and the stock results not only in greater economy, but also in greater security—perhaps in some cases the only security.

GEO. A. STOCKWELL.

Questions about Ensilage.

Eds. Country Gentleman—What change is going on and is there a loss in cutting the ears of corn with the stalks in the silo? My Jersey cows, fed 8 qts. of bran, 2 qts. of oilmeal, 10 lbs. of hay with 40 lbs. ensilage, would respond to 4 lbs. corn meal when added, in milk and butter, and still, according to trial of two acres where the corn was taken off, there must have been by weight 13 to 14 lbs. of corn, or about 9 lbs. of corn meal in each ration. The cows when fed the ensilage which was taken off the two acres did not show any difference.

Palmyra, Wis. V. L.

The question is important, but the exact loss to the ears of corn cut into the silo with the stalks has never been separately determined. It would be quite possible to form some more definite conclusion as to the extent of the change which takes place in the silo if the broken pieces of ears were collected from the silo separately and a sample of it analyzed; this would determine the real changes occurring in the silo. But the changes in the ear must be of the same general character as the changes in the stalk during the same period. The loss occurs principally in the albuminoids and carbohydrates as distinguished from the fat. From analysis made it does not appear that the fat loses any perceptible proportion. The probability is that the loss in the grain amounts to some 14 to 16 per cent. Yet the nutrients still left are more digestible than the same corn would be dried. But L. is in error in supposing that the grain in a ration of 40 lbs. ensilage would be 13 to 14 lbs., or equal, as he supposes, to 9 lbs. corn meal.

This grain of corn when it came out of the silo would have at least 75 per cent. water, and if the grain in 40 lbs. ensilage should be estimated at 10 lbs., then the dry substance would only be equal to 2½ lbs., or with the ordinary amount of water in corn meal, say 3 lbs., thus making it equal to 3 lbs. instead of 9 lbs. as he supposes. Had L. given the weight of his bran and oil meal instead of measure, which is always too indefinite, we could see more definitely the constitution of his ration, and, perhaps, explain why 4 lbs. corn meal added produced an improved result in milk and butter.

We will suppose that the 8 quarts of bran weighed 6 lbs. and the 2 quarts of oil meal 3 lbs. We then have the following ration: 40 lbs. ensilage, 10 lbs. common hay, 6 lbs. bran, and 3 lbs. linseed meal. This, in analytical formula, shows the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
40 lbs. ensilage	0.48	8.80	0.80
10 lbs. common hay	0.86	4.20	0.10
6 lbs. bran	0.70	2.70	0.15
3 lbs. linseed meal	0.90	0.90	0.18
Total	2.43	16.55	0.63

This has a nutritive ratio of 1 to 6.7—a fairly constituted milk ration; but if we add 4 lbs. corn meal, we have of albuminoids 2.73, carbohydrates 15.05, and fat 0.82. This has a nutritive ratio of 1 to 6.

If these cows were of vigorous digestion, and could fully digest this ration, it would be likely to produce a larger result in butter than the other, as it has a larger proportion of digestible carbo-hydrates, also more fat, and the nutritive ratio, although a little wider, is still within reasonable limits. And L. will see that if he had the stalks from which the ears had been removed, this addition of 4 lbs. of corn meal would be slightly better than the ensilage with the ears. And besides, cows do not change their production by feeding only a few days; therefore L. may have been deceived in supposing that the result of feeding the stalks without the ears was precisely the same.

We have been led to suppose, from some experiments, that ensilage corn, when in full tassel and the ear just beginning to form, has an equal nutritive value for the silo as the same would have after the ears were formed—grain in the dough state, because the nutrients required to mature the ear are derived from the stalk, and what the ear gains the stalk loses.

But this question has not yet been fully determined; yet it can be determined by analyzing the whole stalk when the ear just begins to form, and then analyze stalks and ears when matured. The two analyses, including a sufficient quantity of each, should settle it beyond dispute. E. W. S.

Malt Sprouts and Bran.

Composition of Foods.

Eds. Country Gentleman—In "Feeding Animals," not much is said about malt sprouts. Can it not be fed profitably in considerable quantities as a substitute for wheat bran? Bran is $12 per ton, and sprouts $5 to $6 per ton. Which is the cheaper—"hominy feed" (composed of hearts and corn bran), at $15 per ton, or corn at 80 cts. per bushel, when you have your own machinery and power to grind it? Which is better for me to use—linseed meal at $1 40 or cottonseed meal at $1 35? I have ensilage, clover hay, and mixed clover and timothy hay. You see I still feed bran for butter.

Adams, O. F. M. W.

F. M. W.'s question concerning the substitution of malt sprouts for bran is strongly presented, when the price of the sprouts is so much lower than the bran. But he must first consider the fact that malt sprouts is a food of much less uniform quality than wheat bran. This food is liable to be injured by improper drying—scorching when dried under too great a degree of heat; is also liable by careless handling to be mixed with the sweepings of the floor. But when in good condition, of a bright color, sweet, fragrant smell, this food is more valuable than wheat bran—to the extent that it can be properly used to balance poor fodder, such as ensilage, corn fodder, poor hay, &c., being so much more nutritious, and requiring so much moisture before feeding it mixes appropriately with ensilage; but being an unbalanced food, should not be used in unlimited quantity. Yet we advise W., at the prices he mentions, to feed 6 lbs. of good sprouts in his ration.

As to hominy feed at $15 per ton, when corn is worth only 80 cents per bushel, it would be clearly more economical to use the corn, grinding it fine.

If W. can get the best decorticated cottonseed meal at $1.25 per cwt., it would be more economical to feed it with ensilage than linseed meal at $1 40 per cwt. But if it is the undecorticated cottonseed meal, then the linseed meal would be cheapest.

I will combine the following ration for W.: 30 lbs. ensilage, 5 lbs. mixed hay, 6 lbs. malt sprouts, 5 lbs. fine corn meal, 2 lbs. wheat bran, 1 lb. of cottonseed meal. To show the nutritive ingredients of each food I give the following formula:

	Albuminoides. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
30 lbs. ensilage	0.36	6.60	0.15
5 lbs. mixed hay	0.86	2.35	0.07
6 lbs. malt sprouts	1.13	3.78	0.15
5 lbs. corn meal	0.42	3.15	0.24
2 lbs. wheat bran	0.24	0.92	0.05
1 lb. cottonseed meal	0.36	0.11	0.05
	2.77	13.12	0.71

This has a nutritive ratio of 1 to 5.2, a well constituted butter ration, and at the same time very cheap, the grain part costing only 8½ cents. If these cows have been fed strongly heretofore for developing their butter capacity, then this ration may be slightly too small for them in their advanced condition; in this case I would add 1 lb. to the hay, 1 lb. to the corn meal and 1 lb. to the cottonseed meal.

It would then be a stronger and an equally well-balanced ration, still being a cheap ration, and should produce the best result in milk and butter. W. will see that malt sprouts are a very strong albuminous food, and in balancing this ration have a greater value than the same quantity of bran. A good proportion of corn meal become important in this ration to supply easily digested carbohydrates.

W. will also notice that there is a good variety of food, being four different kinds of grain food. Variety is always important in improving the appetite, and also the flavor of the product. W. will easily be able to construct a variety of rations to suit the exact necessity of his case. Two pounds of bran becomes important when we consider that bran is the most potent in supplying the waste of bone. E. W. S.

The Dairy Department.

Raising Cream.

Methods and Results.

EDS. COUNTRY GENTLEMAN—I am arranging to set my milk in deep cans altogether, and am in doubt as to several points on which probably you or some of your readers can assist me. My intention is to set in water not submerged. I have some cans already 10 inches in diameter and 18 inches deep, holding 45 lbs. milk. Are these the right size and shape, or had I better get new ones only 8 inches in diameter and the same depth? It would take half as many more of these, and involve more washing, handling, &c., while probably each would cost about as much as the larger ones. I have about 250 to 260 lbs. milk at a milking, and I am pretty well convinced that it is better to let the milk stand 24 hours, so I must provide for about 500 to 550 lbs. Would it be best to have two tanks, one for each milking? It seems to me that if all were in one tank each change of cans would disturb the others and interfere with the rising of the cream. In making the tanks how much space must be allowed for, between the walls and the cans and between the different cans? *Is it* necessary to keep the temperature of the water at about 44° all the 24 hours during which each milking stands? It seems to me that if so, there must be space in the tank between the cans, enough to take some large blocks of ice, say a cubic foot or more. I once used a Cooley creamer in which the cans occupied the whole tank, and we could only put in such pieces of ice as would go between the cans, and the ice would all melt away in four or five hours, which resulted in raising the temperature before the cream was all raised, or forced us to replenish the ice two or three times a day—a very unhandy arrangement.

I ought to say that I have not running water, and must depend on ice entirely to regulate the temperature. The water will vary from 45° in winter to 60° in summer when it is put in the tank. How much ice shall I need per day, or for the season? I ought to add that 250 lbs milk at a milking is when the cows are at their best and all milking, but I try to have as many come fresh in the fall and early winter as I can, and I am able to secure from 150 to 200 lbs. of milk at a milking even in winter. Any hints or advice will be very thankfully received. S. A. F. *Knowlton, P. Q.*

I advise S. A. F. to get the new cans required, of the smaller size—8 inches in diameter and 20 inches deep. By so doing he can test the comparative merits of both sizes. It is true that he would have more cows to handle, and there would be more work about it, but the probabilities are that he would get better results in cream from the smaller cans than from the larger ones, as the milk would cool sooner and the cream rise quicker.

It is a proper thing to do to let the milk stand 24 hours, as this will afford more time for all the cream to rise and to be of better quality. It is better to have a division in the tank, as the changes would tend to disturb the rising of the cream, and produce a change in the temperature when the warm milk was put in. There are two plans which may be followed; one is to divide the tank off into spaces or squares, in which the pails or coolers may be set, and be stationary, with here and there a vacant space in which no pail shall be set, and into which ice may be put. Another plan is to have the tank of sufficient size to hold all the pails, set in loose, with reserve space sufficient to hold all the ice required for cooling. The size of the tank can be determined by setting the cans on a floor, leaving from three to four inches space between them, and allowing two feet across the tank for ice space. When set in the open pool in this way, the cans should be filled so that they will float freely, and then the cold water will pass all around and underneath them. The same should be done if they are set in frames, or, in other words, the cans should not be filled so full that they will set down on the bottom. To prevent the cans resting against the sides of the tank, a light fender, projecting two inches from the sides, may be put on.

The water S. A. F. proposes to use will be cold enough in winter without ice if he gets the milk into the cans at its normal temperature, or not lower than 90°. He can take his choice between warming the milk so as to secure a falling temperature of about 46°, or he can lower the temperature with ice from the temperature at which the milk is set, so as to produce this change. In any case the milk should be thinned in winter to overcome viscosity or stickiness—thickness, and it will be easier to do this with warm water, and at the same time raise the temperature of the milk to its normal condition—98°.

How much will be needed, depends on the condition of the air and the coolness of the dairy house. S. A. F. will find that it will require a great deal; unless his dairy house is cool, I am sure it will take twice as much ice as is would require for a modern Stoddard creamer. In this manner the temperature should be kept at 45° for twelve hours at least, and it would be better—surer—to get all the cream if it did not go above 50° for the whole 24 hours. This is as long as milk should be set in summer, and the safest length of time, any way, to get the cream in the best condition for ripening to bring out the real butter aroma.

In New-York State there are a number of different systems of open setting practiced besides the small pans. Probably the setting of the cans in pools is the most common. This is the usual custom when skim-cheese is made. The cans, 8 by 20 inches, give the best satisfaction. When skim-cheese is made the milk is set for 18 hours, except in cool or cold weather, when it is set for 24 hours.

Another method is to set the milk in flat pans, with water running underneath and around them. Chas. S. Kellogg, Rutland, Jefferson Co., N. Y., an experienced butter-maker, has used for setting pans 11 feet long and 36 inches wide and 6 inches deep. The milk was set 3 inches deep with water at 45°. By this system it took 22½ lbs. of milk to make 1 lb. of butter. This was a better result than he obtained by the Danish-Weston separator, with the same cows and the same feeding. By this centrifugal system, 23¼ lbs. of milk were required for a pound of butter.

Another large butter and skim-cheese maker in Chenango county, uses small pails, 8 by 20 inches, filled so that they will float, using cold spring water at 45° to 48°. His best results, however, are obtained by this method: The milk is set in vats 16 feet long, 3½ feet wide, and 19 inches deep, filled partly full—about a third—the water running all about the vat. Another form of large vat is one with water running underneath and around, with a pipe through the centre inside the vat. There is also a form of shallow vat, with a tank on top in which ice is placed. The ice-water from this tank runs down between the vats and underneath. Another kind has a water-tight cover in which ice or water may be used to cool the surface, while cold water is utilized at the bottom. The can known as the Fairlamb can is one with a tub in the centre rising up to the top, so as to allow the cold water to cool the centre of the contents, or the whole body. In Delaware county small open vats, or coolers, are used and are popular, which are set in frames on legs, and so arranged that the cold water will cool the milk rapidly, and with covers to shut out the heat. There are several patents of these forms of creamers. Spring water is run in and out. The cream raised in the various forms of operating is well ripened before being taken from the milk, and must be handled accordingly, while by the closed creamer and ice, it is green and immature, and requires a longer time to ripen, as there is less evaporation and solidity. There are a number of kinds. These creamers are the most economical, and the milk and cream are the least affected by the changes of atmosphere. On the whole, they are the surest and the safest.

F. D. C.

Milk Ration.

Ensilage and Cheap Grain.

EDS. COUNTRY GENTLEMAN—Please make milk ration for cows from three to eight years old; natives and Holstein and Short-Horn grades; weight from 800 to 1,100 lbs.; commenced calving Nov. 1st. Good quality and large flow of milk desired. Oat straw cut; ensilage (one bin Stowell's evergreen corn, well matured, good condition, and one bin of dent corn cut when in glaze—sweet corn to be fed first); oats ground, $13 per ton; wheat bran, $7 50; oil cake, $25; corn meal, $12. What would buckwheat middlings be worth as compared with corn meal at the price named? *New-Richmond, Wis.* E. M. S.

E. M. S. wants a ration for cows from three to eight years old, to produce a good quality and large quantity of milk, but he fails to tell me what the yield of his cows is, so that I may know the best ration to advise.

He is favored with cheap foods, and this is an important advantage to start with. If his cows are not naturally good milkers, no ration will make them give milk above their normal standard. His ensilage appears to be good, and if he had clover hay to go with it, it would be very easy to construct a well-balanced ration. In his case, buckwheat middlings would be worth $14 and perhaps $15 per ton to balance his other fodder, as buckwheat middlings have more than double the albuminoids that corn meal has.

Let him combine the following ration: 35 lbs. sweet corn ensilage, 7 lbs. cut oat straw, 4 lbs. corn meal, 6 lbs. wheat bran and 5 lbs. buckwheat middlings. We give this in analytical formula, to show its digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
35 lbs. sweet corn ensilage.	0.42	4.20	0.70
7 lbs. cut oat straw.....	0.10	2.94	0.28
4 lbs. corn meal.....	0.36	2.52	0.19
6 lbs. wheat bran.....	0.70	3.76	0.15
5 lbs. b'wheat middlings..	1.15	1.60	0.36
Total.....	2.73	13.00	0.93

This has a nutritive ratio of 1 to 5.8, is well adapted to S.'s purpose, and should bring his cows fully up to their normal standard, producing their best quantity and quality of milk. Many other combinations of food can be made from the list he gives, but it would cost more to balance his ration with oil meal, and would be no better. E. W. S.

Working for Pure Food in Ohio.

DAIRY AND FOOD COMMISSIONERS MEET DAIRYMEN IN CLEVELAND.

A meeting of the Dairy and Food Commissioners of different States constituting the National Association, was called at Cleveland for Nov. 27, to continue three days—the last to be a public session held in connection with the Northern Ohio Dairymen's Association. Iowa, Minnesota, Wisconsin, Illinois and Ohio were represented, but the delegates expected from New-York and States farther east did not attend.

The first two days were spent in discussing needed reforms and laws to meet them. A brief session on the morning of the third day was devoted to final reports of committees on a memorial to be presented to Congress, asking the passage of stringent laws against adulteration of all articles of food; for the suppression or proper labeling of acid and alcoholic vinegar; and a more restrictive oleo bill. The first two subjects were presented in the form of the present laws in reference thereto in effective operation at this time in Ohio. In the discussion on the adoption of these resolutions one gentleman related how a dealer in bogus butter in Washington complied with the law a few minutes after its passage, and at the same time kept his trade. He put the sign "Oleomargarine Butter Sold Here!" above a window on the seventh story, while his butter sales were made on the ground floor, the front of which was shaded by a broad awning! After a while he was spotted, and an officer sent to arrest him. He took the deputy to the seventh floor and had him (at great risk of his neck) lean out and read the sign. As it was in a conspicuous place and complied with the law, the officer did not arrest him. In Ohio, which had a law against coloring distilled vinegar in imitation of cider vinegar, it was found that distillers evaded the law by making it of sour mash colored with burnt malt. Analysis showed no malt solids; so the inference was that it was largely distilled alcohol vinegar colored with malt vinegar, and sold for the latter. An amendment of the law to meet the case was recommended and adopted. The Ohio commissioners had now under consideration the vinegar made at cider mills, by putting the pressed pomace into a leach and running water through it. If such vinegar passed less than two per cent. of vinegar solids, it was clearly an evasion of the law, and would be declared contraband. "Vinegar solids" were explained to consist of malic acid, pectose and a trace of sugar.

The commissioners then adjourned to meet the dairymen at the city hall. John Gould on being called up said that the meeting had been arranged in the belief that it would be a good idea for the dairymen to meet the commissioners, and discuss the needed changes in laws relating to dairy products. The dairy interest of the country was a vast one, exceeding in value that of the national banks, and should be as carefully guarded by legislation as that or any other interest. The question of poor food was important also, and every one should be in haste to bid godspeed to all efforts to bring about the time when the wholesale adulteration of much that we eat would be unconditionally ended. As yet there were but nine States which had commissioners to inspect food substances and punish adulteration.

Hiram Smith, the veteran Wisconsin dairyman, who profitably keeps 100 cows on 200 acres of land, next addressed the meeting. He did not see much prospect of cutting off the oleo competition by law. The two-cent tax certainly had not killed the business, and it looked as if dairymen must meet the situation with other than legislative warfare. Oleomargarine found considerable sale where the law could not reach, as it was sold to ignorant people who could not tell the difference. He would educate the people to like dairy butter by making a good article. A dairy school was to be started at the Wisconsin Experiment Station. When consumers generally were educated to appreciate the flavor of good dairy butter then they would not buy the spurious. The fact was, much homemade butter was a disgrace to the makers, and gave color to the claim of the Armour and Swift crowd that their base imitations of butter were the best. We might possibly meet the bogus-butter elephant by cheapening production. When we can produce a pound of butter as cheaply as cattle feeders can produce two pounds of meat, then oleo oil would cease to be a successful rival. We could not make butter as cheaply as that until we radically changed our methods. The pasturing of a cow on three acres in summer, and then having her consume the product of as many more in winter would not meet the situation. If we investigated we should find that the rich nitrogenous foods that helped so materially in producing rich milk and large butter yields lost but little in manurial value. Cottonseed meal lost but 15 per cent., and bran but 10 per cent. Feed such foods abundantly and return the manure to the soil, thus increasing not only the milk yield but the capacity of the land to keep more cows.

What is a Standard Cheese?

After dinner a committee on resolutions reported with a view to bringing out discussion. The first one discussed criticised the present ruling of a former dairy commissioner of Ohio that standard cheese should be made of at least one sixth new milk.

Henry Talcott, assistant commissioner, took the floor and explained that the commissioners held meetings in the leading dairy centres, and consulted with manufacturers of cheese as to modes of making and amount of skimming. They found only three full cream cheese factories in Ohio. The rest either skimmed the night's milk the next morning, or allowed the patrons to do it. The question arose as to how much full milk a cheese should contain not to be called a skim-cheese.

It was found that most manufacturers skimmed in the fall months at the rate of 2 lbs. of butter to 100 lbs. of milk, and on this basis Gen. Hurst, who was not an expert, and without consultation with his assistants, sent out his noted circular fixing the quantity of whole milk at one sixth, and thus established the brand known as "Ohio standard." Some manufacturers adopted deep setting, and some the centrifugal method of treating the five-sixths of skimmed milk, and this made a cheese very much poorer than the "night skims" made by most factories, which soon brought the Ohio standard cheeses into disrepute. To his personal taste, the taking of one pound of butter from 100 lbs. of milk made better cheese than a full cream, but it was possible to spoil a full cream in making, and there was a difference in night skims. Mr. Crozier, a manufacturer of Lorain county, thought that if the law allowed the skimming of 1 lb. per 100 lbs. of milk in April, May, June and July, of 1 in 80 in August, and 1 in 60 in September, October and November, it would be more just than the present ruling, which was a damage to the business.

W. B. Straight said that he represented the manufacturers. He ran a chain of factories in Geauga and Ashtabula counties, and knew something about making cheese. His custom was to have the milk set over night in vats holding 400 gallons. Spring water was run around it to keep it cool, and it was skimmed in the morning and made into cheese with the new morning's milk. Milk so treated does not part with more than half the cream that could be got out by the centrifugal machine or deep setting. Had been in the business 26 years and tried many experiments, and was satisfied that the cheese-maker who practiced night skimming could make a cheese that would satisfy the consumer, and at the same time pay the farmer more than in any other way. The present way of making night skims was just the way that farmers formerly made what everywhere passed as full-cream cheeses. Not only did milk-buying manufacturers of cheese make them on this system, but cooperative factories followed the same system, and he knew of instances where cooperative facto-

ries had tried making full-creams and then gone back to the partial-skimming system as the proper way. He did not think it possible to have a national law that would satisfy all sections, as the quality of milk varied in different States.

In answer to an inquiry from the writer, Mr. Straight said he supposed most of the New-York State cheese branded "full cream" was such after the New-York fashion of making, but he visited many New-York factories twenty years ago, and at that time the methods of making were so crude that more cream rose upon the whey than Ohio men skimmed off before making. "Why, it was so thick you could almost walk upon it." Perhaps they had improved in cheese-making recently, but it was a fact that Ohio cheese men bought whey butter of New-York factories at 6¼ cents a pound for cheese grease. In Ohio they skimmed a part of the milk before making, and made 20-cent butter; in New-York they skimmed the whey to about the same or greater amount, and made it into butter worth 25 cents for four pounds. The quality of Ohio night-skims came so near New-York full cream that there was only a difference of ½c. per lb. in the largest cheese market in this country.

Mr. S. made two lots of cheese—one full-cream and one skimmed at the rate of 1 lb. of butter to 90 lbs. of milk—and sent them to two large New-York dealers, branding the night-skimmed A, and the full cream B. They sold at the same price, but one of the buyers wrote that he thought the A brand a trifle the best.

Mr. Fallensby of Lorain county thought Mr. Crosier's way of skimming should be slightly amended. He would skim August milk 1 lb. in 80; September, 1 lb. in 60, and October and November, 1 lb. in 50.

Mr. Thorn of Wisconsin contested stoutly for a full-cream cheese. This alone could be the standard. A man who got a reputation for woolen goods could keep it up only by using wool alone in their manufacture. If a maker of steel mingled iron with it, then his reputation for steel would be gone. Nothing would make a full cream cheese but leaving all the cream in. He favored a national law compelling the branding of cheese just what it was. The brand should be put on the article; not on the box or package.

Hiram Smith said the market price of cheese and butter was fixed where the most was used—across the water. Canada cheese brought 1¼ to 2 cents per pound more than New-York or Ohio cheese for export, and he believed it to be because more care was used in making. Canada has a dairy school and six instructors, who travel to teach factory operatives how to make good cheese. Canada was crowding United States cheese out of the market. He thought it possible that much New-York cheese was wasted in making down to the quality of "partial skims." It was not necessary, however, as the "double cheese" was made by incorporating the cream of an equal quantity of milk with the full milk made up—or in other words, it consisted of one milk and two creams. The fact that New-York cheese held the markets of Northern Ohio showed that the Ohio standard was too low. What was wanted was to decide *how much was left in*, not what was taken out. Milk varied, and the only way was to have a law designating the amount of butter fats that a cheese should contain to bear the brand "full cream." He would insist upon their containing 3½ per cent. of butter fat. The method of deciding by the months was erroneous inasmuch as the season of the year had nothing to do with the solidity of milk. The butter fats increased in proportion to the liquids as the pregnancy of the cow progressed. With a cow coming in in mid-summer the milk would contain most solids in spring.

Mr. Straight explained that most factories opened in March and closed with November, and the cows were fresh in spring and dry in winter. Mr. Crosier said many Ohio cheeses were shipped to wholesale grocerymen without branding, the dealers putting on their own brand. It was possible that a good deal of cheese made in Ohio was sold as New-York full cream.

After agreeing to meet some time in the winter, the association adjourned. L. B. P.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

INJURED BY AIR GUN, p. 866.—Heifer was wounded about Sept. 1. Immediately after she had a high fever. Gave her aconite in doses about half a small teaspoonful, also 1 lb. of epsom salts in three doses, one each day. Washed the bag in decoction of worm-wood and salt strong as it could be made, and applied for several days three times a day. Applied to wound a salve made of the yolks of three eggs, into which I dropped slowly, stirring all the time, 1 oz. spirits of turpentine. This seemed to remove soreness and fever, leaving her well; is now in good condition, but no more than a teaspoonful of milk has been taken from that quarter of bag at any time since the accident, or a few days after. Yet I have managed to get about that quantity every day. The wound was just about two inches up the vein from the teat, and the ball passed in a downward direction through the veins. O. M. D. *Owosso, Mich.* [Rub some of the following liniment on the affected quarter once a day: Tincture iodine, 3 oz.; tincture aconite root, 2 oz.; tincture opium, 4 oz.; alcohol, 8 oz.; mix. It is more probable that a large milk duct was injured than that all the present trouble is due to injury to milk vein. The cow will probably give as much milk as before, although there may be less from this quarter. But the injured quarter will improve considerably in time no doubt.]

HIPS LAME.—A five months old colt is a little lame in her hips; sometimes drags left hind leg when she first steps, and sometimes there seems to be a snap in the hip joint when she walks. Will run or trot in the field frequently as well as ever. T. D. S. *West Madison, Me.* [Apply golden blister and repeat in a month. Report progress now and then; always refer to this page.]

MARE LAME.—A mare, 18 years old, has been lame forward at times for two years. First appeared while using on plowed ground. Would get all right in a few days without treatment if kept off from the plowed ground. Feet perfect; never any swelling; worse going up grade, also when toes are long. Can let her lie idle during winter. B. *Hollowville, N. Y.* [Has the animal a splint on that leg? How was leg rested, if at all?]

SPEED DISABLED.—A large steer, 10 or 12 years old, was abused by driver in September; seemed weak for some time, but recovered. Ten days ago we found him down and could not get up. Had not been worked for a week before. Raised him up with sweeps till clear of the ground, but still he could not stand. Makes frequent efforts to rise, but always fails. Eats pretty freely; bowels natural. A. T. H. *Eastham, Va.* [I do not think that treatment will be of much avail.]

RINGBONE—MILK FAILING.—Can the enlargement of ringbone be removed or reduced? Had the ringbone "cut" on colt—the feeder taken out. Was this a good move? (1) My best cow is failing in front right teat; the flow of milk is probably a third less in that quarter. Cannot give any cause. (2) S. W. S. *Centre Hall, Pa.* [1. Either cutting or the actual cautery is necessary to effect a good percentage of cures. I prefer the cautery. 2. Rub the quarter with alcohol twice a day.]

LAME IN FORE FOOT.—My horse is lame in forward foot; first noticed in June last. Tried different blacksmiths, but is still lame; works on farm. The last blacksmith that shod him said it was strain in coffin joint. Stopped working him, put blister on; let him rest two weeks; he is lamer now than before. Feels and looks well. C. W. *Harpersfield, N. Y.* [Look over back numbers and note descriptions of lameness; then give us proper history and symptoms, and you will be advised.]

FROTH FROM NOSTRILS.—A five-year-old gelding, apparently in perfect health, when driven has a white frothy kind of matter in both nostrils, which passes away in a very short time after he is in stable or at rest; no coughing or sneezing at any time. J. A. F. *Westbrook, Conn.* [This does not amount to anything save the appearance. Inject a syringeful of the following lotion up each nostril once a day: Compound tincture aloes, 2 oz.; tincture opium, 2 oz.; creosote, 1 dr.; water, 1 qt.; mix.]

ANKLES WEAK.—My horse is lame or weak in ankles. After a little spurt will hold up his leg about a foot from the ground. When trotting slowly, if urged faster will throw out his leg as though he interfered, which he does not. T. H. P. *New-York.* [This is a very singular case—can you not give more information about it? Is horse sound or lame in stable? Are legs or either of them rested or favored in stable? Trot him to halter up and down, and note action at slow trot. Is he lame all the time when driven, or now and then? Is he worse at starting or finish?]

HIND LEG SWOLLEN.—A six-year-old mare had in September last what was called "water farcy." First symptom was a swelling on off hind leg at a point near body. Treatment prescribed was purging, and bathing the part with hot water. Two balls were also given, and some blood-purifying medicine. The leg is now swollen to nearly or quite double the natural size, from hip to fetlock, and the doctor now advises blistering, together with the hot-water applications. Mare has done little work during past year, and is in good heart. Is now simply walked about for exercise. E. H. D. *Canandaigua, N. Y.* [Are there any sores on leg or body? Is there a discharge from either nostril? Is there a hard lump under base of tongue between the jaws? Exercise twice a day. Give 1 oz. Fowler's solution in feed three times a day. Mix in drink daily 1 oz. granulated chlorate potass. Give one of the following balls, and repeat three days after: Powdered Barbadoes aloes, 6 dr.; powdered iodine, 25 gr.; powdered gentian, 1 oz., and a sufficient quantity of Venice turpentine; mix and make into two balls. Wash leg clean. Twice a day rub it well with some of the following lotion, as warm as horse can comfortably bear it: Powdered nitrate potass., 4 oz.; powdered muriate ammonia, 6 oz.; tincture aconite root, 4 oz.; tincture opium, 4 oz.; vinegar, 1 qt.; water, 8 pts.; mix.]

URINE NOT RETAINED.—A mare, 7 years old, cannot hold her water; was in foal last spring, but colt was so large she could not cast it; was taken away in pieces. Since then mare passes water as soon as she stirs around. Is in fine condition and seems otherwise healthy; have tried several remedies without avail. (The stallion treated as directed by you last March for weak loin got entirely well, and was sold to parties in Michigan last week for $1,500.) J. T. *Windham, N. Y.* [You should have written sooner. Inject vagina twice a day. Use hard rubber vaginal syringe. Tincture opium, 4 oz.; sulphate morphine, 1 dr.; acetate of lead, 1 oz.; water, 3 pints. Mix.]

COLT WEAK.—A heavy Percheron colt a year and a half old is weak forward; stands up straight and inclines a little forward on his toes, so that his heels grow and his toes are short. Weakness seems to be in back of cords of legs, and think it was caused last winter by want of exercise; he grew very rapidly and was highly fed. D. H. *New-York City.* [Put shoes on feet of affected legs with good sized heel calks, but no toe calks; then apply golden blister to back and sides of legs, from bottom of knees to hoofs, and all the way around feet from bottom of fetlock to hoofs. In a month blister the sides and back of legs from elbows to top of knees. Report progress in seven or eight weeks. Treatment for this case must be thorough.]

INTERFERING.—My driving horse, five years old, interferes badly with hind feet; has plain shoes with calk on outer heel; drive him to light buggy on country roads. (1) Young horse has lately begun to strike fore shoes with hind shoes. I never drive him fast; has light shoes. (2) H. B. *Coppoin, Mo.* [1. Use a pair of Fennell's ankle boots until you get horse shod so that he does not strike. Horses have different gaits and formations, so that there is a great variety of action and defective gaits. Therefore one style of shoeing will not obviate all kinds of interfering or interfering at one point in different animals. You must study the style of imperfection and seek to alter in shoeing. 2. Put extra weight in toe of fore shoe, and have it light at heel—set hind shoe back under toe.]

OUT OF CONDITION.—A five year-old road mare, since Sept. 1, has been very dull, and requires urging; was a very free driver. Is full of little eruptions; hair comes off with scab; legs stock badly. Hair has a dull and rough appearance. Has good appetite, but is not in as good condition now, with an additional amount of grain, as formerly. Various condition powders have had no effect. H. J. Q. *Tribes Hill, N. Y.* [Give one of the following balls every six or seven days, and feed Moore Bros.' worm and tonic powders: Powdered Barbadoes aloes, 1¼ oz.; powdered gentian, 1 oz.; sufficient quantity Venice turpentine; mix and make three balls. Also mix in feed once a day for a week one ounce granulated chlorate of potass. Write again in three or four weeks, and refer to this page.]

CALVES SICK.—Three calves, apparently in good condition will stop eating. Have high fever; noses dry and hot; breath fast and eyes dull and pale. No disposition to take either water or food. Not knowing what to do, I have given water with saltpetre, and fed them by pushing pieces of green corn, sweet potatoes, &c., in their mouths, and far enough to get between the grinders. If it drops out they cannot take it up. The first two have gotten well after five or six days. The last, a fine Jersey bull, is sick at present. W. R. C. *Avoca, N. C.* [Give ½ lb. epsom salts dissolved in warm water. Give one of the following powders three times a day in half a pint of warm molasses each time: Sulphate of quinine, 3 dr.; powdered chlor. of potass., 4 oz.; powdered rhubarb, 1½ oz.; mix. Make nine powders; give 15 drops tincture of aconite root morning, noon and night.]

LUNG TROUBLE IN PIGS.—I have a lung trouble among my pigs. First symptoms, pig stops eating; their quick breathing continues until death. Bowels seem to be all right. Lost one in four days about five months old; one about three weeks old, sick only one day; and one five weeks old. No appearance of sickness until half an hour before it died, breathing very rapidly. Examined its lungs immediately, and found them much discolored with large deep red blotches. Have another five months old pig affected in the same way. Have had a very wet fall, but pigs have had dry beds constantly. Use lime freely in all of the pens. Including breeding stock, have 55 now on hand. G. V. P. *Ghent, N. Y.* [Give all your hogs a dose of the following every day for two or three days: Epsom salts, 4 lbs.; sulphur, 2 lbs.; powdered chlor. potass., 8 oz.; mix. Full grown hog, 3 oz.; younger ones proportionally less. Give a dose once or twice a week after, for at least two weeks. Give sick ones of full size a teaspoonful of the following medicine three times a day: Carbolic acid, 1 oz.; tincture aconite root, 2 dr.; glycerine, 3 oz.; mix.]

Record of the Times.

Review of Passing Events.

Congress Assembles.—Thomas B. Reed of Maine was elected Speaker Dec. 2, and Rev. Mr. Milburn chaplain of the House. Mr. Ingalls was reelected president of the Senate pro tem. Senators from the new States were installed. The President's message reports foreign relations as generally harmonious, and pending questions likely to be satisfactorily settled. The presence of two international conferences augurs well for the future. Chinese relations perhaps demand careful consideration. The total revenues for the year are $365,000,000; expenditures, $260,000,000, with, allowing for sinking fund, a surplus of nearly $43,679,000. A revision of the tariff placing on the free list all articles which do not compete with home production is recommended; also removal of internal revenue tax on tobacco and spirits used in arts and manufactures. Silver coinage has not produced the evils prophesied, and the plan of issue of certificates is probably a wise one. Coast defences should be provided; while the navy is being strengthened old vessels are disappearing and new ones should be built more rapidly. Appropriations for ocean mail service are recommended and foreign commerce should be fostered and increased. Schools and farms for the Indians should be multiplied; the weather service should be attached to the department of agriculture; national aid to education is approved; the civil rights of the colored man should be protected, and federal elections be under federal control.

Stanley on the Coast.—Dispatches from Zanzibar, Dec. 4, announce the arrival of Stanley and Emin Pasha at Bagamoyo. An Egyptian steamer has been placed at his disposal. Emperor William has telegraphed his congratulations. Major Wissman met the party at Atoni, and escorted them into Bagamoyo. The town and shipping were decorated and a banquet given. A dispatch of the 6th says that Emin Pasha, who is nearly blind, fell over a balcony railing, 20 feet, and now lies in a critical condition.

Other Foreign News.—Mr. Gladstone spoke at Manchester, Dec. 2, advocating more local power for county councils, and reviewed the great advance in public sentiment on great questions in recent years.—The Salvation army's London headquarters have been burned out.—One of Barnum's elephants killed his keeper, Dec. 3.—Over 1700 London gasworkers have given notice to strike, Dec. 13.—Don Pedro reached Portugal, Dec. 7.—General Francis W. Palfrey of Boston, the historian, died at Carmer, France, Dec. 5, aged 68.—Details of the plot to kill Premier Tisza of Hungary show that he was to be blown up with dynamite hidden under the pavement.—The Russian censor has forbidden entrance to the New-York Tribune, Times, Sun and World, but excepts the Herald.—A sugar mill, with 1500 tons of sugar, near Prague, collapsed, Dec. 5, and eight persons were killed.—The Rothschilds will continue their support of Brazil if order is maintained.—Work on the Nicaragua canal is progressing favorably. The government is friendly.—Sir Percy Florence Shelley, son of the poet Shelley, died in England, Dec. 5, aged 70.

Death of Jeff. Davis.—The ex-president of the late Southern Confederacy died at New-Orleans, Dec. 6, aged 81. A graduate of West Point, he served with honor in the Black Hawk and Mexican wars; entered the Senate from Mississippi in 1847; was chairman of committee on military affairs, and secretary of war under Pierce. His advocacy of States rights made him a leader of Southern Democrats, and his resolutions embodying their doctrines were adopted by the Senate in May 1860. When Mississippi seceded in January 1861, Mr. Davis resigned, and was chosen president of the new confederacy, holding office till its downfall in 1864. His military and financial policy was severely criticised by southern writers. He was arrested near Irwinsville, Ga., and confined in Fortress Monroe two years. Released on bail (Horace Greeley signing the bond) no further action was taken, nor did he ever renew allegiance to the United States. His later years were spent on his estate at Beauvoir, Miss., where he wrote a history of the confederacy.

Minor Items.

The sugar trust has declared a dividend of 3½ per cent.

In the Cronin case counsel for the defense spoke in behalf of Kunze, O'Sullivan and Beggs.

C. E. Silcott, cashier of the House sergeant-at-arms, has disappeared with nearly $80,500.

General Grant's old farm near St. Louis changed hands, Dec. 8. The log cabin may be removed.

The remaining electric-sugar swindlers have pleaded guilty and will probably receive a light sentence.

A fire in Philadelphia, Dec. 2, caused the death of two women and five children, by burning or jumping.

President Harrison left for Chicago, Dec. 6, to attend the opening of the Auditorium, where Patti will sing.

A fire in Union Square, New-York, Dec. 8, burned out Dempsey & Carroll the stationers, and other firms; loss $200,000.

The Central Park menagerie, New-York, had a baby hippopotamus, the first one born in this country, but he died, aged six days.

An ice machine explosion in Trefer's brewery, Newark, N. J., Dec. 2, wrecked the inside of building and 12,000 barrels of beer.

The Meredith homestead in Wayne county, Pa., built by the first treasurer of the United States in 1817, was burned, Dec. 1.

A thousand-pound clock-weight in the Unitarian church tower, Waterville, Me., fell the other night and wrecked the organ.

The coroner's jury in the case of the Minneapolis Tribune fire hold the owners of the building responsible for the loss of life.

A student of the Wisconsin University has been fined for hazing. The fine and costs, nearly $100, will be paid by the students.

The Long Branch (N. J.) iron pier is breaking up under action of high tides and rough seas. The concrete seawall has also given way.

In the Navassa riot case, Philadelphia, a verdict of guilty was brought against one prisoner, and non agreement as to the rest.

Captain Murrell of the Missouri had to leave his vessel on arrival at Philadelphia recently, 48 hours watching on the bridge having affected his sight.

Five firemen lost their lives at the Boston fire. The Herald started a fund for the widows and orphans with $500, and it has reached about $5,000.

The new Pacific Mail Steamer China has made the run from Yokohama to San Francisco in 13 days, 20 hours, breaking record by 17 hours, 10 minutes.

Two Brooklynites have gone to law over some Virginia creepers which crept over a wall whose owner wished to paint it and tore the creepers down.

Judge David J. Brewer of Kansas has been selected by President Harrison to fill the place on the supreme bench made vacant by death of Stanley Mathews.

Henry Carlton, the murderer of policeman Brennan, was hanged, at New-York, Dec. 3, and John Greenwald, murderer of L. S. Weeks, in Brooklyn, Dec. 6.

In the New-York dock investigation it appeared that a dredging company was in the habit of dumping its loads in the slips when inconvenient to go to sea.

The decision of Judge Edwards, confirmed by the Supreme Court, that the Troy, N. Y., election returns must be signed, has been appealed from by the Republicans.

Masked men broke into Upper Marlboro (Md.) jail, Dec. 3, took out a man named Vermillion and hung him from a bridge. He had been concerned in firing various barns and houses.

An Oakland, Cal., judge got drunk in a saloon and was published in the paper. When court opened he lectured himself for breaking a city ordinance, imposed a fine of $50, and paid it.

The New-York limited express, westward bound, was wrecked by misplaced switch, Dec. 6, at Dune Park, east of Chicago; engine and three cars broken up. Passengers escaped serious injury.

Mortimer F. Reynolds, the first white child born in Rochester, N. Y., celebrated his 75th birthday recently. The chief guest was George Ellwanger of the well known nursery firm, who is of the same age as Mr. R.

A farmer of Bernardsville, N. J., in stooping to pick up eggs in a horse stall had his neck caught in the halter-rope, the frightened horse breaking loose and dragging him out. Before released the farmer was dead.

The Monongahela House, Pittsburg, the oldest hotel west of the Alleghany Mountains, was burned, Dec. 5, with loss of $100,000. The guests escaped, as it was about noon. The hotel was to have been sold at 2 o'clock.

The Evangelical Alliance held a general conference at Boston last week. Addresses were made by Drs. Crosby, Hoge, Brooks, Parkhurst, Greer, Dyke, Archdeacon Mackay-Smith, Joseph Cook, Prof. Ely and others.

Samuel Wilkeson, late secretary of the Northern Pacific railroad company, died at New-York, Dec. 2, aged 73. Educated for the law, he became in 1857 editor and chief owner of the Albany Evening Journal, where overwork injured his health. In 1859 he became connected with the New-York Tribune, and during the war had charge of its Washington bureau. By request of Jay Cooke he was detached to assist in the sale of the war loan and popularized them with wonderful success. In 1868 he aided to secure a charter for the Northern Pacific road, and in 1870 became its secretary, continuing until a few weeks ago.

The propeller Newburgh of the Hoeg Ramadell Transportation line, Newburgh to New-York, took fire on her up passage, night of Dec. 4, and lost her cabin, but was saved by putting into the 53th street pier. The passengers were taken off by a tug.

The corner-stone of a lodging-house for women, East 16th street, New York, the gift of Mrs. E. F. Shepard, was laid, Dec. 2, with addresses by Drs. W. R. Huntington and John Hall and Mr. Depew. It will be six stories high, contain 55 bedrooms, and cost about $200,000.

Shoe trade losses by the Lynn fire: 12,500 cases of shoes worth $900,000; shoe soles, $500,000; heels, tops, &c., $250,000; 35,000 dozen of skins, worth $370,000; machinery (including 3,223 machines) $276,500. One dealer in leather lost 11,000 sides of sole leather and 11,000 cases cut soles—value, $100,000.

The Viborite Mfg. Co. of Stoughton, Mass. have acquired the sole right to manufacture the Syracuse Hay and Grain Cup, and although they are making every effort to be in a position to fill orders for the coming season, it will be wise for the farmer to send in his order early in order to secure them in time. Send for Circular.

Choice Guaranteed 6% Per Cent. Bonds in amounts from $100 to $1,000, interest payable semi-annually.

Secured by First Mortgages on Improved Farms in Eastern Kansas. Negotiated and for sale by THE EASTERN KANSAS INVESTMENT COMPANY, Oswego, Labette County, Kansas.

Correspondence solicited. Send for Investors' Hand-Book.

Most of references given to parties with whom the officers of the Company have done business for twenty years past, including Editors COUNTRY GENTLEMAN. 1yBeow

TO OUR SUBSCRIBERS.

The SPECIAL ANNOUNCEMENT which appeared in this column some time since, announcing a special arrangement with Dr. B. J. KENDALL Co. of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby subscribers were enabled to obtain a copy of that valuable work FREE by sending to the above firm their address (and enclosing a two-cent stamp for mailing same) is renewed for a limited period. All should avail themselves of the opportunity of obtaining this valuable work. To every lover of the Horse it is indispensable, as it treats in a simple manner all the diseases which afflict this noble animal. Its phenomenal sale throughout the United States and Canada, make it a standard authority. *Mention this paper when sending for "Treatise,"* and address with cash, Dr. B. J. KENDALL Co., Enosburgh Falls, Vt. no2-13

Have you seen the 5-A Five Mile Horse Blanket? If not, why not? If you have a Horse you need it! no28-5

Parties having barren mares, or cows, or inferior breeders, will learn something to their advantage by addressing H. W. CAMPBELL, Racine, Wis. [1y

Don't neglect your cough! Ayer's Cherry Pectoral will cure it, and prevent consumption. Write J. AYER & Co., Lowell, for evidence.

If your lung trouble is of scrofulous origin, Ayer's Sarsaparilla will cure you.

Beecham's Pills cure bilious and nervous ills. [

CATARRH—CATARRHAL DEAFNESS—Hay Fever—A New Home Treatment.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment, both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on application by A. H. DIXON & Son, 305 and 306 West King St., Toronto, Canada.—*Christian Advocate.*

Sufferers from Catarrhal troubles should carefully read the above.

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send, free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 Powers' Block, Rochester, N. Y. cow1ow1

Farm Produce Markets.

Albany Markets—Dec. 9.

FLOUR.—The Argus says: Demand has been good, receipts fair and market steady.

	1888. Dec 7.	1888. Nov. 30.	1888. Dec 8.
Com. Wheat	$3.10@4.60	$3.10@4.60	$4.20@5.00
State Extra	4.10@4.30	4.10@4.30	4.60@5.00
Amb. State & W.	4.00@4.60	4.00@4.60	5.00@5.50
O., Ind. & St. L. Ex.	4.00@4.75	4.00@4.75	5.00@5.50
Winter W. Pat.	5.10@5.35	5.10@5.35	5.50@6.00
Minn. "Hungry"	4.00@4.75	4.00@4.75	5.25@6.00
Sp'g W. Pat., new	5.10@5.60	5.10@5.60	7.00@7.50

Rye Flour firm at $3.00@3.30 per bbl. Grahams $4@4.50. Oat Meal doing moderately well at $4.50@5.00 per bbl. Corn Meal in good demand and steady at $2.00@2.10 per bbl. Buckwheat flour in good

The Fireside.

Recent Publications.

Biography.—From Robert Bonner's Sons, New-York, publishers, we receive a most readable little book entitled "GREAT SENATORS OF THE UNITED STATES Forty Years Ago, with Personal Recollections and Delineations of Calhoun, Benton, Clay, Webster, Gen. Houston, Jeff Davis, and others." The author, Mr. OLIVER DYER, was a Senate reporter during the period referred to, and his purpose is to tell certain interesting things, which he is probably justified in supposing that nobody else could tell, about the distinguished persons referred to. The book costs a dollar, and it is well worth it.

The Fowler & Wells Co., New-York, issue a duodecimo of 380 pages called "EVERY DAY BIOGRAPHY," by AMELIA J. CALVER; price, $1.50. It contains brief sketches of the lives of a great number of distinguished persons, arranged by the dates of their birth days in the year, together with supplementary matter.

"Ready for Business."—From the Fowler & Wells Co. we have also a book with the above title, intended to aid boys in choosing their occupation. The author, Mr. GEORGE J. MANSON, describes successively the careers of the electrical engineer, architect, commercial traveler, banker, builder, shop-keeper, chemist, &c., &c., with suggestions as to the best means of attaining success in each calling. Price of the book, 75 cents.

The Hanfield Cyclopædia—is coming out rapidly just now, vols. 17 to 19 ("*Gage*" to "*Infancy*") having appeared since our last notice. The work as far as published may now be had, in handsome half-morocco binding, for $12.50, which is very, very cheap. John B. Alden, publisher, New-York, Chicago and Atlanta.

Fiction.—J. S. Ogilvie, 57 Rose St., New-York, publishes (at $1) a story called "A KNIGHT OF FAITH," by LYDIA HOYT FARMER, author of various historical, juvenile and other works. The tale before us is stated to be "a complete refutation of 'Robert Elsmere'"—which seems funny. What is there to refute in a chronicle of the proceedings of lunatics and cranks?

Two paper-covered novels from D. Appleton & Co., 1 Bond St., New-York, are—"THE AWAKENING OF MARY FENWICK," by BEATRICE WHITBY, and "PASSION'S SLAVE," by RICHARD ARMS KING, author of "The Wearing of the Green," &c.

Periodicals.—A very pretty and interesting pamphlet, with a profusion of elegant illustrations, describing "THE MAKING OF A GREAT MAGAZINE," is published by Harper & Bros., New-York, and we suppose may be obtained by enclosing a stamp.

The publishers of the Atlantic Monthly announce, among other attractions for next year, that the beginning of a story called "Sidney," by Mrs. Deland, author of "John Ward, Preacher," will appear in the January issue. A writer in the December number (which strikes us as rather unusually interesting) has some remarks about the architecture of our new cities at the West, which will hardly please the residents of those places. Their present style of erecting large buildings, he thinks,—

"is merely preliminary to architecture, though for the moment it pretends to be the real thing. It is evidently a hasty growth out of the immediate necessities of an enterprising people, too busy with the practical problems of life and the absorbing question of daily bread to have established ideals of art, or to have deliberately formulated in building an adequate expression of their civilization. It is an art whose essential characteristics have been derived from expediency—an art which has been mainly concerned with mechanical devices for quick and economical building. These devices have been invented by practical men to meet practical wants in a practical way. When freed from the misleading adornments imposed upon them by ignorance and pretense; from shams of wood, galvanized iron, machine-made mouldings, and all the other delusive rubbish of cheap deceit, which have no connection whatever with the structure, these practical devices will develop style. Until these quips and cranks of undisciplined imaginations shall have shabbily descended into their inevitable oblivion, and have been replaced by methods of decoration developed out of the construction according to the spirit of precedents furnished by the best eras of art which remain to us for our delight and instruction, deliberate and permanent architecture will not come into existence."

Late Gift Making.

It is now too late to attempt anything elaborate or to embroider. This may not be a misfortune; a handsome combination of colors and materials may induce better results than are achieved by a great part of the embroidery and painting on which time is wasted.

Bags are one of the greatest conveniences. Large ones, of stout cotton material—cretonne, canton flannel, ticking or denim (blue jean), and intended for holding soiled clothes, carpet rags, rug rags, paper rags, &c.—can be made in a simple oblong form with a shirr two inches below the top, and dress braid drawn in and used to suspend them by; or they can be made far handsomer, somewhat after the style of an old-fashioned silk purse. Take a piece of cretonne 54 inches long and 27 inches wide. Fold it so as to bring the seam in the centre of the front, 18 inches from one end leave an opening 14 inches long. Line and trim it with fringe or hand-made lace across each end if you prefer. Take a wooden or metal ring, such as is used on portières, draw the upper end through for a distance of 18 inches, and fasten securely. You will see that this end is round, and you might trim it accordingly. Use the ring to suspend it by. This style combines more good qualities than any other I know of.

Small bags for collars and cuffs are handsome made of figured French satin and lined with plain. Tassels made by crocheting in short crochet stitch over small brass rings with cream linen thread, and then making a full tassel through them of the same material, are easily made, and very ornamental. Leave an inch or two of space between each one when applying.

These same rings, covered with either silk or worsted, are handsome for many things, namely—table, chair or mantel scarfs, fancy bags, pin-cushions, &c. They can be bought very cheaply at any upholsterer's, and no doubt can be found in many an old country store. Pieces of ribbon—velvet, plush or silk, or a combination of all, with the joining seams covered with fancy stitching in silk—make handsome bags for shopping, for work, for dusters or for ornament.

Get all the odds and ends of pretty things in the house together, and be sure that all which you cannot use for other purposes will make pretty bags. Stripes of cotton, satin or cretonne, combined with plain colors, and the joining seams covered with common worsted dress braid, cat-stitched over with either silk or worsted, make pretty duster bags. If you buy material, nothing is more elegant for shopping bags than dark, dull colors of plush, lined in a similar or a contrasting color of silk, and ribbon to shirr it up and suspend by, harmonizing with the lining.

Baskets are another quickly made present. The little round Japanese baskets, which are this year sold ten for 5c., can be painted with either brown or gilt liquid paint, and then ornamented simply with a pretty bow on one side, or with a full looped bow on each side of very narrow picot-edged ribbon, and two pieces of the same used to suspend them by. With a small glass tumbler placed inside, they are excellent receptacles for either good or burned matches. A frill of oriental or hand-made lace, sewed to the opening, and allowed to hang over the top and down the sides, is a very handsome decoration, especially if each scallop has a full silk tassel attached to it.

Other covered baskets are useful, lined and ornamented with a bow, or even with two, for jewelry or handkerchief cases, and if nicely browned, make handsome receptacles for cards.

A handled, open basket was framed, a long-looped bow tied to the centre of the handle, a loose lining corresponding in color with the ribbon used was made by cutting a circular piece for the bottom and gathering a straight piece as long as the circumference around the edge of the basket, and wide enough to come nearly to the edge of the basket, and sewing it to the circle. The edge had a frill of cream lace, which fell over the edge of the basket, and the silk was feather-stitched at the edge where the lace joined it. This was the card receiver in a friend's hall, who could afford all the elegance she chose, but had chosen this simple, tasteful basket.

Work baskets, scrap baskets, &c., only need a handsome bow of either one or a combination of two colors to make handsome presents. And the common, coarse grape baskets of commerce can, by sand-papering and gilding the handle and then covering the outside and inside both with a full puff of contrasting material—satin or oil-boiled Turkey red calico—are pretty, the outside figured and the lining plain. Cut a piece of pasteboard to fit the bottom; cover this with lining material and lay in place. Tie a bow of harmonizing ribbon to the centre of the handle, and you have a pretty darning or other work basket. If you want it still handsomer, sew a frill of lace around the top and allow it to fall on the outside.

The larger 12 or 16 quart peach baskets can be placed with the bottoms of two together, and securely nailed in position. Then covered hour-glass fashion, with a wide ribbon and bow around the centre, they will make capacious and handsome work-baskets. You can make a pin-cushion and several pockets around the inside, if you choose. Nearly every one appreciates a calendar. Get some heavy cards—those photographers use for mounting photographs are excellent. Cover them with either velvet or plush. If you put a layer or two of cotton wadding on first, your material will look richer. You can bring the cover over to the back a little and glue it down, or you can sew it across the back. Line the back with silesia. Now get some calendars at a book-store, or some of those which insurance companies send out, and which can be had for the asking. Fasten one with glue near the lower right hand corner; at the upper left hand corner put a full bow of handsome ribbon, and in the centre a loop to suspend it by, and you have a handsome present for either a man or woman. The size of the card should be governed by the size of the calendar you are to attach.

The same manner of treating thermometers is a good one, but far more people are interested in knowing the day of the month than the temperature of their living rooms.

KATHERINE B. J.

Planting the Christmas Tree.

Christmas means so much to the little ones, they think and talk of it so long beforehand, that we older ones must not grudge a little time and pains to give them this taste of fairyland once a year. Those who live in the country need not lay out a primary expenditure of a dollar in a Christmas tree, but with the woods before them, select one to suit themselves. It is better in a regular cone shape from base to apex, and if not quite symmetrical should be trimmed in a shapely manner. If you have a big purse and can go to a store to purchase decorations, you need not read this article, but if you are obliged to make a penny go as far as possible, you may find here some useful suggestions. In the first place the tree must be inserted in some kind of a heavy block, or placed in a small tub, and so wedged in with stones as to keep it upright. In the latter case you can cover the tub with a flag, if you have one, or with a piece of bright muslin. In the former, pile billets of wood irregularly around the foot of the tree, whitewash them to represent snow, and twine Christmas greens carelessly in and out.

A pretty decoration for the tree is made from colored paper, gilt, silver, blue and scarlet. Cut into strips four inches long and half an inch wide, and with a bottle of mucilage form these into rings, slipping one through the other until you have long chains. Hang these chains around the outer branches of the tree, looping them from bottom to top. When you break up the Christmas tree, after the festivities are over, lay away in a box these chains, and all such decorations as will be good for another year. If you want something new yourself you can give them to some less fortunate neighbor.

If you have a broken mirror, you have a bonanza in the way of decoration. Get a glazier to cut it into as many small pieces, square, triangular, or any shape so as to get the greatest possible number. Glue a loop of narrow ribbon on the top to hang them up by, paste brown paper over the back, and a narrow strip of bright paper around the edge for a frame. Use paste or gum tragacanth for this purpose. Hang these so that the candles can be placed in front of them, and they will apparently double the number of the lights.

English walnuts make pretty trifles to hang on a tree. Crack them carefully, or better still, cut them in halves with a penknife, take out the meats, and save them for candies or cake. Fill one-half of the empty nutshell with the sugar caraways, insert a bit of narrow ribbon at the top with a drop of glue, clap on the other half of the shell, and cover with a small round of gilt or silver paper pasted on, and folded evenly about the ribbon loop at the top.

An oldfashioned but delightful trifle for a Christmas tree is the clove-apple. They are very nice to perfume bureau drawers, and a half dozen or more will be quite welcome. Choose small, firm apples, and stick them closely with cloves. They will keep for years.

You can save the expense of stands for candles by heating a bit of wire and inserting one end in the candle, the other in the tree. Rings of cardboard slipped over the candles will catch the drippings. Oranges and bright-red apples can also be suspended with wire, so fine as to give a graceful pendulatory movement to the fruit. Cornucopias to be filled with candies can be made from bright paper, and trimmed with silver or gilt, or with pictures to suit the fancy. Little lace bags made of wash bobinet, run up with gayly colored worsteds and tied with the same are also nice filled with candies. Sometimes a doll dressed in lace, with silver wings, is tied to the top-most bough to represent an angel.

It is better that the Christmas tree should not rely upon the gifts to make a pretty appearance, otherwise when it has been denuded of these it will make but a poor show, and the children will be delighted to have it remain throughout Christmas week, and be lighted again on New Year's eve.

A Christmas or Jacky Horner pie is a nice thing to include the presents in its capacious depths. Put all the gifts in a big tub, having each wrapped in a separate parcel and marked with the name of the owner. Attach to this a string with a paper label at the end, bearing the name of the owner, or if this is omitted it will add to the fun and confusion. The tub must have an upper crust of stout, brown paper, and the strings hang out through a hole in the top. At a given signal each child seizes a string and pulls. PALMETTO.

Don't Forget the Children!

In less than two weeks the Christian world will have celebrated its most important annual holiday. For some time past the children have been wondering and guessing what Santa Claus will bring them, and many who know that the great gift-distributer never comes their way are feeling sad that they will have no reason to rejoice, but possibly have happy moments thinking what their more fortunate playmates will get. With the boundless wealth of our time, it is a great pity that all deserving persons of every nation and tongue cannot share the joyful influence of this happy day. It may be impossible to turn all the grief into pleasure, and to make the unfortunate forget their troubles, but a great deal may be done in this direction.

Let all readers of the COUNTRY GENTLEMAN be sure that none of their family is deprived of some slight token of remembrance. If you cannot buy expensive presents, get some that are within your means. Do not allow any selfishness to prevent you from enjoying the pleasure of seeing your little ones as happy as they can possibly be. Never mind if it does seem somewhat foolish to you now. You were a child once, and looked longingly forward to the bright winter day; you played with your toys, ate your sweetmeats, and gratefully thanked some one—perhaps you did not know whom—for the kindness of your parents and friends. But now, because your childish dreams are over, you know there is no Santa Claus, and have come to look with stern, practical eyes upon the world and its ways, you forget the budding intellects with which God has blessed you, and cannot understand that it is one of your first duties to make them happy. Let their Christmas be a day of surprises and pleasing recollections.

Many will say "we cannot afford to buy presents." In a few cases that will be true, but most of us can get something. If we cannot please the children without a sacrifice let us make it. But do not let the sacrifice be of the children's feelings. Dispose of a few bushels of corn or wheat, a few chickens, a turkey, a sheep, or some other animal that we will not miss long. One day of positive pleasure the children should have, and we must not be so sordid as to figure whether their joy is equal to our loss in dollars and cents.

When you have made your own family happy

see if you cannot assist some deserving one not so much favored. Give your children something extra, a trifle if you can afford no more, to take to some poor playmate, who may not be remembered by others. As your own pleasure is greatest in giving to your boys and girls, theirs will be increased by the privilege of giving to others. These mutual acts of kindness will result in general good, and in the dissemination of more of the peaceful, joyous, godly influence of Him whom we should delight to serve, and to whose honor we cheerfully give of our worldly substance to make His holiday the most delightful of our lives.

Do not forget your children and their Christmas. J. T. C., JR. *Logan, Utah.*

THE NEW CROTON AQUEDUCT.—It is a curious commentary on the demands of modern civilization to observe the effect of building this dam. The million people in the city need a reserve of drinking water, and twenty-one families must move out of their quiet rural homes and see their hearths sink deep under water. The entire area to be taken for the reservoir is 1,471 acres. Twenty-one dwellings, three saw and grist mills, a sash and blind factory and a carriage factory must be torn down and removed. A mile and a quarter of railroad track must be relaid, and six miles of country roads must be abandoned. A road twenty-three miles long will extend around the two lakes, and a border or 'safety margin' three hundred feet wide will be cleared all around the edge to prevent any contamination of the water. This safety border will include a carriage road, and all the rest will be laid down to grass. As the dam rises, the water will spread wider and wider over fields, farms and roads. Every tree will be cut down and carried away. Every building will be carted off, and the cellars burned out and filled with clean soil to prevent any possibility of injury to the water. Fortunately there is no cemetery within the limits of the land taken for the reservoir. Had there been one it would have been completely removed before the water should cover the ground. Fifty-eight persons and corporations, holding one hundred and eleven parcels of land, will be dispossessed in order to clear the land for the two lakes and the dams, roads and safety borders.—*Century.*

MRS. HAYES AS A HOSTESS.—The usual number of covers for a State dinner is from 38 to 42. But Mrs. Hayes' inventive mind aided her generous heart to succeed in entertaining 60 young ladies at a State dinner which was in every way the most considerable yet given in the White House. For this occasion the usual table supplemented with wings was extended until the State dining room was filled to its utmost capacity. The profuseness of its floral decoration was only possible by considerable purchases from greenhouse men of both Washington and Baltimore. Absence of wine glasses from the banquet table necessitates, so experts aver, such an increase in flowers, as to raise the cost of such an entertainment beyond what it would have been had a full assortment of wines been served. Thus to replace with flowers the decorative feature represented by three or four hundred wine glasses, was not especially economical. But Mrs. Hayes was equal to the emergency in every instance and banished wine from State dinners by cheerfully arranging an expenditure of money from personal funds so that the entertainment account of her husband's administration exceeded in amount that of any president of recent years. This statement which will be a surprise to many is substantiated by cash books kept by stewards of the White House during, since and including the second administration of President Grant, who was it is said considered fair game by overcharging tradesmen. In President Arthur's term the total amount of the heaviest monthly entertainment account was $1,700 and for other presidents the greatest expenditure for a month does not vary materially from this sum, which when contrasted with bills for entertainment amounting to $6,000 paid out of President Hayes' private purse in a single month shows clearly how open-handed that administration was in hospitality.

—*Ladies' Home Journal.*

PURE DRINKING WATER.—Ordinary filters, even if satisfactory as strainers, fail to remove all bacteria from drinking water. It may, indeed, allow a more rapid multiplication of the micro-organisms in the filtering material itself. The finer the substance through which the water passes, and the lower the pressure, the more perfect is the action of the filter in holding back bacteria. Porous unbaked porcelain, carefully selected, is the best of all substances for domestic filters. If thick and strong enough to allow the use of a large surface, and the substance remains perfect, this may yield a fair flow of clear water free from all bacteria. To insure the permanency of this action, the filter should be occasionally sterilized throughout by steaming or other means. Where filtering is really necessary, it is, in general, best for the community that it be done carefully, on a large scale, through sand beds, upon which a fine layer of organic and inorganic matter is expressly produced by sedimentation, because of the valuable action of the latter in holding back the great majority of bacteria. A bad water filter is less desirable than pure water in its natural state. When, therefore, filtration is employed because of real danger of infection, the filtered water should, as a rule, be boiled, as the entire absence of sediment and cloudiness does not insure that the bacteria of disease have not made their way through the filter. The habitual drinking of boiled water would insure escape from sickness and death to thousands of the human race yearly.—*Medical Classics.*

WHAT IT TAKES TO FEED A LOCOMOTIVE.—It will perhaps interest some readers to know how much fuel a locomotive burns. This of course depends upon the quality of fuel, work done, speed, and character of the road. On freight trains an average consumption may be taken at about 1 to 1¼ pounds of coal consumed per car per mile. With passenger trains, the cars of which are heavier and the speed higher, the coal consumption is greater. A freight train of 30 cars, at a speed of 30 miles per hour, would therefore burn from 900 to 1,350 pounds of coal per hour.

Scribner's Magazine.

Domestic Economy.

The Succulent Onion.

Had the fates not decreed that I should be the wife of a country minister, living in a rural district where "donations" are still in vogue, I should probably never have discovered the how many delicious uses this much sneered at vegetable could be put. Indeed it was with more dismay than pleasure that I looked at the two bushels, one of white, the other of red onions, which with other things more or less useful represented a proportion of my husband's salary. They represented, too, the love of our parishioners, for it was out of their poverty, and not of their abundance that ever so much was given. Winthrop Edwards, my husband, is a direct descendant of one of those old Puritans who forsook home, kindred and country for "God and the right," and refusing a fat living in this land of plenty, he chose rather to locate himself among starving sons in a new country.

Fortunately, we all liked onions. Parboiled in salted water until nearly done, and then served in a sauce made of one cup of milk and a teaspoonful of butter, thickened with a little flour wet with cold milk, and seasoned with salt and pepper, they were pronounced delicious, and partaken of freely by all the family down to Baby Winnie, who seemed to consider "onduns" as great a delicacy as more (or less) favored children do cake.

I believe I made at least a dozen different onion soups. At one time a pint bowlful of onions were simmered till tender in a pint of water; then three cupfuls of hot milk were added, with seasoning, and a slight thickening, and the whole passed through a sieve into the tureen. This we called "bisque of onions" and served it with thin wafers. Made in the same way with stock instead of milk, and without straining, it gives quite a different soup. This stock can be made from the bones of a roast of beef, or from those of mutton, or veal chops. Two or three onions cooked with a quart of beans for bean soup, quite change its character, and gives a pleasant variety to those who are fond of the article. The same with split peas. A pint of sliced onions, and another of sliced potatoes cooked as above with milk instead of stock, is a delicious soup for a cold day. For a spring day, add a cupful of chopped onions to a quart of some delicate stock, such as veal or mutton, simmer till tender, and add minced parsley and seasonings.

Beefsteak smothered in onions is an evening dish much liked by Winthrop and the children after a hard day's work in the "clearing" for we are growing up with the country. This is the way I prepare it: Cook a beefsteak, as when you can get no better, let me tell you that a round steak that has been "hung" for several days is not to be despised. You may broil it or cook it on a hot pan without fat. Have ready a quantity of onions that have been sliced thinly, and boiled until done in salted water; drain; put in a pan a tablespoonful of butter, and as much fat from the top of soups, using the pan in which the steak was cooked if you did not broil it; let this get very hot; put in the onions from which you have drained all the water, and fry a golden brown. Pour over the steak, which by this time has made a quantity of gravy on its hot dish in the warming oven.

Stuffed onions make a very hearty meal with very little meat. Parboil a dozen or more large ones for twenty minutes in salted water, drain, scoop out the inner part of the onions and mix them with bread crumbs (we used to add also chopped mushrooms, which give

Weather, Crops and Prices.

Meteorology for Dec. 2–8.

ALBANY STATION, SIGNAL SERVICE, U. S. A.

Highest Barometer for the week						30.51	inches.
Lowest	do.	do.	.....			29.96	do.
Mean	do.	do.	.....			30.12	do.
Highest temperature	do.	.....				51°	
Lowest	do.	do.	.....			9°	
Mean	do.	do.	.....			29°	

Two clear days; three fair; two cloudy. Three days on which rain or snow fell; total precipitation, 0.14 in. Prevailing wind, S. E; maximum velocity, 20 miles per hour on the 3d.

The following table shows the mean temperature for each day, compared with what is called the normal, being the average for the same day in each year since the establishment of the station in 1874:

	2d	3d	4th	5th	6th	7th	8th
Day.....	2d	3d	4th	5th	6th	7th	8th
This year..	40°	37°	11°	20°	40°	39°	29°
Normal....	30°	29°	31°	30°	28°	34°	31·

Total deficiency for the week, 9°.

The Month of November at Albany.

According to the reports of Sergeant Sims of the Signal Service, the highest temperature for November was 68°, on the 5th; lowest, 20°, on 16th. Warmest day, 3d—mean temperature, 48°; coolest, 17th—mean, 30°. Prevailing winds, S.; maximum velocity, 24 miles per hour, N., on 15th. Clear days, 8; fair, 10; cloudy, 12. Rain on 15 days. Mean temperature and total precipitation for last ten Novembers as below:

1880—Mean Temperature,	42°	Precipitation,	5.00	inch.
1879	do.	40°	do.	4.08	"
1877	do.	38°	do.	4.36	"
1876	do.	46°	do.	0.40	"
1875	do.	30°	do.	2.90	"
1874	do.	38°	do.	3.44	"
1873	do.	44°	do.	1.14	"
1872	do.	41°	do.	0.97	"
1871	do.	43°	do.	3.44	"
1870	do.	38°	do.	3.49	"

New-York—*Islandia, Suffolk Co., Dec. 3.*—We had in the month of November 18 days of which rain fell (precipitation, 3.03 inches). Cloudy, days, 16; fair, 9; clear, 5. Highest barometer, 16th, 30.65; lowest, 23d, 29.35; mean, 30.03. Highest temperature, 3d, 64°; lowest, 17th, 25°; mean, 46°. First white frost on the 11th; first killing frost on the evening of the 15th. S. R. P.

Vermillion, Oswego Co., Dec. 2.—Mean temperature of November 39°; this is 8° above the November average for the last 26 years. Monthly precipitation, 4.11 inches; this is 0.35 inches above the November average for the above time. During the month there was 1 clear day, 7 fair and 22 cloudy. First snow fell on night of 26th and 27th, to the depth of 6 inches. Potatoes and apples were almost a failure, and farmers have the least in their cellars that I ever know. Oxen and horses are selling for fair prices; cows from $18@18; wheat, 86c. per bu.; corn, 65c.; oats, 40c.; barley, 60c.; rye, 63c.; buckwheat, 50c.; butter, 22c. per lb.; cheese, 9c.; eggs, 35c. per doz. E. B. S.

New-Jersey—*Mercer County,* 13 mo. 5.—The weather in this section has been unprecedentedly mild and excessively wet. Wheat was sown very late, farmers catching opportunity between the rains to prepare ground and sow. Grain in the stack has been growing for weeks, tops of stacks presenting a complete covering of green. There is much damaged corn, and on many farms husking was long delayed on account of wet condition of fields. The mildness of the season may be inferred from the fact that the writer observed 33 species of wild flowers between Nov. 4 and Nov. 30, among them violets as late as Nov. 16. A peculiar cattle disease of unknown origin has prevailed here, affecting principally milch cows under all conditions of keeping. The symptoms are feverishness, loss of appetite, ulceration of teats and passages, drying up of milk, &c. The range of the disease is erratic, skipping entirely some herds. W. W. B.

Delaware—*Dover, Kent Co., Dec. 5.*—The weather is clear and fine, with three hard frosts this week—a very agreeable change from the rainy, cloudy weather of the week previous. Roads smooth and fine. Farmers marketing poultry of all kinds at the canning house here, which will pack 1,000,000 pounds this season, paying good prices therefor. Eggs, 25c. per doz.; butter, 25c. per lb.; beans, $2 per bu.; potatoes, 50c.; sweets, 60c.; wheat, 70c.; corn, 30c.; fresh cows, $30@50; oak wood, $3 per cord. General health excellent. S. C. P.

Virginia—*Birdsnest, Northampton Co., Nov. 30.*—Another rainy month has interfered with final gathering of corn. It will probably be a long time before we see such an amount of rainfall in a year. On low land the corn was about drowned out, and it looks as if corn would be scarce here next season. We had skim ice on the 16th; two thunder storms and frequent fogs; maximum of thermometer, 73°; minimum, 31°; mean, 52°; rainfall, 5.05 inches, and for the year so far, 71.39 inches. C. B. E.

West Virginia—*Bunker Hill, Berkeley Co., Dec. 3.*—The wettest fall we have had for 25 years—an old farmer says since 1848, when much corn spoiled in the cribs and fields by reason of so much rain. None has been spoiled this year, but we had some shocked that lay out for three weeks before we could haul it in. The ground was put in good order the 29th and 30th by the freeze, and we housed it in fair condition. Much corn to shuck yet, and but little fodder hauled in. The streams are flush, and the ground full of water. Many wells running out. Much complaint among farmers of dull times. Wheat, 75c. for the best quality; corn, $1.40@1.50 per bbl. of 5 bushels; pork, 4½@5c. per lb.; beef, 4@5. A little clover seed made, but not yet threshed. Money matters are close with the farmers, and good farms are tending toward lower prices when offered for sale. The railroads are doing a very fine business, and can afford to pay good prices for labor, getting the best. Hogs are doing finely, and all other stock in fair condition. Country store keepers complain of trade going to large cities and towns on the railroads, where larger stocks of goods are kept, and selections are better. The completion of the C. V. R. R. has helped this section very much, generally. E. L. H.

Ohio—*Tallmadge, Summit Co., Dec. 3.*—The Thanksgiving storm that was so severe in places gave Summit county its first wintry weather, and this not very bad—only 17° for two mornings, with less than two inches of snow. Yesterday the snow disappeared, and this morning a warm rain is falling with prospect of open weather. Fall feed has been excellent, and milk production large for time of year. Up to the 27th of November there had been only three mornings when ice could be seen and only half a dozen white frosts. Scattering apples hanging on the trees at that date had not been injured. There was a large breadth of wheat sown late and the weather has been excellent for it. A piece of rye sown on a neighbor's farm after Oct. 20 is looking quite green. Some corn still in shock, owing to long wet weather. Several thousand sheep have been brought into this section ostensibly from Michigan, but I fancy many of them were reared on mountain grass, and made a short stop in the Chicago stock yards—which local butchers call "Hell's half-section." Some cattle feeding is being done, and probably double the number of cattle will be fed than for two years previous. Clover seed was almost a failure. L. B. P.

Westerville, Franklin Co., Dec. 7.—A wet November, and still wet. Corn a two-thirds crop; apples not as plenty as last year, selling at 40c. Potato crop not large, as the recent advance in price indicates, selling freely in Columbus at 40 and 50c. per bush. Hay, $4@6 per ton. Horses extremely dull; a few sales of brood mares at $180@200. Money plenty in banks and with salaried men, but farmers get little of it, as what they sell brings a low price. Wheat, best milling, 80c. per bush.; corn, 30c.; oats, 25c. Cattle dull of sale; good Jersey, Ayrshire and Guernsey cows bring good prices for butter-making; very few Holsteins here; a few Polled Angus and Red Polled have been introduced. Shropshire sheep take the lead, yet there is some demand for straight Delaine Merino. The best set of lambs sold last fall were a cross of South-Down on the large Delaine Merino. Hogs dull of sale at $3 15 per cwt., but market indicates a better tone for the future, and some offers of $4 in February have been made. Many farmers are uniting to divide beeves, as it does not pay to sell at 3c. per lb. on foot, and then buy beef at 8, 10 and 12c. E. W. F.

Illinois—*Vandalia, Fayette Co., Dec. 4.*—Disagreeable weather, rain every few days, preventing gathering corn, and making roads almost impassable. Wheat is looking well; acreage about ¼ more than last year, but less than the average of a few years ago. Wheat, 72c. per bu.; corn, in a small way, 25c., very little coming in; hay, $5 per ton; dry, fat cows from 1½@1¾c. per lb.; fat steers, none in the market; fresh butter, 30c.; groceries, drygoods and hardware very low. S. A.

Missouri—*Kansas City, Dec. 2.*—December came in sunshiny and chilly, with high wind. A slight fall of snow toward last of month, but melting as it fell. There has been much rain, and cisterns are well filled. Some hard frosts and the cold winds chill one more than the Eastern severe winters. Market prices seem to settle for the winter. Potatoes, 35c. per bu.; apples, 40@50c.; turnips, 25c.; flour, $1 90 per quarter sack; corn meal, 15c. per 15 lbs.; butter, 15@20c. per lb; eggs, 20c. per doz.; pop corn and nuts, 5c. per lb.; bright, tame hay, $5 per ton, delivered; straw, half price of hay. The city ordinances passed to establish river transportation of freight, and contract made for boats to be ready for use in the spring. Scarlet and typhoid fevers have prevailed, but were light. Diphtheria seems more fatal on the bottoms near the river. Homes on the heights are very healthy and air plenty in the cheap-built houses, but winters are short, and coal cheap so the inmates manage to keep warm. S. M. B.

Kansas—*Hamlin, Brown Co., Nov. 24.*—The recent snow storm in portions of the West did not reach us. We have had no snow of any consequence this fall. The weather generally has been fine. The ground has been frozen on the surface several nights, but it is moderate for the season of the year. Hogs, $3.30 per cwt.; fat cattle, $3.20; farm horses, $50@125. hay, $4 per ton; wheat, 60c. per bu.; corn, 18@20c.; oats, more or less damaged, 6@15c.; apples, 40c.; potatoes will hardly sell at any price, sometime ago they sold for 15c.; butter, 12c. per lb.; eggs, 20c. per doz. S.

Nebraska—*Falls City, Richardson Co., Nov. 30.*—Farm work nearly finished, except care of live stock. Has been in some respects a hard year for farmers. Disease has not killed their marketable stock as in years past, but the heavy rains in haying time injured the hay, an made work more expensive. The corn crop is large, but prices very low; only 16 @15c. per bu. if taken in the field, or 17c. if husked; hay is higher than usual; same hay $6 per ton; potatoes, 35c. per bu.; apples, 40c.; butter, creamery, 25c. per lb.; other kinds, 15@20c.; chickens, 25@30c. each; turkeys, 10@12c. per lb.; wood and coal are the highest commodities; vegetables of all kinds plenty and cheap. Weather prophets predict a severe winter from the usual signs. S.

Wisconsin—*Janesville, Rock Co., Dec. 4.*—The weather is quite mild and open; just two nights cold—4° above zero. Now again warm and open; one inch of snow on the 30th ult. No rain to do much good, just a second drizzling rain. Business is just fair; health only middling. Produce still low, some farm products still lower—one more drop in barley and hogs. Apples are not good this year, no matter from what part we have them. Tobacco is already taking the lead for next spring's prospects. We shall soon be truly a tobacco centre. Wheat, 60@70c. per bu.; barley, 20@30c.; rye, 40c.; corn, new, 24c.; old, 30c.; oats, 18@20c.; potatoes, 30c.; apples, $1.50@3 per bbl.; hay, $4@7 per ton; cattle, $2@3.30 per cwt; hogs, live, $3.25; dressed, $4.25@4.50; tobacco, 25@c., 4½@13½c. per lb. for old; '80 crop, 4½@7½c. in bundle. W. B.

Transfers of Thoroughbred Cattle.

Holstein-Friesian Association.

NAME.	SELLER.	BUYER.
Assembly Belle, C F Hoistinger, G H Dunn		
Astarte 4th, Wilcox & Lagrell, H Eastrem		
Bakker's Best, F S Knowles, A G Bond		
Barbara of Timber Point, Est of W L Breese, Mrs M L Breese		
Beebe 3d, J O Beal, H S Day		
Belle Korndyke, H Stevens, A Webb		
Belle Lanning, G W Harrop, H W Cheney		
Benjamin 3d, W C Rexford, D W Bond		
Bertha Wiersma 3d, H H Seeley, W M Sexton		
Berve 4d, G Head, J A Reynolds		
Bessie Cowsap, G W Harrop, H W Cheney		
Bessie 5, Hanson & Rathbone, W C Morgan		
Betje Syracuse, E Peckham, W T Reid		
Bettie 5, G W Harrop, W H Cheney		
Bird Ray, G F Bohr, F M Hopkins		
Black Rose of Crystal Spring, S W Dunham, U A Wainright		
Blanc Flora, J Taft, Grote & Church		
Bosslyn Artis, A A May, D H Goodell		
Bonne Beauty, J Taft, Grote & Church		
Carlotta, G Head, J A Reynolds		
Carlotta 3, M S March, W Rothwell		
Cavalleria, Est of Thomas Thompson, J A Currier		
Cora Belle Spaans, Est of E A Taft, Bush & Morse		
Coronet 3d, G Cole, H S Day		
Cowslip, G W Harrop, H W Cheney		
Crary Hengerveld, S A Freeman, H Stevens		
Cretenia 2d, I H Wendell, O W Williams		
Crusoe, Est of W L Breese, J H Dorsee		
Cyclamen, W Head, J H Coolidge & Son		
Cyclippe 3d, G Head, H Coe		
Dasie, J W Wilson, J P Lyle		
Diamond's Adelaide, J M Curtis, J L Brownson		
Dinah B and Dinah B's Grace, C F Hoistinger, G H Dunn		
Doodje, J M Curtis, J L Brownson		
Dora Hengerveld 3d, S A Freeman, H Stevens		
Dramoore 3d, S M Wright, W H Hughes		
Duplicate's Richtje, F M Harwood, J Q Dix		
Endive 3d, I C Wade, C N Harris		
Esdell's Nink, E F Taft, Sockanosset School for Boys		
Etolie, S N Wright, W H Hughes		
Excellentje 2d, Est of W L Breese, Mrs M L Breese		
Fairy Venus, Smiths, Powell & Lamb, D Malmno		
Fallu, Hanson & Rathbone, H C Harbison		
Fannie Ewan, G W Harrop, H W Cheney		
Floyett, F M Harwood, C L Alden		
Frances Budd, J M Curtis, C B Lord		
Gazelle 6th's Beauty, Hanson & Rathbone, A Lee		
Geta 3d's Daisy, G Head, J A Reynolds		
Glecholma, Est of G W Thompson, Mrs J A Currier		
Gomez, A Bradley, J Q Dix		
Great River Gloria, Est of W L Breese, Mrs M L Breese		
Gretchen of Islip, Est of W L Breese, J H Dorsee		
Gunhilda, C F Roberts, R J Nelson		
Hantsum 4th, F M Harwood, J Q Dix		
Helios, F M Harwood, W Hankin		
Herbert H's Boston, W H Frazier, J M Ogier		
Hillegonda Ka's Boston, A A May, D H Goodell		
Icy, C F Hoistinger, G H Dunn		
Ida Kay, C Robinson, C A Higgs		
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Iras, A B Curtis, W L King		
Josephenna, F M Harwood, D W Bond		
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Jacob's Joy, Figuers & Co, T C Morgan		
Jessie of Golden Hill, F M Harwood, J Q Dix		
Johnnie Angle, Est of W McEwan, Smith Bros		
Kate Hengerveld, G F Williams, D V Day		
Kathe, F S Knowles, C L Alden		
Kind, C Cole, W G H Porter		
Kind 2d, W H S Foster, U Cole		
Kitty Hazel, Hanson & Rathbone, A Lee		
Koopmanna 10, I E Winchell, G W Williams		
Lady Ebert, Cornforth & Cooper, R Cornforth		
Lady Gracious of Wyton, J Neutchherd, J Trequair		
Lady of De Kalb, H S Stark, H Dunne		
Lady Shelby, H M Lyle, J O Barkley		
Lady Zonderwan, H E March, J H Clandaniels		
Laurinda, F M Harwood, D W Bond		
Leslie Violet Rubenstein, A O Mayo, Elizabeth Cubbage		
Lettice de Ruitter and Lil Lorimer, J M Curtis, H Clayton		
Little Gift, S N Wright, Bush & Morse		
Lou Ford, G W Harrop, H W Cheney		
Lyndje 3d, C Rodinson, D W Bond		
Madame Hengerveld, S A Freeman, H Stevens		
Maggie Glidden 4th, S N Wright, W H Hughes		
Marina, Est of W McEwan, Smith Bros		
Maple Leaves 3d, E Peckham, W T Reid		
Martha of Timber Point, Est of W L Breese, J H Dorsee		
Martha Twist, H Stevens, J Raney		
Mary Hengerveld, G F Williams, D F Day		
Mary L, G W Harrop, H W Cheney		
Mandina 3d and Mandina 4th, C Robinson, F A Poth		
Maple Hatton, T S Figuers & Co, T C Morgan		
Meadow Queen, Meadow Queen 2d, Meadows Queen Beauty, Meadow Queen's Princess and Meadow Queen's Grandaughter, A B Curtis, W L King		
Memento Queen and Miss Spaans 2d, Est of E A Taft, Bush & Morse		
Minnie Constantyn, G F Williams, S F Day		
Misty Zwaan, J Taft, Grote & Church		
Mollena 3d, Hillside Stock Farm Co, D W Bond		
Mollie of Islip, Est of W L Breese, J H Dorsee		
Moore Artis 2d, J M Curtis, J H Okie		
Mug's Bianeba, C F Hoistinger, G H Dunn		
Nenna 6th, G S W McNall, Elizabeth A Jardine		
Negro Lady Belle, H S Stark, G H Dunn		
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Netherland Giant's Beauty, Est of W L Breese, J H Dorsee		
Netherland Mary, L S Frederick, C L Crawford		
Netherland Meeka, Hanson & Rathbone, A Lee		
Netherland Trina, H M Lyle, J O Barkley		
Nora Jacoba, Est of W L Breese, J H Dorsee		
Oseo, Est of W L Breese, Mrs M L Breese		
Paisy Wayne, F M Harwood, D W Bond		
Pioneer Farm's Umatilla, H E March, J H Clandaniels		
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Pride of Ilca 2d, S N Wright, W H Hughes		
Polyanna, G W Harrop, H W Cheney		
Pulmerend Belle 3d, Est of W L Breese, J H Dorsee		
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Queen of Riverside, C Robinson, S T Mower		
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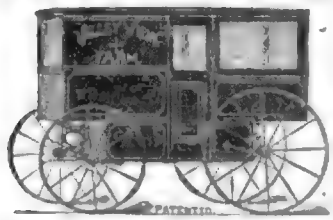

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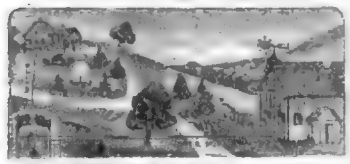

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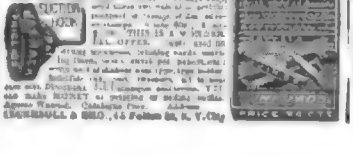

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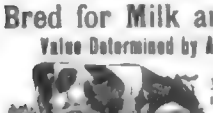

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Ida's Rioter of St. L. 13636—Son of Ida of St. Lambert, official test 20 lbs. 2¼ oz.; milk record, 67 lbs. one day, 4864 lbs. one week, 1,388 lbs. 11 days. Full brother in blood to Fawn of St. Lambert, 16,113¾ lbs. milk for 12 months ending before 3 years old.

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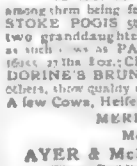

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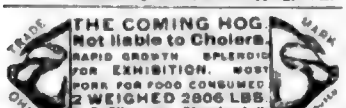

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SAW, WINTON COUNTY, OHIO, Dec. 28, 1888.

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THE CULTIVATOR AND Country Gentleman

Albany, Dec. 19, 1889.

Strengthening Hedges.

EDS. COUNTRY GENTLEMAN—Among the most excellent paper on hedges (page 843) we occasionally have to deal with an overgrown hedge that is defective below—a barrier to cattle, but not to hogs. We have been so unfortunate as to get several pieces of such hedge (osage orange) on bought land. Probably the best plan would be to cut it down to the ground, using the new growth only. But we have cut it down to a proper height for a fence, and by pulling the smaller, straighter brush through the openings below, and laying others against the hedge below, have been able to make the hedge proof against all hogs but professional, expert fence-breakers; and these swine should be sold as soon as their tendencies are exhibited. The fence will not require any attention again for some years. It would be better to use barbed wire also, but we have not found it necessary. Such hedges are always uneven—strong, close places alternating with weak, open ones. A barb wire along the top will strengthen that part, and enough stout stems can usually be found to staple the wire to; hence stakes or posts will not be required.

For handling hedge brush get heavy buckskin mittens—in gloves there are too many seams for the thorns to pass through. The reader knows how hard and disagreeable it is to handle large hedge brush. We have struck a fine scheme: When the brush are cut they are given an extra hard toss, sending them eight to ten feet from the hedge. Every thirty yards or so an opening is made in the winrow of brush, by throwing them first back and then ahead. Then we hitch a team to each end of a long pole. The teams should be hitched about ten feet from the pole. One team is driven through an opening and walks between the hedge and the winrow, the other team on the outside, and the pole gathers up the brush nicely. The brush hang well together and are gathered up clean. When they are rolled up halfway to the next opening, the teams are turned out, taken to the opening ahead, turned in, and the brush are brought along till they reach the mass made just before. In this way you can pile up, ready for burning, in one hour, half a mile of heavy brush. JOHN M. STAHL. *Adams County, Ill.*

Orchard Grass in Virginia.

EDS. COUNTRY GENTLEMAN—One of your subscribers asks for information about orchard grass. My experience with it has been quite extensive, having at present about 300 acres seeded to that and clover mixed. For a northern latitude I should think it was especially adapted, as it is very hardy, and affords the earliest and latest pasture. Mine is always grazed till Christmas, and beginning again by middle of March. As a pasture grass it is hard to excel, and mixed with other hay grasses is good. For hay, seeded alone, I should not recommend it. Its nutritive value will be seen by table below:

Japan clover hay	71 per cent.
Red clover	67 do.
Orchard grass	59 do.
Timothy	48½ do.

The best time for seeding, particularly north of here, is in the spring. Here I seed from March 1 to April 15, using 1½ bushels per acre sown by hand, but it is best with a machine, as the seed is very light and hard to distribute evenly. I use a lime sower which covers about 9 feet in width; sow on wheat or oats seeded fall previous, cross harrow and then roll. The harrowing and rolling will be found a decided benefit to the small grains. If sown to produce seed, should not be seeded with clover or other grasses, as the clover leaves cannot be separated from the seed. On land that will make 30 bushels of corn per acre, orchard grass will yield about 15 bushels. It brings on the Richmond market usually $1 to $1.25 per bush. The demand is increasing, but production is more than keeping up. For seed, the crop is cut with a self-binder, and eight or ten bundles set together without capping. The seed is easily shattered and much is lost in harvesting, a constant small stream dropping from the machine. My practice is to run over the field and beat the bundles on a sheet, before running through the threshing machine. By this method the best quality of seed is kept separate from the inferior. I have never been able to get first class seed from the threshing machine. The straw is not worth much except for bedding. As soon as the seed is removed from the field, it can be pastured till Christmas. If seeded with clover, the latter has much the advantage for two years, but after that the orchard grass will have it.

The agricultural press of the North has advised for years past the seeding of grass and raising of live-stock, as the panacea for all our ills. But now, as our people are beginning to take that advice, the very bottom of prices seems to have dropped out of the stock market. Grass-fat young steers and heifers sell for 2½ cents on the Richmond market. The farming classes are beginning to organize in this State, as in North Carolina, and we hope the movement will spread over the land, and be as successful in putting down trusts and monopolies, as the cotton raisers have been in vanquishing the jute trust. If the remonetization of silver is adopted, we are hoping for better times, adding to this a little tariff reform. C. E. JOHNS, *Rhoxana County, Dec. 9.*

The Culture of Barley.

EDS. COUNTRY GENTLEMAN—Barley growing at its best is little understood in this country. Any ground is hurriedly and rudely prepared, the seed planted in season or out, and the crop is harvested, by some, early, leaving the final process of ripening to take place in the sheaf or cock; others cut in a medium state of ripeness, while another class do not cut until "dead ripe." It is threshed at the most convenient time; the thresher often runs so fast it breaks some kernels and bruises the germs of others, and it is then thrown in a heap where it lies until a market is found for it, and it brings in Europe only about half the price of barley grown there; in fact, the English call the American product "pig barley," and consider it fit only for feeding purposes.

Where barley is grown for malting purposes this is all wrong. To grow the best quality, a loam soil is required. It must be rich and in good tilth. Farmyard manure should not be applied directly to the land. There is no better plan than to sow it after corn where the ground was heavily manured for that crop. There should be a good depth of mould, and so thoroughly worked that the manure is dispersed through every part of it. If soil and manure are not well blended, there will be rank spots in the grain which grow larger and ripen later, making the sample uneven. Barley should be sown as early as possible, for it does better and ripens more evenly. Only the best seed should be planted—large, perfect grains of uniform size. This is requisite to produce uniformity of growth and maturity. Two bushels per acre is the rule on such land. If sown too thickly, some of the plants will be so crowded they will not ripen with others more favored. The time to cut is when a majority of the ears point down, because a more evenly ripened crop is secured, it can be housed sooner and the grain malts better. It is an important point gained when the time between cutting and housing is shortened. Cut in the condition stated, it can sometimes be drawn in the same day. Those growing barley for malting purposes should be provided with hay-caps. Getting wet after cutting and before drawing injures it very seriously. If cut too early, the grain becomes what maltsters call "steely," a condition obnoxious to them. Care should be observed in threshing not to break the kernels or bruise their germs. Neither should the speed be too high; just enough to shell the grain out and knock the awns off. Some thresh too soon, and the grain sweats in the bin and partially ferments. It should remain in the mow or stack until the sweating process is over and it is thoroughly cured out, when it becomes what

is called "homogeneous." In winnowing, the meshes of the fan-mill sieve should be of that size which will pass the small and undeveloped grains. Thus grown and treated, it will be of the best quality for malting, and should command a superior price; lacking any of these points they will be revealed on the malting floor and in the kiln—indeed the maltster or experienced barley dealer can tell wherein it is defective the moment he looks at and handles it. GALEN WILSON.

Tompkins County, N. Y., Dec. 4.

Clover Sickness and Clover Failure.

ED. COUNTRY GENTLEMAN—In your paper for 1857, page 208, may be found a most interesting article by Sir J. B. Lawes, giving an account of clover sickness as it occurs in England. In his letter Sir John refers to a paper by Mr. F. F. Root, and says it "establishes the fact that in the soils of the United States as well as in the soils of Europe clover sickness prevails wherever clover has been grown too long, or has been too frequently repeated."

I have read this paper of Mr. Root's (page 64, same volume), and find it treats of the failure of the wheat crop rather than of the clover, and although clover did not do well he does not describe symptoms resembling those of the European clover sickness.

Have we, or have we ever had, clover-sick soils such as occur in England? That clover sometimes fails to grow we well know, but the causes of its failure were always apparent in the instances coming under my notice, such as poor land freezing in the spring, or drouths in the summer. In some sections of our country insect enemies are troublesome, but they are known and have been described and figured. But in England there is another and obscure cause of failure. There it seems that rich land suitable to clover that will grow large crops of grain, turnips and beans, refuses to grow clover, except at intervals of from four to twelve years, and *that the addition of organic manure makes the matter worse.* Is there a farm in the United States of which this can be said? I have never seen or heard of such land. More, this English disease is contagious, for Sir John tells of a case where it spread from an infested field a few feet over its borders into a healthy one.

That after growing clover every other year for 15 years, as Mr. Root tells us was once of the practice in Western New-York, the crop will diminish, is extremely probable, but this was never the custom in England. It came in rotation once in four years at the most, and always with manured crops between. Now, the rotation must be extended for a much longer time.

I hope your correspondents will tell us the results of their experience, but the first thing they should do is to read Sir John's paper. They will find plenty to think about, and will join me in thanking him for it. Among other things they will find that clover failing to grow and "clover sickness" may be two very different things. GEORGE CLENDON.

Loudon County, Va.

Scientism vs. Science.

ED. COUNTRY GENTLEMAN—In your paper of December 5 I find the following from one of our most prominent agricultural writers and speakers, which to me appears to be so utterly erroneous that I think it should not remain even a week uncontradicted: "The boy or the girl may be made a scientist when very young." Again, "Science is, after all, a plain thing. It is knowledge—in one word—fact."

I question whether the eminent writer who used the above language really believed what he said. Certainly I hope he did not, for I am sure that neither of the above statements quoted are correct, and if incorrect, it is most unfortunate that those who are now looking to science to aid them in their practical affairs are being misled in a matter so important to their interests.

While it is true that science rests upon well ascertained facts for its foundation, the mere accumulation of facts by no means constitutes science any more than a pile of quarried marble is a cathedral, and in fact we can easily imagine (if we do not now and then meet one) who is almost an encyclopœdia of facts, but whom we would by no manner of means speak of as a scientific man. Further, science has the power of determining facts which have before escaped observation, through those generalizations which are the results of that peculiar treatment of facts which constitutes true science, and the history of the development of science abounds with discoveries which have blessed the world, almost creative acts, which have been made known as the deductions of science.

The mere superficial knowledge of facts which exist as a heterogeneous mass in possession of many, is a far different thing from that classified and orderly arrangement of even a far less number of facts, but which thus classified and arranged in symmetrical form are sure to be mutually dependent upon and continually supporting each other.

It is clear, therefore, that neither the child nor the man "can be made a scientist" by the mere acquisition of facts, since facts alone do not constitute science, but it is rather the result of the scientific method of treating such facts.

It is to be regretted that such loose speech abounds, since it tends to bring great discredit upon true science, and retards rather than helps those who may place too great dependence upon mere scientists who pose in the garb of science, while they seek to instruct their hearers.

Further, there are too many of our people who clearly understand this matter, and it would be a double misfortune should their disgust for this pseudo-science lead them to antagonize those agencies through which the attempt is now being made to teach our farmers the better methods of agriculture, which true science has made known during the past half century. FARMER.

Good and Cheap Roofing.

ED. COUNTRY GENTLEMAN—A correspondent (p. 903) inquires about cheap roofing. I have made many experiments in that line. Tarred paper, only, on a roof has not sufficient strength. If tarred paper is painted, the tar will decompose the oil in the paint in a few days, and destroy the latter's durable properties. Tarred roofing paper is valuable only when placed beneath some roofing material having sufficient strength to resist the action of the elements. When tarred paper is placed beneath tin, sheet-iron, shingles, slate or any other roofing material, it will last a lifetime, and will convey away all the water that may be forced between the shingles or slate during furious storms. I refer here to the thin, light sheathing paper used by builders beneath siding, tin and slate. One can buy, in most cities, a thick, heavy material called roof-felting, which is strong and durable. But a roof of such material will cost about as much as tin, while it will not be half as durable. Many persons want a cheap roofing material for sheds and cheap buildings, on which tin, shingles or slate would be too expensive.

A very cheap roof was made on the last barn that I built for my own use. After the boards were nailed to the rafters (not planed or matched), they were covered with tarred paper, over which was put strong burlap, costing ten cents per square yard. Lath nails were used, in lieu of large tacks, to nail it to the roofing or boards, as such nails are about as good as tacks, and much cheaper. A heavy coat of hot coal tar was applied to the burlap. The tarred paper kept the tar from flowing down between the roof-boards into the barn. After the first coat of tar had dried, another coat was applied, and clean coarse sand was scattered in the tar, over the entire roof. By applying a coat of coal tar about once a year (or as soon as the burlap is not protected by the tar), such a roof will last a lifetime. A grave objection to this roof is, the yearly coat of tar, as most people neglect such work until the roof begins to leak, or the burlap has been exposed to the weather so long that it is worn out. The expense of applying a coat of coal tar is small, beside the labor. When the tar is thin, it is put in a metallic kettle or boiler, and boiled carefully for an hour or two, after which it is applied with a large whitewash brush. In warm weather the tar will not always need to be heated.

Coal tar is the residuum of gas works. At some gas works the proprietors sell it for fifty cents per barrel, as they have no use for it. Sometimes it will be as thin as molasses, and at other times and places it will be so thick as to flow slowly when pumped from the tank. It is a disagreeable material to handle and to have about one's premises. One can scarcely look at it without having his hands or clothes badly soiled. Yet I always keep it and use it for many purposes.

I once covered a cheap shed with boards, not planed, over which I spread newspapers, lapping the edges a little, until the entire area was covered with several thicknesses of paper. Above the paper was laid an old carpet of small value. The holes in it were covered with pieces of old bags and other pieces of worn-out garments. Two heavy coats of coal tar rendered the foundation of the roofing durable and leak-tight, making a good roof at a nominal cost of material, and involving but little labor.

I would not advise such cheap roofing on a dwelling or on large outbuildings, so long as slate can be put on at such small expense. In this section, where everything that one eats, drinks, wears and uses in any way is about as expensive as it is in any other part of the United States, slaters will cover roof-boards with paper and good slate, find their own nails and build their own staging for five cents per square foot. Fine shingles of first quality, including the cost of staging, nails, and $3.50 per day for a carpenter's wages, and painting, will cost more than slate. But in many localities the cost of slate and shingles will be less than prices given.

A good and durable roof can be made with matched boards, if the work is done as it should be. Select sound lumber, planed on one side, and fasten the boards to the rafters with two or three small nails in each board, leaving the nail heads extending above the surface of the boards, so that they can be drawn out with a hammer. Paint the upper side of the boards. After the boards have been exposed to the rain and sunshine for a year, withdraw the nails, paint the tongues and grooves with thick paint, drive the boards together and key them up tightly with floor-clamp wedges, after which nail each board firmly. If there should be any small cracks, let them be filled with thick paint. Keep the surface well painted. If such a roof has only a quarter pitch, it will do good service as long as the surface is kept well painted with paint of some light color. But it is important that the boards should be seasoned on the roof for one year at least. Boards that have been seasoned under cover for many years, when exposed for a few months to alternate sunshine and rain, will often shrink out of the matching when employed as a roof. The boards in this style of roof should extend up and down the slope, rather than across the rafters. The steeper the roof is, the less liable it will be to leak.

Mercer County, N. J. SERENO E. TODD.

Sorghum Sugar Making in Kansas.

The papers contain the following statement under date of Topeka, Kansas, Dec. 9, alleging, as will be seen, that many farmers in that State have been badly swindled by experimenters in making sugar from sorghum:

Secretary Mohler of the State Board of Agriculture has finally become convinced that fraud has had much to do with the alleged business of sugar making in Kansas during the past, and he will at once begin an examination into the methods of mill men. There is little doubt that there have been more profitable crops of bonds than of sugar in Kansas since the raising of sorghum cane became the fad of the plains agriculturists. All the mills have been built through the aid of bonds, and the latter have been marketed as soon as negotiable. While several of the mills have signally failed this year, and one or two are now in receivers' hands, the fact remains that money has been made by those who negotiated the sale of the bonds.

Many farmers devoted the entire season to growing sorghum, only to discover, when they had delivered their crops, that the mills were either unable to handle it or could not pay for it. Secretary Mohler blindly believed until this week the representations of the sugar men that sugar making was an entire success, and would eventually put millions into the pockets of cane growers. His eyes were opened when he learned that in Western Kansas two men are now working up township schemes to build 100 sugar mills by township, at a cost of from $16,000 to $20,000 each, which would place upon the western counties an indebtedness of at least $1,700,000. Under this new scheme it is proposed to build mills to manufacture sugar by the Adamson or "mush" plan, which has recently been given to the public as the roasting process.

This "mush" process is but a theory, never having practically been tested, and there is no reason for believing that anything can come from it. It is simply a roller and chopper mill, with roasting to extract the saccharine, which is reduced to the consistency of mush; hence its name. This mush is to be sent to a central factory to be made into sugar, the factory to be built some time in the future at some place yet unknown. The cost of the machinery, building and appurtenances cannot exceed, so Secretary Mohler figures, $5,000, and probably that sum could be reduced to $3,000. For this plant the township is asked to give $16,000, the minimum figures, to $20,000, the maximum. Allowing $200,000 to be used in the several townships to pay for assistance in working the handsome profit of $1,000,000 on an investment but brains remains.

In one county the Township Trustee issued township scrip, and the two men referred to have secured the calling of an election to vote $10,000 in refunding bonds to take up the scrip, although no indebtedness exists. The same condition is to be found in several of the western counties. The projectors of the scheme accept the prevailing legal opinion that voting bonds to aid the sugar mills is unconstitutional; so they resort to this means of securing bonds that will be good on the market.

Mr. Mohler wrote to-day a letter advising the people of those counties not to vote more bonds, but to await developments. He says in this letter that the time has come when the public have a right to know the facts regarding sugar manufacture, which have been so persistently concealed by the sugar companies, and that he is convinced that sugar making has not been financially or commercially successful. He says he has been deceived by reports coming from those whom he finds to be interested in the sale of sugar machinery. So impressed is he now in his belief that an immense fraud is being perpetrated that he has taken steps to bring about the fullest investigation by the State Board of Agriculture at its next meeting in January.

Secretary Mohler has been materially aided in reaching his present conclusion by an interview he had with the president of the American Sugar Company yesterday. That official said that he did not claim the ultimate success of the new method of sugar making, the roasting process, but he believed it would bridge over present difficulties for the farmer, and enable him to go into the raising of hogs, cattle and horses, where he would find his prosperity. Mr. Mohler wanted to know why, if "roasting" would tide the farmer over the present hard times, and be a bridge to prosperous stock raising, it would not be a good thing to extend the bridge and permit him to go on to wealth and the fullest financial success. This the president of the American Sugar Company could not answer. It is likely that there will be a suspension of all bond voting, at least until after the investigation next month by the State Board of Agriculture, which will be an earnest effort to ascertain the truth, and this will be given out, regardless of the result.

New-York Farmers' Institutes.

At Malone—Apple-Raising.

E. A. HYDE of Bangor read a practical paper on "Fruit Culture in Franklin County." Mr. Hyde said large bodies of water are as essential to fruit-growing as water communication is to the building of great cities. The question is for us not what other people can do in fruit, but what fruits will prosper with us here. A great deal of money is lost and time spent in planting sorts not adapted to the section of country in which they are planted. We must look out for that, as such losses provoke discouragements and lead people to do without fruit. We must not be deluded by fine colored plates and glib-tongued agents into buying things unsuited to our locality. Twenty-five years ago our supply of apples was a meagre collection of seedlings, with no pears or grapes. Since that time considerable progress has been made in cultivating grapes and other fruits. Some varieties of apples seem to be more particularly adapted to Northern New-York than to other localities. The same is true of the Flemish Beauty pear. The Fameuse or Snow apple is at home here, and it should be, for it originated in Franklin county, near the Canada line. As the township in Canada beside the native tree was a fruit town, the Fameuse spread in that direction, and hence its association with Canada, although it is an American apple, and the original tree is still standing in Hogansburg, N. Y. It stands preëminently at the head of the list of apples. The tree is a thrifty grower and productive, and as a table apple it has no peer. It is at its best from November to February.

We have little trouble with a long list of varieties. For a fall apple the St. Lawrence is a success. The fruit is large, handsome and of fine flavor. The Tetofsky is an upright grower, very hardy and a great bearer of second-rate fruit. The Astrachan is a rapid grower, fairly hardy, and rather a shy bearer; acid, but fine for cooking. The Duchess of Oldenburgh has no superior. It is a very productive fruit, good size and handsome; fine for cooking when green, and continues to improve, and when fully matured is excellent for eating. We have more trouble with our winter apples; the trees are less hardy. This is the case with the old varieties. Our season is not long enough for many of them to mature. With the exception of the Roxbury, the Russets do well. The Talman Sweeting, Baldwin and Stark-

further do well. The Bethel, a new variety recently introduced from Randolph, Vt., is proving hardy. It is rather a shy bearer; fruit good size and handsome.

Our list of pears is short. Plums are limited; the whole family of the Gages are worthless also. Peach, plum and cherry trees grow well, but the robins take all the fruit. There should be some act by the legislature to get rid of the robins.

Trees of forced growth do not do well. When such trees are transplanted in poorer or weak soil, they do not succeed. Reverse the operation and success is sure. Home grown trees are the best. I recommend as the safest way to sow the seeds, and when the trees are of suitable size transplant them, and afterwards graft. This is a good rule in a rigorous climate. Trees should be pruned every year and useless wood removed. To do this once in five or six years will not answer. Now is the time to get rid of the tent caterpillars. With sharp eyes we can see the incipient nests and destroy them. Did you ever know a robin to eat one of these worms? The robins last year ate all my Delaware grapes. The Hartford Prolific does well here, also the Concord, Moore's Early, and the Champion. Moore's Early is fully ten days earlier than the Concord. The grapevines should be buried. Currants do well, but the robins eat these also.

Col. Curtis said: I sympathize with Mr. Hyde about the robins eating all his cherries. They do the same thing at Kirby Homestead. It seems rather mean and cruel to kill these songsters because they come upon our premises to get their food, and to get rid of them we must have a new order of things, and make robins popular for pot-pies.

Mr. Hyde—I am going to kill them anyway.

At Ogdensburgh—Corn—Pigs—Cheese.

Gen. N. M. Curtis presided at the Ogdensburgh meeting. He advocated more corn growing in St. Lawrence county, and gave an interesting account of his growing the dent varieties; by cutting up the most mature stalks, and drying the ears on them without exposure to frost, he had preserved them so that the corn grew. In a few years he had so far accomplished this late-growing corn that it would ripen in the valley of the St. Lawrence. The common notion in this vicinity was, one hog to five cows. He was in favor of five hogs to one cow. St. Lawrence county paid out annually for pork products a half million dollars. Every pound of these pork products should be produced in the county. The farmers of this vicinity should grow the food required for the people.

Hon. Daniel Derbyshire, Brockville, Ont., said that he was specially interested in cheese-making and the sale. He believed in good cheese—cheese better than the most of it would rank. In Canada there was more care exercised in the cheese business, and they had gone ahead of New-York. Last year they had sold 6,000,000 pounds of cheese, and this year 10,000,000 pounds; next year they expected to reach 15,000,000 pounds. The cows should be more productive; must give from five to six thousand pounds of milk in a year. They must be fed better. There is no danger of wearing out cows if they are fed with good judgment. In Canada the yield was not what it should be. Their income now was $30 for six months.

The cheese factories are usually poor buildings, and they cannot be regulated as to temperature, and until this idea of controlling the temperature of the curing room is regarded, cheese will not be matured properly, and will not open up in fine order. The next thing is a good maker. Here Canada is ahead. The dairymen there appreciate the value of a skilled maker. On this side the makers look too much to cheapness in the making. The care of the milk is the next important thing. The milk must be aërated. It must go to the factory in good order. Good cheese cannot be made from poor milk, containing odors and elements in which putrefaction has begun. The care of the cow is a potent factor in producing good milk. They must be kept warm. A lick of salt is not enough. They should have all they want and every day. On our side of the St. Lawrence we give on the average a cent and a half a pound for making and marketing the cheese. The maker is required to keep out spoiled milk. We are striving for uniformity in our cheese, and let me say that this vast country north of you is only in its infancy in cheese-making.

Silos and Ensilage.

Prof. A. J. Cook delivered an address on this subject. He said:

After feeding ensilage three years I have become a thorough believer in this food. This is a time of great competition. Farmers have no trusts to keep prices up.

Ensilage will bring about intensive farming. Many are now feeding ensilage in summer, and report excellent success. Thus the expensive pasture and its necessary expensive accompaniment, the fence, are dispensed with. I shall try this, and if, as I expect, experience shows it a success, then I shall not pasture any more. Ensilage has enabled me to keep one-half more stock. A silo is a frost-proof, air-tight box, in which to preserve fodder. Corn is preeminently the crop for the silo.

I want the variety of corn that will give the most corn in the ear. Do not, in this State of New-York, plant southern corn. Flint corn gives me 15 tons per acre, and thus *far* I think it the best.

Manure heavily in winter on corn ground; thoroughly fit the ground ready to plant by May 20. I plant 12 quarts per acre, with a common grain drill, in rows 4 feet apart. I have drilled 12 acres of corn in a half day. As soon as corn is up I drag it with a smoothing harrow with teeth slanting backward. This kills the weeds. Do not hoe; keep the cultivator going.

Build the silo in the barn if convenient. If you build outside the barn, build the silo as near the stable as possible. Dig 2½-foot trench and fill with stone and cement. Bolt the sill to this wall to prevent spreading of the sides of silo. Spike two 2-inch planks together for a sill. Use 2 by 10 studding, 16 inches apart in a 12-foot high silo, 12 inches apart in a 25-foot silo. We nail these firmly to the sill. Bridge between the studding. Side with cheap lumber; cover with tarred paper and add another siding. Cover the studding inside with good lumber. Lath diagonally on this and plaster with cement. The opening for the door should run from the bottom to within two feet of the top; then you can feed from the top of the ensilage. When we put the ensilage in we put a layer of paper on the inside and another on the outside of the opening. Place boards 8 inches wide horizontally over both sheets of paper; toenail the rafters on well; there is danger of spreading at the top. When corn is ready to cut for husking it is ready for the silo. If pains are taken in laying it, corn can be put in whole. I have a 2-horse tread-power which cost me $30. I prefer the Smalley cutter.

Two men cut corn by hand, two others drive team, and two more are at barn, one in the silo and one at the cutter. The men who are cutting, hand the corn to the loader. The wagon can be driven to the side of the cutter and the corn handed off by the loader. Cut the corn into the silo as fast as you can. Do not put the corn in when wet. Do not weight the silo, but cover with about two feet of cut straw. You may begin feeding whenever you desire to. Never build a stone silo. Clay will make a good floor if well drained, otherwise put in a cement floor.

A silo 10 feet square, 20 feet high, will hold 40 tons of ensilage. Three acres will fill it at 15 tons per acre. One 20 feet square and 20 feet high will hold 160 tons of ensilage, or 10 acres. There are 40 pounds of ensilage to the cubic foot. Some animals will eat 60 pounds, and do well on the ensilage alone. It is better to add bran or cottonseed meal. After I had been feeding the cows ensilage for a month I offered them some clover hay and grain with the ensilage, but they always took ensilage first. I believe that if the cattle like their food, the same amount of food will go much further. I have fed ensilage to cattle, horses and sheep; all do well on it. I usually feed some hay, cornstalks or straw, but cattle do well without the additional feed. For suckling colts, calves and milch cows it is a grand food. One hundred and sixty tons of ensilage will furnish the forage food for a single animal for 212 months, or 35 cows for six months.

Compare that with the hay raised on 10 acres. I have used milk three years in my family from cows fed on ensilage. The milk is *first* quality. My silo, 15 feet square and 20 feet high cost me $120. I hired everything done.

At Salem—Various Topics.

At the Salem meeting, the fact was brought out that it is getting to be difficult to get a good catch of clover. Washington county produces the largest crop of potatoes of any county in the State. No doubt the long continued growth of this crop, so exhausting in potash and phosphoric acid, is the reason the land does not afford the necessary nutrition to the clover seed. If the surface was manured with these elements of plant growth so as to give the clover a start, the crop would succeed, for if the roots were once started they would reach down below the strata on which the potatoes feed, and get a good supply. The winter feeding of sheep and hogs on foods rich in plant food would help wonderfully to restore the lost surface fertility required for the growth of clover.

Ashes might be used temporarily as a surface manure to start the clover. There is no manure like that from sheep, both solid and liquid, to produce a good catch of clover, and to make it lasting in the land. The manure must be carefully protected from washing, must be housed, and there must be enough litter with it to absorb the urine, the best part of sheep manure. Plaster should be sown over the mass every day or so. This line of farming will be valuable for this county.

—— An inquiry in regard to Japan buckwheat gave rise to an animated discussion, in which its value for flouring was commended, and also the quality of large yield. Some farmers had grown 50 to 75 bushels from one bushel sowing. It has an additional merit that it is not injured by heat or hot sun like the common grain. The kernels are larger, and more seed is required per acre—from three pecks to one bushel. It does not branch out like the common sorts. The seed is now worth $1 per bushel.

—— Rye is a staple crop in Washington county, and the question was asked—"What shall we do with it?" Col. Curtis said:

The straw is too valuable to use on the farm. Sell it, and purchase wheat bran and linseed meal. Feed the rye ground entire, mixed with the wheat bran and linseed meal to sheep and hogs, and make mutton and pork. Mix two parts by weight of wheat bran with one part rye meal and a half part of linseed meal. Give the sheep some small potatoes with the meal. By this combination lambs could be fed all winter and be made to nearly, if not quite, double in weight, and be sold in the spring at a good price. Old sheep could be fed for mutton, giving them some corn later on in place of some of the rye and bran, say, one part of corn. Give clover hay, or fine meadow hay, with a change once a day to oat straw. By this system the rye can be utilized, and a large amount of the best kind of fertilizer be produced. The sheep should be housed, and the droppings be kept under cover.

The same mixture of food will make cheap pork, and of the best quality. For the last month corn may be substituted in place of rye to harden the pork and to put more stearine into the lard and improve its quality.

—— In answer to the question, "Is the Farmer Prosperous?" Jas. E. McClellan said:

If we balance the number of farmers who are in debt with those who are not, we must say that farmers are not prosperous. The farmer has his enjoyments, but he is a hard-working man, and his investment of capital is so unremunerative that he can hardly make accounts balance at the end of the year. The boys leave the farm and seek for other occupations, because of the lack of profits on the homestead. Agriculture is the basis of all other industries, but the business is over-done. There is a surfeit of production. This is a condition resulting from the wonderful developments of science and art. Some lay the condition of the farmer to extravagance. Not so. The farmer deserves to live well, as he is the creator and producer. Does he, on an average, live as well as others? Does his family dress as well? In 1820 the first official record was made of the emigration into the United States. It was 546 persons; in 1827 it was 490,109; in 1856, 646,980. Of the emigration of 1867, 171,870 were farmers and farm laborers. The vast increase in the yield of wheat and corn is almost beyond comprehension. Mixed farming will not reduce supplies and regulate prices.

Thirty years ago the potato crop was principally produced in New-York; now the fertile West furnishes a great supply. Forty-four per cent. of all who labored with their hands, according to the last census, were farmers. Our tax system is unjust, and this weighs down the farmer. Good authority says as much property in the United States escapes taxation as pays tax. The farmer does not escape. Farm property has depreciated from 25 to 50 per cent. The value of the farms is not 14 per cent. of the wealth of the State; yet the farms pay 33 per cent. of the taxes. Personal property pays only 15 per cent. of the taxes. Real estate, including farms, pays 85 per cent. Farmers bought lands during the inflation period, and now they cannot pay for them, and the lands will not sell for half the purchase price. The capital of manufacturers is in a few hands, and so they can control markets and force up prices with trust combinations, and rob farmers and consumers. There must be legislation for the greatest good to the greatest number.

At the close of this address, Geo. T. Powell moved a vote of thanks and approval, which passed without opposition.

—— An address on Horse-Breeding was delivered by F. O. Ives, who said:

We have no type of horse that is distinctively American. We have no legislation to give a uniform character to our efforts in that direction. France, by the aid of judicious laws, has stimulated a sale for French horses to this and other countries for breeding purposes of large proportions.

The purebred draft horse is too large and sluggish ever to become popular as a farm horse still, a half-blood Clyde or Percheron makes the best farm horse in the world for heavy farm work. There is a growing appreciation of horses of finer form and yet of good size, like the Cleveland Bay or French Coach horse. They are sufficiently large for farm work, with style and action well suited for carriage or coach use. It is highly probable that some such horse is to become widely popular in the United States as a farm horse.

The sphere of the thoroughbred is circumscribed; his mettlesome disposition will not bear the restraints of the collar or the humiliation of a heavy load behind him. He can never become popular as a farm horse. The horse in demand, the horse for the million, is the horse whose patient and sturdy labor moves and distributes the products of the world, and whose footsteps in the furrow make the farm fruitful and productive. The standard horse is the idol of the mass of Americans. Where he is bred in large establishments, backed by skill and capital, he is a source of large profit. Where he is sold before maturity to be trained by the buyer, the business of his breeding is stripped of its most objectionable features. He is too nervous for a plow horse; work only spoils him for the purpose for which he is bred, and he always has been and always will be an uncertain product for a farm.

Let the purpose of horse-breeding among farmers be, to make the farm fruitful and productive, and farm life above reproach.

Rotation of Crops.

Speaking of "Farming for Success," Prof. J. W. Sanborn said:

The actual yields of the rotation quoted show so great a gain in total crop production that I will recount some of the reasons which have contributed to the fine results so derived. I have already shown that increased tillage is one of the factors, one of the incidental results being, through the increased use of capital, labor, machinery, manure, and greatly increased crops, the elevation of the social and intellectual side of farm life. Crops should follow each other whose roots develop in different areas of the soil. For instance, corn roots shallow in the main, wheat and potatoes deeper, and clover deeper still, going down with its deep tap roots into areas not invaded by other plants, and gathering up the fertility that has leached down there. We farm more of our soil, the sub-sections as well as the surface, by alternating plants that root diversely. Second—The weight and composition of the roots vary with the plants. The following illustrates:

	AMOUNTS PER ACRE.			
	Roots, &c. under feet.	*Nitrogen.*	*Phosphoric acid.*	*Potash.*
Barley	1,815	22	11	9
Oats	2,900	26	22	24
Wheat	2,409	22	11	17
Rye	3,400	32	24	20
Clover	6,360	180	71	77

A heavy crop of clover leaves roots, nearly four-fifths of which are within the first foot of soil, whose growth comes largely from the subsoil and air in the surface soil, where their decay will feed coming crops. This brings me to the third reason, showing distinctly why I follow clover with wheat in my rotation. Wheat has a very great power of gathering nitrogen from natural sources, while clover has a very high

power to help itself to this valuable material. The reasons I have not time to present now. Enough to say that the nitrogen that wheat cannot obtain from nature, clover procures with ease, and leaves enough in its roots for two or three good wheat crops in an easily available form. As each plant varies in its power to gain nitrogen, potash and phosphoric acid, and as each leaves a varying amount of these materials in their roots, it is essential that they alternate.

Fourth—Broad and narrow-leaved plants alternate, as each class feeds with varying powers upon air materials, and especially vaporizes water diversely with resulting effects.

Fifth—Plants mature at different seasons of the year, and thus are varied in their powers of conserving soil fertility, and also of acquiring food. I may illustrate by winter wheat and corn, which I have been growing. Nitrogen when added to winter wheat never fails to double, and occasionally I have had the crop quadrupled. In the same field in Missouri nitrogen added to corn scarcely affects the crop. (I may say that in New-Hampshire I use nitrogen for corn only in very moderate amounts). This is the result of seven years' observation in one field. Now, the secret of the results above noted lies, at least in part, in the fact that corn grows in the hot part of the season when fermentation and oxydation are going forward, furnishing the nitrogen from the organic matter of the soil. Winter wheat grows in the cold ends of the year when such processes are not furnishing nitrogen. This but illustrates the general law involved.

Sixth—The composition of crops varies and so exhausts the soil variously. Thus potatoes take 31¼ lbs. potash for every one of phosphoric acid, while there are crops in which these two materials are nearly equal. It is evident that if plants exhaust the soil unequally that they should alternate to maintain the relative exhaustion of the soil. It is reasonable that manure made from hay is not the best manure to grow any other single crop continuously.

Seventh—A rotation of crops baffles the insect and fungous enemies, both above ground and under ground. I will not enter this important field. These reasons constitute in part the factors that gave me the splendid gain from rotation, and justify and demand a rotation of crops in high farming. No rotation can be a haphazard one, but must be a studied one.

In conclusion the speaker said that his experience until thirty-five years of age in farming in New Hampshire, and seven years in Missouri, leads him to believe that there is no cause for New York or eastern farmers to despair so far as competition with others is concerned. The present condition of our agriculture is due to broad causes that are world-wide in their influences. The ultimate destiny of farming is to support the highest type of physical, intellectual and moral manhood. The application of science to agriculture for the first time in the world's history is transforming it in its social, political and material relationships to other industries. Its literary or scientific side is making it more attractive to men of brains and intellectual activity. When this country is sobered down from its rush after the surface wealth of a new land, here as elsewhere, and now as never before, the farm will become more attractive.

F. D. CURTIS.

Illinois.—After ten days of Indian summer as to temperature for the whole time, and half of it fine and clear and half cloudy, a southeast rainstorm set in last night, affording to this hour (10 A. M.) a trifle over half an inch of precipitation. The aneroid needle stands over the figure thirty, indicating a continuance of the rain, an addition of moisture the earth and the crops may call for, but not the state of the roads. The prices of agricultural products remain as they were, except in the case of hogs which have dropped to 3c. a lb. live weight for the best. Heavy and fat hogs have been sold short; but the stock of pigs and shoats is a large one, and for 1890 the price of marketable hogs is pretty sure to come down to the dead level of the other leading agricultural products, low-bred farm horses, thin steers and common cows and corn and the small grain, except wheat.

The weather has been so mild that light drafts only have been made on the reserves of grain and hay, and the surplus to be put on the market the latter part of the winter and the coming spring, will tend to mitigate the gravity of the agricultural situation.

When the skies clear after the present rain, if there is no considerable fall of temperature, we shall have more reasons to conclude that the probabilities favor a mild winter. B. F. J.

Champaign County, Dec. 10.

Dry Fodder Ensilage.

EDS. COUNTRY GENTLEMAN—I have had five years' experience with green ensilage, and four years with corn cut and shocked in the milk, and after standing a month run through the cutter, cars and all, into the silo, and I must say I like the dry fodder best. There is less labor in handling and a sure thing in keeping. I found my wooden silo, at the end of three years' use with green ensilage, was rotten and in need of repairs, and I lost by mould and rot from 10 to 25 per cent., a loss I could ill afford, but since using dry ensilage I have not lost a pound.

I find that I can put as many stalks of dry corn through as of green, as it elevates much easier. I have used five different cutters, and not one of them will do half as much as the manufacturers claim for them. I have no particular praise for any make, only that the Tornado cuts the most uniform of any. I tried cocking corn after C. S. B.'s direction after leaving it long enough to see how it would keep. I hauled it out on the pasture and found it rotten on the bottom; "No more, please."

I have tried every kind of corn that is recommended, but find the small yellow dent the best. It gives a better yield of grain to stalk of any, and does not grow so tall, making it much easier to handle. I use low-wheel wagons to haul on, with racks 20 feet long. One man can load without getting on the wagon. J. T. SMITH.

Cedar Rapids, Iowa, Dec. 6.

A Few Comments.

EDS. COUNTRY GENTLEMAN—On reading the excellent communications from your correspondents, occasionally some additional thoughts occur to me, which I propose very briefly to express. Among them are the following from the last number:

HARROWING WHEAT.—I find this useful if done as soon as the ground is hard enough to bear the horses. Mr. Baker says on page 935 that the smoothing harrow does not work up strong land sufficiently. If he will put a good weight on it, or let his man ride, the teeth will mellow the hard soil and break up the crust which formed in winter. His mode of harrowing obliquely is very good.

HIRED MEN, p. 936.—These remarks of Henry Stewart are partly true. But I have always had tenant houses for my men, and always had them do much of the brushing up of the surroundings. Middle aged men do best. They get used to this way of living, partly think their houses are their own, and take more pains to keep them in good order. But the great attraction to them is, that they can always have money when they ask for it. If the employer will keep a small supply in the savings bank, to draw whenever he wants it, there will be no trouble. The men rarely want more than a part of their wages before their time is out. They work for me year after year, and don't wish to change. The right kind of men must be hunted up at first. One of my men has been with me eighteen years, another nine, another seven, &c.

FARM MILLS, p. 937.—I have been in the way of trying different mills for grinding feed. The Kelly was the most powerful of the metal grinders. The Straub, made in Philadelphia, was quite good. Used with tread-power, they could be employed on stormy days, and work up corn and oats for pig-feed to great advantage.

PLENTY AND SCARCITY.—C. L. H., on page 939, shows what a hard time the farmers have—with low prices of what they have to sell, and high prices for what they must buy. The fact is, the country is overflooded with provisions and estables generally. We need not starve—that is the advantage we have. We read of famine in other countries. Let us do as well as we can, and keep up our courage.

DRAINAGE AGAIN, p. 938.—I am surprised that B. F. J. thinks that a sloping surface of land gives enough of drainage, and he rather discourages the practice of drainage at all. Now, I have done some tile-draining—put in first and last a good many miles. All the land had a slope, but there was plenty of water in the subsoil. But there was one fact that settled any doubt with me about draining. The cost of the digging and of the tile and laying, was always paid for by the increased crops in at least three years, occasionally sooner. Sometimes the wheat was more than doubled the first year. It would take a pretty sharp argument to prove to me that it did more harm than good.

LATE FALL WORK, p. 939.—It is not pleasant work, as your correspondent suggests, to husk corn in the field and in snowdrifts in December, and he recommends getting through sooner and before the arrival of cold weather. By the course which I adopt this trouble is at least partly avoided. I never hurry about getting my corn husked if other work is more pressing, but husk in the barn. We have to do the work, any way, of drawing in the cars to the barn; and we have besides to draw in the fodder. It is as easy to do both at one operation and bring in the unhusked corn, and then husk it all under shelter. A good Ross cutter and a good horse-power enables us to cut up the stalks after they are husked half an inch long, and the cows eat it all. If fed to them without cutting, they leave at least one-half. The cutting therefore doubles its value, which well pays for the work.

These hints are offered to farmers with the hope that they may be useful.

ONE OF THEM.

Corn—Potatoes—Squashes—Cabbages.

Experience with New Varieties.

EDS. COUNTRY GENTLEMAN—In common with other farmers here I tried a few new seeds the past season. First the Gold-Coin sweet corn was so generally catalogued and so highly praised that I wrote to a noted seedsman about it. He replied candidly that he knew nothing about it by experience but it was highly praised to him, the package of seed was bought, planted and tended with care during the season. It proved to be a large late-growing sort, not fit for the table till all other sorts on the farm had become too hard for table use. When tested for eating purposes, was lacking in flavor, while its yellow color was a decided objection to it as a table sort, and in addition it had a field corn flavor so unmistakably present that our family refused it as a sweet corn, it being considered so much inferior to such sorts as Moore's Early, and the Evergreen sorts, which we were accustomed to use after the earlier sorts had become too hard for table use. Prof. I. P. Roberts says of tomatoes "that a variety which is simply good is not worth introducing. It must present some point of decided superiority over the best kinds at present known in order to possess merit," which is no doubt the truth with all new sorts of vegetables, also new varieties of farm seeds including field grains as well. Viewing the Gold Coin sweet corn in that light, it must be classed as one of the new sorts as unworthy of general introduction in my estimation and that of other farmers in this vicinity.

Another failure was with the new potato, The Minister, the seed of which was received from George W. P. Jerrard, of Caribou, Me. It was planted about the first of May in good garden soil of a gravelly texture. It grew finely and promised well in growth and yield, but my anticipations were sadly frustrated; the first hill dug revealed the astonishing fact that nearly half of them were rotten—not affected, but rotten; the quality of the sound ones was not as good as the Beauty of Hebron that grew near, same soil and culture given to both sorts. In view of the fact that Mr. Jerrard's catalogue represents them as proof against rot, I was much disappointed at the result. Mr. Jerrard says of The Minister: "I have never seen a decayed specimen of this variety, either in the ground or cellar, and I believe it will stand the richest garden soil and not rot." My garden soil is not over rich. Judge of my surprise at the result mentioned. At their maturity they were dug by myself, and the sound tubers weighed 25 pounds; the rotten ones weighed 23 pounds, and some so decayed they could not be picked up and weighed; hence I am forced to conclude that fully one-half the crop rotted—greatly to my surprise, as I had done all the labor of planting and cultivating and digging and weighing the crop. Although Mr. Jerrard has extolled its merits so highly in his catalogue, I venture to predict it will never attain the prominence in the public markets which the Early Rose or the Beauty of Hebron have attained, even if my case of its rotting is the only one that ever occurs in its distribution. My reasons for my belief are its shape, color and deep eyes, all of which defects are against its being adapted to general market purposes. The quality with me the past year has been stated to be inferior to the Beauty of Hebron. Should any person say the quality may improve with different seasons, the same may be said of the Beauty of Hebron grown near it. For contra, the Beauty of Hebron, New Queen, and Dandy, purchased of Mr. Jerrard, did well, planted on same soil, and very few rotten ones. Now who can tell the cause?

I have also tested the winter squash called Pike's Peak, with success. They are of good size, not large, but large enough for family use or market purposes in this vicinity. The most of those used in the fall were excellent, but contrary to the catalogue they do not improve with age, but grow more watery. Who can tell why that is so? Gregory's Hard Head cabbage have outdone all other sorts in my garden the past season, giving me a much harder, firmer head than any other sort, and the quality is excellent; if such seed can be procured pure and genuine it will be a great advance over the common sorts now cultivated. For family use the writer has always considered the Winningstadt as one of the best; its firm heads gave a large amount of edible cabbage for its size, and the quality was of the best, but the past year it has not done so well as usual with me.

Taking a retrospective view of the past season I find that the early spring was favorable for the getting in of crops. Since that time cool and excessive rains have been the ruling characteristics. Hence oats have not threshed as well as the growth of straw indicated; corn and potatoes not as good as usual, while grass has been abundant; the quality of the hay harvested not as good as a lighter yield in a season of less moisture. Judging from prices, the dairy product for the season has been above the demands of the market for both butter and cheese. The dairy is the ruling industry in this vicinity. J. TALCOTT.

Onondaga County, N. Y.

Winter Work in Central Ohio.

EDS. COUNTRY GENTLEMAN—It is now time to prepare for next year. Our crops this year were poor; yet small portions of each were good. As I have been here only three seasons, I have hardly learned the nature of the soils in the different fields, but have learned that the preparation and cultivation differ from that necessary on the warm loamy black soils with gravelly subsoil I have been used to. The soil here is not only clay, but it is clammy, with a hard pan of white clay beneath. A friend who visited me a few days since, remarked while passing over one of the fields where corn had been planted last season, that the water was standing on the surface, while another field, on another farm a half mile away, was comparatively dry, and that he did not know there was so much difference in the soils of the two farms, although he had known them both for a number of years.

An administrator who once had the control of this farm, was not aware of the quality of this land, as he had charge in a very favorable season, and before the farm had been badly cultivated by the incoming tenants, who had possession for four years previous to my coming here.

A ditch must be dug for eighty rods to drain a swamp; when this is done and 6 inch tile laid, I shall not only have drained this two acres of muck land, but made a porous subsoil in the clay lands, where now water stands until it evaporates or slowly leaches through the hard clay; growing crop meantime being drowned.

Potatoes wanted for our own use were left in the ground as usual until very late, as we think they are better in the ground than in the cellar, and the rains coming on, the ground was not in good condition to dig. We got them out this week; we must have more tile drainage in order to work the soil earlier and later, and to raise better crops. Cattle, horses, sheep and hogs have good shelter, and the manure made is mostly under cover, yet not all left under the animals. No wheat was sown this season as the risk is too great, and grass pays better on lands undrained. Next season I shall have a field drilled to wheat.

I am feeding as many hogs as possible;

keep some growing all of the time; buy corn and thus make strong fertilizers. A few well-bred sheep and a small herd of butter-making cows help to increase the quantity of the fertilizer. There is nothing that pays so well as the cows, as I sell butter to families in town at 25 cts. per pound the year round, and could sell many more pounds than now made had we the cows, but find that two-thirds of the cows that can be purchased are not worth keeping. Would trade all of my live stock, except sheep and horses, for good dairy cows, and make dairying a specialty in winter time. I can purchase feed cheaper than we can hire it raised. Poultry-house is being repaired and made as warm as possible for the comfort of the fowls.

The orchard needs something to produce more and better fruit. Hogs are fed there during warm days, but there must be some tile draining, else many trees will die, as others have; there are worms clinging to the roots of the trees and sapping the life away. A drier, warmer surface will drive the worms away, then strong fertilizers will feed the soil and make a supply of sap-food for the trees. Hence more and better fruit. H. WARREN PHELPS.

Franklin County.

English Notes by T. Bowick.

I hear that Clapham Park, Bedfordshire, the residence of the late Mr. James Howard, which was bought in when offered at public auction a few months since, has just been sold by private contract. Some amount of investment has also of late been made in landed property in different parts of the country, for several of our old nobility, besides the rakish Marquis of Aylesbury, have been converting broad acres into cash. Lord Carlisle has been wisely clearing off his inherited family incumbrances, by disposing of large portions in Northumberland and Cumberland. Lord Glasgow's trustees have made sales amounting to $2,500,000 within the year, which ought to do something toward wiping off turf plunging; Lord Ripon voluntarily placed Nocton Hall, Lincolnshire, on the market, and made $750,000 for some 7,000 acres with a capital residence; Lord Abercrombie's Perthshire estate made $350,000; the Gordons in Aberdeenshire parted with Fyvie Castle and ten or eleven thousand acres for $875,000; Applegarth in Dumfriesshire, with much less acreage, but of greater value, made $300,000; Falkland Palace estate (Fifeshire), which has memories of royalty extending much farther back than Queen Mary's days, was bought by Lord Bute for $1,000,000. In Wales, General Owen Williams' property has been broken into lots, realizing $500,000 in the whole, and in several cases existing tenants have become the purchasers. The old order passeth away (in some cases), but who is to say that the former times are better than these?

All the above have paid, in one way or the other, for their purchases. But in Ireland, yesterday, Lord Clanricarde managed things after an easier fashion; he simply put the eviction brigade to work (at the English taxpayers' expense), and stepped into some $35,000 worth of Peter McDermott's property. Peter and his father had the misfortune to rent land on the Woodford estate, and as providence favored them during half a century of industry and skill, they built with their savings a corn and woolen mill, dwelling-house and stores, solely at their own cost. Well, when the emergency men gave his lordship possession yesterday, through some technical loophole or other, Mrs. McDermott simply drove away in an open car with her three daughters, from a home which she had entered as a happy bride long years before. And yet these stupid Irish do not like English government! Curious, isn't it?

When the papers contain the annual paragraph, about this time in November, that the Queen has returned from Balmoral to Windsor castle, you may be sure that the weather is pretty severe in the Braemar Highlands. Her Majesty always keeps as long in the bracing air of Deeside as possible, and nothing but winter's cold, or reasons of state, would induce earlier migration. Then a little while at Windsor is followed by an adjournment to the soft and balmy breezes of the English Channel at the Isle of Wight. "Men and trees do best transplanted," and a change of climate now and then does good to any of us.

To-day snow showers, sleet and hail all over the country, so that Her Majesty's move has come none too soon.

The great show of fat stock at Norwich a few days ago, to be followed by the Birmingham and the Smithfield exhibitions, reminds us also that Christmas is at hand. Of course you see the same animals you have seen before; you hear or make the same remarks y have heard or made these twenty or thir years past; but for all that there is a chee ness in folks coming together amid the f and gloom of the shortening days. T hotels are filled, the theatres eat their shar and good old Barnum in, many thin getting more than his share. "I come, I se I conquer," might be written on his shiel He is a great favorite with the English publ and deserves the welcome he has receive The farmer's wife and daughters may usual be known by the time they spend looking the Regent street shop windows, by the ros fresh complexions they bring with them, a often by the difficulties they have at t crossings in crowded street traffic. May the shadows never grow less!

An invasion of London by the accor plished young ladies of the Bath and West England society has caused no little interest various circles beside those directly ass ciated with agriculture. Hampstead, a qui old stately suburb, on "the northern heigh of London," is the scene of the dairy scho operations, and the new and spacious premis of the Express Dairy Company—the best fitt block of buildings for such a purpose that have ever seen—give the needful accomod tion. Mr. Bernard Dyer, a leading analytic chemist, is the moving spirit, and he is we backed up by a very influential body of nobl men and gentlemen who are interested in t effort. I was not able to avail myself of th invitation to the opening, but have look them over since, and find real work going o which is bound to tell on the dairying i terests of the home counties. A compact g engine supplies the power needed to drive t various machines, all of which are of the mo advanced class, and of the most approved pa terns. Each student is expected to put his h her hand to the practical processes of butt making, and has every detail most fully e plained by the society's courteous instructor Misses Davey and Barron, during the ten da which the course covers. For this there is t modest charge of $5 25, and the person will b foolish indeed who cannot get good value f the money. Mr. Dyer also warms up the i terest by giving one or two of his speci lectures on the chemistry of butter making, a convenient time; while a thousand quarts new milk is used each day to obtain the hu dred quarts of cream required. "Have w arrived at the end of progress and developme in this department?" "No, not by an means," said Miss Davey, who must have spice of American go-aheadism in her. "Th next thing to be accomplished is to bring bac the skim milk to its original condition." An who shall say that this is not to be done? Th addition of a pure animal or vegetable fat all that is needed.

Let us before leaving Hampstead glance the interesting physical conditions of its sit ation. The top of the hill, as you often s when excavations are going on, is of t Greensand formation—a water bearing bed running sand lying on the top of the "Londo clay." Before you is the great valley of t Thames, with five millions of people locate betwixt Hampstead and the correspondi southern ridge, on which the Crystal Pala stands—the habitable stretch being twelve fourteen miles in extent east and west. B how comes the deposit of sand referred t while all the valley is of London clay? Th sand could only have been deposited by ru ning water, and that in a long distance pa when a much larger river made its way to th eastward. Then came the ice-age, and den dation proceeded, wearing away all the san except this fringe which remains till to da linking the geologic epochs together. Dee down beneath the London clay is the bed dip of the chalk, on which the said clay rest in the centre, similar to the core of an onio where a knife divides it in half. The ve flora indigenous to Hampstead is indicative the soil described.

Scotch potatoes, even the famed Dunb regents, are disappointing in respect to qua ity this season. Our best supplies are fro Yorkshire and North Lincolnshire, and t best sort most undoubtedly is the Beauty Hebron, a lineal descendent of your Ear Rose. Magnum Bonums have not kept goo the position of their earlier days, and a now used only in the cheaper eating house where a plate of meat and potatoes can b had for eight cents, whereas the Beauty Hebron cook right through, and are goo whether to boil, roast, or steam. The trade the metropolis is changing a good deal sin the Midland railway made a bid for a share the traffic, by erecting a large covered mark at St. Pancras at an expenditure of $10,000,0 in connection with purchase of land, siding buildings and such like. They are runnin the Great Northern traffic at Kings Cross e tremely hard, for the latter company has h almost a monopoly of the Yorkshire an Lincolnshire traffic for years. With the i creasing population of the metropolis (we ad by immigration from the country or fro foreign lands, or by the excess of births ov deaths at the rate of one country village two hundred inhabitants a day) there a greater facilities needed for the supply of a articles of food than could have sufficed on a decade back.

Besides, as business is again making progre "by leaps and bounds," the purchasing a the consuming power are both increase Among the imports—and our imports fro

Horticultural Department.

Fruit in Ohio.

The twenty-second annual report of the Ohio State Horticultural Society for 1868-9, a volume of over 900 pages, received from W. W. Farnsworth, the secretary, contains, like its predecessors, much valuable information on the fruits of that State, much of which is well adapted to adjoining States. The discussions at the meetings on the newer fruits are especially copious and interesting.

On the subject of Russian apples, much diversity of opinion was expressed. The widely introduced Yellow Transparent was generally and warmly commended. As in other States, many of the varieties had been found unusually liable to blight. Mr. Albaugh said that Tetofsky, Oldenburg and Alexander were free from this disease; that winter apples in Russia were summer fruits here. He advised caution. Yellow Transparent was pronounced by several members as the best early apple and superior to Early Harvest and Red Astrachan. The Wealthy had been found valuable for cooking, and Grimes' Golden as distinguished for excellent quality.

When raspberries were under discussion, F. R. Palmer stated that he had found the Hilborn particularly excellent, better than Ohio, and the best of the black raspberries. Conflicting opinions were given of the Cuthbert. Secretary Farnsworth found it the best of all on his sandy soil. F. R. Palmer had grown it ten years and had found it very poor and unsatisfactory. Mr. Palmer did not like the Reliance. J. B. Strosper regarded it as the best of all red varieties. Brandywine and Thwack were pronounced poor in quality but handsome and attractive, and sold well. The Shaffer was better and larger, but dull and unattractive in appearance. The Gregg was unpopular in Northern Ohio, being liable to winter killing, selling for only two dollars a bushel; this was its character as stated by Mr. Pierce, but Mr. Palmer knew of no better black cap. It needs good sandy soil, its only fault want of hardiness. Other members had found success to depend greatly on the character of the soil. Mr. Albaugh regarded the Hilborn as the most promising market sort at the present time. Other members expressed similar opinions. It ripens between the Souhegan and Gregg. The Erhart met with little favor.

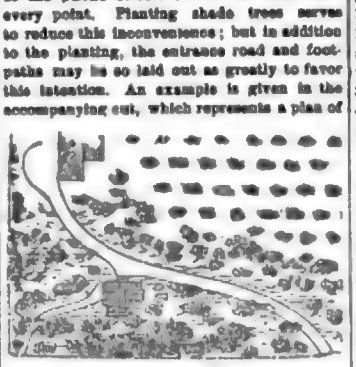
Editorial Notes and Comments.

RAISING PUMPKINS.—We tried an experiment this year on a limited scale by planting the seed in hills at moderate distances asunder on a good well manured piece of ground. The plants grew well, and by the middle of autumn the golden globes, thickly scattered over the ground and partly under the broad pumpkin leaves, presented a rich appearance. By an estimate of the quantity produced on this limited area of a few square rods, the crop yielded at the rate of forty tons to the acre.

NEW FRUITS.—It is always unsafe to buy new and high-priced varieties of fruit from other than the most reliable sources. When the Worden grape was first introduced, there were so many spurious plants sold which were really the Concord, that intelligent cultivators were led to believe that the Worden was really the Concord. But it has now become widely known and extensively disseminated and appreciated. The Prairie Farmer quotes the statement of a Chicago fruit dealer who sold the Worden lately, a hundred baskets at 90 cents a basket, when Concords were selling at 30 cents.

A SEED GARDEN.—A man in Indiana writes to the New-York Tribune that in a small garden containing 15 square rods of ground, he raised this year plenty of nice, crisp, fresh radishes, lettuce and onions for a family of five during the season, and peas, beans, tomatoes, cucumbers and corn, enough for two families, besides four bushels of beets, one of carrots, and three of sweet potatoes, (should have been ten) one bushel of ripe, sweet popcorn, and eleven bushels of potatoes. From five hills of pumpkins 34 good ones were gathered; small ones were thrown into the poultry yard. Fifty huge sunflowers grew in nooks and corners. The owner occupied this garden the first year, but the most important and valuable achievement was in interesting his twelve-year-old boy in the work of the garden in which he had become an enthusiast. The cause of his great success in supplying his family the season through with an abundance of fresh vegetables, was in giving the garden a continuous and most thorough cultivation, no weeds were seen, and the exterior was carefully spaded. There is no doubt that a good deal of work was expended on it, and that this very thorough culture was more economical than careless and slip shod treatment; but the labor might have been greatly reduced with horse culture. The garden was square; had it been oblong, say eight rods long and two wide, nine-tenths of all the work could have been done with a horse, and the soil pulverized deeper and more perfectly.

A SECLUDED RESIDENCE.—It frequently happens that country and village residents are compelled to place their dwellings inconveniently near great or noisy thoroughfares, when they would prefer more seclusion. It is not necessary to place such houses square in front of the public streets and in full view from every point. Planting shade trees serves to reduce this inconvenience; but in addition to the planting, the entrance road and footpaths may be so laid out as greatly to favor this intention. An example is given in the accompanying cut, which represents a plan of



the grounds as seen from the street in front, with rather dense or copious plantings of shade trees between the house and the street, so that the house is not seen from it, and the street and its passengers, wagons and vehicles are shut out from the dwelling. The quincunx orchard is placed more in the rear, with a small portion at its side of the barn buildings. Those who prefer such an arrangement as this, to a straight and stiff road square in front, need have no difficulty in laying out the curved road and paths as represented in the figure. The trees may be deciduous or evergreen, and the best effect may be produced by intermixing them, giving mostly deciduous trees in the central portions of the ground, and evergreens towards the boundary; but in any case it is important to allow enough open lawn between the groups and scattered trees to produce a pleasing landscape, and to prevent too close and confined an expression in the arrangement of the grounds.

STRAWBERRIES WEST.—Judge Miller states in the Rural World that the best of the new strawberries in Missouri are Babach (or Babach No. 5), Gandy, Belmont and Warfield; while he thinks Eureka and Centennial will prove valuable in future. New kinds, highly praised on their introduction, most commonly do not retain their popularity five years after they have been generally introduced and widely cultivated. There were quite a number of lauded kinds presented to the public at the same time as the Charles Downing, Sharpless and Cumberland, but they are now nearly forgotten.

Indiana State Society.

The twenty-ninth annual meeting of this society was held at Indianapolis, commencing Dec. 3d. The meeting was well attended, including a number of visitors from other States.

The president, Dr. Allen Furnas, was absent, having removed to California, but sent an address. He suggested to the members that they give more attention to plums, also advised that the fruit-growers of the State might aid each other in the sale of fruit by organizing market unions, which should control the prices and distribution of the fruit.

Prof. W. H. Reagan, one of the trustees of Purdue University, reported that that institution was not doing as much for agricultural and horticultural interests as it should.

Prof. Troop made a report of the experiment work at Purdue in horticulture, making special reference to the new fruits which have been introduced.

A paper by E. Y. Teas on Ornamental Planting was read by the secretary, which urged the planting of trees and flowers to cultivate a taste for the beautiful, especially among our children. It is remarkable, he said, how many people who are otherwise intelligent, pass plants and flowers without notice.

Dr. H. E. Stockbridge of the Purdue Experiment Station read an interesting paper giving briefly some experiments in the use of potash applied to the surface soil underneath bearing apple trees effecting a marked change in the quality of the fruit—the apples were improved in size and flavor.

At the sessions of the society on Wednesday Prof. W. H. Reagan, Clayton, Ind., read a paper on "Horticulture—what it is and what it has done."

W. H. Lafuse of Liberty read a paper entitled "My Experience with Plums," giving his method of growing the fruit—recommending the German Prince, Mariana and the Robinson.

Isham Sedgwick, of Sedgwick Bros. of Richmond, read a paper giving his experience in grape culture. He has the wealth to arrange his grounds, and the taste and time—taken from his office near by—to give his grapery special attention. Mr. Sedgwick classified his leading varieties as follows: 1. Niagara; 2 Delaware; 3 Early Victor; 4. Faith; 5. Perkins; 6. Concord; 7. Martha; 8. Francis B. Hayes; 9. Hartford. Other varieties he did not give a rating.

The following officers were elected for the ensuing year: President, JOSEPH C. RALLIFF, Richmond; vice-president, Joseph Barton, Mitchell; treasurer, Daniel Cox, Carterburg; secretary, C. M. Hobbs, Bridgeport; executive committee, J. J. W. Billingsley, Indianapolis, Prof. Joseph Troop, Lafayette, and Hon. L. B. Custar, Logansport.

The appropriation voted to the society by the last legislature enables it to offer premiums on exhibits, publish reports, and otherwise advance the interests of horticulture in the State.

A very meritorious exhibit was made in an adjoining room. J. J. W. B.

From Western New-York.

Results in Market Gardening—Berries.

EDS COUNTRY GENTLEMAN.—The market gardening season of 1869 in this neighborhood, notwithstanding the almost complete destruction of such early crops as bush beans, sweet corn and potatoes, besides the damage done to pea blossoms, &c., by the severe frost of May 22, was, as far as regards prices, better than that of 1868. Southern "truck" was plentiful, and sold freely at fair prices early in the season, but was below the average in quality this year and soon gave way to native products the superior quality of which commanding higher prices, made tolerable compensation to the seller for a lack of quantity. For reasons stated above, I marketed fewer vegetables than usual, while of plums, peaches, grapes and blackberries, I had none to sell and only a few black caps, but of currants and red raspberries, I had a fair yield.

The following table gives the average prices of some of the leading vegetables for the last three years as realized on my market wagon, every item being carefully set down on day of sale; it also includes those of fruits sold:

	1867.	1868.	1869.
Peas per bushel.....	74c.	68c.	58c.
Potatoes do.	69	96	65
Onions do.	$1.12	66	70
Bush beans do.	86	68	75
Tomatoes do.	58	38	48
Cabbage per doz.....	31	47	44
Lettuce do.	10½	9	12
Sweet corn do.	8	8	9
Black caps per quart..	7½	7	9
Red raspberries do. ..	9½	10½	10
Blackberries do. ..	10	9	...
Currants, red, per lb....	4½	5	4½
Plums, per bush	$1.75	$1.60	..

As I have before intimated, the choice varieties of most vegetables, the more difficult but successful culture of which by a skilled market-gardener constitutes his chief profit, are comparatively unsalable in the Rochester stores, also ranking before quality. After disposing of his "first and best" peas the marketman has to hurry in his marrowfats since they will outsell any other better kinds. Farmers find they can raise marrowfats both for the stores and canning factory, consequently the quantity grown increases year by year, resulting in a corresponding depression of prices. Early cabbages only were marketed, farmers supplying almost entirely the main crops. Owing to the frost it was Aug. 3 before I marketed early potatoes. Farmers are beginning to handle potatoes also earlier every year, with a consequence as follows: While marketing one day towards the end of August I had just taken off the wagon, among other things, some potatoes for a butcher customer at 60c. a bushel, when up drove to an adjoining grocery a wagon containing about forty bushels of potatoes. With the wagon were a farmer and a city middleman who had bought the potatoes from the famer. I learned from the farmer that he had been paid 40c., and later, from the grocer, that he had agreed with the middleman for 50c. As both butcher and grocer had to retail at the same price, my friend the butcher, on my next visit, naturally refused to exceed the half dollar a bushel given by his neighbor.

The price of lettuce may appear low, but it is by no means an unremunerative crop when economically grown—that is, planted in places and at times which would not otherwise be made use of. Onions are a very fluctuating crop in price; but can be raised so much cheaper nowadays that the profits compared with the expenses and gains of years ago are not so much reduced as present prices would make them appear. I find it about as profitable and much easier to have the rows twenty inches apart, the land worked with a horse and harrow-tooth cultivator, as to sow them twelve or fourteen inches when the hoe must be used; one especial advantage of the wider rows is that the necessary breaking of surface crusts, formed by heavy rain storms, can be quickly accomplished with the cultivator, a job which, done with the hoe, would be interminable and expensive.

For years I have been in the habit of drilling in bush beans with the Matthews' seed-drill, but now prefer to plant them in clusters. Rows are drawn two feet apart, with the horse marker, the clusters of five or six beans are dropped eighteen inches apart and then covered with the feet. A larger crop of earlier and finer beans is the recompense for the extra labor of planting and hoeing in the rows. The price per dozen ears of sweet corn seems insignificant, but taking into account the many hundred dozens of ears which can be produced on an acre, coupled with the ease with which corn can be cultivated, gathered and carried to market, it will be found one of the best paying crops. For convenience of carriage and to suit purchasers, we put five dozen ears in a two-bushel bag. Shaker's Early, Hickox Improved and Stowell's Evergreen form a trio of the best market varieties.

The farmers hereabouts who, inspired by the recent erection of a canning factory in the neighborhood, dabbled in tomatoes this year, got badly bitten, just as their plants were bitten by the frost. The general quality of the small crop, marketed unusually late, was very good. The Dwarf Champion is a valuable market variety owing to the stiff and erect growth of the stem and early prolificness; it does not sprawl over the ground like most other varieties. The maggot is answerable for an almost entire failure, with me this year, of the radish, turnip and squash crops; the last-named I planted three times before getting a crop, which came too late to be of much service. The variety of beet making the earliest and handsomest bunch is the Eclipse, but the Blood Turnip should be sown at the same time as a successor, the latter having a richer deeper color. Crops requiring permanent beds, such as asparagus and rhubarb, I do not grow, since I am gradually planting my whole place with fruit trees of different kinds.

Currants, well cultivated, pay well; there is no doubt of that. My neighbor, Mr. Joseph Harris, last season had as many as a hundred women and children a day picking currants; his crop of many tons went to Rochester's largest canning factory. Pickers are usually to be obtained who will gather your currants for one cent a pound, and black or red raspberries for two cents a quart. In my case, the Cuthbert red raspberry is the best paying of small fruits, and I am devoting more space to it every year. Thorough cultivation to secure fine berries, careful picking, with tasty arrangement of the fruit in the boxes, are, of course, prerequisites to financial success. I have declined further blackberry culture for the present, but trust the plum trees will render a good account of themselves next year. A small crop of apples and pears is also among the possibilities. J. H. C.

Monroe County, N. Y., Dec. 5.

Limonia (Citrus) Trifoliata, p. 920.—I wrote that my young trees were exposed to a temperature of —18°; your types say 18°. On Jan. 1, 1861, the mercury stood at 18° below zero at daybreak, and 4° below at noon, and was below zero for three days all the time—the coldest "spell" I ever experienced in

Northern Maryland or anywhere else—and yet not one inch of the wood of these trees was hurt, though they were entirely unprotected. W. F. MASSEY. [Except in tables it is always clearer and safer to write "16' below" than "—16'," as the former expression cannot be misunderstood, whereas a dash may very easily be overlooked.]

The Poultry-Yard.

The Rearing of Turkeys—II.

Young turkeys are very delicate and should not be disturbed for the first twenty-four hours of their existence. Leave the care entirely to the mother until she manifests a desire to roam with them; then remove the family to a coop of say 4 by 6 feet, with a front 3½ feet high and a back one foot less, so as to give a slanting roof. The coop should be thoroughly whitewashed and have a hard floor covered with clean sand. The sides should be covered with slats an inch apart, so as to insure fresh air, and the front should be arranged to close at night and on wet days. An orchard where the grass is not very long is a good place to put the coop, and for the first week or ten days it has been our custom to keep the hen or hen-turkey shut in, allowing the little ones to range over a certain inclosure bounded by boards a foot high, and stood on edge. After that the mother may be released during the day, and allowed to wander round with her brood; but this should not be done on wet days, nor until the dew is off the grass in the morning, as wet weather or dampness is the most fatal enemy the young turkey has to encounter. Some people also, in order to restrain the migrations of the mother turkey to limited fields, secure a light board or shingle to their backs by soft, flat strings drawn through holes and tied under their wings.

The feeding of young turkeys is very important, and has to be done with great care at first. The best food for them, and one of which they are specially fond, is the curd from clabbered milk, with some of the whey drained out. This is crumbled and fed to them five times a day, and for the first few days should be given by itself. After that mix a little ground oats with the curd, finally making the mixture of equal parts. After they are a few weeks old they may be fed soaked oats, mixed with corn meal or wheat middlings, finally feeding whole wheat or oats at night. If grasshoppers are scarce, they should also have cooked meat, chopped up fine, once a day. We have also found it judicious to sprinkle cayenne pepper in their food twice a week, especially in wet weather. This acts as a gentle stimulant and enables them to resist the bad effects of the dampness. As the birds get older they may be fed principally on oats, which seem to agree with them better than corn. After the frost arrives they should be fed boiled potatoes and other vegetables, to take the place of the green food that can no longer be found by them in the fields, and some form of meat diet should also be furnished them. It is a good plan to feed them near their roosting place at night, in order to induce them to come home. The latter should have a good roof and be tight enough to protect them from storms, but no further precautions need be taken to make them as warm as a coop for chickens.

A great deal has been written about the dangerous period in the life of a turkey known as the time when they "shoot the red." By that is meant when they are about six weeks old, and when the fleshy protuberances on the head and neck begin to appear and show red through the feathers. Soon after, their plumage, especially the tail feathers, start into rapid growth. While there is no question that this is a critical period with young birds, it is easily counteracted by giving increased nourishment and regular care and attention. A good tonic for them at this time is caraway seed, and a little sulphate of iron in their drinking water—or iron and quinine in the form of a powder sprinkled in their soft food, will help them through wonderfully. If the strain is strong and healthy, these latter precautions are not, however, necessary. To fatten turkeys for market, whole grain is most desirable.

By following substantially the plan outlined in this sketch, we have successfully reared and marketed many hundred turkeys without the loss of one. Minor details in feeding and management will naturally occur to all. The key-notes to success are: Range, freedom from dampness and lice, and regular administration of nourishing food.

Home Ornate, N. J. C. E. WESTBROOK.

Embden Geese.

[See Engraving on page 965.]

Although the grey or Toulouse goose may be regarded as the more popular and, probably on account of size, the most profitable, it has a formidable rival in the white or Embden variety, which is very fine in quality, but does not attain to the same size. This does not always appear to have been the case, for old Moubray says: "The white appears to be the largest, if not the heaviest, of its kind, and some may even add, the prettiest too, though that must clearly be judged as a matter of taste only." This same writer goes on to say that the Embden takes its name from the Hanoverian town whence it was, many years since, imported, and whence, as also from some parts of Prussia and Holland, we still continue to draw supplies. It differs in no respect from the common English goose, having precisely the same form and shape, the same pure white plumage, the same rich red bill, legs, feet and webs; indeed, although it has been dignified by the title of a distinct variety, it modestly puts forth no such pretentions itself, and the honor has been clearly thrust upon it. But all white plumaged geese come under the denomination of Embden, except the Irish, which are not so designated. They are, however, smaller than the true Embden, but in no other respect differ from them, and, therefore, are not a distinct variety. Of course white geese have one decided advantage over the grey, namely—their feathers are of much more value. As this is an important point, their breeding should be encouraged, even though they do not attain the same size as the Toulouse. The question of size could soon be remedied by careful breeding, but the geese required for the early markets can be best supplied by birds of this variety, as they grow more rapidly. There can be no doubt, however, that for the later markets in this country the Toulouse will be able to hold its own, for size is then of great importance. I do not know that this is a wise or well regulated demand, for the largest have seldom the finest flavor, and nature seems to hold a balance in all things, for when she gives excess of size she seldom gives with it the same quality, and a well-fed Embden is a juicy and tender fowl, with the highest of quality. Specimens of this breed do not often attain more than 19 or 20 pounds, but at times heavier birds have been found. At one time the weights of all the waterfowl were taken at the Birmingham show, and though many of the birds were undoubtedly grossly crammed because of the influence the scales had in determining the prizes, for which reason the system was given up, yet there are many interesting features about the plan, and a record could be kept from year to year of the weights attained. It is to be noted, however, that one of the highest weights ever recorded at this show was for a pair of Embdens, namely, 57 pounds the pair, which was the weight of the first prize pen at the Birmingham show of 1870. The following are the records from that year until 1885, when the weighing was abolished: 1877—First prize, 48 lbs. 12 oz.; second prize, 35 lbs. 4 oz. 1878—First prize, 43 lbs. 10 oz.; second prize, no record. 1879—First prize, 44 lbs. 14 oz.; second prize, 41 lbs. 9 oz. 1880—First prize, 48 lbs. 8 oz.; second prize, 43 lbs. 8 oz. 1881—First prize, 44 lbs. 4 oz.; second prize, 44 lbs. 1882—First prize, 46 lbs. 12 oz.; second prize, 45 lbs. 4 oz. 1883—First prize, 47 lbs. 4 oz.; second prize, 47 lbs. 2 oz. 1884—First prize, 48 lbs. 12 oz.; second prize, 43 lbs. 8 oz. While it was most desirable that the system of judging by weight should be given up, it is a pity that the weight of the various specimens was not still taken. There can be no doubt that size is a most important element in all water fowl and turkeys, and the striving after this point ought to be encouraged, but not to the extent that was the case before.

In color the true Embden is of a pure white, with a pinky, flesh-colored bill, orange-colored legs and feet, and a blue eye. The egg is usually white, and the young for the first period of their existence are yellow in down.

E——, England. STEPHEN BEALE.

HIGH-BRED CARRIER PIGEON.

The Fancier.

The Carrier Pigeon.

If the Pouter can claim the proud position of the "King o' Doos," the Carrier holds a place almost on an equality with it, and it is more difficult to breed a really good carrier than a first-class Pouter. With this breed the beak properties are developed to such an extent that they present very great difficulties, and thus the number of breeders is comparatively few. Those who can breed first rate specimens are certain to obtain a good market for them, and there are always a fair number of devotees of this variety. The very fact of there being so many difficulties in the way of breeding is in itself an incentive, and proves a stimulus to greater exertion. The price paid for first-class Carriers is very great. It is not very long ago that £300 was given for six birds, and we remember a case where £150 was refused for two of the crack birds of the day. These may be exceptional prices, but he who wishes to go in for this variety must be prepared to dip his hand in his pocket very deeply.

The Carrier is one of the oldest of our varieties, and no doubt the name is derived from the fact that these birds at one time were used as carrier pigeons, in the same manner as the Homer is now. But this property has long been lost, and no one would think of using them for such a purpose, both because they are too valuable to permit flying about, and also that as they have not been bred as flyers or trained to home, the homing instinct is suspended if not entirely gone. Moore, in his "Columbarian," says:

"The original of these pigeons came from Bassora in Persia, being sometimes brought by shipping, and sometimes in the caravans, hence by some ignorant people they are called bussorahs. This city is situate about two miles from a river called Xat Arab, which is formed by the meeting of the two great rivers Tigris and Euphrates; near this place is a small house, like a hermitage, dedicated to Isa Ben Mariam, that is, Jesus the Son of Mary; in passing which place the Mahometans themselves very devoutly offer up their prayers. There is likewise a considerable quantity of land, whose revenues belong to this chapel. We now come to give an account of the name which is given to this pigeon, and it is called a Carrier because it is frequently made use of to carry a letter from one place to another. And such is the admirable cunning or sagacity of this bird, that though you carry them hood-winked twenty or thirty miles, nay I have known them to be carried three score or a hundred, and there turned loose, they will immediately hasten to the place where they were bred. The Dutch call this pigeon Bagadat, I suppose from a corruption of the name of the city of Bagdat, which was formerly old Babylon which Nimrod built, because they judge this pigeon in its way from Bassora to be brought through that city. In Turkey they call them Bagatins or Couriers, and the Turks and Persians make a common practice of breeding this sort of pigeons in their seraglios, where there is one whose business it is to feed and train these birds for the use afterwards designed, which they do in this manner: when a young one flies very hard at home, and is come to its full strength they carry it in a basket, or otherwise, about half a mile from home, and there they turn it out; after this they will carry it a mile, then two, four, eight, ten, twenty, and so on, till at length they will return from the farthest parts of the kingdom. This practice is of admirable use, for every Bashaw has generally a basket full of these pigeons sent him from the grand seraglio, and in case of any insurrection or any emergent occasion, he braces a letter under the wings of a pigeon, whereby its flight is not in the least incommoded, and immediately turns it loose, but for fear of being shot or struck by a hawk, they generally dispatch five or six, so that by this means dispatches are sent in a more safe and speedy method than could possibly be otherwise contrived."

Since the days of Moore a great change has been made in the Carrier, which is now bred entirely for its fancy properties. The description given by that old author very largely agrees with the points of the bird now bred, but some have been developed, and the cessation of any attempt to breed it as a flyer has had the effect of working a great change in the character of the bird, and of developing the mere externals. The great point looked at is that of the wattle, which is enormously developed, and in some adult specimens remarkably preserved. It has been charged against Carrier breeders and with considerable truth, that they have sacrificed everything to this one point, but we think that judges are coming at last to see the necessity for considering something more than the beak wattle in balancing up the merits of a bird in the show pen. If that be done then the bird will be improved in other ways which have been some what neglected. A Carrier takes about three years to grow to proper maturity, but it looks best when about a year old, when the beak wattle is partially developed and the carriage of the bird is at its best. The following are the details as to the points of this bird:

Size—Large and long, the Carrier giving the appearance of a large bird all through. It should not measure less than 16 inches from the point of the beak to the tip of the tail.

Shape and Carriage.—Upon this point Moore says: "Their flesh is naturally firm, and their feathers close, when they stand erect upon their legs; their necks being usually long, there appears in them a wonderful symmetry of shape beyond other pigeons, which are generally crowded on heaps." This gives a very correct idea of the general carriage of the Carrier, which stands very erect and in a stylish position.

Neck—Long and thin, clean under the jaw, and well rounded off at the back of the head. The best form of neck is that which Lyell describes as "slender all the way down, till it runs into the body; but this appearance is only seen in young birds, for as they mature they naturally get thicker at the junction of neck and body."

Wing Butts—Carried well forward, level with the front of the breast.

Breast—Broad, and body in keeping with the general contour.

Beak.—This ought to be as long as possible in keeping with the bird itself. Moore gives the measurement as an inch and a quarter, but now the measurement is taken from the centre of the eye to the point of the beak, which could hardly be the case with Moore's, and therefore it is of no value. On this point Lyell says: "Mere length is of little consequence compared to the style and set of the beak. It ought to be thick, and especially so at the point; and the under mandible ought to approach the upper in consistency as much as possible, fitting closely to it. This is known as the box beak, which is one of the greatest beauties of the Carrier." The beak must be straight, and the division between the mandible perfectly straight.

Beak Wattle.—Here I must quote from the author just referred to who says: "The abnormal growth of wattle round the eyes and on the beak constitutes its chief value fancy, all other properties being merely adjuncts thereto, calculated to set off these wattle points to the greatest advantage. A good beak wattle must be broad across the beak when seen from the front, short in profile view, so as to show as much of the point of the beak as possible, and rise high above the beak with a forward inclination at the summit. The growth of the beak wattle has been compared to that of a cauliflower, which is a good illustration. * * * The wattle on the under mandible is called the 'jew' wattle. A form of beak wattle called the 'walnut wattle' has three portions on the upper mandible very much in one mass."

Head—Long, narrow, and flat, but yet with the appearance in profile rather rounded.

Eye—Large and prominent.

Eye Wattle—Large, perfectly round, and thin.

Color—Black, blue, dun, silver, chequered, and white, the blacks being most numerous.

STEPHEN BEALE.

New Advertisements.

A. S.	Truck Farms.
Bowker Fertilizer Co.	The Great Potato Contest.
Burrells, W.	Stock Farms.
Barbee, J. F.	Bronze Turkeys, &c.
Chattin & Co., R. B.	Stock Farms.
Cloud Bros.	Light Brahmas.
Dana, C. H.	Deer-Mowing Label.
Drew, S. C.	Jersey Bull, &c.
D'Allings, B.	Jersey Bull Calf.
Ewan, John	Berkshire Pigs.
Gillingham, Geo. L.	Poland-China Pigs.
Grady, J. C.	Farmer Wanted.
Green's Nursery Co.	Winter Hardy Pear.
Howell & Slocum	French Coach Stallions.
Kent, H. J.	Merino Bucks.
Lamange, C. C.	Horns--Jersey Bred.
Meacham, M. H.	Jersey Bull Calves.
Mallie, W. A. & A. F.	Jerseys.
Nye, C. H.	Dorset-Horned Lambs, &c.
Parry, Wm.	Executor's Sale Statistics.
Peaplar, T.	Berkshires.
Phelps, C. C.	Rams for Leasing.
Peterson, A. J.	Farm for Sale.
Scott, Mrs. Mary C.	Farm for Sale.
Stabler, D. D.	French Coach Stallions, &c.
Thompson & Bland	Imported Horses.
Timpson, Laurence	Berkshires.
T. C.	Setter Dogs.
Tryne, Howard	Rouen Ducks.
Van Voorhees, Stephen	Percheron Stallion.
Wetherell, Chas. H.	Vermont Horses.
White, Wm.	Seed Potatoes.
W. U. T. Office	Four Brown Mares.
Wheeler & Melick Mfg. Co.	Baling Presses.

Pamphlets, &c., Received.

BARTHOLOMEW & SPORTSMAN, 313 Bush St., San Francisco, Cal. Circulars of Polarity Stallion for Trotting Foals of 1889.

HOOD & CO., C. I., Lowell, Mass. Hood's Sarsaparilla Calendar—very handsome.

MAGIC "APEX" BIT COMPANY, Fairfield, Somerset Co., Me. Illustrated Circular.

SCHELLER, CHAS. D., Malta, Saratoga Co., N. Y. Circular of French Coach Horses and Shropshire Sheep—see advertisement.

STEVENS & SON, A. W., Auburn, N. Y. Illustrated circular of Corn and Feed Mills and Corn Shellers—see advertisement, p. 911.

STEWART, WM. J., Sec'y American Florists' Society, 57 Bromfield St., Boston, Mass. Paper, "Elevation of our Business," read before society by Robert Craig.

TRELEASE, Prof. WM., Botanical Garden, St. Louis, Mo. Announcement concerning Garden Scholarships: pp. 8.

Inquiries and Answers.

Cutting Corn Fodder.—I have a barn loft that I wish to fill with fodder from field corn. I would have just room for a hundred shocks if cut to one-inch lengths. Can I cut the hundred shocks into barn loft all at one time without risk of heating and moulding? My plan would be to cut into one-inch lengths, cutting it all into barn in one day; cutter used with carrier and run by engine. J. W. H. *Prospect, Ky.* [It is unsafe from moulding to cut a large quantity of corn fodder an inch or less in length, and leave it for several days in a heap in non-freezing weather. The result will depend on the degree of dryness in the stalks, the warmth of the weather and the size of the heap. The only way is either to cut a moderate quantity at a time, and feed it out soon, or spread it out sufficiently to prevent heating and moulding.]

Manure for Evergreens.—What I desired settled by my recent query concerning my evergreens, p. 923, was whether use of barn manures as top-dressings would benefit them. I have both field and nursery cedars, but have lost a great proportion of the latter, and partly, I think, from sterility of soil. My field cedars are rank feeders. But I am told that nursery cedars are not, and that a free use of barn manure is inimical. I am lightening up my knoll by underdrains and will use fertilizers freely afterward so far as is safe. To what extent may I use stable manure in top-dressing? F. S. L. [Manure in moderate quantities may be used as a top-dressing for evergreens, and will also benefit them as a mulch. The fertilizing portions will work down into the soil and aid growth through the roots. As with fruit trees, manure is not to be placed in the hole dug for receiving the tree. Out of great numbers of evergreens which we have transplanted both from nursery rows and from the borders of swamps, we never saw any difference in the vigor of growth after they were well established.]

Crops on Muck.—Can I raise barley on muck? This muck will raise good corn, but husking time always comes on when I ought to be fall-plowing, and by the time I am done husking, it is frozen up. I should like to raise barley on muck if it does well. When ripe, I can get it cut with self-binder—no trouble to get it cut, as almost everybody has a binder. But I have to cut the corn and husk alone, as hired labor is scarce in this locality. I have tried oats, but they get rusty. I should like to hear also what kind of crops do best on such land. J. M. *Cleveland, Mich.* [As muck varies in quality, no fixed rule can be laid down as to its support of different crops. Barley will grow on some kinds of muck, and will fail on others; the most reliable information is to be determined by the trial. If you will plant a smaller and earlier corn (thick enough to make up for its deficiency in size), you may perhaps escape danger of frost. Most of the experiments made with different varieties of corn, and reported on the amount of the crop, have not taken into the account the greater number of stalks of small corn which may be grown on an acre, and which will compensate for the inferior size.]

Poisons for Vegetable Substances.—Do you know of any substance or chemical put into the body of a tree, or on its roots that will cause it to die? SUBSCRIBER. [Arsenic in any of its forms will doubtless destroy the tree, if in sufficient quantity.]

Apple Pomace.—I notice on page 923 that you have not at hand analyses of apple pomace. A year or two ago a quantity of apple pomace was put into two small silos at the Massachusetts Experiment Station, and fed out the next summer, beginning May 17th. An analysis of this ensilage was made by Prof. Goessmann, with the following result: Moisture, 55 33 per cent; dry matter, 14 67; the dry matter contained, crude ash, 4 91; cellulose, 23 16; fat, 7 36; protein, 8 23; carbo hydrates, 55.00 per cent. On the usual basis of estimating food values at the station, a ton of the ensilage was worth about $3. The ensilage was highly relished by cows and swine. Dr. Goessmann reported that "in the ensilage process the nitrogenous constituents of the pomace had increased at the expense of the sugar and starch; in other words, the latter had been destroyed faster by fermentation than the protein compounds." I made a memorandum of Prof. G.'s report at the time; hence I can give you the figures. Of course this is not an analysis of apple pomace, as freshly obtained from the mill, but will serve to throw some light on the subject.

Buffalo N. Y. D. A. A. N.

Apple Wood.—Will some one tell me where I can sell a large quantity of apple wood which I desire to cut during 1890? S. W. S.

An American Honored.—We are glad to state that the decoration of the French *Ordre du Mérite Agricole* has been conferred on our countryman CHARLES RICHARDS DODGE (son of the able Statistician of the Agricultural Department at Washington) for services on the international jury at the Paris show.

Indiana.—Meetings will be held at Indianapolis as below; we add in each case the address of the secretary:

Jan. 7-9, Delegate Board of Agriculture; Alex. Heron, Indianapolis.

Jan. 14, Cane-Growers; A. B. Dewey, Cicero.

Jan. 15, Bee-Keepers; G. C. Thompson, Southport.

Jan. 16, Horse-Breeders; J. S. Darnell, Lebanon.

Jan. 17, Jersey Breeders; W. C. Smock, Indianapolis.

Jan. 17, Poultry Association; Maj. Griffin, Muncy.

Jan. 21, Wool-Growers; J. W. Robe, Greencastle.

Jan. 22, Short-Horn Breeders; H. C. G. Bals, Indianapolis.

Jan. 23, Swine-Breeders; J. W. Pierce, Peru.

Feb. 26, Florists; W. G. Bastermann, Indianapolis.

Sorghum Sugar in Kansas.—An article on the subject of frauds in connection with this business appears on p. 956; and an associated press despatch from Kansas City, Dec. 13, says:

The great swindle planned by the American Sugar Company has collapsed, and the townships which voted bonds to foster the industry will lose nothing. All the bonds, $90,000 in amount, voted in Meade county for the extension of the Meade Centre mills have been cancelled, and the scrip issued by various township in Clark county has been destroyed, except $15,000 voted by one township, and this cannot be negotiated owing to the publicity given to the swindle.

The sugar company's scheme was a gigantic one, and if it had been executed $1,000,000 would not have covered the loss sustained by the counties and townships where the company contemplated operations. Agents had been actively at work in Stanton, Haskell, Pratt, Grant and Johnson counties, and had succeeded in arousing such enthusiasm over the new industry, that the people began to regard it as their salvation from possible ruin, caused by the uncertainty of the yield from other crops than sorghum. They were convinced of the success of the new process which promised such extraordinary returns of sugar from sorghum, and were willing to vote the amounts asked for building mills.

Acknowledgments.

Communications for publication have been received during the week ending Dec. 14, from Prof. H. W. Stewart—Wm. Brown—Katherine B. J.—C. F. Southiller—John T. Clapp—F. D. Curtis—E. P.—H. S. R.—S. Godney—A. P. Sharp—Sam'l Johnson—T. S. Gold—Farmer—H. R. Dennis—Edward A. Cockey C. S. Reese—Geo. A. Stockwell—Mrs. D. H. R. Goodale—John M. Jamieson—O. S. T.—H. F. Smith—Geo. B. Brown—Thomas Bowick—Clarence Gordon—T. E. Porter—Mansfield Milton—D. A. A. N.—Wm. Horne—W. T. Matthews—R. F. Johnson—A. N. Curry—Clinton D. Smith—Ed. Pearce—H. H. Palmer—Miss Hortense Dudley—Geo. Q. Dow—L. R. Scott—W. R. Lasenby—Subscriber—D. Aug. Vandervoer—H. H. D.—Stephen Beale—Sanders Somerer—A. Van Slyke—I. K. Felch—A. Jeffers—Edward B. Voorhees—Thomas Bowick—George Parr—Robt. L. Dean—H. E.

**** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

**** We cannot answer inquiries by letter.

The Cultivator and Country Gentleman

Albany, Dec. 19, 1889.

Farmers' Institutes—Are to be held next week at Monticello, Sullivan Co., 23d and 24th, and Walton, Delaware Co., 27th and 28th. Notes of the proceedings at Malone, Ogdensburgh and Salem begin on p. 955.

Cheese in Central New-York.—The last Utica cheese market of the season was held Dec. 9. The combined sales of the Utica and Little Falls cheese markets during the year were 706,580 boxes, the total value of which was $9,639,277 86. This represents the bulk of the product of Herkimer and Oneida counties, besides contributions from Otsego, Chenango and Lewis counties, although each of the latter counties have also boards of their own, doing quite a large business at Cooperstown, Norwich and Lowville.

The following are the totals of the transactions of the Utica board for 1889 and 1888:

Boxes sold	469,994	441,998
Highest price	10½c.	10¾
Lowest price	7¾c.	7¼
General average	.09	.09884
Value of cheese	$3,197,071	$3,294,560
No. of pounds sold in 1889		36,469,160

The value of the season's make at the Little Falls board, including farm dairies sold, was $1,337,776. The amount realized did not come up to that of 1887, though larger than that of last year, and the make of cheese was larger than ever before.

The State Dairymen.—The Thirteenth Annual Convention of the New-York State Dairymen's Association took place at Ithaca, Dec. 10, 11 and 12, Prof. I. P. ROBERTS of Cornell being president for this year. Following are the names of speakers and addresses: Governor W. D. Hoard, Wisconsin, "The Dairy Temperament in Cows;" Prof. J. A. Myers, West Virginia Experiment Station, "Separator Butter;" Adolf Wahlein, Stockholm, Sweden, "Utilization of Skim-Milk and Whey;" W. H. Gilbert, Richland, N. Y., "The Perfect Butter;" Prof. W. W. Cook, Vermont Agricultural Station, same subject; Abram Davendorf, Minden, N. Y., same subject; Col. F. D. Curtis, "Condition of Dairy Interests in New-York State;" Professors Roberts, Caldwell, Wing and Sanborn, of Cornell, on both practical and scientific subjects; Geo. A. Smith of our State dairy department, on "Perfect Cheese;" George T. Powell, Ghent, N. Y., "Effect of Food on Milk and Butter Production"; Commissioner J. K. Brown, on the progress of his department.

The officers chosen for the following year are: President, WM. H. GILBERT, Richland; 1st Vice-President, F. W. Edmonds, Sherman; Secretary, Hon. Josiah Shull, Ilion; Treasurer, Geo. T. Powell, Ghent. Directors, James Owen, Elmira; Hon. Edward F. Jones, Binghampton; Hiram Olmstead, Walton; Dudley Miller, Oswego; Frank Blanding, Hubbardsville; E. F. Ladd, Geneva. Four changes were made in the list of vice-presidents: Hon. Warner Miller, Herkimer; A. D. Baker, Aurelius; James D. Thompson, Owego; and G. W. Burbank, Binghamton, being substituted for persons who are dead or had lost their interest in the society.

The more important resolutions passed were: Asking Congress to enact a law requiring all skim-milk cheese to be branded as such; asking the legislature to make an appropriation for dairy schools; directing the committee on legislation to take measures for the passage of a law that shall prevent the skimming of milk offered for sale, notwithstanding it may not be skimmed below the legal standard of fats and solids; and a recommendation to all dairymen to purchase scales and hang them up in their stables, and require every cow's milk to be weighed and recorded separately every day she is milked.

The sessions of the convention were well attended, and all parts of the state seemed to be represented. In pursuance of the plan adopted last year a new president was chosen. Mr. Gilbert is a practical dairyman and a man of affairs, and will conduct the society to further success. Mr. Powell, the new treasurer, is also a practical man, and one of thorough business habits. Secretary Shull's services have been so prompt and valuable, and his annual reports so admirable, that the society could not release him from duty. In fact, it has never done such good work for the dairymen of the state as it has during the past year. R. D. C.

Full report of the proceedings will appear in next week's COUNTRY GENTLEMAN.

Commercial Fertilizers.—Dr. Collier writes that according to the census of 1880 the annual sale of commercial fertilizers in New-York State amounted to $3 715,477, and that it is now as much as $8,000,000. He thinks the farmers of the State could save annually three-quarters of a million in the purchase of these fertilizers, by simply being constantly informed through the work and publications of a fertilizer central station, like that of New Jersey, where they can for the least money obtain the fertilizing constituents to the best advantage, and best adapted to their peculiar soils. He adds that there is unquestionably a very large amount in addition lost by farmers through fraudulent fertilizers, by the want of legislation to provide the needed protection.

New Wheat Insect.—Prof. J. H. COMSTOCK, of the Cornell Experiment Station, has given, in a recently issued bulletin, a full account of a newly introduced insect, which, if it increases and spreads through the country, is likely to prove a formidable enemy to the wheat crop. In addition to his description of the insect, accurately drawn figures are given, representing its appearance, and its mode of operation in destroying the wheat. If the infested straws are examined a week or ten days before the ripening of the grain, the larva is found in the shape of a yellowish, milky-white worm, varying from a fifth to half an inch in length. The larger ones will have tunneled all the joints, except perhaps the one nearest the ground. It can thus pass freely from one end of the cavity of the straw to the other. As the grain ripens, it passes toward the ground, and makes preparations for the winter. It cuts the straw in a circle near the ground, causing the grain to break off and lodge when blown by the wind. It remains in the stubble after the grain is cut, and passes the winter in larval state. In May the perfect insect comes out, a four-winged fly, belonging to the order *Hymenoptera*. Soon after the females lay their eggs for another throng of depredators.

This insect has only been observed on the farm grounds of Cornell University, but is a well known European insect. It may become a serious pest if allowed to spread, to prevent which it may be best to plow under all wheat stubble, or to suspend the raising of wheat for one year, in order to starve them out. Prof. Comstock will continue his investigations and experiments with other plants than wheat, with a view of the starvation remedy.

Pears in Western New-York.—In the course of his Annual Report for the current year as secretary of the Horticultural Society of Worcester Co., Mass., Mr. EDWARD W. LINCOLN refers as follows to some peculiarities in the climate of Western New-York as affecting the growth of pears—introducing his remarks, as will be seen, with a graceful and well deserved compliment to the associate editor of this journal:

But a very few weeks since, one of our few surviving honorary members—JOHN J. THOMAS—who, since the death of Marshall P. Wilder, and the enforced retirement of Patrick Barry, stands without a peer among living pomologists, published an article in the COUNTRY GENTLEMAN descriptive of "Some good varieties of the Pear." Summed up, they are Anjou, Sheldon, St. Michael, Seckel, Lawrence, Calrgeau, Bosc; the conclusion being eloquent with praise of the Bartlett. It is curious to find this eminent authority while admitting that the

Bosc, for instance, "is one of the best of all autumn pears," yet declaring that "the tree is not a very good grower, and is injured by our severest winters." Here, in Worcester, the Bosc is at last receiving its proper recognition as one of the very best varieties. Although late in coming into bearing, its growth is rapid enough to be consistent with maturation of the wood; and it minds a blast from the north pole about as much as does the hickory or white oak. The writer has often puzzled himself as to the character of the winters in Western New York; surmising that the contiguity of countless lakes might encourage frequent and intense vicissitudes of temperature. He recalls to mind that Ellwanger & Barry once thought Cydonia Japonica not much better than half-hardy in the vicinity of Rochester. Yet horticulture is a success because of the proximity of these charming bodies of water; and the wonder is why the tough wood of the pear should not be equally proof against extremes of frost, in that favored region, as it has approved itself for more than a century, in the American Bottom at Kaskaskia, among the old French settlements of Illinois!

From Late Exchanges.—The Country Gentleman is the best agricultural weekly published.—*Franklin (N. Y.) Dairyman.*

—A high-class weekly.—*Shelburne (Ont.) Economist.*

—The best in all respects of the whole list of farm journals.—*Pittsfield (N. H.) Analects.*

—Long and favorably known in the agricultural world.—*Woodstock (Vt.) Standard.*

—The great standard weekly farm journal; good and reliable, not a mere catch penny like many so-called farm journals.—*Everett (Pa.) Press.*

—As an able, reliable and handsomely-printed paper, it has not its equal in this country.—*Willoughby (O.) Independent.*

—This paper seems to improve each year.—*Harrisburg (Va.) Spirit.*

—The farmer who secures its weekly visits will reap from its well-filled pages far more value than the subscription price. It numbers among its contributors the best agricultural writers of the age.—*McMinnville (Tenn.) Standard.*

—There has recently been an enlargement of this excellent periodical, but the club terms are lower than ever.—*Mitchell (Ind.) Commercial.*

—The best and most substantial and reliable agricultural paper in the United States.—*Beaver Dam (Wis.) Citizen.*

—A peerless weekly; no other of its class approaches it in general excellence.—*Trinidad (Col.) Citizen.*

Double Oat Crop.—Just in front of the hotel I sowed oats last February to make a lawn green for the spring. These oats were cut in July. Aug. 27 I had two acres sowed to German millet, which proved a failure. The land was thoroughly plowed and harrowed, and properly seeded. With the millet came up quite a quantity of oats, and I now send sample from said field. They are about two feet high and well headed out. Up to this date (Nov. 17) no frost has injured them. Did you ever know two crops of oats to be made on the same land, both crops heading out? W. R. C. *Asoee, N. C.*

Kansas Farmers Combining.—A telegram from Topeka, Dec. 14, says:

The directors of the Kansas Alliance Exchange are holding meetings here to complete plans to go into business, and will soon open an establishment for handling consignments from members of the Farmers' Alliance. The exchange is the business branch of the alliance. There are now 1,200 alliances in the State, with a membership of 70,000. The farmers propose to do something, if possible, toward regulating the markets. When the prices of corn and cattle are too low, the farmers will be asked to hold their products until they can get a better market. When the markets are all right, the exchange will assist in disposing of the farmers' corn and cattle at the most advantageous prices.

Buffalo Breeding.—Following is a press despatch from Denver, Col., Dec. 13:

"Buffalo" Jones of Garden City, Kan., was in Laramie to-day with a herd of 85 buffaloes which he is shipping to Garfield City, Utah. The buffaloes are the Kennedy herd of Manitoba, and are shipped directly from there. At the head of the herd is a bull weighing 2,000 pounds, 8 years old. Mr. Jones says that he has met with great success in crossing buffaloes with black cattle, and that he intends to remove all he has, over 100 head, from his Kansas ranch to Garfield City, where it is proposed to open a park for a large collection of rare animals. The buffaloes now shipped are the last in Manitoba so far as known.

An Australian Cattle Show.—Speaking of the recent annual exhibition of the National Agricultural Association of Queensland, an Australian contemporary remarks:

"Every exhibition has its especial features, and while last year the equine section stood preëminent, this year the cattle certainly held the pride of place, and a finer-looking lot of animals it would be hard to find, and they were a good ten years' improvement on those shown in 1888. Herefords, Short-Horns, Devons, and Black Polled Angus were well represented in a sort of federation of Australian bovines, for their respective owners acknowledge New South Wales, New Zealand, Victoria and our own colony as their habitats. Taken as a class, the Herefords ruled the roost, although they were rather small an

PRIZE EMBDEN GOO

appeared more like a first cross, but if the r sults of the different breeds, as represented b their progeny in the fat cattle exhibited, wer considered, then the Short Horns were to sawyers, Messrs. Collins & Son's, Mundoolan prize fat ox being of that breed, while th Polled Angus was the breed next best repre sented, as there were two fats shown of thi strain that would either of them turn the scal at 1,300 pounds."

Farm-Yard Notes and Items.

The Thirtieth Volume of the Herd Regist of the American Jersey Cattle Club include bull pedigrees 21,501 to 22,000, and cows 53,0 to 55,000. The association has now 403 mem bers, which we believe is more than at an previous time. Four have been admitted sinc the last preceding volume appeared—Messr Jas. T. Henderson, Washington Wilcox, M. h Kirkman and John H. Albin. Frederi Bronson is president; Dr. H. M. Howe, vice president; John L. Holly, treasurer; F. W Wicks, 1 Broadway, New-York, secretary.

Referring to inquiry headed "Jersey Annu Records," p. 943, our attention is called to th statement, on p. 99 of the book "Butter Tes of Registered Jersey Cattle," published by th A. J. C. C., that "in this pamphlet authenti accounts are given of three registered cow which each produced over 900 pounds of butte in one year." The three cows appear to b Landseer's Fancy, Massena and Matilda 4th but the yields of the last two were partly est mated, and Massena even then fell short of th quantity stated, for her estimated yield wa 903 lb. 3 oz. in one year *and eleven days.* W still think that Landseer's Fancy stands alon in her glory as *the* 900-lb. Jersey cow.

The advertisement of the *Compagnie du Haro National* appears in a new form this week. should be noted that half the capital stock o this association is in the hands of Frenchme who own property largely in Le Perche. Baro E. de Mandat Grancey is at their head, an owns also a large ranch in Dakota.

Cattle tuberculosis seems to be spreadin on the continent of Europe. According to th statistics produced before the veterinary con gress, lately held in Paris, of the cattl slaughtered in public abattoirs more than per cent. are found affected with this disease The congress unanimously voted that tube culosis should be included amongst the con tagious diseases of animals, and that the flesh and the milk of affected animals should b condemned as unfit for food.

The Eleventh Annual Meeting of the New York State Sheep-Breeders' Association wa held in Rochester, Dec. 10th and 11th. Presi dent Davis Cossitt delivered an address, i which he stated the danger of reducing th duty on carpet wools. The secretary's repor showed an increase of members. The secon

The Grazier and Breeder.

Feeding Calves Skim Milk.

Alfalfa Hay.

ED. COUNTRY GENTLEMAN—In our dairy, for year ending Nov. 1, we used 4,723 gallons of new milk for our young calves, worth to us 18 cents per gallon, as we could sell it for that at retail. We wish to raise these calves on separated milk with the addition of some fat to take the place of the cream, and we have thought of getting one of De Laval's emulsors for the purpose of mixing the fat with the sweet skimmed milk. We can buy cottonseed oil for 45 cents per gallon and oleo oil for 9 cents per pound. Which would be the better or the cheaper to use in connection with the skimmed milk?

We enclose bulletin from the Agricultural Experiment Station of this State, giving the analysis of different samples of alfalfa. On page 11, we have underlined the samples which would about correspond to the hay we are now feeding our dairy cows, and would like to ask you how to figure the digestive nutrients from this analysis. On page 29, you will find a table of the digestion co-efficient. E. & M.

Elmore, Ont.

1. The question about feeding the young calves are certainly very important. But the owners entertain an erroneous impression, that if they could mix with the sweet separator skim-milk, an equal amount of any kind of oil to balance that which has been separated from the milk, it would be restored to its original condition, that is, would have the same vital force as food as if it had never been skimmed.

But they must remember that they cannot replace oil identical with that separated, and that their skim-milk is about 90 per cent. water; that if this is to be treated artificially to compensate for its changed condition, they should reduce the proportion of water in the food, and that in replacing the oil they should chose some food containing oil as agreeable to the digestive organs of the calf as possible. We think the oil in flaxseed more digestible and healthful to the calf than that of cottonseed, and costing no more; while the flaxseed contains an important proportion of albuminoids for the muscles, good material to grow the bones, as well as largely replacing the oil taken from the milk.

In this system of feeding their large number of calves upon skim-milk, unless the skim-milk is too valuable, it should be continued up to six months old, and will assist largely in their even development.

In the system of calf-feeding, we should propose that the calf be put upon the skim milk diet at ten days old. As there would be a large number of calves to feed at certain seasons of the year, the food should be prepared in large quantities. They will be able to purchase flaxseed at a reasonable rate, probably, not far from them, but in any quantity at Omaha. The flaxseed should be boiled for about 10 to 15 minutes in six to eight times its bulk of water. To each quart of flaxseed so boiled, stir in, after the flaxseed forms a jelly, 2¼ lbs. of fine wheat bran or middlings, and let it boil one minute. This shows the proportion. Into 100 lbs. of warm skim-milk stir this mixture of one quart of flaxseed and 2¼ lbs. of fine bran or middlings. The mixture is then ready for the calf, and should be given warm. Let the calf at first be fed three times a day, say about two quarts of this mixture at each time, which will be increased as the calf grows and is able to take more. But great caution should be given not to over-feed. It is better to slightly under-feed than over-feed. The feeder must have a wise discretion. This will be appropriate for the calf till 30 days old, when there should be an addition of one pound to the fine bran, and at 90 days old an addition of another pound, and at 4 months old still another pound, letting the amount of flaxseed remain the same, and this may be continued until the calf is 6 months old, when it should weigh at least 500 lbs. The calf is supposed to have the best quality of alfalfa hay to eat after three weeks old.

2. We have examined the pamphlet sent from the Colorado Experiment Station, and we think E. & M. can figure the digestible nutrients in their alfalfa hay by using the digestion co-efficients given on page 23 in the alfalfa experiment, the co-efficients being 77 per cent. for albuminoids, 54 per cent. for crude fat, 49 per cent. for fibre, and 64 per cent. for nitrogen free extract. If the alfalfa hay analysed on page 11, having of albuminoids 19.79, crude fibre 16.72, nitrogen free extract 40.56, and fat 2, 66, is figured by these co-efficients, we have of digestible nutrients the following: 15.9 albuminoids, 8.19 digestible fibre, and 25.98 nitrogen free extract—making 94.01 carbo-hydrates and 1.45 fat. This shows a very remarkable quality of alfalfa hay, and although it is one of the richest clovers, yet it very seldom comes up to this high standard. This has the remarkable nutritive ratio of 1 to 2.46. E. W. S.

Cows, Yearlings and Calves.

ED. COUNTRY GENTLEMAN—Please compound me a ration for Jersey and grade Jersey cows. Object, cream. Have good meadow hay, good oat straw and corn stover, also Southern white corn ensilage, cut in roasting stage, plentifully cared. I desire to feed a mixture of above dry forage, cut fine, mixed as one part hay, the other straw and stover; this mixture with an equal weight of ensilage, or more if best. My grain will be corn cob meal (the measured bushel ears); wheat bran, coarse, $15 per ton; wheat middlings, $18 per ton, and can add rye at 1c. per lb., if deemed advisable. My experience has been that this mixture with grain ration, thoroughly mixed together and allowed to stand 24 hours will generate enough moisture to cause grain to adhere to the mixture so that I avoid necessity of wetting.

Also from the same, a ration for dry cows and yearling heifers.

Also calves, eight months. C. B. B.

C. B. B. should have stated the yield from his cows. He cannot properly compound a ration with the foods he mentions, using an equal weight of dry fodder and ensilage. His corn and cob meal should be ground fine, and if we use much of the corn and cob meal, he does not need the wheat middlings, as coarse wheat bran would be better to balance the fodder. But it will be difficult to balance the ration properly with the foods he gives. More nitrogenous food is needed, but we will try the following compound: 40 lbs. corn ensilage, 4 lbs. meadow hay, 4 lbs. oat straw or corn fodder, 6 lbs. cob meal, 3 lbs. coarse wheat bran. When analysed this shows the following digestible nutrients:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
40 lbs. corn ensilage.....	0.48	4.80	0.30
4 lbs. meadow hay.....	0.32	1.40	0.04
4 lbs. oat straw.....	0.06	1.40	0.03
6 lbs. cob meal.....	0.41	6.30	0.35
3 lbs. coarse wheat bran...	0.86	2.40	0.30
Total.....	2.13	16.30	0.99

Nutritive ratio, 1 to 8.

It will be seen that this is rather a wide nutritive ratio for the production of the largest quantity of cream; and yet its construction is such—the amount of very digestible carbohydrates and fat—that it will probably make it a successful ration, and probably worthy of a fair trial.

2. For dry cows, this ration with the cob meal left out would be a very good one, and the ensilage might be reduced 10 lbs.

3. For growing yearling heifers give 20 lbs. ensilage, 3 lbs. hay, 9 lbs. straw or corn fodder, 5 lbs. wheat bran.

4. For calves, 8 months old, give 15 lbs. ensilage, 2 lbs. cut hay, 4 lbs. wheat bran. This should give a good growth, and keep them in perfect health. E. W. S.

Impracticable Calf-Feeding.

ED. COUNTRY GENTLEMAN—I am located near a large dairy farm within 14 miles of a large city, and can obtain calves from dairy for nothing, as I understand they kill them as soon as born. Could I take and feed them for six weeks for veal with the following foods and prices: Bran, $18 per ton; linseed meal, $37; chop (corn and oats), $17, and buy surplus milk from shippers at about 13 or 13½c a gallon; set the milk, skim the cream, and churn it, and feed the skim-milk, selling the butter? I get 25c. for my own butter from one cow. By surplus milk, I mean that of a shipper not having enough to fill a 10-gallon can—or suppose he is producing more than his customer in town needs, and not enough to supply any steady trade above his regular trade. There are several shippers handy. Could these calves be forced in feeding to weigh about 100 to 140 lbs. in that time (six weeks)? I can hardly quote market prices, but I am a good salesman and could get the top price. I have known calves to bring $6 and $6.50 dressed at that age. Do you think any profit could be made over and above the value of droppings for the farm on which I live (rent)? A. D. S.

Pittsburgh, Pa.

The project of A. D. S. is not practicable, first, because he cannot make proper veal calves by six weeks feeding upon such foods as he mentions. He probably supposes that he could grow the calves with as white flesh as those produced by suckling their dams; but this cannot be done. The flesh will have a reddish color, and although calves may be made fleshy and good food in eight to ten weeks, yet they will not bring the price of veal calves.

Second—This scheme is not practicable because S.'s milk would cost him too much, and the supply would be uncertain. He could not take milk at 13 to 13½ cts. per gallon and get his money out of the butter produced, so that the skimmed milk to feed his calves would not cost him more than it is worth. He could not rely upon more than 25 cts. for his butter. He will see that he must get a pound of butter from two gallons of milk, which is more than shippers' milk ever produces in butter. It is only rich milk produced specially for butter that yields as well as this. If he could buy all the sweet skim-milk he wanted at about 20 to 25 cts. per 100 lbs., he might, by using a certain amount of flaxseed jelly, middlings and fine wheat bran, produce calves that would weigh, alive, 200 to 225 lbs. at 8 to 10 weeks old, and they could probably be sold at a fair margin of profit. But his circumstances are so different that the scheme must be considered impracticable. E. W. S.

Lambs—Steers—Cows.

ED. COUNTRY GENTLEMAN—Please give us a ration for fattening lambs, grade South-Down or Shropshire, raised in Michigan and bought at East Buffalo; average about 56 lbs. We have a good place in basement barn, well ventilated; want to shear them in March. We have for feed bean fodder, barley, wheat and oat straw in barn, and a small quantity of clover hay. Bran at $19 per ton, corn at about 41c. to 43c. per bu., now (expect it less when new crop comes in) and oil meal at market prices.

Which is the better, spring or winter wheat bran? Old or new process oil meal?

Also would like ration for fattening steers coming three years old, on cornstalks and straw, and can cut the fodder and mix grain with it.

Also how shall we feed our cows to get good results in butter, and an economical ration that would pay us with butter at 25c. per lb. from the above coarse fodder and grain? Cows are thoroughbred and grade Holsteins, and have been giving milk all summer, and will be fresh in March and April. W. & S.

Niagara County, N. Y.

W. & S. do not say, as would have been well, what number of lambs they feed, for if they feed in considerable numbers, it might be considered economical to run their bean fodder and straw through a cutter. As they are fattening these lambs, winter wheat bran, at the same price, would be a little better than spring wheat bran, because it would contain more of the starch or fattening element of the grain. But the difference would not be very material. The old process linseed meal would be a little better, because containing a larger proportion of oil than the new process. Now, if W. & S. should cut their bean fodder and straw into short lengths, their programme of feeding might be the following: 1 lb. per head of cut fodder, 1 lb. wheat bran, and ½ lb. old process linseed meal. This spread over the cut fodder, and given the first feed in the morning. This would, in fact, be the principal feed.

The second feed would be a little clover hay and half a pint of corn. Perhaps to start with it would be better to give only a gill of corn, and increase it during the first two weeks up to half a pint. With proper attention to water and ventilation this should put the lambs forward as fast as could be desired. The small amount of linseed meal would keep the digestive organs of the lambs healthy, and this is very important. After shearing, the corn part of the ration could be gradually increased to three-fourths of a pint, and perhaps to one pint.

2. The ration for fattening steers coming three years old, could be better gauged if the weight of the steers had been given. Let the corn stalks and straw be cut short, and the ration may be made up as follows: 10 lbs. cut fodder, 6 lbs. wheat bran, 6 lbs. corn meal, 1 lb. linseed meal. Let the fodder be well moistened, and the bran, corn meal and oil meal well mixed in and given in two feeds. Would be better if the steers could be watered in stable. They should not be allowed to take exercise. W. & S. should have the kindest attendant of these steers; a rough, boisterous man will render any ration unsuccessful. There must be no irritation. Fat is only laid on in contentment.

3. The ration for butter, with their cows at the last end of the season, and so near to the period of going dry, must not be a heating one, also it may do serious damage. The fodder being poor in albuminoids, will, in this case, have to be balanced principally by wheat bran.

These cows are presumed to have an average weight of 1200 lbs. The question for W. & S. most important about this ration is, that it shall be healthful to the cows. It is not likely that any profit can be made out of their butter at this end of the season, but it will help to pay the expense. We will compound the following ration for these cows: 14 lbs. cut corn fodder and straw, 12 lbs. wheat bran, and 2 lbs. corn meal; and as W. & S. may wish to see what are the nutritive constituents of such a ration, we give the following analytical formula:

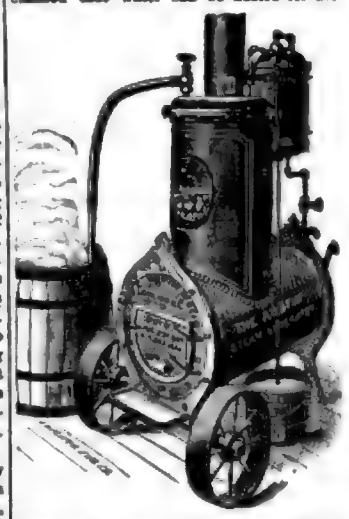
	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
14 lbs. cut corn fodder and straw.....	0.98	5.60	1.26
12 lbs. wheat bran.....	1.92	5.40	0.36
2 lbs. corn meal.....	0.17	1.36	0.08
Total.....	1.56	12.11	0.67

Nutritive ratio, 1 to 8. This is equal to poor clover hay, or the best upland hay cut early. It will be seen that the ration is a moderate one for these large cows, and yet we have no doubt, if this ration is well mixed, that the cows will do very well on it, and produce a fair quality of milk.

We should be pleased if W. & S. would report the result of this ration in carrying their cows through this period. E. W. S.

A Water-Warmer.

The F. C. Austin Mfrg. Co. of Chicago have devoted years to the perfection of a practical feed cooker and water heater which would at the same time be cheap, durable and efficient. The accompanying illustration will give an idea of this cooker or steam generator as now offered to the public. It is mounted on wheels, has a patent automatic filler and brass water guage, and is supplied with handles whereby it can be wheeled from place to place as desired. With it from one to twenty-five bushels of feed can be cooked at once. It is claimed that water can be heated for live



stock, for the cheese factory, steaming wool, for the bath or for slaughtering purposes, in one half the time and at less than one third the cost it can be by the old method. The patent automatic filling device enables the user to keep the boiler filled with boiling water, the steam at an even temperature and the cooking continuous and without interruption. It saves time and fuel and prolongs the life of the generator by keeping the heat uniform.

The Austin generator is finely finished throughout, and looks as well in the wash house and bath room as in the barn or farm yard.

Sore Back in Horses.

ED. COUNTRY GENTLEMAN—I saw in your paper an inquiry about saddle galls and sores. I know of no greater trouble to an equestrian, but I can testify that the difficulty vanishes as if by magic, before the use of that gall powder made up by Moore Bros. of Albany, N. Y. I never saw anything like it, and I consider that no humane person would ever be without it after once knowing its merits. Horses will, actually, heal while at work, if this remedy is used according to directions. Both my daughters are honorary members of the celebrated Montreal Hunt club, and a more severe country on horses was never hunted. A few days ago they were seven hours in the saddle, most of the jumps were 4 feet 6 to 5 feet, and so numerous that count was lost. Any one conversant with horses knows that the best riding in the world cannot prevent galls and abrasions in work, like this, but my children's horses are

kept in perfect order and comfort, thanks to Moore Bros. Of course, common sense must be used. Every saddle, but especially a side saddle, should be loosely girthed on, half an hour before needed, and far more important, it should never, *never* be taken off a horse which comes in tired and hot. No remedies could save a horse treated like that. The girths should be at once loosened, but the saddle *left* on till the horse is cool, and till all other parts of his body and his legs have been thoroughly dressed. If harness and saddles are kept clean and soft, horses properly attended to, back and shoulders bathed with strong brine when needed, and the gall powder used at very first intimation of trouble, the result would be unspeakable relief and comfort, both to man and beast. For the sake of suffering horses, I wish every stable owner were compelled, by law, to keep this remedy.

In addition, I would like to say that a few years ago I had a valuable calf so ill that we hardly expected it would live from hour to hour. I telegraphed fully to Dr. Moore, and got most full and complete replies at a cost of several dollars. But the calf got well under his treatment, grew into a perfect beauty, and a gentleman near by gave me $500 for it. In this case promptness and liberality were well repaid, and I am more than ever convinced that whatever is worth doing at all is worth doing well.

Too often animals are left to the last extremity, and then the owners send for a doctor, when they should only send for Patrick to dig the grave. MRS. E. M. JOURS.

Montreal, Can., Nov. 14.

The Dairy Department.

Improving Butter Ration.

EDS. COUNTRY GENTLEMAN—I raised a crop of sweet corn drilled with buckwheat sown between corn rows; buckwheat got ripe, corn ears in roasting stage when the crop was harvested. I feed this crop to my cows, and 2 qts. meal each—peas and oats ground together. The feed makes a fair amount of milk, very poor; set in a Cooley creamer it makes little butter. I am going to feed one feed of mixed hay, half clover. What shall I buy—second grade beans with some dirt at ½c. per lb., wheat bran at $14 per ton, or corn meal at $15? I do not know what linseed or cottonseed meal will cost at Buffalo. I have plenty of straw, mostly bright barley, also plenty of barley to grind if the price does not advance so it will be worth more to sell than it is to feed to cows and horses. I have only seven cows, all of mature age, of mixed breeds.

Gainesville, N. Y. N. E. T.

N. E. T. does not say how he feeds his sweet corn and buckwheat, whether whole or after being run through a cutter. It would be more effective after being run through a cutter, for then the corn of the ear as well as the buckwheat would be mixed with the stalks and all eaten together. He neglects to say whether the two quarts of peas and oats ground together is given at each feed or as much per day. He neglects also to tell us whether these cows have heretofore given richer milk; cows that naturally give poor milk cannot be made to give rich milk on any feed without a long course of feeding. It would probably be better for T. to buy the poor beans, and grind a bushel of beans with a bushel of corn, or grind the beans or mix an equal weight of corn meal with it, and then in the ration use the bean and corn meal and wheat bran.

This ground feed is quite too heavy and concentrated to feed alone, and should be mixed with the cut fodder. T. does not say whether he cuts anything. His ration may be made up as follows: 8 lbs. cut corn fodder and buckwheat, 7 lbs. mixed hay, 6 lbs. bean and corn meal, 6 lbs. wheat bran and 1 lb. cottonseed meal. The digestible nutrients in this ration are shown in the following formula:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
8 lbs. cut corn fodder and buckwheat	0.24	3.20	0.09
7 lbs. mixed hay	0.42	4.06	0.09
6 lbs. bean and corn meal	0.85	3.39	0.30
6 lbs. wheat bran	0.70	2.76	0.15
1 lb. dest'd bottoms'd meal	0.31	0.33	0.05
Total	2.52	14.17	0.58

This has a nutritive ratio of 1 to 5.9. This is a well balanced ration for good milk and butter. One pound of linseed meal might be substituted for the pound of cottonseed meal, and perhaps T. will think that the oil meal may be left off, and it is probable that the ration would be successful without it.

As T.'s cows have not been fed so large a grain ration, he might at first use only one-half of the bran given, and increase it gradually to the amount given. E. W. S.

Milk-Setting in Cold Air and Water.

EDS. COUNTRY GENTLEMAN—In your issue of Dec. 5, Mr. Gould says: "When milk is set in cold air, which is a much poorer conductor of heat and cold than water, the milk and butter fats do not separate as perfectly as they should." Is this correct? I supposed it was, until the past summer, when in testing a cow for the amount of butter made in a given time, I was led to doubt it. In testing a grade *Jersey* now, we placed the milk in an open and in our refrigerator on the floor where the temperature averages 40°. When we churned the cream, I was not satisfied with the amount of butter, as it took 12 lbs. of milk for a pound of butter. We attributed the loss to setting the milk in cold air, as the same cow in a test the previous year, had made a pound of butter from 10¼ lbs. of milk. We at once took the same quantity of milk from the same cow and set it in water at a temperature of 45°. When we churned the cream we had 6 oz. less butter than from the milk set in the refrigerator. I know that an experiment is not conclusive, but if any of your readers have made a thorough test between cold air at 40° and cold water at 45°, I should be glad to know the result.

Another criticism on Mr. Gould's article would be made by our best makers of gilt edged butter. They would not agree with him in discarding the butter worker, and while brine salting may be just as good, we think it is no better than applying the salt after the butter is taken from the churn, and certainly much less trouble and expense.

Broome County, Dec. 8. A. DEVERBAUX.

Public Dairy Tests for 1889.

EDS. COUNTRY GENTLEMAN—The liberal prizes offered by several of the leading breeders' organizations, for the largest production of milk butter, which have been supplemented by increased premiums in the dairy classes at most of our fairs, have encouraged and made possible a large number of these trials. While breeders of dairy cattle have a special interest in them, there is an interested public, anxiously watching for the results. Pedigree without performance does not count as much as formerly. So the dairy test is coming more and more to be demanded, as the only safe criterion of values.

It was an unfortunate oversight that the organizations offering the largest prizes did not provide some uniform method of carrying on the tests. Had there been such uniformity, the lessons gleaned from the recorded results would have had a more pronounced value. That there are many practical difficulties in the carrying on of these tests, at the public shows, will not be questioned by those who have had experience. However, some of the objections made to these tests seem to me to have been greatly magnified. One is the plea that the new surroundings, excitement incident to railway travel, change of water, &c., all have a tendency to lessen the milk yield, and make it impossible for the animal to do her best. All this is freely admitted. It is equally true of breeding and fat stock shown at the fairs, but is it not true that in the competition all the animals are subject to the same conditions? Is it not true that the successful breeder, as well as dairyman, by careful selection and management of the animals placed in such tests, has reduced to the minimum the ill effects of these adverse influences to the best performance? Is he not entitled to the benefits of this superior skill in the management of his cows? It is hardly to be supposed that a cow would be selected for such a test, of such a nervous organization as almost to incapacitate her at the outset, any more than a vicious animal in the other classes that requires the united efforts of two or three attendants to get him to the show ring and control him while the judges are making their awards. From this standpoint this objection does not seem to have much pertinence. It is impossible that all the factors that produce results in any competitive test can be weighed or measured at the beginning. There must always be a margin for unexpected, if not uncontrollable, contingencies.

The rule requiring that the owners of cows entered should furnish the judges with a full and properly attested statement of the food consumed for a certain number of days prior to as well as during the test, and with methods of feeding and management, was not, I think, in some cows as carefully attended to as their importance demanded.

The awards were made in a majority of cases on the per cent. of butter fat and this was determined by various methods. The churn test alone decided the matter in one or two trials; the churn test and gravimetric analysis of samples in others, and Profs. Short's and Patrick's apparatus in several cases. So far as I can learn, there seems to be a strong expression of opinion from those who have had anything to do with these tests, in favor of making the churn the arbiter in future trials. Let the churn, as the best practical way of separating the butter from the milk in general use, decide. It may be well to secure the per cent. of butter fat from samples of the milk for comparison and in the interests of science. The Iowa Dairymen's Association, I think, last month adopted a resolution advising that in the future the churn test be adopted at these trials. Such action by practical dairymen is a strong endorsement of the opinions expressed in several of the reports of the committees in charge of these tests already made, and will undoubtedly have weight with those whose duty it will be to plan for those of another season.

Lansing, Mich., Dec. 6. SAMUEL JOHNSON.

What is a Good Cow Worth?

EDS. COUNTRY GENTLEMAN—Attached to a dairy from which butter is made both winter and summer there is a six-year-old cow that can be sold for $60. She has a calf three weeks old, and is now giving more than 40 pounds of milk per day. She will give 7,300 pounds of milk that will make 300 pounds of butter in a year. The owner has plenty of corn fodder, hay and grain. Can he afford to sell the cow for the sum named?

The average cost of keeping a cow for one year, as fixed by the Ellisburg cow census, is $36. This includes hay, pasture, corn fodder, and grain feed to the amount of $8. But this quantity of grain will not be sufficient for a cow giving so much milk. An additional grain ration costing $14 in the year will provide for the extra flow of milk. This, with the $36 before mentioned, would make the cost of keeping for a year amount to $50.

Sales of butter should average at least 23 cents per pound for the year. The 7,000 pounds of skimmed milk and buttermilk, if fed to thrifty pigs and calves in connection with a suitable grain feed, will be worth 20 cents per hundred. (Many experiments have shown a greater value for the milk, but 20 cents is all that can be safely credited in these days of low prices.)

The account then will stand as follows:

Cr. By 300 lbs. butter at 23c.	$69.00
7,000 lbs. milk and buttermilk, 20c.	14.00
Total earnings	$83.00
Dr. To keeping by Ellisburg scores	$36.00
To additional grain fed	14.00—50.00
Balance in favor of cow	$33.00

But some one will say that I have made no charge for care of cow and milking and making the butter. If an expert in such matters will tell me just how much the year's manure from such cow will be worth, together with the value of manure from pigs fed, if all is carefully saved, then the account can be completed. How the account would stand, however, can make very little difference to the owner of the cow, for while I have been writing the above he has sold her for $70. Two years ago he sold a 4 year-old cow to the same man for $50. He made, I think, about 40 lbs. of butter from her milk, and after supplying his own family with milk, sold $110 worth to his neighbors in the year. She has given as a six year-old more than 60 lbs. of milk in one day. These cows are fine Holstein grades, weigh about 1200 lbs. each, are alike salable, and good for milk, cheese, butter and beef. They are only general-purpose cows, but will pay for their keeping, nevertheless.

A seven-eighths Jersey cow, 7 years old, owned by the late Chauncey Sharp of Lawville, was purchased last winter for $88. She had never been fed in a way to bring to light her good qualities, and her real value was unknown. She calved in March, and her milk was first set for butter March 26. In eight months she made 325 lbs. of butter, beside furnishing the family with milk and cream. Her grain feed has been coarse flour and shorts only. No doubt she would make more than 400 lbs. in a year if rightly fed to develop butter production.

It appears to me that the simple facts in this case ought to teach those dairymen who never test the ability of their cows to consume grain and yield profitable returns for the same, an important lesson. Many of them seem to think that where any considerable amount of grain is fed there can be no profit. It would be a hopeless task to try to persuade one of these men to subscribe for the COUNTRY GENTLEMAN if his attention were called to some of the rations prescribed by Prof. Stewart. It does pay, however, to feed good cows. What is the value of this $60 Jersey grade cow?

Lewis County, N. Y. C. S. RICE.

Ration for Cream.

EDS. COUNTRY GENTLEMAN—Please give ration for Jersey cows for production of cream, to be sold in Baltimore, from the following articles of food: Corn meal, wheat middlings, flaxseed meal and timothy hay. The middlings contain all the bran and other ingredients of the wheat, except the flour alone, one of our merchant mills manufacturing them in this way. I cannot procure clover hay. Corn meal worth $20 per ton; middlings, $16; flaxseed, $29; timothy hay, $10. I could procure oats at $36. E. H. W. *Bel Air, Md.*

E. H. W. wishes to produce cream from Jersey cows, and the foods he mentions are all well adapted to this purpose, except the timothy hay, which is too poor in albuminoids. What he calls flaxseed meal we suppose is old process linseed meal. His wheat middlings, made in the manner he mentions, is excellent food in such a ration. He may use the following combination: 15 lbs. timothy hay, 5 lbs. corn meal, 7 lbs. wheat middlings, 3 lbs. O. P. linseed meal.

This ration will best be understood by the following analyzed formula:

	Albuminoids. lbs.	Carbohydrates. lbs.	Fat. lbs.
15 lbs. timothy hay	0.56	6.15	0.16
5 lbs. corn meal	0.43	3.13	0.26
7 lbs. wheat middlings	0.77	3.43	0.13
3 lbs. O. P. linseed meal	0.76	0.81	0.15
Total	2.52	13.57	0.70

This has a nutritive ratio of 1 to 6, and the quality of food is such as to produce the very best quality of cream.

This 15 lbs. timothy hay must be run through a cutter, well moistened, and the corn meal, wheat middlings, and oil meal mixed evenly with it. This should be given to the cows in three feeds, smallest at noon, and as the Jersey is a peculiarly nervous cow, W. must see to it that the man who feeds and milks these cows treats them very kindly, and never excites them. Any excitement is paid for dearly in the loss of cream. The Jersey cow can only prosper in an atmosphere of kindness. E. W. S.

Rank Taste in Cream.

EDS. COUNTRY GENTLEMAN—I am keeping a cow that I have had about a year, and all during that time, although in good health and having a variety of food, we find an oily, rank taste to her cream. In spring and summer she runs out on pasture during the day, keeping her up at night, and in the winter we keep her stabled all the time. We have always given her a "mess" night and morning consisting of bran and potato peelings and such refuse from the house, besides all the hay she will eat. The milk is set in a perfectly clean cellar, well ventilated every day; the earth floor is as dry as a bone, and we keep it well swept. Last summer we set the cream in an ice box in our kitchen, and we noticed the same flavor. The cow seems in perfect health and has a good appetite. In fact, I see no change in her, at any time since we have had her, so far as health is concerned. W. L. B. *Topeka, Kas.*

W. L. B. does not disclose any cause for the peculiarity in the cream of his cow. Of course if he had stated that onions or turnips or such strong flavored food from the kitchen, had been given to the slops to the cow, this would have afforded an explanation. But on looking over all the causes stated, we are inclined to the opinion, that this flavor comes from the peculiarities of the cow. It is well known that cows give different flavored milk upon the same food. But B. does not speak of the flavor of the milk, nor flavor of the butter, if butter is made. Yet the probability in this case is, that the milk has a peculiar flavor as well as the cream. We have known cows whose milk, on the best feed, was not pleasant and agreeable to the taste, and have avoided the milk of such cows. But at the same time the milk of these cows did not seem to be unpleasant to other people.

We would suggest to B. that he try, for eight days, the following food for his cow: 3 qts. wheat bran, 3 qts. corn meal, 3 qts. oats, 1 pint of cheap molasses. Let this be all mixed together as a day's feed. If he has no

fine chaff to feed this on, let him place a thin layer of hay in the bottom of his manger, and spread the mixed feed over the hay.

Let this be all the cow has to eat except hay and give her good clear water to drink. If this does not change the flavor of her milk and cream in eight days, B. may safely come to the conclusion that the peculiarity of flavor is inherent in the cow, and that if he wishes better flavored milk he can only get it by changing his cow. R. W. G.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

WOLF TEETH.—I have three colts that have those small teeth on upper jaw in front of grinders, called wolf teeth (one on each side). Are they injurious to the eyes? Should they be knocked out? P. H. B. *Ridge Road, N. Y.* [Have them pulled out.]

NOT IN HEAT.—A heifer calved May 11 (first calf), and gave 24 lbs. of milk. I wish to breed her to come in in September or October next, but she has shown no signs of heat since calving. J. C. P. *Turbero, N. C.* [Use injectio vaginæ and dilate the os on every second day of intermission.]

WORMS IN MARE.—Please give treatment for worms in young mare. Coat looks rough and is very dirty; skin seems to give off large quantities of dandruff. W. D. *Shoupcot, Mo.* [Give the animal a physic ball; then feed Moore Bros.' worm powders and repeat the physic ball in a week or ten days. Have the animal clipped. If she does not improve as you desire, write again.]

WORMS IN HORSE.—An extra well-bred horse, seven years old, has been troubled for three years with small worms. Whenever his condition improves these worms are passed in voiding. Has never been sick, is hardy, and has unusual endurance for a long journey to buggy, but is dull, and slow unless forced, and his hair never looks "alive." J. C. H. *Oxford, N. C.* [Have him clipped, and feed Moore Bros.' worm powders—then give a dose of physic once a week for several weeks.]

CORNS OR MAIL.—My mare, 13 years old, used on delivery-wagon, has been troubled with corns; has had spells of gathering and breaking in edge of hair. Had to lay her aside, and sponge with carbolic acid and warm water. P. B. P. *Mystic Bridge, Ct.* [Is there a fistula or sinus extending from sore into the quarter or down into foot? How long since foot broke out? Remove shoe and soak foot an hour nights and mornings in the following: Gran. chlor. potass., 4 oz.; chloride zinc, 4 dr.; water, ½ pailful.]

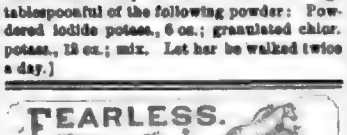
GARGET.—A heifer, which has been milked three months, about Nov. 10 had the right hind quarter of udder swollen hard and feverish, and when beginning to milk her a thick, stringy substance would come from that teat, and very little milk. Gave it active rubbing, which did not help it much; then rubbed twice daily with camphorated spirits. It seems all right now except a little hard and caked near the teat, and I do not get as much milk from that quarter as from the hind quarter opposite. C. I. H. *Alexandria Bay, N. Y.* [Give the heifer ½ lb. epsom salts every three or four days, rub the quarter with a little iodine ointment once a day. Give the cow an ounce of the following medicine in feed or otherwise three times a day: Bicarbonate of mercury, 1¼ dr.; iodide of potass., 4 oz.; water, 1 qt.; mix. She must not have corn, rye or wheat.]

BONY GROWTH IN JOINT.—A three-year-old cow was taken lame three months since in first joint above gambrel, only slight at first, but now can bear no weight at times on this quarter; always lies down on opposite side, and does not assist with lame quarter in rising. Joint is not out of place or broken, apparently. There is a hard bony-like growth about the joint. Cow has fallen off in flesh very much; appetite nearly as good as ever. Has not shown signs of being in heat since being lame. W. J. H. *Glens Falls, N. Y.* [If you are correct as to ossific deposits having taken place, then severe treatment will be necessary, and while cow may be restored to usefulness she will not entirely recover. She should have had treatment weeks ago. The best remedy now is actual cautery (firing), and blister 24 hours later. Give the cow an ounce of the following liquid three times a day in feed or otherwise: Iodide of potass., 4 oz.; fluid extract of colchicum, 4 oz.; water, 1 qt.; mix.]

SWELLING FROM KICK—STIFLE INJURED.—Have farmed for eleven years without accident in stable of 12 horses and mules. Since then have been unfortunate. Nov. 5 a mare was kicked in stable on hind leg below hock, which swelled to double natural size. Reduced swelling with hot vinegar, salt and mullein leaves; has discharged freely and so continues. Mare is supposed to be with foul, having been served in June. (1) A 7-months-old colt had its stifle cap knocked going through gate. Can hear it crack occasionally while walking; did not swell much and does not seem painful. (2) S. A. C. *St. George's, Md.* [1. Probe the wound and report to me all about it. Clip the hair from leg all around sore two inches and apply golden blister; repeat in 10 days. Blister across sore and all around it. 2. Blister the stifle and repeat in 3 weeks. Mention previous pages when writing again, always.]

SCOURING IN CATTLE.—Soon after we began feeding hay several animals at four different barns have been attacked with scouring. In a few days they are better, but others are affected; only one or two at a time in a stable of fifteen or twenty. These cattle embrace cows in milk and dry, oxen and young stock. Some have had no grain; have all had a chance at frost-bitten grass, but while on that alone none were affected. Calves and sheep at another barn remain healthy. The hay from the top of the mows was late cut, a mixture of old and new growth fairly cured, and eaten freely. Those affected are among the thriftiest animals in the herd. What is the cause and remedy? Does the trouble exist elsewhere? T. S. C. *West Cornwall, Conn.* [The difficulty is either in the food or drink. No such disease is now prevalent. It is probably the hay. However, you can soon discover by changing foods for a while. Give all in feed twice a day two tablespoonfuls of the following powder: Bicarbonate of soda, 2 lbs.; powdered golden seal, 8 oz.; mix.]

LEG SWOLLEN.—A three-year-old mare received a bad kick on outside of knee joint of hind leg opposite where a spavin would form; leg is swelled down to heel; no perceptible lameness, perhaps a trifle stiff; scarcely any soreness; skin was not broken. Have applied wormwood and vinegar, salt and water, saltpetre and water; poulticed with catnip and corn meal and half a bottle of liniment; bandaged leg, and spent hours rubbing it, but after four weeks swelling is very little abated. R. L. C. *Lockwood, N. Y.* [You do not say whether it was kicked this year or last, and that is a very important point. Wash every thing off the leg. Clip all the hair you can from it. Rub it twice a day with some of the following lotion: Powdered nitrate potass., 4 oz.; powdered muriate ammonia, 4 oz.; tincture aconite root, 3 oz.; tincture arnica, 6 oz.; tincture opium, 4 oz.; water, 3 qts.; mix. Give the mare a dose of physic, and mix in her food three times a day or turn down her a large tablespoonful of the following powder: Powdered iodide potass., 6 oz.; granulated chlor. potass., 12 oz.; mix. Let her be walked twice a day.]



This Threshing machine received the Highest Gold Medals given by the New York State Agricultural society, and has been selected, over all others and thus tested and described in that great work, "Appleton's Cyclopedia of Applied Mechanics," thus establishing it as the standard machine of America. Straw-preserving Rye-Threshers, Clover-hullers, Snailage-cutters, Feed-mills, Fanning-mills, and Wood Saw-machines; also the best in market. The Fearless Horse-powers are the most economical and best Powers built for the running Ensilage cutters, Cotton gins, and general farm and plantation use. For free catalogue, address
WOOD BROTHERS, Kingston, N. Y.

THE ROYAL ACADEMICIAN.

W. P. Frith, whose charming reminiscences have been so widely quoted, has written two fascinating articles for THE YOUTH'S COMPANION on his experiences with "Youthful Models," including Italian bootblacks, cockney Arabs, and children of the royal family.

Record of the Times.

Review of Passing Events.

A Poet's Death.—Robert Browning died at Venice, Dec. 12, in his 78th year. Educated at the University of London, a moderate fortune enabled him to devote his career to poetry, study, and social life. In 1846 he married Miss Elizabeth Barrett, the poet, and removed to Italy, remaining till after her death in 1861. His works show great genius, curious learning, and deep knowledge of human nature, but vary in quality from purest poetry to most rugged prose, now repetitious to weariness, now with maimed sentences hopelessly obscure. This had led of late years to the formation of societies in England and this country for the study of his works. He died in full possession of his powers, a volume of new poems having just appeared.

The Death Wires.—Another lineman, Peter Clausen, was burned on the wires in New-York, Dec. 9, at Third avenue and 126th street. He cut a wire with non-insulated nippers. The body was taken off by policemen from top of elevated railway stations.—Electric wires fell in Third avenue, New-York, Dec. 10, and a horse car crossing them, the driver was knocked senseless.—A detached trolly wire dropped on the Back Bay, Boston, Dec. 10, and knocked down a pair of horses, blocking travel for half an hour.—The Supreme Court has handed down a decision reversing the decision of Judge Andrews regarding electric wires in New-York. Notice was at once served for their removal, followed, the 14th, by men with axes.—Patrick Sullivan, employé of the Manhattan Electric Light Company, was killed by shock while at work, 14th.

Other Deaths.—Oliver Johnson, at Brooklyn, Dec. 10, aged 80. Beginning life as a printer and editor, he assisted Garrison and others in 1831-3 in forming the Anti-Slavery Society, and thenceforward wrote and lectured in behalf of abolition. He edited The Liberator for a number of years; the Anti-Slavery Standard from 1857 to 1865; The Independent, 1865-70; the Weekly Tribune, 1870-72; the Christian Union, 1872-75, and for three years, the Orange (N. J.) Journal. He was a stockholder and trustee of the New York Tribune association. In 1880 he published a history of Garrison and his times.—Colonel Justus H. Rathbone, founder of the Order of Knights of Pythias, at Lima, Ohio, Dec. 9, aged 50.—Mrs. Elizabeth Scott-Lord, sister of Mrs. Harrison, at Washington, Dec. 10.—Aunt Mary Tyler, the supposed heroine of "Mary Had a Little Lamb," at Summerville, Mass., aged 82.—Mr. Macdonald, manager of the London Times, Dec. 10.—William Allingham, the Irish poet, recently, aged 61.

From Abroad.—A luncheon was given Mr. Stanley by the British India Steam Navigation Company at Zanzibar, Dec. 12. Queen Victoria telegraphed congratulations, and the Mayor of London has offered the freedom of the city. The Sultan has publicly thanked the Zanzibaris who accompanied Stanley. Emin Pacha still suffers severely, but is in good spirits.—The London gas strike began, Dec. 13, but 1,200 new men were put on. No violence was attempted.—General Boulanger has signed a contract to deliver 30 lectures in America.—Dom Pedro and family will go to Cannes, stopping at Pau and Paris. He has declined the pension offered by the Brazilian government. The diamonds of the ex-Empress, left behind, have been stolen.—Galignani's Messenger, of Paris, has been bought by a newspaper company, with other Anglo-American papers, to be consolidated into a new one.—Four hundred employés of the Louvre, Paris, are ill with fever.—Epidemic influenza prevails at Paris, Berlin, Stockholm and St. Petersburg.—Krupp, the German gun founder has established a fund of $100,000 to enable his employés to build their own houses.—A great snowstorm has prevailed through central Germany.

F. H. Chapin and C. P. Howard of Hartford, Ct., experienced climbers, have returned from a trip to the cliff dwellings in Mancos canyon, Southern Colorado, discovered the past year. They have photographs of mason-work buildings, almost inaccessible—one 425 feet long, 80 feet high, with 194 rooms on lower floor—a palace that would hold 1,000 persons.

Miner Items.

The Cronin case went to the jury Dec. 12.

Storage room in the Capitol at Washington is getting too cramped for public documents.

A sale of lands near Duluth, Minn., worth $1,000,000, to a London and New-York syndicate, is reported.

Mr. Depew spoke before the Philalethean society of Vassar college, Dec. 12, on foreign travel and great people met.

An explosion of nitro-glycerine at Butler, Pa., Dec. 10, destroyed a torpedo company's factory, two wagoners and their teams.

A walnut tree in Belchertown, Mass., over 100 years old, was recently cut down. It was 104 feet long and yielded 4¼ cords of wood.

Thomas C. Platt, as president of the Tennessee Coal, Iron & R. R. Company, has begun suit against John H. Inman, its financial agent, to the amount of $4,000,000.

The Business Men's association of New England gave a banquet at Boston Dec. 12, at which speeches were made by ex-President Cleveland and Henry W. Grady of Georgia.

An eleven-days rainstorm in California caused floods all over the State. The Sacramento river was alarmingly high, broke levees at various points and flooded thousands of acres.

The Driggs-Schroeder rapid-firing gun is to be manufactured at the Colt works, Hartford, Conn. It will be a one, three and six-pounder, firing 36 shots a minute, with range of three miles.

New York's death rate this year is 18.50 per 1,000 inhabitants—the lowest since health records have been carefully kept. Improved drainage, rigid enforcement of sanitary rules and the rainy season are given as reasons.

The Spreckels sugar refinery in Philadelphia was started Dec. 9. It will turn out 2,000,000 pounds of sugar daily. Three railroads centre there and on the river are three wharfs. The entire plant is to be at once duplicated.

The Pope has decided in favor of the French nuns who founded the Ursuline convent at Pittsburg, and were deposed by Bishop Phelan. The diocese must pay Mother Xiphonas and her adherents $70,000 or reinstate them.

The funeral of Jeff. Davis took place at New Orleans, Dec. 11, in front of the City Hall, Bishop Gallaher and five clergymen officiating. Eight southern governors acted as pall-bearers and the interment was in Metairie cemetery.

A wild cow and a drunken policeman outdrove each other in mischief last week in upper New York. The cow tossed a woman and broke her ribs; the policeman charged on the assisting crowd and knocked down several men and a woman.

Father McManus of Geneva, N. Y., was recently invested as domestic prelate of the Papal Household with title of Monsignor. Pontifical high mass was celebrated by Bishop McQuaid, and the laymen presented the new prelate with $1,000.

A bill to authorize the sale of the South Carolina phosphate beds for not less than $7,000,000, has been introduced into the legislature, creating much excitement among the companies working the deposits who pay a royalty of $1 per ton. The State revenue is about $300,000 per year.

A cry of fire at a theatre in Johnstown, Pa., Dec. 10, caused a rush down narrow stairs and 10 persons were killed, 11 seriously injured and 80 less so. Smoke from a newly kindled fire in a house near by caused the alarm. The building was old and condemned years ago. The mad fighting of foreign mill workmen caused much of the loss.

The Chicago Auditorium, which covers 63,000 square feet, embracing an opera house, hotel and offices, and cost $3,000,000, was dedicated, Dec. 9, in presence of the President, vice-President and Postmaster General. Speeches by Mayor Cregier, President Harrison, Governor Fifer and others, and Madame Patti sang. The opera house is modeled after a trumpet, is perfect in acoustic effects, and will seat from 4,000 to 7,000 persons.

In Congress Speaker Reed announced four committees, Dec. 9—Ways and Means, W. McKinley, Ohio, chairman; Appropriations, J. G. Cannon, Illinois; Elections, J. H. Rowell, Illinois; Mileage, John Lind, Minnesota. Judge Kelley retires from the ways and means committee, at his own request, to become chairman of committee on manufactures. Mr Everts introduced a bill in Senate for holding the exposition of 1892 in New-York city.—Dec. 11 Congress celebrated the centennial of President Washington's inauguration. Chief Justice Fuller delivered the oration.

Parties having barren mares, or cows, or irregular breeders, will learn something to their advantage by addressing H. W. CAMPBELL, Racine, Wis. [3yr

Have you seen the 5-A Five Mile Horse Blanket? If not, why not? If you have a Horse you need it! 20tf-B

A GREAT POTATO YIELD.

In the great potato contest of the *American Agriculturist*, the grand prize of $1,250 offered by that paper and the Bowker Fertiliser Co., was awarded to Mr. Coy of Maine, for the largest yield on a single acre, 736 bushels of potatoes grown exclusively on Stockbridge manures. We are not surprised that these original special manures should lead in this contest, for "there is no cheating the plant," and it is evident that this great crop was fed from beginning to end with the proper amount of food in acceptable forms.

The manufacturers of the Stockbridge manures claim to make these manures of the very best material, and as these manures in this trial not only produced the largest single crop of potatoes, but also the

based crop raised on fertilizers in the oat contest. It would seem that their claim was substantiated by the field test.

The *American Agriculturist* says with truth that "the first lesson of this competition is that on the great majority of soils, complete high-grade special potato fertilizers (like the Stockbridge), are superior by far to stable manure for potatoes," and as the largest yield on stable manure either alone or with fertilizers, was only 231 bushels, it is no doubt true that high-grade, properly made fertilizers are the manures for this crop, both for producing yield and quality.

CATARRH—CATARRHAL DEAFNESS—Hay Fever—A New Home Treatment.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on application by A. H. Dixon & Son, 337 and 339 West King St., Toronto, Canada.—*Christian Advocate.*

Sufferers from Catarrhal troubles should carefully read the above.

BEECHAM'S PILLS cure sick headache. [4

TO OUR SUBSCRIBERS.

The SPECIAL ANNOUNCEMENT which appeared in this column some time since, announcing a special arrangement with Dr. B. J. KENDALL Co. of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby subscribers were enabled to obtain a copy of that valuable work FREE by sending to the above firm their address (and enclosing a two-cent stamp for mailing same) is removed for a limited period. All should avail themselves of the opportunity of obtaining this valuable work. To every lover of the Horse it is indispensable, as it treats in a simple manner all the diseases which afflict this noble animal. Its phenomenal sale throughout the United States and Canada, make it standard authority. Mention this paper when sending for "Treatise," and address with cent, Dr. B. J. KENDALL Co., Enosburgh Falls, Vt. 8ot-13t

Ayer's Sarsaparilla makes the blood pure, rich and vitalizing. Sold by all druggists.

Suppression of the Menses may be relieved by a dose of Ayer's Pills, which produce the desired effect through sympathetic action.

Farm Produce Markets.

Albany Markets—Dec. 16.

FLOUR.—The Argus says: Receipts slightly below the average, with active demand and good trade.

	1888. Dec. 14.	1888. Dec. 7.	1887. Dec. 15.
Com. State	$3.40@3.60	$3.40@3.60	$4.30@4.60
State Extra	4.10@4.60	4.10@4.60	4.70@5.00
Amb. State & W	4.30@4.60	4.30@4.60	4.70@5.00
O., Ind. & St. L. Ex.	4.60@4.75	4.60@4.75	5.00@5.25
Winter W. Pat	5.10@5.25	5.10@5.25	5.50@5.75
Minn. "Bakers"	4.60@4.75	4.60@4.75	5.00@5.25
Sp'g W. Pat., new	5.10@5.25	5.10@5.25	5.60@5.75

"Rye Flour firm at $3.25@3.50 per bbl.; Graham, $3.60@3.90. Oat Meal doing moderately well at $5.10@5.25 per bbl. Corn Meal in good demand and steady at $2.60@2.75 per bbl. Buckwheat flour in good supply and firm at $1.60@1.70 in street, and $1.70@1.80 per 100 lbs. in store.

GRAIN.—Corn firm, demand light. Oil, stable; new, nominal, per bus.: No. 2 mixed, 45c.; Oats firm; No. 2 white, 36@36½c.; No. 3 mixed, 32c.; Rye steady; State, No. 1, 56c., No. 2, 53c barley quiet; State, 54@57c.; Canada, 54@57c; Buckwheat, nominal.

HAY AND STRAW.—Receipts light, demand good. Timothy, prime $1.20@1.25 per ton; good, $1.15@1.20; No. 2 do., $1.05@1.10; mixed, $1.05@1.10; Rye straw, best, $1.05@1.10; common, $1.00@1.05; wheat straw, $1.00@1.05; oat straw, $1.00@1.05.

HOPS.—More buying for home and export.

N. Y. State, 1888	9	@ 10½c.
N. Y. State, 1887	7	@ 8½
Pacific Coast, 1888	10	@ 11
Bavarian and Bohemian	35	@ 40

Albany Street Market—Dec. 16.

BUTTER.—Choice, 24@25c. per lb.; good to prime, 22@23c.

EGGS.—Near-by and new laid, 28@29c. per doz.

FRESH MEATS.—Steer beef, hindquarter, 8@10c. per lb.; forequarter, 5@6c.; mutton, carcasses, 7½ @8c.; lamb, hindquarter, 10@11c.; forequarter, 7½ @10c.; veal, hindquarters, 9½@10½c.; forequarters, 7@8c.

POULTRY.—Fowls, 10@11c. per lb.; chickens, 12@ 14c.; turkeys, 14@15c.; spring ducks, 13@14c.; geese, 10@11c.

FRUIT.—Apples, 12@3 per bbl.; Cranberries, $2.75@ 3 per crate; Grapes, Concord, 2@3c. per lb.; Catawba, 5@10c.; California, 20@? per crate.

VEGETABLES.—Beets, $1 per bbl.; Cabbage, $3@3 per 100; Carrots, 30c. per bu.; Celery, 10c.@$1 per doz. bunches; Cauliflower, $1@1 per doz.; Onions, $2@ 2.50 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, $1.10 @2 per bbl.; sweet, $4.50@5; Squash, $1@2 per bbl.; Turnips, $1 per bbl.

New-York Markets—Dec. 14.

BEANS—Marrow, 1888	2.80	@ —
Medium, 1888	1.80	@ —
Pea, 1888	1.80	@ —
Cal. Limas	3.10	@ 3.20

COTTON—	Ordinary.	Middling.
Ordinary, per lb	—	@ —
Middlings	10¼@ —	@ —
Fair	11@ —	@ —

EGGS—State and near-by, per doz		
Western and Canada	30	@ 30

FLOUR—Spring Wheat pat., per bbl		
Winter	4.40	@ 4.85
No. 1 extra State and Western	3.60	@ 3.70
No. 1 extra	3.35	@ 3.45
Minnesota clear	4.10	@ 4.40
Straight	4.25	@ 4.70
Rye Flour, superfine	3.25	@ 3.40
Buckwheat	1.60	@ 1.70
Corn Meal	2.10	@ 2.20

FRUIT—Apples, State, mixed, per bbl.		
Baldwin and Green	2.00	@ 3.00
King, Sweet, western	2.50	@ 4.00
Cranberries, Cape Cod, per bbl	10.00	@ 11.00
Jersey, per crate	1.75	@ 2.25
Grapes, Catawba, per basket	.20	@ .25
Oranges, Fla., bright	2.25	@ 3.50
Messina	3.00	@ 4.00
Mandarins	3.00	@ 4.00
Hickory nuts, per bush	2.00	@ —
Peanuts, per qt	5	@ 7
DRIED—Apples, evap., 1888, per lb	3	@ 10
Sliced, 1888	4	@ 5
Peaches, sun-dried, 1888	6@8	@ 11
Evaporated, 1887	—	@ —
Plums, Southern Damson, 1888	—	@ —
State, 1888	3	@ 5½
Cherries, 1888	7	@ 8
Blackberries, 1888	5	@ 6
Huckleberries, 1888	11	@ 12
Raspberries, evap., 1888	20	@ 22
Sun-dried	11	@ 13

GRAIN—Wheat, State white, per bus.		
Ungraded spring	75	@ 80
No. 1 red, winter	80	@ 82
No. 2 red, winter	78	@ 80½
Corn, No. 2, white	44	@ —
No. 2, mixed	43½	@ —
Oats, No. 2, white	34	@ 35½
No. 2, mixed	32	@ 33½
Rye, State and canada	56	@ 58
Barley, State and Canada	54	@ 57
Buckwheat	38	@ 40

HAY—Timothy, choice, per 100 lbs		
Shipping	75	@ 80
Clover	70	@ 80
Straw, long rye, No. 1	60	@ 65
No. 2	50	@ 55
Tidal	50	@ 60
Wheat	50	@ 60

HONEY—White clover, per lb	12½@	@ 13½
Buckwheat	10	@ 11

HOPS—N. Y. State, 1888, best, per lb	12½@	@ 14½
Best, 1887	10	@ 11
Common to fair	7	@ 9
California, 1888	9	@ 11
Washington, 1888	12	@ 13½
German	35	@ 45

POULTRY—Live fowls, per lb		
Spring chickens	25	@ 35
Turkeys	12	@ 14
Ducks, per pair	60	@ 70
Geese	1.20	@ 1.50
Dressed fowls, per lb	9	@ 12
Chickens	9	@ 13
Turkeys	11	@ 14
Ducks eastern, spring, per lb	11	@ 14
Western	10	@ 11
Geese, western	7	@ 9

PROVISIONS—Beef hams, per bbl	12.50	@ 13.00
India mess	13.00	@ 14.00
Hogs, dressed, per 100 lbs	4.75	@ 5.50
Lard, per tierce	6.75	@ 7.00
Pork, new mess, per bbl	10.00	@ 10.75
Short clear	11.00	@ 12.00
Family	13.00	@ 14.00

VEGETABLES—Cabbage, L. I., per 100	1.00	@ 4.00
Carrots, L. I	1.00	@ 1.75
Cauliflower, L. I. & Jer. per bbl	2.00	@ 3.00
Cucumbers, Fla., per crate	1.50	@ 2.50
Celery, L. I., per doz. bunches	.75	@ 1.00
Onions, red, per bbl	1.50	@ 2.00
Onions, white, per doz. roots	.10	@ .15
Egg plant, Fla., per bbl	4.00	@ 6.00
Kale, Norfolk, per bbl	.60	@ .75
Onions, eastern, red, per bbl	2.00	@ 2.25
Orange County, red	1.75	@ 2.00
Western, red	1.75	@ 2.00
State and western yellow	2.00	@ 2.25
White	4.00	@ 4.50
Potatoes, Eastern, per bbl	1.75	@ 2.00
State	1.90	@ 1.75
Western	1.75	@ 2.00
Scotch and Irish, per sack	1.50	@ 1.75
German	1.40	@ 1.60
Sweets, per bbl	2.25	@ 4.00
Spinach, Norfolk, per bbl	.50	@ 1.00
Squash, Hubbard	1.25	@ 1.50
Marrow	1.25	@ 1.50
String Beans, Southern, per crate	1.50	@ 2.50
Turnips, Russia, L. I., per bbl	.75	@ 1.00
Russia, Canada	.75	@ .90

Cattle Markets.

NEW-YORK, Dec. 14.

BEEVES.—Receipts, 12,971 head. The week opened with a heavy supply and a decline of ½c. per lb., followed on Wednesday by a moderate supply and a further decline of 10c. per cwt. Friday the tone improved, and the markets closed with an upward tendency. The weather has been most unfavorable and caused the falling off in values. Two carloads of Polled Angus steers were offered. A few head sold at top quotations; the others were held, with some lots of corn-fed bulls for export alive.

[Per pound, net.]	This week.	Last week.
Good beeves	4½@5	4½@5
Fair	4@4½	4@4½
Coarse	3½@4	3½@4
Poor	3@3½	3@3½

[Per pound, gross.]	This week.	Last week.
Good beeves	2½@2¾	2½@2¾
Fair	2@2½	2@2½
Coarse	1½@2	1½@2
Poor	1@1½	1@1½
Oxen	1½@2	1½@2
Dry cows	1@1½	1@1½
Bulls	1@1½	1@1½

MILCH COWS.—Receipts, 149 head. The week opened with a very dull tone, which improved on Wednesday, when 9 cows were sold at $40@55 per head; Thursday 18 cows sold at $30@60 per head. No further sales were reported.

VEALS AND CALVES.—Receipts, 1,599 head. On Monday last the markets were steady, but the warm weather on Wednesday caused a decline of ½c. per lb.; the tone improved on Friday, veals being scarce. Range of prices: Calves, grass-fed, 2½@3½c. per lb.; western calves, 3½@3¾c.; part meal-fed, 4@4c. Veals coarse and lean, 3@4c. per lb.; of fair quality, 5@ 7½c.; selected, 8c.

SHEEP AND LAMBS.—Receipts, 18,026 head. On Monday the markets were weak, followed on Wednesday by a decline of ½c. per lb.; Thursday trade improved; Friday the markets closed with an upward tendency. Range of prices: Sheep, 4@5c. per lb. ewes, 4½@5½c.; and choice, 6@6½c.; bucks, 3½@4½c.; cull lambs, 6@c. Quality of the offerings poor to choice.

SWINE.—Receipts, 41,341 head. The tone of trade is downwards. The week opened with a decline of 10c. per cwt.; again on Wednesday another decline of 10c. The feeling did not improve, and the markets closed weak on Friday. Sales for the week: 400 western hogs, 150 to 170 lbs., at $5.30 per cwt.

BUFFALO, Dec. 14.

BEEVES—[Per pound, gross.]	This week.	Last week.
Extra steers	$4.40@4.75	$4.40@4.65
Best butchers'	3.75@4.15	3.60@4.00
Second quality	3.00@3.40	3.15@3.50
Poor to common	1.75@3.00	2.00@3.00
Stockers, light	1.90@2.30	2.00@2.20
Stockers, good to choice	2.35@2.75	2.30@2.60
Bulls	1.25@2.75	1.60@2.50

Receipts, 14,600 head against 11,250 last week. The supply was greatly in excess of expectations, particularly of common cattle, and with warm weather and other markets lower buyers took hold slowly, still everything of good desirable quality sold readily, and only common stuff was held over. Market closed firm; stockers of good weight in fair demand; light bull and yearlings not wanted. Butchers' bulls dull and weak.

MILCH COWS.—Active trade; market firm for good, with liberal receipts. Extra, $50@60; good to choice, $40@50; common to fair, $30@35.

CALVES.—Light receipts; good demand. Extra, $6.00@7; good to choice, $5.50@6.25; heavy-fed, $3.50 @4.

SHEEP AND LAMBS.—Receipts 24 cars. Good to choice sheep strong and higher; supply very light. Heavy receipts of lambs, but dec and active. Extra sheep, $5.40@5.50; good to choice, $5@5.35; common to fair, $4.10@4.50. Lambs, Canadian, $6.60@7; western good to choice, $6.35@6.75.

SWINE.—Receipts, 20,000. Lighter receipts after the opening strengthened prices, and during the latter end of the week there was barely sufficient to supply trade demand. Closing Yorkers, prime to choice, $5.15@5.20; medium and heavy, $5.00@5.10; mixed packers, $5.00@5.10; pigs, $5.00@5.15; roughs and stags, $4.00@4.75.

BOSTON, Dec. 14.

BEEVES, NORTHERN.—Good corn-fed steers, $4.75 per cwt.; fair to good, $4.50@4.75; second quality, $4.00@4.25. WESTERN, Alive—Extra, $4.25; good to prime, $4.00@4.25; light to fair, $3.75@3.90.

MILCH COWS.—A full line at steadier head.

CALVES.—In good demand at 5@6c. per lb.

SHEEP AND LAMBS.—In lots at 5@6½ per head; yearlings, 6@6½c. per lb.; spring lambs, 6@6½c.

SWINE.—About 17,000 western fat hogs at 4½@ 4¾c. per lb.; store pigs, $4.25@4 per head.

Dairy Markets—Dec. 10

ALBANY.—Choice Butter firm; good in demand; low grades neglected. State creamery, choice, 26@ 28c.; Western creamery, 24@25c.; State dairy, 24@26c.; fair to good, 18@22c.; Western dairy, choice, 23c.

Cheese in good supply and quiet. State factory, full cream, 11½@12c; good, 11c.

UTICA.—Trade here was light being the last market of the season. Transactions were 1,285 b 10c at 9@ 9½c., the ruling being 9c., founded on every other day sales. Little Falls disposed of 2,397 boxes at 9@9½c., the bulk going at 9½c. In both markets there was no competition from the export trade, home buyers taking the whole offering. Cheese is pretty well cleaned up in this region, no stock being left except such as is being made at a few of the large factories where skimming is allowed or practised. One lot of 1,200 boxes September and October cheese, small size, is the only stock left in this vicinity of that kind. The factory in hauling for the, but is not likely to get it at present.

The secretary's report shows that sales at Utica for the season were 44,586 boxes, worth $4,284,200; and at Little Falls 28,200 boxes, worth $1,327,775. The average price at Utica was 9.60½c, and at the Falls 9.40½c. The sales at Utica were the largest in the history of the board. There were 45 packages farm dairy butter sold at Little Falls at 18@23c.

NEW-YORK.—Fresh Butter firm; off-rings liberal. Receipts, 28,767 packages. Eastern creamery, 26 @30c.; Western creamery, 22@26c.; State dairy, prime to best, 25@26c.; Western dairy, 19@23c.; Western factory, choice, 19@19c.

Cheese active. Receipts, 94,286 boxes. Factory, best, 10½@10¾c. per lb.; good to prime, 9@10c.; light skims, 7@8c.; Ohio flats, 10@10c.

BOSTON.—Western creamery, extra, 24@25c.; firsts and extra firsts, 19@23c.; factory, 19@19c. Vermont extra, 25@26c.; dairy, choice, 23c.; Eastern creamery good to choice, 19@24c.

Cheese, Northern choice, 10@10½c.; western, 10 @10½c.; sage, 11@12c.

Wool Markets—Dec. 16.

ALBANY.—Fair inquiry; sales 30,000 lbs.

Medium washed	29@? Unwashed
Fine washed	?@? Pulled

NEW-YORK.—Ohio and Penn., 31@32½c.; Michigan, 29½c. delaine, 25@31½c.; unwashed western, 26c pulled, 30@35c.; combing, 32c.; Territory, 30@33c.; scoured, 40c.; Colorado, 30c.; Oregon, 28@29c.; scoured, 50@55c. Texas, 19@21c.; scoured, 35@37c.; California, 20@ 23½; scoured, 45@50c.; Mexican, 19@20c.; Australian, 35c.; Donskoi, 24½c.; Buenos Ayres, 19@20c.; Cape, 19@20c.; Canada, 20@23c.; Montevideo, 19@20c.; Cape, 19@20c.; Canada, 20@23c.; Montevideo, 19@20c.; Buenos Ayres

The Fireside.

Recent Publications.

Books.—From Houghton, Mifflin & Co. of Boston (through Bernard Quinn of Albany) we have two extremely dainty and inviting volumes for girls, which we commend to the special attention of such parents as may not have already completed their lists of Christmas gifts. One—gorgeous in a red and white cover with gilt top, most beautiful to behold—is a story called "BETTY LEICESTER," by the popular SARAH ORNE JEWETT; price, $1.25. The other contains recollections of "A NEW ENGLAND GIRLHOOD," delightfully recounted by LUCY LARCOM. This book is the sixth issue in the admirable "Riverside Library for Young People," and though of about the same size as "Betty Leicester," yet being less elaborately bound, it sells for 75 cents.

A novel called "COUNTESS LORELEY," translated from the German of RUDOLPH MENGER, is published by D. Appleton & Co., New-York, at 50 cents.

Periodicals.—Readers of those really magnificent monthlies, the CENTURY and ST. NICHOLAS, cannot fully appreciate the wealth of literary and artistic matter that they contain, unless they preserve and bind the numbers. The subject is brought to mind by the receipt from the Century Co., 33 East 17th St., New-York, of the latest bound volumes of the two publications. Most sumptuous and fascinating books they make—capital for holiday gifts. The price for the Century is $3 in gold cloth, $4 in half Russia; for St. Nicholas, $2—the time covered being in each case six months.

The November Westminster Review (Leonard Scott Publication Co., 29 Park Row, New-York) has an interesting article on "the progress of agriculture" in England, which progress, the author thinks, has been progress backward, so to speak, of recent years. The remedy suggested is the diversified pursuit of minor industries. We quote the concluding paragraphs:

"English agriculture is depressed because under entirely new conditions landlords and farmers continue to make shift with the same system that was developed for them by their fathers in the latter half of the last century. It is suffering because neither culture nor holdings are adapted to the growth of that produce which will yield a return on its freshness and quality. It is being hindered from starting in the right direction, because proprietors, tenants and laborers are too little versatile to readily adopt the small mixed husbandry, which needs deft and assiduous attention, with a keen observation of the markets. Fruit-growing, poultry-keeping, dairying, market gardening and bee-keeping, with their attendant processes of packing and retailing, require more personal care than capital can at present command from hired labor. They are likely, therefore, to become the business of a new race of peasant families, relieved from the routine of combing, carding, spinning and weaving that hampered their fore runners. The further progress of agriculture will surely atone for the wrong that its great advance did to small farming.

"But the balance will not be redeemed without tedious delay and hardship. Present tenants will not surrender their holdings till their capital has been greatly diminished; landlords will not make efforts to reorganize their estates till successive reductions of rent have made all effort extremely difficult. The skill, care and industry required by small husbandry will not at once be forthcoming from a peasantry bred under a century's depression. It is only because history so clearly indicates how their demoralization was brought about that any confidence can be felt in the gradual extinction of bad influences, and the eventual re-establishment of English agriculture on a sound basis of individual thrift and intelligence."

A new monthly called the Arena, somewhat after the pattern of the North American Review and the Forum, has made its appearance in Boston—Arena Publishing Co., Pierce Building, Copley Square. We judge that a leading purpose of the publication is to combat what is known as orthodoxy in religion.

Scribner's Magazine (Chas. Scribner's Sons, 743 Broadway, New-York) will enter upon its fourth year and seventh volume next month, and the numbers are to be somewhat enlarged at that time, to afford more room than at present for the brief consideration of both passing and permanent matters of literary and artistic interest and for short *causeries* of the type which the Red Paper has sometimes illustrated.

The December Magazine of Art (Cassell & Co., 104 Fourth Ave., New-York,) has for frontispiece to its December number, beginning the thirteenth volume, an exquisite photogravure of Herkomer's noted painting, "The Last Muster." This plate alone is fairly worth a large fraction of the subscription price to the beautiful and delightful monthly for a whole year. But there is a great wealth of other illustrations in the number, besides.

Lessons from a Roadside Pool—II.

In the preceding paper reference was made to the difficulty of separating plants from animals. We shall run across several forms which it has been thus far impossible to locate with certainty. Even the best authorities differ concerning them, some insisting that they are plants, and others with equal certainty claiming them as animals of the lowest class. One of the commonest and most puzzling of these is known as Euglena. We shall not search long before seeing some of them moving rapidly across the field of view. If we can find one that has got entangled in a bit of water-weed, or has stopped, we may examine it at leisure. An idea of its form can be obtained from the drawing *at the left* in figure 1. We shall see that the body is simply an oval bit of jelly like substance with a long whip or "flagellum" at one end. The interior is filled with green granules, and at the anterior end, where the green is less dense, there is a red globule which one would instinctively call an eye spot. The animal (or plant, whichever it is) moves by whipping its long flagellum through the water, and if we watch it squeeze through a narrow place, we shall see that its form can be changed to suit the circumstances. Indeed it is changing continually, now lengthening out and again contracting into an almost spherical mass. Is it any wonder that many call it an animal? Elaborate experiments have been performed to see if it really eats. One observer thought he could detect a slight mouth and gullet, and another claimed that, after keeping specimens for a long time in water containing particles of carmine, he had found traces of the coloring matter in the interior of the body. On the other hand, there are related forms which connect Euglena with undoubted plants.

Another specimen comes rolling into view while we are watching the Euglenas—a globular mass containing a number of cells, and evidently moving, like the other, by cilia. When it stops for a minute we see that there are sixteen oval green cells, each bearing the red eye-spot, and all held closely crowded together by a transparent gelatinous covering. Through this each cell thrusts two long "cilia" or threads, and the whole family moves with a rolling motion by waving these cilia. Each cell is really independent of the rest, but as in the Pediastrum described in the last paper, all are joined in a colony by the covering. As it comes across the field of the microscope it is hard to believe that it is a plant. This is called Pandorina. A colony is shown at the right in fig. 1.

Like the Diatoms and Desmids, Pandorina has two or three modes of multiplying. Sometimes each cell of the colony divides into sixteen smaller cells, and these are set free by absorption of the gelatinous envelope. Then each of these colonies forms a new envelope, and grows to the size of the original, meanwhile developing the two cilia from each cell. There is another method in which each smaller colony, instead of forming a new covering, breaks up, and every cell swims off by itself, a little green globule with the red eye spot and two cilia. After a time two of these come in contact and fuse together, forming a mass shaped at first like an hour-glass, but soon becoming spherical and losing the extra eye-spot and cilia. This quickly forms a shell around it, and may lie dormant for some time, but sooner or later it divides into several parts, and each of these forms a colony in every way similar to the old one. It will be seen that this is practically the same as the method by which the Desmids and Diatoms multiply.

Occasionally in water from a clear pool we shall see a number of pale green globes rolling about near the surface, each not over one-fortieth of an inch in diameter. They are evidently able to move themselves, and when we put them under the microscope we see at once that they are related to Pandorina. Fancy a transparent hollow sphere with its surface studded at regular intervals with little green cells, each bearing two cilia, and all apparently connected by a net work of green filaments. Inside we can usually see eight larger green cells, which seem to shift as the sphere rolls over. Its manner of motion is evidently the same as that of Pandorina. This is Volvox, a plant frequently found in ponds and ditches, and one of the most beautiful objects under the microscope. Like the others it is a colony, but it shows a higher development than they. The cells around the outside have not the power of multiplying, that being left to the larger green cells in the interior. Each of these surface cells has the red eye-spot, and cilia, and shows besides a peculiar apparatus, found often in the lowest animals, but lacking in most plants, a "contractile vacuole." This is a little clear spot in the cell, which gradually and regularly contracts and expands. It has been suggested that in some cases at least it serves as a breathing apparatus. A colony of Volvox showing five

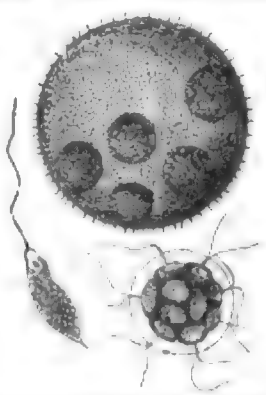


Fig. 1.—*Euglena, Pandorina and Volvox. Highly magnified.*

of the interior cells is shown at the top of fig. 1.

Volvox multiplies in much the same way as Pandorina. The eight cells in the interior of the hollow sphere each divide and form a new colony. This has its outside cells bearing cilia, and its interior larger ones like its parent, even while within the shell of the original colony, and goes rolling around its prison, till at last the outer wall breaks, setting the young colonies free in the water. It also multiplies by a process similar to the "conjugation" of the Desmids, but more complex. Both these modes of reproduction are common among the lowest animals.

Volvox sometimes occurs in enormous quantities, and occasionally acquires an interest aside from its beauty. During the past summer the water supply of a certain New-England city became unpleasantly tainted, and a friend of the writer was requested to examine it. Chemical tests failed to show the trouble, and the microscope was called into use. The reservoir was several miles from the college laboratory in which the tests were made, and all that could be seen in water brought from the pond was a shapeless mass of organic matter. On taking the microscope to the reservoir, and examining the water at once, it was found that it was swarming in places with Volvox. They had previously noticed dark streaks of water and it proved that these were caused by the rapid decomposition of immense quantities of the Volvox, giving the water its unpleasant smell and taste. They were so fragile as to decompose while being carried carefully for a distance of two or three miles. The plant is not always so readily destroyed, for the writer has carried them, without special precautions, nearly as far, and without injury.

There is a form related to Volvox and the others, which no one would doubt was a plant. You will find it quite often in ditches by the roadside, perhaps best in running water. It will most likely surprise the searcher for it some day as it did me. Picking up a bottle containing a lot of water weeds gathered a few days before, I was surprised to notice several long green tubes, which had not been in sight the preceding day. Being prevented from examining them that day, I noticed the next morning that they were much larger. In a few days one could see that they were made up of some sort of net work, but I was not prepared for their wonderful beauty when seen under the microscope. Looking through the glass you will see a mesh woven of rod-like green cells set end to end in such a way as to enclose spaces which are usually hexagonal. In this way a hollow net work is formed, resembling somewhat the old fashioned netted purses, and well meriting its common name of the "water net." Fig. 2 shows the form of the mesh, but no drawing can give an idea of the coloring. Unlike the others this grows to a length of several inches,

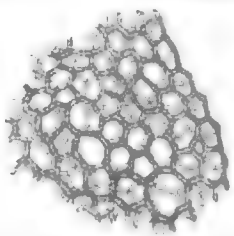


Fig. 2.—*Fragment of Water Net, highly magnified.*

and the net becomes coarse enough so that the whole of a young filament could be laid in the space between two of the cells. This, like the others, is only a colony of separate cells, but they are held so closely together as to seem like jointed threads. The water net is not very uncommon, and is worth hunting for. One gets a new idea of the rapidity of plant growth by watching it, even without a microscope.

Is it not fair to conclude, from the study of such plants as we have been looking at, that there is no sharp line of distinction between them and animals, but that they are too closely related to be separated? L. H. J.

Of course our correspondent, in speaking of the uncertain line of distinction between plants and animals, refers only to uncertainty *in our knowledge* of them. Each minute organism must either have consciousness or be without it. If it has consciousness (no matter how faint), it of course belongs to the animal kingdom; if not, it belongs to the vegetable. No reader should imagine for a moment that there is any confusion, *in nature*, between the two orders of life; the confusion is wholly *in our imperfect knowledge of the facts*.—ED.

Final Christmas Suggestions.

It seems always appropriate to celebrate the beautiful Christmas festival by the interchange of gifts, but to put the plan into practice is sometimes difficult. If one has plenty of money the question what to give is easily answered. It is when one has little time and less money that the problem becomes difficult. It seems to me that the element of self-denial ought not to be a factor; it would give me anything but pleasure to know that a friend had denied herself any comforts or luxuries to present me with something at Christmas time. It is the idea of *remembrance* that is precious to me when I receive the simplest gift from a friend.

I know people who begin to plan for the next Christmas before the new year has opened. I know others who never give Christmas thought until a few days before its arrival; then everything is hurry and bustle and the little money that may be disposed of for gifts is spent without forethought, and consequently without good taste or judgment.

If one is limited as to time and money the best way is not to undertake to make presents to all one's friends. Let the children always be remembered; in some way make the day a happy one to them. A simple toy and a little pure confectionery will sometimes make a child happier than something much more expensive. The individual tastes of the children should be studied and satisfied.

Next to the children, let the old people receive gifts in the shape of comforts of some kind. A soft knitted shoulder cape for grandma, and a pair of warm bed slippers for grandpa, will give them more pleasure than will an expensive vase or a pair of bronzes for their mantel.

The other day a little girl showed me a sachet which she had made to hang on the arm of her grandmother's chair. It was made of a square of machine-knitted cotton thread of the kind sold in the shops for ladies' summer head-covering. The colors were white and delicate pink. The child had gathered milkpods and dried them to the bursting point; the contents, which are like marabout feathers, she had scented with lavender and sweet clover (grandma's favorite perfumes), and laid smoothly on the knitted square, leaving a margin of two inches all round. Then, bringing the four corners of the square together, she tied a narrow pink ribbon tightly around the margin, leaving long loops by which to hang

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Containing 235 acres ROLLING Land, with no hills. In good state of cultivation. WELL WATERED. LOCATED in HARTFORD, WASHINGTON CO., N. Y. Within five miles of Railroad station. CHURCHES, SCHOOLS, Woolen Factory, Steam Saw and Grist Mill, Cheese Factory, stores Blacksmith Shops, HOTEL and TELEGRAPH station are in close proximity. LOCATION very romantic and pleasant. This Farm is suited to Stock Raising; will keep 100 head of large stock. A good Half-Mile Race Course is on the place, with suitable buildings, where the HARTFORD FAIR is annually held. In consequence of age and failing health, this property can be obtained on reasonable terms. The Stock Raiser or Dairyman will find this Farm very desirable for the purpose. Any person wishing to see the place will be agreeably entertained by giving three days' notice, and will be met at either FORT EDWARD or SMITH'S BASIN R. R. Station. This advertisement will not appear again in this paper. Address
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"Minister" and "Rural New-Yorker No. 2."

I have choice Seed of both these varieties for sale at $1 per bushel, $5 per barrel. Purchase now and avoid the high prices of next spring.
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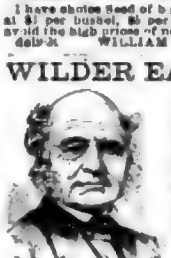

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Stockbridge Manures WIN OVER ALL Other Fertilizers.

738 Bushels Take the Grand Prize of $1100.

The *American Agriculturist* for January will say: "Convinced that there is no question as to a yield of over 720 bushels on a fraction less than one acre, and this yield being far larger than that of any other contestant, the *American Agriculturist* awards the Grand Prize of Five Hundred Dollars in Gold to Mr. Charles B. Coy of Presque Isle, Maine."

"Among the other prizes offered in the official schedule was one that said: 'If the *American Agriculturist* Grand Cash Prize of Five Hundred Dollars in Gold goes to potatoes grown exclusively on the Stockbridge Potato Manure, the Bowker Fertilizer Co. of Boston and New-York, will give Six Hundred Dollars in Gold.' This prize it is also our duty and pleasure to award to Mr. McCoy. He will thus receive *Eleven Hundred Dollars in Gold* in prizes, besides the receipts from the sale of this crop, making the best paying crop of marketable (not fancy seed) potatoes ever raised in the world."

This large yield of 738 bushels is not made up of two crops grown on one acre; nor was the seed started in a greenhouse and afterwards transplanted; but from start to finish it was grown in the open field, by a man whose record is above suspicion.

The *Agriculturist* will further say: "The first lesson of the competition is that on the great majority of soils, complete high grade special potato fertilizers (like the Stockbridge) are superior by far for potatoes to stable manure. * * The soil (on which this crop was grown) * * * only needed a liberal supply of plant food in the *right form*, and in the *proper proportions*, to secure good crops. *These conditions were complied with by the use of the Stockbridge Potato Manure.* * * * This case affords a fine example of the profitable use of quickly acting fertilizers, which under favorable circumstances convert themselves into large yields of good quality that mean money. For quick cash profits, fertilizers are preferable for potatoes on almost all soils."

THE OAT CROP CONTEST.

The yields on Fertilizers were as follows:

1st Yield, B. Godsey, White Plains, N. Y., (on Stockbridge Manure),.... 87 bushels.
2d Yield, R. T. Scott, Yellowstone, Wis., (on —— —— Fertilizer),.... 83 "
3d Yield, Geo. N. Beals, Sunderland, Mass., (on —— —— Fertilizer),.... 36 "

Here, as in the potato crop, the Stockbridge Manures distanced all competitors. This crop was raised on land that had been in grass since 1880, but planted to corn in 1889.

As it is not our custom to state the names of any of our competitors, or speak of their goods in any of our advertisements or pamphlets, we would refer our friends who would like to know what fertilizers were used in the second and third yields, to the *American Agriculturist* for December, 1889, p. 631; also to the January number as to the Potato Contest, or send for our 1890 Pamphlet which will appear soon.

The Stockbridge Manures were the original special fertilizers, and like all good things, have been extensively copied, but the copies have not been equal to the originals in *crop producing power*, as this great contest clearly shows.

BOWKER FERTILIZER CO., BOSTON & NEW-YORK.

FOR SALE—DORSET-HORNED Buck Lambs; also, SHROPSHIRE Buck Lambs.
Apply to C. H. NYE, Harrisville, N. H.

FOR SALE—Two or three handsome SETTER puppies—two liver and white, 12 months old, male and female, not related—and one Red setter, six months old. Will be sold cheap. Apply to
T. C., No. 58 Woolsey St., Astoria, L. I., N. Y.

FOR SALE—Pure Bred BERKSHIRE PIGS, not registered, ten weeks old, at six dollars each. JOHN FAGAN, BOX 9, Ashway, N. J.

FOR SALE — Five DUROC JERSEY SOWS, from 8 to 12 weeks old, from registered stock.
C. C. LAGRANGE,
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For Sale at Moderate Prices. Registered Berkshires from the best imported prize strains. A few Boar and Sow Pigs are offered now, 6 for breeding in the spring, at $5 each, boxed and delivered on board cars.
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HENS FOR LAYING.—16 B Leg., or B and C., ages 6 to 16 mos.—price $10.40.
C. C. PHELPS, Vernon, N. Y.

Prize-Bred LIGHT BRAHMAS, choice and fine ones; also 1 sged Plymouth Rocks, White Wyandottes, Red Bronze Turkeys and Pekin Ducks. Also, Prize-Bred CHESTER WHITE HOGS, served.
CLOUD SHOA, Kennett Square, Pa.

FOR SALE—Extra large BRONZE, NARRAGANSETT and WHITE HOLLAND TURKEYS, GOLDEN WYANDOTTES, PLYMOUTH ROCKS, and twenty other choice varieties. Send stamp for elegant new circular.
J. F. BARBEE, Millersburg, Ky.
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Dana's White Metallic Ear Marking Label, stamped to order with name, or name and address and number. It is reliable, cheap and convenient. Sells at sight and gives perfect satisfaction. Illustrated Price-List and samples free. Agents wanted.
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To Enjoy a Cup of Perfect Tea. A TRIAL ORDER of 10c. pounds of Fine Tea, either Oolong, Japan, Imperial, Gunpowder, Young Hyson, Mixed, English Breakfast or Sun Sun Chop, sent by mail on receipt of $1. No particular and state what kind of Tea you want. Greatest inducement ever offered to get orders for our celebrated Teas, Coffees and Baking Powder. For full particulars, address THE GREAT AMERICAN TEA CO., 31 and 33 Vesey St., New-York. P. O. Box 289.

CHOICE ENGLISH MASTIFF DOG PUPS—From $30 to $50. For detailed pedigree and prices, address HERBERT MEAD,
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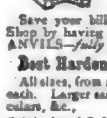

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A WEEKLY JOURNAL FOR THE INTELLIGENT FARMER, PLANTER, MECHANIC, MANUFACTURER AND HOME CIRCLE.

VOLUME XXXIII. ALBANY, N. Y., THURSDAY, JANUARY 1, 1874. NEW SERIES—VOLUME XLIII. No. 1.

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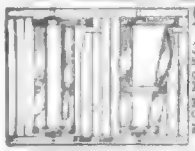

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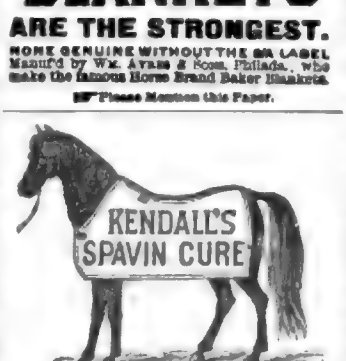

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EAST UNION COUNTY, OHIO, Dec. 19, 1888.

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Gents: I feel it my duty to say what I have done with your Kendall's Spavin Cure. I have cured twenty five horses that had Spavins, ten of Ringbone, nine afflicted with Big Head and seven of Big Jaw. Since I have had one of your books and followed the directions, I have never lost a case of any kind. Yours truly, ANDREW TURNER, Horse Doctor.

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THE CULTIVATOR AND Country Gentleman

Albany, Dec. 26, 1889.

Massachusetts Agriculture.

We receive from WILLIAM B. SESSIONS, secretary, the 36th annual report of the Massachusetts Board of Agriculture, for 1888. It comprises also the sixth annual report of the director of the State Agricultural Experiment Station at Amherst, and the whole constitutes a volume of 660 pages. The station report contains well executed photographs of the buildings, of the appearance of crops under influence of fertilizers, shows the growth of garden vegetables, and illustrates the remarks on potato scab.

Among the statements made by Secretary Sessions are those of the rapidly increasing dairy business for several years past. In 1870 the product of butter was over six million pounds; in 1875, nearly eight million; in 1880, over nine and a half million, and in 1885 more than nine and two-thirds million pounds being the amount made on farms. After 1880 co-operative creamery was introduced, more than enough to keep up the ratio of increase. The 26 establishments in the State produced at least two million pounds of creamery butter in 1888, sold at an average of 26 cents a pound wholesale. During the same year 5 490,000 pounds of oleomargarine were sold in Boston by wholesale dealers, and the inspector of the Board of Health testified before a committee of the legislature that he believed most of it was eaten by people who supposed it to be honest butter—the average price at which it was retailed being not less than 25 cents a pound.

The secretary claims a great capacity of the State for agricultural products. There is more than a million and a half acres of uncultivated land besides wood land. Of the cultivated land 989,000 acres, including mowing land, produced according to the last census $47,000,000 worth of agricultural products. The average product of an acre was only about $50, but one town in the state gave $318 worth of agricultural products per acre. The Board of Agriculture is earnestly endeavoring to bring out this latent wealth of the State.

Among the papers and addresses given in the volume, connected with discussions of the subjects treated, is a treatise on commercial fertilizers, by S. G. Hubbard; and another extended one by Prof. G. H. Whitcher, and by Dr. E. S. Sturtevant; profit from sheep, by J. D. Avery, followed by a long and vigorous discussion; cranberry culture, by J. W. Stockwell; the apple orchard, by T. S. Gold and P. M. Augur, of Connecticut; market gardens, by A. H. Smith; irrigation, by W. W. Ransom; hay for market, by J. B. Walker; eastern agriculture, by H. H. Goodell; co-operative dairying, by S. W. Clark; besides several valuable shorter articles, and a number of more extended ones of a miscellaneous character, nearly all of which contain much good practical information.

The report of Dr. C. A. Goessmann, director of the Experiment Station, is chiefly occupied with a detail of the experiments on cattle feeding; feeding experiments with pigs; analysis of fodder articles; field experiments with fertilizers; experiments with potatoes, and with garden crops; and the trade values of a large number of fertilizers. All this work appears to have been conducted with great care and ability, and where conclusions are not yet fully established they are on the way to important results. The work of the station has pointed in three directions, namely, to determine the cost of food for the production of milk and pork; various tests with farm crops; and the chemical examination of many fertilizing substances of interest to the farmer. Much work has been done to determine the sanitary condition of water supply in small towns and on farms. The resources of the chemical department of the station have been tasked to their full capacity to meet the increasing call for assistance on the part of the farming community.

The feeding experiments with milch cows included the use of English hay, corn stover, fodder corn, ensilage, corn and cob meal, wheat bran and gluten meal. Also green fodder, vetch and oats, cow pea, corn meal, wheat bran and gluten meal. For pigs, skim milk, corn meal, corn and cob meal, gluten meal and wheat bran.

The multifarious experiments in feeding these materials, and their results, are too numerous for us to repeat, and they are given in extensive tabular form. Great caution was used in changing from one food to another, at least five days being allowed to effect any change. In determining the value of any food, the value of the manurial refuse accurately entered the estimate. "The barn manure," says Dr. Goessmann, "ought to remain, in a judicious system of mixed farming, not only the main reliance of the farmer for plant food, but also the cheapest manure at his disposal."

Taking into the estimate all the conditions, in determining the value of the different fodders, including the manurial refuse, the following valuations of a ton of each of the following are given, English hay forming the basis, and estimated at $15:

Corn meal	$24.60
Corn and cob meal	20.60
Wheat bran	22.50
Gluten meal	29.50
English Hay	15.00
Vetch and oats	2.70
Cow pea	8.14
Roots	15.60

Some of the field experiments show distinctly the special needs of the soils to which fertilizers were applied. Neither phosphoric acid nor any form of nitrogen, even when largely applied, produced a material change in the yield, as compared with that on unfertilized plots. But the application of potash compounds alone gave a decided increase in every instance. The annual increase by the use of potash during the first two years, was more than twice the amount of that of the soil before its special application. But there was afterwards a gradual falling off of this increase. The failure of phosphoric acid and nitrogen to improve the annual yield, shows very distinctly the importance of adapting the kind of fertilizer to the peculiarity of the soil, which can be determined only by field trial.

The photographs of the fields of corn fodder, variously manured, show very distinctly the efficiency of the potash fertilizers on that soil. With no fertilizer, the yield of dry fodder was only 165 pounds and 260 pounds. Nitrate of soda and bone black scarcely increased it; but the addition to these of 50 pounds of potash raised the crop to 730 and 840 pounds; while a field of "complete manure," consisting of barn manure and potash salts, gave 2,600 pounds of dry fodder.

We are aware that there are other localities in the country where these results would be reversed, showing that fixed rules cannot be adopted in applying special fertilizers. Soils which we have cultivated in this State have scarcely given any increase of crops by the application of potash or of superphosphate, but have been greatly benefited by nitrogenous manures.

After a series of experiments to determine the nature of the potato scab, extending through several years, the conclusion reached is that "much remains to be learned before our knowledge of the cause of the potato scab will be at all satisfactory. And until a pretty definite knowledge of its cause is gained, all attempts at discovering a remedy are so many leaps in the dark." The condition of the station in many respects is believed to be favorable for a hopeful prosecution of investigations into the nature and origin of the pest. So far, however, solutions of antiseptics have had no effect, scabby seed have produced smooth and fair tubers, and the opinion is confidently expressed that "the soil is the bearer of the cause of the scab."

A Good Hay Crop.—It may interest some of your readers to know the result of the hay crop on a Massachusetts farm the past season.

Every acre of the land has been surveyed by a civil engineer, and every ton carefully weighed:

	Acres.	1st Crop—lb.	2d Crop—lb.
Field No. 1....	4.00	8,395	4,005
do. 2....	2.30	14,840	5,775
do. 3....	2.25	4,980	2,660
do. 4....	3.00	14,240	3,360
do. 5....	1.44	6,680	1,560
do. 6....	4.00	23,520	5,000
do. 7....	11.44	65,675	10,000
do. 8 ...	11.00	62,000	14,000
do. 9....	22.00	90,361	44,620
do. 10....	2.00	2,400	.....
		342,091 lb.	100,460 lb.
		171 tons 691 lb.	50 tons 1,460 lb.
			121 tons 951 lb.
	62.33 acres.	Yield,	172 tons 411 lb.

Oak Hill Farm, Peabody, Mass. J. C. H.

Success in Growing Clover.

Eds. Country Gentleman—For the last ten years I have closely read all I could find that related to growing clover. My farm is principally clay soil, what may be termed black, is underlain at a depth of 15 inches with a stiff, yellow clay. This land grows the finest quality of timothy for hay, but I soon found it could not be kept up by using timothy in the rotation with wheat and corn. The clover would be lifted out the first winter, and manure on some of the best of it gave no return when the season was wet.

To secure clover one must tile-drain, and I am doing this in so thorough a manner as to prevent the frost from lifting the clover, believing that when clover can be grown to perfection, other crops are safe.

In the winter of 1863-4 I tile-drained the wettest parts of an 11-acre field, putting down about 250 rods of tile, three feet deep. Since then, 50 rods more in places where the clover would freeze out. In the spring of 1864 this field was broken and planted with clover. In the fall, sown in wheat. Spring of 1865, clover was sown at the rate of one bushel to five or six acres. The wheat proved worthless on account of winter-killing. The clover made a fair catch, and had a struggle to survive the shadow of the rag weeds, which grew till after harvest, when they were cut down and allowed to lie to protect the clover. The weather being favorable the clover made a wonderful growth in August and September—to prevent smothering it was pastured till there was danger of killing the plants by tramping while frozen. The next season I cut nearly two tons of clover per acre from the field, saving the second crop for seed, cutting with a self-raking reaper, which left the clover in gavels, out of the way of team and machine as they passed around at work. This machine leaves the heads fully exposed to air and sun, but few of them being underneath the bunches. Could I have secured a huller in the next three weeks after cutting, this clover would have made splendid cattle feed after hulling, as it cured perfectly in the gavels, but before it was hulled the rains had blackened and partially rotted the straw. The clover was only a fair stand, but the work of the huller showed that it was well filled, as it yielded three bushel per acre.

The following winter the crop of hay was fed to live stock, part of the manure passed through the stables and feed lot, the remainder was spread over the land. That going into the manure heaps was returned to the land with a sufficient quantity of other barnyard and stable manure to cover the field. The stable manure was spread as made, plowed and planted to corn, following the corn with wheat the last week in February or the first week of March following; seeded again to clover, same quantity of seed as before. I may say here that this crop of wheat made 26 bushels per acre. The catch of clover was excellent, as good, I think, as any clover grower could desire. As the season last year was very favorable for the growth of clover we had a very heavy crop after the wheat, which we cut for seed, but the rainy weather prevented our having it hulled, not having it stacked. I think it would have made at least one bushel per acre. To prevent the smothering of the plants under the gavels this clover was hauled to the stables and lots to increase the manure heap.

My clover passed through last winter in fine condition with scarcely any lifting. Last spring it grew off splendidly, but a dry spell in May cut the crop of hay to a considerable extent. It was my intention to begin cutting for hay not later than June 20, but unfavorable weather held me back till the 24th; that day and the next we cut about 8½ acres, but the rain setting in, we got only about two acres of this put in the mow, the remainder laid in the winrow and swath for a week; the following week we got the crop saved, but not in first-class order. The field yielded 18 two-horse loads—1,180 pound horses—all they could draw from the field.

The wet weather crowded the second crop forward very fast, but a strange fact about the second growth was, that the last cutting seemed to be one-fourth thicker than that cut first. The second crop on the first cutting was cut and hulled before the other was all cut. Began cutting the second part of the field the day the hulling of the first part was finished. This last cutting lay on the ground much longer than I wished, on account of rain, and inability to get the huller just at the time wanted. The crop yielded four bushels per acre. The part of the field cut first produced the best quality of seed. Although the last cutting was much thicker, the yield was no greater, there were so many damaged seeds, sometimes quite a number in a single head, caused, I think, by some insect, as many of the grains had holes in them. These damaged grains were of a dull brown color, and lighter than the sound seed. I feel satisfied that if this seed had not been damaged, the last cutting would have yielded from a peck to a half bushel more per acre.

This, in brief, is the result of my efforts with this field, that could not be depended on for clover, and on which I never knew a paying crop of wheat to grow before last year. The tile drainage has made me master of the situation; can manure now with the feeling that it will not all escape heavenward by evaporation. John M. Jamieson. *Ross County, Ohio.*

New-York Farmers' Institutes.

Discussions at Valley Falls.

This institute was held in a church, and the choir added to the entertainment by appropriate songs. There was a large attendance of ladies, and many young persons. These features gave additional interest. A little personal effort on the part of a few citizens will always result in securing these factors for good.

F. W. Borden, Easton, said that there was a common impression that skilled labor was not required on the farm, and the boy who was not very brilliant would make a good farmer. Labor is too high on the farm. It is as high as it was twenty years ago, and crops sell for much less. Farmers have the most slack business methods of any class of business men. Mr. Borden pointed out many of the mistakes farmers are now making. These and all other depleting ways must be changed and new and economic methods adopted.

J. B. Bancus, Schaghticoke, urged the value of the butter factory system, and the advantages of making butter from October to June. Mr. Bancus should extend his time from September to July, making the season ten months.

Prof. Sanborn remarked that the American farmer is pitted against the world, with more cost for living and a higher civilization to maintain. He must make up mind what he cannot do with his hands—with the cheap labor of other lands. The place to begin in this dairy section is in the pasture. They must be improved and supplemented with other foods. The best ration is early cut clover, corn meal, cottonseed meal and bran.

E. A. Hartshorn, Schaghticoke, read a paper setting forth the advantages of growing hemp. The hemp grown in the valley of the Hudson was of superior quality, and the demand was large. There seems to be no drawback to this crop if some machine can be perfected to break it, and enable the farmer to get the fiber in a marketable condition and so reduce the bulk in transportation. Mr. Hartshorn is confident that he will succeed in perfecting a machine which can be transported from farm to farm to prepare the fiber for baling, so it can be shipped to Europe directly from the field. The culture of hemp can be safely entered upon, as there is an increasing demand for its products. Fifty thousand tons of binding twine are wanted annually, and it makes stout and excellent clothes. Mr. Hartshorn read his valuable paper, clad in a suit made from hemp, and exhibited a number of samples of stylish clothes made at the Schaghticoke mills.

Mrs. Eliza Wood of Easton spoke of "Poultry for Profit," and said:

"I have never been able to see large money in raising chickens for the small man, and I worked at it faithfully several years. My experience comes from a life on a farm, where room is plentiful and much in the way of support thrown in. Although I have always been successful in raising large flocks, I cannot say that it was profitable. Hens should have clover hay and vegetables, winters, and especially pure water in warm weather. Two hundred hens will eat the milk of six cows. I consider it the best egg-producing food you can give them. Hens are large consumers of grass and need pasture as much as cows. They need shade in hot weather, and they must have variety in their food, at least one soft feed per day. Let them have good nests; not one of those stationary abominations filled with vermin. Refuse butter tubs are good for putting nests in. Put in hay or cut straw. They can then be removed to suit convenience, and the grease and salt in the old tubs are antidotes for lice. Begin feeding in February for March work, and expect no intermission after that. Eggs should be gathered at regular times. All we need is a little more sense in the management of farm poultry. Select breeds with good constitutions and energy. Keep rigid accounts of the business, and good care of the hens, and I promise you the unobtrusive hen will find favor at the end of the year."

F. D. Curtis.

Our Illinois Correspondence.

Champaign County, Dec. 17.

After weeks of half cloudy and half clear skies, without much rain, the roads and streets yesterday got so dry and hard that intercourse between town and country was resumed, corn and oats rolled into town from many directions, loads of hay and straw were distributed to empty stables, and riding and driving horses which had been imprisoned for five or six weeks, were saddled and hitched up and exercised as if it were dry weather in October or September. Though cloudy, the temperature was so mild that the thermometer showed 65° above zero at 2 P. M. The atmosphere was dry and quiet, and all outside was so lovely as if winter was a thousand miles off. This morning it has been raining quite copiously, and the embargo on intercourse raised yesterday, is reimposed. I conclude we are to have an open winter, such as we have had every seven or eight years, more or less, since I have been in Illinois, and that time goes back to 1851, or 30 years.

I suppose the same influences or causes which disarmed the 1,000-mile wide cold wave which we were warned to prepare for the middle of last week, may continue to operate for most of the cold season, and after; when the mercury shall be down to 30° or 40° below zero in Northern Dakota and Minnesota, the thermometer may record 30° to 40° above zero in Central Illinois. Usually a very low thermometer north is associated with a very high barometer under lat. 40°, and afterwards a fall of the temperature of 30° or 40° here, but this season we have had the high barometer with no corresponding fall of the temperature—facts that seem to indicate, if not demonstrate, that the causes which make our warm winters are not remote.

At any rate, not a few of the phenomena attending the wet and open winter of 1881-2 are showing themselves. It may be well to say that the summer of 1881 was a dry and hot one, that rains began late in September and were increased in October, with weeks of warm if not really hot and sultry weather. Under these favorable influences for the development of fungous growth, the corn standing in the fields and shock turned brown in course of a few days, while stacks of hay and straw became almost black, except where the sprouting grain and hay seed had not changed the outside to green. In the course of the winter hitherto unknown diseases showed among stock of all kinds. In some sections, Kansas I think, and also in Illinois, a malady supposed to be the foreign foot-and-mouth disease appeared, which, however, after investigation, was shown to be ergotism, caused by the fungous growth common to all sorts of grain and forage, exposed to the weather. As the winter drew on and the spring approached, it became apparent that but a relatively small proportion of mares which had been bred were in foal, and finally, abortion in nearly all domestic animals became so common as to be nearly epizoötic. Of the mares bred in 1881 and 1882, for this region it is safe to say, not over 25 per cent. produced live foals; and if a similar loss in cows, ewes and sows was not suffered, there were at least three times the cases of abortion of previous seasons.

And now to come down to 1882. The summers of 1881 and 1882 were unlike, but the autumns of the two were quite similar. The earlier had the more rain and the higher temperature, and the latter was more equable and cloudy. The one favored the rapid development and growth of fungous germs on certain favorable mediums, and the other provoked a development so extensive that it more or less affected all out-of-doors herbage and vegetation, whether green or dry.

And now for results. Mares bred early in the season are aborting to such extent that the affliction has the appearance of an epizoötic, using the word in the same as sense epidemic is applied to the diseases of mankind. And this, too, without regard to whether they have the run of corn stubbles or are confined to pastures having a heavy burden of herbage and rank-growing vegetables and grass. Stock cattle, too, are dying with what seems in many cases to be dry murrain or a congestion of the manifold, and in others with a disease not well understood, and to the extent that at a recent meeting of the directors of the experiment station at Urbana, an order was issued directing an investigation of the diseases and their causes by the veterinarians and others in charge. The larger number of fatalities among cattle occur in those having the run of corn stubbles, and where the immature and undeveloped ears are found in excess of former years. Still, cattle are suffering also on heavy grass pasture, and here the disease seems to partake of the nature of ergotism, or otherwise the mad itch. The outlook is rather an alarming one in a financial way, especially for those who have bred to high-priced heavy weights and trotting stallions, and scarcely less so to the proprietors of herds of full blood cattle of the beef and milk breeds.

Whether veterinarians will be able to help clear up the mystery, if it is a mystery, and provide a remedy, remains to be shown. Considering the failures of the investigations of the last ten years to account for the origin of hog cholera and the means to cure, or measures to prevent it, and considering it is a recent discovery that the dead bodies of cattle dying of pleuro-pneumonia will not communicate the disease, and that it is conveyed alone by the breath of the diseased living animal to the well, and therefore all the talk about burning, burying and disinfecting is sheer nonsense—I say, taking these things into consideration, what reason have we to hope that these and other investigations will amount to anything, beyond what the common sense of the average farmer teaches him, that coarse, unripe, sour and unnutritious vegetation, is apt to produce impaction of the manifold in cattle deprived of a due proportion of sound grain, and that the ergot, whether of rye or that produced on out-of-door vegetation, when taken into the system, provokes abortion, near or remote?

I notice that parties with the necessary chutes, patented or unpatented, and these mounted on four wheels, are traveling about the country dishorning cattle. That there is considerable of the work being done, and a certain measure of competition for doing it. I conclude from the low figure of ten cents a head asked where there is a bunch of twenty or more to be operated on. I find many farmers and feeders of mature age and large experience, are strongly averse to the operation; some on humane, some on what may be called esthetic grounds, and others from pure prejudice against anything as new and radical as dishorning. One thing is certain, however much the operation may tend to tame and render inoffensive the average master steer, it is unprofitable to feed and pasture horned steers with those that are naturally polled or made artificially so. The horned steers become tyrannical to their disarmed fellows, and to the extent that when the horned steers put on 300 to 400 pounds in the feeding season, the dishorned in their company rarely gain more than half as much.

Dec. 18.—Cleared this morning after a rain fall of one-half an inch. Wind light from west; thermometer at 40°. D. P. J.

Farming in Connecticut.

Eds. Country Gentleman—I have often thought that the advantages of Connecticut for farming were not fully understood. Our suburban villages are rapidly growing and you can hardly go amiss of a good market or railroad station. Where I am located I think there are ten stations within ten miles of me by good wagon roads. Our country manufactories furnish good cash markets, as the country does not, as a general thing, supply the near by villages, and they have to depend on the cities for their supplies.

I know of no section which furnishes such a wide field of farm operations as Connecticut, in the midst of manufacturing. Lands are

cheap and easy of access. You can turn your attention to one specialty or another, easily changing as the markets demand. Locating near a village, cultivate vegetables; farther back go into more general farming. I do not know of a location in this section so far from a cash market, but that you can go and return easily in one day, and usually in a half day. If a growing town encroaches, you may sell for village lots or railroad reservoirs, or other improvements, and buy farther back, or put your money in bank. You can sell to commission men here as well as if you were located south or west; or sell to the village merchant or direct to the consumer, thereby saving the commission, and divide with the consumer.

Unless you are in the midst or on the border of a village, I should advise a farm not less than 100 acres. Much depends on the kind of farming. A range farther back for summering sheep and cattle will give a drove of cattle to butcher in the fall. A large farm will enable you to keep a hired man or farmer, thus giving you more leisure and more time for marketing. I can cite instances known to me where those living on small farms are more "tied up," as the phrase is, than those on large farms, because they cannot keep help. Also in a variety of crops you can arrange them so as to furnish profitable work the year round for help and not be at the mercy of a set of men who expect to earn enough in a short time in harvest to rub through until another harvest.

Arrange your crops so as to plant and harvest in such succession that your help will be driven just enough without extra help to get up a fair, lively ambition.

I should always advise hiring good help and paying them good wages. I find when I did I earned the most money. But of late I have gone to the orphan asylums and taken boys from 13 to 14 years of age to stay until 18, and when one's time is half out get another and younger, having one large and one small boy, thus having done by the day or job some work unsuitable for boys of these ages. If young men of good habits, proper industry, and fair business capacity settle among us, they, in my judgment, cannot fail to live well and in a few years acquire a competency far above the average of their city cousins. By the way, which helps the other the most, the city or country cousin, or which works the most hours or practices the most economy? Parents and teachers are to blame in not giving children the little flower and vegetable gardens, taking pains to teach them the art of growing things so that they can earn pennies by their labor.

Pollard County, Conn. SIMON HUNT.

British Agriculture.—The agricultural returns just issued present features of more than usual interest, as showing the trend of agricultural pursuits in this country. The number of separate returns furnished by occupiers of land in Great Britain, and of those obtained by estimates, has been this year 574,-840; of these 429 284 were in England, 62,003 in Wales, and 83,453 in Scotland, and there were altogether 4,376 returns from owners of live stock only, showing an increase of 4 634 in occupiers of land, and a decrease of 289 in owners of live stock. The increased number of occupiers is chiefly ascribed to the subdivision of land, some of which has been newly reclaimed, and this is a very welcome feature. With regard to the quantity of land returned as being in the hands of occupiers who rent it, an improvement is shown of 108,-809 acres.

The area returned as under all kinds of crops, bare fallow and grass, amounted to 33,733,357 acres, exclusive of heath and mountain pasture land, and of woods and plantations, showing an increase of 43,966 acres, which, however, is chiefly in pasture land, and the greater portion of it has been reclaimed in the outlying and hilly districts. In but two or three counties is there any diminution. In respect to corn crops there is as compared with 1888, a decrease in the area under wheat of 114,883 acres, or 4¼ per cent., but an increase over 1887 of 122 000, or 5¾ per cent. This decrease is due to the low prices last year. The areas under barley and oats have both increased, by 55,969 acres in the former, and 6,453 in the latter. Other corn and pulse crops show a slight decrease. The entire decrease of corn crops is 112,600 acres, or 1 3 5 per cent. Potatoes and roots show a decrease, and green crops also, but there is an important increase in small fruit and market gardens. In permanent pasture there is an increase of 400 000 acres.

Turning to live-stock, there is an increase of horses and cattle, as well as sheep and pigs. Horned cattle show an increase of 10,200, cows and heifers 16 805, and other cattle and calves, 27 000 Sheep and lambs show an increase of 374,871, and pigs of 106,000 Generally there is an important increase in Ireland all round. The outlook is thus much improved.

S——, England. S. S.

Connecticut.—About a hundred persons attended the meeting of the State Board at Birmingham last week, and listened to a number of valuable papers. A strong effort was made to pass resolutions expressing the opinion that every farmer should refuse to vote for a candidate for the legislature or for gover who would not pledge himself to support a to prohibit the coloring of oleomargarine l butter, or a bill compelling oleomargarine take an entirely distinct hue. It was fina decided, however, that as the Board is a St institution it ought not to deal with semi-l litical topics, and the resolutions were tabl

Missouri Horticulture.—Following the officers elected at the late meeting of t society at Lebanon:

President—J. C. EVANS, Harlem.
Vice-President—N. P. Murray, Oregon.
Secretary—L. A. Goodman, Westport.
Treasurer—D. S. Holman, Springfield.

A New-York Farm.—Bartholomew G ney of White Plains, Westchester Co., N. competed for American agricultural prize the best acre of corn, oats, wheat and potatoe and notwithstanding the unfavorable seas here is the result: Shelled corn, 120 bushe and 6¾ tons stalks; oats, 87¾ bushels and 3 tons straw; wheat, 45 5-6 bushels and 3¼ to straw; also 54 bushels of rye and 3¾ to straw per acre. The land was surveyed a the product weighed by three disinterest and correct business men, particularly M James Gibson, for years president of the Wes chester County Agricultural Society. Cro raised in other years—456 bushels of potatoe 1,140 of carrots, 1,070 of turnips, 1,260 of sug beets, 940 of onions per acre, and last but n least, five tons of timothy hay per acre, grow by being top-dressed with cows' urine 2,400 ga lons per acre. This farm has been heavil stocked with cattle for the past sixty year till now it supports eighty head and has a larg surplus of hay and other farm produce to se yearly, and all this on 120 acres without an foot of waste land, which, seventy yea ago, would not produce ten tons of good hay Mr. Gedney is now 88 years of age and in goo health, which speaks well for hard labor an steady habits attending farm life. S.

Honored in France.—We learn by tel graph that the French government has con ferred the decoration of a *chevalier du Méri Agricole* on Mr. JAMES CHEESEMAN of South boro, Mass., secretary of the New-Englan Dairymen's Association, for distinguishe services as member of the U. S. Agriculture Commission at the Paris show.

Selling to Farmers.—Your paper is good medium for advertising our class o goods and you will hear from us in the future
SPRINGFIELD ENGINE & THRESHER CO.
Springfield, O., Dec. 13.

From Several States.—I must have th COUNTRY GENTLEMAN; it heads my list. Z. J BRIGGS, *Honeoye, N. Y.*

—— Your paper is the best; can't get along without it. S. P. ANDERSON, *Coal Hill, Pa.*

—— I am impressed with the great improve ment in the COUNTRY GENTLEMAN, and wonde that so many can do without it. EDW. LEA *Brighton, Md.*

—— Long live the COUNTRY GENTLEMAN t help the farmers! THOS. JONES BEBB, *Farm ville, Va.*

—— I like the paper very much, and don' want to be without it. M. V. BROWN, *Buffalo W. Va.*

—— I cannot stop the paper; it is the best J. J. WHITE, *Trinity College, N. C.*

—— I wish your paper could be read by ever farmer in our State. You should have a larg circulation south. J. E. BIVINS, *Americus, Ga*

—— I cannot do without the COUNTRY GEN TLEMAN. JOHN S. WATT, *Cedar Bluff, Ala.*

—— Don't let me lose a number; can't go along without; best paper for my interest under the sun. E. J. PACKARD, *Santa Barbara Cal.*

Jewish Farmers.—The American Hebrew gives an account of a colony of Jews at Alli ance, near Vineland, N. J., about 200 families who are growing grapes and small fruits o farms of about 20 acres. They have been very successful in the production of crops, but low prices and over-burdened markets have been against them. During the winter they manu facture considerable clothing. They work hard, but enjoy life much better than when cooped up in city tenements.

South Carolina.—A newspaper item from Charleston, Dec. 16, is:

The Democratic farmers, who have control of the Legislature, have caused something o a sensation throughout the State. The House has just passed a bill to establish the Clemson Agricultural College, by which an appropria tion of $30,000 a year in perpetuity is granted not out of the taxes, but out of other funds The bill appropriates the sinking fund an authorizes the sale of all the farms and build

Horticultural Department.

The Ohio State Society.

The twenty-third annual meeting was held at Columbus, beginning Dec. 11. Weather was pleasant, attendance large, exhibit excellent, meeting unusually successful throughout.

President George W. Campbell, the well-known grape specialist, delivered the annual address, and among other things said:

Horticulture concerns the welfare of every member of the human race. It is the mission of the horticulturist to give to his fellow-men the most beautiful flowers, the choicest vegetables and the most delicious fruits which their skill can produce, and thus to bring joy and health and happiness to every home in the land. Societies like ours throughout the different States, together with those of a more local character in counties and districts, are all in their way doing good and noble work. Horticulture and agriculture appear to be in greater measure than heretofore joining hands and working harmoniously together. Many intelligent and progressive farmers are now finding both pleasure and profit in growing the finest fruits for their own tables, thus bringing health and happiness to their own families, and setting a worthy example for their neighbors.

One duty of our society is to keep a watchful eye upon horticultural introductions, and while giving every proper encouragement to new fruits, flowers and vegetables of real merit, we should be very cautious about recommending anything of doubtful character. Above all we should promptly denounce and expose any attempt to bring out an old variety under a new name, simply to extort a high price for a pretended novelty. Great improvements in our cultivated fruits are continually being made, and this will doubtless continue to the end of time.

There is one important element concerning all fruits which seems to be often overlooked —*adaptation*. A new fruit may be introduced with high commendation by the originator and the most flattering testimonials from his neighbors. It is purchased and planted in other localities by enthusiastic amateurs, and perhaps by enterprising commercial growers, and found unsuccessful. It is thereupon pronounced a fraud, and its introducer a "humbug" or a "swindler." Now, it is possible that all that was said of this fruit is true in the locality where it originated and under the treatment it received, and failures on the other hand may have occurred from an uncongenial soil or location or from improper treatment. We often see widely differing statements as to the character and value of the same variety of fruit, one commending highly, the other pronouncing it worthless, and both may be correct, the difference being only in the locality or the conditions under which it has grown. An important part of horticultural knowledge is to understand what fruits are best adapted to our different soils and locations.

The experiment stations can, and doubtless will, greatly assist in supplying this information for the benefit of all sections of the country. The highest success in fruit growing can only be attained where a judicious selection can be made of such varieties as are best suited to the climate and soil where planted.

A few words on the method of improving old varieties and the production of new ones in all branches of the vegetable creation. I speak of this in the hope of interesting some of our younger members in a most attractive pursuit, which has occupied my attention for many years, namely, cross-breeding and hybridizing. These operations are equally applicable to flowers, fruits and vegetables, and through these agencies, exercised either naturally or artificially, all variations, as well as new and improved varieties, are produced.

The experience of the past year seems to have confirmed the expectations of continued good results from the use of arsenical poisons in spraying fruit trees for the destruction of the codling moth and other insect pests, which have here often been so disastrous to the fruit-grower.

Specially interesting have been the reports from the Ohio Experiment Station of the success of this remedy against the curculio, which for so many years was regarded as invulnerable. Scarcely less important have been the discoveries of the sulphate of copper and lime remedies for the diseases of the grape. So far both observation and experience during the past year indicate continued success in the use of these remedies, and warrant the belief that by their intelligent and faithful application, the orchard and the vineyard may again be made universally successful and profitable.

Experiment Stations and Horticulture.

This was the subject of a paper by W. J. Green of the Ohio station.

The work already in progress at these stations may be divided into two lines, viz., horticultural work proper, and work of a more or less scientific character relating to horticulture. In the first division comes variety-testing. The necessity for this is recognized, because—1st. It is important that disinterested trials and reports be made in order that the public may have as accurate and reliable knowledge as possible concerning both old and new varieties; 2d. A knowledge of varieties is necessary as preliminary to much other work, particularly to crossing and hybridizing; 3d. Station officers find it necessary to be familiar with all lines of work which they represent. In testing varieties, stations do and ought to coöperate. This is particularly true in the case of new varieties. We want results with these as soon as possible. Several seasons are required to thoroughly test even the simplest thing at one point. If, however, results can be secured from several sources where the test has been conducted after the same plan, sufficient may be learned in one or two seasons to practically settle the fate of a good many varieties. We may, in fact, compress several seasons' work into one by the right kind of coöperation.

A plan for carrying out this system of coöperative work has been devised, and many stations are now acting upon it. The plan comprehends uniformity in methods of reporting results of trials of new varieties. Blanks have been prepared which include all the leading features to be reported upon for each fruit and vegetable that may be sent to the different stations for trial.

Thus an originator who desires to have a variety tested, will receive reports that are comparable throughout. The public will also be benefited. These reports are to be blended into one, and the combined results given in special bulletins are to be issued by the Department of Agriculture at Washington for general distribution.

This movement was not started for the benefit of those who are bound to have experience, and that at any cost, but rather for those whose time is too limited to test everything for themselves. Those who wish to pay high prices for worthless novelties, will have the same chance in the future as in the past.

One object in this coöperative work is to aid honest originators, and if the plan works as it is believed it will, this worthy and patient class of workers will find themselves in position to demand a part at least of what belongs to them. It is a sad fact that originators have never been compensated for their services. Dealers have often made money out of new varieties, but as a rule the real originators have been compelled to take their pay in a kind of coin that will not buy bread and butter. Unfortunately almost anything new, or under a new name, can be sold at round figures, if the dealer can simply bring force of wind enough to bear upon the ever credulous public.

It is not merit that sells a new variety of fruit or vegetable, any more than it is medicinal virtue that brings customers for a patent medicine. It is simply Mr. Blowhard's method that does the business in both cases, whether it is the quack that makes the catalogue or the quack on the street corner. If the article sold has merit, that is to be found out after it has passed from the dealer's hands. Whatever agency will put meritorious varieties on the proper plane when first sent out, will at the same time force the unworthy kinds down where they belong.

Another line of work for which stations will coöperate to some extent is the study of synonymy and nomenclature. In fruits, the American Pomological Society has determined the synonyms, or the different names under which varieties are known, and it has also laid down rules for naming varieties. In accordance with these rules, many unnecessarily long names have been shortened, and objectionable names have been revised. The experiment stations will work with the Pomological society, and endeavor to help the reform along. Not only will they seek to write the names of old varieties correctly, but will discourage the giving of improper names to new sorts. There is still another and more difficult field in which it has been agreed to begin operations, viz., that of vegetable nomenclature. The rules which have been drawn up, and will be followed as far as possible, have already been published in the columns of the Country Gentleman. It is the plain duty of the stations to do what they can to bring order out of the chaos of names that is so perplexing to the uninitiated. No station single-handed can accomplish the task satisfactorily; it needs combined effort, hence is properly a coöperative work.

Improvement of varieties has been undertaken at nearly all stations, and at some it will be made a prominent feature of the work.

Crossing and hybridizing will receive much attention at other stations.

Particular attention is to be given in some cases to the improvement of native fruits; in others hardy foreign varieties are to be, or have been, imported. In fact, every known means will be employed to improve both fruits and vegetables, and as far as possible coöperation will be entered into, as by this method the work will progress more rapidly than would be possible by isolated individual effort.

A Season's Work among Enemies.

This was a title of a paper by C. M. Weed, Entomologist of the Ohio Station.

The enemies referred to were of two kinds—*insects* and *fungi*. In both these cases are found pests that often cause great losses in the fruit and vegetable garden. In view of the remarkable progress during the decade just closing there is every reason to hope that in the coming good time every horticulturist will be able to successfully combat a great majority of their insidious and persistent foes.

One interesting feature of this paper was a report of experiments with applications consisting of a combination of insecticides and fungicides. That is, in so combining the preventives of insect injury with the preventives of rusts, smuts, blights, and various other injurious fungi, that both may be applied at the same time, and in the same mixture.

Mr. Weed presented the practical bearings of this subject by quoting from an article recently published by him in Agricultural Science; the quotation was substantially as follows:

The necessity of treatment for both classes of injuries, is at once apparent to all who have experienced the serious losses due to their agents. Obviously it is of little use to save a plum crop from the curculio if it is to be destroyed by the rot; to save raspberries from the slug if they are to be ruined by anthracnose; to save the grape buds from the flea-beetle if the berries are to be destroyed by black rot; or to save a pear crop from the codling moth and curculio if it is to be destroyed and disfigured by the scab; or to take an example that will strike home to a large proportion of American farmers, it is scarcely worth while to save the potatoes from the Colorado beetle if they are to be ruined by a more serious enemy—the potato blight. While the necessity for preventing so far as possible the injuries of both these classes of organism is obvious, it is almost equally evident that there will be a great loss of time and labor if each is treated separately. For instance, the farmer who sprays his potatoes with the arsenites two or three times for the beetles, and then goes over them again with solutions of copper sulphate for the blight, would have accomplished the same end in half the time by mixing the copper sulphate and London purple or Paris green, in one solution and applying them together. The same is true of the treatment of apples, pears and plums, and in fact of a large proportion of the crops liable to injury by both insects and fungi.

W. H. L.

Farmers and Truck Growers.

Edr. Country Gentleman—Since it is generally believed that farmers are increasingly adopting trucking and small fruit growing, I have been trying this summer and fall during my tri-weekly visits to market to ascertain to what extent the practice affects regular market gardeners and fruit growers.

Trucking, in the sense of bartering, has always been carried on by farmers, though until of late years butter and eggs, legitimate products of the farm, were the articles exchanged for groceries, and, I think, those who have habitually done so still continue the custom, and sell or barter little garden stuff. Neither do owners of large farms often bother themselves with the market gardener's business, their nearest approach to it being the raising of occasional crops of potatoes and cabbages, which are loaded on cars at the nearest railroad station and consigned chiefly to commission men at a distance. It is those with farms of less than a hundred acres who, failing to make both ends meet at their own trade, seek to improve matters by adopting another. Of these I find the greater portion succeed no better with new enterprises than with old, since a restless dissatisfaction prevents their commanding success in anything they undertake. The farmer who has pursued his own business profitably, and who has adopted trucking with a purpose is the only one of his class the market gardener need fear, but there are, I believe, not many such to be found. Most of the farmer-truckers try their hands at the twin operations for two or three years, get disgusted and abandon trucking to be succeeded in turn by others. Market gardeners, while making a pretense of injury sustained, really care little for the interference; they know that in the early production of most vegetables, and the production at all of such as egg plants, peppers, &c., the farmers cannot compete with them. They also know from experience that the profits of a vegetable business are gauged by the care and cost incurred, conditions sufficient to prevent much competition from any but professional hands. Excepting the very early kinds of such bulky vegetables as potatoes, cabbages and turnips, the market gardener is glad to be relieved of their cultivation. If the farmer will confine his attention to the main and late crops of these, and a supply of peas, beans, sweet corn and tomatoes (a risky crop) for the canning factories, he will find employment enough for all the manure, energy and application, over and above that required for his farming, that he has at his disposal.

Beside the farmer, the market gardener and the fruit-grower have other competitors. Florists, in a small way of business, utilize their greenhouse benches for raising lettuce during the winter. The wholesale price of lettuce in Rochester a few years ago at that season of the year was forty and fifty cents per dozen heads, but now they can be bought out of the store at Christmas for two cents apiece. Ten years ago I sold lettuce, grown under sash in Faneuil Hall Market, Boston, at $3 per hundred heads; at the same time I supplied some of the Boston clubs with mushrooms at $3, and even as high as $4 per lb. I suppose prices have likewise fallen in that city, but there always seems to be a very decided difference in the scale of prices of the two cities. I remember how a well-known produce-dealer in Faneuil Hall Market used to lament the decline of the gardening business, and the old gentleman's eyes fairly glistened while he told me, on one occasion, how he had, years before, more than once raised and sold celery at $35 a hundred roots in that same market. "Those were the days," said he.

As to the competition in fruit, the nurseries sometimes send great quantities of it into the market, which, fortunately, is not so easily glutted with that as with vegetables. Farmers have less inclination to dabble in fruit-raising, owing to the more or less delayed returns. Many of them, however, now possess orchards capable of paying as good if not better interest than any other part of the farm; but, judging from appearances, the apple crop in the estimation of many is of no importance, the orchard needing neither manure or cultivation, nor the trees trimming; if there happens to be a crop, well; if not, the poor orchard is denounced as worthless. Let them give it fair treatment, also smearing the apples carefully and fairly, and I can assure them they will make more out of it than out of any truck they can handle.

Mr. Terry's energetic example seems to have aroused fresh interest in the strawberry. This is a crop, so far, I have not attempted to grow, chiefly for the reason that I have always felt it to be one requiring more attention as to cleanliness than I should, with so many other irons in the fire, probably be able to give it; but, also, because of its fluctuating price. For two years prior to 1886 there was a scarcity of this fruit in the market here; the summer of 1887 saw such an increased supply that the greater part of the crop only realized the price of picking. It is true that much of what was marketed consisted of small berries of inferior quality showing a lack of proper cultivation, but the quantity offered for sale injuriously affected the price of the good fruit. Raspberry plantations can almost be kept in order with the cultivator alone, and require renewal, if well manured, only once in four or five years. I suppose the gross money yield for space occupied would be in favor of the strawberry in many places, but in this section, taking prices and expenses of cultivation of each into account, the raspberry is, I think, the most profitable. On the whole, as far as my observation goes, I do not think that the farmers' operations have or will injure market gardening or fruit growing proper. Potatoes, four or five years ago, were so largely raised by farmers that the grocers, tempted by the low prices, laid in large winter stocks in expectation of big spring profits; but one winter the crop rotted, and the next prices declined instead of rising, thereby inducing grocers to buy their supplies only as wanted, a precaution on their part which decidedly checked potato production hereabouts, since farmers generally are averse to holding over crops that are perishable and uncertain as to price. But this did not concern the market gardeners, neither does any glut or otherwise in the cabbage or turnip crop. It will be some time before the farmers become sufficiently proficient in the cultivation of such vegetables as the asparagus, cauliflower, celery, eggplant, leek, lettuce, mushroom, onion, parsnip, pepper, rhubarb, salsify, spinach, tomato and squash, to say nothing of musk and water melons—to be the cause of serious uneasiness to the market gardener.

What I would like to see, moreover, is a greater appreciation on the part of the public of the improved and more delicately flavored vegetables and fruits, a demand for which would be encouraging to the growers of such kinds and at the same time help to swell their pocketbooks. It would also stimulate originators of new varieties to renewed experimentation. J. H. C. *Monroe County, N. Y.*

Large Anjou Pears.—We have had occasion to speak of the productiveness of the Anjou pear, as grown on our grounds, several trees about twenty years old and eight inches in diameter, bearing each nine bushels this year, of large and handsome specimens. But

for large size, those raised by Ellwanger & Barry, of Rochester, have exceeded any we have seen elsewhere. In a box holding precisely two-thirds of a bushel, recently received from them, were 46 Anjous, very compactly placed, and their size as well as their appearance will be understood, when it is remembered that each pear throughout represented in space a full pint of liquid measure, and weighed nearly a pound. The excellence of this pear when fully ripe and softened, is becoming well understood through the community. It is a foreign variety, introduced half a century ago, by Marshall P. Wilder, who remarked that if he could have but one pear, this would be the one chosen.

Propagating Roses.—The London Garden describes a simple mode of propagating roses, claimed to have special advantages. Good cuttings are placed in a bottle containing water, and this bottle is hung on the sunny side of a wall, and there left, additional water being supplied as it is evaporated. The water often becomes warm in the sunshine, and in a comparatively short time the cuttings form a callus, in less time it is claimed, and more certainly than in soil. They are then planted in pots in the ordinary way. Some good Hybrid Perpetuals on their own roots have been raised in this way. The experiment is very easily tried.

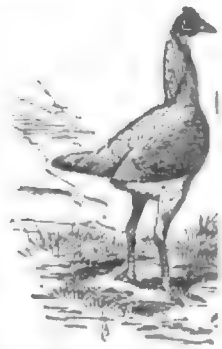
The Poultry-Yard.

Selecting the Stock.

At this time of the year, when the yards are being gradually weeded out of all the surplus stock, the careful poultry-breeder will choose as many birds as he may need from which to breed next season. If left to a later period he will have less choice, and will have greater difficulty in getting what he requires. This also applies to pigeons and all pet stock, for the birds to be mated together in all sections should be selected considerably in advance. It may be that the older birds bred from last season will be again put together, simply filling up such gaps as have occurred, or that fresh pens will have to be mated, and perhaps some birds purchased. If early eggs or chickens are wanted, it will be necessary to have some pullets to obtain these, as older hens do not lay very early. But much of this can only be settled when the birds have been well looked over, and this will take a little time and care; but the time and care will be well spent, bringing its own reward. I do not mean that the birds should be mated into breeding pens at once, as this is altogether unnecessary; and if done about a fortnight before the eggs are wanted for sitting, it will be time enough. In In the case of young cocks it would be positively injurious to do this, as their growth would be arrested; but if put by themselves until needed, they will be fresh and vigorous.

Selecting birds for breeding is a very important matter; more important than it is generally regarded, as the parents impress upon the chickens their own characteristics. Good points are produced, and if the breeding has been careful these are probably improved upon; but bad points are also reproduced, and can be aggravated unless great care is taken. By skill and knowledge the former can be increased and the latter decreased, if not altogether removed, but it must be borne in mind that the bad qualities are apt to return any minute, if vigilance is relaxed. The poultry breeder needs to have a clear idea of what he is aiming for, and must ever keep that end in view. Those who have high-class exhibition poultry are most particular regarding the choice of stock birds, and will take an amount of trouble which may be regarded as unnecessary by those who are unaware of the importance of the matter. Years of careful breeding can be upset by one injudicious cross, and though your readers need not be so particular as those who breed merely for feather yet it is necessary to exercise considerable thought regarding the question. It would be foolish indeed to spoil a good strain for want of a little forethought and trouble.

Each of the sexes has a certain and defined influence upon the progeny, and knowing this we have a sufficient guide to enable us to select the ones we require. The male parent affects the external structure, shape, outward



PRIZE PAIR OF BROWN-RED GAME F
at Oct

characteristics, and the movements of the bird, while the female parent controls the internal structure, the constitution, the temper, the fecundity, and the general habits. Here then are defined lines upon which to proceed, and we shall here see how we may follow them, but it must be remembered that there is greater certainty with pure-bred birds than with mongrels. The characteristics of previous generations are apt to show themselves, when least expected, with cross-bred fowls, and it is difficult to avoid disappointments with them. Time and patience will, however, do a great deal.

I have before spoken of the necessity there exists for care in the selection of stock, and the influence the parents have upon their progeny. As we have just seen, the male parent influences the external structure and characteristics, as well as the shape of the bird. The first thing, therefore, is to see that the cock selected for breeding purposes shall have size, and by this I mean size of frame, not merely fat and feathers. A fat bird is seldom a good breeder, and there is many a fluffy feathered one that appears to be of a large size, but when taken in the hand is found to be very light. A small bird will never get large ones, and thus the importance of the point. Then the bird should be looked at to see if there are any grave defects, that is, deformed in its body or limbs, or having any characteristics that are regarded as blemishes in the special variety to which it belongs. However good a bird might be in other respects, it would be very foolish to select a bird so affected, as it would transmit its fault, probably in an intensified form, to its descendants. A bird weak or deformed in its organs of locomotion would be a bad one to breed from, and, in fact, it may be taken as a rule that the bird which is shapely, of good size, and looks best, is really the best for breeding purposes. Many birds with defects such as we have spoken of are of no use for laying or table purposes, but if bred from, these defects will not only be perpetuated but intensified, until it will be very difficult to get rid of them. Some breeds of fowls which at one time were among the most useful of all domestic poultry, have been completely ruined by fanciers, who have seized upon some one point, it may be an actual defect, and by breeding for it injured the really good qualities. In choosing a cock to breed layers, we should select one firm and close in body, of a good size, though not abnormally big, clean and tall on leg, and active in its habits; while for the production of birds for table purposes, it is better to pick one heavy in body, shortish on the leg, deep in breast, and not very active.

The hen, as we saw before, affects the internal structure and the vital organs. Thus it will be found that a good layer will produce good layers, a good mother good mothers, and a ready fattener those most suitable for table purposes, if—and the "if" is an important item in the calculation—the male bird is selected accordingly. With respect to hens the same thing applies to the selection of shapely, well-made and good sized birds, for though a hen may have a fault in the organs which she does not influence so much as the cock, yet that defect will almost certainly be transmitted to a greater or less degree, so that the choosing of a good bird is very essential. For producing layers only those birds known as good layers

New Advertisements.

Burgin, John H.	Jersey Bulls.
Brookhither, C. F.	Jersey Bull.
Box 76	Farm Wanted.
Bowditch, E. F.	Middle Yorkshire Boars.
Cloud Br.	Chester White Swine.
Esmond, J. H.	Separator.
do. do.	Farm for Sale.
Fernwood Farm	Holsteins and Berkshires.
Garlor, F. W.	Pekin Ducks.
Holder, C. V.	Percheron Stallions.
Harper & Brothers	Harper's Periodicals.
Jones, Herbert A.	Chester White Swine, &c.
	Stock Farms for Sale.
J. M.	Situation Wanted.
Lindsey, Wm	Home Pigs.
McCulloch, Alkin	Farm for Rent.
M	Position Wanted.
Paddock, P. P	Jerseys.
Poole, Richard	Stock Farm.
Purdue, J. N.	Jersey Bull.
Root, H. G.	Pits Opened.
Stowell & Son, J. C.	Farm for Sale.
Savage & Farnum	Percheron Horses.
Safety Fastening Co	Agents Wanted.
Talbot, Geo. M.	Situation Wanted.
do. do.	Jersey Bull.
The Watertown Washer,	Watertown Washer.
W. R. H	Situation Wanted.
Warne, N	Percheron Stallion.
Wheeler, C. J.	Percheron Horses.
Williams Stock Farm	Jerseys.

Subscribers' Wants.

MRS. E. GOODNOUGH, South St., Brookline, Mass. Sevastapol Geese or Eggs.

ROBT. F. DUTLANEY, Bowling Green, Ky. Who breeds Ferrets for sale?

Pamphlets, &c., Received.

BELLE CITY MFG. CO., Racine, Wis. Illustrated Circular of Fodder and Ensilage Cutters, Horsepowers, &c., &c. See advertisement, p. 951.

HALL, Dr. G. STANLEY, President Clark University, Worcester, Mass. Opening Exercises, Oct. 2; pp. 44.

JOHNS HERBERT A., Winooski, Vater Co., N. Y. Catalogue of Trees, Plants, Shrubs, Chester White Swine, &c.; pp. 48, illustrated. See advertisement.

LIVINGSTON'S SONS, A. W., Columbus, O. Illustrated Tomato List.

NATIONAL MAILWAY PUBLICATION CO., 48 Read St., New-York. Excellent mounted Wall Map of North America, 48 by 34 inches.

SCOTT, WALTER, Hoosick Falls, N. Y. Illustrated Circular of Perfect Swinging Cow Stanchion—see advertisement, p. 975.

SMITH, GRAY, & Co., Broadway and Bedford Ave., Brooklyn, N. Y. "Beautiful water-color picture, "Miss Modesty," issued as supplement to Illustrated Monthly.

SORBET & SMITH, 28 Rose St., New-York. "Denman Thompson's Old Homestead;" pp. 32.

TRACEY, Gen. CHARLES, House of Representatives, Washington, D. C. Fourth Annual Report of Commissioner of Labor; pp. 652.

Inquiries and Answers.

Furnishing Grass Seed.—Does any usage exist generally in the State of New-York by which the lessor of farming land is bound to furnish the lessee with grass seed (timothy and clover) during lease? C. C. [There is no fixed rule; and special agreement is to be made as required. The terms may vary with the length of the lease, tenants being less willing to furnish seed on a short lease than on one of greater length. The practice with many is that each furnish half the cost of the seed, but this is not universal. Where an occupant works land on shares, it is often expected that the land will raise enough grass seed, the arrangement thus being that owner and occupant each furnish half. A tenant does not usually expect to buy the required grass seed, unless a special agreement is made to that effect, and sometimes the owner buys all, where none is raised on the land.]

Barn.—I own a farm of about 175 acres, 75 acres cleared and the rest wood land. I want to build a barn 36 by 48 feet with underground stables for horses and cattle. The barn is to stand on level ground, and run back to a hill or knoll about 10 feet high. I wish that you will send a plan for a barn such as you think will suit a farm of this description. J. W. *Wilkesbarre, Pa.* [In the absence of several important details, we cannot give a full and distinct plan. We are not informed of the number of cattle and horses to provide accommodations for; nor the position of the building relative to the ten-foot knoll, nor the amount of grain and fodder which it is expected to store in it. A productive farm of the dimensions given would raise much more than could be sheltered in a barn of the size described. In the absence of full information, therefore, we refer our correspondent to three designs described in the third and eighth volumes of RURAL AFFAIRS with engraved illustrations. The plan given on page 139 of the third volume, and a view on page 136, is rather larger than the one desired, but it may be reduced if necessary, although this full size would doubtless be required for the farm. It may also nearly suit the peculiar requirement for the ground. A smaller design is given on pages 141 and 142 of vol. III, which is very nearly the size given by our correspondent, and possibly may answer the purpose best. A third design will be found on page 247 of vol. VIII (fig. 367), which with some reduction will correspond with the required dimensions, and which contains some important improvements of the interior arrangements. By examining carefully all the details of these three plans, our correspondent may be enabled to select the one which most nearly will suit his purpose, in a better manner than if we should undertake to give him a special plan from the limited information furnished.]

Lamium.—I enclose sample of weed, overrunning gardens, new to us within a few years, and difficult to eradicate. What is it? Grows thickly on ground; height about eight inches. E. A. W. *Marietta, Ga.* [The weed is *Lamium amplexicaule*, "stem-clasping lamium," "dead-nettle," "hen-bit." It was introduced from Europe and has long been established here. In Darlington's "Weeds and Useful Plants," it is characterized as a worthless little weed abundantly naturalized in and about our gardens in Pennsylvania, and requiring some attention to keep it in subjection. It is described as an annual, though its early flowering indicates that it sometimes behaves like a biennial. In the Northern States it may be found in flower from May to September; farther south, earlier and later. With us it is not a very troublesome weed, but it may be more difficult to suppress in the South. Still, with close and frequent attention, taking care not to permit it to perfect its seeds, it ought to be overcome. C. H. P.]

Kentucky Blue-Grass.—How and when should Kentucky blue-grass be planted? (1) How much seed per acre should be sown to make a good stand? (2) Will it do well on all kinds of soil that timothy and clover will grow on? (3) How long does it take to become well established? (4) How long will it stand when once well set or rooted? (5) If sowed on timothy or clover sod in the spring, would it take? (6) If any of your readers have tried it, I should be glad to learn of their experience or observation. A. B. M. *Lambertville, N. J.* [1. Kentucky blue-grass (known as June grass at the East and spear grass in New-Jersey, and to botanists as *Poa pratensis*,) is a valuable pasture grass when grown on deep, rich, and sufficiently moist soil. It is only in certain localities with such soil that it succeeds best. Sow early in spring. 2. As the seed is usually light and chaffy, at least two bushels are required for an acre, to afford a good and compact growth as soon as established—some persons sow three bushels. 3. Clover and timothy will grow on some dry and rather poor soils when blue-grass will afford only a thin crop. 4. It requires two or three years after sowing to become well established and afford good crops; at first the growth is small, but it gradually increases. 5. Many years. 6. The seed should have a fine, mellow soil, and be lightly covered with a brush harrow, and it will make but small show the first year. It is well suited for permanent pasture, but cannot be employed in rotation. Some of the best crops of this grass are on alluvial soils or river flats above the reach of strong floods.]

Grass and Clover for Silo.—What is the best method of removing uncut cornstalks from a 30-foot deep silo? Also, can oats and peas and clover and timothy grass be successfully preserved in silo? I have three pits, and want to fill each with the above crops to feed alternately; would prefer putting all in whole, if they are not too laborious to remove. My reason for not cutting is to save expense, as men generally command greatly increased wages at these times, beside hire of engine, feed, &c., all add greatly to cost of filling; whereas, if the crops could be put away whole we could do it with our own help. J. M. *Mt Holly, N. J.* [If the silo is deeper than the floor of the stable or of the surrounding ground, more labor is required in taking out the contents. Two men may work to good advantage, one of whom may remain down in the silo for filling the large basket or crate, and the other remaining above for drawing it up as fast as filled with a rope, pulley or windlass according to required weight or quantity. If a part of the ensilage is high enough, it may be thrown off horizontally, saving the labor of drawing up with rope. Clover and grass may be used for filling the silo, and will pack better than uncut and coarse cornstalks, although cutting short is much the best for either. In emptying it, a hay-knife will be needed by the man below for cutting the hay down in successive portions, unless it is fed out fast enough to warrant the successive removal of horizontal layers. The fodder will keep best if not cut too early, enough time being allowed for the formation of solid substance, but clover may be filled in sooner than grass, and before the leaves disappear.]

Canada Thistle.—Please inquire of your readers if they know of any certain way of clearing the land from Canada thistles? DELAWARE. [See pages 150, 187 and 284, current vol. COUNTRY GENTLEMAN.]

Alsike Clover.—I notice in your paper an inquiry relative to the value of alsike clover. It has been grown with satisfaction in some parts of New-Jersey, and is regarded by practical farmers as a valuable addition to the fodder plants of the State. E. B. V. *Ag'l Exp't Station, New-Brunswick.*

Feeding Horses.—Please give me food for colts, dropped in May. Linseed meal is rather expensive here. I was asked 2 cents per pound in 500 lb. lots—did not buy—but would get the meal if necessary. Will it pay to exchange barley at 45 cents for oats worth 30 cents, to feed to brood mares during the summer months on the farm? S. W. S. *Centre Hall, Pa.* [Linseed meal is good for colts, in small quantity, but the most important for their growth and even development is clover hay or wheat bran. Clover hay can usually be obtained as cheaply and in many places at a less cost than timothy. Good clover hay contains double the muscle-forming matter of timothy. Wheat bran is comparatively rich in muscle-forming matter, and its ash is rich in phosphate of lime to grow good solid bones. Let S. use the following combination for colts 7 months or more old: Four pounds cut clover hay, 1 lb. ground oats, 2 lbs. fine wheat bran, ½-lb. linseed meal. Let the cut clover hay be slightly moistened, so that the ground feed will adhere to it; mix it all well together and give in two feeds, morning and evening, giving the colts the run of the yard in pleasant weather. 2. S. may as well retain his barley to feed his brood mares on the farm in the summer. Barley and the same bulk of fine wheat bran mixed together will make a very good food for brood mares for the summer, but it should be fed mixed with moistened cut hay. Great care should be taken not to heat the blood of the mare while suckling a foal. E. W. S.]

Fattening Sheep.—Please give ration for fattening 100-lb. wethers. Wish to feed about two months and make gain in weight, if possible, with profit. Will uncut hay with whole corn and rye make good ration, or would bran or ground feeds be better? Have no roots or ensilage. What will take their place as loosening food? I. B. K. *Athens, N. Y.* [I. B. K. should have mentioned the breed and age of the sheep to be fed. It may be difficult to make the gain pay for the food. He probably can use nothing better as a laxative than a little linseed meal. He may feed his sheep upon long hay, corn and bran. The feeding trough for grain should be below the rack for hay, so that the short hay will slide down into the trough, and then feed the grain upon this short hay. It is better to feed the hay first, always feeding a moderate quantity, not more than three-fourths to a pound per head; if convenient to obtain, clover hay would be best. Half a pint of shelled corn and a pint of fine wheat bran will be sufficient per day to begin with. Mix in about one tablespoonful of linseed meal. This tablespoonful of linseed meal will be sufficient per head per day to prevent constipation. As they get used to their feed, gradually increase the corn to three-fourths of a pint, and finally to a pint per day, letting the bran remain the same. It is better to give this grain in two feeds, letting it follow the hay. These sheep should have a well-ventilated stable or warm shed. If they are thrifty sheep, they should make an average gain of about half a pound per day, say at least three pounds per week. As a change, for a day, rye might be substituted for the corn, but corn is the best fattening food. E. W. S.]

Illinois.—We receive from Mr. W. C. Garrard, the efficient secretary of the Illinois State Board of Agriculture, the Transactions of that body for 1886 and 1887, and the usual elaborate report of the Fat Stock Show of 1886. Each of the three is an octavo volume of about 400 printed pages, deserving of fuller notice than it is possible to give in this crowded issue.

The State Fair of 1890 will be held at Peoria, Sept. 29-Oct. 3.

Acknowledgments.

Communications for publication have been received during the week ending Dec. 21, from R. D. G.—J. H. C.—J. W. Clarke—Elmer Ford—A. S. W.—J. H. S.—C. S. Rice—A. N. Curry—A. M. P.—Thomas Meehan—Gustaf Kallander—J. H. Mussey—P. D. Curtis—Garry Owen Gaines—E. J. Rochester—Miss C. R. Chase—J. C. White—Waldo F. Brown—Prof. R. W. Stewart [2]—L. R. S.—Wm. Horne—Smith, Powell & Lamb—B. F. Johnson—B. B. Miles—T. Greiner—Prof. Charles H. Peck [2]—Sam'l Johnson—Katherine E. J.—Wm. Falconer—Prof. W. R. Lazenby—T. Greiner—G. W. Parlee—G. S.—A. F. Cole—P. W. Armstrong—Stephen Beale—J.—Miss Hortense Dudley—Delaware—C. Van Tuyle—E. S. Keep—S. F. W.—B. W. Jones.

*** We cannot comply with requests to furnish the addresses of correspondents for private inquiries.

*** We cannot answer inquiries by letter.

THE CULTIVATOR AND Country Gentleman

Albany, Dec. 26, 1889.

☞ In accordance with custom this week's issue is accompanied by eight extra pages in order to supply every reader with an Index of the closing volume without trenching largely upon our usual quantity and range of contents. This Index, as we have pointed out before, supplies the means, with a little practice, of turning readily to all the more important topics discussed during the year, to the authors of all articles of any length, and to the engravings published, while it also shows that both in the very large amount of reading matter given, and in the variety of practical topics embraced, each volume is equivalent to a very considerable library in itself. If a still larger proportion of our readers would carefully preserve their papers in the order of issue, they would often be able in turn to information by a few moments' search, which they must otherwise obtain, if obtained at all, at the expense of much trouble and delay. We commend the Index pages to careful examination, as likely to lead to the filing of future volumes by those who have not taken the trouble to preserve them in the past.

The next issue of the paper will appear in new type throughout.

If omission or mistakes have occurred, as will sometimes happen, in sending out our showbills and subscription blanks to friends who have aided us heretofore, they will greatly oblige us by informing us to that effect; and we repeat once more that we shall be glad to receive applications for these papers wherever they can be made of service. It will also be a great favor, in cases where former club agents from any cause are prevented from acting the present season, if they would induce some other club member to take their places.

In conclusion we desire to offer our best wishes for the prosperity and happiness of our readers, to renew our acknowledgments for their many favors, and to express the confident hope that they may long continue to find the COUNTRY GENTLEMAN a welcome visitor in their homes.

New-Jersey Experiments.—The recent bulletins issued by the New-Jersey Station show a continued increase in its work in the examination of fertilizers. Samples representing 191 different brands of complete fertilizers have been received this year for analysis; these with those of ground bone and miscellaneous samples increase the entire number to 243, or 49 more than last year. The conclusions drawn from this work are that it will pay farmers to study the bulletins containing the analysis, and valuations derived from these analyses; and to buy only from those manufacturers who really sell what they claim to sell, and who do likewise claim enough to warrant the prices they ask. The very important suggestion is also made that before buying complete fertilizers, the wants of individual soils should be studied and the most suitable brands be selected under their own examination and tests, rather than trust to the recommendations of others.

Much attention was given to ground bones,

a fertiliser, although insoluble in water, is readily decomposed by the action of the soil, and furnishing quantities of nitrogen and phosphoric acid to the crop in proportion to the fineness to which they are ground. Bones, however, are not a complete fertiliser. The following prices are given to certain grades of fineness, into which the bones are divided by a system of sieves: If less than one-fiftieth of an inch in diameter (about like common Indian meal) the nitrogen is valued at 16¼ cents a pound; if finer than one-twenty-fifth of an inch (the size of timothy seed) the nitrogen is worth 12 cents a pound; finer than a twelfth of an inch, (about the size of red clover seed) 10 cents, and coarser than this only 8¼ cents. The rapidly diminishing value as the coarseness increases, shows the little benefit to be expected from the use of coarsely broken or whole bones. The phosphoric acid is noted at one half the price of nitrogen in these samples. From the analysis of the bone, the quantity of each ingredient in a ton is determined and the commercial value of a ton ascertained.

New-Jersey Horticultural.—At the annual meeting of this society at Trenton, Dec. 18–19, the secretary's report gave reasons why no summer meeting was held, and told of the meeting of the American Pomological Society in Florida, the largest ever held. Agriculturally the secretary says: The season has been disastrous, and favorable only to our enemies, the rots, mildews and insects. Water, weeds, &c., have been the best crops of New-Jersey this year. With much feeling he referred to the death of Prof. Cook, one of the most earnest and efficient supporters the society ever had, and one whose services to the State and society can never be over-rated.

The treasurer reported balance of $35. With the help of a State appropriation of $900 a year, and the income from membership fees at $1, the society manages to get along, but it looks longingly for an increase in the appropriation in order to increase its usefulness.

The election of officers resulted as follows:

President—RALPH KNOX, Hopewell.

Vice-President—W. C. Idell, Hopewell.

Secretary—E. Williams, Montclair.

Treasurer—Chas. L. Jones, Newark.

Executive Committee—W. R. Ward, C. W. Idell, D. A. Vanderveer, J. M. White, E. P. Beebe.

A number of papers were read.

A committee was appointed to coöperate with the legislative committee of the board of agriculture to secure greater financial aid from the State. A resolution to work for a tariff on bananas was unanimously voted down.

W. R. Ward, in behalf of committee appointed for the purpose of investigating the relations between commission dealers and shippers, offered a resolution in which the society denounces the growing practice of commission houses to furnish empty packages to the shipper, as each grower should be responsible for his own fruit, with his name on the package; commends to commission houses the practice of making weekly returns, honest quotations and giving all possible information; condemns the practice of selling produce of different shippers in lump lots, as each man's goods should be sold on their own merits, and returns made accordingly. This resolution was adopted. C. R.

Full report next week.

Farm-Yard Notes and Items.

Judging by the Pekin ducks shown by Mr. F. W. GAYLOR, manager of Sandacre Farm, Quogue, at our last State fair, where they carried off every prize in their class and were greatly admired by critical judges, we should say that his advertisement this week deserved the special attention of farmers, as offering a rather unusual opportunity.

The National Swine-Breeders' Association will publish immediately the proceedings of its annual meeting at Chicago in November, deeming them too important and interesting to lie for months awaiting the collection of funds to cover the expense, as has usually been the case. PHIL. M. SPRINGER, Springfield, Ill., is the secretary.

The proprietor of WILLOWOOD FARM, Budd's Lake, N. J., writes that he has received answers from a number of distant as well as near-by States to his recent advertisement, and has sold many of his older Berkshires. His "imported boar and sows are in excellent condition, and give promise of great success in the show ring next year."

The Fifth Volume of the Holstein-Friesian Herd-Book differs from its predecessors in having both parts bound together, making a handsome and solid (though not cumbrous) octavo of over 800 pages. Bull numbers are carried from 12,279 to 13,500 and cows from 15,286 to 17,250. The full proceedings of the New-York meeting last March are also included, together with other important matter. The price of the book is $3.75, transportation

charges prepaid. The ass
sent 343 members. El
Meadville, Pa., is presider
Iowa City, Iowa, secreta
Brown Smith, Syracuse, N

According to the Live
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which a total of £46,533 w
head, being a general ave
highest single price was 51
eet, 3 guineas.

The Massachusetts Poult
hold its next show at the
Feb. 10–15.

"My advertisement in
VLEMAN sold my Pogis bu
Glassboro, N. J.," writes
Lampster, Pa. The advert
two insertions) cost $2.50.

The rather unusual event
leaving Turkey has occurr
tion by the Sultan of Turke
animals to distinguished
the Emperor of Germany a
Empress, Prince Henry, D
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marck.

The American Guernse
agreed to pay for the ani
New-York and New-Jerse
tions, and to supply the p
cow at the latter. Office
coming year are:

President—SILAS BARTS, Ca
Secretary and Treasurer—E
lington, Conn.

Executive Committee—Henr
Pa.; Ezra Michener, Carvers
Fisher, Philadelphia, Pa.

The North-British Agri
that "the increase in the
bred horses has been a rem
the present year. The resu
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parts of the world."

"Lambs are coming ver
and I shall send some sprin
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F. BOWDITCH of Framingh

The London Live-Stock
seems very curious, consid
such a demand in America
that no society should be in
the interests of the Hack
there is a great future for
United States."

Ten States were represent
of live-stock commissioner
upon the subject of a uni
tion for the suppression of
among domestic animals,
last week. It was determi
interstate live-stock sanit
bring about coöperation b
stock commissioners and
in the prevention and su
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for the discussion of sanita
ings are to be held annu
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The Grazier and Breeder.

Fattening Cows in Milk.

Eds. Country Gentleman—A dairy of about 75 cows is to be kept from the 1st of this month to the beginning of June, for the first four months to make butter, during the last two to dry up and fatten the cows to the utmost. Have clover hay and corn ensilage in abundance, both in prime condition, also some corn. Ready to buy anything and in any quantity. What would be the ideal rations, with above named fodder, to obtain the heaviest yield in butter and flesh? Please give rations with perfect grains, &c. Then also with brewers' grains, or starch refuse feed. State also to what extent, if at all, the two latter are compatible with achieving the very best possible results in view of objects stated.

Bradford County, Pa. SUBSCRIBER.

Subscriber desires advice in an important case, but neglects to give the essential points required as a basis for this advice. It seems that 75 cows are to be fed from Nov. 1, object butter, for say five months, and then the cows are to be dried and fattened, made good beef and sold—of course, with the hope of profit. Yet he gives no information as to the age, weight, condition, when fresh, breed or any other qualification belonging to these cows—we are expected to guess at the whole case and then give sound advice. The case is a difficult one to manage under the most favorable circumstances. The first point to be made on the case is, that if milch cows are to be fattened, it should be done while they are yielding milk, and not after they are dried off. The effort should be to fatten them from the beginning. The milk may then possibly pay the expense, or at least nearly all of it, and the cows will probably be worth more fat than in their present condition.

The clover hay and ensilage are a good foundation for a ration to fatten these cows. It is presumed, to begin with, that none are in calf. The following ration will be appropriate: 40 lbs. corn ensilage, 8 lbs. cut clover hay, 8 lbs. corn meal, 4 lbs. wheat bran, 2 lbs. decorticated cottonseed meal. It will be seen that we start with a fattening ratio, the fattening is the principal end to be accomplished. And this will also bring out their milking qualities. Some of them will, no doubt, increase in milk of an improved quality. But, even upon these best milkers, the above ration will soon begin to cover their rough points with flesh, for the surplus nutriment beyond the production of their milk will be laid on the body and clothe it in a smooth soft garment of flesh and fat. This class of cows will take more time, but their milk and butter will pay the expense.

The writer has frequently fattened such cows when milking, at 14 or 15 years old, and he was wont to say of them: "Let them take their own time—they will pay every week for all the rich food they will eat." It was not unusual for them to gain 1¼ lbs. per day, besides yielding a fair quantity of rich milk. It must be remembered that good milkers are also good eaters and digesters.

Now the other class of cows—the poor milkers—are not as vigorous eaters, and as their surplus food goes to flesh, they will make more progress in fattening during the first three months, and they will gradually dry off without any effort of the milker. Let them dry off, they will sooner reach their goal—the slaughterhouse.

As Subscriber would like to know the digestible nutrients in this ration, the following formula is given:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
40 lbs. ensilage	0.48	4.80	0.32
8 lbs. best clover hay	0.68	3.91	0.12
8 lbs. corn meal	0.67	5.04	0.30
4 lbs. wheat bran	0.47	1.56	0.16
2 lbs. dec'd cotton'd meal	0.70	0.64	0.12
Total	2.90	15.95	0.90

This has a ratio of 1 to 6—a good fattening ration and a good butter ration, for the class of cows which must be here represented.

S. asks about a ration with brewers' grains. These grains may be fed in moderate quantity in this ration. If this food can be bought for 12 cents per bushel, and the distance is short to haul, so that it can be fed fresh, then he can substitute one peck of grains for the bran, and the ration would perhaps be improved.

The starch food could not well be handled unless it is sent to market dried, and then it costs more than it is worth compared with other foods. If the brewers' grains were substituted for the bran it should be mixed with clover hay and ensilage. This would moisten the food sufficiently for mixing in the corn meal and cottonseed meal. The clover hay is supposed to be cut and mixed with the ensilage, and then all the ground feed mixed with it. It is only when the fodder and the concentrated grain are well mixed together that the full nutriment is obtained from the grain.

This ration should be modified as follows: At the beginning of the third month add 1 lb. corn meal in place of 1 lb. bran, and the same at the beginning of the fourth month. It will then be 10 lbs. corn meal, 2 lbs. bran, 2 lbs. cottonseed meal. This needs no further change to the end of fattening. S. has only to remember that a good fattening ration is always a good ration for milk and butter, but in this case it is made large so as to push the fattening. E. W. S.

Raising Calves by Hand.

Messrs. Editors—Having noticed several articles in the Country Gentleman discussing the two methods of raising calves—allowing them access to their mother, or raising them by hand—I give our experience with the latter, which we consider far preferable. The many advantages in favor of weaning the calves should entitle it to universal practice, not only in large dairy establishments but also in small families where only one or two cows are kept. With judicious care in feeding, the calf keeps healthy, grows faster, because it can thus be taught earlier to eat other more nutritious foods, and at milking time both the cow and her calf give the herdsman far less trouble. Instead of being stunted in its growth the calf raised by hand may be pushed faster than one with its mother, though when intended for the dairy this should not be done.

Weaning the calf also renders the cow much easier to milk, for as her calf is never allowed to perform its office of relieving her udder of its pressure of milk, she soon forgets the calf and adopts the milker instead, pouring out her whole wealth most generously under his skillful manipulation. No reserve is kept back, the cream of the cream, for the absent darling who with calfish playfulness has run off to a distant pasture with the yearlings. Neither is there any uneasiness on the part of their owner, lest the cows and calves should get together between milkings, for as calves that look to their mother for milk depend upon that alone, they consequently go hungry a great part of the day and spend their time waiting at bars and gates ready to slip through at the slightest opportunity. Their mothers, too, quite as anxious, will leave the most tempting pasture long before milking time, and stand lowing at the gate, answering back the plaintive cry of their offspring. As it is now, all that old-time excitement attending each occasion of home-coming is done away with, and I do not remember hearing a cow low for six months. They come quietly from the pasture in single file, march into the barn, and each takes her place automatically and waits for the attendant to relieve her of the milk that was beginning to grow burdensome. They have been on good terms ever since her calfhood, and now that she is filling his pail she feels that she is to her milker in loco matris.

The calves were housed first; they followed the herdsman as he came up, for he finds that tolling them along by holding out his finger to the youngest is easier work than driving. Each calf has made friends with him very early in life—in fact its first meal was taken from his finger which had been dipped in its mother's milk, the process being repeated until the young animal's head found its way into the shallow milkpan. During the first three or four weeks of its life the calf remains alone in a close box stall where it has a bed of soft, clean straw, and is fed by the herdsman three quarts of its mother's milk freshly drawn three times a day. This continues as long as it is necessary to milk her that often. When she is milked only twice in 24 hours then the calf is fed twice, receiving each time from one to two quarts more than it formerly received at a single feed. The quantity of milk given should be specially adapted to the requirements of each calf, an unusually large one more, and an undersized one less, the herdsman being the judge in such cases and reducing the quantity at once should it appear to disagree with the calf.

There are many benefits derived from housing the calf until it is three or four weeks old. Its bones are too soft for the rough awkward exercise in which it often indulges, and they are sometimes sprung out of line; in fact one of ours had the misfortune to break its leg, probably in some of its wild frolics. Then they are protected from the rain, the cold, or the hot sunshine. The time spent in looking up each calf at feed time is also saved, and a pleasant social relation is established between the calf and its attendant. This should be one of gentle but firm control on one side, and of quiet submission on the other. The calf should at the beginning have a leather collar buckled around its neck, and should be led about occasionally or tied so as to learn obedience to control.

When about four weeks old, let the little prisoner out of his stall some bright sunshiny day after its morning meal. The first glimpse of the outside world has a very amusing effect on the little fellow. First it runs here and there at the top of its speed, seemingly in play, but really prompted more by fright and surprise. A sight of his own shadow will startle him, and I have seen an old stump awaken emotions of the liveliest curiosity. He is afraid of all things, and rushes from one side of the lot to the other until his unaccustomed muscles are quite exhausted, after which he quiets down and gradually learns that all nature is his friend. Another benefit derived from confining the calf for the first few weeks of its life is that it is thus prevented from eating grass and other foods of like character until its ruminating stomach has sufficiently developed to manage them. A little bunch of sweet hay placed within reach during the latter part of its stall life will tempt the young calf to exercise its chewing and ruminating faculty. I have seen one take a single straw and follow it to the end.

If we need more cream to fill butter engagements when the calf is one month old, sweet skim-milk may be warmed and fed for one-half its ration, which may now be increased to 20 lbs. a day. A few spoonfuls of flaxseed jelly should be added to the skim-milk, in the manner described by Prof. Stewart, (page 758), gradually increasing the quantity of jelly, until when two months old all skim-milk may be giving, mixing in a small quantity of corn meal, wheat bran, oat meal and linseed meal. Or, what is still better, make a combination of such of these foods as we have, and begin by putting in a few spoonfuls of the mixture, gradually increasing the quantity as the calf grows older and becomes more accustomed to it. The milk ration, however, is never increased above 20 lbs. a day, even after skim-milk is substituted entirely for whole milk, because other more nutritious foods are added. Flaxseed jelly seems better suited to young calves, and linseed meal to older ones. After the calf is two months old let it have all the green grass it wants, or fresh sweet hay if during the winter season, keeping up its milk ration at the same time, for until six months old the calf should be allowed to get fat as well as induced to grow rapidly.

Fed in this way, our calves, pure Holsteins, weighing at birth from 80 lbs. to 125 lbs., will easily weigh when six months old from 500 to 600 lbs., and this we think amply sufficient for cows intended for dairy purposes.

Logan County, Ky. HORTENSE DUDLEY.

Ration for Cream.

Please give me a ration for cream; cows Jerseys, medium size. I have 19, age from four to eight years. Have been feeding 3 lbs. wheat bran, 3 lbs. oats and corn ground together, with what hay (not cut) they would eat. Now I wish to feed corn fodder, oat straw, hay and grain; hay upland, no clover, cut early and in fair condition; shall cut the hay, straw and fodder. The cows are coming in—four in April, the rest in August and September. The milk nets now about 3c. per qt. I patronize a creamery, and they forbid the use of cottonseed and linseed meal. H. P. R.

Brooklyn, Conn.

H. P. R. wishes now to feed corn fodder, oat straw, hay and grain, but it is very difficult to balance poor fodder with the grains or feeds he mentions. The creamery which he patronizes has decided, without evidence, against decorticated cottonseed meal as a safe butter food. It has been shown to improve the flavor of the butter, and to increase its solidity and stand-up quality.

He does not say what proportion of hay he proposes to feed with his corn fodder and straw; but let us suppose that he feeds one-half hay and the other half corn fodder and straw. We will then construct the following ration: 7 lbs. hay, 7 lbs. corn fodder and straw, 7 lbs. wheat bran and 7 lbs. corn and oats ground together in equal weights. Let us see what digestible nutrients this combination will give in the following formula:

	Albuminoids. lbs.	Carbo-hydrates. lbs.	Fat. lbs.
7 lbs. upland hay	0.39	3.13	0.09
7 lbs. corn fodder & straw	0.14	2.66	0.06
7 lbs. wheat bran	0.89	3.22	0.19
7 lbs. corn and oats	0.61	3.68	0.35
Total	1.97	12.69	0.69

Nutritive ratio, 1 to 7.5.

This ration contains all the elements to produce a good quality and quantity of cream, except the deficiency in albuminoids; but perhaps if R. must be confined to these grains, he may as well try this ration, and it may be quite successful in producing what he wants. It certainly should produce a quality satisfactory to the creamery.

The hay, corn fodder and straw he is prepared to cut. Let this be mixed together and well moistened; the bran, ground oats and corn will be mixed together dry, and then mixed with the cut fodder. This is a day's ration, and if he has a warm stable this can be mixed once a day, and it will be slightly warm when fed. It may be given in two feeds—or in three feeds, smallest at noon. These cows will do much better if water of moderate temperature is given them in stable. E. W. S.

Cottonseed Hulls.

A Criticism and a Reply.

Baltimore, Nov. 28.

Mr. W. F. Massey—I am surprised at your articles in the Country Gentleman, especially at this week's article, recommending cottonseed hulls as feed for animals. In what does their virtue consist? Starch, sugar, gluten and casein are the foods for animals to make fat and flesh out of. Do the hulls of a wood, worthless except for its fibre, contain sugar, starch, gluten, or are they mere woody matter, like the hulls of chestnuts, walnuts, filberts, and a thousand other seeds, hemp and poppy, castor bean, &c? Take one of your cows and feed her on the hulls for a week, and see how much milk she will give, and how much flesh she will lose. Some importance attaches to such statements coming from an experiment station, and may deceive some into buying this worthless stuff without some other food. The same with cottonseed meal. Any cow fed on it alone will be a dead cow in a very short time. The whole refuse of the oil mill is good for manure (organic matter) or fuel and not fit to go into any animal. Will you please give the percentage in the Country Gentleman? You know the value of corn blades on the Eastern Shore, and I know what good hay is. Therefore I do not want any sour ensilage, in which the sugar, starch and gluten are converted into alcohol, carbonic, acetic and other organic acids, which must follow the heating or fermenting process, which is bound to follow wet vegetable matter in a temperature above 60°. A. P. S.

Eds. Country Gentleman—Above I send a letter from my old friend and your correspondent, A. P. S., merely omitting some matter evidently not intended for publication. I am sorry that I can not give the doctor a very clear analysis of cottonseed hulls. The only one I have at hand is the following, made at the North Carolina station some years ago:

Moisture	9.18
Ash	2.26
Fats	0.16
Cellulose	47.12
Carbo-hydrates other than cellulose	30.67
Proteïn	9.17

Not so very bad for the "hulls of a worthless weed."

If the doctor will come here I will show him fat sheep which have nothing else to eat. Beeves have been fattened on the hulls alone, and nine-tenths of the milk sold in Raleigh is made from cottonseed hulls, cottonseed meal and ensilage. Only one dairyman here, however, uses ensilage. I can also show him cows and other animals bedded with cottonseed hulls and with an abundant supply of the best hay before them, which will not touch the hay until they have eaten every piece of the bedding they can reach. It is all very easy to argue that a thing must be so, doctor, because your theory compels it to be, but the "proof of the pudding is the eating of it," and the cows have settled that long ago. No one that I ever heard of feeds cottonseed meal alone, but the experience of practical men has shown that it is one of the best of fat making foods when properly fed.

In regard to ensilage, my dear doctor, you are away behind the age. We don't make "sour ensilage" now, and I for one have long ago quit trying to argue as to its value for cow feed. If you do not make and feed ensilage at Rock Hall, you are simply allowing your pre-

judicos to keep money out of your pocket and badly needed fertility out of the land. I recently left a herd of 28 cows in Virginia which I had raised largely on ensilage, which were giving 75 gallons per day of good rich milk. Have you 28 cows that will do better as an average? You may argue all you please about what *must* result in the fermentation in the silo, but can you on an acre of land in any other way than by the ensilage process, keep a cow in fine condition and full flow of milk for twenty months or more?

You seem to think that I have been writing from mere "theory," while the fact is that for years I have made and fed to cows, fattening beeves and working mules from 500 to 600 tons of ensilage annually. We who know what the silo has done for us, can afford to pity the prejudice which keeps others from using this valuable and economical food.

My advice, doctor, is that you drop your "theory" and try practice a little while. Forget the laboratory in Baltimore, drop your chemist's notions of what *must* be the case, and ask the opinion of your cow about the feed, and of old Rock Hall about the manure, and I have no fear for the answer. Even if the cow dung has some nitrogen in it, it will not hurt the land. Get out of your laboratory in the city and see what the laboratory of the cow's stomach and of the soil will tell you.

I have no sort of interest in the sale of cottonseed hulls. In fact I am sorry I said anything about them, for I do not think our farmers can afford to allow them to be shipped away, and since my last article on the subject, I am getting letters from all over the land asking for dealers' names. There is no doubt, doctor, as you suggest, that they are good for manure, and I am using them now as the cheapest mulch I can get for strawberries, but I always dislike to use as a manure direct anything that can profitably be used first as food for animals.

North Carolina Agl College. W. F. MASSEY.

The Dairy Department.

New-York State Association.

Convention at Ithaca, Dec. 10-12.

On the evening of the 9th a conference of those especially interested was held at the Ithaca hotel, the object of which was to discuss the dairy conferences that have been held through the State during the past year, and determine whether any improvement could be made in the manner of holding them. On the whole it was decided that their success had been so distinct that it was not advisable to make any change, except that hereafter, under no circumstances, should a conference be held at a country or town fair.

Promptly at 11 30 A. M. on Tuesday, Dec. 10, President L. F. ROBERTS called the convention to order. About 30 members were present, including officers and old friends of the association. A motion by Col. F. D. Curtis, that a special committee on oleo and legislation in general be named, was carried.

Jesse Owen of Elmira moved that the by-laws should be so amended that the president of the association should be *ex officio* members of the board of directors for five years after the expiration of their term as president. The motion was carried without going to committee.

President Roberts said that a gentleman was present who could bring before the convention a new feature in the dairy business. He then introduced Mr. Adolf Wahlin, a Swede from Stockholm. Mr. Wahlin said:

Various methods have been tried for the purpose of making use of the skim-milk of our factories and dairies. The speaker mentioned skim-milk cheese as the most important of these, but as by no means satisfactory. Counting two gallons of skim-milk to each pound of butter, and one gallon of whey to each pound of cheese, the waste of public wealth in this country is enormous, even if only one cent per gallon be allowed as its value.

A discovery has been made by Mr. W. Rehnstrom of Sweden by which these waste products may be saved and utilized. The skim-milk is curded in the manner usual in manufacturing cheese, only that a greater quantity of rennet and higher temperature are used to make the precipitation as thorough as possible. The curds are then placed in a common cheese press where they undergo a stronger pressure than is required for ordinary cheese, and are afterwards put through a simple process of drying and grinding, which leaves the dry curd or "casein" as the inventor has named it. It is as free from water as possible. This casein which contains a very high percentage of protein, the basis of all animal tissue, is very valuable as an ingredient in feeding cakes for cattle, horses, dogs or poultry, and also in breads, biscuits and other kinds of human foods. By mixing only a small percentage of this nitrogenous casein into what are called compound feeding cakes, cheaper kinds of grains may be used, yet producing cakes superior to the best rape or linseed cakes. The speaker explained how the casein, which is a prime producer of flesh and blood, will keep the animal in a healthy condition by constantly supplying the waste of animal tissue.

For using up whey he mixes it with an equal quantity of skim milk, and the whole is put through a simple process of evaporation and transformed into solid, nearly water-free cakes, which are afterwards cut, more or less wasted, and ground to suit whatever purpose is intended. This product is called "lactosarine." It contains principally azotic nutritious substances and carbohydrates, which are healthy and highly nourishing as well as palatable ingredients in human foods and beverages. Mixed with coffee or cocoa they make exceedingly nutritious drinks, and they are equally useful in flavoring soups and sauces and in preparing desserts. Referring to the question of profits to the farmer it was stated that about three gallons of skim-milk would produce one pound of casein and three pounds of lactosarine. He calculated that this would make 19c. for the three gallons, or 6⅓c. for each gallon. When asked by Prof. Roberts how this would compare with the value of skim-milk as a food for pigs, which is believed to be about 25c. per 100 lbs. of milk, he seemed to think that it would be worth to the farmer about the same amount, but would afford him a new method of utilizing his skim-milk, and thereby save millions of gallons which annually go to waste.

At the close of this address the president appointed the following committees: On nominations, Jesse Owen, Col. Curtis, B. D. Gilbert, E. S. Munson, Alvin Devendorf; on legislation, Col. Curtis, Hon. Josiah Shull, Alvin Devendorf; on resolutions, H. W Richardson, Geo. T. Powell, and De Witt Smith; also a committee to judge of dairy products.

The President's Address.

The early part of the afternoon session was occupied with an address of welcome by Hon. John Burden, mayor of the city, and a response for the association by Col. Curtis. Prof. Roberts then delivered the president's annual address. He endeavored to show (1st) that the farmers have a right to the lands they occupy; (2d) what are the conditions of agriculture at the present time; (3d) the condition of dairy husbandry in particular; and lastly, the methods of improvement.

1st. *The moral, not the legal, right of the farmer to his land.*—If the labor expended in bringing the land to its present condition were paid for at the rate of 10c. per hour, it would exceed the present selling price of the land with all of its improvements. But how are we to hand it down to posterity unmortgaged and unexhausted? By insisting that, since improved lands are the product of labor, and since a hundred cents of value are worth a dollar, no matter how invested, every value of the worth of a dollar shall bear its equal proportion of all necessary taxes.

2d. *The condition of agriculture.*—Multiplication of wants, desire for luxuries, sharp competition, and less available fertility in the soil, make new and improved methods imperative, and compel the successful man to more economical methods, and larger production of animals and acres. Limitless fertile lands have for the last quarter of a century given without stint the wealth stored up in them through the ages. The veriest tyro, heedless of the laws governing the forces with which he had to deal, improvident, wasteful and careless of the wealth committed to his keeping, scratched the back of old mother earth, and filched her wealth from her bosom. This was American agriculture, squatting upon the land for a few years, then moving west and leaving behind a waste of weeds and sedges. But at last we are learning that only intelligent skill can effectually compel the forces of nature to minister to the happiness and welfare of man. Land which for the last 30 years has been abnormally high, has at last dropped to prices which are in harmony with those of manufactured products. Substantial ground has been reached, and from this on, if we are wise, the progress will be safe and enduring. If we compare present prices of farm products with those prevailing from 1841 to 1851, we will find that they are at least 20 per cent. higher, while the necessaries of life which must be purchased are, on an average, at least 10 per cent. lower. Many of the older persons present will remember the time when able bodied farm hands received the princely remuneration of 50c. per day of 14 hours, and then carried their day's work home on a string; when $100 was an almost unheard of price for a farm horse, and $25 secured the choicest cow of the farmer's dairy.

As against this at the present time we may say that all lands which have been badly farmed are less productive, and that our wants have multiplied. It is claimed, and truthfully, that the mortgages are increasing on improved lands, and that agriculture is in a deplorable condition, but is this the fault of agriculture, or is it due to continuing in the methods and practices applicable to a past generation, and to conditions quite different from the present? We are here to discuss this, and from careful observation I am led to believe that there has never been a time, under normal conditions, when farming brought a more liberal reward for capital, skill and energy than at the present. Briefly then, in order to attain higher success, we must enrich the land, force it to yield the maximum, make a better quality of goods, find the right market, and then furnish it with what is most in demand.

The speaker sent out last season 200 circulars, with 16 questions each, to leading dairymen in the State. Only 148 were answered, either in part or in whole. As causes of less success than last year, 39 report lower prices as the chief reason, 17 wet weather, 4 poorer cows, 4 scarcity of food, 2 abortion, 2 foul hoof, and one each a variety of reasons. As causes of greater success, 58 report better pastures, 4 more grain fed, 5 equable temperature, 18 better cows, one better bull, 9 better care, 6 feeding ensilage, 4 education, and one each various other reasons. Better feed, better cows, and better and more intelligent care of the cows, give better results in 80 per cent. of the cases reported. The 44 herds reported contained 1,128 cows, and gave an average, in most cases estimated, of 3,050 qts., or 4,511 lbs. per cow. The milk of but two herds was actually weighed, so the farmers as a rule are keeping no account whatever with their numerous boarders. I think it fair to conclude that the estimated yield of milk in these dairies is far above the average of the State. The average number of pounds of milk for a pound of butter, estimated on the 58 answers given to this question was 20 35 lbs., while the average for a pound of cheese, from 36 reports, was 10 6 lbs. It is clear from this that the milk of New-York is better adapted to the making of butter than cheese, since the milk that would make a pound of butter will make but a trifle over 2 lbs. of cheese.

Among the answers was one which said, "My 24 cows will earn $500 more than last year." This man had better cows, better and more feed, made better goods, secured better prices, and gave better care to his animals than usual. These are the five great factors of success in dairying. Is it wise or profitable to go on longer without a more intelligent understanding of the laws and forces that govern the soil we till, the plants we grow, and the animals we breed and board?

Col. Curtis called for the figures of Prof. Robert's own dairy. He has 6 Jersey and 13 Holstein cows, mostly grades. The highest record of milk in eleven months is 9,085 lbs. from a Holstein. One Jersey gave 5,061 lbs. in a little over ten months. One thoroughbred Holstein gave 6,195 lbs. of milk in a year after her first calf, lacking 93 days. Average per cow for 19 animals is 6,230¼ lbs. from Dec. 1, 1888 to Dec., '89. The average quality of the milk was 13 86-100 per cent. of solids and 4 56 100 per cent. of fats.

Perfect Butter.

The first regular paper of the convention was that of W. H. Gilbert of Richland, on "Perfect Butter:"

While there are upwards of 100,000,000 lbs. of butter made annually in the Empire State, he said, not one-third of it reaches the consumer's table in fit condition to be used as food. In making fine butter there must be, first, a healthy cow, one that will convert her food into milk rich in butter fats. Second, all the suitable food she will eat and assimilate. She should be milked regularly, treated kindly, in winter housed in a warm, light, well-ventilated stable, fed regularly, and kept clean. Each milker should always milk the same cows. The milk should be strained as soon as drawn from the cow. For cold setting, it should be set as near the normal temperature, 98°, as possible, and then cooled below 50°, or not lower than 40°. Always use a thermometer. To the viscous milk of winter should be added 12 to 15 per cent. of water warm enough to keep the milk up to 98° until it is set. Cream should be covered as soon as skimmed, to exclude the air, and be kept near the temperature of 45° until you have enough for a churning. Then it should be warmed up to 75° or 80°, and kept where temperature will not go below 60°. It should also be stirred frequently during the day. In this way it should ripen in 24 hours. I do not consider cream ripe until it begins to coagulate, and when agitated it has a smooth, glossy appearance. If churned before it is ripe, the butter lacks flavor and keeping quality, and the product is diminished. All implements should be kept scrupulously clean. Strainers, cans and pails should first be rinsed with cold water, then washed thoroughly with hot water, and finally rinsed with boiling water, and dried.

In churning the temperature varies from 62° to 70° in winter, and from 57° to 66° in summer. Cream raised by cold setting generally has to be churned at a higher temperature than that raised in the open pan. Churn should be stopped as soon as butter appears. Add a pail of cold brine, agitate the churn a little, then let it stand until the butter rises. Carefully draw off the buttermilk, using a hair sieve, then finish by adding cold water and drawing it off until the buttermilk is washed out. Water should not be cold enough to reduce it below 56°.

Winter cows need some succulent food, and corn ensilage is the best and cheapest. The speaker repeated some experiments made at Houghton farm, showing that a big ratio of butter was obtained from milk made by feeding corn ensilage. Not having ensilage you can substitute roots. Wheat bran fed liberally will also help get the butter.

It is difficult to define perfect butter, as tastes vary. We must aim to make our product uniform, and of a quality that will be perfect to the majority of consumers. It is only a few years since our perfect butter was made in June and October, and many families that now must have fresh butter made weekly, bought their butter but twice a year. Progression is the cause of the change. Dairymen are being so educated that by intelligent feeding and proper care of the milk and cream they can make perfect butter in winter as well as in summer.

Mr. Gilbert was followed by Prof. W. W. Cook of the Vermont Experiment Station, on the same subject. Many of his points were naturally the same as Mr. Gilbert's. They agreed in their ideas of the cow and her feed. Ensilage, he said, has no bad effect upon the milk because it possesses no oils that go into the milk. There is little doubt that more butter can be obtained by use of the separator than in any other way, taking the year round. In the last report of the Wisconsin Experiment Station, it is stated that one-quarter of the butter contained in the cream is lost in the buttermilk. The market now demands butter made from cream that has only just turned sour. Every part of the cream should be equally ripened. If creams of different ages are mixed with each other there will be a decided loss of product. The lower the temperature in churning the less will be the amount of butter left in the buttermilk. About 58° will give perhaps as much butter as can be got. In order to make perfect butter a thermometer should be used frequently and carefully. Well made butter covered with well-saturated brine, so as perfectly to exclude the air, will keep almost any length of time, and come out almost as fresh as when first packed. The speaker also advocated salting butter by means of brine.

Mr. D. A. Gilder of Tompkins county wanted to know what "perfect butter" is? Is it butter that must be eaten within two or three weeks from the time it is made lest it should get off-flavored, strong and rank? Or is it butter that can be put away and kept for months, and then come out sweet and nutty and palatable? The latter is what he would call "perfect butter," and not the butter that is made only for immediate use. E. D. G.

A Practical Man's Standard.

The American owners of dairy cattle which have been mostly brought from the other hemisphere, have succeeded in producing some wonderful results by feeding for a specialty. For 30,000 pounds of milk to be drawn from the udder of one cow within twelve months is not less astonishing than for one day's milk-make of another cow to yield at the churn six pounds of veritable butter, or for another cow to give milk so rich that five pounds will contain one pound of butter. The scientific world, and especially the lovers of *bootology*, will thank those men for what they have done. And although they may not yet have demonstrated the extreme possibility of the cow, they have gone so far in that direction that those who are working along in what they consider a practical way need never try to overtake them. The humane and practical man wants his cow to live as long as her inherited constitution with good treatment will permit. He will not feed her with succulent foods and tempting drinks with the view of making her secrete more milk than she can conveniently enrich with from 12 to 15 per cent. of milk solids. He wishes her character in this respect well sustained whether he expects to sell her or use her in his dairy. He thinks that a great many more cows have been killed or permanently injured by too much food than have been reported in the papers. It has been the successful tests, not the failures, that we see in print. Nor does the practical man breed his cattle in-and-in until he has taught them to secrete milk with abnormal proportions.

Are not casein and milk-sugar valuable ingredients in normal whole milk? As Colonel Curtis says, "The cow should be tested for her adaptation to the cheese factory as well as the butter factory." Milk well balanced between casein and butter fats will make cheese of a quality superior to that made from milk poor in those elements which go to make butter. The tendency is to develop the butter fats at the expense of casein, and when this is done the quality of the milk as a food is lessened; for we must remember that casein as a food will grow a child or a calf healthier and faster than butter fat.

Neither should there be such a war upon the water that the chemist finds in the whole milk.

One half the weight of our bodies is water, and 75 per cent. of the blood that courses through the veins of all animals is water. All animals as well as vegetation digest or assimilate their food in a solution of water. If we send a solid as food to our stomachs we must furnish from our own bodies or otherwise a fluid to assist in its digestion and appropriation. Why should we wish a cow to put less water in her milk than she or we either have in our blood? She can put the water there in better proportion than we can. And if she does not, we would have to dilute the milk before feeding it, or the cream before churning it. Besides this, she will mix along with the water the usual amount of casein (the cheese quality) and sugar of milk, for these ingredients are nearly the same in all milk whether rich or poor in butter fat. But the advocates for a milk rich only in butter say that they do not wish their cows to waste their strength in the production of things they do not want. From their standpoint they argue well; yet we plain practical people are afraid that if we attempt to convert our cows into butter machines exclusively, the quality of the milk for other purposes quite as important will be deteriorated, and the constitutions of the cows themselves on which we depend for future herds will be materially injured.

Yet we thank these specialists for travelling the road as far as they have gone, for demonstrating to us the nutritive value of certain foods used in this direction, the necessity of close personal supervision, and the good of devoting only those cows to the dairy whose suitability can be proved in actual profits. They have also taught us the distinguishing marks of a good milch cow, and showed us how to develop her latent qualities, asserting that the majority of cows of all breeds yield less than half the quantity of butter they might be made to produce. Still, lest there be many disheartening failures, the practical farmer or dairyman must not set his standard at a point which he may not easily and safely attain, which is, that his cow will give daily from 40 to 50 pounds of milk, and a well-balanced milk too, that will be good, healthy, nutritious food for the table, and which will yield, when all of it is churned, 21 pounds of butter per day, or four whole-milk cheese per day.

HORTENSE DUDLEY.

The Veterinarian.

Answers to Correspondents.

[By Dr. EDWARD MOORE, Albany, N. Y., *Member of the Royal College of Veterinary Surgeons, England. Inquiries Answered for Subscribers Only, and should always contain the Writer's Full Address. Answers by Letter are always charged for.*]

Possible Tuberculosis.

ED. COUNTRY GENTLEMAN.—A heifer, two years old, dropped her calf when only six months gone. Lately she has had a lump on jaw which broke, and has not healed perfectly. Would it be safe to breed her? (1) A five-year-old cow has not had a calf for 18 months; have tried her repeatedly with different bulls. A two-year-old heifer we cannot get in calf either; it is nearly three months since she came in heat and was served; is again in heat. (2)

Pomfret Centre, Conn. HERDSMAN.

1. Has the cow a cough, or has she had one within two years? If she coughs describe it, and tell me what you know about her and her sire and dam or grand sire or grand dam, if any of them were consumptive. To all appearances the cow is barren, but if she is tuberculous and the diseased jaw is one of the symptoms, and abortion followed by barrenness are others, I shall, if satisfied that such is the case, advise that she be killed. On the contrary if it is decided that the jaw disease is actinomycosis and that the abortion was not due to tubercle, then I shall treat the jaw and endeavor to render her fertile. It is a pity that every consumptive is not barren. For years the veterinarian of the COUNTRY GENTLEMAN has condemned the use of products from tuberculous animals, and always advised their immediate slaughter and deep burial as soon as the disease was recognized. Its contagious character has been dwelt upon repeatedly as an inducement to have these measures carried out, and it is fair to believe that hundreds of cattle and not a few people have been prevented from becoming victims to consumption by the constant warnings the COUNTRY GENTLEMAN has carried to its thousands of readers. The writer has hopes that soon our laws will cover this disease and make it just as imperative to kill tuberculous cattle as it is that glandered horses should be. Both physicians and veterinarians have been too apathetic in dealing with this great source of death to people and animals. The laws have too long been inadequate. It is reported in last week's issue of the COUNTRY GENTLEMAN, p. 965, that at a veterinary congress lately held at Paris it was shown that one per cent. of cattle slaughtered in public abattoirs were found to be tuberculous. The writer has often shot from two to a dozen cattle from moderate-sized herds. How common must this disease be then! I cannot even fancy a greater practical benefit for the farmers' institutes to confer, than would result to the people of this country, the cattle owners and the health of our herds, the enormous decrease in the losses sustained in cattle interests, if every institute in the land would clearly define to its audience the facts regarding tuberculosis, and ask every one present to help the crusade against this dire disease. In some of the best herds of cattle in this country and Canada, I have found tuberculous cattle, and never had any difficulty in convincing the owners that it was to their interest to kill such; and while there was no law to compel it, such animals have been killed and buried, hides and all. I have sometimes insisted that owners should see the post mortems, so that they might not only be satisfied that the disease existed, but that they might see its ravages and become converts.

Isolate your cow until we arrive at a conclusion. Put no bovine in her place.

2. It is possible that this animal is pregnant, although she has been in heat lately. Wait a little longer, and if she shows estrum again, use Moore Bros.' injectio vaginæ.

URINE NOT RETAINED, p. 886.—I have followed directions; mare seems better, stock nearly gone from legs; is not so gaunt, but is thin, though fed well on good corn, timothy and clover, which is digested. W. J. M. *Gloucester, Va.* [Repeat the entire treatment.]

HIND LEGS LAME.—A mare seven years old last spring, is crippled in hind legs, stepping and standing entirely on toes of hind feet, and very stiff in hind legs. Bought her in this condition three years ago. Took off shoes and turned her out one summer with some temporary improvement. Have high heel calks on the hind shoes. She is now worse than at any time during my ownership, so much so that I do not drive her, and she will often lie down in loose box or barnyard. C. *Newburgh, N. Y.* [Clip the legs on the back and sides from hocks to bottom of hocks and apply golden blister. Repeat it in a month; let her run in yard and box except for five or six days after blistering.]

ANKLES WEAK, p. 946.—First noticed after knuckling over; probably stepped on a rolling stone, and next day was a little lame. When standing in or out of stable will change from one foot to the other every few minutes. Shows it most when first taken out, and again after a drive of two to four miles. Will raise the leg about a foot, both in stable and when stopped after a drive. Have been using an ointment on pastern joint down to hoof; is somewhat better. T. B. F. *New York.* [Give the horse a ball, feed bran mashes for three meals, and allow walking exercise for two days. Give in feed three times a day an ounce of the following medicine: Bichloride of mercury, 1½ drs.; iodide of potass., 4 oz.; water, 1 qt.; mix.]

BLOATING.—Last February and March a four-year-old cow gave me considerable trouble by bloating; was noticed a month before calving. Salt seemed bad for her and I took it away. After calving she appeared as well as any of the herd, which get salt every day. A few days ago found her bloated again; took salt away and she seems better. I fear a repetition of last winter. Her feed is early cut clover hay, all she wants, three times a day, and four quarts grain—two parts wheat bran, one part oats and one of corn. Is in fine condition and giving milk. A. T. B. *Hartford, N. Y.* [Give her one general cow drink, and give half one in three or four days and repeat these doses if necessary in two weeks. Feed bran and ground oats and whole fattened steeped, also hay. No clover or corn, and your cow will not trouble you. Corn fodder may be given instead of hay if desired.]

ANKLES PUFFED—BLOAT.—A 10-year-old mare, well-bred and of good life, has been driven hard on the road for some time and is badly puffed in hind ankles, which are white, thought to be sprained in September last. They have been blistered with caustic balsam, and are better, but stiff when mare is first taken from stall. (1) I also have a Jersey bull 6 years old; has been in the stable when not at the fairs for three years, on corn fodder, clover, and timothy hay, with three or four quarts oats and bran. Seems hardy and healthy, but three times last winter and once this year has been bloated, with sides as hard as the side of the stall, and at this time has difficulty in serving a large cow. (2) E. J. S. *Huron Co., Ohio.* [1. Apply golden blister to fetlocks and give two weeks' rest, then use her for two weeks and repeat. If not all right in six weeks, report. 2. Give one quart of raw linseed oil, and 2 ounces spirits of turpentine once a week for three weeks. And mix in feed twice a day half an ounce of bicarbonate of soda.]

Transfers of Thoroughbred Cattle.

American Jersey Cattle Club.

NAME.	SELLER.	BUYER.
Avocado Boy, G W Beardsley, A G Atkins		
Eulalie, S Shook, H E Furniss		
Cato 56, Lambert, H K Wingman, P A Thurston		
Chroma Pogis, Cronin & Altman, W F Parker		
Commessie's Signal, J L Thomas, N H Franklin		
Duke of Gill Hall, W T Wallace, C W Wicks		
Edgewara, F Brunson, G W Weaver, S		
Equinoctial, D W Weddle, W J Micklehael		
Eulalia's Pogis, J F Kennedy, J H Whitsell		
Exile of Brookpost, A U Wadden, P Burns & Son		
Garry Owen, H S Bevan, J M Aldrich		
Gingaw Hill, J F Kennedy, G H Cahoon		
Glory's Morgan Pogis, F A Breitenhaimer, H Hoopes		
Heroine's Pogis, M A Schacek, H F Anderson		
Kamiaken, W T Wright, E S Hill		
Lansing of Riverside 3d, S S Olds, C S Barton		
Lee Pogis, J F Kennedy, W H Phillips		
Liverpool, C S Taylor, S A Ridgway		
Marvo May's Duke, G W Kennedy, H S Stevenson		
Pan Pogis (Imp.), W T Wright, W S Hill		
Rosie Cloero, G A Waterbury, J C Elliott		
O'Donahue, A C Pengon, J M Ward		
Pratt's Imperial, W J G Dean, W Montgomery		
Prince of Dyer, S H Williams, A B Pace		
Prince's Victor, C D Fred A Co, N G Ball		
Rioter of St Lambert, W D Rhoads, M J Storm		
St Lambert Stone Pogis, J E K Herrick, F Barnadollar		
Sir Lyon Playfair, L J Polk, L Hall		
Todee's Pogis, G H Lott, C W Upton		
Abbie Pogis, C Whitbeck, O Thorne		
Alto Thack, I Ross, J C Akin & Son		
Ambrose's Belle, Mrs M F S Searles, N F Searles		
American Star, Est of W Grimes, W G Upchurch		
Annie Black, C H Hadcliffe, J Orvis		
Antoinette, C S Taylor, W Carpenter, Jr		
Arcadia Pogis, T K Proctor, M Cox		
Artemidia 3d, C Whitbeck, O Thorne		
Beauty of Fairview 4th, N L Borden, W K R Mall		
Belle Nancy 2d, A Shook, J Bogart		
Belle of Toby, J W Bevans, J S Delano		
Bell Girl, C Whitbeck, M Thorne		
Beltra, J W Franklin, T Prothero		
Bennie Dee, C S Taylor, W Carpenter, Jr		
Bennie Myra, C E Emery, V L Eirdman		
Bonnie Sweetheart, F White, J T Dismuke		
Botany, C S Taylor, W Carpenter, Jr		
Brenta 3d, H M Wheatcraft, S Craig		
Brookside, C Whitbeck, O Thorne		
Brown's Spring Ranger, S Shook, G D Brown		
Buttercup's Daisy, M A Woods, B Lacey		
Carrie L 3d, C Whitbeck, O Thorne		
Carol 2d, A L Latimer, H A Potter		
Chellanche, C S Taylor, W Carpenter, Jr		
Cheyenne, J M Rea, V L Kirkman		
Consider, W E Wright, I A Van Orsdal		
Copopai, C S Taylor, W Carpenter, Jr		
Da, C P Bailey, J W Willing		
Daisy of Mt River, F Raab, O Jackson		
Damsel of Sparta, F White, J T Dismuke		
Delightsome 3d, Wilson Bros, W W Wheeler		
Dolly Bloomfield 3d, H H Wheatcraft, H Craig		
Duchess of Sideview, G H Nichols, H P Kirby		
Edie H Keller, J D Wilder, L D Hewitt		
Ella of Walnut Grove, D M Mottshough, A McWatt		
Ella of Riverside, E B Bettles, N Litsey		
Elita Pogis, J H Denham, H A Neal		
Eureka's Pet, J F Kennedy, W C McAlister		
Eula B, B H Wyman, P Ramer		
Eula Inca, L M Waller, J S Morris		
Eva Clay, J Rogers, D H Tompkins		
Favorite Lassie 4th, G A Watkins, A W Flint		
Gold Clover, J Bridgehouse, J W Reed		
Grimville of Side View, G H Nichols, H P Kirby		
Hattie G, H J Smith, D H Zorn		
Hattie of Bay View, H P Hopkins, Bowen & Lesner		
Jane Parks, N Bell, P Graham		
Jennie H, G W Bradley, J J Dickinson		
Javara, T Ball, A C Fisher		
Jewel Morgan, H A Breitenhimer, H Hoopes		
Jubilee Miss Pogis, W A Judkins, B McKinney		
Katie May, G A Watkins, A McWittie		
Kerri Ia, J F Kennedy, C H Bush		
Kerri's Daisy, J F Kennedy, F M Finley		
Kin's Starlie, H H Wheatcraft, J Stratton		
Kitty Pedrochorn, J F Kennedy, C H McClure		
Kitty Potter 3d, A Allen, M Hinshilla		
Lady Clover 2d, J F Powell, V Smith		
Lady Ebbert 2d, J L Smith, A M Fraser		
Lady Lydia, C B Shaw, S D Thayer		
Lady Maudulia, J E K Herrick, F Barnadollar		
Lady Noble of Riverside, J Judkins, J Carter		
Lady Ochanicher, C S Taylor, W Carpenter, Jr		
Lady's Posy, Lady Whitbeck and Lady Whitbeck 2d, C Whitbeck, O Thorne		
Lady Zain, Spencer Bros, T H Proctor		
Lakeview Gem, W F Johnson, Mrs T C Lipscomb		
L'Avierolina, J W Dean, C C Fritsche		
Last Royalist 3d, I W Vance, R F Hamilton		
Lawn Lily, J C Spitzing, A J McCorghrin		
Leola W, Mrs J McKelvey, P Murray		
Leopold's Yolande, C S Taylor, W Carpenter, Jr		
Lillie A, F Raab, G Jackson		
Lola Sheldon, G Blanchard, G P Young		
Lorinda, C S Taylor, W Carpenter, Jr		
Lucie N Rex, D D Frey, W E Felton		
Lula Price, F Raab, G Jackson		
Madge Heller, A L Latimer, H A Potter		
Maid of Crawford, S S Semler, T S Semler		
Manola, J W Dean, J E Hamilton		
Marcia Magnet, J Boyd, G H Culver		
Marietta of Brook Farm, H J Pomeroy, W Whiting		
Marionda, Est of J H Wood, S Solomon		
Martha Magnet, J Boyd, H H Culver		
Martha of Richland 3d, J F Kennedy, F Darr		
Mary Jane Pogis, C Whitbeck, M Thorne		
Maud Salisbury, H C Humana, W S Bateman		
Millie Rutherford, Mrs A W Thompson, J C Stribling		
Miss Posy, J F Kennedy, J H Whitsell		
Miss Yankee St Lambert, H H Wheatcraft, G Newkirk		
Nadjy Pogis, C Whitbeck, O Thorne		
Nellie Reed, J H Clark, H P Holly		
Nora, H G Case, C J Andrews		
New Year, Est of W Grimes, W G Upchurch		
Nina, H G Case, C J Andrews		
Olive's Fancy, A Ledbury, E L Simpson		
Ona's Noble Boy's Lady, W W Meckling, W P Dyre		
Pansy's Calla, H H Wheatcraft, H Stratton		
Pearl's Belle, A S Newton, M W Terrill		
Pedro's Thana, C G Foster, K S Bell		
Pembino's Clova, D H & S Tripp, S C Bartlett		
Princess of Spreadwell 2d, C G Foster, K S Bell		
Queen Ralph 2d, H Manlgomery, G D Neal		
Rachel's Rose, J E K Herrick, F Barnadollar		
Reita Pogis, W King, T K Hinds		
Reita's Princess, G A Watkins, A McWittie		
Rex's Sheila, J F Kennedy, F M Finley		
Rioter's Widow, G A Watkins, A W Flint		
Rioter's Katie, G A Watkins, A McWittie		
Ruby F, A Cooper, W H Parks		
Ruth of Walnut Grove, D M McCullough, A McNutt		
Salva, J E K Herrick, F Barnadollar		
Signal Santa, N Litsey, V Lowe		
Spicy Girl, C Whitbeck, O Thorne		
Stanley Lamsome, D W Moore, W Carpenter, Jr		
Tarantula, C S Taylor, A S Ridgway		
The Little Gamble, Est of S S Beach, F M Grannies		
Toledo Mayer, H H Kepp, J H Adams		
Union Signal's Gem and Union Signal's Pride, W W Meckling, W P Dyre		
Variety, C S Taylor, W Carpenter, Jr		
Venus of Troy Hills, C G Foster, N D La Hart		
Violet's Queen Pogis, E A Breitenhimer, H Hoopes		
Waldron's Princess, J H Clark, R F Holly		
Zilda H, O F Fuller, O F & O W Fuller		

16 Broadway, New York. F. W. WIGHT, Sec'y.

Record of the Times.

Review of Passing Events.

End of the Cronin Trial.—A verdict was rendered, Dec. 16, the jury having been out three days. Daniel Coughlin, Patrick O'Sullivan and Martin Bourke were sentenced to imprisonment for life; John Kunze for three years; John F. Beggs, senior warden of Camp 20, Clan-na-Gael, was acquitted. O'Sullivan has been quite broken down since the verdict, and it is thought will make a confession. The State Attorney is preparing to prosecute for attempts at jury bribing.

A Brave Rescue.—As General C. H. T. Collis was going up town on a Madison avenue car, New-York, about 8 P. M., Dec. 19, he saw fire breaking from the roof of the north wing of the Presbyterian hospital on East 71st street. Giving an alarm he rushed into the building, rallied the frightened attendants, and with 20 or more volunteers, including a number of Union Theological students, aided in removing the 80 patients to the main building and to other hospitals, the Mount Sinai (Jewish) receiving 40. One patient has since died. Four firemen were hurt by a falling roof. Loss about $50,000.

Deaths.—Karl Formes, a once well-known operatic basso, at San Francisco, Dec. 18, aged 70. He had taught music there for 15 years.—Dr. Charles H. Nichols, superintendent of Bloomingdale Asylum, New-York, Dec. 17, aged 69. He was one of the most eminent specialists on the care of the insane in this country.—Oliver L. Barbour, the well known compiler of law reports, at Saratoga, N. Y., Dec. 16, aged 79.—Edward H. Watkins, at Ithaca, N. Y., aged 85. He was an early manager of stage lines from Delaware county to Jersey City and Newburgh, and removed to Ithaca in 1825 to control the consolidated lines, continuing till steam supplanted coaches.

From Abroad.—The body of the poet Browning was borne in solemn procession by boat to the chapel of St. Michael's cemetery, Venice, until removal to England for burial in Westminster Abbey, Dec. 31.—Mr. Parnell spoke at Nottingham, Dec. 17. He said the home rule movement was the only practical means of regenerating Ireland—her agriculture, manufactures and commerce must be promoted by Irishmen themselves. At present Ireland was tranquil but not appeased, looking for its freedom through a triumphant Liberal party. Mr. P. visited Mr. Gladstone at Hawarden, 18th, and spoke at Liverpool 19th, where he received check for $17,500 for the tenants' defense fund.—William O'Brien was released from Galway jail, Dec. 20.—A convention of Irish landowners was held in Dublin Dec. 19, the Duke of Abercorn presiding. They protested against compulsory sale of lands and agreed to provide funds for the buying out of tenants' rights by landlords.—London gas strikers have asked to be taken back to work.—The bark Tenby Castle was wrecked at Holyhead Dec. 17, and 11 persons drowned.—The Russian influenza is spreading through Germany.—The British consul-general at Zanzibar gave a dinner to Stanley Dec. 17. Emin Pacha is pronounced out of danger and will leave this week, with Stanley, for Cairo, on the Khedive's yacht.—Bushiri, the Arab insurgent, has been hanged by the Germans.—The Portuguese government will build two gunboats for use on the Zambesi river, and two smaller vessels for Lake Nyassa. Portugal's rights in this part of the African country are disputed by England.—Malietoa has been proclaimed king in Samoa and recognized by the consuls.—The stealing of diamonds belonging to the late empress of Brazil is now denied.

Miner Items.

Dwight L. Moody recently preached at Yale college.

New-York's World's fair fund now amounts to $5,826,200.

The President has sent a message of congratulation to Stanley.

North Dakota has passed a prohibition law. It goes into effect July 1.

The Japanese minister, Muneemitsu Mutsu, has been suddenly recalled.

Western roads are 50,000 cars short of the number needed to move eastbound freight.

Silcott, the defaulting cashier of the Sergeant at Arms, Washington, has been indicted for forgery.

Lynn, Mass., at first declined aid proffered by Boston and other cities, but now finds it cannot carry the burden alone.

The gain in population at the South in the last ten years is estimated at about 3,200,000 whites and 1,600,000 blacks.

The Meade-Von Bokkelen Company of Chicago, handlers of California fruit, failed, Dec. 18, with liabilities of over $350,000.

Damage by the recent storm in California will reach over $100,000 near San Diego. Many railroad bridges were washed away.

The New-York Mail and Express has agreed to give to the Grant Monument Fund the total receipts from its weekly for a year. It has also

given $5,000 to the Rev. Dr. David J. Beale of Johnstown, Pa., for his personal losses and sacrifices in the flood disaster.

A railroad painter at Toledo, Ohio, slipped from a trainshed roof, Dec. 17, and fell upon two electric light wires, burning to death.

John G. Whittier was 82 years old, Dec. 17. He is in fairly good health, and engaged on a poem relating to the discovery of America.

Dr. Daniel Ayres of Brooklyn has given $250,000 to Wesleyan University for an endowment fund. The trustees will add as much more.

The Sing Sing prison commission has been looking for a new site. Offers have been received from Sullivan and Columbia counties.

Dr. Richard S. Storrs, of Brooklyn, spoke in Tremont Temple, Boston, Dec. 18, before the Congregational Club, on "The Puritan Spirit."

Philadelphia morning paper compositors demand an increase from 40 to 45 cents per 1,000 ems. The Ledger has long paid the latter price.

The Bennett building, Fulton street, New-York, where the Herald was formerly issued, has been sold by Mr. Bennett to John Pettit for $1,600,000.

The cutting down of electric wires has continued in New-York. A lineman was nearly killed by the breaking of a cross-tree, 50 feet from the ground.

Dr. Emanuel Schnitzer, an uncle of Emin Pacha (Edward Schnitzer) is visiting in Philadelphia. He reports that Emin's mother died a few weeks ago.

A new Y. M. C. A. building, erected by and for the employees of the Central railroad at West Albany, N. Y., was dedicated, Dec. 15. President Depew made an address.

The axle of a pay car on the Ohio, Indiana & Western railroad broke near Covington, Ind., Dec. 16, and Superintendent Wilson and Trainmaster Cummins were instantly killed.

While rehearsing for a Christmas cantata in Detroit, Dec. 19, the costumes of 15 public school girls took fire. Six were so seriously burned that two died and others may not recover.

Leading Sioux chiefs had a conference with Secretary Noble, Dec. 18, asking for correction of old land survey, the employment of Indians about the reservations and the opening of contracts to them.

The State printing, for a long time in the hands of the Albany Argus, has been given to the Evening Times. Editor Manning of the Argus has resigned his position as civil service commissioner.

Dr. C. H. Delamater, dentist, of New-York, was struck on the head with a short iron bar, Dec. 16, by a patient whose tooth he had just filled. The wound was not fatal. Reason of assault not known.

The first anniversary of the Nationalist movement was held in Boston, Dec. 19, with addresses by Edward Bellamy, Dr. Edward E. Hale, Prof. Leon of New-York and Rev. Mr. Hinckley of Northampton.

The Russian influenza is appearing in this country, in Detroit attacking bank employés only, it is supposed from handling foreign money. Kansas City has 100 cases, New-York Brooklyn and Boston quite a number.

The Pan-Americans took a recess last week, which they spent in New-York, visiting its institutions and being received by Mayor Grant, the Union League Club, the Equitable Insurance company and the Spanish-American Union.

While inspecting damaged wheat in a ship's hold at San Francisco, Dec. 20, Captain J. R. Freeman, Lloyds inspector, and F. R. Catton, grain merchant, were smothered by foul gases. A. J. Guve, Produce Exchange inspector, managed to escape. The bodies of the first two were recovered at great peril to the rescuers.

Parties having barren mares, or cows, or irregular breeders, will learn something to their advantage by addressing H. W. CAMPBELL, Racine, Wis. [1yr

Have you seen the 5-A Five Mile Horse Blanket? If not, why not? If you have a Horse you need it. no28-4t

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TO OUR SUBSCRIBERS.

The SPECIAL ANNOUNCEMENT which appeared in this column some time since, announcing a special arrangement with Dr. B. J. KENDALL Co. of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby subscribers were enabled to obtain a copy of that valuable work FREE by sending to the above firm their address (and enclosing a two-cent stamp for mailing same) is renewed for a limited period. All should avail themselves of the opportunity of obtaining this valuable work. To every lover of the Horse it is indispensable, as it treats in a simple manner all the diseases which afflict this noble animal. Its phenomenal sale throughout the United States and Canada, make it standard authority. Mention this paper when sending for "Treatise," and address with cure, Dr. B. J. KENDALL Co., Enosburgh Falls, Vt. no7-13t

CATARRH—CATARRHAL DEAFNESS—Hay Fever—A New Home Treatment.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on application by A. H. DIXON & SON, 337 and 339 West King St., Toronto, Canada.—*Christian Advocate.*

Sufferers from Catarrhal troubles should carefully read the above.

Beecham's Pills act like magic on a weak stomach.

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for above named disease. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have Consumption, if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y. de26-13t

CONSUMPTION CURED.

An old physician, retired from practice, had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send, free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail, by addressing, with stamp, naming this paper, W. A. NOYES, 820 Powers' Block, Rochester, N. Y. oct6ow1y

Vermont Dairymen. — The meeting of this association at Rutland, Jan. 15-17, is to be distinguished by practical work. The first day will be cheese day, and 1,000 lbs. of milk will be manipulated by Mr. Geo. A. Smith, of New-York. In the morning of the second and third days, the butter extractor will run, turning out granular butter from fresh milk. The new Centrifugal Testing Machine will also run, analyzing milk and cream. Nearly $400 is offered in premiums on butter and cheese, about double the amount ever offered before. E. L. Rass, West Randolph, Sec'y.

Farm Produce Markets.

Albany Markets—Dec. 23.

FLOUR.—The Argus says: Trade has been good, with light receipts and firm feeling.

	1888. Dec 21.	1888. Dec. 14.	1888. Dec. 22.
Com. Extras	$3.10@4.00	$3.10@4.00	$4.30@4.60
State Extra	4.10@4.50	4.10@4.50	4.60@5.00
Am'n. State & W.	4.10@4.60	4.10@4.60	4.75@5.00
O., Ind. & St. L. X'X.	4.60@4.75	4.60@4.85	4.75@5.00
Winter W. Pat.	4.10@4.25	4.10@4.75	5.75@6.00
Minn. "Bakers"	4.00@4.75	4.00@4.75	6.25@6.75
Sp'g W. Pat., new	4.50@4.65	4.50@4.65	7.00@7.25

Rye Flour in good demand and steady at $3.30@3.40 per bbl.; Graham, $4@4.50. Oat Meal doing moderately well at $4.20@4.30 per bbl. Corn Meal in good demand and steady at $2.00@2.90 per bbl. Buckwheat flour steady and selling fairly at $1.60@1.70 in street, and $1.30@2.00 per 100 lbs. in store.

GRAIN.—Corn steady, trade fair. No. 2 yellow, 47@47½c.; No. 2 mixed, 46c.; Oats firm; No. 2 white, 30@30½c.; No. 3, 29@29½c.; Rye steady; State, No. 1, 55c.; No. 2, 53c. Barley dull; State, 50@57c.; Canada, 60@70; Buckwheat, 45@47c.

HAY AND STRAW.—Receipts fair, demand good. Timothy, prime, $14@16 per ton; good, $12@14; mixed, $12@13; mixed, $11@12. Rye straw, best, $11@12; oat straw, $7@8; wheat straw, $10.

HOPS.—Market stronger.

N. Y. State, 1888	9 @10c.
N. Y. State, 1887	7 @11
Pacific Coast, 1888	10 @12
Bavarian and Bohemian	30 @40

Albany Street Market—Dec. 23.

BUTTER.—Choice, Dairy, per lb.; good to prime, 18@20c.

EGGS.—Near-by and new laid, 28@27c per doz.

FRESH MEATS.—Steer beef, hindquarter, 9@10c. per lb.; forequarter, 6@6½c.; mutton, carcasses, 7½@8½c.; lamb, hindquarter, 10@11c.; forequarter, 9½@10c.; veal, hindquarters, 9@10½c.; forequarters, 7@8c.

POULTRY.—Fowls, 9@10c. per lb.; chickens, 10@12c.; turkeys, 14@15c.; spring ducks, 13@15c.; geese, 12@13c.

FRUIT.—Apples, $2.50@3.50 per bbl.; Cranberries, $3.75@5 per crate; Grapes, Concord, 8@10c. per lb.; Catawbas, 9@10c.; California, $3@7 per crate.

VEGETABLES.—Beets, $1 per bbl.; Cabbage, $2@3 per 100; Carrots, 30c. per bu.; Celery, 10c.@$1 per doz. bunches; Cauliflower, $1@3 per doz.; Onions, $3@3.50 per bbl.; Parsnips, $1.25 per bbl.; Potatoes, $1.15@1 per bbl.; sweet, $4@4.25; Squash, $1@3 per bbl.; Turnips, $1 per bbl.

New-York Markets—Dec. 21.

BEANS—Marrow, 1888		2.40 @	2.45
Medium, 1888		1.80 @	—
Pea, 1888		1.70 @	1.75
Cal. Limas		1.70 @	1.80
BUTTER—	Colorado.	N. Y. & Penn.	
Ordinary, per lb	17@18 —	— @	23
Middlings	19@20 —	— @	27
Fair	21@22 —	— @	31
EGGS—State and near-by, per doz		30 @	30½
Western and Canada		28 @	29

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Price Sixpence.

Contains Portraits of Lord Roberts, Lord Wolseley, Lord Dufferin, Lord Rosebery, Lord Salisbury, Lord Cromer, Lord Kitchener, Lord Curzon, Lord Milner, Lord Ripon, Lord Spencer, Lord Cadogan, Lord Lansdowne, Lord Selborne, Lord Goschen, Lord Ashbourne, Lord Cranbrook, Lord Halsbury, Lord Hartington, Lord Chamberlain, Lord Ritchie, Lord Balfour, Lord Londonderry, Lord Cross, Lord Peel, Lord Knutsford, Lord Ripon, Lord Spencer, Lord Cadogan, Lord Lansdowne, Lord Selborne, Lord Goschen, Lord Ashbourne, Lord Cranbrook, Lord Halsbury, Lord Hartington, Lord Chamberlain, Lord Ritchie, Lord Balfour, Lord Londonderry, Lord Cross, Lord Peel, Lord Knutsford.

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ILLUSTRATED SOUVENIRS. SENT FREE TO ALL SUBSCRIBERS. The first of these souvenir supplements will be a Poem by John G. Whittier, illustrated by Howard Pyle, and engraved by H. Wolf, R. O. Tietze and E. A. Clement. The next souvenir will be a beautifully illustrated poem by James Russell Lowell.

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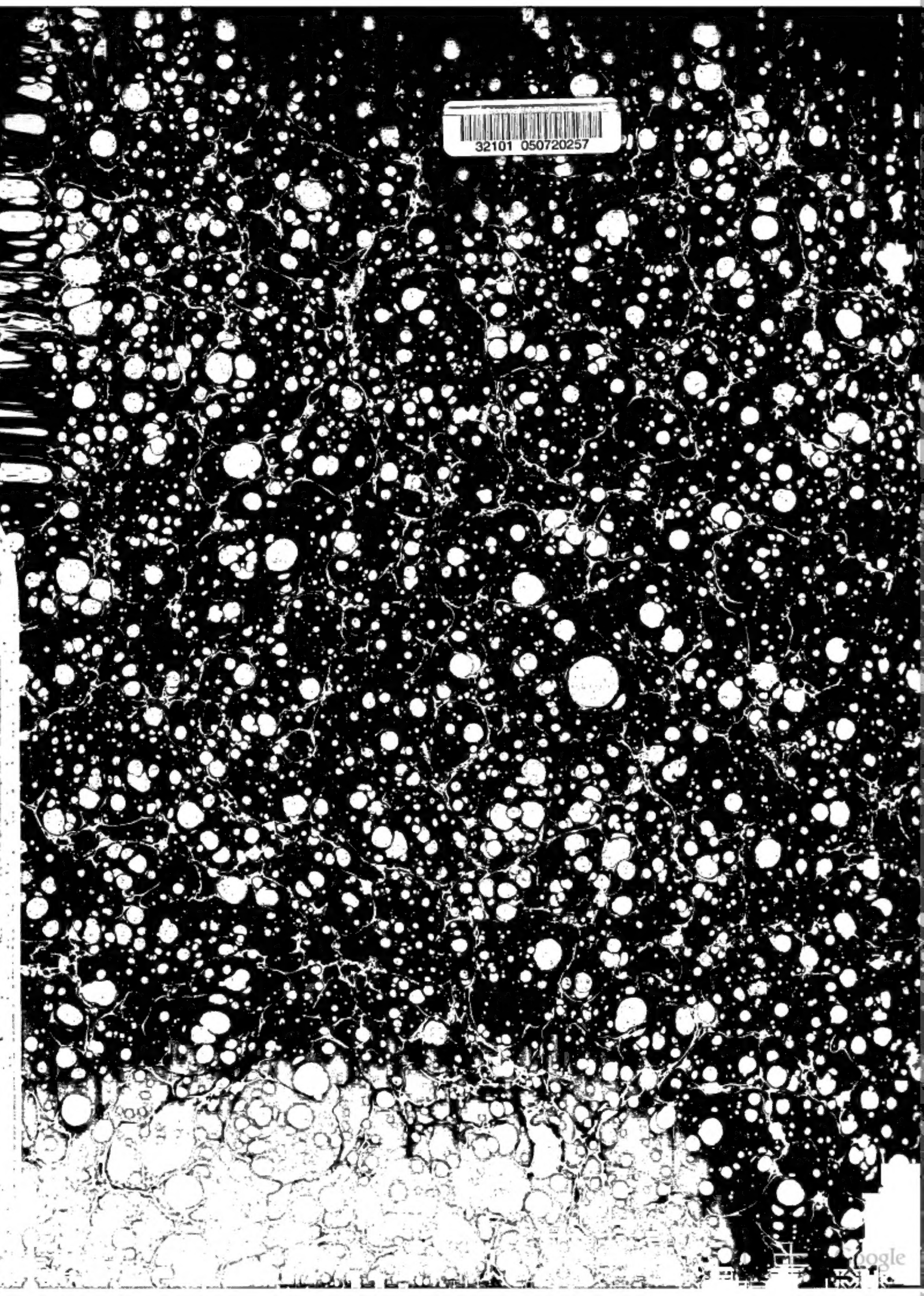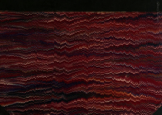
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